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75 YEARS

eppendorf




# Catalog 2020/21

Liquid Handling, Sample Handling, Cell Handling




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# Dear Readers,




We have a reason to celebrate!
This year marks Eppendorf's 75th anniversary!

The humanitarian vision of our company's founders is as present today as it was then: to improve people's living conditions. Our story began with a stimulation current device for medical diagnostics and therapy. Since then, numerous new devices and techniques have been developed that have significantly improved life sciences.

In the course of time, the medium-sized company has become a holistically thinking world market leader. Today, Eppendorf has 3,300 employees in 26 countries and is valued worldwide as expert and consultant.

We continually invest in innovating our products, services and business solutions, also by engaging with partners and customers in strong networks, focused on applications in the fields of sample, cell and liquid handling. The people who use our products every day in laboratories around the world are at the focus of our attention. With customized services and product solutions, we want to make your work easier and guarantee maximum accuracy of your results.

**Quality, reliability, experience, innovation** are words that you associate with Eppendorf. Our good reputation is based on our commitment to improve. In the future, digitalization will play an increasingly important role. The intelligent, digital networking of products will be of great importance. We are happy to accompany you into a new age.

**We all are Eppendorf – shaping the ongoing success story together!**

Your Eppendorf team

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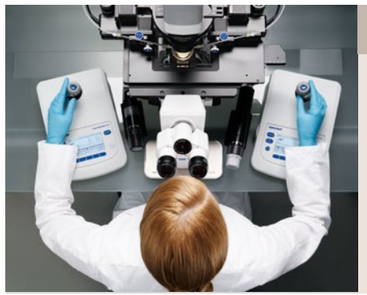
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Application Notes
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On our catalog pages you will find QR codes with icons showing you what kind of materials (brochure, website, 360 degree views and much more) we offer for viewing or downloading.

Simply scan the QR Code on the corresponding pages and make use of our online offers.

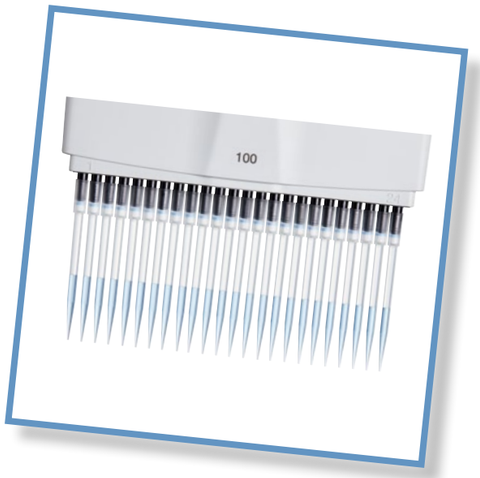
# New Highlights 2020

## LIQUID HANDLING




**Move It® - multichannel pipettes with adjustable tip spacing - see page 41**

Often, single channel pipettes are used for multiple sample transfer from one vessel type to another, from tubes to plates for instance. This can be time-consuming and inconvenient, especially when throughput increases. Instead of pipetting many times, up to twelve samples can now be moved simultaneously with the new 4, 6, 8 and 12-channel pipettes Eppendorf Research® plus and Eppendorf Xplorer® plus Move It.
Move It pipettes have adjustable cones for variable tip spacings according to your vessel format. This easy handling of format changes helps to reduce throughput time by approximately 50% and increase the reproducibility of your results.




**epT.I.P.S.® 384 and ep Dualfilter T.I.P.S.® 384**
**New pipette tips for 16- and 24-channel pipettes - see page 51 and 54**

The new epT.I.P.S.® 384 and ep Dualfilter T.I.P.S.® 384 are optimized for the usage of 16- and 24-channel pipettes and available in volumes of 20 µL and 100 µL. For the first time, it is possible to evenly and simultaneously fill 24 wells of a 384-well plate in just one step enabling for equal starting conditions in each well of a row, thus increasing reproducibility to a maximum. The new system distinguishes itself by reduced attachment and ejection forces for fatigue free serial pipetting fulfilling the high demands of the Eppendorf PhysioCare Concept®. At the same time, it guarantees phenomenal reliability in terms of tip fit and tightness contributing to increased sample safety.



**ep*Motion*® 5073m NGS solution - see page 94**

Step away from manual NGS library prep with an automated solution for up to 32 samples. Renowned Eppendorf precision and accuracy is guaranteed by the three single and multichannel pipetting tools in the volume range covering 1-300 µL. A special rack accommodates all required solutions. The optimized epBlue™ software enables smart tip usage and is easy to program. Pre-qualified Illumina methods enable you to start right away. And all of that on a footprint of only 6 letter-sized pieces of paper. Notification emails generated by the system to alert you about manual steps allow you to focus your attention on other tasks.

The solution for your reliable NGS library: ep*Motion*® 5073m NGS solution

## SAMPLE HANDLING

**The Next Level - Eppendorf Conical Tubes 25 mL - see page 126**

Very often sample volumes higher than 15 mL but much lower than 50 mL need to be prepared, centrifuged, mixed or stored. In awareness of this fact, Eppendorf has developed a new tube format - the Eppendorf Conical Tubes 25 mL. This new member of the big Eppendorf Tube Family fills the gap between the traditional conical tubes of 15 mL and 50 mL. This new format has the same diameter as the 50 mL conical tube but is not as long. Thus the insertion depth of pipettes into the tube is much lower compared to a 50 mL conical tube. The new 25 mL tube is available with screw cap and also with an innovative SnapTec™ cap. This patented lid solution represents a unique snap cap lid within the conical tubes segment.






**Rotor FA-6x250 - see page 222**

Until now, the use of the popular 250 mL bottles has been limited to swing-bucket rotors with a maximum speed of slightly more than 5,000 x g and a capacity of four bottles per run. The new fixed-angle rotor FA-6x250 allows simultaneous centrifugation of six 250 mL bottles at speeds exceeding 15.000 x g – thus considerably expanding the application spectrum of the large refrigerated benchtop systems by Eppendorf, Centrifuge 5910 R and Centrifuge 5920 R.

**CryoCube® F101h**
**Need your samples close at hand? - see page 272/278**

The new CryoCube F101h is the Eppendorf green entry for the 100 L personal ULT freezer class. The freezer easily fits under your bench so your samples are always securely close-at-hand.
The green/ hydrocarbon-based cooling liquids are future-proof and fulfill sustainability requests. As being one of the very first movers for green cooling liquids at -86 °C, Eppendorf has now more than 10 years of experience in R&D, production, logistics, and service in the field.



# New Highlights 2020

## SAMPLE HANDLING

### Eppendorf SafeCode™ system - see page 280

**Safe sample identification needed?** The more samples you handle in your lab, the more important it is to properly identify every sample. The Eppendorf SafeCode system is based on datamatrix coded pre-labeled CryoStorage Vials for longterm storage. The sample codes can directly be transferred into databases like Eppendorf eLABJournal® for documentation purposes.



### Eppendorf CryoStorage Vials - see page 281

**Barcoding your storage treasures?** The SafeCode system for Eppendorf CryoStorage Vials is based on a 3-level coding to enable safe sample identification. By providing 1D barcode combined with clear coding at the side and 2D datamatrix code with ECC 200 error correction at the bottom of the tube, a safe ID is set. Up to 96 pre-labeled vials are pre-racked and pre-capped for convenient usage. Different volume classes of vials enable efficient and safe sample storage at -80 °C.

### Eppendorf RackScan - see page 283

**Reading more than one sample in parallel?** The Eppendorf RackScan offers various solutions for scanning sample tubes with Datamatrix (2D codes). The Eppendorf RackScan b scans data from the bottom of vessels. You can extend the bottom scanning by the RackScan s accessory for side scanning processes. Data can be exported in different formats to downstream software applications like Eppendorf eLABJournal or other data management systems.



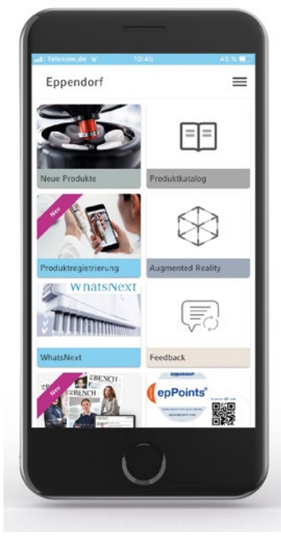
## CELL HANDLING

### SciVario® twin – see page 362

The SciVario® twin system is a new compact state of the art bioprocess controller for parallel and individual operation of 2 bioreactors. It supports microbial and cell culture applications in both reusable glass vessels and single-use BioBLU® vessels.
The innovative bay-drawer concept allows easy upgrades with additional modules whenever needed to adapt to changing needs in the future. The intuitive VisioNize®-touch user interface helps efficiently control and monitor various processes. With integrated support for digital sensors (Mettler Toledo® ISM and Hamilton® ARC), variable speed pumps for liquid additions and individual MFC control of gases for submerged and overlay gassing, this new controller provides the features needed for any application in the bioprocess R&D lab today and tomorrow.



## EPPENDORF DIGITAL




### New design of the Eppendorf App

Do you already know our app?

The Eppendorf App with its new splendid design is based on the latest technology to provide better usability. Have more fun browsing through the product catalog to find the right product for you. Start with the many possibilities to get information about our products and to compare them. Thanks to the improved AR function, it is now even easier to place products virtually in your lab. Experience the diversity of Eppendorf on a 1:1 scale. Plan space requirements and configure accessories comfortably from your tablet or smartphone.

Here are some more highlights you will find in our app:
> Register all your Eppendorf devices easily
> Scan your epPoints quickly and easily
> Calculate the amount of crude oil/polypropylene that has been saved through the innovative design of your new epT.I.P.S.® or ep Dualfilter T.I.P.S.® disposable racks.

Download the Eppendorf App! We wish you a lot of fun!

To use the latest functions of the app, your device needs the operating system IOS 13.0 or higher.

eppendorf

Download on the App Store

GET IT ON Google Play

# The Question "Why?"

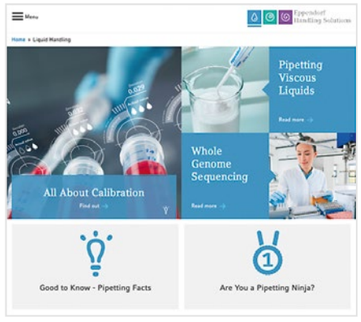



The “why” is one of the key questions for every scientist. Beyond the standard working steps in the lab, there are aspects which are of interest. Aspects which are commonly not part of trainings and studies in universities, which are not described in an operating manual or product brochure, where the colleague fails to answer but which are important for real life in the lab.

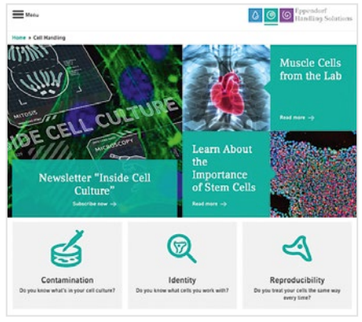
All these kinds of questions are of interest for you because you are a scientist. Scientists are curious, we always want to know, always want to understand, always try to get the full picture. The “we did it like this for ever” style or that shrug “there is always that effect, get used to it” does not make us feel happy.

### How to improve the situation?

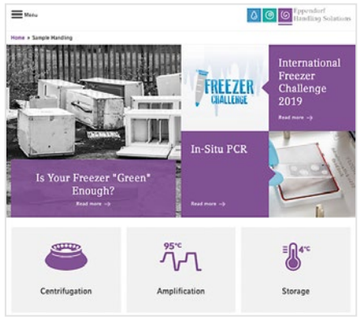
We at Eppendorf believe in the power of science and share your enthusiasm for it. With decades of experience, Eppendorf products have a reputation for ensuring reliable and reproducible results. Countless working hours of engineers, chemists, molecular biologists, biotechnology experts, and other colleagues flow into the development of Eppendorf instruments and consumables – thus creating a large pool of invaluable knowledge and experience in the fields of Liquid Handling, Cell Handling, and Sample Handling.
Find yourself describing typical challenges in your daily routine and learn how to improve your results by considering simple tips and tricks.




**Liquid Handling**




**Cell Handling**




**Sample Handling**

We are happy to share this expertise at:
**www.eppendorf.com/handling-solutions**

Visit our continuously growing Eppendorf Handling Solutions knowledge hub (content area) and discover answers about topics like storage, centrifugation, amplification, cell culture, liquid handling, photometry, and more.
Please feel free to contact us if you have further topics you want to read about.



# Digital Lab Solutions @ Eppendorf





### You and Your Lab. Connected.

**VisioNize®** is the **Eppendorf digital platform,** delivering valuable services in and around our Eppendorf devices – to continuously improve your lab life. Using our smart digital companion VisioNize, you can confidently guide your lab toward a smarter future.

All our **VisioNize-onboard devices** come equipped with the **VisioNize touch interface,** providing a convenient user experience as well as enabling smart features like recurring tasks directly on the device.

In addition, the **VisioNize services** offer you the possibility to remotely monitor your lab equipment and give you the opportunity to set customizable notifications to meet your and your lab’s needs. **Leverage the built-in capabilities** of your Eppendorf lab instruments **by subscribing for our VisioNize® Lab Suite.**

Learn more about the benefits of connectivity:
**www.eppendorf.com/visionize**

### You and Your Experiments. Organized.

Struggling with paper-based documentation? Documentation of working steps can be done in a digital manner. Every life science lab is now generating experimental **results in digital form**. Efficiently **manage your laboratory information** with software, customized to **meet your and your lab’s needs.**

Learn more about **eLABJournal®** – the Electronic Lab Notebook to **document research and track** research data in a GLP compliant manner and the **eLABInventory** – to **efficiently track any sample** in the lab.

eLABJournal and eLABInventory are **suitable for any lab** ranging from small academic laboratories and start-up companies to large academic institutes and globally operating companies. **Designed by scientists for scientists.**

Learn more about Eppendorf laboratory information management solutions: **www.eppendorf.com/elab**






# Pure Quality

**Eppendorf purity grades for consumables**
> Eppendorf consumables stand for the high quality and purity achieved by:
> using pure raw materials
> automatic production in clean room conditions
> quality and functional checks of all lots
> continuous quality assurance throughout the entire production process

With the strict control criteria, internally and externally monitored, we guarantee consistently high quality of our products – lot by lot. Our consumables are available in different purity grades for individual application demands: “Eppendorf Quality™” as well as advanced purity grades like “sterile”, “protein-free[1])”, “PCR clean”, “Forensic DNA Grade (acc. to ISO 18385)“, and “Biopur®”.

In addition to our internal process controls, and general quality certificates, lot-specific certificates are provided by an external test laboratory for the advanced purity grades. This allows us to consistently meet our customers' high demands when it comes to the high quality and purity of our products. As a special service, our lot-specific certificates are available on request and on our website (www.eppendorf.com/certificates)

**The basis: Top-quality material**
> All plastics used by Eppendorf to produce consumables comply with international purity criteria.
> The dyes used to color consumables are free of[1]) organic substances and substances containing heavy metals.
> Plastics, such as polypropylene, have a high chemical resistance to organic and inorganic acids/ bases and organic solvents commonly used in laboratories.




**The Eppendorf purity grade “Eppendorf Quality” fulfill everything expected of reliable, easy-to-handle consumables. With the aid of high-quality base material and permanent checks during production, Eppendorf consumables in Eppendorf Quality are ideal for many tasks in the lab.**

**Eppendorf Quality™:**
Products with the purity grade “Eppendorf Quality“ are ideal for many tasks in the lab. To meet consistently our customer’s high demands on quality further measurements are performed specifically for individual product groups:
Precise molding ensures high precision and accuracy. Each lot of tips is subject to gravimetric measurement during final testing. Low wetting ensures reliable volume readings and minimal adhesion.
> Eppendorf Tubes® have to be opened and closed by one hand only; without sample material being contaminated. They are highly stable, even when exposed to extreme mechanical or thermal strain. Therefore, on a daily basis we check vapor tightness, lid-opening force, wall strength, force required to pierce the lid as well as resistance to centrifugation.
> We check high resistance to centrifugation and sealability of deepwell plates and microplates.
> All production tools are subject to frequent checks at regular intervals in order to guarantee consistent quality throughout the entire production period.




**Eppendorf consumables with this purity grade are free of proteins and thus free of unspecific signals or reactions due to protein contamination.**

**Eppendorf Protein-free:**
A colorimetric assay which can detect down to 1ng/µL is used for testing and detecting protein contamination. Lot-specific certificates provided by an external accredited laboratory are available on request and on our website.
Furthermore, all Eppendorf protein-free products fulfill the quality standards defined for our purity grade “Eppendorf Quality“.



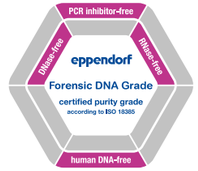

**Eppendorf consumables with the purity grade “Sterile” are sterilized in accordance with ISO 11137 or ISO 11135 with a Sterility Assurance Level (SAL) of $10^{-6}$. Lot-specific certificates document sterility and the absence of[1]) endotoxins in accordance with Ph. Eur. 2.6.14.**

**Eppendorf Sterile:**
Besides fulfilling the quality criteria of “Eppendorf Quality” Eppendorf consumables with the purity grade “sterile” are sterilized and free of pyrogens. Each lot is certified by an external accredited laboratory. Eppendorf sterile consumables are sterilized in accordance with ISO 11137 or ISO 11135. A quality seal which assures customers of the suitability of their Eppendorf consumables for direct use in experiments and analysis without the need for further treatment. Lot-specific certificates are available on request and on our website.




**All Eppendorf consumables with the purity grade “PCR clean” are DNase- and RNase-free, and free of PCR-inhibitors. It is also guaranteed that the consumables are free of contaminating human DNA.**

**Eppendorf PCR clean:**
All Eppendorf consumables with the purity grade “PCR clean” ensure not to interfere with the PCR. Furthermore, all Eppendorf PCR clean products fulfill the quality criteria defined for our standard consumables (purity grade “Eppendorf Quality“).
The purity grade “PCR clean” is essentially achieved in not even letting contamination develop. Therefore, the corresponding plastic items are manufactured comparable to clean-room conditions. The manufacturing areas are spatially separated and only personnel in special protective clothing are granted access. Lot-specific certificates provided by an external accredited laboratory confirm the compliance with the criteria DNase-, RNase-, PCR inhibitor-, and human DNA-free. The certificates are available on request and on our website. “PCR clean” – a quality seal which assures customers of the suitability of their Eppendorf consumables for direct use in experiments and analysis.




**The demanding requirements of the ISO 18385 are fulfilled by “Eppendorf Forensic DNA Grade“ consumables. These products help to further minimize the risk of human DNA contamination in forensic DNA analysis. Individually blistered packaging or “mini batches” in re-sealable bags also help to protect against contamination.**

**Eppendorf Forensic DNA Grade (acc. to ISO 18385):**
Human DNA contamination is one of the main concerns in forensic DNA analysis. The ISO 18385 has been implemented to further minimize the risk of DNA contamination. This standard specifies requirements for manufacturing products used in the collection, storage and analysis of biological material for forensic purposes. Highly automated production lines and stringent access controls are only two production conditions for “Eppendorf Forensic DNA Grade“ consumables which contribute in fulfilling ISO 18385.
Individually blistered packaging or “mini batches” in re-sealable bags provide effective protection against contamination.
Lot-specific certificates provided by an external accredited laboratory confirm the compliance with the criteria DNase-, RNase-, PCR inhibitor-, and human DNA-free. The certificates are available on request and on our website.




**Consumables available in this highest possible degree of Eppendorf purity grades are guaranteed to be sterile and free of pyrogens, RNases, DNases, DNA and ATP as well as PCR inhibitors. Individually blistered or “mini batches” in re-sealable boxes provide effective protection against soiling and contamination.**

**Biopur®:**
To meet the highest demands of the clinical, pharmaceutical, cosmetic, food industries and others, Eppendorf defined the quality and purity grade “Biopur”. This purity is ensured by an elaborate, automated manufacturing process which safeguards the product against contamination with biological substances. Furthermore, all “Biopur” products fulfill the quality standards defined for our standard consumables (Purity grade “Eppendorf Quality”).
Lot-specific certificates provided by an external accredited laboratory confirm the compliance with the criteria sterile, DNase-, RNase-, PCR inhibitor, ATP-, Pyrogen-, human and bacterial DNA-free. The certificates are available on request and on our website. “Biopur” – a quality seal which assures customers of the suitability of their Eppendorf consumables for direct use in experiments and analysis.

[1]) The suffix/wording "-free" respectively "absence/free of" in the context of purity grades means that the test showed conformity within the detection limits.

# OEM

## Sample Integrity is Paramount



Once lost or compromised, a sample is gone forever. Often additional samples cannot be retrieved or only with substantial costs or time delays. Thus, sample integrity is paramount. It must be established and maintained throughout the workflow. Making compromises, even in a single workflow step, can jeopardize your sample and the entire result.

**Sample integrity is dependent on three main elements:**
> Avoiding contamination
> Minimizing unspecific binding of rare or selected molecules
> Reproducibility of processes

**1. Avoiding contamination**
There is a vast diversity of unwanted contaminants:
> Target molecules, leading to false-positive results
> Molecules with comparable characteristics in e.g. photometry, leading to false-positive results.
> Reaction inhibitors, leading to false-negative results
> Chemicals degrading the target molecules or cells, leading to false-negative results
> Leaching substances from certain consumables

General Good Laboratory Practice is fundamental to prevent contamination. Additionally, the right products can help in this endeavor. Tight fitting tube caps, raised rims of plate wells, individually wrapped consumables, aerosol-tight centrifuge rotors, powerful UV lamps, etc. all help to avoid contamination.

Learn more about leachables
www.eppendorf.com/leachables-notes/

www

www.eppendorf.com/sample-integrity

**2. Minimizing unspecific binding of rare or selected molecules**
Some samples are in low abundance from the beginning. Especially in these cases, it is crucial to retain as much as possible of your target molecule or cells throughout your workflow. Eppendorf consumables with low binding characteristics can reduce target molecule loss substantially.

Learn more about low binding consumables

www

www.eppendorf.com/dna-lobind-tubes

**3. Reproducibility of processes**
Maintaining sample integrity continuously throughout the process from raw material to reportable result is a daily challenge in every lab. Eppendorf products with their verified performance specifications support consistent processes and reproducible test results in every single run.




**Are 4 °C in a centrifuge really 4 °C?**
Eppendorf has data on product performance to help maintain reproducibility of your processes across different centrifuges, users or runs.



**Were the 5 µL you pipetted really 5 µL?**
Precision and accuracy of pipetting tools are crucial for any workflow. Eppendorf has the right tools, no matter what viscosity, density, temperature etc. your liquids have.




**Do you get an unbiased selection of target molecules?**
Smart consumables with LoBind characteristics avoid binding to vessels or pipette tips and help to get optimized results!

**Request your OEM solution**
Do you want to know more about how we can support you with OEM solutions?
Please contact us at **oem@eppendorf.com**

www.eppendorf.com/oem

# OEM

## Your Global Supplier for OEM Solutions

Eppendorf is well known for its high quality standard, innovative technology and cutting-edge developments. Take advantage of our competence and decades of experience in developing and manufacturing high-tech laboratory products. With our R&D know-how in many fields of laboratory instrumentation and consumables, we can offer you support in the design of your OEM product across the board. All our products are manufactured to the highest quality standards as we have our own production facilities.



**Manufacturing Eppendorf consumables for your needs**
> Fully automated manufacturing facilities ensure lowest level of contamination
> Injection molds are crucial for achieving outstanding product quality - Eppendorf is the only tip manufacturer that develops and manufactures its own molds, resulting in very high product specifications and very low failure rates during production
> Production scalability up to very high volumes can be achieved by use of molding systems with 32 up to 128 cavities
> Automated quality checks measure coaxiality and residual volume of tips as well as 100% in-line filter inspection
> Manufacturing sites in Germany and the US secure delivery on-time worldwide

**Customized consumables**
Eppendorf offers a broad range of consumables including a broad diversity of plates: PCR, MTP, DWP and cell culture. Whether you choose one of our standard products with a specific packaging or you prefer a customization, for example, a specific surface treatment, please contact us. We will support you with an optimized solution.

Watch video about customized OEM consumables.

www.eppendorf.com/oem-video

**Customized tips for automation**
Countless liquid handling workstations in the world work with Eppendorf conductive or non-conductive tips, benefitting from our high quality standards. Eppendorf tips for automation can cover a broad range of tasks in all major life science applications. Upon request, Eppendorf tips can also be equipped to comply with specific requirements.



The customized Eppendorf automation tips can be found offering solutions to requirements, such as:
> Conductive or non-conductive
> With or without sophisticated filter
> Special tray colors
> Different volumes and dimensions
> Customized materials
> Customized packaging and labeling

**Customized automated pipetting workstations**
A broad range of Eppendorf instruments, such as the automated liquid handling workstation ep*Motion*®, is available for OEM.

From logo or color adaptations all the way to specific software and hardware functions - just let us know what you need!




**Request your OEM solution**
Do you want to know more about how we can support you with OEM solutions? Please contact us at **oem@eppendorf.com**

https://www.eppendorf.com/oem

# Liquid Handling











| Model | Eppendorf Research® plus | Eppendorf Reference® 2 | Eppendorf Xplorer®/ Eppendorf Xplorer® plus |
|---|---|---|---|
| **Page(s)** | **26** | **32** | **35** |
| **Product type** | Pipette | Pipette | Pipette |
| **Operating mode** | Manual | Manual | Electronic |
| **Adjustable cone spacing** | no | no | no |
| **Pipetting type** | Air-cushion | Air-cushion | Air-cushion |
| **Positioning** | Ultra light weight and pipetting forces for advanced ergonomics | Reliability in robustness and results | Efficient and more precise pipetting |
| **Application** | Pipetting of aqueous liquids, two-button operation | Pipetting of aqueous liquids, single-button operation | Pipetting of aqueous liquids |
| **Volume range** | 0.1 µL – 10 mL | 0.1 µL – 10 mL | 0.5 µL – 10 mL |
| **Available options** | 1-channel<br>8-channel<br>12-channel<br>16-channel<br>24-channel | 1-channel<br>8-channel<br>12-channel | 1-channel<br>8-channel<br>12-channel<br>16-channel<br>24-channel |
| **RFID tracking** | Yes | Yes | Yes |
| **Autoclavable** | Yes | Yes | Yes (lower part) |
| **Consumables** | universal tips, epT.I.P.S.® | universal tips, epT.I.P.S.® | universal tips, epT.I.P.S.®, epT.I.P.S.® 384 |
| **Purity grades of consumables** | > Eppendorf Quality™<br>> PCR clean and sterile<br>> Biopur®<br>> Forensic DNA Grade | > Eppendorf Quality™<br>> PCR clean and sterile<br>> Biopur®<br>> Forensic DNA Grade | > Eppendorf Quality™<br>> PCR clean and sterile<br>> Biopur®<br>> Forensic DNA Grade |




New








| Model | Eppendorf Research® plus Move It®/ Eppendorf Xplorer® plus Move It® | Varipette® 4720 | Multipette® M4 | Multipette® E3/E3x |
|---|---|---|---|---|
| **Page(s)** | **41/41** | **80** | **70** | **73** |
| **Product type** | Pipette | Pipette | Dispenser | Dispenser |
| **Operating mode** | Manual/Electronic | Manual | Manual | Electronic |
| **Adjustable cone spacing** | yes | no | no | no |
| **Pipetting type** | Air-cushion | Positive displacement | Positive displacement | Positive displacement |
| **Positioning** | Double your pipetting performance: fast and secure multiple sample transfer between different formats made easy | Fault tolerant pipetting of large volumes, independent of external effects | Time saving by acceleration of long pipetting series with low outside fault effects | Time saving by acceleration of long pipetting series, with highest volume flexibility and lowest outside fault effects |
| **Application** | Pipetting of aqueous liquids | Contamination-free pipetting of aqueous, viscous and volatile liquids | Contamination-free dispensing (up to 100 steps per Combitips Tip filling) of aqueous solutions, and problem liquids (e.g., viscous, volatile, dense…) | Contamination-free dispensing (up to 100 steps per Combitips Tip filling) of aqueous solutions, and problem liquids (e.g., viscous, volatile, dense…) |
| **Volume range** | 1 – 1,200 µL | 1 – 10 mL | 1 µL – 10 mL | 1 µL – 50 mL |
| **Available options** | 4-channel<br>6-channel<br>8-channel<br>12-channel | 1-channel | 1-channel | 1-channel |
| **RFID tracking** | Yes/Yes | No | Yes | Yes |
| **Autoclavable** | Yes/Yes (lower part) | No | No | No |
| **Consumables** | universal tips, epT.I.P.S.®, epT.I.P.S.® 384 | Varitips | Combitips advanced® | Combitips advanced® |
| **Purity grades of consumables** | > Eppendorf Quality™<br>> PCR clean and sterile<br>> Biopur®<br>> Forensic DNA Grade | > Eppendorf Quality™ | > Eppendorf Quality™<br>> PCR clean<br>> Biopur®<br>> Forensic DNA Grade | > Eppendorf Quality™<br>> PCR clean<br>> Biopur®<br>> Forensic DNA Grade |













| Model | epT.I.P.S.® | epT.I.P.S.® Long | ep Dualfilter T.I.P.S.® | ep Dualfilter T.I.P.S.® SealMax | epT.I.P.S.® LoRetention | ep Dualfilter T.I.P.S.® LoRetention | GELoader® | Microloader™ |
|---|---|---|---|---|---|---|---|---|
| **Page(s)** | **48** | **52** | **53** | **55** | **56** | **56** | **50** | **50** |
| **Applications** | > Pipetting liquids<br>> Dispensing liquids<br>> Mixing liquids<br>> Filling plates and reaction vessels<br>> For applications in 384-microplate format we recommend using 16 or 24-channel pipettes together with epT.I.P.S.® 384 | | > DNA applications (e.g. PCR)<br>> RNA applications (e.g. gene expression analysis)<br>> Protein applications (e.g. antibody research)<br>> Cell culture applications (e.g. media)<br>> Applications with radio actives<br>> All applications which use aerosol[1] binding liquids<br>> For applications in 384-microplate format we recommend using 16 or 24-channel pipettes together with ep Dualfilter T.I.P.S.® 384 | | > Cell culture (media)<br>> Genomics: PCR, RT-PCR, qPCR and all other types of PCR<br>> Enzymatic reactions (restriction decomposition, ligation)<br>> Isolation and purification of nucleic acid<br>> Gel electrophoresis (e.g., prefabricated DNA ladders) typical detergents: SDS, Triton®, X-100, Brij® 35, Tween® 20, CHAPS<br>> Proteomics (all types of protein examinations)<br>> Protein isolation and purification<br>> NGS library preparation | | > Gel electrophoresis<br>> Loading of samples onto polyacrylamide gels<br>> Handling of smallest volumes | > Pipette tip for back-filling of Femtotips and other microcapillaries |

[1] An aerosol is a colloid of fine solid particles or liquid droplets, in air or another gas.

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# Liquid Handling







| Model | Varispenser® 2 / Varispenser® 2x | Eppendorf Top Buret™ |
|---|---|---|
| **Page(s)** | **84** | **86** |
| **Product type** | Bottletop dispenser | Bottle-top burette |
| **Operating mode** | Manual | Manual |
| **Pipetting type** | Positive displacement | Positive displacement |
| **Positioning** | Varispenser 2 and 2x bottletop dispensers combine trusted technology with improved benefits for safe and easy dispensing of liquids without compromise | Continuously and pulse-free manual titration |
| **Application** | Single stroke dispensing of lyes, acids, bases, aqueous liquids or solvents | Titration of aqueous liquids |
| **Volume range** | 0.2 – 100 mL | 0.1 – 999.9 mL |
| **Available options** | 1-channel | 1-channel |
| **RFID tracking** | No | No |
| **Autoclavable** | Yes | No |
| **Consumables** | – | – |
| **Purity grades of consumables** | – | – |









| Easypet® 3 | Pipet Helper® | ep*Motion*® 96/ep*Motion*® 96xl with 2-position slider |
|---|---|---|
| **81** | **82** | **88** |
| Pipette controller | Pipette controller | Semi-automated Pipette |
| Electronic | Manual | Electronic |
| Air-cushion | Air-cushion | Air-cushion |
| Overall ergonomic concept with new speed control for stress-free pipetting | The robust and intuitive design makes it a perfect entry-level instrument | Intuitive and fast pipetting in 96 and 384 format |
| Pipetting of aqueous liquids with serological and volumetric pipettes | Pipetting of aqueous liquids with serological and volumetric pipettes | Pipetting of aqueous liquids |
| 0.1 – 100 mL | 0.1 – 100 mL | 0.5 – 300 µL/5 – 1,000 µL |
| 1-channel | 1-channel | 96-channel |
| Yes | No | No |
| Yes (pipette adapter and aspirating cone) | Yes | No |
| serological pipettes | serological pipettes | epT.I.P.S.® motion reload system |
| > Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic. | > Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic. | > Eppendorf Quality™<br>> PCR clean<br>> PCR clean and sterile |



| Model | Combitips advanced® |
|---|---|
| **Page(s)** | **77** |
| **Applications** | > Positive displacement principle (comparable to a syringe)<br>> High-precision dispensing regardless of the physical properties of the liquid (e.g., viscosity, volatility, density, temperature...)<br>> Prevents aerosol contamination with hermetically sealed piston for secure dispensing<br>> Provides protection from radioactive and toxic substances<br>> Quick dispensing of long series with precise, repeated dispensing of identical volumes (with Multipette hand dispensers) |






| ViscoTip® | Eppendorf Varitips® |
|---|---|
| **76** | **80** |
| > Positive displacement principle (comparable to a syringe)<br>> For highly viscous liquids<br>> Quick dispensing of long series with precise, repeated dispensing of identical volumes (with Multipette hand dispensers) | > Pipetting aqueous solutions<br>> Extraction of liquids from deep receptacles<br>> Transfer of organic liquids (alcohols, org. acids etc.)<br>> Transfer of solvents with high vapor pressure (e.g. diethyl ether)<br>> Transfer of liquids with high density<br>> Transfer of viscous liquids |

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# Liquid Handling












New




| Model | ep*Motion*® 5070 | ep*Motion*® 5070f | ep*Motion*® 5073l | ep*Motion*® 5073m NGS solution |
|---|---|---|---|---|
| **Page(s)** | **89** | **89** | **90** | **94** |
| **Dimensions (W × D × H)** | 65 × 48 × 63 cm / 26 × 19 × 25 in | 65 × 48 × 63 cm / 26 × 19 × 25 in | 65 × 61 × 67 cm / 26 × 24 × 27 in | 65 × 61 × 67 cm / 26 × 24 × 27 in |
| **Weight w/o accessories** | 45 kg | 33 kg | 50 kg | 57 kg |
| **Max. power consumption** | 150 W | 150 W | 600 W | 600 W |
| **Power supply** | 100 – 240 V ±10 %, 50 – 60 Hz ±5 % | 100 – 240 V ±10 %, 50 – 60 Hz ±5 % | 100 – 240 V ±10 %, 50 – 60 Hz ±5 % | 100 – 240 V ±10 %, 50 – 60 Hz ±5 % |
| **Optical confocal infrared detector** | Contact-free recognition of fill level, inserted tools, labware, tip types and quantities | Contact-free recognition of fill level, inserted tools, labware, tip types and quantities | Contact-free recognition of fill level, inserted tools, labware, tip types and quantities | Contact-free recognition of fill level, inserted tools, labware, tip types and quantities |
| **SLAS/ANSI positions** | 4 | 4 | 6 | 6 |
| **Volume range** | 0.2 µL – 1 mL | 0.2 µL – 1 mL | 0.2 µL – 1 mL | 0.2 µL – 1 mL |
| **Random measurement error** | ±0.1 mm | ±0.1 mm | ±0.1 mm | ±0.1 mm |
| **Systematic measurement error** | ±0.3 mm | ±0.3 mm | ±0.3 mm | ±0.3 mm |
| **Dispensing tool**[1)2)] | | | | |
| Random measurement error (1 µL) | ≤3 % | ≤3 % | ≤3 % | ≤3 % |
| Systematic measurement error (1 µL) | ±5 % | ±5 % | ±5 % | ±5 % |
| Random measurement error (50 µL) | ≤0.4 % | ≤0.4 % | ≤0.4 % | ≤0.4 % |
| Systematic measurement error (50 µL) | ±1.2 % | ±1.2 % | ±1.2 % | ±1.2 % |
| Random measurement error (1,000 µL) | ≤0.15 % | ≤0.15 % | ≤0.15 % | ≤0.15 % |
| Systematic measurement error (1,000 µL) | ±0.7 % | ±0.7 % | ±0.7 % | ±0.7 % |
| **Pipetting type** | Air-cushion | Air-cushion | Air-cushion | Air-cushion |
| **Gripper option** | no | no | yes | yes |
| **Thermal module (optional)** | no | no | 1 | no |
| **Cooling rate** | – | – | 4 °C/min | – |
| **Heating rate** | – | – | 9 °C/min | – |
| **ThermoMixer upgrade option** | no | no | no | included |
| **Eppendorf ThermoMixer®** | | | | |
| Max. load | – | – | – | 1,000 g (2.2 lb) |
| Mixing period | – | – | – | 5 s – 120 min |
| Speed | – | – | – | 300 rpm – 2,000 rpm |
| Temperature range | – | – | – | 15 °C below RT to 95 °C |
| **Magnetic separation** | no | no | with third party adapter and gripper | yes |
| **Vacuum separation** | no | no | no | no |
| **Automatic tool exchange** | 2 tools | 2 tools | 2 tools and gripper | 3 tools and gripper |
| **UV/HEPA option** | no | no | yes | yes |
| **For operation in biosafety cabinet** | – | yes | – | – |

[1)] in pipetting mode, free jet, without pre-wetting, with distilled water, at 20 °C [2)] See Eppendorf Application Note 168 for typical pipetting performance

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# Liquid Handling











| Model | ep*Motion*® 5075l | ep*Motion*® 5075v | ep*Motion*® 5075t | ep*Motion*® 5075m |
|---|---|---|---|---|
| **Page(s)** | **91** | **93** | **92** | **92** |
| **Dimensions (W × D × H)** | 107 × 61 × 67 cm / 43 × 24 × 27 in | 107 × 61 × 67 cm / 43 × 24 × 27 in | 107 × 61 × 67 cm / 43 × 24 × 27 in | 107 × 61 × 67 cm / 43 × 24 × 27 in |
| **Weight w/o accessories** | 85 kg | 86 kg | 87 kg | 88 kg |
| **Max. power consumption** | 700 W | 700 W | 700 W | 700 W |
| **Power supply** | 100 – 240 V ±10 %, 50 – 60 Hz ±5 % | 100 – 240 V ±10 %, 50 – 60 Hz ±5 % | 100 – 240 V ±10 %, 50 – 60 Hz ±5 % | 100 – 240 V ±10 %, 50 – 60 Hz ±5 % |
| **Optical confocal infrared detector** | Contact-free recognition of fill level, inserted tools, labware, tip types and quantities | Contact-free recognition of fill level, inserted tools, labware, tip types and quantities | Contact-free recognition of fill level, inserted tools, labware, tip types and quantities | Contact-free recognition of fill level, inserted tools, labware, tip types and quantities |
| **SLAS/ANSI positions** | 15 | 12 | 14,5 | 14,5 |
| **Volume range** | 0.2 µL – 1 mL | 0.2 µL – 1 mL | 0.2 µL – 1 mL | 0.2 µL – 1 mL |
| **Random measurement error** | ±0.1 mm | ±0.1 mm | ±0.1 mm | ±0.1 mm |
| **Systematic measurement error** | ±0.3 mm | ±0.3 mm | ±0.3 mm | ±0.3 mm |
| **Dispensing tool**[1)2)] | | | | |
| Random measurement error (1 µL) | ≤3 % | ≤3 % | ≤3 % | ≤3 % |
| Systematic measurement error (1 µL) | ±5 % | ±5 % | ±5 % | ±5 % |
| Random measurement error (50 µL) | ≤0.4 % | ≤0.4 % | ≤0.4 % | ≤0.4 % |
| Systematic measurement error (50 µL) | ±1.2 % | ±1.2 % | ±1.2 % | ±1.2 % |
| Random measurement error (1,000 µL) | ≤0.15 % | ≤0.15 % | ≤0.15 % | ≤0.15 % |
| Systematic measurement error (1,000 µL) | ±0.7 % | ±0.7 % | ±0.7 % | ±0.7 % |
| **Pipetting type** | Air-cushion | Air-cushion | Air-cushion | Air-cushion |
| **Gripper option** | yes | included | yes | yes |
| **Thermal module (optional)** | 3 | 3 | 2 | 2 |
| **ThermoMixer upgrade option** | yes | yes | included | included |
| **Vacuum unit** | | | | |
| Vacuum max. output | – | 35 NL/min | – | – |
| **Magnetic separation** | with third party adapter and gripper | with third party adapter and gripper | with third party adapter and gripper | yes |
| **Vacuum separation** | no | yes | no | no |
| **Automatic tool exchange** | 4 tools and gripper | 4 tools and gripper | 4 tools and gripper | 4 tools and gripper |
| **UV/HEPA option** | yes | yes | yes | yes |

[1)] in pipetting mode, free jet, without pre-wetting, with distilled water, at 20 °C [2)] See Eppendorf Application Note 168 for typical pipetting performance

Only for ep*Motion* 5073m, 5073mc and 5075m: Limited Use Label License

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# Eppendorf Research® plus

**The ultra light pipette that delights your hand**
The Eppendorf Research plus mechanical pipette combines over 50 years of innovation in liquid handling and is one of the most commonly used pipettes in the world. It provides you with one of the safest and most ergonomic pipettes available today. The Research plus microliter pipette protects the health of our customers during their daily work in the laboratory. It has pioneered the renowned Eppendorf PhysioCare Concept® and thus reduced the strain on hand and arm during pipetting essentially. The Research plus is the pipette family with the lowest weight and lowest operation forces in the Eppendorf product families. Lower operation forces can only be reached with our Eppendorf electronic pipettes. Enjoy excellent flexibility and choose among single-channel pipettes in fixed or variable volume as well as multi-channel pipette options with 8, 12, 16 and 24 channels.




PhysioCare concept

**Product features**
> Air-cushion pipette for accurate pipetting of aqueous solutions
> Feel the difference in weight and pipetting forces: the ultra light mechanical pipette is designed according to the strict criteria of the Eppendorf PhysioCare Concept and limits the strain on your hand and arm
> Spring loaded tip cone (available for all pipettes up to 1 mL) for minimal tip attachment forces helps to reduce stress
> Benefit from one of the lowest operating and tip ejection forces on the pipette market
> Adjust your pipette in seconds for better accuracy when pipetting various difficult liquids like ethanol or even when pipetting at high altitudes. Return to factory adjustment without calibration
> Autoclave the entire pipette or only the lower part according to your needs to ensure decontamination
> Enjoy excellent flexibility and choose among single-channel pipettes in fixed or variable volume as well as 8, 12, 16 and 24 channel pipettes

**Applications**
> Forward pipetting
> Reverse pipetting
> Removal of supernatants
> Sample mixing
> Phase extraction
> Filling of plates, gels, and reaction vessels

**Forward and reverse pipetting**

| Transfer | Forward pipetting | Reverse pipetting |
|---|---|---|
| **Liquid uptake** | 1. Press operating button down to 1st stop | 1. Press operating button down to 2nd stop |
| | 2. Let operating button move up completely | 2. Let operating button move up completely |
| **Liquid discharge** | 3. Press operating button via 1st stop down to 2nd stop | 3. Press operating button down to 1st stop |
| **Observation** | 4. No liquid is left in tip after action | 4. Liquid is left in tip after action (volume of blow-out) |







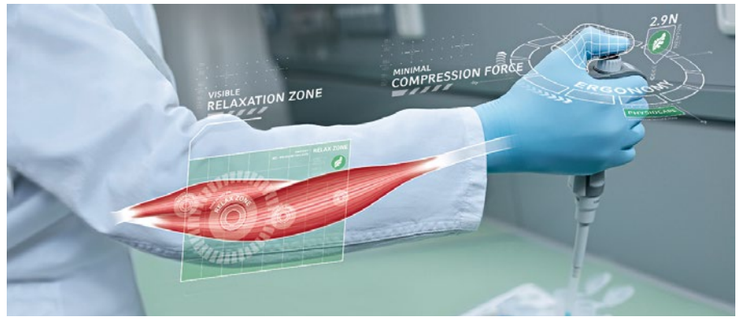
➤ For more information go to: https://handling-solutions.eppendorf.com/liquid-handling/pipetting-facts/pipetting-of-challenging-liquids/

Technical specifications subject to change.





**A joy for your eyes - The display**
4-digit volume display with magnifying window. Easy to read. Allows for more accurate volume setting.




**Fatigue-free pipetting**
Strain on your hand and arm is limited by reduced tip attachment and ejection force. For more information go to **https://handling-solutions.eppendorf.com/liquid-handling/pipetting-facts/ergonomics/**

**Secondary adjustment option for various liquid classes**
Adjust your pipetting volume in seconds by up to ±2 % for better accuracy when pipetting various difficult liquids like warm, cold, volatile or high density liquids or even when external conditions change (e.g., altitude or use of elongated tips). Change back to factory adjustment easily without calibration.



# It is Your Choice

**Eppendorf Research plus adjustable and fixed volume pipettes**
Dispensing adjustable volumes within a range of 0.1 µL and 10 mL is possible by using variable volume pipettes. Fixed volume pipettes are the perfect tool for beginners and labs on a budget. In addition, they allow working at a faster pace. Finally, it is less likely to commit an error and calibration is much more easier.

**Eppendorf Research plus single- and multichannel pipettes**
Depending on the vessel type you can choose between:
> Single-channel pipettes for tubes
> 8 and 12-channel pipettes for 96 and 24-well plates
> 16 and 24-channel pipettes for 384-well plates

**Eppendorf Research plus Move It pipettes with adjustable cone distance**
When moving samples from one vessel format to another, instead of pipetting many times, up to twelve samples can now be moved simultaneously. Move It pipettes have adjustable cones for variable tip spacings according to your vessel format. See also page 41 for more information.

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# Eppendorf Research® plus

## Single-channel pipettes, fixed volume

**Ordering information**

| Volume range | Color code | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|
| **Eppendorf Research® plus**, single-channel, fixed | | | | | | |
| 10 µL | medium gray | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | 3124 000 016 |
| 10 µL | yellow | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | 3124 000 024 |
| 20 µL | light gray | ±0.8 % | ±0.16 µL | ±0.3 % | ±0.06 µL | 3124 000 032 |
| 20 µL | yellow | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | 3124 000 040 |
| 25 µL | yellow | ±1.0 % | ±0.25 µL | ±0.3 % | ±0.08 µL | 3124 000 059 |
| 50 µL | yellow | ±0.7 % | ±0.35 µL | ±0.3 % | ±0.15 µL | 3124 000 067 |
| 100 µL | yellow | ±0.6 % | ±0.6 µL | ±0.2 % | ±0.2 µL | 3124 000 075 |
| 200 µL | yellow | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | 3124 000 083 |
| 200 µL | blue | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | 3124 000 091 |
| 250 µL | blue | ±0.6 % | ±1.5 µL | ±0.2 % | ±0.5 µL | 3124 000 105 |
| 500 µL | blue | ±0.6 % | ±3.0 µL | ±0.2 % | ±1.0 µL | 3124 000 113 |
| 1,000 µL | blue | ±0.6 % | ±6.0 µL | ±0.2 % | ±2.0 µL | 3124 000 121 |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

## Single-channel pipettes, variable volume

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus**, single-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.1 – 2.5 µL | dark gray | 0.1 µL | ±48.0 % | ±0.048 µL | ±12.0 % | ±0.012 µL | 3123 000 012 |
| | | 0.25 µL | ±12.0 % | ±0.03 µL | ±6.0 % | ±0.015 µL | |
| | | 1.25 µL | ±2.5 % | ±0.031 µL | ±1.5 % | ±0.019 µL | |
| | | 2.5 µL | ±1.4 % | ±0.035 µL | ±0.7 % | ±0.018 µL | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±8.0 % | ±0.04 µL | ±5.0 % | ±0.025 µL | 3123 000 020 |
| | | 1 µL | ±2.5 % | ±0.025 µL | ±1.8 % | ±0.018 µL | |
| | | 5 µL | ±1.5 % | ±0.075 µL | ±0.8 % | ±0.04 µL | |
| | | 10 µL | ±1.0 % | ±0.1 µL | ±0.4 % | ±0.04 µL | |
| 2 – 20 µL | light gray | 2 µL | ±5.0 % | ±0.1 µL | ±1.5 % | ±0.03 µL | 3123 000 098 |
| | | 10 µL | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | |
| | | 20 µL | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | |
| 2 – 20 µL | yellow | 2 µL | ±5.0 % | ±0.1 µL | ±1.5 % | ±0.03 µL | 3123 000 039 |
| | | 10 µL | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | |
| | | 20 µL | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±1.0 % | ±0.1 µL | 3123 000 047 |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.3 % | ±0.15 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.2 % | ±0.2 µL | |
| 20 – 200 µL | yellow | 20 µL | ±2.5 % | ±0.5 µL | ±0.7 % | ±0.14 µL | 3123 000 055 |
| | | 100 µL | ±1.0 % | ±1.0 µL | ±0.3 % | ±0.3 µL | |
| | | 200 µL | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | |
| 30 – 300 µL | orange | 30 µL | ±2.5 % | ±0.75 µL | ±0.7 % | ±0.21 µL | 3123 000 101 |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.3 % | ±0.45 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.2 % | ±0.6 µL | |
| 100 – 1,000 µL | blue | 100 µL | ±3.0 % | ±3.0 µL | ±0.6 % | ±0.6 µL | 3123 000 063 |
| | | 500 µL | ±1.0 % | ±5.0 µL | ±0.2 % | ±1.0 µL | |
| | | 1,000 µL | ±0.6 % | ±6.0 µL | ±0.2 % | ±2.0 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.





**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus**, single-channel, variable, incl. epT.I.P.S.® sample bag | | | | | | | |
| 0.25 – 2.5 mL | red | 0.25 mL | ±4.8 % | ±0.012 mL | ±1.2 % | ±0.003 mL | 3123 000 144 |
| | | 1.25 mL | ±0.8 % | ±0.01 mL | ±0.2 % | ±0.0025 mL | |
| | | 2.5 mL | ±0.6 % | ±0.015 mL | ±0.2 % | ±0.005 mL | |
| 0.5 – 5 mL | violet | 0.5 mL | ±2,4 % | ±0,012 mL | ±0,6 % | ±0,003 mL | 3123 000 071 |
| | | 2.5 mL | ±1,2 % | ±0,03 mL | ±0,25 % | ±0,006 mL | |
| | | 5 mL | ±0,6 % | ±0,03 mL | ±0,15 % | ±0,008 mL | |
| 1 – 10 mL | turquoise | 1 mL | ±3,0 % | ±0,03 mL | ±0,6 % | ±0,006 mL | 3123 000 080 |
| | | 5 mL | ±0,8 % | ±0,04 mL | ±0,2 % | ±0,01 mL | |
| | | 10 mL | ±0,6 % | ±0,06 mL | ±0,15 % | ±0,015 mL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.



## 8-channel pipettes, variable volumes

**Ordering information**

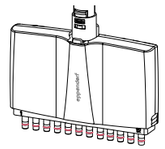
| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus**, 8-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±12,0 % | ±0,06 µL | ±8,0 % | ±0,04 µL | 3125 000 010 |
| | | 1 µL | ±8,0 % | ±0,08 µL | ±5,0 % | ±0,05 µL | |
| | | 5 µL | ±4,0 % | ±0,2 µL | ±2,0 % | ±0,1 µL | |
| | | 10 µL | ±2,0 % | ±0,2 µL | ±1,0 % | ±0,1 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±2.0 % | ±0,2 µL | 3125 000 036 |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0,4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.3 % | ±0,3 µL | |
| 30 – 300 µL | orange | 30 µL | ±3,0 % | ±0,9 µL | ±1,0 % | ±0,3 µL | 3125 000 052 |
| | | 150 µL | ±1,0 % | ±1,5 µL | ±0,5 % | ±0,75 µL | |
| | | 300 µL | ±0,6 % | ±1,8 µL | ±0,3 % | ±0,9 µL | |
| New 120 – 1,200 µL | green | 120 µL | ±6,0 % | ±7,2 µL | ±0,9 % | ±1,08 µL | 3125 000 214 |
| | | 600 µL | ±2,7 % | ±16,2 µL | ±0,4 % | ±2,4 µL | |
| | | 1,200 µL | ±1,2 % | ±14,4 µL | ±0,3 % | ±3,6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 8-channel pipettes please choose standard epT.I.P.S., see pages 58 - 65

Order info of new Pipette „Move It" see page 41

# Eppendorf Research® plus



## 12-channel pipettes, variable volumes

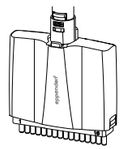
**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus**, 12-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±12,0 % | ±0,06 µL | ±8,0 % | ±0,04 µL | 3125 000 028 |
| | | 1 µL | ±8,0 % | ±0,08 µL | ±5,0 % | ±0,05 µL | |
| | | 5 µL | ±4,0 % | ±0,2 µL | ±2,0 % | ±0,1 µL | |
| | | 10 µL | ±2,0 % | ±0,2 µL | ±1,0 % | ±0,1 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3,0 % | ±0,3 µL | ±2,0 % | ±0,2 µL | 3125 000 044 |
| | | 50 µL | ±1,0 % | ±0,5 µL | ±0,8 % | ±0,4 µL | |
| | | 100 µL | ±0,8 % | ±0,8 µL | ±0,3 % | ±0,3 µL | |
| 30 – 300 µL | orange | 30 µL | ±3,0 % | ±0,9 µL | ±1,0 % | ±0,3 µL | 3125 000 060 |
| | | 150 µL | ±1,0 % | ±1,5 µL | ±0,5 % | ±0,75 µL | |
| | | 300 µL | ±0,6 % | ±1,8 µL | ±0,3 % | ±0,9 µL | |
| New 120 – 1,200 µL | green | 120 µL | ±6.0 % | ±7.2 µL | ±0.9 % | ±1.08 µL | 3125 000 222 |
| | | 600 µL | ±2.7 % | ±16.2 µL | ±0.4 % | ±2.4 µL | |
| | | 1,200 µL | ±1.2 % | ±14.4 µL | ±0.3 % | ±3.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 12-channel pipettes please choose standard epT.I.P.S., see pages 58 - 65

Order info of new Pipette „Move It" see page 41



## 16-channel pipettes, variable volume, for 384-well plates

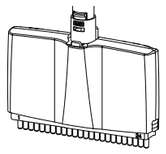
**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus**, 16-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 1 – 20 µL | light pink | 1 µL | ±12 % | ±0.12 µL | ±8 % | ±0.08 µL | 3125 000 079 |
| | | 2 µL | ±8 % | ±0.16 µL | ±5 % | ±0.1 µL | |
| | | 10 µL | ±4 % | ±0.4 µL | ±2 % | ±0.2 µL | |
| | | 20 µL | ±2 % | ±0.4 µL | ±1 % | ±0.2 µL | |
| 5 – 100 µL | light yellow | 5 µL | ±6 % | ±0.3 µL | ±4 % | ±0.2 µL | 3125 000 095 |
| | | 10 µL | ±3 % | ±0.3 µL | ±2 % | ±0.2 µL | |
| | | 50 µL | ±1.2 % | ±0.6 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±1 % | ±1 µL | ±0.6 % | ±0.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 16-channel pipettes please choose epT.I.P.S. 384, see pages 64 - 65

Order info of new Pipette „Move It" see page 41



## 24-channel pipettes, variable volume, for 384-well plates

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus**, 24-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 1 – 20 µL | light pink | 1 µL | ±12 % | ±0.12 µL | ±8 % | ±0.08 µL | 3125 000 087 |
| | | 2 µL | ±8 % | ±0.16 µL | ±5 % | ±0.1 µL | |
| | | 10 µL | ±4 % | ±0.4 µL | ±2 % | ±0.2 µL | |
| | | 20 µL | ±2 % | ±0.4 µL | ±1 % | ±0.2 µL | |
| 5 – 100 µL | light yellow | 5 µL | ±6 % | ±0.3 µL | ±4 % | ±0.2 µL | 3125 000 109 |
| | | 10 µL | ±3 % | ±0.3 µL | ±2 % | ±0.2 µL | |
| | | 50 µL | ±1.2 % | ±0.6 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±1 % | ±1 µL | ±0.6 % | ±0.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

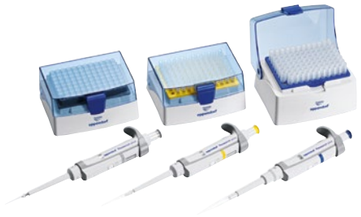
For 24-channel pipettes please choose epT.I.P.S. 384 see pages 64 - 65

Order info of new Pipette „Move It" see page 41

Technical specifications subject to change.



# Eppendorf Research® plus 3-pack



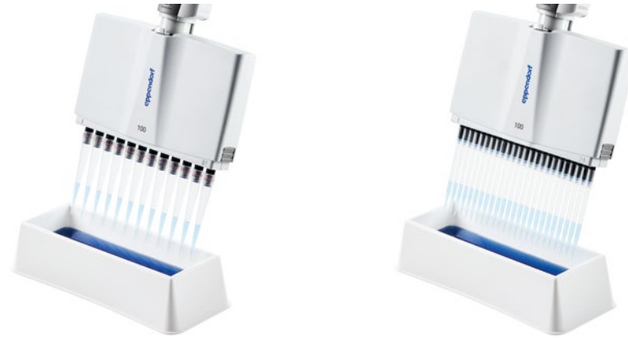
**Get your lab up and running fast with our 3-pack of Research plus pipettes**
Get ready for a threefold enjoyable pipetting experience with one of the most advanced and ergonomic pipettes in the world. The economic Research plus triple-pack is available in three different versions. In addition to three Research plus pipettes, each pack contains one set of matching Eppendorf tips and one of the popular Eppendorf ballpoint pens.

**Ordering information**

| Eppendorf Research® plus 3-pack | Order no. |
|---|---|
| **Eppendorf Research® plus 3-pack**, single-channel, variable, incl. epT.I.P.S.® Box or sample bag and ballpoint pen | |
| **Option 1:** 0.5 – 10 µL, 10 – 100 µL, 100 – 1,000 µL | 3123 000 900 |
| **Option 2:** 2 – 20 µL yellow, 20 – 200 µL, 100 – 1,000 µL | 3123 000 918 |
| **Option 3:** 100 – 1,000 µL, 0.5 – 5 mL, 1 – 10 mL | 3123 000 926 |

# Eppendorf Tip-tub

Tip: the Eppendorf Tip-tub reagent reservoir is suitable for all 8, 12, 16 and 24-channel pipettes and all Eppendorf Move It™ pipettes. See below for ordering information.



# Accessories

**Accessories**

| Description | Order no. |
|---|---|
| **Eppendorf Research® plus red adjustment seal ADJ**, 1 set = 5 pieces | 3120 636 005 |
| **Adjustment tool**, for changing factory or secondary user adjustment | 3120 633 006 |
| **Safety plug tools**, for changing the factory adjustment, 5 pieces | 3120 639 004 |
| **Protection filter 5 mL**, 10 filters with 1 filter sleeve, for 0.5 – 5 mL variable, color code: violet | 4920 623 005 |
| **Protection filter 10 mL**, 10 filters with 1 filter sleeve, for 1 – 10 mL variable, color code: turquoise | 4920 624 001 |
| **O-ring**, red, for multi-channel lower parts, 5 – 100 µL, 15 – 300 µL (1 set = 24 pcs) | 3122 611 000 |
| **Multi-channel tool**, for cutting the O-rings on the tip cone of multi-channel lower parts, 5 – 100 µL or 15 – 300 µL | 3122 610 003 |
| **Pipette wrench 2 mL – 10 mL** | 3120 634 002 |
| **Locking ring**, to prevent spring action with single-channel pipettes, 2.5 µL – 1,000 µL | 3120 635 009 |
| **Locking clip for 8 channel pipette**, to prevent spring action of tip cones, 2 pieces | 3122 612 006 |
| **Locking clip for 12 channel pipette**, to prevent spring action of tip cones, 3 pieces | 3122 613 002 |
| **Reagent reservoir Tip-Tub**, autoclavable reservoir for the aspiration of liquids with multi-channel pipettes, 1 set = 10 reservoirs and 10 lids | 0030 058 607 |
| **Pipette grease with lint-free applicator** | 0013 022 153 |
| **Eppendorf TrackIT**, RFID Reader and Software | 3903 000 014 |

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# Eppendorf Reference® 2

**Extraordinary precision and accuracy – Eppendorf´s premium pipette**
Besides improved ergonomics the design focus lays on providing the most accurate results possible, optimum user safety, reliability and robustness for a long service life. The innovative single button operation is not only fast and easy, but it also allows active aerosol[1)] reduction and thus protects the user, the sample and the pipette. The sturdy handle manufactured with stainless steel protects the pipette from impact and in combination with the spring loaded bumpers the Reference 2 is likely to stay within calibration even if it takes a fall. These high levels of security make the Reference 2 ideal for use with precious liquids, or in any application requiring extremely high levels of accuracy. When there can be no compromise on quality and reproducibility, Eppendorf's Reference 2 is an ideal instrument for these liquid handling applications.

[1)] An aerosol is a colloid of fine solid particles or liquid droplets in air or another gas.




DESIGN AWARD

PhysioCare concept

**Product features**
> The one-button operation offers fast and ergonomic handling with reduced operating effort and active aerosol reduction. To avoid accidental tip ejection a clear haptic feedback is provided
> The spring-loaded tip cone improves user-to-user reproducibility and improved ergonomics by lowering tip attachment force
> The Reference 2 multi-channel offers high flexibility incl. a spring-loaded tip cone which can be switched on/off optionally
> The secondary adjustment supports the easy adjustment of your Reference 2 for the most accurate pipetting of different liquids or other external conditions without the need for a full calibration
> The outstanding precision and accuracy of Reference 2 provides reliable results
> 4-digit volume display with magnifying window to allow for easier volume identification
> The unique smooth surface guarantees simple cleaning. In addition to the full autoclavability of this pipette, decontamination is as easy and efficient as never before. This is the ideal pipette when working under sterile conditions
> An embedded RFID chip contains all relevant data regarding the pipette and offers with Eppendorf TrackIT a simple identification and documentation
> Available as single-channel pipette in fixed or variable volume as well as 8 and 12-channel pipette

**Applications**
> Forward pipetting
> Reverse pipetting
> Removal of supernatants
> Sample mixing
> Phase extraction
> Filling of plates, gels, and reaction vessels




**User-friendly secondary adjustment**
For liquids other than aqueous solutions. Leaving the factory settings untouched, a reset back to manufacturer setting is just as quick and easy.




**Exquisite stainless steel upper part**
Equips the Reference 2 with outstanding robustness at potential impact sites. It includes quick volume setting and secure volume lock.

i For more information go to www.eppendorf.com/Reference2





## Single-channel pipettes, fixed volume

**Ordering information**

| Volume range | Color code | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|
| **Eppendorf Reference® 2**, single-channel, fixed | | | | | | |
| 1 µL | dark gray | ±2.5 % | ±0.025 µL | ±1.8 % | ±0.018 µL | 4925 000 014 |
| 2 µL | dark gray | ±2.0 % | ±0.04 µL | ±1.2 % | ±0.024 µL | 4925 000 022 |
| 5 µL | medium gray | ±1.2 % | ±0.06 µL | ±0.6 % | ±0.03 µL | 4925 000 030 |
| 10 µL | medium gray | ±1.0 % | ±0.1 µL | ±0.5 % | ±0.05 µL | 4925 000 049 |
| 10 µL | yellow | ±1.2 % | ±0.12 µL | ±0.5 % | ±0.05 µL | 4925 000 057 |
| 20 µL | light gray | ±0.8 % | ±0.16 µL | ±0.3 % | ±0.06 µL | 4925 000 065 |
| 20 µL | yellow | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | 4925 000 073 |
| 25 µL | yellow | ±1.0 % | ±0.25 µL | ±0.3 % | ±0.075 µL | 4925 000 081 |
| 50 µL | yellow | ±0.7 % | ±0.35 µL | ±0.3 % | ±0.15 µL | 4925 000 090 |
| 100 µL | yellow | ±0.6 % | ±0.6 µL | ±0.2 % | ±0.2 µL | 4925 000 103 |
| 200 µL | yellow | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | 4925 000 111 |
| 200 µL | blue | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | 4925 000 120 |
| 250 µL | blue | ±0.6 % | ±1.5 µL | ±0.2 % | ±0.5 µL | 4925 000 138 |
| 500 µL | blue | ±0.6 % | ±3.0 µL | ±0.2 % | ±1.0 µL | 4925 000 146 |
| 1,000 µL | blue | ±0.6 % | ±6.0 µL | ±0.2 % | ±2.0 µL | 4925 000 154 |
| 2 mL | red | ±0.6 % | ±0.012 mL | ±0.2 % | ±0.004 mL | 4925 000 162 |
| 2.5 mL | red | ±0.6 % | ±0.015 mL | ±0.2 % | ±0.005 mL | 4925 000 170 |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

## Single-channel pipettes, variable volume

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Reference® 2**, single-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.1 – 2.5 µL | dark gray | 0.1 µL | ±48.0 % | ±0.048 µL | ±12.0 % | ±0.012 µL | 4924 000 010 |
| | | 0.25 µL | ±12.0 % | ±0.03 µL | ±6.0 % | ±0.015 µL | |
| | | 1.25 µL | ±2.5 % | ±0.031 µL | ±1.5 % | ±0.019 µL | |
| | | 2.5 µL | ±1.4 % | ±0.035 µL | ±0.7 % | ±0.018 µL | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±8.0 % | ±0.04 µL | ±5.0 % | ±0.025 µL | 4924 000 029 |
| | | 1.0 µL | ±2.5 % | ±0.025 µL | ±1.8 % | ±0.018 µL | |
| | | 5.0 µL | ±1.5 % | ±0.075 µL | ±0.8 % | ±0.04 µL | |
| | | 10 µL | ±1.0 % | ±0.10 µL | ±0.4 % | ±0.04 µL | |
| 2 – 20 µL | light gray | 2.0 µL | ±3.0 % | ±0.06 µL | ±1.5 % | ±0.03 µL | 4924 000 037 |
| | | 10 µL | ±1.0 % | ±0.10 µL | ±0.6 % | ±0.06 µL | |
| | | 20 µL | ±0.8 % | ±0.16 µL | ±0.3 % | ±0.06 µL | |
| 2 – 20 µL | yellow | 2.0 µL | ±5.0 % | ±0.10 µL | ±1.5 % | ±0.03 µL | 4924 000 045 |
| | | 10 µL | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | |
| | | 20 µL | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±0.7 % | ±0.07 µL | 4924 000 053 |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.3 % | ±0.15 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.2 % | ±0.2 µL | |
| 20 – 200 µL | yellow | 20 µL | ±2.5 % | ±0.5 µL | ±0.7 % | ±0.14 µL | 4924 000 061 |
| | | 100 µL | ±1.0 % | ±1.0 µL | ±0.3 % | ±0.3 µL | |
| | | 200 µL | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | |
| 30 – 300 µL | orange | 30 µL | ±2.5 % | ±0.75 µL | ±0.7 % | ±0.21 µL | 4924 000 070 |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.3 % | ±0.45 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.2 % | ±0.6 µL | |
| 100 – 1,000 µL | blue | 100 µL | ±3.0 % | ±3.0 µL | ±0.6 % | ±0.6 µL | 4924 000 088 |
| | | 500 µL | ±1.0 % | ±5.0 µL | ±0.2 % | ±1.0 µL | |
| | | 1,000 µL | ±0.6 % | ±6.0 µL | ±0.2 % | ±2.0 µL | |
| **Eppendorf Reference® 2**, single-channel, variable, incl. epT.I.P.S.® sample bag | | | | | | | |
| 0.25 – 2.5 mL | red | 0.25 mL | ±4.8 % | ±0.012 mL | ±1.2 % | ±0.003 mL | 4924 000 096 |
| | | 1.25 mL | ±0.8 % | ±0.010 mL | ±0.2 % | ±0.0025 mL | |
| | | 2.5 mL | ±0.6 % | ±0.015 mL | ±0.2 % | ±0.005 mL | |
| 0.5 – 5 mL | violet | 0.5 mL | ±2.4 % | ±0.012 mL | ±0.6 % | ±0.003 mL | 4924 000 100 |
| | | 2.5 mL | ±1.2 % | ±0.030 mL | ±0.25 % | ±0.006 mL | |
| | | 5.0 mL | ±0.6 % | ±0.030 mL | ±0.15 % | ±0.0075 mL | |
| 1 – 10 mL | turquoise | 1.0 mL | ±3.0 % | ±0.030 mL | ±0.6 % | ±0.006 mL | 4924 000 118 |
| | | 5.0 mL | ±0.8 % | ±0.040 mL | ±0.2 % | ±0.010 mL | |
| | | 10.0 mL | ±0.6 % | ±0.060 mL | ±0.15 % | ±0.015 mL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

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# Eppendorf Reference® 2

## 8-channel pipettes and 12-channel pipettes, variable volumes

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Reference® 2**, 8-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±12.0 % | ±0.06 µL | ±8.0 % | ±0.04 µL | 4926 000 018 |
| | | 1.0 µL | ±8.0 % | ±0.08 µL | ±5.0 % | ±0.05 µL | |
| | | 5.0 µL | ±4.0 % | ±0.2 µL | ±2.0 % | ±0.1 µL | |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±1.0 % | ±0.1 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±2.0 % | ±0.2 µL | 4926 000 034 |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.3 % | ±0.3 µL | |
| 30 – 300 µL | orange | 30 µL | ±3.0 % | ±0.9 µL | ±1.0 % | ±0.3 µL | 4926 000 050 |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.5 % | ±0.75 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.3 % | ±0.9 µL | |
| **Eppendorf Reference® 2**, 12-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±12.0 % | ±0.06 µL | ±8.0 % | ±0.04 µL | 4926 000 026 |
| | | 1.0 µL | ±8.0 % | ±0.08 µL | ±5.0 % | ±0.05 µL | |
| | | 5.0 µL | ±4.0 % | ±0.2 µL | ±2.0 % | ±0.1 µL | |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±1.0 % | ±0.1 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±2.0 % | ±0.2 µL | 4926 000 042 |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.3 % | ±0.3 µL | |
| 30 – 300 µL | orange | 30 µL | ±3.0 % | ±0.9 µL | ±1.0 % | ±0.3 µL | 4926 000 069 |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.5 % | ±0.75 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.3 % | ±0.9 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

**Ordering information**

| | Order no. |
|---|---|
| **Eppendorf Reference® 2, 3-pack** | |
| **Eppendorf Reference® 2, 3-pack**, single-channel, variable, incl. epT.I.P.S.® Box or sample bag and ballpoint pen | |
| **Option 1:** 0.5 – 10 µL, 10 – 100 µL, 100 – 1,000 µL | 4924 000 908 |
| **Option 2:** 2 – 20 µL yellow, 20 – 200 µL, 100 – 1,000 µL | 4924 000 916 |
| **Option 3:** 100 – 1,000 µL, 0.5 – 5 mL, 1 – 10 mL | 4924 000 924 |

**Accessories**

| Description | Order no. |
|---|---|
| **Red adjustment seal ADJ**, incl. pin for removing the inserted seal, 1 set = 5 pieces | 4920 626 004 |
| **Eppendorf Reference® 2 red safety plug**, incl. pin for removing the inserted safety plug, 1 set = 5 pieces | 4920 625 008 |
| **Adjustment tool**, for changing factory or secondary user adjustment | 3120 633 006 |
| **Protection filter 2.5 mL**, 10 filters with 1 filter sleeve, 0.25 – 2.5 mL variable, 2 mL fixed volume and 2.5 mL fixed volume, color code: red | 4920 622 009 |
| **Protection filter 5 mL**, 10 filters with 1 filter sleeve, for 0.5 – 5 mL variable, color code: violet | 4920 623 005 |
| **Protection filter 10 mL**, 10 filters with 1 filter sleeve, for 1 – 10 mL variable, color code: turquoise | 4920 624 001 |
| **Multi-channel tool**, for cutting the O-rings on the tip cone of multi-channel lower parts, 5 – 100 µL or 15 – 300 µL | 3122 610 003 |
| **Pipette wrench 2 mL – 10 mL** | 3120 634 002 |
| **Locking ring**, to prevent spring action with single-channel pipettes, 2.5 µL – 1,000 µL | 3120 635 009 |
| **Reagent reservoir Tip-Tub**, autoclavable reservoir for the aspiration of liquids with multi-channel pipettes, 1 set = 10 reservoirs and 10 lids | 0030 058 607 |
| **Pipette grease with lint-free applicator** | 0013 022 153 |
| **Eppendorf TrackIT**, RFID Reader and Software | 3903 000 014 |

➢ Pipette service and maintenance contracts can be found on page 376. Pipette tips can be found on page 58 onward.

i For more information go to www.eppendorf.com/Reference2





# Eppendorf Xplorer®/Eppendorf Xplorer® plus

**Simple, fast and precise with untiring battery power – You deserve it!**
People who give 100 % every day deserve the best tools and the best equipment. You work on demanding problems, and important decisions depend on the results of your work. The Eppendorf Xplorer/Xplorer plus is an electronic air-cushion pipette, supported by the Eppendorf PhysioCare Concept®. Using it means your work achieves a new level of simplicity, precision and reproducibility, with no more delays due to complicated programming or inflexible processes. The Xplorer pipettes are the ideal instrument if you need precisely adjustable parameters, reproducible and accurate results while eliminating user-to-user variability and experiencing fatigue-free pipetting.




**Product features**
> Air-cushion pipette for accurate aspiration and dispensing of aqueous solutions from 0.5 µL to 10 mL
> Individual programming and settings to achieve a new level of simplicity
> Selection dial for quick and easy selection of functions
> Multi-functional rocker with up is up and down is down functionality
> Spring-loaded tip cone (not available for 2.5 mL, 5 mL and 10 mL pipettes) for minimal tip attachment forces helps to reduce stress
> Powerful rechargeable battery for up to 8 hours work without the need for recharging
> Adjust your pipette in seconds for better accuracy when pipetting various difficult liquids like ethanol or even when pipetting at high altitudes
> Lower part of pipette can be autoclaved to ensure decontamination
> 9 different languages: Chinese, Dutch, English, French, German, Italian, Japanese, Portuguese and Spanish
> Enjoy excellent flexibility and choose among variable single-channel, 8, 12, 16 and 24-channel pipettes or multichannel pipettes with adjustable cone distance (see page 41)

| Modes of operation | Xplorer | Xplorer plus |
|---|---|---|
| Pipetting (Pip): Aspiration and dispensing of liquids. | ■ | ■ |
| Manual Pipetting (Man): Aspiration of liquid can be manually stopped prior to reaching the max set volume; used for volume determination. | ■ | ■ |
| Pipetting and Mixing (P/M): Samples are aspirated and dispensed automatically followed by an adjustable number of mixing cycles. | ■ | ■ |
| Dispensing (Dis): Dispensing of liquid in equal partial volumes. | ■ | ■ |
| Automatic Dispensing (Ads): Automatic dispensing of liquid in equal partial volumes at user-defined time intervals. | ■ | ■ |
| Special mode (Spc) – Multi Aspiration: Consecutive aspiration for pooling into one pipette tip. | | ■ |
| Special mode (Spc) – Sequential Dispensing: Aspiration of liquid followed by dispensing it in up to 10 user-defined volume steps. | | ■ |
| Special mode (Spc) – Reverse Pipetting: Over-aspiration of liquid followed by a regular dispensing step. Ideal for non-aqueous solutions. | | ■ |
| Special mode (Spc) – Diluting: Aspiration of a diluent and a sample separated by an air bubble. | | ■ |
| Special mode (Spc) – Sequential pipetting: Pipetting of up to 10 user-defined volumes in sequential order. | | ■ |
| Fix Volume (Fix): Save up to 10 of your most frequently used volumes including aspiration and dispense speed for ease of operation. | | ■ |
| Programming (Prg): Save up to 10 of your most common methods with up to 4 different pipetting steps each. | | ■ |
| Options (Opt): Save favorite settings, set service intervals, activate key lock and more. | ■ | ■ |

i For more information go to www.eppendorf.com/Xplorer

# Eppendorf Xplorer®

## Single-channel pipettes

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Xplorer®**, single-channel, variable | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±6.0 % | ±0.03 µL | ±3.0 % | ±0.015 µL | 4861 000 015 |
| | | 1 µL | ±2.5 % | ±0.025 µL | ±1.8 % | ±0.018 µL | |
| | | 5 µL | ±1.5 % | ±0.075 µL | ±0.8 % | ±0.04 µL | |
| | | 10 µL | ±1.0 % | ±0.1 µL | ±0.4 % | ±0.04 µL | |
| 1 – 20 µL | light gray | 2 µL | ±5.0 % | ±0.1 µL | ±1.5 % | ±0.03 µL | 4861 000 017 |
| | | 10 µL | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | |
| | | 20 µL | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | |
| 5 – 100 µL | yellow | 5 µL | ±4.0 % | ±0.2 µL | ±2.0 % | ±0.1 µL | 4861 000 023 |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±1.0 % | ±0.1 µL | |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.3 % | ±0.15 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.2 % | ±0.2 µL | |
| 10 – 200 µL | yellow | 20 µL | ±2.5 % | ±0.5 µL | ±0.7 % | ±0.14 µL | 4861 000 027 |
| | | 100 µL | ±1.0 % | ±1.0 µL | ±0.3 % | ±0.3 µL | |
| | | 200 µL | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | |
| 15 – 300 µL | orange | 15 µL | ±5.0 % | ±0.75 µL | ±1.4 % | ±0.21 µL | 4861 000 031 |
| | | 30 µL | ±2.5 % | ±0.75 µL | ±0.7 % | ±0.21 µL | |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.3 % | ±0.45 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.2 % | ±0.6 µL | |
| 50 – 1,000 µL | blue | 50 µL | ±6.0 % | ±3 µL | ±1.0 % | ±0.5 µL | 4861 000 040 |
| | | 100 µL | ±3.0 % | ±3 µL | ±0.6 % | ±0.6 µL | |
| | | 500 µL | ±1.0 % | ±5 µL | ±0.2 % | ±1 µL | |
| | | 1,000 µL | ±0.6 % | ±6 µL | ±0.2 % | ±2 µL | |
| 0.1 – 2.5 mL | red | 250 µL | ±4.8 % | ±12 µL | ±1.2 % | ±3.0 µL | 4861 000 044 |
| | | 1,250 µL | ±0.8 % | ±10 µL | ±0.2 % | ±2.5 µL | |
| | | 2,500 µL | ±0.6 % | ±15 µL | ±0.2 % | ±5.0 µL | |
| 0.2 – 5 mL | violet | 250 µL | ±4.8 % | ±12 µL | ±1.2 % | ±3 µL | 4861 000 058 |
| | | 500 µL | ±3.0 % | ±15 µL | ±0.6 % | ±3 µL | |
| | | 2,500 µL | ±1.2 % | ±30 µL | ±0.25 % | ±6.25 µL | |
| | | 5,000 µL | ±0.6 % | ±30 µL | ±0.15 % | ±7.5 µL | |
| 0.5 – 10 mL | turquoise | 500 µL | ±6.0 % | ±30 µL | ±1.2 % | ±6 µL | 4861 000 066 |
| | | 1,000 µL | ±3.0 % | ±30 µL | ±0.6 % | ±6 µL | |
| | | 5,000 µL | ±0.8 % | ±40 µL | ±0.2 % | ±10 µL | |
| | | 10,000 µL | ±0.6 % | ±60 µL | ±0.15 % | ±15 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.







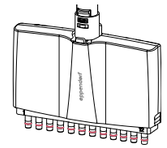
## 8-channel pipettes

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Xplorer®**, 8-channel, variable | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±10.0 % | ±0.05 µL | ±6.0 % | ±0.03 µL | 4861 000 104 |
| | | 1 µL | ±5.0 % | ±0.05 µL | ±3.0 % | ±0.03 µL | |
| | | 5 µL | ±3.0 % | ±0.15 µL | ±1.5 % | ±0.075 µL | |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±0.8 % | ±0.08 µL | |
| 5 – 100 µL | yellow | 5 µL | ±6.0 % | ±0.3 µL | ±4.0 % | ±0.2 µL | 4861 000 120 |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±2.0 % | ±0.2 µL | |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.25 % | ±0.25 µL | |
| 15 – 300 µL | orange | 15 µL | ±6.0 % | ±0.9 µL | ±2.0 % | ±0.3 µL | 4861 000 147 |
| | | 30 µL | ±2.5 % | ±0.75 µL | ±1.0 % | ±0.3 µL | |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.5 % | ±0.75 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.25 % | ±0.75 µL | |
| 50 – 1,200 µL | green | 50 µL | ±8.0 % | ±4.0 µL | ±1.2 % | ±0.6 µL | 4861 000 163 |
| | | 120 µL | ±6.0 % | ±7.2 µL | ±0.9 % | ±1.08 µL | |
| | | 600 µL | ±2.7 % | ±16.2 µL | ±0.4 % | ±2.4 µL | |
| | | 1,200 µL | ±1.2 % | ±14.4 µL | ±0.3 % | ±3.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 8-channel pipettes please choose standard epT.I.P.S., see pages 58 - 65



## 12-channel pipettes

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Xplorer®**, 12-channel, variable | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±10.0 % | ±0.05 µL | ±6.0 % | ±0.03 µL | 4861 000 112 |
| | | 1 µL | ±5.0 % | ±0.05 µL | ±3.0 % | ±0.03 µL | |
| | | 5 µL | ±3.0 % | ±0.15 µL | ±1.5 % | ±0.075 µL | |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±0.8 % | ±0.08 µL | |
| 5 – 100 µL | yellow | 5 µL | ±6.0 % | ±0.3 µL | ±4.0 % | ±0.2 µL | 4861 000 139 |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±2.0 % | ±0.2 µL | |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.25 % | ±0.25 µL | |
| 15 – 300 µL | orange | 15 µL | ±6.0 % | ±0.9 µL | ±2.0 % | ±0.3 µL | 4861 000 155 |
| | | 30 µL | ±2.5 % | ±0.75 µL | ±1.0 % | ±0.3 µL | |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.5 % | ±0.75 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.25 % | ±0.75 µL | |
| 50 – 1,200 µL | green | 50 µL | ±8.0 % | ±4.0 µL | ±1.2 % | ±0.6 µL | 4861 000 171 |
| | | 120 µL | ±6.0 % | ±7.2 µL | ±0.9 % | ±1.08 µL | |
| | | 600 µL | ±2.7 % | ±16.2 µL | ±0.4 % | ±2.4 µL | |
| | | 1,200 µL | ±1.2 % | ±14.4 µL | ±0.3 % | ±3.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 12-channel pipettes please choose standard epT.I.P.S., see pages 58 - 65

# Eppendorf Xplorer® plus

## Single-channel pipettes

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Xplorer® plus**, single-channel, variable | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±6.0 % | ±0.03 µL | ±3.0 % | ±0.015 µL | 4861 000 708 |
| | | 1 µL | ±2.5 % | ±0.025 µL | ±1.8 % | ±0.018 µL | |
| | | 5 µL | ±1.5 % | ±0.075 µL | ±0.8 % | ±0.04 µL | |
| | | 10 µL | ±1.0 % | ±0.1 µL | ±0.4 % | ±0.04 µL | |
| 1 – 20 µL | light gray | 2 µL | ±5.0 % | ±0.1 µL | ±1.5 % | ±0.03 µL | 4861 000 710 |
| | | 10 µL | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | |
| | | 20 µL | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | |
| 5 – 100 µL | yellow | 5 µL | ±4.0 % | ±0.2 µL | ±2.0 % | ±0.1 µL | 4861 000 716 |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±1.0 % | ±0.1 µL | |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.3 % | ±0.15 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.2 % | ±0.2 µL | |
| 10 – 200 µL | yellow | 20 µL | ±2.5 % | ±0.5 µL | ±0.7 % | ±0.14 µL | 4861 000 720 |
| | | 100 µL | ±1.0 % | ±1.0 µL | ±0.3 % | ±0.3 µL | |
| | | 200 µL | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | |
| 15 – 300 µL | orange | 15 µL | ±5.0 % | ±0.75 µL | ±1.4 % | ±0.21 µL | 4861 000 724 |
| | | 30 µL | ±2.5 % | ±0.75 µL | ±0.7 % | ±0.21 µL | |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.3 % | ±0.45 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.2 % | ±0.6 µL | |
| 50 – 1,000 µL | blue | 50 µL | ±6.0 % | ±3 µL | ±1.0 % | ±0.5 µL | 4861 000 732 |
| | | 100 µL | ±3.0 % | ±3 µL | ±0.6 % | ±0.6 µL | |
| | | 500 µL | ±1.0 % | ±5 µL | ±0.2 % | ±1 µL | |
| | | 1,000 µL | ±0.6 % | ±6 µL | ±0.2 % | ±2 µL | |
| 0.1 – 2.5 mL | red | 250 µL | ±4.8 % | ±12 µL | ±1.2 % | ±3.0 µL | 4861 000 736 |
| | | 1,250 µL | ±0.8 % | ±10 µL | ±0.2 % | ±2.5 µL | |
| | | 2,500 µL | ±0.6 % | ±15 µL | ±0.2 % | ±5.0 µL | |
| 0.2 – 5 mL | violet | 200 µL | ±4.8 % | ±12 µL | ±1.2 % | ±3 µL | 4861 000 740 |
| | | 500 µL | ±3.0 % | ±15 µL | ±0.6 % | ±3 µL | |
| | | 2,500 µL | ±1.2 % | ±30 µL | ±0.25 % | ±6.25 µL | |
| | | 5,000 µL | ±0.6 % | ±30 µL | ±0.15 % | ±7.5 µL | |
| 0.5 – 10 mL | turquoise | 500 µL | ±6.0 % | ±30 µL | ±1.2 % | ±6 µL | 4861 000 759 |
| | | 1,000 µL | ±3.0 % | ±30 µL | ±0.6 % | ±6 µL | |
| | | 5,000 µL | ±0.8 % | ±40 µL | ±0.2 % | ±10 µL | |
| | | 10,000 µL | ±0.6 % | ±60 µL | ±0.15 % | ±15 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.







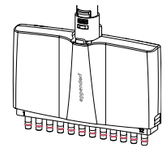
## 8-channel pipettes

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Xplorer® plus**, 8-channel, variable | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±10.0 % | ±0.05 µL | ±6.0 % | ±0.03 µL | 4861 000 767 |
| | | 1 µL | ±5.0 % | ±0.05 µL | ±3.0 % | ±0.03 µL | |
| | | 5 µL | ±3.0 % | ±0.15 µL | ±1.5 % | ±0.075 µL | |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±0.8 % | ±0.08 µL | |
| 5 – 100 µL | yellow | 5 µL | ±6.0 % | ±0.3 µL | ±4.0 % | ±0.2 µL | 4861 000 783 |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±2.0 % | ±0.2 µL | |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.25 % | ±0.25 µL | |
| 15 – 300 µL | orange | 15 µL | ±6.0 % | ±0.9 µL | ±2.0 % | ±0.3 µL | 4861 000 805 |
| | | 30 µL | ±2.5 % | ±0.75 µL | ±1.0 % | ±0.3 µL | |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.5 % | ±0.75 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.25 % | ±0.75 µL | |
| 50 – 1,200 µL | green | 50 µL | ±8.0 % | ±4.0 µL | ±1.2 % | ±0.6 µL | 4861 000 821 |
| | | 120 µL | ±6.0 % | ±7.2 µL | ±0.9 % | ±1.08 µL | |
| | | 600 µL | ±2.7 % | ±16.2 µL | ±0.4 % | ±2.4 µL | |
| | | 1,200 µL | ±1.2 % | ±14.4 µL | ±0.3 % | ±3.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 8-channel pipettes please choose standard epT.I.P.S., see pages 58 - 65



## 12-channel pipettes

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Xplorer® plus**, 12-channel, variable | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±10.0 % | ±0.05 µL | ±6.0 % | ±0.03 µL | 4861 000 775 |
| | | 1 µL | ±5.0 % | ±0.05 µL | ±3.0 % | ±0.03 µL | |
| | | 5 µL | ±3.0 % | ±0.15 µL | ±1.5 % | ±0.075 µL | |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±0.8 % | ±0.08 µL | |
| 5 – 100 µL | yellow | 5 µL | ±6.0 % | ±0.3 µL | ±4.0 % | ±0.2 µL | 4861 000 791 |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±2.0 % | ±0.2 µL | |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.25 % | ±0.25 µL | |
| 15 – 300 µL | orange | 15 µL | ±6.0 % | ±0.9 µL | ±2.0 % | ±0.3 µL | 4861 000 813 |
| | | 30 µL | ±2.5 % | ±0.75 µL | ±1.0 % | ±0.3 µL | |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.5 % | ±0.75 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.25 % | ±0.75 µL | |
| 50 – 1,200 µL | green | 50 µL | ±8.0 % | ±4.0 µL | ±1.2 % | ±0.6 µL | 4861 000 830 |
| | | 120 µL | ±6.0 % | ±7.2 µL | ±0.9 % | ±1.08 µL | |
| | | 600 µL | ±2.7 % | ±16.2 µL | ±0.4 % | ±2.4 µL | |
| | | 1,200 µL | ±1.2 % | ±14.4 µL | ±0.3 % | ±3.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 12-channel pipettes please choose standard epT.I.P.S., see pages 58 - 65

Your local distributor: www.eppendorf.com/contact
Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg · Germany · eppendorf@eppendorf.com · www.eppendorf.com · www.eppendorf.com/eshop

# Eppendorf Xplorer® plus



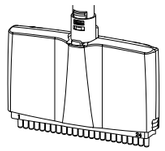
## 16-channel pipettes, for 384-well plates

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Xplorer® plus**, 16-channel, variable | | | | | | | |
| 1 – 20 µL | light pink | 1 µL | ±12 % | ±0.12 µL | ±8 % | ±0.08 µL | 4861 000 778 |
| | | 2 µL | ±8 % | ±0.16 µL | ±5 % | ±0.1 µL | |
| | | 10 µL | ±4 % | ±0.4 µL | ±2 % | ±0.2 µL | |
| | | 20 µL | ±2 % | ±0.4 µL | ±1 % | ±0.2 µL | |
| 5 – 100 µL | light yellow | 5 µL | ±6 % | ±0.3 µL | ±4 % | ±0.2 µL | 4861 000 792 |
| | | 10 µL | ±3 % | ±0.3 µL | ±2 % | ±0.2 µL | |
| | | 50 µL | ±1.2 % | ±0.6 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±1 % | ±1 µL | ±0.6 % | ±0.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 16-channel pipettes please choose epT.I.P.S. 384, see pages 64 - 65



## 24-channel pipettes, for 384-well plates

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Xplorer® plus**, 24-channel, variable | | | | | | | |
| 1 – 20 µL | light pink | 1 µL | ±12 % | ±0.12 µL | ±8 % | ±0.08 µL | 4861 000 779 |
| | | 2 µL | ±8 % | ±0.16 µL | ±5 % | ±0.1 µL | |
| | | 10 µL | ±4 % | ±0.4 µL | ±2 % | ±0.2 µL | |
| | | 20 µL | ±2 % | ±0.4 µL | ±1 % | ±0.2 µL | |
| 5 – 100 µL | light yellow | 5 µL | ±6 % | ±0.3 µL | ±4 % | ±0.2 µL | 4861 000 793 |
| | | 10 µL | ±3 % | ±0.3 µL | ±2 % | ±0.2 µL | |
| | | 50 µL | ±1.2 % | ±0.6 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±1 % | ±1 µL | ±0.6 % | ±0.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

For 24-channel pipettes please choose epT.I.P.S. 384 see pages 64 - 65

**Accessories**

| Description | Order no. |
|---|---|
| **Power supply with power plug adapters**, for pipettes and charger stand | 4986 603 005 |
| **Power supply with power plug adapters**, for charger carousel (4880) | 4880 603 006 |
| **Multi-channel tool**, for cutting the O-rings on the tip cone of multi-channel lower parts, 5 – 100 µL or 15 – 300 µL | 3122 610 003 |
| **Pipette wrench 2 mL – 10 mL** | 3120 634 002 |
| **Key**, for detachment of 1,200 µL pipettes lower parts | 4861 605 006 |
| **Locking ring**, to prevent spring action with single-channel pipettes, 2.5 µL – 1,000 µL | 3120 635 009 |
| **Locking clip for 8 channel pipette**, to prevent spring action of tip cones, 2 pieces | 3122 612 006 |
| **Locking clip for 12 channel pipette**, to prevent spring action of tip cones, 3 pieces | 3122 613 002 |
| **Reagent reservoir Tip-Tub**, autoclavable reservoir for the aspiration of liquids with multi-channel pipettes, 1 set = 10 reservoirs and 10 lids | 0030 058 607 |
| **Pipette grease with lint-free applicator** | 0013 022 153 |
| **Eppendorf TrackIT**, RFID Reader and Software | 3903 000 014 |





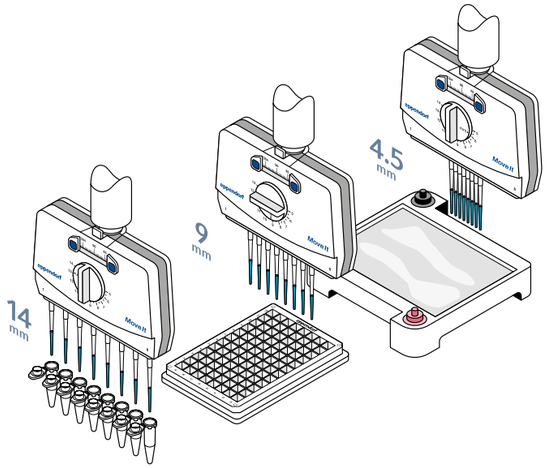
# Move It® - Adjustable Multichannel Pipettes Eppendorf Research® plus and Eppendorf Xplorer® plus

**Double your performance**
Often, single channel pipettes are used for multiple sample transfer from one vessel type to another, from tubes to plates for instance. This can be time-consuming and inconvenient, especially when throughput increases. Instead of pipetting many times, up to twelve samples can now be moved simultaneously with the new 4, 6, 8 and 12-channel pipettes Eppendorf Research® plus and Eppendorf Xplorer® plus Move It®. Move It pipettes have adjustable cones for variable tip spacings according to your vessel format. This easy handling of format changes helps to reduce throughput time by 50 % and increases reproducibility of your results.

**New**




**Product features**
> 4, 6, 8 and 12-channel air-cushion pipettes with adjustable cone spacing
> Available in mechanical (Research plus) and electronical (Xplorer plus) versions
> For plates (384, 96, 48, 24 and 12-wells), tubes (1.5 and 2.0 mL), and agarose gels
> Tip spacing selectable from 4.5 to 33 mm
> Adjustment knob for smooth and vibration-free format switches and liquid transfers without dripping
> Spacing limiter for quick switches backwards and forwards between source and destination formats
> Tubeless system for higher precision, reproducibility, and robustness
> Autoclavable for easy decontamination
> Rotatable pipette head 360° for comfortable readability of display and fast identification of parameters
> Optimally balanced for reduced hand fatigue




**Applications**
> Blood analysis
> FACS analysis
> Cell Based Assays
> Cell Culture
> ELISA
> PCR
> Mouse genotyping

**Multiple sample transfer between different formats becomes fast and secure with Move It**
Instead of pipetting many times, move 4 – 12 samples simultaneously. Reduce throughput time while increasing your performance.

# Move It® - Adjustable Multichannel Pipettes Eppendorf Research® plus and Eppendorf Xplorer® plus

**Move It selection guide**
Find the right choice for your application. Select the source and destination formats according to your application and see which version suits your application best.

**New**



| | Type of tips | epT.I.P.S.® | | | epT.I.P.S.® 384 | |
|---|---|---|---|---|---|---|
| Vessel Type | Electronic/Manual | Xplorer plus/Research plus | | | Xplorer plus/Research plus | |
| | Number of channels | 4 | 6 | 8 | 8 | 12 |
| | Volume | 300 µL/1,200 µL | 300 µL/1,200 µL | 300 µL/1,200 µL | 20 µL/100 µL | 20 µL/100 µL |
| | Adj. Cone Spacing (mm) | 9-33 mm | 9-20 mm | 9-14 mm | 4.5-14 mm | 4.5-9 mm |
| | 384 Wells (Tip distance 4.5 mm) | – | – | – | ■ | ■ |
| | 96 Wells (Tip distance 9 mm) | ■ | ■ | ■ | ■ | ■ |
| | 48 Wells (Tip distance 13 mm) | ■ | ■ | ■ | ■ | – |
| | 24 Wells (Tip distance 19 mm) | ■ | ■ | – | – | – |
| | 12 Wells (Tip distance 26 mm) | ■ | – | – | – | – |
| | 1.5/2.0 mL Tube (Tip distance 14, 18, 20 mm) | ■[1)] | ■[1)] | ■[2)] | ■[2)] | – |
| | Agarose gel | – | – | – | ■ | ■ |

[1)] 14, 18, 20 mm [2)] 14 mm

Technical specifications subject to change.






**You have the choice**

Mechanical Research plus pipettes are the workhorses for each lab. The Xplorer electronic pipettes with highest variety of functions are the ideal instrument if you need intuitively and precisely adjustable parameters, reproducible and accurate results while experiencing fatigue-free pipetting.

## Move It®, mechanical multi-channel pipettes, adjustable cone distance

| Ordering information | | | | |
|---|---|---|---|---|
| Description | Number of channels | Volume range | Color code | Order no. |
| Eppendorf Research® plus Move It® | 4-channel | 30 – 300 µL | orange | 3125 000 150 |
| | | 120 – 1,200 µL | dark green | 3125 000 184 |
| | 6-channel | 30 – 300 µL | orange | 3125 000 168 |
| | | 120 – 1,200 µL | dark green | 3125 000 192 |
| | 8-channel | 1 – 20 µL | light pink | 3125 000 117 |
| | | 5 – 100 µL | light yellow | 3125 000 133 |
| | | 30 – 300 µL | orange | 3125 000 176 |
| | | 120 – 1,200 µL | dark green | 3125 000 206 |
| | 12-channel | 1 – 20 µL | light pink | 3125 000 125 |
| | | 5 – 100 µL | light yellow | 3125 000 141 |

## Move It®, electronic multi-channel pipettes, adjustable cone distance

| Ordering information | | | |
|---|---|---|---|
| Description | Number of channels | Volume range | Color code | Order no. |
| Eppendorf Xplorer® plus Move It® | 4-channel | 15 – 300 µL | orange | 4861 000 816 |
| | | 50 – 1,200 µL | green | 4861 000 833 |
| | 6-channel | 15 – 300 µL | orange | 4861 000 817 |
| | | 50 – 1,200 µL | green | 4861 000 834 |
| | 8-channel | 1 – 20 µL | light pink | 4861 000 781 |
| | | 5 – 100 µL | light yellow | 4861 000 794 |
| | | 15 – 300 µL | orange | 4861 000 818 |
| | | 50 – 1,200 µL | green | 4861 000 835 |
| | 12-channel | 1 – 20 µL | light pink | 4861 000 782 |
| | | 5 – 100 µL | light yellow | 4861 000 795 |

Your local distributor: www.eppendorf.com/contact
Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg · Germany · eppendorf@eppendorf.com · www.eppendorf.com · www.eppendorf.com/eshop

# Eppendorf Pipette Holder System

**Description**
Carousels, stands and wall mount devices: The new Pipette Holder System is perfect for all users of handheld liquid handling instruments, who need a highly flexible system for their Eppendorf pipettes and Multipette®. Carousels and stands provide a robust design with a small footprint. To save precious bench-top space carousels carry both manual and electronic instruments. And only Eppendorf offers a charger carousel with intelligent charging electronics that carries up to 6 instruments.

GERMAN DESIGN AWARD WINNER 2018 · DESIGN AWARD · reddot design award





**1.** The Pipette Carousel 2 for manual pipettes and the Charger Carousel 2 for electronic devices offer more flexibility and more capacity than ever before.
> Rotatable pipette holders carry all current manual Eppendorf pipettes and most predecessors
> Charger Carousel 2 for up to six electronic devices with magnetic power connector for fast and easy connection







**2.** With Charger Stand 2, the Eppendorf Xplorer/Xplorer plus or Multipette® E3/E3x is always fully charged and ready for use. Pipette Stand 2 carries one Multipette M4.
> Large rubber feet protect stands and carousels from liquids spilled on lab bench
> Charger Stand 2 with cord wrap functionality for more convenience





**3.** Place your pipette and Multipette where you need them: Mounted to a wall, on the shelf above your bench or inside a biological safety cabinet.
> Pictograms on all holders for clear assignment in the lab
> Pipette holders are downwards compatible for Eppendorf Research and Reference pipettes

**Ordering information**

| Description | Order no. |
|---|---|
| **Pipette Carousel 2**, for 6 Eppendorf Research®, Eppendorf Research® plus, Eppendorf Reference®, Eppendorf Reference® 2 or Biomaster®, additional pipette holders are optionally available | 3116 000 015 |
| **Charger Carousel 2**, for 6 Eppendorf Xplorer® or Eppendorf Xplorer® plus, mains/power adapter included, additional charger shells and pipette holders are optionally available | 3116 000 023 |
| **Charger Stand 2**, for one Eppendorf Xplorer® or Eppendorf Xplorer® plus, operated with mains/power adapter supplied with Eppendorf Xplorer® or Eppendorf Xplorer® plus | 3116 000 031 |
| **Charger Stand 2**, for one Multipette® E3/E3x or Multipette® stream/Xstream, operated with mains/power adapter supplied with Multipette® E3/E3x or Multipette® stream/Xstream | 3116 000 040 |
| **Pipette Stand 2**, for one Multipette® M4, without charging functionality, additional pipette holders are optionally available | 3116 000 058 |
| **Pipette Holder 2**, for one Eppendorf Research®, Eppendorf Research® plus, Eppendorf Reference® 2 or Biomaster®, for Pipette Carousel 2 and Charger Carousel 2 or wall mounting, sticky tape included | 3116 000 112 |
| **Pipette Holder 2**, for one Eppendorf Xplorer® or Eppendorf Xplorer® plus, for Pipette Carousel 2 or wall mounting, sticky tape included, without charging functionality | 3116 000 120 |
| **Pipette Holder 2**, for one Multipette® E3/E3x or Multipette® stream/Xstream, for Pipette Carousel 2 or wall mounting, sticky tape included, without charging functionality | 3116 000 139 |
| **Pipette Holder 2**, for one Multipette® M4, for Pipette Carousel 2 and Charger Carousel 2 or wall mounting, sticky tape included | 3116 000 147 |
| **Charger Shell 2**, for one Eppendorf Xplorer® or Eppendorf Xplorer® plus, for Charger Carousel 2 (with charging functionality) | 3116 602 007 |
| **Charger Shell 2**, for one Multipette® E3/E3x or Multipette® stream/Xstream, for Charger Carousel 2 (with charging functionality) | 3116 603 003 |

Technical specifications subject to change.

# Eppendorf Purity Grades for Tips




**epT.I.P.S.®, ep Dualfilter T.I.P.S.® and Combitips advanced® stand for highest quality and purity**
The high precision and accuracy of pipette tips and Combitips® is ensured by precise molding. Each lot of pipette tips and Combitips is subject to gravimetric measurement during final testing. Low wetting ensures reliable volume readings and minimal adhesion.
Pipette tips and Combitips cylinders are made of PP (polypropylene). A relatively inert plastic characterized by low wettability as well as high dimensional and mechanical stability across a wide temperature range. For the Combitips advanced pistons, PE (polyethylene) is used. This is due to the fact that ideal running properties between two parts can only be achieved by using two different types of plastic. Our tips are available in a variety of purity grades (see table opposite). For further details please read page 12 - 13.



eppendorf

Eppendorf Certificate

Certificate of Purity – PCR clean

This package contains a high quality consumable manufactured under the PCR clean Eppendorf Purity Standard.

The Eppendorf PCR clean consumables are produced in a class 6 (according to VDI 2083) and a class 100,000 (according to U.S. Fed. Stand. 209 D) clean room environment.

For this product Eppendorf certifies the following [*]:

Free of detectable
- Human DNA
- DNase
- RNase
- PCR inhibitors

Quality control and subsequent certification is done by an independent laboratory (accredited by DAkkS). Lot-specific certificates are available on request or on the internet at **www.eppendorf.com/certificates**.

The certification comprises the following tests:

**Human DNA Contamination Test**

A PCR master mix is prepared using the QuantiTect® Sybr® Green PCR Kit (Qiagen®) and primer for the detection of human DNA. The primers amplify a 294 bp fragment present in more than $1 \times 10^5$ copies per human cell. The master mix (15 µl) is added to 5 positive control vessels containing known amounts of human DNA (32, 16, 8, 4 and 2 pg in 10 µL $H_2O$) plus a negative control (10 µL DNA-free $H_2O$).

15 samples are rinsed one after another with DNA-free water. 10 µL of this solution is added to 15 µL master mix. PCR is done for 30 cycles.

The emittance of Sybr Green-induced fluorescence is detected in samples and controls. For the samples to pass certification, no fluorescence must be found corresponding to the negative control.

**DNase Test**

15 samples are rinsed one after another with DNA-free water. 17 µL of these solutions are mixed with 3 µl DNase-buffer containing 100 bp DNA-ladder in a DNase-free tube. A positive control is spiked with DNase, a negative control contains DNA-free water. All tubes are incubated for 24 h at 37 °C.

Page 1 of 2

0012557/051-07

www.eppendorf.com



LADR GmbH MVZ Bremen
Bereich Lebensmittel- und Umweltanalytik
Friedrich-Karl-Str. 22, D-28205 Bremen

ISO 17025 accredited by DAkkS Deutsche Akkreditierungsstelle D-PL-13183-01-00

Test Report
– Eppendorf PCR clean –

*epT.I.P.S.® Reloads 0.1 - 10 µL*

10x 96 Eppendorf Tips
In Trays / stacked
PCR clean

LOT I185806O
2437
2024-09-28

REF 0030 073.746

Eppendorf AG
22339 Hamburg · Germany
Barkhausenweg 1
E-Mail: eppendorf@eppendorf.com

reload

| | | | |
|---|---|---|---|
| * Human DNA | | * DNase | |
| Method: | real-time PCR acc. to SOP 99880/V2 | Method: | DNA Digestion acc. to SOP 100570/V1 |
| Limit: | < 2 pg; less than one human cell | Limit: | Not detectable (LOD: 1.0 x $10^6$ Kuntz units) |
| * PCR inhibition | | * RNase | |
| Method: | real-time PCR acc. to SOP 100559/V1 | Method: | RNA Digestion acc. to SOP 100571/V1 |
| Limit: | Less than 10 targets amplifiable | Limit: | Not detectable (LOD: 1.0 x $10^6$ Kuntz units) |

Customer: Eppendorf AG, Barkhausenweg 1, D-22339 Hamburg

Date of sample receipt / examination: 16.09.19

Testing of the above described lot showed conformity within the limits of detection.

19.09.19 — Date of release
Epp 1909 5588 — Registration number
Dipl.-Biol. Thomas Weigel (Head)

The test results refer exclusively to the items tested as arrived. The test report must not be copied partially without the approval of LADR GmbH.

page 1 of 1

LADR GmbH MVZ Bremen, Bereich Lebensmittel- & Umweltanalytik | Friedrich-Karl-Str. 22 | D-28205 Bremen | Germany
Phone: +49 421 4307-500 | Fax: +49 421 4307-199 | molekularbiologie@laborzentrum-bremen.de | www.laborzentrum-bremen.de



**Pure quality**
With the strictest control criteria, internally and externally monitored, we ensure the consistently high quality of our products – from lot to lot. Our consumables are available in a variety of purity qualities. Eppendorf Quality™ as well as more advanced purity grades: "Sterile, Protein-free, PCR clean, Eppendorf Forensic DNA Grade, and Biopur®". In addition to our internal process controls and general quality certificates, lot-specific certificates are provided by an external accredited laboratory for the Sterile, Protein-free, PCR clean, Eppendorf Forensic DNA Grade, and Biopur purity grades. This allows us to consistently meet our customer's high demands when it comes to purity (www.eppendorf.com/purity). As a special service, we make the inspection certificate for each delivered lot available online (www.eppendorf.com/certificates).

**Purity grades**

| Eppendorf purity grades for tips | Eppendorf Quality™ | Eppendorf sterile | Eppendorf PCR clean | Eppendorf sterile and PCR clean | Eppendorf Forensic DNA Grade[4] | Biopur® |
|---|---|---|---|---|---|---|
| **Continuous quality control for the following relevant criteria:** | | | | | | |
| Function, tightness, precision | ■ | ■ | ■ | ■ | ■ | ■ |
| Low wetting | ■ | ■ | ■ | ■ | ■ | ■ |
| High chemical resistance | ■ | ■ | ■ | ■ | ■ | ■ |
| High thermal resistance | ■ | ■ | ■ | ■ | ■ | ■ |
| High resistance to centrifugation forces[1] | ■ | ■ | ■ | ■ | ■ | ■ |
| High transparency | ■ | ■ | ■ | ■ | ■ | ■ |
| Precisely shaped | ■ | ■ | ■ | ■ | ■ | ■ |
| **Lot-specific certified[2] for the following purity criteria:** | | | | | | |
| Pyrogen-free[5] (endotoxin-free) | | ■ | | ■ | | ■ |
| Sterile (Ph.Eur./USP) | | ■ | | ■ | | ■ |
| DNA-free[5] (Human DNA) | | | ■ | ■ | ■ | ■ |
| DNA-free[5](Bacteria DNA) | | | | | | ■ |
| DNase-free[5] | | | ■ | ■ | ■ | ■ |
| RNase-free[5] | | | ■ | ■ | ■ | ■ |
| PCR-inhibitor-free[5] | | | ■ | ■ | ■ | ■ |
| ATP-free[5] | | | | | | ■ |
| **Eppendorf tips** | | | | | | |
| epT.I.P.S.® Standard, Box and Set | ■ | | | | | |
| epT.I.P.S.® Reloads | ■ | | ■ | | | |
| epT.I.P.S.® Racks | | ■[3] | | | | ■ |
| epT.I.P.S.® Singles | | | | | | ■ |
| ep Dualfilter T.I.P.S.® | | | | ■ | ■ | |
| ep Dualfilter T.I.P.S.® SealMax | | | | ■ | | |
| ep Dualfilter T.I.P.S.® LoRetention | | | | ■ | | |
| Combitips advanced® | ■ | ■[3] | ■ | | ■ | ■ |
| ViscoTip® | ■ | | | | | |
| epT.I.P.S.® LoRetention | ■ | | ■ | | | |
| epT.I.P.S.® Motion | ■ | ■ | | | | |
| epT.I.P.S.® Motion filtertips | | ■ | ■ | ■ | | |

[1] For accurate details regarding resistance to centrifugation, please refer to the respective product pages. [2] Lot-specific certificate can be downloaded from www.eppendorf.com/certificates. [3] Only available in North America. [4] According to ISO 18385. [5] Testing showed conformity within the detection limits

www.eppendorf.com/puritygrades-brochure



Your local distributor: www.eppendorf.com/contact
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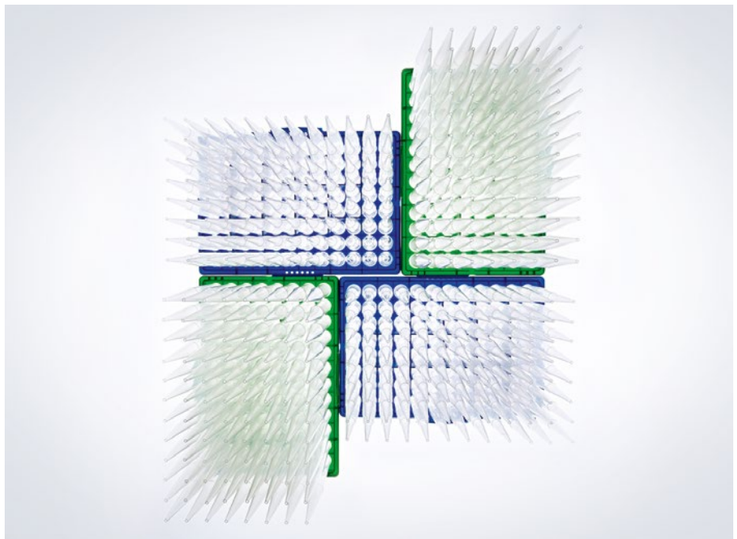
# epT.I.P.S.®

**Description**
For epT.I.P.S. – the original Eppendorf „Totally Integrated Pipetting System" – the tips are optimally coordinated to Eppendorf pipettes and, of course, meet EN ISO 8655 requirements. This has resulted in minimal attachment and ejection forces with the highest level of tightness. epT.I.P.S. pipette tips can be used with pipettes from other manufacturers. Optimal wetting properties, high transparency and special, certified purity grades are the visible expression of our product and production philosophy.




**Product features**
> The ergonomically optimized cone geometry provides the optimal pipette fit on the Eppendorf pipette
> epT.I.P.S. pipette tips can be used universally, including pipette models from other manufacturers
> Fine graduations make visual checks of the pipetting volume even easier
> Long, narrow tips reach the base of narrow and high vessels without touching the top of the vessel edge
> Fine retracted or extended tips simplify work with small volumes
> Available in purity grades of: Eppendorf Quality, PCR clean, Biopur®
> Color-coded trays make volume identification and allocation of Eppendorf pipettes easier than ever
> Also available for 16- and 24-channel pipettes

**Applications**
> Pipetting liquids
> Dispensing liquids
> Mixing liquids
> Filling plates and reaction vessels
> Filling gels for electrophoresis
> Phase extraction and removal of supernatants
> For applications in 384-microplate format we recommend using 16- or 24-channel pipettes together with epT.I.P.S. 384



www.eppendorf.com/appnote354

i For more information go to www.eppendorf.com/epTips

Technical specifications subject to change.





**epT.I.P.S.® Standard**
> Original, high-quality Eppendorf pipette tips packaged in resealable bags
> Available in sizes from 10 µL to 10 mL in Eppendorf Quality purity grade
> epT.I.P.S. Standard 200 µL, 300 µL and 1,000 µL tips are also available color-coded yellow and blue
> epT.I.P.S. Standard pipette tips can be autoclaved at 121 °C in 20 min.




**epT.I.P.S.® Box/epT.I.P.S.® Set**
> Contamination-free transfer of trays to stable working box
> System optimized for use with multi-channel pipettes
> Color-coded trays for simple identification of tips and pipette
> Tips can be attached to pipette from refill trays
> Boxes and trays are autoclavable
> epT.I.P.S. Box and epT.I.P.S. Set available in Eppendorf Quality

New




**epT.I.P.S.® Racks**
> Eppendorf Biopur pipette tips in disposable Racks offer the highest biological purity grade
> Ensured PCR clean, sterile, pyrogen-, ATP- and DNA-free
> All pre-sterilized epT.I.P.S. and ep Dualfilter T.I.P.S. variants are available in Racks
> Sterility packaging is compliant to standards DIN EN ISO 11607 and DIN EN 868-2-10
> Each production lot of Racks inspected continuously by an independent laboratory
> Lot-specific certificates available at www.eppendorf.com/certificates
> Packed in Racks with 384, 96, 48 or 24 tips
> For use in pharmaceutical and food industry, molecular biology and cell technology




**epT.I.P.S.® Singles**
> Eppendorf Biopur pipette tip, individually wrapped
> Ensured PCR clean, sterile, pyrogen-, ATP- and DNA-free
> For use in pharmaceutical and food industry, molecular biology and cell technology
> Batch number and expiration date on each blister package
> Each production lot inspected continuously by an independent laboratory
> Lot-specific certificates available at www.eppendorf.com/certificates

Your local distributor: www.eppendorf.com/contact
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# epT.I.P.S.®



**epT.I.P.S.® Reloads**
> Reduced waste as compared with disposable racks
> The refill trays can be autoclaved up to 121 °C, in packaging and without foil, for subsequent use
> The refill system, depending on tip size, is packaged as either dual-sided or in stack form
> Available in purity grades of Eppendorf Quality and PCR clean
> Color-coded trays for simple volume and pipette identification

# Special Tips



**GELoader®**
> Special tip for gel electrophoresis, loading of polyacrylamide gels
> Flexible long and narrow tips for handling of smallest volumes
> GELoader tips and rack autoclavable
> Highest precision and accuracy when used with Eppendorf pipettes for 0.5 to 10 µL (gray control button)



**Microloader™**
> Extremely long, fine and flexible tip for filling of microcapillaries for microinjection and where additional reach is needed
> Microloader tips and rack autoclavable
> Highest precision and accuracy when used with Eppendorf pipettes for 0.5 to 10 µL (gray control button)

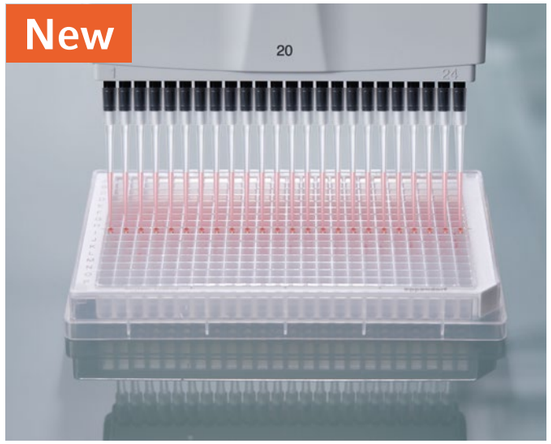
➢ Ordering information see page 63





# epT.I.P.S.® 384

**epT.I.P.S. 384 with SOFTattach technology for 16 and 24-channel pipettes**
For the first time, micropipette tips have elastic forming grooves. They allow the tips to stretch as much as necessary to enable a perfect seal while operating forces are reduced to a minimum. Your benefits of using this perfectly coordinated system of pipette and tip are outstanding and reliable tip fit and tightness combined with reduced tip attachment and ejection forces. It couldn't be easier to perfectly hit all 384 wells as the new micropipette tips have an extremely fine tip shape, and an extraordinary coaxiality which enables a perfect tip alignment.




**Product features**
> Designed for a cone distance of 4.5 mm
> epT.I.P.S. 384 pipette tips build a system together with the Research plus and Xplorer plus 16 and 24-channel pipettes for utmost safety and reliability
> Innovative SOFTattach technology allows for reliable tip fit and tightness
> Fill a whole 384-well plate without loosening pipette tips
> Perfect tip alignment by extraordinary coaxiality for safe plate maneuvering and liquid transfer
> The tip shape of the epT.I.P.S. 384 is adjusted to perfectly fit the wells of 384-well plates
> Tip attachment forces reduced by 40 % per cone compared to 8 and 12-channel pipettes
> Tip ejection forces reduced by SOFTattach for ergonomic working conditions
> Available as reload, and set
> Available in purity grades: Eppendorf Quality and PCR clean



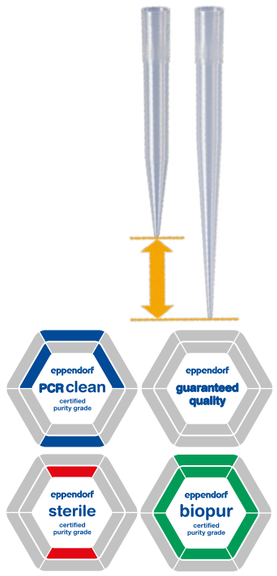
**Applications**
> Biochemical assays
> Cell based assays
> Immunoassays
> Storage of biological samples or chemical compounds
> Nucleic acid based methods
  > Amplification
  > Loading of agarose gels
  > Purification
  > Quantification
  > Sequencing

**The elastic forming grooves**
as soon as the tips are attached, they adapt perfectly to the shape of the tip cone. This SOFTattach technology allows the user to achieve perfect tip tightness and safety.

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# epT.I.P.S.® Long

**Description**
With the slim design of the extra long epT.I.P.S. and ep Dualfilter T.I.P.S.® pipette tips, you always achieve best results when pipetting into Eppendorf Tubes® 5.0 mL, conical tubes, cell culture flasks, deep wells and other deep vessels. Furthermore, the risk of touching the walls of these deep vessels is minimized and cross-contamination is prevented. Extra long epT.I.P.S. are available in the following volumes:
> 0.5 – 20 µL L (46 mm)
> 50 – 1,250 µL L (103 mm)
> 0.2 – 5 mL L (175 mm)
> 0.5 – 10 mL L (243 mm)




**Product features**
> Slim design of the extra long epT.I.P.S. and ep Dualfilter T.I.P.S. pipette tips
> Always obtain high-quality results when pipetting from and into Eppendorf Tubes® 5.0 mL, conical tubes, cell culture flasks, deep wells and other deep vessels
> The risk of touching the walls of deep vessels is minimized and cross-contamination is prevented
> Available in Eppendorf Quality, PCR clean, PCR clean/Sterile (sterile and pyrogen-free), and Biopur® purity grades
> Also available as ep Dualfilter T.I.P.S. filter tips

**Applications**
> Pipetting liquids
> Dispensing liquids
> Mixing liquids
> Filling plates and reaction vessels
> Filling gels for electrophoresis
> Phase extraction and removal of supernatants






www.eppendorf.com/eptips-video

i For more information go to www.eppendorf.com/epTips

Technical specifications subject to change.



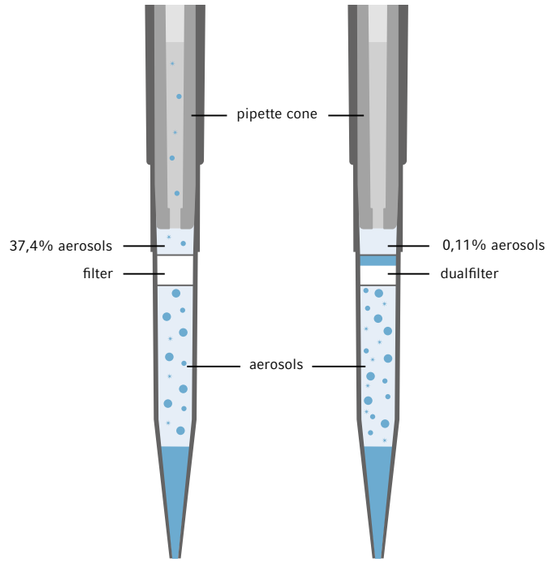
# ep Dualfilter T.I.P.S.®

**Description**
ep Dualfilter T.I.P.S. filter tips are filter tips with a two-phase filter for contamination protection. The two filter layers made of flexible, hydrophobic material, fit perfectly in the tip cone and retain practically 100 % of all aerosols[1)] and biomolecules. This filtering effect is achieved using various, well-defined pore sizes. The layer facing the sample provides protection from drops, splashes and aerosols. The layer facing the pipette cone functions as a second barrier from contamination, and dependably binds biomolecules. A defined air passage rate ensures full sample recovery and the customary quick pipetting.




**Product features**
> Dual protection against aerosols[1)] and biomolecules
> Dual protection for pipette and sample
> Free of PCR inhibitor additives
> Available in Eppendorf PCR clean/Sterile (sterile and pyrogen-free) and Eppendorf Forensic DNA Grade
> Tested at the Fraunhofer Institute for Toxicology and Experimental Medicine (ITEM) in Hannover, Germany
> Continuous inspection of each production lot by an independent laboratory
> Lot-specific certificates are available at: certificates homepage.
> Certificate of filter efficiency acc. to EN 1822 available at: certificates homepage
> Also available for 16- and 24-channel pipettes

**Applications**
> DNA applications (e.g. PCR)
> RNA applications (e.g. gene expression analysis)
> Protein applications (e.g. antibody research)
> Cell culture applications (e.g. media)
> Applications with radio actives
> All applications which use aerosol[1)] binding liquids
> For applications in 384-microplate format we recommend using 16- or 24-channel pipettes together with epT.I.P.S.® 384




**Competitor filtertip** **ep Dualfilter T.I.P.S.®**




The unmistakable blue and white filter layers are made of flexible, hydrophobic material to fit perfectly in the tip cone and retain practically 100 % of all aerosols[1)] and biomolecules. This unique filtering effect is achieved using various well-defined pore sizes in the two filter layers.

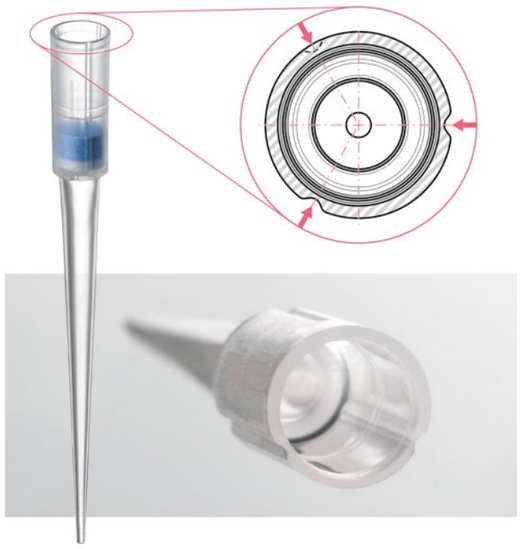
[1)] An aerosol is a colloid of fine solid particles or liquid droplets in air or another gas.

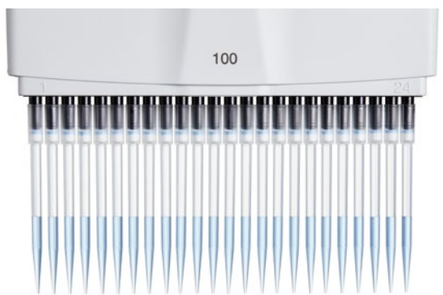
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# ep Dualfilter T.I.P.S.® 384

**ep Dualfilter T.I.P.S. 384 with SOFTattach technology for 16- and 24-channel pipettes**
For the first time, filter pipette tips have elastic forming grooves. They allow the filter tips to stretch as much as necessary to enable a perfect seal while operating forces are reduced to a minimum. Your benefits of using this perfectly coordinated system of pipette and tip are outstanding and reliable tip fit and tightness combined with reduced pipette tip attachment and ejection forces. It couldn't be easier to perfectly hit all 384 wells as the new filter tips have an extremely fine tip shape, and an extraordinary coaxiality which enables a perfect tip alignment.

**New**






**Product features**
> ep Dualfilter T.I.P.S. 384 pipette tips build a system together with Research plus and Xplorer plus 16 and 24-channel pipettes for utmost safety and reliability
> Innovative SOFTattach technology allows for reliable tip fit and tightness while operating forces are reduced to a minimum
> Fill a whole 384-well plate without loosening pipette tips
> A perfect tip alignment is guaranteed by extraordinary coaxiality for safe plate maneuvering and liquid transfer
> The tip shape of ep Dualfilter T.I.P.S. 384 is adjusted to perfectly fit the wells of 384-well plates
> Dual protection for pipette and sample against aerosols[1)] and biomolecules
> Lot-specific certificates are available at: certificates homepage.
> Certificate of filter efficiency acc. to EN 1822 available at: certificates homepage
> Available as racks
> Available in purity grades of: PCR clean and sterile

**Applications**
> DNA applications (e.g. PCR)
> RNA applications (e.g. gene expression analysis)
> Protein applications (e.g. antibody research)
> Cell culture applications (e.g. media)
> Applications with radioactives
> All applications which use aerosol[1)] binding liquids

[1)] An aerosol is a colloid of fine solid particles or liquid droplets in air or another gas.

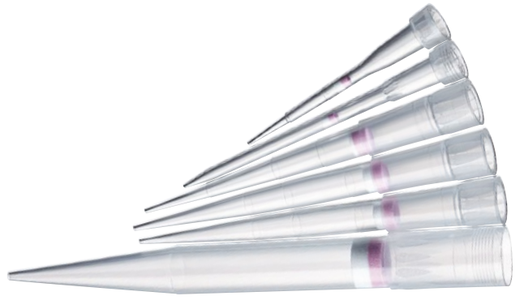
**An extraordinary tip alignment**
all tips are perfectly aligned, making it easy and safe to transfer up to 24 samples simultaneously to the 384-well plate.





# ep Dualfilter T.I.P.S.® SealMax

**Description**
The violet and white filter for the ep Dualfilter T.I.P.S.® SealMax filter tips combine a reliable contamination protection for your pipette from your sample liquid with virtually 100 % protection from aerosols[1)] and biomolecules. This Dualfilter closes immediately when it comes into contact with the overpipetted sample without inhibiting valuable material. Additionally drops and splashes are retained by the white layer, the violet layer forms the highly-effective barrier against sample liquid. Further information and certification on specific sample recovery features, PCR inhibition and aerosol protection are available on your local Eppendorf website.







**Product features**
> Reliable protection from liquids
> Reliable protection from aerosols[1)] and biomolecules
> No PCR inhibiting additives
> Protection of your pipette from aggressive liquids when over-aspiration occurs
> Available in PCR clean/Sterile (sterile and pyrogen-free)
> Continuous inspection of each production lot by an independent laboratory ensures high purity and quality
> Lot specific purity certificates available at: www.eppendorf.com/certificates
> Certificate of filter efficiency acc. to EN 1822 available at: www.eppendorf.com/certificates

**Applications**
> DNA applications (e.g. PCR)
> RNA applications (e.g. gene expression analysis)
> Protein applications (e.g. antibody research)
> Cell culture applications (e.g. media)
> Applications with radio actives
> All applications which use aerosol[1)] binding liquids

[1)] An aerosol is a colloid of fine solid particles or liquid droplets in air or another gas.

i For more information go to www.eppendorf.com/epTips

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# epT.I.P.S.® LoRetention

**Description**
epT.I.P.S. LoRetention pipette tips and ep Dualfilter T.I.P.S. LoRetention filter tips are particularly well-suited for applications with samples that contain detergents. Detergents or detergent containing liquids lower the liquid's surface tension. This leads to a phenomenon called "wetting": Residual liquid sticks to the tip wall and cannot be recovered. The invisible film left behind in standard tips shows a significantly high amount of valuable sample material which becomes discarded together with the tip.
Particularly when it comes to sensitive PCR and *real-time* PCR applications or NGS library preparation, low retention surfaces can increase the reproducibility and significantly reduce the loss of expensive reagents.
The low retention property of epT.I.P.S. LoRetention pipette tips and ep Dualfilter T.I.P.S. LoRetention filter tips is generated by an ultrahydrophobic, extremely homogeneous surface. It is achieved through an innovative treatment at the molecular level – the "Pearl Effect" Technology. All pipette tips are uncoated, free of additives and do not leach into the sample. Liquids containing detergents simply roll off, so that practically no liquid remains in the tip. These outstanding material properties ensure maximized sample recovery for cost saving and improved reproducibility.




The "Pearl Effect" – a comparison of the amount of residual liquid when pipetting solutions that contain detergents:
**1.** Significant loss of sample using standard tips
**2.** Maximized recovery with epT.I.P.S. LoRetention

**Product features**
> Ultrahomogenous surface for maximized reproducibility
> Ultrahydrophobic surface for minimal sample loss
> Significantly reduced foam formation during pipetting
> Extreme resistance to chemicals
> Available in PCR clean and Eppendorf Quality
> Also available as ep Dualfilter T.I.P.S. in PCR clean/Sterile (sterile and pyrogen-free)
> No coating
> Lot-specific certificates are available at: www.eppendorf.com/certificates

**Applications**
> Cell culture (media)
> Genomics: PCR, RT-PCR, qPCR and all other types of PCR
> Enzymatic reactions (restriction decomposition, ligation)
> Isolation and purification of nucleic acid
> Gel electrophoresis (e.g., prefabricated DNA ladders) typical detergents: SDS, Triton®, X-100, Brij® 35, Tween® 20, CHAPS
> Proteomics (all types of protein examinations)
> Protein isolation and purification
> NGS library preparation

➢ Ordering information see page 58

Technical specifications subject to change.



**Maximized reproducibility in genomics**
epT.I.P.S. LoRetention are especially recommended for applications where highest precision of DNA/RNA analysis results are needed, such as for PCR and *real-time* PCR. For example, expensive master mixes and enzyme solutions tend to adhere to the tip´s inner surface. Specially treated low retention surfaces are created to repel detergent solutions to a maximum – for minimum loss of your valuable sample.

**Examples for liquids with wetting effect:**
> Master mixes
> Enzyme solutions: enzyme restrictions, ligation, DNase
> DNA ladders for gel electrophoresis

epT.I.P.S. LoRetention perform considerably better in terms of precision and sample recovery than standard pipette tips as shown in **Fig. 1.**

**Maximized reproducibility in proteomics**
Not only in molecular biology, high sensitivity detection methods require extreme reliability and reproducibility in pipetting. Also in protein analysis and purification, the reagents and samples often contain detergents, like e.g. SDS-Page. By minimizing sample retention and improving reproducibility of pipetting, epT.I.P.S. LoRetention pipette tips and ep Dualfilter T.I.P.S. LoRetention filter tips are especially advantageous in proteomic applications.

**Routine protein applications:**
> Isolation
> Purification
> Denaturation

The facts are self-explanatory – when compared to standard pipette tips, epT.I.P.S. LoRetention showed markedly better results in terms of precision and sample recovery, as displayed in **Fig. 1 and 2.**

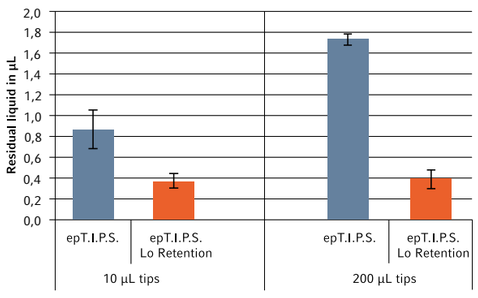



**Fig. 1:**
Comparison of residual liquid of epT.I.P.S. and epT.I.P.S. LoRetention with master mix for *real-time* PCR. Once the liquid had been dispensed, the residual liquid in the tips was determined. The measurements were repeated several times and the standard deviation was determined. epT.I.P.S. LoRetention resulted in the lowest residual liquid.

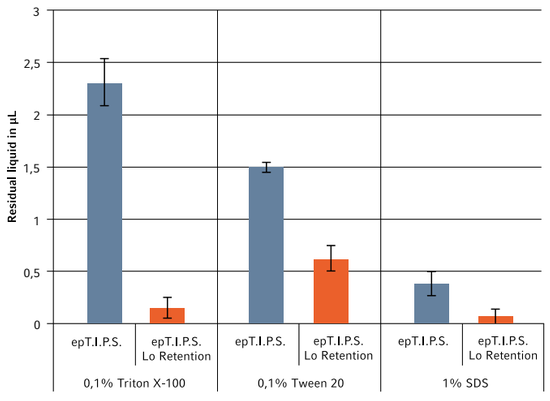



**Fig. 2:**
Comparison of resistance of the low retention property when subjected to solvents typically used in proteomics. 200 µL epT.I.P.S. and epT.I.P.S. LoRetention were treated with the solvents specified. An enzymatic buffer containing detergents was then pipetted and the residual moisture was determined. epT.I.P.S. LoRetention resulted in reproducible low levels of residual liquids.

i For more information go to www.eppendorf.com/LoRetention

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| Volume range/epT.I.P.S.®<br>epT.I.P.S.® LoRetention<br>(all tips shown are actual size) | Standard/Bulk | Reloads | Reloads | Box | Set | Singles | Racks |
|---|---|---|---|---|---|---|---|
| **dark gray**<br>**0.1 – 10 µL, 34 mm**<br>  | 1,000 tips (2 bags × 500 tips)<br>0030 000 811 | 960 tips (10 trays × 96 tips)<br>0030 073 371<br>0030 072 049 LoRetention | 960 tips (10 trays × 96 tips)<br>0030 073 754<br>0030 072 006 LoRetention | 1 reusable box × 96 tips<br>0030 073 010<br>New 0030 076 125[1)] | 480 tips (5 trays × 96 tips), 1 reusable box<br>0030 073 215<br>New 0030 076 290[1)]<br>0030 072 251 LoRetention<br>New 0030 072 367[1)] LoRetention | | |
| **medium gray**<br>**0.1 – 20 µL, 40 mm**<br>  | 1,000 tips (2 bags × 500 tips)<br>0030 000 838 | 960 tips (10 trays × 96 tips)<br>0030 073 398 | 960 tips (10 trays × 96 tips)<br>0030 073 770 | 1 reusable box × 96 tips<br>0030 073 037<br>New 0030 076 133[1)] | 480 tips (5 trays × 96 tips), 1 reusable box<br>0030 073 231<br>New 0030 076 303[1)] | 100 tips, individually packed<br>0030 010 027 | 480 tips (5 racks × 96 tips)<br>0030 075 226 |
| **light gray**<br>**0.5 – 20 µL L, 46 mm**<br>  | 1,000 tips (2 bags × 500 tips)<br>0030 000 854 | 960 tips (10 trays × 96 tips)<br>0030 073 410<br>0030 072 057 LoRetention | 960 tips (10 trays × 96 tips)<br>0030 073 797<br>0030 072 014 LoRetention | 1 reusable box × 96 tips<br>0030 073 053<br>New 0030 076 141[1)] | 480 tips (5 trays × 96 tips), 1 reusable box<br>0030 073 258<br>New 0030 076 311[1)]<br>0030 072 260 LoRetention<br>New 0030 072 375[1)] LoRetention | | |
| **yellow**<br>**2 – 200 µL, 53 mm**<br>  | 1,000 tips (2 bags × 500 tips)<br>0030 000 889<br>0030 000 870 yellow tips | 960 tips (10 trays × 96 tips)<br>0030 073 436<br>0030 072 065 LoRetention | 960 tips (10 trays × 96 tips)<br>0030 073 819<br>0030 072 022 LoRetention | 1 reusable box × 96 tips<br>0030 073 070<br>New 0030 076 150[1)] | 480 tips (5 trays × 96 tips), 1 reusable box<br>0030 073 274<br>New 0030 076 320[1)]<br>0030 072 278 LoRetention<br>New 0030 072 383[1)] LoRetention | 100 tips, individually packed<br>0030 010 043 | 480 tips (5 racks × 96 tips)<br>0030 075 234 |
| **orange**<br>**20 – 300 µL, 55 mm**<br>  | 1,000 tips (2 bags × 500 tips)<br>0030 000 900<br>0030 000 897 yellow tips | 960 tips (10 trays × 96 tips)<br>0030 073 452 | 960 tips (10 trays × 96 tips)<br>0030 073 835 | 1 reusable box × 96 tips<br>0030 073 096<br>New 0030 076 168[1)] | 480 tips (5 trays × 96 tips), 1 reusable box<br>0030 073 290<br>New 0030 076 338[1)] | | 480 tips (5 racks × 96 tips)<br>0030 075 242 |
| **blue**<br>**50 – 1,000 µL, 71 mm**<br>  | 1,000 tips (2 bags × 500 tips)<br>0030 000 927<br>0030 000 919 blue tips | 960 tips (10 trays × 96 tips)<br>0030 073 479<br>0030 072 073 LoRetention | 960 tips (10 trays × 96 tips)<br>0030 073 851<br>0030 072 030 LoRetention | 1 reusable box × 96 tips<br>0030 073 118<br>New 0030 076 176[1)] | 480 tips (5 trays × 96 tips), 1 reusable box<br>0030 073 312<br>New 0030 076 346[1)]<br>0030 072 286 LoRetention<br>New 0030 072 391[1)] LoRetention | 100 tips, individually packed<br>0030 010 060 | 480 tips (5 racks × 96 tips)<br>0030 075 250 |
| **green**<br>**50 – 1,250 µL, 76 mm**<br>  | 1,000 tips (4 bags × 250 tips)<br>0030 000 935 | 960 tips (10 racks × 96 tips)<br>0030 073 495 | 960 tips (10 trays × 96 tips)<br>0030 073 878 | 1 reusable box × 96 tips<br>0030 073 134<br>New 0030 076 184[1)] | 480 tips (5 trays × 96 tips), 1 reusable box<br>0030 073 339<br>New 0030 076 354[1)] | | 480 tips (5 racks × 96 tips)<br>0030 075 269 |

[1)] This article is available from May 2020.



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| Volume range/epT.I.P.S.®<br>epT.I.P.S.® LoRetention<br>(all tips shown are actual size) | Standard/Bulk | Reloads | Reloads | Box | Set | Racks | |
|---|---|---|---|---|---|---|---|
| **dark green** | 1,000 tips (4 bags × 250 tips) | 960 tips (10 trays × 96 tips) | 960 tips (10 trays × 96 tips) | 1 reusable box × 96 tips | | 480 tips (5 racks × 96 tips) | |
| **50 – 1,250 µL L, 103 mm** | 0030 000 730 | 0030 073 630 | 0030 073 649 | 0030 073 657 | | 0030 075 277 | Biopur® |
| | | | | New 0030 076 192[1)] | | | |
|  | | | | | | | |
| **red** | 500 tips (5 bags × 100 tips) | 480 tips (10 trays × 48 tips) | 480 tips (10 trays × 48 tips) | 1 reusable box × 48 tips | 240 tips (5 trays × 48 tips), 1 reusable box | 240 tips (5 racks × 48 tips) | |
| **0.25 – 2.5 mL, 115 mm** | 0030 000 951 | 0030 073 517 | 0030 073 894 | 0030 073 150 | 0030 073 355 | 0030 075 285 | Biopur® |
| | | | | New 0030 076 206[1)] | New 0030 076 362[1)] | | |
|  | | | | | | | |
| **violet** | 500 tips (5 bags × 100 tips) | | | 1 reusable box × 24 tips | | 120 tips (5 racks × 24 tips) | |
| **0.1 – 5 mL, 120 mm** | 0030 000 978 | | | 0030 073 177 | | 0030 075 293 | Biopur® |
| | | | | New 0030 076 214[1)] | | 0030 071 638 | Eppendorf Quality™ |
|  | | | | | | 0030 071 662 | PCR clean |
| **violet** | 300 tips (3 bags × 100 tips) | | | | | 120 tips (5 racks × 24 tips) | |
| **0.2 – 5 mL L, 175 mm** | 0030 000 650 | | | | | 0030 075 307 | Biopur® |
| | | | | | | 0030 071 646 | Eppendorf Quality™ |
|  | | | | | | | |
| **turquoise** | 200 tips (2 bags × 100 tips) | | | | | 120 tips (5 racks × 24 tips) | |
| **0.5 – 10 mL, 165 mm** | 0030 000 765 | | | | | 0030 075 315 | Biopur® |
| | | | | | | 0030 071 654 | Eppendorf Quality™ |
|  | | | | | | | |
| **turquoise** | 200 tips (2 bags × 100 tips) | | | | | | |
| **0.5 – 10 mL L, 243 mm** | 0030 000 781 | | | | | | |
|  | | | | | | | |

(Image reduzed size)

[1)] This article is available from May 2020.



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| Volume range/ ep Dualfilter T.I.P.S.®/ ep Dualfilter T.I.P.S.® LoRetention/ ep Dualfilter T.I.P.S.® SealMax | Racks | eppendorf PCR clean certified purity grade | eppendorf sterile certified purity grade | eppendorf Forensic DNA Grade certified purity grade according to BIO 10995 |
|---|---|---|---|---|
| dark gray | 960 tips (10 racks × 96 tips) | | | |
| 0.1 – 10 µL S, 34 mm | 0030 078 500 | 0030 078 632 LoRetention | 0030 078 691 SealMax | |
| medium gray | 960 tips (10 racks × 96 tips) | | | |
| 0.1 – 10 µL M, 40 mm | 0030 078 519 | | | 0030 078 810 |
| light gray | 960 tips (10 racks × 96 tips) | | | |
| 0.5 – 20 µL L, 46 mm | 0030 078 527 | 0030 078 640 LoRetention | 0030 078 705 SealMax | |
| yellow | 960 tips (10 racks × 96 tips) | | | |
| 2 – 20 µL, 53 mm | 0030 078 535 | | | 0030 078 829 |
| yellow | 960 tips (10 racks × 96 tips) | | | |
| 2 – 100 µL, 53 mm | 0030 078 543 | 0030 078 659 LoRetention | 0030 078 713 SealMax | |
| yellow | 960 tips (10 racks × 96 tips) | | | |
| 2 – 200 µL, 55 mm | 0030 078 551 | 0030 078 667 LoRetention | 0030 078 721 SealMax | 0030 078 837 |
| orange | 960 tips (10 racks × 96 tips) | | | |
| 20 – 300 µL, 55 mm | 0030 078 560 | 0030 078 675 LoRetention | 0030 078 730 SealMax | |
| blue | 960 tips (10 racks × 96 tips) | | | |
| 50 – 1,000 µL, 76 mm | 0030 078 578 | 0030 078 683 LoRetention | 0030 078 748 SealMax | 0030 078 845 |
| dark green | 480 tips (5 racks × 96 tips) | | | |
| 50 – 1,250 µL L, 103 mm | 0030 078 594 | | | |
| red | 240 tips (5 racks × 48 tips) | | | |
| New 0.25 – 2.5 mL, 115 mm | 0030 078 586 | | | |

Technical specifications subject to change.



| Volume range/ ep Dualfilter T.I.P.S.®/ ep Dualfilter T.I.P.S.® LoRetention/ ep Dualfilter T.I.P.S.® SealMax | Racks | eppendorf PCR clean certified purity grade | eppendorf sterile certified purity grade |
|---|---|---|---|
| violet | 120 tips (5 racks × 24 tips) | | |
| 0.1 – 5 mL, 120 mm | 0030 078 616 | | |
| violet | 120 tips (5 racks × 24 tips) | | |
| 0.2 – 5 mL L, 175 mm | 0030 078 624 | | |
| turquoise | 100 tips, individually packed | | |
| 0.5 – 10 mL L, 243 mm | 0030 077 598 | | |

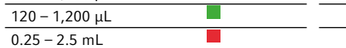
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# Special Tips

| Volume range/ pipette tip | eppendorf guaranteed quality |
|---|---|
| light gray | GELoader® |
| 0.5 – 20 µL, 62 mm | 192 tips (2 racks × 96 tips) |
| | 0030 001 222 |
| light gray | Microloader™ |
| 0.5 – 20 µL, 100 mm | 192 pcs. (2 racks × 96 pcs.) |
| | 5242 956 003 |
| light gray | Mastertip® |
| 20 µL, 52 mm | 480 tips (5 racks × 96 tips) |
| | 0030 001 320 |

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# Special Tips
# Tips for 16- and 24-Channel Pipettes

| Volume range/epT.I.P.S.® 384 | Reloads | Reloads | Set |
|---|---|---|---|
| **light pink** | 3,840 tips (10 trays × 384 tips) | 3,840 tips (10 trays × 384 tips) | 1,920 tips (5 trays × 384 tips), 1 reusable box |
| **0.1 – 20 µL, 42 mm** | | | |
|  | 0030 076 001 | 0030 076 044 | 0030 076 028<br>New 0030 076 273[1)] |
| **light yellow** | 3,840 tips (10 trays × 384 tips) | 3,840 tips (10 trays × 384 tips) | 1,920 tips (5 trays × 384 tips), 1 reusable box |
| **0.5 – 100 µL, 53 mm** | | | |
|  | 0030 076 010 | 0030 076 052 | 0030 076 036<br>New 0030 076 281[1)] |

[1)] This article is available from May 2020.

# Combination of epT.I.P.S.® pipette tips with Research plus/Research plus Move It® pipettes

| Eppendorf Research® plus/ Eppendorf Research® plus Move It® | 0.1 – 10 µL, dark gray | 0.1 – 10 µL M, medium gray | 0.1 – 20 µL, medium gray | 0.5 – 20 µL L, light gray | 0.1 – 20 µL, light pink | 0.5 – 100 µL, light yellow | 2 – 20 µL, yellow | 2 – 100 µL, yellow | 2 – 200 µL, yellow |
|---|---|---|---|---|---|---|---|---|---|
| **epT.I.P.S.®** | ■ | | ■ | ■ | ■ | | | | ■ |
| **epT.I.P.S.® LoRetention** | ■ | | | ■ | | | | | ■ |
| **ep Dualfilter T.I.P.S.®** | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ |
| **ep Dualfilter T.I.P.S.® LoRetention** | ■ | | | ■ | | | | ■ | |
| **ep Dualfilter T.I.P.S.® SealMax** | ■ | | | ■ | | | | ■ | ■ |
| **Fixed volume, single channel pipettes** | | | | | | | | | |
| 10 µL | ■ | ■ | ■ | ■ | | | | | |
| 20 µL | | ■ | ■ | ■ | | | | | |
| 10 µL | | | | | | | ■ | ■ | ■ |
| 20 µL | | | | | | | ■ | ■ | ■ |
| 25 µL/50 µL/100 µL | | | | | | | | ■ | ■ |
| 200 µL | | | | | | | | | ■ |
| 200/250/500/1,000 µL | | | | | | | | | |
| **Variable volume, single-, 8- and 12-channel pipettes** | | | | | | | | | |
| 0.1 – 2.5 µL | ■ | ■ | ■ | | | | | | |
| 0.5 – 10 µL | ■ | ■ | ■ | ■ | | | | | |
| 2 – 20 µL | ◆ | ◆ | ■ | ■ | | | | | |
| 2 – 20 µL | | | | | | | ■ | ■ | ■ |
| 10 – 100 µL | | | | | | | ◆ | ■ | ■ |
| 20 – 200 µL | | | | | | | ◆ | ◆ | ■ |
| 30 – 300 µL | | | | | | | ◆ | ◆ | ◆ |
| 100 – 1,000 µL | | | | | | | | | |
| 120 – 1,200 µL | | | | | | | | | |
| 0.25 – 2.5 mL | | | | | | | | | |
| 0.5 – 5 mL | | | | | | | | | |
| 1 – 10 mL | | | | | | | | | |
| **Variable volume, 16- and 24-channel pipettes** | | | | | | | | | |
| 1 – 20 µL | | | | | ■ | | | | |
| 5 – 100 µL | | | | | | ■ | | | |
| **Move It®, variable volume, 4, 6, 8 and 12-channel pipettes** | | | | | | | | | |
| 1 – 20 µL | | | | | ■ | | | | |
| 5 – 100 µL | | | | | | ■ | | | |
| 15 – 300 µL | | | | | | | ◆ | ◆ | ◆ |
| 120 – 1,200 µL | | | | | | | | | |

■ normal volume ◆ limited volume





| Volume range/ep Dualfilter T.I.P.S. 384 | Racks |
|---|---|
| **light pink** | |
| **0.1 – 20 µL, 42 mm** | 3,840 tips (10 racks × 384 tips) |
|  | 0030 078 853 |
| **light yellow** | |
| **0.5 – 100 µL, 53 mm** | 3,840 tips (10 racks × 384 tips) |
|  | 0030 078 861 |

| 20 – 300 µL, orange | 50 – 1,000 µL, blue | 50 – 1,250 µL, green | 50 – 1,250 µL L, dark green | 0.25 – 2.5 mL, red | 0.1 – 5 mL, violet | 0.2 – 5 mL L, violet | 0.5 – 10 mL, turquoise | 0.5 – 10 mL L, turquoise | GELoader®/ Microloader™ 0.5 – 20 µL |
|---|---|---|---|---|---|---|---|---|---|
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| ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ |

# Combination of epT.I.P.S.® pipette tips with Reference 2 pipettes

| Eppendorf Reference® 2 | 0.1 – 10 µL, dark gray | 0.1 – 10 µL M, medium gray | 0.1 – 20 µL, medium gray | 0.5 – 20 µL L, light gray | 2 – 20 µL, yellow | 2 – 100 µL, yellow | 2 – 200 µL, yellow | 20 – 300 µL, orange |
|---|---|---|---|---|---|---|---|---|
| **epT.I.P.S.®** | ■ | | ■ | ■ | | | ■ | ■ |
| **epT.I.P.S.® LoRetention** | ■ | | | ■ | | | ■ | |
| **ep Dualfilter T.I.P.S.®** | ■ | ■ | | ■ | ■ | ■ | ■ | ■ |
| **ep Dualfilter T.I.P.S.® LoRetention** | ■ | | | ■ | | ■ | | ■ |
| **ep Dualfilter T.I.P.S.® SealMax** | ■ | | | ■ | | ■ | ■ | ■ |
| Fixed volume | | | | | | | | |
| 1 µL/2 µL | ■ | ■ | ■ | | | | | |
| 5 µL/10 µL | ■ | ■ | ■ | ■ | | | | |
| 20 µL | | | ■ | ■ | | | | |
| 10 µL | | | | | ■ | ■ | ■ | |
| 20 µL | | | | | ■ | ■ | ■ | ■ |
| 25 µL/50 µL/100 µL | | | | | | ■ | ■ | ■ |
| 200 µL | | | | | | | ■ | ■ |
| 200/250/500/1,000 µL | | | | | | | | |
| 2 mL/2.5 mL | | | | | | | | |
| Adjustable volume | | | | | | | | |
| 0.1 – 2.5 µL | ■ | ■ | ■ | | | | | |
| 0.5 – 10 µL | ■ | ■ | ■ | ■ | | | | |
| 2 – 20 µL | ◆ | ◆ | ■ | ■ | | | | |
| 2 – 20 µL | | | | | ■ | ■ | ■ | ◆ |
| 10 – 100 µL | | | | | ◆ | ■ | ■ | ■ |
| 20 – 200 µL | | | | | ◆ | ◆ | ■ | ■ |
| 30 – 300 µL | | | | | ◆ | ◆ | ◆ | ■ |
| 100 – 1,000 µL | | | | | | | | |
| 0.25 – 2.5 mL | | | | | | | | |
| 0.5 – 5 mL | | | | | | | | |
| 1 – 10 mL | | | | | | | | |

■ normal volume ◆ limited volume



| 50 – 1,000 µL, blue | 50 – 1,250 µL, green | 50 – 1,250 µL L, dark green | 0.25 – 2.5 mL, red | 0.1 – 5 mL, violet | 0.2 – 5 mL L, violet | 0.5 – 10 mL, turquoise | 0.5 – 10 mL L, turquoise | GELoader®/ Microloader™ 0.5 – 20 µL |
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# Combination of epT.I.P.S.® pipette tips with Xplorer/Xplorer plus and Xplorer plus Move It® pipettes

| Eppendorf Xplorer®/ Eppendorf Xplorer® plus/ Eppendorf Xplorer® plus Move It® | 0.1 – 10 µL, dark gray | 0.1 – 10 µL M, medium gray | 0.1 – 20 µL, medium gray | 0.5 – 20 µL L, light gray | 0.1 – 20 µL, light pink | 0.5 – 100 µL, light yellow | 2 – 20 µL, yellow | 2 – 100 µL, yellow | 2 – 200 µL, yellow |
|---|---|---|---|---|---|---|---|---|---|
| **epT.I.P.S.®** | ■ | | ■ | ■ | ■ | | | | ■ |
| **epT.I.P.S.® LoRetention** | ■ | | | ■ | | | | | ■ |
| **ep Dualfilter T.I.P.S.®** | ■ | ■ | | ■ | ■ | ■ | ■ | ■ | ■ |
| **ep Dualfilter T.I.P.S.® LoRetention** | ■ | | | ■ | | | | ■ | |
| **ep Dualfilter T.I.P.S.® SealMax** | ■ | | | ■ | | | | ■ | ■ |
| **Variable volume, single-, 8- and 12-channel pipettes** | | | | | | | | | |
| 0.5 – 10 µL | ■ | ■ | ■ | ■ | | | | | |
| 1 – 20 µL | ◆ | ◆ | ■ | ■ | | | | | |
| 5 – 100 µL | | | | | | | ◆ | ■ | ■ |
| 10 – 200 µL | | | | | | | ◆ | ◆ | ■ |
| 15 – 300 µL | | | | | | | ◆ | ◆ | ◆ |
| 50 – 1,000 µL | | | | | | | | | |
| 50 – 1,200 µL | | | | | | | | | |
| 0.1 – 2.5 mL | | | | | | | | | |
| 0.2 – 5 mL | | | | | | | | | |
| 0.5 – 10 mL | | | | | | | | | |
| **Variable volume, 16- and 24-channel pipettes** | | | | | | | | | |
| 1 – 20 µL | | | | | ■ | | | | |
| 1 – 20 µL | | | | | | ■ | | | |
| **Move It®, variable volume, 4, 6, 8 and 12-channel pipettes** | | | | | | | | | |
| 1 – 20 µL | | | | | ■ | | | | |
| 5 – 100 µL | | | | | | ■ | | | |
| 15 – 300 µL | | | | | | | ◆ | ◆ | ◆ |
| 50 – 1,200 µL | | | | | | | | | |

■ normal volume ◆ limited volume

| 20 – 300 µL, orange | 50 – 1,000 µL, blue | 50 – 1,250 µL, green | 50 – 1,250 µL L, dark green | 0.25 – 2.5 mL, red | 0.1 – 5 mL, violet | 0.2 – 5 mL L, violet | 0.5 – 10 mL, turquoise | 0.5 – 10 mL L, turquoise | GELoader®/ Microloader™ 0.5 – 20 µL |
|---|---|---|---|---|---|---|---|---|---|
| ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | ■ | | | | | | | | |
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# Multipette® M4

**Aspirate once and dispense up to 100 times**
Serial pipetting made easy! The mechanical Multipette M4 is the ideal precision instrument for completing long pipetting or dispensing series. Even liquids which are difficult to pipette are no match for the Multipette/Combitips® system. Volumes are dispensed using the positive displacement principle. The liquid is directly dispensed without an air cushion, ensuring the correct volume is always dispensed regardless of the density, viscosity and volatility of the liquid.




**Product features**
> Fill the tip once and dispense up to 100 times without a refill
> Automatic Combitips recognition eliminates time consuming volume calculations
> Easy-to-read display guarantees stress-free and intuitive operation
> Dispensing volume is clearly displayed
> Integrated »Sleep« function switches off when the Multipette M4 is not being used, thus reducing energy consumption
> Stress-free work via integrated step counter: dispensing procedures can be continued error free after an interruption or distraction
> Wide dispensing range: 1 µL to 10 mL for flexible operation
> Fully emptied Combitips Tip can be easily ejected with one hand using the operating lever
> Perfect for viscous or foaming solutions and liquids with high vapor pressure through positive displacement principle
> Safe handling of toxic, radioactive or infectious material

**Applications**
> Repetitive dispensing of volumes in long series such as tube or plate filling, aliquoting reagents and kit usage
> Contamination-free dispensing of toxic, radioactive and other hazardous liquids
> Precise and accurate dispensing of viscous solutions (e.g. glycerol) or liquids with high vapor pressure (e.g. ethanol)

PhysioCare concept

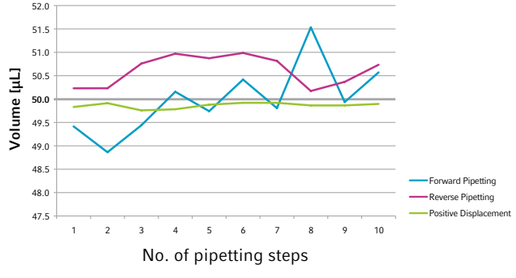
# Correct Handling of Difficult Liquids

**Viscous liquids**

**Problem**
Viscous liquids have a high resistance to flow (e.g. glycerol)

**Recommendation**
Usage of a positive displacement pipette for better flow behavior due to absence of air cushion

Air-cushion pipette: Viscous liquids have a negative effect on accuracy and precision (Pipetting 50 µL of 85 % glycerol)




i For more information go to www.eppendorf.com

| Eppendorf Combitips advanced® | Min. volume | Max. volume | Increment | Volume | Systematic error [1] | Random error [1] |
|---|---|---|---|---|---|---|
| 0.1 mL | 1 µL | 20 µL | 1 µL | 1 µL | ±8.0 % | ±13.0 % |
| | | | | 2 µL | ±1.6 % | ±3.0 % |
| | | | | 10 µL | ±1.2 % | ±2.4 % |
| | | | | 20 µL | ±1.0 % | ±2.0 % |
| 0.2 mL | 2 µL | 40 µL | 2 µL | 2 µL | ±6.0 % | ±8.0 % |
| | | | | 4 µL | ±1.3 % | ±2.0 % |
| | | | | 20 µL | ±0.8 % | ±1.5 % |
| | | | | 40 µL | ±0.8 % | ±1.5 % |
| 0.5 mL | 5 µL | 100 µL | 5 µL | 5 µL | ±4.0 % | ±8.0 % |
| | | | | 10 µL | ±0.9 % | ±1.5 % |
| | | | | 50 µL | ±0.8 % | ±0.8 % |
| | | | | 100 µL | ±0.8 % | ±0.6 % |
| 1 mL | 10 µL | 200 µL | 10 µL | 10 µL | ±4.0 % | ±8.0 % |
| | | | | 20 µL | ±0.9 % | ±0.9 % |
| | | | | 100 µL | ±0.6 % | ±0.6 % |
| | | | | 200 µL | ±0.6 % | ±0.4 % |
| 2.5 mL | 25 µL | 500 µL | 25 µL | 25 µL | ±4.0 % | ±8.0 % |
| | | | | 50 µL | ±0.8 % | ±0.8 % |
| | | | | 250 µL | ±0.6 % | ±0.6 % |
| | | | | 500 µL | ±0.5 % | ±0.3 % |
| 5 mL | 50 µL | 1,000 µL | 50 µL | 50 µL | ±3.0 % | ±5.0 % |
| | | | | 100 µL | ±0.6 % | ±0.6 % |
| | | | | 500 µL | ±0.5 % | ±0.5 % |
| | | | | 1,000 µL | ±0.5 % | ±0.25 % |
| 10 mL | 100 µL | 2,000 µL | 100 µL | 100 µL | ±3.0 % | ±4.0 % |
| | | | | 200 µL | ±0.5 % | ±0.6 % |
| | | | | 1,000 µL | ±0.5 % | ±0.4 % |
| | | | | 2,000 µL | ±0.5 % | ±0.25 % |
| 25 mL | 250 µL | 5,000 µL | 250 µL | 250 µL | ±3.0 % | ±3.0 % |
| | | | | 500 µL | ±0.4 % | ±0.6 % |
| | | | | 2,500 µL | ±0.3 % | ±0.5 % |
| | | | | 5,000 µL | ±0.3 % | ±0.25 % |
| 50 mL | 500 µL | 10,000 µL | 500 µL | 500 µL | ±6.0 % | ±10.0 % |
| | | | | 1,000 µL | ±0.3 % | ±0.5 % |
| | | | | 5,000 µL | ±0.3 % | ±0.5 % |
| | | | | 10,000 µL | ±0.3 % | ±0.25 % |

[1] The data for systematic and random errors, according to EN ISO 8655, only apply if original Eppendorf Combitips advanced are used.



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# Multipette® M4

| Volume table for using the Combitips advanced with the Multipette M4 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Position of the volume selection dial:** | | | | | | | | | | |
| | **0.5** | **1** | **1.5** | **2** | **2.5** | **3** | **3.5** | **4** | **4.5** | **5** |
| **Maximum number of dispensing steps:** | | | | | | | | | | |
| | **100** | **50** | **33** | **25** | **20** | **16** | **14** | **12** | **11** | **10** |
| **Combitips advanced with the following dispensing volumes:** | | | | | | | | | | |
| 0.1 mL | 1 µL | 2 µL | 3 µL | 4 µL | 5 µL | 6 µL | 7 µL | 8 µL | 9 µL | 10 µL |
| 0.2 mL | 2 µL | 4 µL | 6 µL | 8 µL | 10 µL | 12 µL | 14 µL | 16 µL | 18 µL | 20 µL |
| 0.5 mL | 5 µL | 10 µL | 15 µL | 20 µL | 25 µL | 30 µL | 35 µL | 40 µL | 45 µL | 50 µL |
| 1.0 mL | 10 µL | 20 µL | 30 µL | 40 µL | 50 µL | 60 µL | 70 µL | 80 µL | 90 µL | 100 µL |
| 2.5 mL | 25 µL | 50 µL | 75 µL | 100 µL | 125 µL | 150 µL | 175 µL | 200 µL | 225 µL | 250 µL |
| 5.0 mL | 50 µL | 100 µL | 150 µL | 200 µL | 250 µL | 300 µL | 350 µL | 400 µL | 450 µL | 500 µL |
| 10 mL | 100 µL | 200 µL | 300 µL | 400 µL | 500 µL | 600 µL | 700 µL | 800 µL | 900 µL | 1.0 mL |
| 25 mL[1)] | 250 µL | 500 µL | 750 µL | 1.0 mL | 1.25 mL | 1.5 mL | 1.75 mL | 2.0 mL | 2.25 mL | 2.5 mL |
| 50 mL[1)] | 500 µL | 1.0 mL | 1.5 mL | 2.0 mL | 2.5 mL | 3.0 mL | 3.5 mL | 4.0 mL | 4.5 mL | 5.0 mL |

[1)] 25 and 50 mL Combitips can only be used with the corresponding adapter. Further information about Combitips advanced see page 77.

| Volume table for using the Combitips advanced with the Multipette M4 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Position of the volume selection dial:** | | | | | | | | | | |
| | **5.5** | **6** | **6.5** | **7** | **7.5** | **8** | **8.5** | **9** | **9.5** | **10** |
| **Maximum number of dispensing steps:** | | | | | | | | | | |
| | **9** | **8** | **7** | **7** | **6** | **6** | **5** | **5** | **5** | **5** |
| **Combitips advanced with the following dispensing volumes:** | | | | | | | | | | |
| 0.1 mL | 11 µL | 12 µL | 13 µL | 14 µL | 15 µL | 16 µL | 17 µL | 18 µL | 19 µL | 20 µL |
| 0.2 mL | 22 µL | 24 µL | 26 µL | 28 µL | 30 µL | 32 µL | 34 µL | 36 µL | 38 µL | 40 µL |
| 0.5 mL | 55 µL | 60 µL | 65 µL | 70 µL | 75 µL | 80 µL | 85 µL | 90 µL | 95 µL | 100 µL |
| 1.0 mL | 110 µL | 120 µL | 130 µL | 140 µL | 150 µL | 160 µL | 170 µL | 180 µL | 190 µL | 200 µL |
| 2.5 mL | 275 µL | 300 µL | 325 µL | 350 µL | 375 µL | 400 µL | 425 µL | 450 µL | 475 µL | 500 µL |
| 5.0 mL | 550 µL | 600 µL | 650 µL | 700 µL | 750 µL | 800 µL | 850 µL | 900 µL | 950 µL | 1.0 mL |
| 10 mL | 1.1 mL | 1.2 mL | 1.3 mL | 1.4 mL | 1.5 mL | 1.6 mL | 1.7 mL | 1.8 mL | 1.9 mL | 2.0 mL |
| 25 mL[1)] | 2.75 mL | 3.0 mL | 3.25 mL | 3.5 mL | 3.75 mL | 4.0 mL | 4.25 mL | 4.50 mL | 4.75 mL | 5.0 mL |
| 50 mL[1)] | 5.5 mL | 6.0 mL | 6.5 mL | 7.0 mL | 7.5 mL | 8.0 mL | 8.5 mL | 9.0 mL | 9.5 mL | 10.0 mL |

[1)] 25 and 50 mL Combitips can only be used with the corresponding adapter. Further information about Combitips advanced see page 77.

| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **Multipette® M4,** single-channel, 1 µL – 10 mL | 4982 000 012 |
| **Multipette® M4 Starter Kit,** single-channel, Multipette® M4, Combitips® Rack, Combitips® assortment pack, 1 µL – 10 mL, holder for Carousel 2, Charger Carousel 2 or wall mounting | 4982 000 314 |
| **Pipette Holder 2,** for one Multipette® M4, for Pipette Carousel 2 and Charger Carousel 2 or wall mounting, sticky tape included | 3116 000 147 |
| **Battery 3V,** CR2032 | 4980 215 003 |

Technical specifications subject to change.



# Multipette® E3/Multipette® E3x

**The expert for long series pipetting and liquids with demanding properties**
Dispensing without compromise on accuracy and precision! With the electronic Multipette E3/E3x you save time and money, work stress-free, and get reliable results. It is the ideal and smart solution for filling plates or large series of tubes. The light weight and minimal operation forces of the Multipette E3 reduce the risk of repetitive strain injuries. The Multipette/Combitips® system builds the perfect harmony allowing automatic tip recognition for ease of use. The syringe style Combitips tip maximizes pipetting accuracy and precision. It is not affected by liquid properties, most manual pipetting errors and provides protection from aerosol contamination.




**Product features**
> Automatic Combitips recognition: Eliminates time-consuming volume calculations, avoiding incorrect dispensing volumes
> Ergonomic one-button tip ejector: For one-handed operation and contact-free Combitips advanced ejection
> Speed adjustment: Program aspiration and dispensing speed for the utmost in precision and accuracy while also preventing splashing
> Fill the tip once and dispense up to 100 times without a refill
> 1 µL to 50 mL dispensing range providing up to 5,000 dispensing volumes with increments as low as 100 nanoliters
> Motor-driven function reduces the human error to a minimum and reduces risk of repetitive strain injuries (RSI)
> Safe and ergonomic operation with 9 different selectable languages
> Positive displacement system: Not affected by liquid properties, most manual pipetting errors and provides protection from aerosol contamination
> Eppendorf TrackIT compatible: Editable data chip contains all relevant information (www.eppendorf.com/trackit)

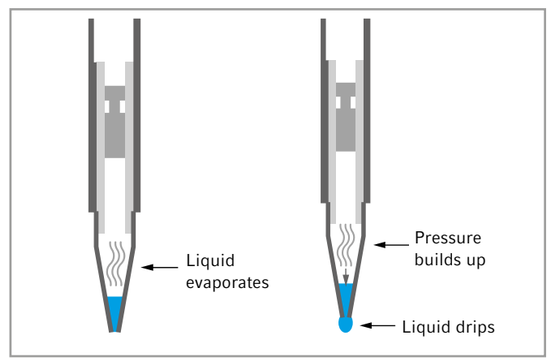
**Applications**
> Repetitive dispensing of volumes in long series such as tube or plate filling, aliquoting reagents and kit usage
> Contamination-free dispensing for toxic, radioactive and other hazardous liquids
> Precise and accurate dispensing of viscous solutions or liquids with high vapor pressure
> Pooling of supernatants
> Creation of dilution series
> Concentration determination
> Pooling and volume determination with subsequent dispensing

# Correct Handling of Difficult Liquids

**Liquids with high vapor pressure**

**Problem**
Liquids with high vapor pressure force air cushion to expand (e.g. acetone)

**Recommendation**
Usage of a positive displacement pipette eliminates the problem due to absence of air cushion



# Multipette® E3/Multipette® E3x



**Work precisely and safely**
The optimized system of Multipette and Combitips advanced allows automatic tip recognition for ease of use. The syringe style Combitips tip maximizes pipetting accuracy and precision. It is not affected by liquid properties, most manual pipetting errors and provides protection from aerosol contamination.

| Eppendorf Combitips advanced® | Min. volume | Max. volume | Increment | Volume | Systematic error [1] | Random error [1] |
|---|---|---|---|---|---|---|
| 0.1 mL | 1 µL | 100 µL | 0.1 µL | 1 µL | ±11.0 % | ±14.0 % |
| | | | | 10 µL | ±1.6 % | ±2.5 % |
| | | | | 50 µL | ±1.0 % | ±1.5 % |
| | | | | 100 µL | ±1.0 % | ±0.5 % |
| 0.2 mL | 2 µL | 200 µL | 0.2 µL | 2 µL | ±4.0 % | ±5.5 % |
| | | | | 20 µL | ±1.3 % | ±1.5 % |
| | | | | 100 µL | ±1.0 % | ±1.0 % |
| | | | | 200 µL | ±1.0 % | ±0.5 % |
| 0.5 mL | 5 µL | 500 µL | 0.5 µL | 5 µL | ±3.0 % | ±6.0 % |
| | | | | 50 µL | ±0.9 % | ±0.8 % |
| | | | | 250 µL | ±0.9 % | ±0.5 % |
| | | | | 500 µL | ±0.9 % | ±0.3 % |
| 1 mL | 10 µL | 1 mL | 1 µL | 10 µL | ±3.5 % | ±7.0 % |
| | | | | 100 µL | ±0.9 % | ±0.55 % |
| | | | | 500 µL | ±0.6 % | ±0.30 % |
| | | | | 1,000 µL | ±0.6 % | ±0.20 % |
| 2.5 mL | 25 µL | 2.5 mL | 2.5 µL | 25 µL | ±2.0 % | ±3.5 % |
| | | | | 250 µL | ±0.8 % | ±0.45 % |
| | | | | 1,250 µL | ±0.5 % | ±0.30 % |
| | | | | 2,500 µL | ±0.5 % | ±0.15 % |
| 5 mL | 50 µL | 5 mL | 5 µL | 50 µL | ±2.5 % | ±6.0 % |
| | | | | 500 µL | ±0.8 % | ±0.35 % |
| | | | | 2,500 µL | ±0.50 % | ±0.25 % |
| | | | | 5,000 µL | ±0.50 % | ±0.15 % |
| 10 mL | 100 µL | 10 mL | 10 µL | 100 µL | ±1.5 % | ±3.5 % |
| | | | | 1,000 µL | ±0.5 % | ±0.25 % |
| | | | | 5,000 µL | ±0.4 % | ±0.25 % |
| | | | | 10,000 µL | ±0.4 % | ±0.15 % |
| 25 mL | 250 µL | 25 mL | 25 µL | 250 µL | ±2.5 % | ±3.0 % |
| | | | | 2,500 µL | ±0.3 % | ±0.35 % |
| | | | | 12,500 µL | ±0.3 % | ±0.25 % |
| | | | | 25,000 µL | ±0.3 % | ±0.15 % |
| 50 mL | 500 µL | 50 mL | 50 µL | 500 µL | ±2.0 % | ±3.0 % |
| | | | | 5,000 µL | ±0.3 % | ±0.50 % |
| | | | | 25,000 µL | ±0.3 % | ±0.20 % |
| | | | | 50,000 µL | ±0.3 % | ±0.15 % |

[1] The data for systematic and random errors, according to EN ISO 8655, only apply if original Eppendorf Combitips advanced are used.





| Multipette E3 and Multipette E3x at a glance | Multipette E3 | Multipette E3x |
|---|---|---|
| High-speed dispensing with motorized piston | ■ | ■ |
| Automatic Combitips advanced® tip recognition | ■ | ■ |
| One-button tip ejection | ■ | ■ |
| Volume range from 1 µL to 50 mL, over 5,000 possible dispensing volumes | ■ | ■ |
| Big illuminated color display in 9 languages | ■ | ■ |
| Sleep mode saves battery when not in use | ■ | ■ |
| Long life Li-ion battery | ■ | ■ |
| Speed adjustment to match the viscosity of your liquid and the size of your vessel to prevent air bubbles and splashing | ■ | ■ |
| Options (Opt): Save favorite settings, set service intervals, activate key lock and more | ■ | ■ |
| Modes of operation | 3 | 7 |
| Pipetting (Pip): Precise liquid transfer of up to 50 mL | ■ | ■ |
| Dispensing (Dis): Serial dispensing for up to 100 steps in a row | ■ | ■ |
| Automatic dispensing (Ads): Volume is dispensed at fixed intervals between 0.1 s and 10 s | ■ | ■ |
| Sequential dispensing (Seq): Individual volume setting for up to 16 dispensing steps | | ■ |
| Aspirate (Asp): consecutive aspiration of liquid for pooling into one Combitip | | ■ |
| Aspirate and Dispense (A/D): Uptake and volume calculation of an unknown volume with immediate dispense in desired partial volumes | | ■ |
| Titration (Tit): Sensitive dosing of liquids while dispensed volume is measured | | ■ |

**Ordering information**

| Description | Order no. |
|---|---|
| **Multipette® E3**, single-channel, with charging cable and Combitips advanced® assortment pack (1 Combitips® of each size), 1 µL – 50 mL | 4987 000 010 |
| **Multipette® E3 bundle incl. charger stand**, single-channel, with charging cable and Combitips advanced® assortment pack (1 Combitips® of each size), 1 µL – 50 mL | 4987 000 371 |
| **Multipette® E3x**, single-channel, with charging cable and Combitips advanced® assortment pack (1 Combitip of each size), 1 µL – 50 mL | 4987 000 029 |
| **Multipette® E3x bundle incl. charger stand**, single-channel, with charging cable and Combitips advanced® assortment pack (1 Combitip of each size), holder for Carousel 2, Charger Carousel 2 or wall mounting, 1 µL – 50 mL | 4987 000 380 |
| **Pipette Holder 2**, for one Multipette® E3/E3x or Multipette® stream/Xstream, for Pipette Carousel 2 or wall mounting, sticky tape included, without charging functionality | 3116 000 139 |
| **Power supply with power plug adapters**, for pipettes and charger stand | 4986 603 005 |

➤ Further information about Combitips advanced see on page 77

# ViscoTip®

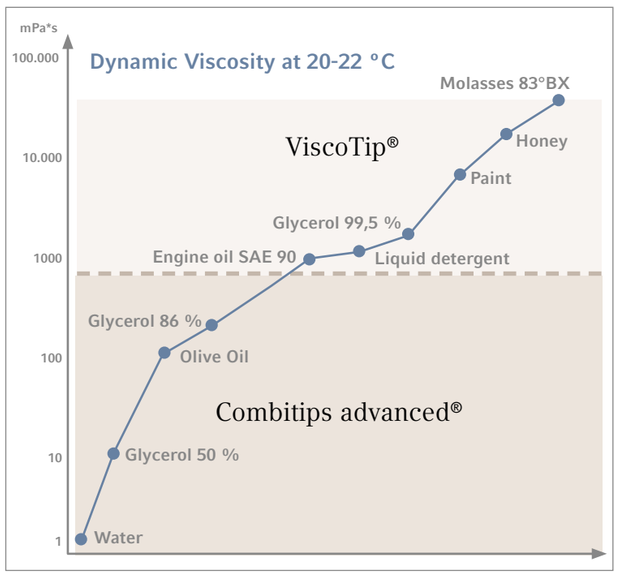
**For mastering highly viscous liquids with your Multipette® from Eppendorf**
Experience the new member of the Combitips advanced® dispenser tip family. The ViscoTip is specifically designed and optimized for handling high viscosity liquids up to 14,000 mPa*s such as glycerol 99.5 %, Tween, oils, creams, shampoos or honey. It sharply reduces operating forces while handling such liquids leading to enhanced ergonomics, increased working speed and longer charge lifetime of your Multipette battery.




**Product features**
> Specialized for liquids with a dynamic viscosity from 200 mPa*s to 14,000 mPa*s
> For dispensing volumes from 100 µL to 10 mL in increments of 10 µL
> Make life easier for your instrument: The new design of the tip means significantly lower operation forces are used, thus it speeds up work and reduces energy consumption
> Don't waste time calculating: Automatic tip recognition and volume calculation in Multipette M4/E3/E3x
> Free of leachables and slip agents: The ViscoTip is free of experiment-interfering leachables (e.g. slip agents, biocides, plasticisers)
> Save time finding the right tip: The color coded double ring and the continuous volume scale distinguish the ViscoTip from Combitips advanced

**Applications**
> Positive displacement principle (comparable to a syringe)
> For highly viscous liquids
> Quick dispensing of long series with precise, repeated dispensing of identical volumes (with Multipette hand dispensers)




Technical specifications subject to change.



# Combitips advanced®

**The ideal system components for all Multipette pipettes from Eppendorf**
In 1978 Eppendorf revolutionized the industry and laboratory workflow with the introduction of the Combitip/Multipette system and has been the leader in market innovations for nearly 40 years. The Combitips advanced have been completely redesigned and optimized to meet the needs of modern laboratory. The Combitips advanced also function according to the positive displacement principle, thus they always dispense the correct volume independently of the density of the liquid and its flow characteristics (e.g., increased vapor pressure or increased viscosity). Working with radioactive or toxic materials also becomes safer due to the hermetically sealed piston preventing aerosol contamination.




**Product features**
> Combitips advanced are the ideal system components for all Multipette pipettes of Eppendorf
> The 9 volume sizes (0.1 mL – 50 mL) offer a maximum range of dispensing volumes with increments as low as 100 nanoliters depending on the Combitips used
> Elongated Combitips in volumes 2.5 mL, 5.0 mL and 10 mL make it possible to reach the bottom of the most common laboratory vessels
> An individual color coding facilitates the quick identification of the desired Combitips
> The unique funnel geometry ensures comfortable handling while preventing damage to gloves
> Combitips advanced are offered in different purity grades to support a range of applications
> The appropriate purity grade for each application: Eppendorf Quality™, PCR Clean, Forensic DNA Grade or Biopur®

**Applications**
> Positive displacement principle (comparable to a syringe)
> High-precision dispensing regardless of the physical properties of the liquid (e.g., viscosity, volatility, density, temperature...)
> Prevents aerosol contamination with hermetically sealed piston for secure dispensing
> Provides protection from radioactive and toxic substances
> Quick dispensing of long series with precise, repeated dispensing of identical volumes (with Multipette hand dispensers)

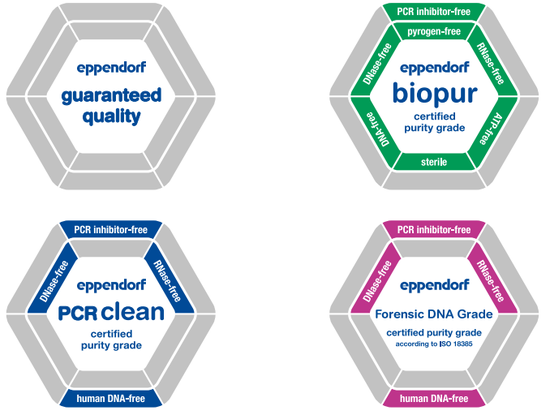



**Always easy to reach**
The new Combitips Rack features trouble-free and single-hand operation during dispensing work. The rack holds up to 8 Combitips advanced in sizes ranging from 0.1 mL to 10 mL. The transparent tray allows for the sizes of the Combitips to be easily identified using the color coding.

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# Combitips advanced®






**Unmistakably Eppendorf**
The Eppendorf Combitips advanced features the characteristic Eppendorf 3D design on the upper rim of the Combitips, allowing you to easily and confidently recognize the Eppendorf original!

**Variety and selection**
4 purity grades (Eppendorf Quality, PCR clean, Biopur® and Eppendorf Forensic DNA Grade) are available, so that you will always find the perfect Combitips Tip for your application! The Eppendorf Biopur and Forensic DNA Grade Combitips advanced are individually blister-wrapped and feature an access tab which makes them easier to open, even with gloves!

**Technical Specifications**

| Combitips advanced® | Eppendorf Safe-Lock Tubes | | | Conical Tubes | | Eppendorf Deepwell Plates | | |
|---|---|---|---|---|---|---|---|---|
| | 0.5 mL | 1.5 mL | 2.0 mL | 15 mL | 50 mL | 96/500 µL | 96/1000 µL | 96/2000 µL |
| 0.1 mL | + | + | + | - | - | + | + | + |
| 0.2 mL | + | + | + | - | - | + | + | + |
| 0.5 mL | + | + | + | - | - | + | + | + |
| 1.0 mL | + | + | + | - | - | + | + | + |
| 2.5 mL | ++ | ++ | ++ | ++ | ++ | + | ++ | ++ |
| 5.0 mL | + | + | + | ++ | ++ | + | + | + |
| 10 mL | + | + | + | - | ++ | + | + | + |
| 25 mL | - | + | + | - | - | + | + | + |
| 50 mL | - | + | + | - | - | + | + | + |
| 10 mL | + | + | + | - | ++ | + | + | + |

++ = improved compatibility compared to Combitip plus generation

Technical specifications subject to change.





**Ordering information**

| Combitips advanced® | Color code | Eppendorf Quality™ | PCR clean | Biopur® | Forensic DNA Grade |
|---|---|---|---|---|---|
| | | 100 pcs. (4 bags × 25 pcs.) | 100 pcs. (4 reclosable bags × 25 pcs.) | 100 pcs., individually blister-wrapped | 100 pcs., individually blister-wrapped |
| 0.1 mL | white | 0030 089 405 | 0030 089 766 | 0030 089 618 | |
| 0.2 mL | light blue | 0030 089 413 | 0030 089 774 | 0030 089 626 | |
| 0.5 mL | violet | 0030 089 421 | 0030 089 782 | 0030 089 634 | |
| 1.0 mL | yellow | 0030 089 430 | 0030 089 790 | 0030 089 642 | 0030 089 855 |
| 2.5 mL | green | 0030 089 448 | 0030 089 804 | 0030 089 650 | 0030 089 863 |
| 5.0 mL | blue | 0030 089 456 | 0030 089 812 | 0030 089 669 | 0030 089 871 |
| 10 mL | orange | 0030 089 464 | 0030 089 820 | 0030 089 677 | |
| 25 mL [1] | red | 0030 089 472 | 0030 089 839 | 0030 089 685 | |
| 50 mL [1] | light gray | 0030 089 480 | 0030 089 847 | 0030 089 693 | |
| **ViscoTip®** | | | | | |
| 10 mL | orange | 0030 089 502 | | | |
| **Accessories** | | | | | |
| **Adapter advanced** | | | | | |
| 25 mL, autoclavable, 1 piece | red | 0030 089 715 | | | |
| 25 mL, autoclavable, 7 pcs., individually wrapped | red | | | 0030 089 731 | |
| 50 mL, autoclavable, 1 piece | light gray | 0030 089 723 | | | |
| 50 mL, autoclavable, 7 pcs., individually wrapped | light gray | | | 0030 089 740 | |
| **Combitips advanced® Rack**, for 8 Combitips advanced (0.1 – 10 mL) | | 0030 089 758 | | | |
| **Combitips advanced® Assortment Pack**, contains one sample of each size, adapter advanced 25 and 50 mL, one piece each | | 0030 089 936 | | | |

[1] 4 boxes of 25 pcs. each. Each box containing one adapter.

# Varipette® 4720




**The large volume pipette for large bottles or tall, narrow vessels**
The Varipette® 4720 is a large volume pipette optimized for work with viscous or high-vapor pressure solutions. It also allows for aspirating liquids from large bottles or tall, narrow vessels when using the Varitip S system. Its super easy, one-hand operation significantly speeds up pipetting tasks: Simply press down the operating lever to aspirate liquid from the reservoir. Press the lever again and the liquid will be dispensed into your sample vessel.

**Product features**
> Volume range: 1 mL to 10 mL
> Fast pipetting and convenient operation due to unique one-hand operation. Liquid automatically aspirates and dispenses by simply pressing the operating lever
> 4-digit volume display and adjustable in 10 µL increments for accurate volume setting
> Eppendorf Varitips® P (fig.1) is a syringe-style, positive displacement tip that allows for accurate pipetting of viscous solutions or liquids with high-vapor pressure
> The Eppendorf Varitips S system, consisting of the dispensing part (fig.2) and Maxitip (fig.3), is optimized for aspirating liquids from large bottles or tall, narrow vessels
> The valve for use together with the Varitips S system ensures drip-free dispensing of volatile solutions

| Combination | Volume range | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] |
|---|---|---|---|---|---|---|
| Varipette 4720 and Varitips S system | 2.5 – 10 mL | 2.5 mL | ±1.0 % | 0.025 mL | ±0.2 % | 0.005 mL |
| | | 5 mL | ±0.4 % | 0.02 mL | ±0.2 % | 0.01 mL |
| | | 10 mL | ±0.3 % | 0.03 mL | ±0.2 % | 0.02 mL |
| Varipette 4720 and Varitips P | 1 – 10 mL | 1 mL | ±0.6 % | 0.006 mL | ±0.2 % | 0.002 mL |
| | | 5 mL | ±0.5 % | 0.025 mL | ±0.1 % | 0.005 mL |
| | | 10 mL | ±0.3 % | 0.03 mL | ±0.1 % | 0.01 mL |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

**Ordering information**

| Description | Order no. |
|---|---|
| **Varipette® 4720**, single-channel, with continuous volume selection in the 1 – 10 mL range, 1 – 10 mL | 4720 000 011 |
| **Eppendorf Varitips® P**, to remove liquid from smaller vessels, 100 pieces | 0030 048 130 |
| **Eppendorf Varitips® S Starter Kit**, to remove liquid from narrow-necked vessels and measuring flasks, consisting of 100 Maxitips, 10 dispensing parts, 10 valves | 0030 050 525 |
| **Eppendorf Varitips® S dispensing part**, 30 pieces | 0030 050 533 |
| **Eppendorf Varitips® S**, graduated, 200 pieces | 0030 050 568 |
| **Eppendorf Varitips® S valve**, 100 pieces | 0030 050 541 |

# Eppendorf TrackIT




**Description**
Manage your Eppendorf pipettes with Eppendorf TrackIt. Instantly know the essential information of each pipette without searching the pipette in the whole lab. Eppendorf pipettes have a data chip molded in that can be read or edited by the TrackIt reader. All information is centrally stored in the TrackIt Software and can automatically be transferred in your lab data base. To increase the traceability of your pipette portfolio Eppendorf offers Eppendorf TrackIT. This product contains a RFID reader and software.

**Applications**
> Central documentation of all relevant pipette inventory data
> Make all relevant instrument information available for digital documentation
> Documentation of service history
> Unambiguous instrument identification
> Traceability of instruments used in an experiment
> Undetachable individual identification of the instrument

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf TrackIT**, RFID Reader and Software | 3903 000 014 |

Technical specifications subject to change.



# Easypet® 3

**Designed to work in perfect harmony with your Eppendorf Serological Pipets**
Experience a new dimension of electronic pipetting with the Easypet® 3. The latest technological developments give you complete speed control with the utmost precision. The lightweight, well-balanced Easypet 3 has been designed considering all ergonomic findings to fit comfortably in your hand and matches its shape to allow for fatigue-free pipetting.




**Product features**
> Intuitive and convenient speed adjustment simply done with the tips of your fingers
> Lightweight, well-balanced and ergonomic design that allows for fatigue-free pipetting
> Vibrant backlit LEDs provide optical feedback of the remaining battery life
> Lithium polymer rechargeable battery offers long cordless runtime
> Smooth setting of pump speed
> Operation while recharging is possible
> Autoclavable pipette adapter for sterile applications
> Quick release of aspirating cone for easy exchange of membrane filters

**Applications**
> Pipette controller for use with pipettes from 0.1 – 100 mL
> Serial dispensing of aliquots of different volumes
> Resuspension of bacteria or cell pellets
> Aspiration of cell layer from, e.g., Ficoll® gradient

| Technical specifications | |
|---|---|
| **Model** | **Easypet® 3** |
| **Weight** | 160 g |
| **Rechargeable battery** | |
| **Capacity** | 1,100 mAh/3.7 V |
| **Charging time** | ~3 h |
| **Type** | Lithium polymer |
| **Channel type** | single-channel |
| **Number of dispensings** | ~2,000 (with a 25 mL pipette) |
| **Operation** | Electronic |
| **Pipetting type** | Air-cushion |
| **Mains/power supply** | |
| **Input** | 100 V – 240 V AC ± 10 %, 50 Hz – 60 Hz, 0.5 A |
| **Output** | 5 V DC, 1.0 A |

**Ordering information**

| Description | Order no. |
|---|---|
| **Easypet® 3**, single-channel, incl. mains/power supply device, wall mounting device, shelf stand, 2 membrane filters 0.45 µm, 0.1 – 100 mL | 4430 000 018 |
| **Membrane filter**, sterile, 5 pcs., 0.2 µm | 4430 606 005 |
| **Membrane filter**, sterile, 5 pcs., 0.45 µm | 4421 601 009 |
| **Lithum polymer rechargeable battery** | 4430 605 009 |

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# Pipet Helper®

**A perfect entry-level model**
The Pipet Helper is the perfect instrument for inexperienced users as its robust and intuitive design allows everybody to adjust the meniscus precisely. In addition, the valve unit is optimized so that liquids can be drawn up simply, without exerting pressure. The aspiration bulb provides rapid filling of the pipet. The aspiration and dispensing of liquids are controlled gently by the ergonomic lever. Additionally, a splash free blow-out is provided. The specially designed aspirating cone ensures secure seating for all measuring and volumetric pipets (glass and plastic).




**Product features**
> Lightweight with reduced operating force
> Easy maintenance and cleaning due to easy disassembly, few parts and fully autoclavable
> Comfortable working because of the good balance and pleasing material
> The aspirating bulb enables pipetting of volumes up to 100 mL at once
> Single lever controls low force aspirating and dispensing
> High control over the liquid movement due to very sensitive valve unit
> Drop wise dispensing and blow out without splashing
> Drainage without any additional pressure delivers very reproducible results
> Drip stop via hydrophobic membrane filter (3 µm)
> The special silicon pipet adapter guarantees a secure pipette fit

**Applications**
> Preparation of a buffer for chromatography
> Preparation of a fluid for fermentation
> Sample transfer within petrochemistry
> Generate a sample within water analytics
> Preparation of assays

**Ordering information**

| Description | Order no. |
|---|---|
| **Pipet Helper®**, single-channel, 0.1 – 100 mL | 4423 000 010 |
| **Membrane filter**, 3 µm, non-sterile, 10 pieces | 4423 601 014 |





# Eppendorf Serological Pipets

**Designed to work in perfect harmony with your Easypet® 3**
Eppendorf completes its portfolio in liquid handling with the new line of Eppendorf Serological Pipets. Experience the quality and convenience in liquid handling you have trusted in for decades with Eppendorf's system: Easypet 3 and Eppendorf Serological Pipets. Eppendorf serological pipets are designed to work in perfect harmony with your Easypet 3. The pipets offer precise graduations overlaid on the ultra-clear pipet material to facilitate quick and easy reading of the volume. The pipets are individually wrapped and packaged in a robust dispenser box to ensure consistent premium quality.




**Product features**
> Clear and precise graduations for easy volume determination
> Color-coding for easy identification of pipet sizes
> Subunits with dispenser option to keep stored products safe
> Individually wrapped pipets for reliable sterility
> Ultra-pure virgin polystyrene meeting the requirement of USP VI
> Harmonized and well-fitting operation with Easypet 3, compatibility with all existing pipet helpers
> Sterility assurance level of $10^{-6}$
> Certified absence of detectable pyrogens, DNA, RNase and DNase
> Certified non-cytotoxic

**Ordering information**

| Description | Color code | Volume | Order no. |
|---|---|---|---|
| **Eppendorf Serological Pipets**, sterile, free of detectable pyrogens, DNA, RNase and DNase. Non-cytotoxic | | | |
| Sterile, 800 pcs. (4 bags × 200 pcs.) | yellow | 1 mL | 0030 127 692 |
| Sterile, 600 pcs. (4 bags × 150 pcs.) | green | 2 mL | 0030 127 706 |
| Sterile, 400 pcs. (4 bags × 100 pcs.) | blue | 5 mL | 0030 127 714 |
| Sterile, 400 pcs. (4 bags × 100 pcs.) | orange | 10 mL | 0030 127 722 |
| Sterile, 200 pcs. (4 bags × 50 pcs.) | red | 25 mL | 0030 127 730 |
| Sterile, 160 pcs. (4 bags × 40 pcs.) | violet | 50 mL | 0030 127 749 |

# Varispenser® 2/Varispenser® 2x

**Safe and easy dispensing of liquids from bottles without compromise**
The new Varispenser 2 and Varispenser 2x are the ideal choice for dispensing aliquots of liquid from supply and reagent bottles. Advanced sealing lip technology enables dispensing of nearly all kinds of acids, solutions or bases. Available in 6 sizes for dispensing volumes from 0.2 – 100 mL, these instruments are designed to consistently dispense selected volumes without reagent waste. All Varispenser bottletop dispensers are fully autoclavable for maximized safety in your lab. The Varispenser 2x has a recirculation valve which prevents reagent loss while ventilating.




**Product features**
> Standard GL 45 thread for most common bottle threads on all sizes
> Safety valve balls in discharge valve prevent leakage when discharge tube is not mounted
> Air vent cap can be unscrewed for easy assembly of drying tube
> Oval-shaped dispenser housing for easy transportation
> PFA seal of the sliding piston prevents seizing up
> Fixation slide on interior toothed track for rapid and safe volume adjustment
> High chemical resistance of all dispensing components
> Telescopic aspirating tubes for variable adjustment to bottle height
> Fully autoclavable without disassembly
> Both models are available in 6 sizes for dispensing volumes from 0.2 – 100 mL

**Applications**
> Liquid dispensing directly from supply bottles or other big laboratory vessels containing aqueous liquids, lyes, acids, bases or solvents



**Ordering information**

| Volume range | Volume | Dispensing step | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Varispenser® 2**, single-channel, bottle top dispenser with adapters GL 25, GL 28/S 28, GL 32, GL 38, S 40 and telescopic intake tube (length 125 – 240 mm) | | | | | | | |
| 0.2 – 2 mL | 0.2 mL | 0.05 mL | ±5 % | ±10 µL | ±1 % | ±2 µL | 4966 000 010 |
| | 1 mL | 0.05 mL | ±1 % | ±10 µL | ±0.2 % | ±2 µL | |
| | 2 mL | 0.05 mL | ±0.5 % | ±10 µL | ±0.1 % | ±2 µL | |
| 0.5 – 5 mL | 0.5 mL | 0.1 mL | ±5 % | ±25 µL | ±1 % | ±5 µL | 4966 000 029 |
| | 2.5 mL | 0.1 mL | ±1 % | ±25 µL | ±0.2 % | ±5 µL | |
| | 5 mL | 0.1 mL | ±0.5 % | ±25 µL | ±0.1 % | ±5 µL | |
| 1 – 10 mL | 1 mL | 0.2 mL | ±5 % | ±50 µL | ±1 % | ±10 µL | 4966 000 037 |
| | 5 mL | 0.2 mL | ±1 % | ±50 µL | ±0.2 % | ±10 µL | |
| | 10 mL | 0.2 mL | ±0.5 % | ±50 µL | ±0.1 % | ±10 µL | |
| **Varispenser® 2**, single-channel, bottle top dispenser with adapters GL 32, GL 38, S 40 and telescopic intake tube (length 170 – 330 mm) | | | | | | | |
| 2.5 – 25 mL | 2.5 mL | 0.5 mL | ±5 % | ±120 µL | ±1 % | ±25 µL | 4966 000 045 |
| | 12.5 mL | 0.5 mL | ±1 % | ±120 µL | ±0.2 % | ±25 µL | |
| | 25 mL | 0.5 mL | ±0.5 % | ±120 µL | ±0.1 % | ±25 µL | |
| 5 – 50 mL | 5 mL | 1 mL | ±5 % | ±250 µL | ±1 % | ±50 µL | 4966 000 053 |
| | 25 mL | 1 mL | ±1 % | ±250 µL | ±0.2 % | ±50 µL | |
| | 50 mL | 1 mL | ±0.5 % | ±250 µL | ±0.1 % | ±50 µL | |
| 10 – 100 mL | 10 mL | 1 mL | ±5 % | ±500 µL | ±1 % | ±100 µL | 4966 000 061 |
| | 50 mL | 1 mL | ±1 % | ±500 µL | ±0.2 % | ±100 µL | |
| | 100 mL | 1 mL | ±0.5 % | ±500 µL | ±0.1 % | ±100 µL | |
| **Varispenser® 2x**, single-channel, bottle top dispenser with recirculation valve with adapters GL 25, GL 28/S 28, GL 32, GL 38, S 40 and telescopic intake tube (length 125 – 240 mm) | | | | | | | |
| 0.2 – 2 mL | 0.2 mL | 0.5 mL | ±5 % | ±10 µL | ±1 % | ±2 µL | 4967 000 014 |
| | 1 mL | 0.5 mL | ±1 % | ±10 µL | ±0.2 % | ±2 µL | |
| | 2 mL | 0.5 mL | ±0.5 % | ±10 µL | ±0.1 % | ±2 µL | |
| 0.5 – 5 mL | 0.5 mL | 0.1 mL | ±5 % | ±25 µL | ±1 % | ±5 µL | 4967 000 022 |
| | 2.5 mL | 0.1 mL | ±1 % | ±25 µL | ±0.2 % | ±5 µL | |
| | 5 mL | 0.1 mL | ±0.5 % | ±25 µL | ±0.1 % | ±5 µL | |
| 0.1 – 10 mL | 1 mL | 0.2 mL | ±5 % | ±50 µL | ±1 % | ±10 µL | 4967 000 030 |
| | 5 mL | 0.2 mL | ±1 % | ±50 µL | ±0.2 % | ±10 µL | |
| | 10 mL | 0.2 mL | ±0.5 % | ±50 µL | ±0.1 % | ±10 µL | |
| **Varispenser® 2x**, single-channel, bottle top dispenser with recirculation valve with adapters GL 32, GL 38, S 40 and telescopic intake tube (length 170 – 330 mm) | | | | | | | |
| 2.5 – 25 mL | 2.5 mL | 0.5 mL | ±5 % | ±120 µL | ±1 % | ±25 µL | 4967 000 049 |
| | 12.5 mL | 0.5 mL | ±1 % | ±120 µL | ±0.2 % | ±25 µL | |
| | 25 mL | 0.5 mL | ±0.5 % | ±120 µL | ±0.1 % | ±25 µL | |
| 5 – 50 mL | 5 mL | 1 mL | ±5 % | ±250 µL | ±1 % | ±50 µL | 4967 000 057 |
| | 25 mL | 1 mL | ±1 % | ±250 µL | ±0.2 % | ±50 µL | |
| | 50 mL | 1 mL | ±0.5 % | ±250 µL | ±0.1 % | ±50 µL | |
| 10 – 100 mL | 10 mL | 1 mL | ±5 % | ±500 µL | ±1 % | ±100 µL | 4967 000 065 |
| | 50 mL | 1 mL | ±1 % | ±500 µL | ±0.2 % | ±100 µL | |
| | 100 mL | 1 mL | ±0.5 % | ±500 µL | ±0.1 % | ±100 µL | |

[1)] The data for systematic error and random error are given according to EN ISO 8655. Technical specifications are subject to change. Errors and omissions excepted. The Varispenser® (plus) is not a substitution for a bottle closure. Volatile liquids can disappear.



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# Eppendorf Top Buret™

**Continuous and pulse-free manual titration**
The Eppendorf Top Buret sets standards for manual titration. With each turn of the dial, liquid is continously dispensed. This eliminates the need for new liquid aspiration and makes titration simpler and safer. The Top Buret comes in two different models: Model M features a dispensing rate of 2,500 µL per rotation; Model H features a rate of 5,000 µL per rotation. The digital display readings on both models range from 10 µL to 999.9 mL with the size of your supply bottle being the only limiting factor. Its clearly labeled user-friendly digital display and simple knob control provides for easy, ergonomic and fatigue-free operation.



**Product features**
> Continuous, pulse-free dispensing technology
> Recirculation valve with valve lever
> Voltage supply with longerlife battery and battery status indicator
> Dispensing range 0.1 mL to 999.9 mL
> Electronic control pad can be removed as unit
> Service-friendly modular design incl. simple calibration program
> High chemical resistance
> Variable discharge tube, horizontal 142 – 220 mm, vertical 10 – 200 mm and rotatable by 360°
> Telescopic aspirating tube for automatic length adjustment of 210 – 370 mm
> Suitable for GL 32, GL 38, GL 45 and S 40 buttress thread with included adapters. Additional adapters available

**Ordering information**

| Volume range | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|
| **Eppendorf Top Buret™ M** | | | | | | |
| 0.1 – 999.9 mL | 2.5 mL | ±2.0 % | ±0.05 mL | ±1.0 % | ±0.025 mL | 4965 000 017 |
| | 12.5 mL | ±0.4 % | ±0.05 mL | ±0.2 % | ±0.025 mL | |
| | 25 mL | ±0.2 % | ±0.05 mL | ±0.1 % | ±0.025 mL | |
| **Eppendorf Top Buret™ H** | | | | | | |
| 0.1 – 999.9 mL | 5 mL | ±2.0 % | ±0.1 mL | ±1.0 % | ±0.05 mL | 4965 000 025 |
| | 25 mL | ±0.4 % | ±0.1 mL | ±0.2 % | ±0.05 mL | |
| | 50 mL | ±0.2 % | ±0.1 mL | ±0.1 % | ±0.05 mL | |

[1)] The data for systematic error and random error are given according to EN ISO 8655. Technical specifications are subject to change. Errors and omissions excepted. The Varispenser® (plus) is not a substitution for a bottle closure. Volatile liquids can disappear.





**Accessories**

| Description | Order no. |
|---|---|
| **Telescopic aspirating tube from FEP**, 125 mm – 240 mm, for 2 mL, 5 mL, 10 mL | 4966 504 000 |
| **Telescopic aspirating tube from FEP**, 170 mm – 330 mm, for 25 mL, 50 mL, 100 mL | 4966 507 000 |
| **Telescopic aspirating tube from FEP**, 195 mm – 350 mm, for 2 mL, 5 mL, 10 mL | 4966 505 007 |
| **Telescopic aspirating tube from FEP**, 250 mm – 480 mm, for 2 mL, 5 mL, 10 mL | 4966 506 003 |
| **Telescopic aspirating tube from FEP**, 250 mm – 480 mm, for 25 mL, 50 mL, 100 mL | 4966 508 006 |
| **Telescopic aspirating tube from FEP**, 70 mm – 140 mm, for 2 mL, 5 mL, 10 mL | 4966 503 004 |
| **Telescopic aspirating tube**, 2.5 mL, 5 mL, 10 mL, 25 mL, 50 mL, 100 mL | 4960 805 009 |
| **Bottle thread adapter**, PP, from GL 32 to GL 25 | 4960 800 040 |
| **Bottle thread adapter**, PP, from GL 32 to GL 27 | 4960 800 139 |
| **Bottle thread adapter**, PP, from GL 32 to GL/S 28 | 4960 800 058 |
| **Bottle thread adapter**, PP, from GL 32 to NS 19/26 | 4960 800 082 |
| **Bottle thread adapter**, PP, from GL 32 to NS 24/29 | 4960 800 090 |
| **Bottle thread adapter**, PP, from GL 32 to NS 29/32 | 4960 800 104 |
| **Bottle thread adapter**, PP, from GL 45 to GL 32 | 4960 800 120 |
| **Bottle thread adapter**, PP, from GL 45 to GL 38 | 4960 800 155 |
| **Bottle thread adapter**, PP, from GL 45 to S 40 | 4960 800 147 |
| **Bottle thread adapter**, ETFE, from GL 32 to GL/S 28 | 4960 835 005 |
| **Bottle thread adapter**, ETFE, from GL 45 to GL 38 | 4960 839 000 |
| **Bottle thread adapter**, PTFE, from GL 45 to S 40 | 4960 834 009 |
| **Bottle thread adapter**, ETFE, from GL 32 to GL 25 | 4966 614 000 |
| **Bottle thread adapter**, ETFE, from GL 45 to GL 32 | 4966 615 007 |
| **Discharge tube**, spiraled | |
| for 2 mL, 5 mL, 10 mL | 4966 501 001 |
| for 25 mL, 50 mL, 100 mL | 4966 502 008 |
| **Drying tube** | |
| without filling, including sealing washer (PFTE) | 4966 509 002 |
| **Drying tube**, without drying agent | 4960 851 000 |
| **Ventilation screw**, for microfilers with Luer connector, PP, with PTFE sealing washer | 4966 511 007 |
| **Thread adapter for jerrycan 5L from 45 mm to 17/8'' thread**, ETFE | 4960 832 006 |

# ep*Motion*® 96 and 96xl




**Product features**
> 0.5 to 300 µL or 5 to 1,000 µL with one system
> Electronic pipetting with synchronous 96 channel piston movement for better precision and reproducibility of results
> Auto-detect function for tip size
> Use two sizes of reload tips for best accuracy
> Intuitive and industry proven software concept and convenient touch screen control
> Intelligent, preset applications: (multi) aspiration, dilution, multi dispense, pipette and mix, manual pipetting, small volume, reverse pipette
> Individual speed setting, set parameters you are comfortable with and that match the liquid class
> Easy and rapid tip load and reloading
> Compact design to fit in a laminar flow hood
> Reduced risk of repetitive strain injury (RSI)

**Applications**
> Replication and reformatting of microplates
> PCR setup in 96 well format
> Cell seeding and media change
> Reagent and compound addition
> 384 wells by 4 times 96 well pipetting
> Cell-based assays
> ELISA handling (plate coating and wash)
> Biochemical assays
> Nucleic acid purification in 96-well format (e.g. magnetic bead-based)





**Ordering information**

| Description | Order no. |
|---|---|
| **ep*Motion*® 96**, 96-channel, semi-automated electronic pipette for parallel 96 channel microplate processing (without iPod® controller), 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.5 – 300 µL | 5069 000 012 |
| **ep*Motion*® 96 with 2-position slider**, 96-channel, with 2-position slider, semi-automated electronic pipette for parallel 96 channel microplate processing (without iPod® controller), 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.5 – 300 µL | 5069 000 110 |
| **ep*Motion*® 96xl**, 96-channel, semi-automated electronic pipette for parallel 96 channel microplate processing (without iPod® controller), 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 5 – 1,000 µL | 5069 000 217 |
| **ep*Motion*® 96xl with 2-position slider**, 96-channel, semi-automated electronic pipette for parallel 96 channel microplate processing (without iPod® controller), 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 5 – 1,000 µL | 5069 000 314 |
| **ep*Motion*® 96 Accessories**, Upgrade set 2-position slider for ep*Motion*® 96 | 5069 074 008 |
| **ep*Motion*® reservoir 195 mL**, low dead volume reservoir, single well with 96 cavities, PCR clean, 4 × 5 reservoirs | 0030 126 556 |

↗ Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com

Technical specifications subject to change.



# ep*Motion*® 5070/5070f




**Product features**
> 4 ANSI/SLAS worktable and unlimited virtual positions
> Maximum pipetting accuracy from 0.2 to 1,000 µL
> Calibrated 1-channel and 8-channel pipetting tools
> Optical sensor[1)] for detecting liquids, labware and tips
> Compatible with tubes (0.2 mL to 50 mL) and microplates with up to 384 wells
> Automatic exchange of two pipetting tools
> Completely contained housing including door safety mechanism (except for 5070f, laminar-flow version)
> Option for compact EasyCon tablet or MultiCon PC controller by touch, mouse or keyboard, upgradable for barcode tracking and GxP software versions

[1)] Patent US 6,819,437 B2






**Applications**
> Serial dilutions
> Distributing reagents
> Assay set-up
> Sample transfer from individual tubes to plates
> Reformatting plates
> (q) PCR set-up and normalization
> Cell-based assay set-up
> Immunoassay set-up
> Setting concentrations or volumes
> Media change, pooling and cherry picking

**Special features for ep*Motion*® 5070f**
> Eppendorf Light barrier beam – monitors the closure of the bench hood for safety
> Pre-programmed cell culture labware
> Sterile pipette tips available
> Autoclavable pipetting tools

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# ep*Motion*® 5073l/5073m




**Product features**
> 6 ANSI/SLAS microplate positions
> Optical sensor[1)] for detecting liquids, labware, tips
> Automatic replacement of 3 pipetting tools and gripper
> Volume range of 0.2 to 1,000 µL for maximum pipetting accuracy
> 3D-MagSep technology, mixing, tempering, and magnetic separation all at one location
> Calibrated 1-channel and 8-channel pipetting tools
> Optional UV lamp and HEPA filter system for decontamination and clean air conditions
> Compatible with tubes (0.2 to 50 mL) and microplates with up to 384 wells

[1)] US patent 6,819,437 B2





**Applications**
> DNA and RNA purification
> PCR set-up
> Serial dilution and normalization of samples
> Sample or reagent transfer
> Sample mixing and tempering
> Assay set-up
> Nucleic acid extraction
> Media change and other cell culture applications
> Next Generation Sequencing library preparation with 5073m NGS solution

**Special features for ep*Motion*® 5073**
> The 6 positions of the ep*Motion*® 5073 systems, automatic tool change, and gripper option open up a wide variety of applications
> Unique combination of magnet finger module and Eppendorf ThermoMixer® allow you to separate, mixing and temper at one position (5073m)
> Thermal module (optional) 5073l

i For more information go to www.eppendorf.com

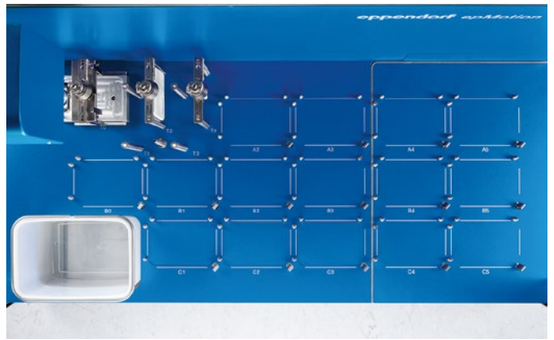
Technical specifications subject to change.

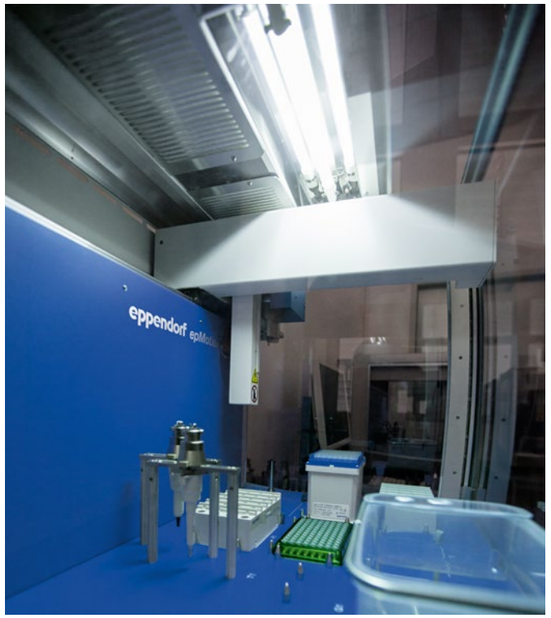


# ep*Motion*® 5075l




**Product features**
> 15 ANSI/SLAS worktable positions
> Maximum pipetting accuracy from 0.2 to 1,000 µL
> Automatic exchange of all tools (gripper, 1-channel and 8-channel)
> Optical sensor[1)] for detecting liquids, labware and tips
> Compatible with tubes (0.2 mL to 50 mL) and microplates with up to 384 wells
> Eppendorf MultiCon PC controller to run epBlue software by touch or mouse
> Optional software extensions for handling samples with barcodes or for integration to LIMS and ELN
> Optional software extensions for supporting regulated process environments (GLP, GMP, 21 CFR part 11)
> CleanCap option – UV lamp and HEPA filter for decontamination and clean air conditions
> 3 thermal module options for heating or cooling (0 – 110 °C) of samples or reagents





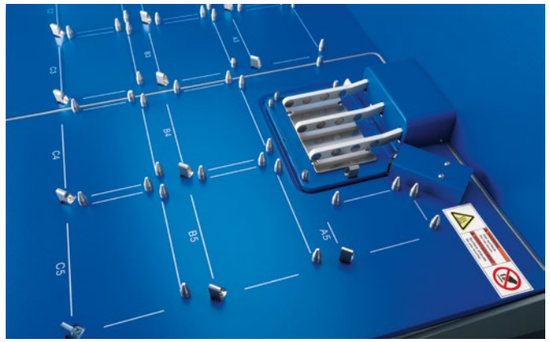
**Applications**
> Next Generation Sequencing library preparation
> Distributing reagents and serial dilutions
> Sample transfer from individual tubes to plates
> Reformatting plates
> Media change and other cell culture applications
> Sample pooling
> Real-time PCR set-up
> Cell-based assay set-up
> Immunoassay set-up
> Setting concentrations or volumes

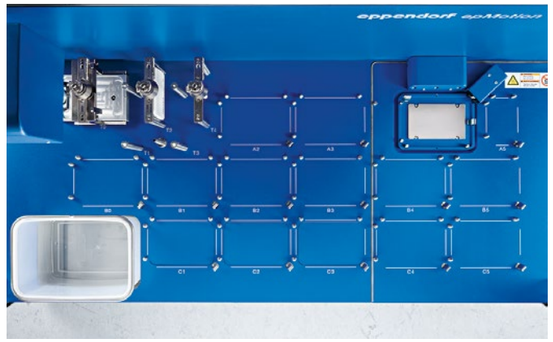
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# ep*Motion*® 5075t/5075m




**Product features**
> Same as 5075l, plus
> Integrated Eppendorf ThermoMixer® with [2D]Mix-Control technology
> Temperature control range 15 °C below RT to 95 °C
> Automatic fixing of labware for mixing up to 2,000 rpm
> Pipetting at standard positions during shaking
> 14.5 deck positions, 14 SLAS/ANSI plus small position for special reagent reservoir rack (3 reservoirs)
> 2 thermal module options






**Applications**
> Like 5075l, plus
> Bead applications with mixing and tempering
> Sequencing and PCR clean-up
> Nucleic acid purification
> Cell disruption
> Immunoassays
> Next Generation Sequencing library preparation with 5075t NGS solution

**Special features for ep*Motion*® 5075m**
> Same as ep*Motion* 5075t, plus
> Combination of magnetic finger module and Eppendorf ThermoMixer®

i For more information go to www.eppendorf.com

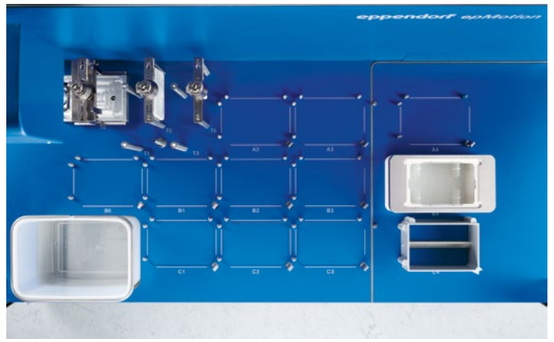
Technical specifications subject to change.

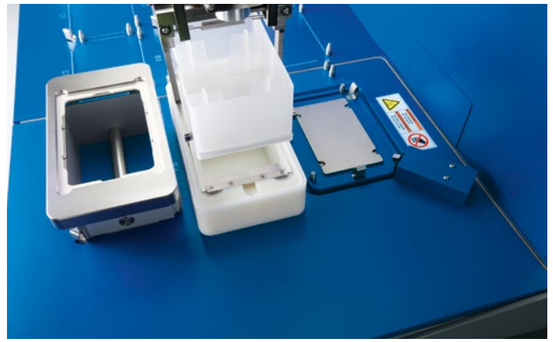


# ep*Motion*® 5075v/5075vt




**Product features**
> Same as ep*Motion* 5075l
> 12 SLAS/ANSI deck positions
> Integrated vacuum pump – silent operation, no tubing, wiring, or reservoirs to maintain
> Vacuum station fully integrated that automatically adapts to filter plates controlled by software
> Gripper for plate and labware transport
> 3 thermal module options (2 in case of 5075vt)
> Also available as 5075vt version with integrated Eppendorf ThermoMixer®



**Applications**
> Like 5075l with vacuum purification technologies
> Solid phase extraction
> Filtration
> DNA from blood, tissue and cells
> DNA from plants and bacteria
> Sequencing and PCR clean-up
> Total RNA isolation

**Special features for ep*Motion*® 5075vt**
> Integrated Eppendorf ThermoMixer with [2D]Mix-Control technology
> Temperature control range RT -15 °C to 95 °C
> Automatic securing of labware for mixing up to 2,000 rpm

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# ep*Motion*® 5073m NGS solution

**Description**
ep*Motion* 5073m NGS solution contains everything you need to start your automated NGS library preparation. It combines automated liquid handling and unique software features with the accessories and high-quality consumables for reliable Next Generation Sequencing library preparation. The liquid handling robot has three dispensing tools, a gripper, a plate magnet, a TipHolder 73 and a Gripper Tower. The new Reservoir Rack Module NGS optimized for holding NGS reagents can be combined with the Reservoir Rack Module Tips to hold additional tips if needed. Furthermore, high-quality consumables and epT.I.P.S.® Motion 50 µL and 300 µL are part of the package. The ep*Motion* 5073m is operated via EasyCon tablet or MultiCon Desktop PC, both equipped with Windows 10. Optionally, the ep*Motion* can be connected to VisioNize® for runtime tracking, e-mail event notification and device monitoring. An intuitive software interface allows for ease-of-use and rapid method implementation, while providing the needed flexibility. An integrated magnetic finger and Eppendorf ThermoMixer® allow for upstream nucleic acid purification.

The pipetting robot is available with an optional CleanCap for UV light decontamination and a HEPA filter for clean and particle-free air inside the device. By automating NGS library preparation, you increase reproducibility and reduce pipetting errors and, in turn, improve your experimental data. You have time for data analysis or other laboratory tasks while ep*Motion* takes over the tedious pipetting.

New




1. 6 ANSI/SLAS worktable positions
2. Compact control tablet with touchscreen or mouse operation, USB data transfer
3. Optical sensor[1)] for detecting liquids, labware, tips
4. Automatic replacement of 2 pipetting tools and gripper
5. Volume range of 0.2 to 1,000 µL for maximum pipetting accuracy
6. 3D-MagSep technology, mixing, tempering, and magnetic separation all at one location
7. Calibrated 1-channel and 8-channel pipetting tools
8. Optional UV lamp and HEPA filter system for decontamination and clean air conditions
9. Compatible with tubes (0.2 mL to 50 mL) and microplates with up to 384 wells

[1)] US patent 6,819,437 B2

**Product features**
> Up to 24 samples for NGS library preparation with minimal user intervention
> Three dispensing tools eliminate interruptions during NGS library preparation
> TipHolder 73 and Gripper Tower allow the use of 5 x 96 tips on just two ANSI/SLAS positions
> Reservoir Rack Module NGS offers storage of consumables, tips and reagents on one deck position
> Magnetic fingers and a plate magnet together with ThermoMixer enable magnetic bead-based nucleic acid purification in plate or in tubes
> MultiCon PC and EasyCon tablet work with Windows 10
> Easier optimization by generating service reports in just a few clicks in epBlue software
> Optional with MultiCon: Connect ep*Motion* to VisioNize to monitor device status, runtime and get e-mail notifications

**Applications**
> Next Generation Sequencing library preparation
> NGS library quality control
> Nucleic acid purification (magnetic bead-based)





**Ordering information**

| | Description | Order no. |
|---|---|---|
| New | **ep*Motion*® 5073m EasyCon NGS solution**, includes EasyCon and integrated Eppendorf ThermoMixer®, Enhanced feature set 1 software upgrade, dispensing tools (TS 50, TS 300, TM 300-8), NGS specific accessories, NGS specific consumables , 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5073 000 930 |
| New | **ep*Motion*® 5073m MultiCon NGS solution**, includes MultiCon PC and integrated Eppendorf ThermoMixer®, Enhanced feature set 1 software upgrade, dispensing tools (TS 50, TS 300, TM 300-8), NGS specific accessories, NGS specific consumables , 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5073 000 949 |
| New | **ep*Motion*® 5073mc EasyCon NGS solution**, includes EasyCon and integrated Eppendorf ThermoMixer®, with CleanCap, Enhanced feature set 1 software upgrade, dispensing tools (TS 50, TS 300, TM 300-8), NGS specific accessories, NGS specific consumables , 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5073 000 957 |
| New | **ep*Motion*® 5073mc MultiCon NGS solution**, includes MultiCon PC and integrated Eppendorf ThermoMixer®, with CleanCap, Enhanced feature set 1 software upgrade, dispensing tools (TS 50, TS 300, TM 300-8), NGS specific accessories, NGS specific consumables , 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5073 000 965 |
| | **ep*Motion*® 5075t NGS solution**, package with completely contained housing, MultiCon PC, Enhanced feature set 1, C2 thermal module, dispensing tools, plus NGS specific accessories, plus NGS specific consumables to start automated library preparation, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5075 000 962 |
| | **ep*Motion*® 5075tc NGS solution**, package with CleanCap, MultiCon PC, Enhanced feature set 1, C2 thermal module, dispensing tools, plus NGS specific accessories, waste bag holder, plus NGS specific consumables to start automated library preparation, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5075 000 963 |

**Ordering information**

| Description | Order no. |
|---|---|
| **ep*Motion*® 5070 EasyCon**, completely contained housing, system incl. EasyCon, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5070 006 032 |
| **ep*Motion*® 5070 MultiCon**, completely contained housing, system incl. MultiCon, epBlue™ software, keyboard, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5070 000 282 |
| **ep*Motion*® 5070f EasyCon**, system incl. EasyCon, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5070 006 108 |
| **ep*Motion*® 5070f MultiCon**, system incl. MultiCon, epBlue™ software, keyboard, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5070 000 283 |
| **ep*Motion*® 5073l EasyCon**, completely contained housing system incl. EasyCon, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5073 000 582 |
| **ep*Motion*® 5073l MultiCon**, completely contained housing system incl. MultiCon, epBlue™ software, keyboard, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5073 000 590 |
| **ep*Motion*® 5073lc EasyCon**, CleanCap, system incl. EasyCon, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5073 000 604 |
| **ep*Motion*® 5073lc MultiCon**, CleanCap, system incl. MultiCon, epBlue™ software, keyboard, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5073 000 612 |
| **ep*Motion*® 5075l**, basic device incl. epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5075 000 301 |
| **ep*Motion*® 5075v**, basic device incl. vacuum system, gripper, vac frame 2, vac frame holder, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5075 000 303 |
| **ep*Motion*® 5075t**, basic device incl. Eppendorf ThermoMixer®,epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5075 000 302 |
| **ep*Motion*® 5075vt**, basic device incl. vacuum system, gripper, vac frame 2, vac frame holder, Eppendorf ThermoMixer®, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5075 000 304 |
| **ep*Motion*® 5075m**, basic device incl. Eppendorf MagSep™ module, Eppendorf ThermoMixer®, epBlue™ software, mouse, waste box, 100 – 240 V ±10 %/50 – 60 Hz ±5 %, 0.2 µL – 1 mL | 5075 000 305 |

Ordering information for other voltage options begins on page 450



# epT.I.P.S.® Motion as Reload System

**Description**
epT.I.P.S. Motion can be used with ep*Motion*® 96 or integrated into your workstation as a reload system when combined with the tip holder. The high-quality reload tips are delivered in a PET thermoformed tray with sealed lid. Upgrading to the autoclavable, aluminum tip holder, which replaces the disposable box, provides waste reduction of up to 40 %.




**Product features**
> Delivered in a PET blister packaging with a sealed cap to assure quality
> Color coded trays for easy volume identification
> Reload system with autoclavable aluminum tip holder reduces plastic waste of tip boxes by up to 40 %
> Available with standard and filter/PCR clean tips

**Applications**
> Easy conversion with TipHolder Adapter
> TipHolder Adapter is autoclavable

**Ordering information**

| Description | Order no. |
|---|---|
| **epT.I.P.S.® Motion as Reload System**, without filter | |
| Eppendorf Quality™, 10 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 545 |
| Eppendorf Quality™, 50 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 421 |
| Eppendorf Quality™, 300 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 464 |
| Eppendorf Quality™, 1,000 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 502 |
| **epT.I.P.S.® Motion as Reload System**, with filter | |
| PCR clean, 10 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 553 |
| PCR clean, 50 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 430 |
| PCR clean, 300 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 472 |
| PCR clean, 1,000 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 510 |
| PCR clean and sterile, 10 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 561 |
| PCR clean and sterile, 50 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 529 |
| PCR clean and sterile, 300 µL, 2,304 tips (24 trays × 96 tips) | 0030 014 537 |
| **TipHolder**, for epT.I.P.S.® Motion Reloads | 5075 751 399 |

i For more information go to www.eppendorf.com





# epT.I.P.S.® Motion pipette tips

**Description**
Automated pipetting processes place high demands on the design and material of pipette tips used. Eppendorf has specially designed the epT.I.P.S. Motion for use on the ep*Motion*® 5070, 5073 and 5075 Liquid Handling Workstation. epT.I.P.S. Motion pipette tips, with and without filters, developed in torsion-resistant, clean racks.




**Product features**
> Color-coded trays for direct volume identification
> O-ring on dispensing tools assures an optimal fit each time
> Optical sensor automatically identified tip type

**Applications**
> Available in multiple purity grades
> Easily exchangeable, no additional labware files required
> Also available as reload system
> Also availabe as epT.I.P.S. Motion SafeRacks recommended for re-use tips feature

**Ordering information**

| Description | Order no. |
|---|---|
| **epT.I.P.S.® Motion pipette tips**, without filter | |
| Sterile, 10 µL, 960 tips (10 racks × 96 tips) | 0030 015 185 |
| Sterile, 50 µL, 960 tips (10 racks × 96 tips) | 0030 015 207 |
| Sterile, 300 µL, 960 tips (10 racks × 96 tips) | 0030 015 223 |
| Sterile, 1,000 µL, 960 tips (10 racks × 96 tips) | 0030 015 240 |
| Eppendorf Quality™, 10 µL, 960 tips (10 racks × 96 tips) | 0030 014 383 |
| Eppendorf Quality™, 50 µL, 960 tips (10 racks × 96 tips) | 0030 014 405 |
| Eppendorf Quality™, 300 µL, 960 tips (10 racks × 96 tips) | 0030 014 448 |
| Eppendorf Quality™, 1,000 µL, 960 tips (10 racks × 96 tips) | 0030 014 480 |
| **epT.I.P.S.® Motion pipette tips**, with filter | |
| PCR clean and sterile, 10 µL, 960 tips (10 racks × 96 tips) | 0030 015 193 |
| PCR clean and sterile, 50 µL, 960 tips (10 racks × 96 tips) | 0030 015 215 |
| PCR clean and sterile, 300 µL, 960 tips (10 racks × 96 tips) | 0030 015 231 |
| PCR clean and sterile, 1,000 µL, 960 tips (10 racks × 96 tips) | 0030 015 258 |
| PCR clean, 10 µL, 960 tips (10 racks × 96 tips) | 0030 014 391 |
| PCR clean, 50 µL, 960 tips (10 racks × 96 tips) | 0030 014 413 |
| PCR clean, 300 µL, 960 tips (10 racks × 96 tips) | 0030 014 456 |
| PCR clean, 1,000 µL, 960 tips (10 racks × 96 tips) | 0030 014 499 |
| **epT.I.P.S.® Motion as SafeRack tips**, without filter | |
| Eppendorf Quality™, 50 µL, 960 tips (10 racks × 96 tips) | 0030 014 600 |
| Eppendorf Quality™, 300 µL, 960 tips (10 racks × 96 tips) | 0030 014 626 |
| Eppendorf Quality™, 1,000 µL, 960 tips (10 racks × 96 tips) | 0030 014 642 |
| **epT.I.P.S.® Motion as SafeRack tips**, with filter | |
| PCR clean, 50 µL, 960 tips (10 racks × 96 tips) | 0030 014 618 |
| PCR clean, 300 µL, 960 tips (10 racks × 96 tips) | 0030 014 634 |
| PCR clean, 1,000 µL, 960 tips (10 racks × 96 tips) | 0030 014 650 |

Your local distributor: www.eppendorf.com/contact
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# Software

epBlue control

**epBlue™ ep*Motion*® PC software**
> Graphical user interface
> Main menu with direct access to the most important functions
> 3D view of workstation and run simulation
> User administration with password protection
> Importing of files for normalization and cherry picking
> Printing and archiving protocols
> Pre-installed on all ep*Motion* systems
> Create, edit and simulate application on any Windows 7, 8 or 10 PC with ep*Motion* Editor 40 software product

epBlue tracking

**epBlue™ ID software**
> Visual tracking of the scan procedure
> Automatic checking of the worktable
> Scanning of individual reaction vessels and microplates
> Documentation of reagent type and batch
> CSV or XML-based results file
> Compatible with LIMS-generated work lists
> Data exchange with 2D barcode readers
> Easy to operate

epBlue LogFile Certificate Signature Revision Audit compliance

**epBlue™ GxP software**
> Complete electronic documentation
> Access control and user level management
> Audit trail and log file
> Revision management
> Electronic signatures
> Electronic certificates according to industry-standard algorithm
> Exporting and archiving of digitally signed documents
> Database system
> Supplied certificates
> Expansion via epBlue ID (optional)

Detailed information about the automation software can be found here: www.eppendorf.com/epBlue

www



# Device Hardware Upgrades and Software

**Ordering information**

| Description | Order no. |
|---|---|
| **Thermal module**, thermal module for heating or cooling (0 – 100 °C) thermoadapters, thermoblock and thermoracks | 5075 757 001 |
| **VAC**, for retrofitting a 5075 LH version into a VAC version | 5075 000 610 |
| **Panel plate**, for control panel rest, mounted at front left side of ep*Motion*® unit | 5075 798 000 |
| **Work surface adapter**, for raising the ep*Motion*® worktable by 5.5 cm, 4 feet | 5070 752 001 |
| **epBlue™ ID barcode and tracking software incl. manual barcode scanner**, modular expansion of epBlue™ for barcode support. Incl. manual barcode reader with stand. Compatible with epBlue™ version 40.1 and higher | 5075 002 701 |
| **epBlue™ ID software and hardware modification kit**, for 5070 and 5075 PC versions (SN < 4000), barcode support includes software, barcode reader and stand, compatible with all ep*Motion*® PC versions except ep*Motion*® 5075 MC PC version, not compatible with the ep*Motion*® operator panel or EasyCon versions | 5075 000 830 |
| **epBlue™ GxP software**, for use in supporting process environments (according to GLP, GMP, 21 CFR part 11), as configuration option or for pre-installed ep*Motion*® MultiCon versions with epBlue™ version 40.1 to 40.5, with epBlue™ GxP software, corresponding firmware, certificates | 5075 002 728 |

i For more information go to www.eppendorf.com





**Ordering information**

| Description | Order no. |
|---|---|
| **ep*Motion*® Editor**, incl. editor key, software package for creating and editing applications, runs on the PC, compatible with epBlue™ 10.x versions | 5075 014 009 |
| **ep*Motion*® Editor**, incl. editor key, for creating and editing applications, runs on the PC, compatible with epBlue™ 10.x versions | |
| additional license | 5075 015 200 |
| **ep*Motion*® Editor 40**, software CD ROM with instructions, used to create, edit and simulate application on a PC, compatible with epBlue™ version >40.x | 5075 014 220 |
| **ep*Motion*® Editor 40**, additional software license | 5075 014 300 |
| **Enhanced Feature Set 1**, license for epBlue™ additional features: Calculated , samples; Automatic tool selection; Start at command; Email notification, requires service visit and epBlue >40.6 | 5075 000 964 |

# Dispensing tools



**Description**
Highly precise pipetting heads, for use in the tool holder of the ep*Motion* workstation. Each dispensing tool is completely autoclavable at 121 °C, 1 bar for 20 min. A quality certificate for the measurement results accompanies each tool.

**Product features**
> Highest accuracy from 200 nL to 1,000 µL
> For various types of liquids
> 1- and 8-channel dispensing tools

**Ordering information**

| Description | Order no. |
|---|---|
| **TS 10 single channel dispensing tool**, single-channel, 0.2 – 10 µL | 5280 000 100 |
| **TS 50 single-channel dispensing tool**, single-channel, 1.0 – 50 µL | 5280 000 010 |
| **TS 300 single-channel dispensing tool**, single-channel, 20 – 300 µL | 5280 000 037 |
| **TS 1000 single-channel dispensing tool**, single-channel, 40 – 1,000 µL | 5280 000 053 |
| **TM 10-8 eight-channel dispensing tool**, multi-channel, 0.2 – 10 µL | 5280 000 304 |
| **TM 50-8 eight-channel dispensing tool**, multi-channel, 1.0 – 50 µL | 5280 000 215 |
| **TM 300-8 eight-channel dispensing tool**, multi-channel, 20 – 300 µL | 5280 000 231 |
| **TM 1000-8 eight-channel dispensing tool**, multi-channel, 40 – 1,000 µL | 5280 000 258 |
| **Holder for 6 dispensing tools** | 5075 774 003 |

# ep*Motion*® ReservoirRacks and Modules




**Description**
The Eppendorf Reservoirs are the perfect vessels for the provision of 10 to 400 mL liquid, and they permit the use of single channel and multichannel dispensing tools. The tapered shape of the reservoirs allows utilization of the entire liquid volume with minimal residue. Moreover, the reservoirs may be temperature-controlled inside the racks to allow cooling or warming of liquids, for example, when PCR-mastermixes or cell culture media are used.
Our Reservoir Racks hold reaction vessels of different sizes, and they are tempered in order to protect valuable samples or carry out reactions directly inside the Reservoir Rack.

**Ordering information**

| Description | Order no. |
|---|---|
| **ReservoirRack**, for presenting 10 mL, 30 mL and 100 mL reagent reservoirs. Up to 7 reservoirs or Reservoir Rack modules can be presented. | 5075 754 002 |
| **Adapter sleeves**, to retrofit the 1.5/2.0 mL thermoracks for use with 0.5 mL vessels, 1 set of 25 pieces | 5075 772 000 |
| **Gripper Tower**, enables positioning epT.I.P.S.® Motion Reload trays in the parking position of the gripper and holds the gripper when it is not in use; only for use with ep*Motion*® 5073 as of serial number 6000 | 5075 751 895 |
| **Reservoir Rack Module NGS**, for use with ep*Motion*® ReservoirRacks, for distributing samples and reagents for NGS-specific applications, space for 20 x ILMN tubes, 4 x Eppendorf Tubes® 5.0 mL, 4 x Eppendorf Tubes 1.5 mL | 5075 751 917 |
| **Reservoir Rack Module PCR**, for use with ep*Motion*® ReservoirRacks, for distributing samples and reagents for PCR, space for 48 x PCR tubes 0.2 mL incl. 2 x strip adapters 0.2 mL, (alternatively, space sufficient for 16 index tubes and up to 32 x PCR tubes 0.2 mL), 12 x Eppendorf Tubes 1.5/2.0 mL, 1 x tube 5.0 mL | 5075 751 933 |
| **Reservoir Rack Module Tips**, for use with ep*Motion*® ReservoirRacks, for providing up to 16 epT.I.P.S.® Motion per module and up to 7 modules per ReservoirRack (112 tips in total), set consisting of 7 modules | 5075 751 950 |
| **TipHolder**, for epT.I.P.S.® Motion Reloads | 5075 751 399 |
| **TipHolder 73**, enables positioning epT.I.P.S.® Motion Reload trays above a rack of epT.I.P.S.® Motion and thus doubles the tip capacity in an ANSI/SLAS position, reusable and autoclavable, epBlue 40.7 or higher required | 5075 751 879 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 8 × PCR tubes 0.2 mL | 5075 799 049 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 4 × Safe-Lock tubes 0.5/1.5/2.0 mL | 5075 799 081 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 4 × Eppendorf Tubes® 5.0 mL | 5075 799 340 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 4 × reaction vessels Ø 12 mm | 5075 799 103 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 4 × reaction vessels Ø 16 mm | 5075 799 120 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 4 × reaction vessels Ø 17 mm | 5075 799 162 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 2 × reaction vessels Ø 29 mm | 5075 799 189 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 1 × reservoir 10 mL | 5075 799 421 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 1 × reservoir 30 mL | 5075 799 146 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 1 × reservoir 100 mL | 5075 799 260 |
| **ep*Motion*® reservoir 10 mL**, small-volume container for reagent presentation on the ep*Motion*®, can only be inserted with the Reservoir Rack; production batch testing, certified, 10 mL, 10 × 5 reservoirs in the bag, PCR clean, polypropylene | 0030 126 521 |
| **ep*Motion*® reservoir 30 mL**, large-volume container for reagent presentation on the ep*Motion*®, can only be inserted with the Reservoir Rack; production batch testing, certified, 30 mL, 10 × 5 reservoirs in the bag, PCR clean, polypropylene | 0030 126 505 |
| **ep*Motion*® reservoir 100 mL**, large-volume container for reagent presentation on the ep*Motion*®, can only be inserted with the Reservoir Rack; production batch testing, certified, 100 mL, 10 × 5 reservoirs in the bag, PCR clean, polypropylene | 0030 126 513 |
| **ep*Motion*® reservoir 400 mL**, large-volume container for reagent presentation on the ep*Motion*®; production batch testing, certified, 400 mL, 10 reservoirs, PCR clean, autoclavable, polypropylene | 5075 751 364 |
| **ep*Motion*® reservoir 195 mL**, low dead volume reservoir, single well with 96 cavities, PCR clean, 4 × 5 reservoirs | 0030 126 556 |

i For more information go to www.eppendorf.com





# ep*Motion*® Thermoracks and Plate Accessories




**Description**
The Thermoracks, Thermoblocks and Thermoadapters comprise versatile options for the cooling or warming of reaction vessels and plates of different formats. In addition, a gripper for plates and racks is capable of reducing, or even eliminating, interference within the workflow. A magnet adapter for the purification of DNA/RNA using magnetic beads is also available, and it enables fully automated purification using a diverse range of kits.

**Ordering information**

| Description | Order no. |
|---|---|
| **Thermorack CB**, for up to 384 × 0.1 mL strip tubes in the Qiagen® Rotor-Gene® | 5075 767 031 |
| **Eppendorf Magnum FLX® Magnet Adapter**, universal ring magnet plate for rapid magnetic bead separation. Supports most 96-well plates (standard, PCR, deepwell) | 5075 751 836 |
| **Thermorack Rotor/Tubes**, for temperature controlled pipetting of Qiagen® Rotor-Disc® 72/100 and 20 tubes 1.5/2.0 mL | 5075 751 526 |
| **Thermoblock PCR 96 OC**, for temperature control and safe piercing of sealed, semi-skirted PCR plates with orientation control | 5075 751 666 |
| **Thermoadapter for PCR**, for temperature control of PCR plates, 96 wells, skirted | 5075 787 008 |
| **Thermoadapter for PCR**, for temperature control of PCR plates, 384 wells, skirted | 5075 788 004 |
| **Thermoadapter Frosty**, combination of height adapter and PCR-Cooler, for cooling skirted PCR plates | 5075 789 000 |
| **CycleLock Starter Set**, 1 frame and 8 mats for automated sealing of Eppendorf PCR plates, can only be used with Mastercycler® ep, PCR clean | 0030 126 530 |
| **CycleLock mats**, 5 sealing mats, frame not included, PCR clean | 0030 126 548 |
| **Lid for Thermorack Rotor/Tubes**, with adapter for placing the lid on the ep*Motion*® worktable | 5075 751 640 |
| **Thermoblock DWP 2000**, for 2 mL Eppendorf Deepwell Plates 96/2000 | 5075 751 330 |
| **Thermoadapter DWP 96**, for Deepwell Plates 96/1000 | 5075 751 054 |
| **Thermoadapter LC Sample**, for MagNA Pure LC sample cartridge | 5075 751 305 |
| **Thermorack**, for 24 Safe-Lock tubes, temperable, 0.5/1.5/2.0 mL | 5075 769 000 |
| **Thermorack**, for 24 Safe-Lock tubes, temperable, 1.5/2.0 mL | 5075 771 004 |
| **Thermorack TMX**, for 24 Safe-Lock micro test tubes, 0.5 mL/1.5 mL/2.0 mL | 5075 751 160 |
| **Thermorack TMX**, for 24 Safe-Lock tubes, temperable, 1.5/2.0 mL | 5075 751 186 |
| **Thermorack**, for 24 Cryo tubes | 5075 777 055 |
| **Elution plate adapter**, for processing micro tubes in racks | 5075 785 030 |
| **Thermoblock for PCR**, for temperature control of 96 vessels 0.2 mL, 77 PCR tubes 0.5 mL or one PCR plate 96 wells, semi-skirted | 5075 766 000 |
| **Thermoblock for PCR**, for temperature control of PCR plate 384 wells, semi-skirted | 5075 767 007 |
| **Thermoadapter for Microplate 96/V/U**, for holding and temperature control of Eppendorf Microplates with V or U bottom | 5075 751 577 |
| **Gripper**, incl. holder, for transporting plates on the worktable and automatic operation of the vacuum manifold | 5282 000 018 |
| **TMX**, for retrofitting a 5075 LH version into a 5075 TMX version | 5075 000 628 |

# ep*Motion*® 96 Accessories



**Description**
The accessories for the ep*Motion* 96 and ep*Motion* 96xl increase the capacity for plates and reservoirs. Furthermore, tip trays, as well as an adapter for easy handling of 384 well plates, are also available.

**Ordering information**

| Description | Order no. |
|---|---|
| **ep*Motion*® 96 Accessories**, Loading frame for ep*Motion*® 96 | 5069 072 005 |
| **ep*Motion*® 96 Accessories**, Adapter 384-well plate for ep*Motion*® 96 | 5069 073 001 |
| **ep*Motion*® 96 Accessories**, Upgrade set 2-position slider for ep*Motion*® 96 | 5069 074 008 |

# ep*Motion*® Tuberacks, Adapters and Vacuum Modules




**Description**
Tube racks are specially designed for the respective dimensions of the reaction vessels, and they thus provide optimal support for plastic as well as glass vessels.

**Ordering information**

| Description | Order no. |
|---|---|
| **PrepRack for 24 Eppendorf Safe-Lock Tubes 2 mL**, for nucleic acid preparation | 5073 751 006 |
| **Rack Smart**, for holding one tube rack of SmartCycler™ reaction tubes | 5075 790 009 |
| **Rack LC 20 µL/100 µL**, for up to 96 × 20 µL or 100 µL LightCycler capillaries for use with Centrifuge 5804/5804 R or 5810/5810 R and other devices, set of 2 | 5075 795 000 |
| **Rack ILMN tubes**, Rack for single tubes, 40 × ø 8.4 mm and 12 × ø 11.2 mm, transportable, autoclavable | 5075 751 747 |
| **Rack for single test tubes**, for presenting Eppendorf reaction vessels, glass or plastic tubes, not temperable | |
| Ø 17 mm × 100 mm max. length | 5075 761 009 |
| Ø 17 mm × 60 mm max. length | 5075 775 000 |
| Ø 16 mm × 100 mm max. length | 5075 760 002 |
| Ø 16 mm × 60 mm max. length | 5075 776 006 |
| Ø 15 mm × 100 mm max. length | 5075 792 028 |
| Ø 15 mm × 60 mm max. length | 5075 792 044 |
| Ø 14 mm × 100 mm max. length | 5075 792 001 |
| Ø 14 mm × 60 mm max. length | 5075 792 060 |
| Ø 13 mm × 100 mm max. length | 5075 762 005 |
| Ø 13 mm × 60 mm max. length | 5075 792 087 |
| Ø 12 mm × 100 mm max. length | 5075 763 001 |
| Ø 12 mm × 60 mm max. length | 5075 792 109 |
| **Rack**, for 24 HPLC tubes, Ø 12 mm × 40 mm max. length | 5075 792 125 |
| **Rack**, for 96 screw cap tubes, 1.5/2.0 mL | 5075 791 005 |
| **Rack for 24 tubes**, for 24 Safe-Lock tubes, no tempering | |
| 0.5/1.5/2.0 mL | 5075 751 453 |
| 1.5/2.0 mL | 5075 751 275 |
| **Holder for Vac Frame** | 5075 778 009 |
| **Vacuum lid** | 5075 779 005 |
| **Mat for vacuum lid** | 5075 793 008 |
| **Vac Frame 1**, 16 mm height, recommended for filter plates from 5Prime, Invitek | 5075 784 009 |
| **Vac Frame 2**, 26 mm height, recommended for filter plates from MN, Promega or Qiagen | 5075 785 005 |
| **Anticontamination plate adapter**, for vacuum processes with foaming solutions in multiwell plates, set of 10 | 5075 794 004 |
| **Vac Thermo lid** | 5075 796 007 |
| **Collection plate adapter MN**, type for VAC station | 5075 785 064 |
| **TMX expansion board VAC**, order with 5075 000 628 | 5075 000 636 |





# ep*Motion*® Waste Accessories



**Description**
During the pipetting of liquids, waste, both liquid and solid, are generated. Solid waste mainly consists of pipette tips and reaction vessels. In order to dispose of both types of waste correctly, we offer variable options for collecting solid waste in bags or boxes, and for collecting liquid waste in a specialized reservoir which can then be properly discarded.
In order to use garbage bags of larger capacity inside an ep*Motion* Workstation, it will be necessary to elevate the Workstation slightly by using a work surface adapter (5070 752 001).

**Ordering information**

| Description | Order no. |
|---|---|
| **Waste bag holder**, for ep*Motion*® 5070/5073/5075 waste position | 5075 753 103 |
| **Liquid Waste Tub 400 mL**, to mount in waste bag holder and waste container of ep*Motion*®, with lid, autoclavable, working volume 400 mL | 5075 751 720 |
| **Liquid Waste Tub, incl. lid**, to mount in the waste box, autoclavable, working volume 115 mL | 5075 751 500 |
| **Waste container with ring**, for holding used pipette tips | 5075 753 006 |
| **Waste bags bio.**, for ep*Motion*® 5070/5073/5075 waste position, up to 7 L volume, ideal for disposing of biologically hazardous waste, autoclavable, PP material, thickness 50 µm, transparent, 50 bags | 5075 751 763 |
| **Waste bags**, for ep*Motion*® 5070/5073/5075 waste position, up to 7 L volume, ideal for disposing of non hazardous waste, autoclavable, PP material, thickness 50 µm, transparent, 50 bags | 5075 751 780 |

# ep*Motion*® Height adapters




**Description**
For the optimization of workflow processes, it may become necessary to adjust the heights of all the vessels used (tip racks, plates and reservoir racks) to the same level in order to minimize vertical traveling distances as well as save time. Our height adapters are the ideal solution that will bring your work table to one level.

**Ordering information**

| Description | Order no. |
|---|---|
| ep*Motion*® **height adapter**, for leveling labware, enables faster plate processing | |
| 85 mm | 5075 751 003 |
| 55 mm | 5075 752 000 |
| 40 mm, for pipette tips | 5075 755 009 |

# Sample Handling















| Model | Eppendorf ThermoMixer® C | Eppendorf ThermoStat™ C | Eppendorf ThermoMixer® F0.5 |
|---|---|---|---|
| **Page(s)** | **110** | **112** | **116** |
| **Heating rate** | Max. 7 °C/min (when using SmartBlock plates)[1] | Max. 9 °C/min (when using the SmartBlock PCR 384)[1] | Max. 15 °C/min |
| **Cooling rate** | Max. 2.5 °C/min between 100 °C and RT | Max. 5.0 °C/min between 110 °C and RT[1] | – |
| **Timer** | 15 sec to 99:30 h, continuous | 15 s to 99:30 h, continuous | – |
| **Mixing and vortexing radius** | 1.5 mm | – | 1.5 mm |
| **Mixing orbit** | 3 mm | – | 3 mm |
| **Mixing frequency** | 300 – 3,000 rpm[1] | – | 300 – 2,000 rpm |
| **Max. speed** | 3,000 rpm[1] | – | 2,000 rpm |
| **Temperature settings** | 1 °C / 100 °C | -10 °C/110 °C (110 °C when using the SmartBlocks 12 mm or cryo) | 1 °C / 100 °C |
| **Temperature range** | Min: 15 °C (depends on SmartBlock used) below RT, max: 100 °C | Min: 30 °C [1] below RT, max: 110 °C (110 °C when using the 12 mm and cryo SmartBlocks) | Min: 4 °C above RT, max: 100 °C |
| **Temperature accuracy** | Max. ±0.5 °C at 20 – 45 °C | Max. ±0.5 °C at 20 – 45 °C[1] | Max. ±0.5 °C at 20 – 45 °C |
| **Interfaces** | USB interface | USB interface | USB interface |
| **Dimensions (W × D × H)** | 20.6 × 30.4 × 13.6 cm | 20.6 × 30.4 × 13.6 cm | 20.6 × 30.4 × 16.3 cm |
| **Weight w/o accessories** | 6.3 kg | 4.3 kg | 6.2 kg |
| **Power supply** | 100 – 130 V/220 – 240 V, 50 – 60 Hz | 100 – 130 V/220 – 240 V, 50 – 60 Hz | 100 – 130 V/220 – 240 V, 50 – 60 Hz |
| **Max. power consumption** | 200 W | 200 W | 200 W |
| **Applications** | > Plasmid/RNA/DNA purification<br>> cDNA synthesis<br>> Extraction of DNA fragments from agarose gels<br>> Enzymatic reactions (e.g., DNA restriction digestion, Proteinase K digestion and ligation)<br>> Transformation of bacteria strains and plasmids<br>> Denaturation of DNA, RNA, and proteins<br>> Labeling of DNA, RNA, and proteins<br>> Bacterial growth in microreaction vessels, conical tubes, and Deepwell Plates<br>> Lysis reactions at 100 °C<br>> Mixing of PCR setups | > Gentle thawing and cooling buffers and samples at low temperatures<br>> Preheating media<br>> Biochemical reactions at low temperatures<br>> Ligation<br>> cDNA synthesis<br>> Denaturation of RNA, DNA, and protein<br>> Proteinase K digestion<br>> ELISA assays<br>> Immunoprecipitation<br>> Cell lysis | > Growth of bacteria and yeasts<br>> Enzymatic reactions<br>> Transformation of bacteria strains and plasmids<br>> Denaturation of DNA, RNA, and proteins<br>> Lysis reactions at 100 °C<br>> Labeling of nucleic acids and proteins<br>> Proteinase K digestion of cells and tissues<br>> Resuspension of pellets<br>> Mixing protein quantification assays<br>> ELISA assays |

[1] depends on SmartBlock used









| Eppendorf ThermoMixer® F1.5 | Eppendorf ThermoMixer® F2.0 | Eppendorf ThermoMixer® FP | MixMate® |
|---|---|---|---|
| **116** | **116** | **116** | **117** |
| Max. 11 °C/min | Max. 13 °C/min | Max. 18 °C/min | – |
| – | – | – | – |
| – | – | – | – |
| 1.5 mm | 1.5 mm | 1.5 mm | 1.5 mm |
| 3 mm | 3 mm | 3 mm | 3 mm |
| 300 – 1,500 rpm | 300 – 1,500 rpm | 300 – 2,000 rpm | 300 – 3,000 rpm |
| 1,500 rpm | 1,500 rpm | 2,000 rpm | 3,000 rpm |
| 1 °C / 100 °C | 1 °C / 100 °C | 1 °C / 100 °C | – |
| Min: 4 °C above RT, max: 100 °C | Min: 4 °C above RT, max: 100 °C | Min: 4 °C above RT, max: 100 °C | N/A |
| Max. ±0.5 °C at 20 – 45 °C | Max. ±0.5 °C at 20 – 45 °C | Max. ±0.5 °C at 20 – 45 °C | – |
| USB interface | USB interface | USB interface | – |
| 20.6 × 30.4 × 17.0 cm | 20.6 × 30.4 × 17.0 cm | 20.6 × 30.4 × 16.4 cm | 17 × 23 × 13 cm |
| 6.3 kg | 6.3 kg | 6.1 kg | 4.2 kg |
| 100 – 130 V/220 – 240 V, 50 – 60 Hz | 100 – 130 V/220 – 240 V, 50 – 60 Hz | 100 – 130 V/220 – 240 V, 50 – 60 Hz | 110 – 120 V/220 – 240 V, 50 – 60 Hz |
| 200 W | 200 W | 200 W | 40 W |
| > Growth of bacteria and yeasts<br>> Enzymatic reactions<br>> Transformation of bacteria strains and plasmids<br>> Denaturation of DNA, RNA, and proteins<br>> Lysis reactions at 100 °C<br>> Labeling of nucleic acids and proteins<br>> Proteinase K digestion of cells and tissues<br>> Resuspension of pellets<br>> Mixing protein quantification assays<br>> ELISA assays | > Growth of bacteria and yeasts<br>> Enzymatic reactions<br>> Transformation of bacteria strains and plasmids<br>> Denaturation of DNA, RNA, and proteins<br>> Lysis reactions at 100 °C<br>> Labeling of nucleic acids and proteins<br>> Proteinase K digestion of cells and tissues<br>> Resuspension of pellets<br>> Mixing protein quantification assays<br>> ELISA assays | > Growth of bacteria and yeasts<br>> Enzymatic reactions<br>> Transformation of bacteria strains and plasmids<br>> Denaturation of DNA, RNA, and proteins<br>> Lysis reactions at 100 °C<br>> Labeling of nucleic acids and proteins<br>> Proteinase K digestion of cells and tissues<br>> Resuspension of pellets<br>> Mixing protein quantification assays<br>> ELISA assays | > Resuspending pellets (e.g., bacteria, DNA, cell culture pellets)<br>> Mixing PCR setups<br>> Mixing viscous liquids and suspensions (incl. beads)<br>> Mixing restriction digestions<br>> Immunoassays (e.g., ELISA)<br>> Colorimetric assays (e.g., Bradford, Lowry, BCA)<br>> Reporter gene assays (e.g. β-galactosidase, luciferase)<br>> Vortexing numerous tube formats (e.g., 15 and 50 mL conical tubes) |

i For more information go to www.eppendorf.com/temperaturecontrol-mixing

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Technical specifications subject to change.

epServices for premium performance

On page 384 you will find detailed information on services for these products!

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# Sample Handling





| Model | Tube 3810X | Safe-Lock Tube 0.5 mL | Safe-Lock Tube 1.5 mL | Safe-Lock Tube 2.0 mL |
|---|---|---|---|---|
| **Page(s)** | **121** | **122** | **122** | **122** |
| **Volume** | 1.5 mL | 0.5 mL | 1.5 mL | 2.0 mL |
| **Bottom shape** | conical | conical | conical | round |
| **Max. RCF Eppendorf Quality™** | 30,000 × g | 30,000 × g | 30,000 × g | 25,000 × g |
| **Max. RCF PCR clean** | 30,000 × g | 30,000 × g | 30,000 × g | 25,000 × g |
| **Max. RCF Biopur®** | – | 22,000 × g | 22,000 × g | 22,000 × g |
| **Max. RCF Sterile** | – | – | – | – |
| **Light protection** | no | yes | yes | yes |

[1] Test conditions: Rotor FA-45-6-30 in Eppendorf Centrifuge 5810 R (using a suitable centrifuge adapter for 15 mL tube), sample: saline solution (density: 1.0 g/mL), controlled centrifugation temp.: 25 °C, centrifugation time: 90 min



| Model | Protein LoBind Tubes/ DNA LoBind, 0.5 mL | Protein LoBind Tubes/ DNA LoBind, 1.5 mL | Protein LoBind Tubes/ DNA LoBind, 2.0 mL |
|---|---|---|---|
| **Page(s)** | **137/139** | **137/139** | **137/139** |
| **Bottom shape** | conical | conical | round |
| **Max. RCF PCR clean** | 18,000 × g/ 30,000 × g | 18,000 × g/ 30,000 × g | 18,000 × g/ 25,000 × g |

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| Model | Eppendorf Tubes® 5.0 mL | Eppendorf Conical Tubes 15 mL | 25 mL, snap cap/25 mL, screw cap | Eppendorf Conical Tubes 50 mL |
|---|---|---|---|---|
| **Page(s)** | **124** | **128** | **126** | **128** |
| **Volume** | 5.0 mL | 15 mL | 25 mL | 50 mL |
| **Bottom shape** | conical | conical | conical | conical |
| **Max. RCF Eppendorf Quality™** | 25,000 × g | – | – | – |
| **Max. RCF PCR clean** | 25,000 × g | – | – | – |
| **Max. RCF Biopur®** | 25,000 × g | – | – | – |
| **Max. RCF Sterile** | 25,000 × g | 19,500 × g[1] | up to 17,000 x g[1] | 19,500 × g[1] |
| **Light protection** | yes | yes | yes | yes |




| Model | Protein LoBind Tubes/ DNA LoBind, 5.0 mL | Protein LoBind Tubes/ DNA LoBind, 15 mL, conical tubes | Protein LoBind Tubes/ DNA LoBind, 50 mL, conical tubes |
|---|---|---|---|
| **Page(s)** | **137/139** | **137/139** | **137/139** |
| **Bottom shape** | conical | conical | conical |
| **Max. RCF PCR clean** | 25,000 × g/ 25,000 × g | | |

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# Sample Handling







| | Microplates | | |
|---|---|---|---|
| **Model** | **MTP 96/F** | **MTP 96/U** | **MTP 96/V** |
| **Page(s)** | **131** | **131** | **131** |
| **Number of wells** | 96 wells | 96 wells | 96 wells |
| **Total volume per well** | 400 µL | 360 µL | 350 µL |
| **Working volume** | 50 – 350 µL | 20 – 320 µL | 20 – 320 µL |
| **Material** | polypropylene | polypropylene | polypropylene |
| **Bottom shape** | F bottom | U bottom | V bottom |
| **Dimensions (W × D × H)** | 127.8 × 85.5 × 14.4 mm | 127.8 × 85.5 × 14.4 mm | 127.8 × 85.5 × 14.4 mm |
| **Max. RCF** | 6,000 × g | 6,000 × g | 6,000 × g |

[1] For more Assay/Reader MTPs go to page 166. For Cell Imaging plates go to chapter Cell Imaging Consumables. For twin.tec PCR Plates go to chapter PCR.






| | Deepwell Plates | | | |
|---|---|---|---|---|
| **Model** | **DWP 96/500** | **DWP 96/1000** | **DWP 96/2000** | **DWP 384/200** |
| **Page(s)** | **135** | **135** | **135** | **135** |
| **Number of wells** | 96 wells | 96 wells | 96 wells | 384 wells |
| **Total volume per well** | 700 µL | 1,200 µL | 2,400 µL | 240 µL |
| **Working volume** | 30 – 550 µL | 30 – 1,000 µL | 50 – 2,000 µL | 20 – 225 µL |
| **Material** | polypropylene | polypropylene | polypropylene | polypropylene |
| **Bottom shape** | conical | conical | conical | conical |
| **Dimensions (W × D × H)** | 127.8 × 85.5 × 27.1 mm | 127.8 × 85.5 × 44.1 mm | 127.8 × 85.5 × 44.1 mm | 127.8 × 85.5 × 25.1 mm |
| **Max. RCF** | 6,000 × g | 6,000 × g | 6,000 × g | 6,000 × g |

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Technical specifications subject to change.









| | Microplates | | | | |
|---|---|---|---|---|---|
| **MTP 384/F** | **MTP 384/V** | **MTP UV-VIS 96/F** | **MTP VIS 96/F** | **Assay MTP 96/F[1]** |
| **131** | **131** | **133** | **133** | **133** |
| 384 wells | 384 wells | 96 wells | 96 wells | 96 wells |
| 150 µL | 140 µL | 400 µL | 400 µL | 400 µL |
| 10 – 120 µL | 10 – 120 µL | 50 – 350 µL | 50 – 350 µL | 50 – 350 µL |
| polypropylene | polypropylene | polystyrene/film | polystyrene | polypropylene |
| F bottom | V bottom | flat | flat | flat |
| 127.8 × 85.5 × 14.4 mm | 127.8 × 85.5 × 14.4 mm | 127.8 × 85.5 × 14.4 mm | 127.8 × 85.5 × 14.4 mm | 127.8 × 85.5 × 14.4 mm |
| 6,000 × g | 6,000 × g | 300 × g | 3,000 × g | 6,000 × g |








| | Protein LoBind Plates/ DNA LoBind Plates | | | | | |
|---|---|---|---|---|---|---|
| **MTP 96/V** | **MTP 384/V** | **DWP 96/500** | **DWP 96/1000** | **DWP 96/2000** | **DWP 384/200** |
| **136/138** | **136/138** | **136/138** | **136/138** | **136/138** | **136/138** |
| 96 wells | 384 wells | 96 wells | 96 wells | 96 wells | 384 wells |
| 350 µL | 140 µL | 700 µL | 1,200 µL | 2,400 µL | 240 µL |
| 20 – 300 µL | 5 – 120 µL | 30 – 550 µL | 30 – 1,000 µL | 50 – 2,000 µL | 20 – 225 µL |
| polypropylene | polypropylene | polypropylene | polypropylene | polypropylene | polypropylene |
| conical | conical | conical | conical | conical | conical |
| 127.8 × 85.5 × 14.4 mm | 127.8 × 85.5 × 14.4 mm | 127.8 × 85.5 × 27.1 mm | 127.8 × 85.5 × 44.1 mm | 127.8 × 85.5 × 60 mm | 127.8 × 85.5 × 25.1 mm |
| 6,000 × g | 6,000 × g | 6,000 × g | 6,000 × g | 6,000 × g | 6,000 × g |

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# Eppendorf ThermoMixer® C

**You need everything?** The Eppendorf ThermoMixer C combines excellent mixing performance with excellent temperature control to ensure complete, dependable and reproducible test results. Improve your assay results by mixing and incubating samples at the same time. The Eppendorf ThermoMixer C convinces users with its quick and easy-to-exchange SmartBlocks for all common lab vessels, new and improved program functions, and high level of stability for every mixing frequency. There is almost no limit to the variety of applications waiting for you!




| | Plate type | 96-well plates | 384-well plates |
|---|---|---|---|
| **Mixing of different buffers** | | | |
| **Buffer with detergent** | PCR | 30 s<br>1,800 rpm | 30 s<br>2,800 rpm |
| **Buffer without detergent** | PCR | 1 min<br>2,000 rpm | 30 s<br>3,000 rpm |
| **Buffer with high salt concentration** | DWP | 5 s<br>1,400 rpm | 30 s<br>2,000 rpm |
| **Buffer with DMSO** | MTP | 5 s<br>1,100 rpm | 5 s<br>2,000 rpm |
| **Mixing of viscous solutions** | | | |
| **Genomic-DNA** | PCR | 30 s<br>2,000 rpm | 1 min<br>3,000 rpm |
| **Resuspension of pellets** | | | |
| **Bacteria cell pellets** | DWP | 30 s<br>2,000 rpm | 2 min<br>2,000 rpm |

Eppendorf ThermoMixer C provides enough mixing power to handle also challenging mixing tasks. Most samples are efficiently mixed within less than a minute independent of vessel geometry or sample properties. For more informations see AppNote 130.

**Product features**

> Mixing, heating, and cooling in one instrument for high flexibility
> All common vessels and plate formats from 5 µL to 50 mL by different Eppendorf SmartBlocks™ for standard applications
> Excellent [2D]Mix-Control technology results in excellent sample mixing
> Anti-spill technology prevents lid wetting and cross-contamination
> Increased mixing frequency of up to 3,000 rpm for effective sample mixing
> Excellent temperature management for maximum temperature accuracy, resulting in safe handling
> Compatible with Eppendorf ThermoTop® (**condens**.*protect*®) for condensation-free sample handling (for Eppendorf SmartBlocks up to 2.0 mL)
> Predefined program keys and clearly arranged menu guides enable simple and intuitive operations
> Freely programmable program keys for individual optimization
> Eppendorf PhysioCare Concept® provides ergonomic design and operation

**50 µL sample mixing with 1,800 rpm**

| Competitor 1 min | Eppendorf [2D]Mix-Control 1 min (MixMate®) | Eppendorf [2D]Mix-Control 1 min (Eppendorf ThermoMixer®) |
|---|---|---|
|  |  |  |
| Suboptimal sample mixing | Reliable sample mixing | Reliable sample mixing |

Technical specifications subject to change.



# SmartExtender




**Missing a second temperature for an incubation at 37 °C or 95 °C at your Eppendorf ThermoMixer?**
The Eppendorf SmartExtender offers a comfortable incubation tool which can easily be used as an add-on to your existing Eppendorf SmartBlocks and the Eppendorf ThermoMixer C/Fx as well as Eppendorf ThermoStat C. Up to 12 vessels (1.5 mL) can be heated up for a higher throughput and higher flexibility in your lab. The independent heating function for the second temperature enables a parallel usage of an Eppendorf SmartBlock and the SmartExtender. The Eppendorf SmartBlock at the center can still be used for heating, cooling, and mixing.

**Ordering information**

| Description | Order no. |
|---|---|
| **SmartExtender**, 1.5 mL | 5322 000 008 |

# Transfer Racks



**Performing a 60-sec-incubation step for 24 samples in parallel?**
The Eppendorf Transfer Rack enables a safe and easy transfer of up to 24 samples in parallel to or from the Eppendorf SmartBlock. This provides similar reaction conditions for all samples of your experiment. The Transfer Rack is available for the Eppendorf SmartBlock 0.5 mL as well as the Eppendorf SmartBlock 1.5 and 2.0 mL. These Eppendorf SmartBlocks include a Transfer Rack by standard.

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf ThermoMixer® C**, basic device without thermoblock, 220 – 240 V/50 – 60 Hz | 5382 000 015 |
| **Eppendorf SmartBlock™ 0.5 mL**, thermoblock for 24 reaction vessels 0.5 mL, incl. Transfer Rack 0.5 mL | 5361 000 031 |
| **Eppendorf SmartBlock™ 1.5 mL**, thermoblock for 24 reaction vessels 1.5 mL, incl. Transfer Rack 1.5/2.0 mL | 5360 000 038 |
| **Eppendorf SmartBlock™ 2.0 mL**, thermoblock for 24 reaction vessels 2.0 mL, incl. Transfer Rack 1.5/2.0 mL | 5362 000 035 |
| **Eppendorf SmartBlock™ 5 mL**, thermoblock for 8 Eppendorf Tubes® 5.0 mL, 8 × 5.0 mL reaction vessels | 5309 000 007 |
| **Eppendorf SmartBlock™ 15 mL**, thermoblock for 8 conical tubes 15 mL | 5366 000 021 |
| **Adapter 25 mL for Eppendorf SmartBlock™ 50 mL**, Set consisting of 4 adapters and removal tool | 5365 000 109 |
| **Eppendorf SmartBlock™ 50 mL**, thermoblock for 4 conical tubes 50 mL | 5365 000 028 |
| **Eppendorf SmartBlock™ 12 mm**, thermoblock for 24 reaction vessels, diameter up to 12 mm, height 35 mm – 76 mm | 5364 000 024 |
| **Eppendorf SmartBlock™ cryo**, thermoblock for 24 cryo tubes, 1.5 mL – 2 mL, max. external diameter 12.5 mm, all base designs | 5367 000 025 |
| **Eppendorf SmartBlock™ PCR 96**, thermoblock for PCR plates 96, incl. lid | 5306 000 006 |
| **Eppendorf SmartBlock™ PCR 384**, thermoblock for PCR plates 384, incl. lid | 5307 000 000 |
| **Eppendorf SmartBlock™ DWP 500**, thermoblock for Eppendorf Deepwell Plates 96/500 µL, incl. lid | 5316 000 004 |
| **Eppendorf SmartBlock™ DWP 1000**, thermoblock for Eppendorf Deepwell Plate 96/1,000 µL, incl. lid | 5310 000 002 |
| **Eppendorf SmartBlock™ plates**, thermoblock for microplates and Deepwell Plates, incl. lid | 5363 000 039 |
| **Lid**, for Eppendorf ThermoMixer® F0.5/F1.5/F2.0 and FP, for Eppendorf SmartBlock™ 0.5 – 2.0 mL, plates, PCR 96, PCR 384, and DWP | 5363 000 233 |
| **Transfer Rack 0.5 mL**, for Eppendorf SmartBlock™ 0.5 mL | 3880 000 305 |
| **Transfer Rack 1.5/2.0 mL**, for Eppendorf SmartBlock™ 1.5 mL and Eppendorf SmartBlock™ 2.0 mL | 3880 000 151 |
| **Eppendorf ThermoTop®**, with **condens**.*protect*® technology | 5308 000 003 |

↗ Ordering information for other voltage options begins on page 450

# Eppendorf ThermoStat™ C

**Focusing on temperatures?**
Many experiments require fast heating and cooling steps in a very accurate manner. Precise temperature control is achieved for the ThermoStat C by using optimally balanced heating and cooling elements (peltier technology).










**Product features**
> Heating and active cooling in all common vessel and plate formats from 5 µL to 50 mL for high flexibility
> Broad range of Eppendorf SmartBlocks enables high vessel flexibility
> Excellent temperature accuracy for safe sample handling
> Very fast cooling rates of up to 5 °C/min, reducing your waiting time
> Low temperature (e.g. 4 °C or 0 °C) even at higher ambient temperatures for safe sample incubation
> Temperature keys (4 °C, 16 °C, 37 °C, 56 °C, and 95 °C) provide quick access to commonly used experimental temperatures
> Eppendorf ThermoTop® (**condens**.*protect*®) compatibility prevents condensation and improves temperature homogeneity within sample tubes (up to 2.0 mL)
> Comprehensive range of program slots (up to 15) for flexible usage of device

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf ThermoStat™ C**, basic device without thermoblock, 220 – 240 V/50 – 60 Hz | 5383 000 019 |
| **Eppendorf ThermoTop®**, with **condens**.*protect*® technology | 5308 000 003 |
| **SmartExtender**, 1.5 mL | 5322 000 008 |

↗ Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com/thermostat-c





# Eppendorf SmartBlock™

**Using different vessel sizes within your lab workflow?**
Flexibility has never been this easy. Eppendorf offers a broad range of Eppenorf SmartBlocks for tubes from 0.2 mL to 50 mL as well as plates (MTP, DWP, and PCR plates 96 / 384) to use with Eppendorf ThermoMixer® C and ThermoStat C. All Eppendorf SmartBlocks are equipped with the outstanding Eppendorf QuickRelease™ system that makes the block exchange super fast and easy.




**Product features**
> Optimized block design supports optimal temperature transfer within your sample to receive excellent results
> Eppendorf SmartBlock-specific calibration by integrated sensor technology maximizes temperature accuracy and homogeneity
> Every Eppendorf SmartBlock is individually inspected in production for temperature accuracy and is delivered incl. a serial-number specific certificate for documentation purpose
> Insulated thermoblocks for ergonomic operation – you won't burn your fingers (PhysioCare Concept)
> Automatic block recognition for safe handling
> Optimized block design ensures maximum temperature transfer to the sample
> Eppendorf QuickRelease™ technology enables fast and simple block exchange – no need for tools

**Eppendorf SmartBlocks for the following reaction vessels:**
**A.** 24 lab vessels up to 12 mm in diameter
**B.** 8 × 15 mL conical tubes
**C.** 4 × 50 mL conical tubes
**D.** Eppendorf Deepwell Plates 96/500 µL
**E.** Eppendorf Deepwell Plates 96/1000 µL
**F.** 24 × cryo tubes
**G.** 8 × Eppendorf Tubes® 5.0 mL
**H.** Lid for Eppendorf SmartBlock plates, PCR 96, PCR 384, DWP, 0.5 mL, 1.5 mL and 2.0 mL
**I.** 384-well PCR plates
**J.** 96-well PCR plates
**K.** 24 × 0.5 mL vessels
**L.** 24 × 1.5 mL vessels
**M.** 24 × 2.0 mL vessels
**N.** MTPs and Deepwell Plates
**O.** 4 × 25 mL adapter for SmartBlock 50 mL

i For more information go to www.eppendorf.com/smartblocks

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# Eppendorf SmartBlock™




**Technical specifications**

| Description | Lid[1] | Max. speed[2] | Max. temp. | ThermoMixer C / ThermoStat C | ThermoTop | SmartExtender |
|---|---|---|---|---|---|---|
| **Eppendorf SmartBlock™ 0.5 mL** | ■ | 2,000 rpm | 100 °C | ■ | ■ | ■ |
| **Eppendorf SmartBlock™ 1.5 mL** | ■ | 2,000 rpm | 100 °C | ■ | ■ | ■ |
| **Eppendorf SmartBlock™ 2.0 mL** | ■ | 2,000 rpm | 100 °C | ■ | ■ | ■ |
| **Eppendorf SmartBlock™ 5 mL** | | 1,000 rpm | 100 °C | ■ | | ■ |
| **Eppendorf SmartBlock™ 15 mL** | | 1,000 rpm | 100 °C | ■ | | ■ |
| **Eppendorf SmartBlock™ 50 mL** | | 1,000 rpm | 100 °C | ■ | | ■ |
| **Eppendorf SmartBlock™ 12 mm** | | 2,000 rpm | 110 °C[4] | ■ | | ■ |
| **Eppendorf SmartBlock™ cryo** | | 2,000 rpm | 110 °C[4] | ■ | | ■ |
| **Eppendorf SmartBlock™ plates** | ■ | 3,000 rpm[3] | 100 °C | ■ | ■ | ■ |
| **Eppendorf SmartBlock™ PCR 96** | ■ | 2,000 rpm | 100 °C | ■ | ■ | ■ |
| **Eppendorf SmartBlock™ PCR 384** | ■ | 3,000 rpm | 100 °C | ■ | ■ | ■ |
| **Eppendorf SmartBlock™ DWP 500** | ■ | 1,500 rpm | 100 °C | ■ | ■ | ■ |
| **Eppendorf SmartBlock™ DWP 1000** | ■ | 1,500 rpm | 100 °C | ■ | ■ | ■ |
| **Adapter 25 mL for Eppendorf SmartBlock™ 50 mL** | | 1,000 rpm | 100 °C | ■ | | ■ |

[1] Maximum mixing frequency is 2,000 rpm when lid is used [2] Max. speed depends on exact fitting of vessel [3] max. mixing frequency using DWP is 2,000 rpm (80°C and higher: limited to 1,000 rpm) [4] Only available with ThermoStat C

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf SmartBlock™ 0.5 mL**, thermoblock for 24 reaction vessels 0.5 mL, incl. Transfer Rack 0.5 mL | 5361 000 031 |
| **Eppendorf SmartBlock™ 1.5 mL**, thermoblock for 24 reaction vessels 1.5 mL, incl. Transfer Rack 1.5/2.0 mL | 5360 000 038 |
| **Eppendorf SmartBlock™ 2.0 mL**, thermoblock for 24 reaction vessels 2.0 mL, incl. Transfer Rack 1.5/2.0 mL | 5362 000 035 |
| **Eppendorf SmartBlock™ 5 mL**, thermoblock for 8 Eppendorf Tubes® 5.0 mL, 8 × 5.0 mL reaction vessels | 5309 000 007 |
| **Eppendorf SmartBlock™ 15 mL**, thermoblock for 8 conical tubes 15 mL | 5366 000 021 |
| **Adapter 25 mL for Eppendorf SmartBlock™ 50 mL**, Set consisting of 4 adapters and removal tool | 5365 000 109 |
| **Eppendorf SmartBlock™ 50 mL**, thermoblock for 4 conical tubes 50 mL | 5365 000 028 |
| **Eppendorf SmartBlock™ 12 mm**, thermoblock for 24 reaction vessels, diameter up to 12 mm, height 35 mm – 76 mm | 5364 000 024 |
| **Eppendorf SmartBlock™ cryo**, thermoblock for 24 cryo tubes, 1.5 mL – 2 mL, max. external diameter 12.5 mm, all base designs | 5367 000 025 |
| **Eppendorf SmartBlock™ PCR 96**, thermoblock for PCR plates 96, incl. lid | 5306 000 006 |
| **Eppendorf SmartBlock™ PCR 384**, thermoblock for PCR plates 384, incl. lid | 5307 000 000 |
| **Eppendorf SmartBlock™ DWP 500**, thermoblock for Eppendorf Deepwell Plates 96/500 µL, incl. lid | 5316 000 004 |
| **Eppendorf SmartBlock™ DWP 1000**, thermoblock for Eppendorf Deepwell Plate 96/1,000 µL, incl. lid | 5310 000 002 |
| **Eppendorf SmartBlock™ plates**, thermoblock for microplates and Deepwell Plates, incl. lid | 5363 000 039 |
| **Lid**, for Eppendorf ThermoMixer® F0.5/F1.5/F2.0 and FP, for Eppendorf SmartBlock™ 0.5 – 2.0 mL, plates, PCR 96, PCR 384, and DWP | 5363 000 233 |
| **Transfer Rack 0.5 mL**, for Eppendorf SmartBlock™ 0.5 mL | 3880 000 305 |
| **Transfer Rack 1.5/2.0 mL**, for Eppendorf SmartBlock™ 1.5 mL and Eppendorf SmartBlock™ 2.0 mL | 3880 000 151 |

Technical specifications subject to change.



# Eppendorf ThermoTop®

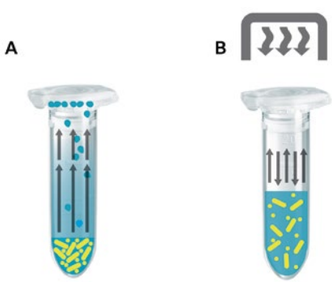
**Tired of condensation in your tubes?**
We combined the Eppendorf ThermoMixer® with the PCR cycler approach of a heated lid and generated the Eppendorf ThermoTop. The outstanding Eppendorf **condens**.*protect*® technology reliably prevents condensation within the tube lid – sample concentrations are consistent for the incubation time. In addition, the temperature homogeneity is further improved. Get optimal sample reaction conditions to produce optimal results.
Perfect condensation prevention when dealing with small volumes: The Eppendorf ThermoTop with **condens**.*protect* technology heated lid avoids condensation on tube lid and tube wall. It is compatible with ThermoMixer C/ ThermoStat C with SmartBlock plates and lab vessels up to 2 mL and ThermoMixer F 0.5/F1.5/F2.0/FP.




**Applications**
> All temperature control procedures for which the formation of condensation on the tube lid and wall should be reliably avoided



**Product features**
> Efficient and reliable of condensation prevention for safe sample heating
> Get constant reaction conditions for optimal enzymatic performance within your samples
> Wireless connection with automatic recognition and operation for user-friendly handling
> Suitable for use with Eppendorf ThermoMixer® F0.5/F1.5/F2.0/FP as well as Eppendorf ThermoMixer C and Eppendorf ThermoStat C with Eppendorf SmartBlocks 0.5 mL, 1.5 mL, 2.0 mL, plates, PCR 96, and PCR 384 (not in combination with Eppendorf Transfer Rack or SmartExtender)




**Principle:**
**A =** Condensation without Eppendorf ThermoTop
**B =** Free of condensation with Eppendorf ThermoTop

www.eppendorf.com/thermotop-video

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf ThermoTop®**, with **condens**.*protect*® technology | 5308 000 003 |

i For more information go to www.eppendorf.com/thermotop

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# Eppendorf ThermoMixer® F

**Doing quite routine sample prep steps?**
Wether you regularly work with 0.5/1.5/2.0 mL vessels or plates (MTP and DWP) - our customized fixed-block Eppendorf ThermoMixer F family offers you a good solution for your special application. Just simplify your routine work load.




**Product features**
> Heating and mixing in 0.5/1.5/2.0 mL reaction vessels (F0.5/F1.5/F2.0) or plates (FP)
> Up to 1,500 rpm (F1.5/F2.0) or 2,000 rpm (F0.5/FP) for efficient sample mixing
> Outstanding [2D]Mix-Control technology results in excellent mixing performance
> Anti-spill technology prevents lid wetting and cross-contamination
> Compatible with Eppendorf ThermoTop (**condens**.*protect*®) for condensation-free sample handling
> Predefined temperature keys (37 °C, 42 °C, 56 °C, and 95 °C) for simple and intuitive operation
> Very fast heat up speed of up to 18 °C/min, reducing your waiting time
> Eppendorf PhysioCare Concept® provides ergonomic design and operation

www.eppendorf.com/thermomixer-f-video

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf ThermoMixer® FP**, with thermoblock for Microplates and Deepwell Plates, including lid, 220 – 240 V/50 – 60 Hz | 5385 000 016 |
| **Eppendorf ThermoMixer® F0.5**, with thermoblock for 24 reaction vessels 0.5 mL, 200 – 240 V/50 – 60 Hz | 5386 000 010 |
| **Eppendorf ThermoMixer® F1.5**, with thermoblock for 24 reaction vessels 1.5 mL, 220 – 240 V/50 – 60 Hz | 5384 000 012 |
| **Eppendorf ThermoMixer® F2.0**, with thermoblock for 24 reaction vessels 2.0 mL, 220 – 240 V/50 – 60 Hz | 5387 000 013 |
| **Eppendorf ThermoTop®**, with **condens**.*protect*® technology | 5308 000 003 |
| **SmartExtender**, 1.5 mL | 5322 000 008 |

↗ Ordering information for other voltage options begins on page 450





# MixMate®

**Straight mixing required?**
Mix your samples in seconds, fully and reliably. Whether in plates (96 or 384-wells) or reaction tubes, your samples will be optimally processed. With the integrated ergonomic vortex function, the MixMate is your perfect lab assistant. The innovative additional 2 second run timer allows vortexing your next sample without restarting.




| | Plate type | 96-well plates | 384-well plates |
|---|---|---|---|
| **Mixing of different buffers** | | | |
| **Buffer with detergent** | PCR | 15 s<br>1,800 rpm | 45 s<br>2,800 rpm |
| **Buffer without detergent** | PCR | 30 s<br>2,100 rpm | 30 s<br>3,000 rpm |
| **Buffer with high salt concentration** | DWP | 5 s<br>1,400 rpm | 1 min<br>2,000 rpm |
| **Buffer with DMSO** | MTP | 5 s<br>1,100 rpm | 5 s<br>2,200 rpm |
| **Mixing of viscous solutions** | | | |
| **Genomic-DNA** | PCR | 30 s<br>2,000 rpm | 45 s<br>3,000 rpm |
| **Resuspension of pellets** | | | |
| **Bacteria cell pellets** | DWP | 30 s<br>2,000 rpm | 3 min<br>2,000 rpm |

MixMate provides enough mixing power to handle the most challenging mixing tasks. Most samples are efficiently mixed within less than a minute independent of vessel geometry or sample properties. For more information see AppNote 130.

**Product features**
> High-speed mixer (up to 3,000 rpm) for fast and efficient mixing of small volumes in all common vessel formats up to 50 mL
> [2D]Mix-Control technology (planar mixing orbit without vertical movement) for controlled mixing and reproducible results in seconds
> Anti-spill technology for controlled mixing movements without lid wetting and cross-contamination
> 5 different tube holders (0.5 mL, 1.5/2.0 mL, 5/15 mL, 25/50 mL, PCR 96-well plates) for high vessel flexibility
> Integrated ergonomic vortex function for various vessel formats for distinct sample mixing
> Minimal hand/arm vibration transfer during vortexing (certificate available) for ergonomic operation (PhysioCare Concept®)
> 5 soft keys with pre-defined standard mixing parameters for easy usage
> Very stable - remains stationary even at maximum mixing speed
> Whisper quiet operation to benefit the work environment



**Ordering information**

| Description | Order no. |
|---|---|
| **MixMate®**, basic device without tube holders, 230 V/50 – 60 Hz (EU) | 5353 000 510 |
| **Tube Holder 0.5 mL**, for 24 × 0.5 mL reaction vessels | 5353 040 121 |
| **Tube Holder 1.5/2.0 mL**, for 24 × 1.5 mL or 2.0 mL reaction vessels | 5353 040 130 |
| **Tube Holder 5/15 mL**, for 8 x 5/15 mL conical tubes | 5353 040 148 |
| **Tube Holder 25/50 mL**, for 4 x 25/50 mL conical tubes | 5353 040 156 |
| **Tube Holder PCR 96**, for 96 × 0.2 mL PCR tubes, PCR strips or 1 × 96-well PCR plate, semi-skirted or unskirted | 5353 040 113 |

↗ Ordering information for other voltage options begins on page 450

# Accessories



**IsoTherm-System®**
> IsoTherm-System: IsoRack (work rack), IsoSafe (insulating box), and two IsoPacks (cool packs)
> Ideal for cooling, transporting, and storing deep-frozen samples
> Dry incubation technology reduces contamination risk associated with classical icebath incubation for safe sample handling
> Holds up to 24 micro tubes (e.g., 0.5 mL or 1.5 mL/2.0 mL) for broad flexibility
> Two versions of IsoPack (cold pack) available: White maintains 0 °C for up to 6 hours. Blue maintains -21 °C for up to 3 hour
> Racks are stackable, autoclavable and can be centrifuged in the MTP rotor

**Ordering information**

| Description | Order no. |
|---|---|
| **IsoTherm-System® starter set**, includes IsoSafe, IsoRack, 0 °C IsoPack and -21 °C IsoPack | |
| for 0.5 mL tubes | 3880 000 011 |
| for 1.5/2.0 mL tubes | 3880 001 018 |
| **IsoPack and IsoRack set**, includes one IsoPack and one IsoRack | |
| for 0.5 mL vessels, 0 °C | 3880 000 160 |
| for 0.5 mL vessels, -21 °C | 3880 000 178 |
| for 1.5/2.0 mL vessels, 0 °C | 3880 001 166 |
| for 1.5/2.0 mL vessels, -21 °C | 3880 001 174 |
| **IsoSafe and IsoPack**, includes 1 IsoSafe and 3 IsoPack | |
| for 1.5/2.0 mL vessels, 0 °C | 3880 001 026 |
| for 1.5/2.0 mL vessels, -21 °C | 3880 001 042 |



**PCR-Cooler**
> Handling system for sample set-up, protection, transport, and storage of sensitive samples – keep you samples safe
> Clear temperature indicator: Color of PCR cooler changes when temperature exceeds 7 °C
> Accommodates PCR-vessels as tubes, strips, or plates for flexible vessel usage
> Dry incubation technology reduces contamination risk of samples
> Keeps an entire 96-well PCR plate cold for more than an hour at 0 °C (with two-hour precooling at -20 °C) for safe samples

**Ordering information**

| Description | Order no. |
|---|---|
| **PCR-Cooler 0.2 mL Starter Set**, 1 pink, 1 blue | 3881 000 015 |
| **PCR-Cooler 0.2 mL**, Pink | 3881 000 023 |
| **PCR-Cooler 0.2 mL**, Blue | 3881 000 031 |

**Color change**
Eppendorf PCR-cooler changes color depending on temperature
(up to 1 h at 0 °C after precooling at -20 °C)

**below 7 °C** **above 7 °C**







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# Eppendorf Purity Grades for Tubes and Plates




**Eppendorf sample handling consumables stand for highest quality and purity**
Our tubes and plates are available in a variety of purity grades (see table below) www.eppendorf.com/purity. The purity grades “sterile”, “PCR clean”, “Biopur®” and „Forensic DNA Grade“ are certified by an accredited external lab. As a special service, we make the lot-specific certificates available online (www.eppendorf.com/certificates)

| **Purity grades** | | | | | |
|---|---|---|---|---|---|
| **Eppendorf purity grades for tubes and plates** | **Eppendorf Quality™** | **Eppendorf sterile** | **Eppendorf PCR clean** | **Eppendorf Forensic DNA Grade**[5] | **Eppendorf Biopur®** |
| **Continuous quality control for the following relevant criteria:** | | | | | |
| Function, tightness, precision | ■ | ■ | ■ | ■ | ■ |
| Low wetting | ■ | ■ | ■ | ■ | ■ |
| High chemical resistance | ■ | ■ | ■ | ■ | ■ |
| High thermal resistance | ■ | ■ | ■ | ■ | ■ |
| High resistance to centrifugation forces[1] | ■ | ■ | ■ | ■ | ■ |
| High transparency | ■ | ■ | ■ | ■ | ■ |
| Precisely shaped | ■ | ■ | ■ | ■ | ■ |
| **Lot-specific certificates[2] for the following purity criteria:** | | | | | |
| Pyrogen-free[6] (endotoxin-free) | | ■ | | | ■ |
| Sterile (Ph.Eur./USP) | | ■ | | | ■ |
| DNA-free[6] (Human DNA) | | | ■ | ■ | ■ |
| DNA-free[6] (Bacteria DNA) | | | | | ■ |
| DNase-free[6] | | | ■ | ■ | ■ |
| RNase-free[6] | | | ■ | ■ | ■ |
| PCR-inhibitor-free[6] | | | ■ | ■ | ■ |
| ATP-free[6] | | | | | ■ |
| **Eppendorf Tubes®** | | | | | |
| Safe-Lock Tubes | ■ | | ■ | ■ | ■[3] |
| 3810X | ■ | | ■ | | |
| Eppendorf Tubes® 5.0 mL | ■ | ■ | ■ | ■ | ■[3] |
| Eppendorf Conical Tubes 25 mL | ■ | ■[4] | ■ | | |
| Conical Tubes 15 mL and 50 mL | | ■[4] | | ■[3] | |
| DNA and Protein LoBind Tubes | | | ■ | | |
| PCR Tubes (PCR and real-time PCR) | | | ■ | ■ | |
| Cap Strips (PCR and real-time PCR) | | | ■ | ■ | |
| **Eppendorf Plates® and accessories** | | | | | |
| Deepwell Plates and Microplates | | ■ | ■ | | |
| Protein LoBind Deepwell Plates | | | ■ | | |
| DNA LoBind Deepwell Plates | | | ■ | | |
| Eppendorf twin.tec® PCR Plates (PCR and real-time PCR) | | | ■ | | ■ |
| Eppendorf twin.tec® PCR Plates | | | | ■[3] | ■ |
| Heat Sealing Film and Foil | | | ■ | | |
| PCR Storage Films and Foils | | | ■ | | |
| Plate Lid | | ■ | ■ | | |

[1] For accurate details regarding resistance to centrifugation, please refer to the respective product pages. [2] Lot-specific certificate can be downloaded from www.eppendorf.com/certificates. [3] Individually packaged. [4] Eppendorf sterile, RNase free, DNase free, DNA free. Testing showed conformity within the detection limits (human and bacteria DNA) [5] According to ISO 18385. [6] Testing showed conformity within the detection limits

www.eppendorf.com/puritygrades-brochure

Technical specifications subject to change.



# Eppendorf Tubes® 3810X

**Description**
The easy-to-open, securely closing, Eppendorf Tubes® 3810X offers comfort and dependability for sample preparation, centrifugation, and storage. One vessel for all applications in molecular biology, chemistry, and biochemistry.
**Safer than ever: Eppendorf Tubes® 3810X** are designed for centrifugation up to 30.000 x g!




The 3810X tube ensures tried and tested tight lid closure and easy, stress-free opening and closing.

**Product features**
> Tube lid is easy to open and close for ergonomic operation
> Polypropylene provides high resistance to chemicals, mechanical stress, and temperature extremes
> g-Safe®: Exceptional centrifugation stability up to 30,000 × g prevents sample loss due to tube breakage and provides extra safety when working with hazardous samples
> Manufactured without the use of slip agents, plasticizers, and biocides – substances that have been shown to leach from plastic consumables into the sample and negatively affect bio-assay results
> Graduation for visual control of the pipetted volume
> Frosted lid and surface on the side for easy labeling
> Ensured functionality from -86 °C to 100 °C
> Autoclavable when open (121 °C, 20 min)
> Available in Eppendorf Quality and lot-certified PCR clean purity grade

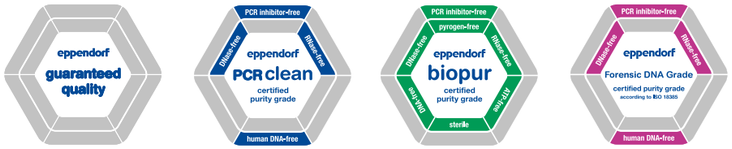
| **Ordering information** | | |
|---|---|---|
| **Description** | **Color** | **Order no.** |
| **Eppendorf Tubes® 3810X**, 1.5 mL, g-safe® centrifugation stability | | |
| Eppendorf Quality™, 1,000 pcs. | colorless | 0030 125 150 |
| Eppendorf Quality™, 1,000 pcs. | yellow | 0030 125 207 |
| Eppendorf Quality™, 1,000 pcs. | red | 0030 125 193 |
| Eppendorf Quality™, 1,000 pcs. | blue | 0030 125 177 |
| Eppendorf Quality™, 1,000 pcs. | green | 0030 125 185 |
| PCR clean, 1,000 pcs. | colorless | 0030 125 215 |
| **Eppendorf Tube Rack**, 36 positions, for 1.5 mL and 2.0 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable | | 0030 119 819 |
| **Storage Box 8 × 8**, for 64 tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | | 0030 140 524 |

i For more information go to www.eppendorf.com/consumables

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# Eppendorf Safe-Lock Tubes

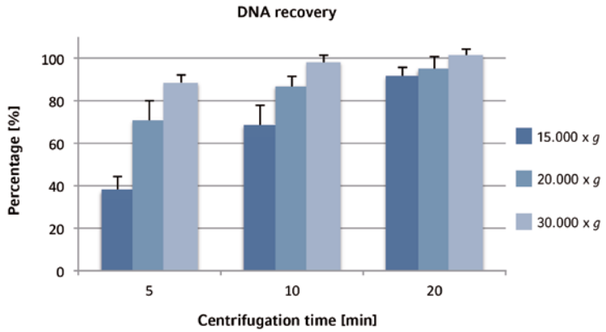
**Description**
Eppendorf Safe-Lock Tubes are the result of 50 years of continuous improvement and development. The original Safe-Lock tubes protect your sample with excellent centrifugation stability, feature optimized sealing properties, and reliably prevent sample evaporation. Trust in the original Eppendorf Safe-Lock Tubes, because your samples deserve nothing but the best.







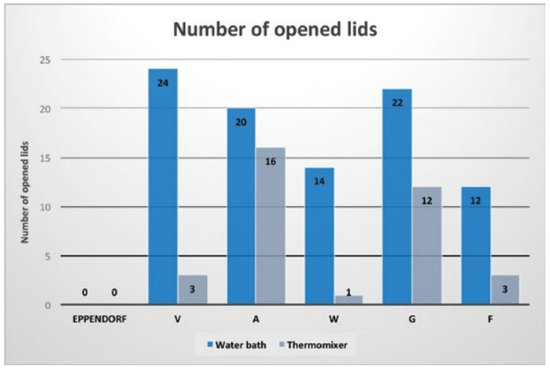
**Product features**
> Hinged Eppendorf Safe-Lock lid prevents unintentional lid opening during incubation and storage
> Polypropylene provides high resistance to chemicals, mechanical stress and temperature extremes
> Manufactured without the use of slip agents, plasticizers, and biocides – substances that have been shown to leach from plastic consumables into the sample and negatively affect bio-assay results
> g-Safe®: Depending on Safe-Lock Tube variant (see manual) exceptional centrifugation stability up to 30,000 × g prevents sample loss due to tube breakage and provides extra safety when working with hazardous samples
> Precise lid sealing for minimal evaporation rates during long-term storage
> Large frosted lid and surface on the side for easy labeling
> Ensured functionality from -86 °C to 100 °C
> Autoclavable when open (121 °C, 20 min)
> Available in lot-certified PCR clean, Eppendorf Forensic DNA Grade, and Biopur® quality for tested purity
> Available in Eppendorf Protein and DNA LoBind material for maximum recovery of valuable samples and in Amber for light-sensitive samples




Using the Eppendorf 30,000 × g system comprising of Safe-Lock Tubes and Centrifuge 5430 R with high-speed rotor, the effect of relative centrifugal force (rcf), duration of centrifugation and the amount of isopropanol on the recovery rate of plasmid DNA from alcohol precipitation were investigated. All three factors play a role, with rcf having the greatest effect. By centrifuging the Eppendorf Safe-Lock Tubes at 30,000 × g, nearly 90 % of DNA could be recovered from a 5 min centrifugation. For more information see Application Note 234.








Test conditions: 24 tubes of different manufacturers were incubated either in water bath or thermo mixer with nominal volume (1.5 mL) of 1 % SDS at 100 °C for 10 min.

**Ordering information**

| Description | | | Order no. |
|---|---|---|---|
| **Eppendorf Safe-Lock Tubes**, 0.5 mL | | | |
| Eppendorf Quality™, 500 tubes | | colorless | 0030 121 023 |
| Eppendorf Quality™, 500 tubes | | yellow | 0030 121 112 |
| Eppendorf Quality™, 500 tubes | | red | 0030 121 120 |
| Eppendorf Quality™, 500 tubes | | blue | 0030 121 139 |
| Eppendorf Quality™, 500 tubes | | green | 0030 121 147 |
| Eppendorf Quality™, 500 tubes | | assorted colors (per 100) | 0030 121 708 |
| Forensic DNA Grade, 500 tubes (10 bags × 50 tubes) | | colorless | 0030 123 603 |
| PCR clean, 500 tubes | | amber (light protection) | 0030 121 155 |
| PCR clean, 500 tubes | | colorless | 0030 123 301 |
| Biopur®, 50 tubes, individually packed | | colorless | 0030 121 570 |
| **Eppendorf Safe-Lock Tubes**, 1.5 mL | | | |
| Eppendorf Quality™, 1,000 tubes | | colorless | 0030 120 086 |
| Eppendorf Quality™, 1,000 tubes | | yellow | 0030 120 159 |
| Eppendorf Quality™, 1,000 tubes | | red | 0030 120 167 |
| Eppendorf Quality™, 1,000 tubes | | blue | 0030 120 175 |
| Eppendorf Quality™, 1,000 tubes | | green | 0030 120 183 |
| Eppendorf Quality™, 1,000 tubes | | assorted colors (per 200) | 0030 121 694 |
| Biopur®, 100 tubes, individually packed | | colorless | 0030 121 589 |
| Forensic DNA Grade, 500 tubes (10 bags × 50 tubes) | | colorless | 0030 123 611 |
| PCR clean, 1,000 tubes | | amber (light protection) | 0030 120 191 |
| PCR clean, 1,000 tubes | | colorless | 0030 123 328 |
| **Eppendorf Safe-Lock Tubes**, 2.0 mL | | | |
| Eppendorf Quality™, 1,000 tubes | | colorless | 0030 120 094 |
| Eppendorf Quality™, 1,000 tubes | | yellow | 0030 120 205 |
| Eppendorf Quality™, 1,000 tubes | | red | 0030 120 213 |
| Eppendorf Quality™, 1,000 tubes | | blue | 0030 120 221 |
| Eppendorf Quality™, 1,000 tubes | | green | 0030 120 230 |
| Eppendorf Quality™, 1,000 tubes | | assorted colors (per 200) | 0030 121 686 |
| Biopur®, 100 tubes, individually packed | | colorless | 0030 121 597 |
| Forensic DNA Grade, 500 tubes (10 bags × 50 tubes) | | colorless | 0030 123 620 |
| PCR clean, 1,000 tubes | | amber (light protection) | 0030 120 248 |
| PCR clean, 1,000 tubes | | colorless | 0030 123 344 |
| **Storage Box 8 × 8**, for 64 tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | | | 0030 140 524 |
| **Eppendorf Tube Rack**, 36 positions, for 1.5 mL and 2.0 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable | | | 0030 119 819 |

i For more information go to www.eppendorf.com/SafeLock

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# Eppendorf Tubes® 5.0 mL

**Description**
Eppendorf Tubes are the benchmark for simple and safe sample preparation from 0.5 to 2.0 mL. For larger volumes, 15 mL and 50 mL conical tubes are available. With medium sample volumes you may face an issue: they need to be processed with large conical screw cap tubes - impractical, inconvenient and often prone to contamination. The availability of snap cap and screw cap formats enable the optimized choice for different requirements in sample preparation, incubation, storage, or other applications.

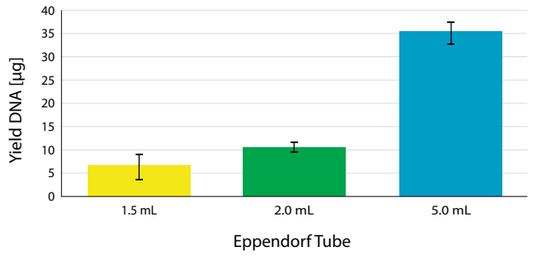






**Product features**
> Matching high-speed rotors for Eppendorf Centrifuges 5430/R, 5427 R, 5804/R and 5810/R
> 5.0 mL adapters and inserts for all existing Eppendorf rotors, with bore holes for 15 mL or 50 mL tubes
> Functional rack for bench work
> Storage boxes for freezing
> 5.0 mL thermoblocks for Eppendorf ThermoMixer® C, Eppendorf Thermomixer® comfort, ThermoStat C and ThermoStat plus
> 5.0 mL Reservoir Rack Module for the automated pipetting system ep*Motion*®
> Available in Eppendorf Protein and DNA LoBind material for maximum recovery of valuable samples when only low sample amount is available
> Available in Amber for light-sensitive samples

**Applications**
> Easier processing of samples up to 5.0 mL
> Higher yields in DNA isolation, especially with samples with limited quantity of source material
> Convenient and safe cell culture applications
> Easier sample access lowers the risk of contamination
> Preparation of mastermixes and buffers
> Less storage space needed
> Safe cell and tissue lysis
> Storage of samples and liquid solutions




**Higher yields in DNA isolation**
e.g. the yield of low-copy plasmid DNA can be significantly improved by increasing the culture volume to 5 mL. Data shown in the diagram were generated with 5.0 mL snap cap format – for additional information and protocol description please see Application Note 262.

i For more information go to www.eppendorf.com/5mL







**Light Protection as well as Transparency**
The amber colored Eppendorf Tubes® 5.0 mL with screw cap combine effective protection of your sensitive samples from energy-rich light in the lower wavelength range with a high degree of transparency. You get full control on the insertion depths of pipette tips - often a source of contamination when handling solutions in intransparent tube formats.

**Ordering information**

| | Description | Order no. |
|---|---|---|
| New | **Eppendorf Tubes® 5.0 mL with snap cap**, 5.0 mL | |
| | Eppendorf Quality™, colorless, 200 tubes (2 bags × 100 tubes) | 0030 119 401 |
| | PCR clean, colorless, 200 tubes (2 bags × 100 tubes) | 0030 119 460 |
| | Biopur®, colorless, 50 tubes, individually wrapped | 0030 119 479 |
| | Forensic DNA Grade, colorless, 200 tubes (4 bags × 50 tubes) | 0030 119 606 |
| | Sterile, colorless, 200 tubes (10 bags × 20 tubes) | 0030 119 487 |
| | PCR clean, amber (light protection), 200 tubes (2 bags × 100 tubes) | 0030 119 452 |
| | **DNA LoBind Tubes**, DNA LoBind, 5.0 mL, PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 108 310 |
| | **Protein LoBind Tubes**, Protein LoBind, 5.0 mL, PCR clean, colorless, 100 tubes (2 bags × 50 tubes) | 0030 108 302 |
| New | **Eppendorf Tubes® 5.0 mL with screw cap**, 5.0 mL | |
| | Eppendorf Quality™, colorless, 200 tubes (2 bags × 100 tubes) | 0030 122 305 |
| | PCR clean, colorless, 200 tubes (2 bags × 100 tubes) | 0030 122 313 |
| | Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 200 tubes (2 bags × 100 tubes) | 0030 122 321 |
| | Forensic DNA Grade, colorless, 200 tubes (2 bags × 100 tubes) | 0030 122 402 |
| | Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, amber (light protection), 200 tubes (2 bags × 100 tubes) | 0030 122 330 |
| | **Eppendorf Tubes® 5.0 mL with snap cap starter pack**, 5.0 mL, 400 tubes (2 packages with 2 bags of 100 each), 2 racks (with 12 locations each), white, 8 universal adapters for rotors with bore holes for 15 mL conical tubes, PCR clean, colorless | 0030 119 380 |
| | **Eppendorf Tubes® 5.0 mL with screw cap, starter pack**, 400 tubes (2 packages with 2 bags of 100 each), 2 racks (with 12 locations each), white, 8 universal adapters for rotors with bore holes for 15 mL conical tubes, PCR clean, colorless | 0030 122 364 |
| | **DNA LoBind Tubes**, DNA LoBind, 5.0 mL, with screw cap, PCR clean, colorless, 200 tubes (2 bags × 100 tubes) | 0030 122 348 |
| | **Protein LoBind Tubes**, Protein LoBind, 5.0 mL, with screw cap, PCR clean, colorless, 200 tubes (2 bags × 100 tubes) | 0030 122 356 |

**Ordering information**

| Eppendorf Tubes® 5.0 mL – System Accessories | Order no. |
|---|---|
| **Tube Clip for Eppendorf Tubes® 5.0 mL**, Eppendorf Quality™, 10 pcs. | 0030 119 509 |
| **Eppendorf Tube Rack**, 12 positions, for 5.0 mL and 15 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 827 |
| **Storage Box 5 × 5**, for 25 tubes 5 mL, 4 pcs., height 64 mm, 2.5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 532 |
| **Storage Box 5 × 5**, for 25 tubes 5 mL screw cap, 2 pcs., height 76 mm, 3 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 613 |
| **Rotor FA-45-12-17**, aerosol-tight, incl. rotor lid, for 12 × Eppendorf Tubes® 5.0 mL | 5409 700 006 |
| **Rotor FA-45-16-17**, aerosol-tight, incl. rotor lid, for 16 × Eppendorf Tubes® 5.0 mL | 5427 750 002 |
| **Rotor FA-45-20-17**, incl. rotor lid, for 20 × Eppendorf Tubes® 5.0 mL | 5820 765 003 |
| **Adapter**, for 14 Eppendorf Tubes® 5.0 mL, for Rotor S-4-104, Rotor S-4x1000 round buckets and Rotor S-4x750, set of 2 pcs. | 5825 739 000 |
| **Adapter**, for 1 × Eppendorf Tubes® 5.0 mL, for 100 mL round bucket in Rotor A-4-38, set of 2 pcs. | 5702 733 008 |
| **Adapter**, for 1 x Eppendorf Tubes® 5.0 mL, for Rotor F-35-6-30, small rotor bore, set of 2 pcs. | 5427 747 001 |
| **Adapter**, for 1 Eppendorf Tubes® 5.0 mL, for Rotor F-34-6-38, set of 2 pcs. | 5804 777 000 |
| **Adapter**, for 1 x Eppendorf Tubes® 5.0 mL, for Rotor F-35-6-30, small rotor bore, set of 2 pcs. | 5427 746 005 |
| **Adapter**, for 1 Eppendorf Tubes® 5.0 mL with snap cap, for Rotor FA-45-6-30 and FA-6x50, set of 2 pcs. | 5820 730 005 |
| **Universal adapter**, for 1 × Eppendorf Tubes® 5.0 mL, for rotors for conical 15 mL tubes, set of 8 pcs. | 5820 732 008 |
| **Adapter**, for 8 Eppendorf Tubes® 5.0 mL, for Rotor S-4-72, set of 2 pcs. | 5804 793 005 |
| **Exchangeable thermoblocks**, for 8 × 5.0 mL Eppendorf Tubes® | 5309 000 333 |
| **Eppendorf SmartBlock™ 5 mL**, thermoblock for 8 Eppendorf Tubes® 5.0 mL, 8 × 5.0 mL reaction vessels | 5309 000 007 |
| **ReservoirRack Module TC**, for use in ep*Motion*® ReservoirRacks, temperable, 4 × Eppendorf Tubes® 5.0 mL | 5075 799 340 |

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# Eppendorf Conical Tubes 25 mL

**Description**
Discover the new Eppendorf Conical Tubes 25 mL! With the new Eppendorf Conical Tubes 25 mL, we take the field of conical tubes to the next level. When sample volumes higher than 15 mL but much lower than 50 mL must be prepared, centrifuged, mixed, or stored, researchers often have no choice but to use traditional conical screw cap tubes with a volume of either 15 mL or 50 mL. This dilemma is now resolved by the new Eppendorf Conical Tubes 25 mL. They have the same diameter as the 50 mL conical tube but are not as long. Thus the insertion depth of pipettes into the tube is much lower compared to a 50 mL conical tube. The new 25 mL tube is available with screw cap and also with the innovative SnapTec™ cap. This patented lid solution represents a unique snap cap within the conical tubes segment.

**New**




**Product features**
> Reduced height gives easy sample access even with low-volume pipettes and tips – reduced risk of cross-contamination between pipette and tube
> Single-handed opening and closing through SnapTec™ cap version for fast liquid extraction and addition
> Centrifugation stability up to 17,000 x g[1)] for both tube variants - SnapTec™ cap and screw cap
> Tightness is ensured from -86° C up to 100° C[1)]
> Less storage space needed due to ~20 % lower height compared to 50 mL conical tubes
> Matching accessories for centrifugation, mixing and heating, sample preparation and storage ensure straightforward integration into existing laboratory environment
> Premium USP class 6 raw material and no use of slip agents, plasticizers, and biocides during manufacturing ensure highest sample integrity and optimal sample and pellet visibility
> Screw cap with flattened and grooved sides supports a user-friendly ergonomic handling, enables a stable upright positioning, and reduces contamination risk
> Sterile, pyrogen-, DNase-, RNase-, and DNA-free. Each individual lot is checked and certified for quality and purity.
> SnapTec™ cap tube can be autoclaved up to 121°C (20 min)[1)]

[1)] Please note the Instructions For Use for details (www.eppendorf.com/manuals): „Eppendorf Conical Tubes 25 mL, snap cap" and „Eppendorf Conical Tubes 15, 25 and 50 mL"

**Applications**
> Cell culture applications, optimal for pooling, e.g. pooling media from 3 x T75 flasks (25 mL)
> Sample preparation in microbiology and molecular biology labs, e.g. bacteria culture in midi prep size, cloning, DNA extraction when working with a relatively high amount of biological starting material (in botany)
> Storage and transport of samples and solutions up to 25 mL
> Preparation of master mixes and buffers








Technical specifications subject to change.





**Improved sample processing**
Greater diameter and lower height than 15 mL conical tubes enable better sample access and faster resuspension of pellets after centrifugation.



**Single-handed operation**
Supports optimized and faster handling of sample solutions, especially in multi-step protocols

# A Full System of Components



**Centrifugation**
Centrifuges with rotors for 50 mL conical tubes, e.g. 59xx series and 58xx series:
Two adapter variants for
snap cap (order no.: 5820 733 004) and
screw cap (order no.: 5820 734 000)
25 mL tubes enable usage in 50 mL rotors and buckets.



**Sample Storage**
**Single Tube Stand:**
Ideally suited for weighing samples on the balance and for handling individual samples. The viewing slit enables observation of the filling level at any time.
(order no.: 0030 119 860)



**Heating and Mixing**
**Eppendorf ThermoMixer® C and Eppendorf ThermoStat C:**
Adapter for 25 mL tubes ensures compatibility with Eppendorf SmartBlock 50 mL.
(order no.: 5365 000 109)



**Tube Rack 25 mL:**
Eppendorf Racks for 50 mL conical tubes can be used with the new 25 mL tubes.
(order no.: 0030 119 835)



**MixMate:**
Tube Holder 25/50 mL, for 4 × 25/50 mL conical tubes. (order no.: 5353 040 156)



**Storage box made of polypropylene:**
Lower height allows space-saving storage for up to 9 × 25 mL tubes in 3.5 inches Eppendorf Storage Boxes.
(order no.: 0030 140 729)

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Conical Tubes 25 mL with SnapTec™ cap**, 25 mL | |
| Eppendorf Quality™, colorless, 200 tubes (5 bags × 40 tubes) | 0030 118 405 |
| PCR clean, colorless, 200 tubes (5 bags × 40 tubes) | 0030 118 413 |
| Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 150 tubes (6 bags × 25 tubes) | 0030 118 421 |
| **Eppendorf Conical Tubes 25 mL with screw cap**, 25 mL | |
| Eppendorf Quality™, colorless, 200 tubes (4 bags × 50 tubes) | 0030 122 410 |
| PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 122 429 |
| Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 200 tubes (8 bags × 25 tubes) | 0030 122 437 |

# Eppendorf Conical Tubes 15 mL and 50 mL

**Description**
The Conical Tubes 15 mL and 50 mL extend the volume range of the Eppendorf Tubes®. Safe design and easy handling ensure best sample processing. They represent an optimized solution for cell culture and cell biology applications as well as for sample preparation protocols in microbiology and molecular biology laboratories. Whether centrifugation, mixing, or other applications – the Eppendorf Conical Tubes 15 mL and 50 mL will complete your workflows in an excellent way.




**Premium raw material and no use of slip agents, plasticizers, and biocides during manufacturing ensure**
> excellent sample integrity
> high g-Safe® centrifugation stability
> optimized sample and pellet visibility

**Cap with flattened and grooved sides**
> supports user-friendly ergonomic handling
> enables a stable upright positioning
> minimizes contamination risk

**Reliable and safe labeling due to a large writing area on the tube and due to a flat and light-colored cap**

**Precise dimensions enable maximum compatibility with centrifuge rotors, mixers and shakers**

**Certified purity**
> individual purity certificates are available for each lot

**Applications**
> Convenient and safe cell culture applications
> Sample preparation in microbiology and molecular biology labs
> Storage of samples and solution with larger volumes
> Preparation of mastermixes and buffers

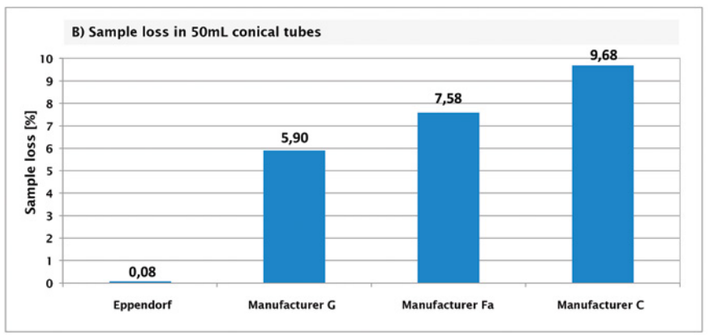



Figure 2: Sample loss after horizontal storage of ethanol in different conical tubes at -86 °C for 24 hours. Sample loss is expressed as percentage of initial weight before storage. For more information see Application Note 343.






Eppendorf Tubes® 5.0 mL with snap cap or screw cap: The ideal complement for smaller volumes (see page 124/125)




Whether centrifugation, mixing, or other applications – the Eppendorf Conical Tubes 15 and 50 mL will complete your workflows in an excellent way




Light Protection as well as Transparency - Two Benefits in one tube

| Technical specifications | | | |
|---|---|---|---|
| **Model** | **Eppendorf Conical Tubes 15 mL** | **Eppendorf Conical Tubes 50 mL** | **Eppendorf Conical Tubes** |
| **External height / Dimensions external** | 121 mm / 17 mm | 116 mm / 30 mm | |
| **Operating temperature** | -86 °C – 100 °C | -86 °C – 100 °C | -86 °C – 100 °C |

| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **Eppendorf Conical Tubes**, 15 mL | |
| Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 500 tubes (10 bags × 50 tubes) | 0030 122 151 |
| Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, amber (light protection), 200 tubes (4 bags × 50 tubes) | 0030 122 194 |
| Forensic DNA Grade, colorless, 100 tubes, individually wrapped | 0030 122 259 |
| Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 500 tubes (20 racks × 25 tubes) | 0030 122 160 |
| **Eppendorf Conical Tubes**, 50 mL | |
| Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 500 tubes (20 bags × 25 tubes) | 0030 122 178 |
| Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, amber (light protection), 200 tubes (8 bags × 25 tubes) | 0030 122 224 |
| Forensic DNA Grade, colorless, 48 tubes, individually wrapped | 0030 122 267 |
| Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free, colorless, 300 tubes (12 racks × 25 tubes) | 0030 122 186 |
| **Eppendorf Tube Rack**, 12 positions, 6 for 5.0 mL and 15 mL tubes and 6 for 25 mL and 50 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 835 |
| **Eppendorf Tube Rack**, 12 positions, for 5.0 mL and 15 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 827 |
| **DNA LoBind Tubes**, DNA LoBind, 15 mL, conical tubes, PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 122 208 |
| **DNA LoBind Tubes**, DNA LoBind, 50 mL, conical tubes, PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 122 232 |
| **Protein LoBind Tubes**, Protein LoBind, 15 mL, conical tube, PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 122 216 |
| **Protein LoBind Tubes**, Protein LoBind, 50 mL, conical tube, PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 122 240 |
| **Storage Box 5 × 5**, for 25 tubes 15 mL, 2 pcs., height 127 mm, 5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 583 |
| **Storage Box 3 × 3**, for 9 tubes 50 mL and 4 tubes 15 mL, 2 pcs., height 127 mm, 5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 591 |

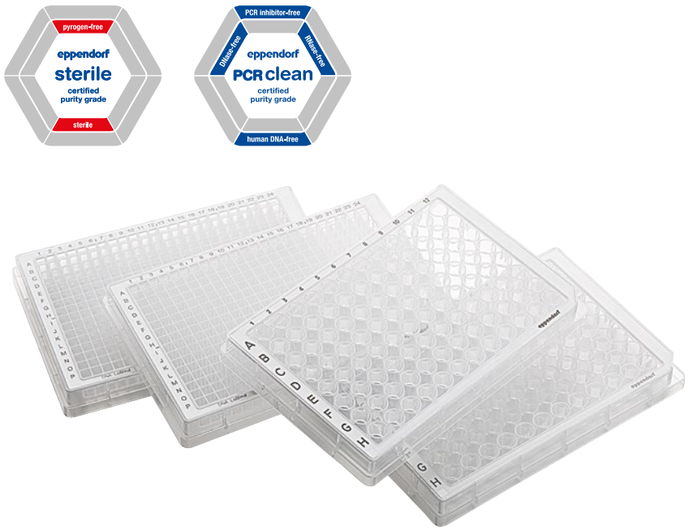
i For more information go to www.eppendorf.com/consumables

Technical specifications subject to change.

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# Eppendorf Microplates

**Description**
The Eppendorf Microplates bring an outstanding clarity to your laboratory! It has never been this easy to pipette, control and recover samples with a polypropylene microplate. The easy-to-read alphanumeric label of the OptiTrack® matrix on each plate makes it unbelievably easy to identify individual wells, speeds up the filling process and significantly reduces the risk of errors. The high transparency is outstanding and ensures that you can always quickly locate your samples. The Microplates are also available in Eppendorf LoBind material for maximum sample recovery when only limited amount of sample material is available.




**Applications**
> Sample storage and preparation
> Assays that require high resistance against temperature or solvents
> Active ingredient screening
> Combinatorial chemistry
> Storage of cDNA or genomic banks
> Protein analysis
> Genotyping
> Storage of siRNA or oligonucleotide libraries
> Preparation of tissue and plant lysates

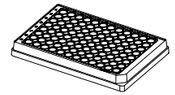
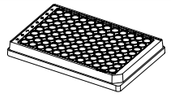
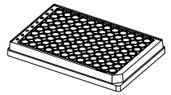
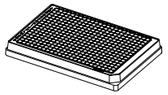
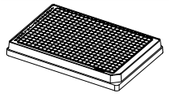
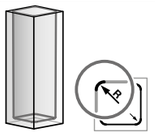
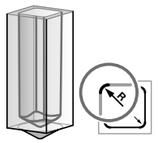
**Product features**
> Unmatched, transparent polypropylene (PP) for improved sample visibility
> OptiTrack® Matrix: up to 30 % faster sample identification and fewer pipetting errors via high-contrast alphanumeric labeling
> RecoverMax® well design: Optimized well geometry for minimal remaining volume and excellent mixing properties
> Raised well rims and smooth surface for reliable closing, even with heat sealing
> g-Safe®: exceptional centrifugation stability up to 6,000 × g
> Polypropylene ensures high resistance to chemicals, mechanical stress and temperature extremes
> Manufactured without slip agents, plastocizers or biocides – Materials which could have a negative effect on bioassays
> Ensured functionality from -86 °C to 100 °C
> Autoclavable (121 °C, 20 min)
> Available with barcode. Additional details available at: www.eppendorf.com/barcode

i For more information go to www.eppendorf.com/consumables

Technical specifications subject to change.



**Technical specifications**

| | | | | | |
|---|---|---|---|---|---|
| |  |  |  |  |  |
| **Description** | **Microplate 96/F** | **Microplate 96/U** | **Microplate 96/V** | **Microplate 384/F** | **Microplate 384/V-PP** |
| **Number of wells** | 96 wells | 96 wells | 96 wells | 384 wells | 384 wells |
| **Working volume** | 50 – 350 µL | 20 – 320 µL | 20 – 320 µL | 10 – 120 µL | 5 – 120 µL |
| **Total volume per well** | 400 µL | 360 µL | 350 µL | 150 µL | 140 µL |
| |  |  |  |  |  |
| **Bottom shape** | F bottom | U bottom | V bottom | F bottom | conical |

**Ordering information**

| Description | OptiTrack® frame color | Order no. |
|---|---|---|
| **Microplate 96/F**, wells clear, RecoverMax® well design | | |
| PCR clean, 80 plates (5 bags × 16 plates) | white ☐ | 0030 601 106 |
| Sterile, 80 plates (5 bags × 16 plates) | white ☐ | 0030 602 102 |
| **Microplate 96/U**, wells clear, RecoverMax® well design | | |
| PCR clean, 80 plates (5 bags × 16 plates) | white ☐ | 0030 601 203 |
| Sterile, 80 plates (5 bags × 16 plates) | white ☐ | 0030 602 200 |
| **Microplate 96/V**, wells clear, RecoverMax® well design | | |
| PCR clean, 80 plates (5 bags × 16 plates) | white ☐ | 0030 601 300 |
| Sterile, 80 plates (5 bags × 16 plates) | white ☐ | 0030 602 307 |
| **Microplate 384/F**, wells clear, RecoverMax® well design | | |
| PCR clean, 80 plates (5 bags × 16 plates) | white ☐ | 0030 621 107 |
| Sterile, 80 plates (5 bags × 16 plates) | white ☐ | 0030 622 103 |
| **Microplate 384/V**, wells clear, RecoverMax® well design | | |
| PCR clean, 80 plates (5 bags × 16 plates) | white ☐ | 0030 621 301 |
| Sterile, 80 plates (5 bags × 16 plates) | white ☐ | 0030 622 308 |

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# Eppendorf Assay/Reader Microplates

**Description**
Eppendorf assay plates are optimized for measuring absorbance assays in the visible and UV range, fluorescence and chemiluminescence assays. Solid plates are suitable for top-reading plate readers. Clear plates and black/clear plates can be used with top- and bottom-reading plate readers.
The black Eppendorf Microplates are ideal for fluorescence detection. An excellent signal-to-noise ratio provides low detection limits in assays – for clear signals even with low-concentration samples! The white Eppendorf Microplates maximize reflection for high sensitivity during detection of luminescence or weak fluorescence signals.



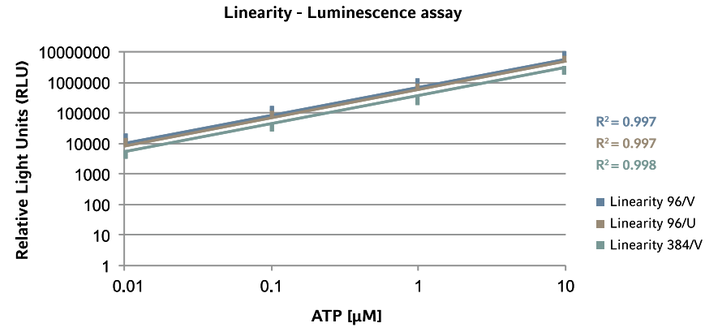

**Product features**
> UV-VIS Microplates feature an ultrathin film bottom for excellent light transmission in the UV range
> Black Eppendorf Microplates offer an excellent signal-to-noise ratio – for clear signals even with low-concentration samples
> White Eppendorf Microplates are optimized for highest sensitivity in the detection of luminescence signals by maximizing reflection
> Solid black and white assay plates are made of polypropylene resulting in high resistance to chemicals, mechanical stress, and temperature extremes
> All plates are optimized for minimal autofluorescence and autoluminescence
> Available in lot-certified PCR clean purity grade

**Applications**
> Clear VIS and UV-VIS plates for all absorbance assays in the visible and UV range
> Black and white Microplates for Fluorescence and Luminescence detection
> DNA- and Protein concentration with absorbance or fluorescent dyes
> Cell based assays
> Cell viability and apoptosis assays
> Cell imaging
> Protocols that require high resistance against temperature or solvents
> Dilution series
> Preparation of tissue and plant lysates

i For more information go to www.eppendorf.com/consumables

Technical specifications subject to change.






The Eppendorf Microplates 96/V, 96/U and 384/V were tested in a luminescence assay. A ten-fold serial dilution of ATP in culture medium was prepared. Logarithmic plot of data showing linearity of results for the Eppendorf Microplates in the range between 0.01 and 10 µM ATP. For more information see Application Note 215.

**Ordering information**

| Description | Order no. |
|---|---|
| **Microplate 96/F**, wells white | |
| PCR clean, gray, 80 plates (5 bags × 16 plates) | 0030 601 475 |
| **Microplate 96/U**, wells white | |
| PCR clean, gray, 80 plates (5 bags × 16 plates) | 0030 601 572 |
| **Microplate 96/V**, wells white | |
| PCR clean, gray, 80 plates (5 bags × 16 plates) | 0030 601 670 |
| **Microplate 384/V**, wells white | |
| PCR clean, gray, 80 plates (5 bags × 16 plates) | 0030 621 670 |
| **Microplate 96/F**, wells black | |
| PCR clean, white, 80 plates (5 bags × 16 plates) | 0030 601 700 |
| **Microplate 96/U**, wells black | |
| PCR clean, white, 80 plates (5 bags × 16 plates) | 0030 601 807 |
| **Microplate 96/V**, wells black | |
| PCR clean, white, 80 plates (5 bags × 16 plates) | 0030 601 904 |
| **Microplate 384/V**, wells black | |
| PCR clean, white, 80 plates (5 bags × 16 plates) | 0030 621 905 |
| **Microplate UV-VIS 96/F**, wells clear | |
| PCR clean, colorless, 40 plates (4 bags × 10 plates) | 0030 741 048 |
| **Microplate VIS 96/F**, wells clear | |
| PCR clean, colorless, 40 plates (4 bags × 10 plates) | 0030 730 020 |
| **Eppendorf Cell Imaging Plates**, with lid, black with clear F-bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| 96-Well Cell Imaging Plate with 25 µm film bottom, individually wrapped, 20 pcs. | 0030 741 013 |

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# Eppendorf Deepwell Plates

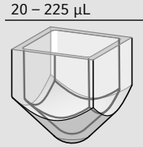
**Description**
Eppendorf Deepwell Plates 96 and 384 are high-performance plates for all manual and automated applications – from sample storage at -86 °C to DNA denaturation at 100 °C. Manufactured from pure polypropylene (PP), these plates offer innovative features: More dependability. More efficiency. More stability. The plates are available with a white, yellow, green, or blue border. For easy identification of wells, a high-contrast alphanumeric label is laser-engraved in the border. This OptiTrack® matrix allows you to find your sample up to 30 % more quickly while reducing pipetting errors.




**Applications**
> Sample storage and preparation
> Bacteria and yeast cultivation
> DNA and RNA isolation with high throughput
> Storage of cDNA or genomic banks
> Storage of siRNA or oligonucleotide libraries
> Protein analysis
> Storage of valuable protein and DNA samples in Eppendorf LoBind plates
> Plasmid purification with high throughput
> Creating dilution series

**Product features**
> OptiTrack® matrix: up to 30 % faster sample identification and fewer pipetting errors via high-contrast alphanumeric labeling
> RecoverMax® well design: Optimized well geometry for maximum sample recovery and excellent mixing properties
> Minimized remaining volume and high uniformity from well to well
> Raised well rims and smooth surface for reliable closing, even with heat sealing
> Easy and reliable stacking
> g-Safe®: exceptional centrifugation stability up to 6,000 × g for faster protocols and improved sample quality
> High-quality polypropylene ensures high resistance to chemicals, mechanical stress and temperature extremes
> Manufactured without slip agents, plasticizers, and biocides – Materials which could have a negative effect on bioassays
> Autoclavable (121 °C, 20 min)
> Available with barcode. Additional details available at: www.eppendorf.com/barcode

**Technical specifications**

| Model | Deepwell Plates 96/500 µL | Deepwell Plates 96/1000 µL | Deepwell Plates 96/2000 µL | Deepwell Plates 384/200 µL |
|---|---|---|---|---|
| Total volume per well | 700 µL | 1,200 µL | 2,400 µL | 240 µL |
| Working volume per well | 30 – 550 µL | 30 – 1 000 µL | 50 – 2 000 µL | 20 – 225 µL |
| Well shape/Bottom shape |  |  |  |  |

i For more information go to www.eppendorf.com/Deepwellplates

Technical specifications subject to change.



**Ordering information**

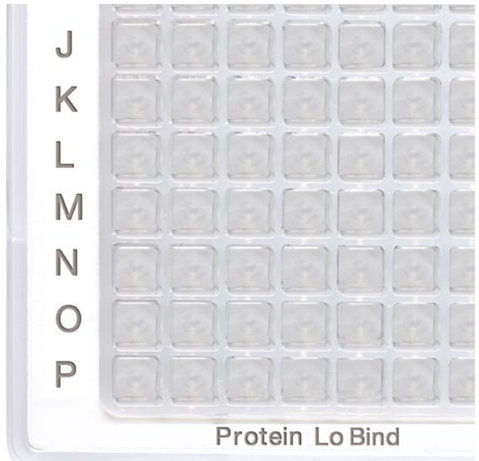
| Description | OptiTrack® frame color | Order no. |
|---|---|---|
| **Deepwell Plate 96/500 µL**, wells clear, 500 µL | | |
| PCR clean, 40 plates (5 bags × 8 plates) | white | 0030 501 101 |
| PCR clean, 40 plates (5 bags × 8 plates) | yellow | 0030 501 110 |
| PCR clean, 40 plates (5 bags × 8 plates) | green | 0030 501 136 |
| PCR clean, 40 plates (5 bags × 8 plates) | blue | 0030 501 144 |
| PCR clean, 120 plates (10 bags × 12 plates) | white | 0030 505 107 |
| Sterile, 40 plates (5 bags × 8 plates) | white | 0030 502 108 |
| Sterile, 40 plates (5 bags × 8 plates) | yellow | 0030 502 116 |
| Sterile, 40 plates (5 bags × 8 plates) | green | 0030 502 132 |
| Sterile, 40 plates (5 bags × 8 plates) | blue | 0030 502 140 |
| Sterile, 120 plates (10 bags × 12 plates) | white | 0030 506 103 |
| **Deepwell Plate 96/1000 µL**, wells clear, 1,000 µL | | |
| PCR clean, 20 plates (5 bags × 4 plates) | white | 0030 501 209 |
| PCR clean, 20 plates (5 bags × 4 plates) | yellow | 0030 501 217 |
| PCR clean, 20 plates (5 bags × 4 plates) | green | 0030 501 233 |
| PCR clean, 20 plates (5 bags × 4 plates) | blue | 0030 501 241 |
| PCR clean, 80 plates (10 bags × 8 plates) | white | 0030 505 204 |
| Sterile, 20 plates (5 bags × 4 plates) | white | 0030 502 205 |
| Sterile, 20 plates (5 bags × 4 plates) | yellow | 0030 502 213 |
| Sterile, 20 plates (5 bags × 4 plates) | green | 0030 502 230 |
| Sterile, 20 plates (5 bags × 4 plates) | blue | 0030 502 248 |
| Sterile, 80 plates (10 bags × 8 plates) | white | 0030 506 200 |
| **Deepwell Plate 96/2000 µL**, wells clear, 2,000 µL | | |
| PCR clean, 20 plates (5 bags × 4 plates) | white | 0030 501 306 |
| PCR clean, 20 plates (5 bags × 4 plates) | yellow | 0030 501 314 |
| PCR clean, 20 plates (5 bags × 4 plates) | green | 0030 501 330 |
| PCR clean, 20 plates (5 bags × 4 plates) | blue | 0030 501 349 |
| PCR clean, 80 plates (10 bags × 8 plates) | white | 0030 505 301 |
| Sterile, 20 plates (5 bags × 4 plates) | white | 0030 502 302 |
| Sterile, 20 plates (5 bags × 4 plates) | yellow | 0030 502 310 |
| Sterile, 20 plates (5 bags × 4 plates) | green | 0030 502 337 |
| Sterile, 20 plates (5 bags × 4 plates) | blue | 0030 502 345 |
| Sterile, 80 plates (10 bags × 8 plates) | white | 0030 506 308 |
| **Deepwell Plate 384/200 µL**, wells clear, 200 µL | | |
| PCR clean, 40 plates (5 bags × 8 plates) | white | 0030 521 102 |
| Sterile, 40 plates (5 bags × 8 plates) | white | 0030 522 109 |
| PCR clean, 120 plates (10 bags × 12 plates) | white | 0030 525 108 |
| Sterile, 120 plates (10 bags × 12 plates) | white | 0030 526 104 |

www.eppendorf.com/deepwellplates-brochure

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# Protein LoBind Plates

**Description**
Eppendorf LoBind Plates maximize sample recovery by significantly reducing sample binding to the surface. A special, two-component polymer mix creates a hydrophilic surface that ensures optimized recovery rates of valuable samples. Protein LoBind Plates have been specially designed for use in protein research or with sensitive proteomic test methods, and frequently provide significantly improved analysis results.




**Product features**
> Eppendorf LoBind material ensures excellent sample recovery for improved assay results
> Free of surface coating (e.g., silicone) to minimize the risk of sample interference
> Lot-certified PCR clean purity grade: free of human DNA, DNase, RNase and PCR inhibitors
> Available in tube, microplate, and deepwell plate formats for easy-up scaling
> High-contrast Unique OptiTrack® matrix: up to 30 % faster sample identification and fewer pipetting errors
> RecoverMax® well design: optimized well geometry for minimal remaining/dead volume and excellent mixing properties
> Raised well rims and a smooth surface ensure reliable sealing in plates
> Available with barcode. Additional details available at: www.eppendorf.com/barcode

**Applications**
> Preparation or storage of protein, peptide or antibody samples
> Enzymatic assays – the hydrophilic surface reduces denaturation when it comes into contact with the tube inner wall
> Prevention of sample loss during storage of virus stock solutions
> Storage of cell suspensions

**Ordering information**

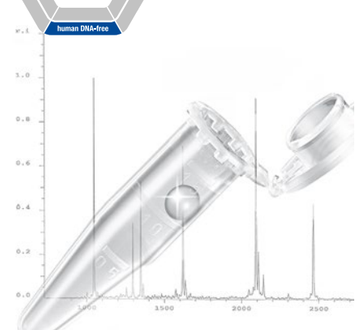
| Description | | OptiTrack® frame color | Order no. |
|---|---|---|---|
| **Deepwell Plate 96/500 µL**, Protein LoBind, wells colorless, 500 µL | | | |
| PCR clean, 40 plates (5 bags × 8 plates) | | white | 0030 504 100 |
| PCR clean, 40 plates (5 bags × 8 plates) | | yellow | 0030 504 119 |
| PCR clean, 120 plates (10 bags × 12 plates) | | white | 0030 508 106 |
| **Deepwell Plate 96/1000 µL**, Protein LoBind, wells colorless, 1,000 µL | | | |
| PCR clean, 20 plates (5 bags × 4 plates) | | white | 0030 504 208 |
| PCR clean, 20 plates (5 bags × 4 plates) | | yellow | 0030 504 216 |
| PCR clean, 80 plates (10 bags × 8 plates) | | white | 0030 508 203 |
| **Deepwell Plate 96/2000 µL**, Protein LoBind, wells colorless, 2,000 µL | | | |
| PCR clean, 20 plates (5 bags × 4 plates) | | white | 0030 504 305 |
| **Deepwell Plate 384/200 µL**, Protein LoBind, wells colorless, 200 µL | | | |
| PCR clean, 40 plates (5 bags × 8 plates) | | white | 0030 524 101 |
| PCR clean, 120 plates (10 bags × 12 plates) | | white | 0030 528 107 |
| **Microplate 384/V-PP**, Protein LoBind, wells clear | | | |
| PCR clean, 80 plates (5 bags × 16 plates) | | white | 0030 624 300 |
| PCR clean, 240 plates (10 bags × 24 plates) | | white | 0030 628 306 |





# Protein LoBind Tubes

**Description**
When biological samples are stored or incubated in standard vessels, over 90 % of the sample can be lost within 24 hours as a result of binding to the plastic surface. Eppendorf LoBind Tubes maximize sample recovery by significantly reducing sample binding to the surface. A special, two-component polymer mix creates a hydrophilic surface that ensures optimized recovery rates of valuable samples. Protein LoBind Tubes have been specially designed for use in protein research or with sensitive proteomic test methods, and frequently provide significantly improved analysis results.



**Product features**
> Eppendorf LoBind material ensures optimized sample recovery for improved assay results
> Free of surface coating (e.g., silicone) to minimize the risk of sample interference
> Lot-certified PCR clean purity grade: free of human DNA, DNase, RNase and PCR inhibitors
> Available in tube, microplate, and deepwell plate formats for easy-up scaling
> Precise lid sealing to minimize evaporation

**Applications**
> Preparation or storage of protein, peptide or antibody samples
> Enzymatic assays – the hydrophilic surface reduces denaturation when it comes into contact with the tube inner wall
> Prevention of sample loss during storage of virus stock solutions
> Storage of cell suspensions

**Ordering information**

| Description | Order no. |
|---|---|
| **Protein LoBind Tubes**, Protein LoBind, 0.5 mL, PCR clean, colorless, 100 tubes (2 bags × 50 tubes) | 0030 108 094 |
| **Protein LoBind Tubes**, Protein LoBind, 1.5 mL, PCR clean, colorless, 100 tubes (2 bags × 50 tubes) | 0030 108 116 |
| **Protein LoBind Tubes**, Protein LoBind, 2.0 mL, PCR clean, colorless, 100 tubes (2 bags × 50 tubes) | 0030 108 132 |
| **Protein LoBind Tubes**, Protein LoBind, 5.0 mL, PCR clean, colorless, 100 tubes (2 bags × 50 tubes) | 0030 108 302 |
| **Protein LoBind Tubes**, Protein LoBind, 5.0 mL, with screw cap, PCR clean, colorless, 200 tubes (2 bags × 100 tubes) | 0030 122 356 |
| **Protein LoBind Tubes**, Protein LoBind, 15 mL, conical tube, PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 122 216 |
| **Protein LoBind Tubes**, Protein LoBind, 50 mL, conical tube, PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 122 240 |

# DNA LoBind Plates

**Description**
DNA LoBind plates improve recovery of nucleic acids by reducing their adsorption to the tube wall. A combination of special manufacturing technologies and selected polypropylene batches ensures nearly 100 % recovery of DNA/RNA molecules-without surface coating to eliminate the risk of sample contamination. Eppendorf DNA LoBind plates are ideal for sample preparation of long-term storage of nucleic acids in forensic, microarrays, NGS applications, and many others.




**Product features**
> Eppendorf LoBind material ensures optimized sample recovery for improved assay results
> Free of surface coating (e.g. silicone) to minimize the risk of sample interference
> Lot-certified PCR clean purity grade: free of human DNA, DNase, RNase and PCR inhibitors
> Available in tube, microplate, and deepwell plate formats for easy-up scaling
> High-contrast Unique OptiTrack® matrix: up to 30 % faster sample identification and fewer pipetting errors
> RecoverMax® well design: optimized well geometry for minimal remaining/dead volume and excellent mixing properties
> Raised well rims and a smooth surface ensure reliable sealing
> Available with barcode. Additional details available at: www.eppendorf.com/barcode

**Applications**
> Preparation or storage of DNA and RNA samples
> Forensic trace analysis
> Preparing dilution series in quantitative qPCR
> Sample preparation in next-generation sequencing
> Creation of genomic or oligonucleotide libraries

**Ordering information**

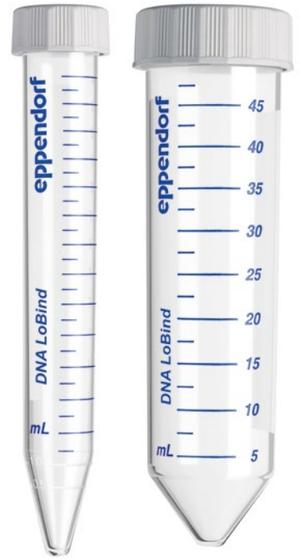
| Description | | OptiTrack® frame color | Order no. |
|---|---|---|---|
| **Deepwell Plate 96/500 µL**, DNA LoBind, wells colorless, 500 µL, Eppendorf LoBind® | | | |
| PCR clean, 40 plates (5 bags × 8 plates) | ☐ | white | 0030 503 104 |
| PCR clean, 40 plates (5 bags × 8 plates) | ☐ | blue | 0030 503 147 |
| PCR clean, 120 plates (10 bags × 12 plates) | ☐ | white | 0030 507 100 |
| **Deepwell Plate 96/1000 µL**, DNA LoBind, wells colorless, 1,000 µL, Eppendorf LoBind® | | | |
| PCR clean, 20 plates (5 bags × 4 plates) | ☐ | white | 0030 503 201 |
| PCR clean, 20 plates (5 bags × 4 plates) | ■ | blue | 0030 503 244 |
| PCR clean, 80 plates (10 bags × 8 plates) | ☐ | white | 0030 507 207 |
| **Deepwell Plate 384/200 µL**, DNA LoBind, wells colorless, 200 µL, Eppendorf LoBind® | | | |
| PCR clean, 40 plates (5 bags × 8 plates) | ☐ | white | 0030 523 105 |
| PCR clean, 120 plates (10 bags × 12 plates) | ☐ | white | 0030 527 100 |
| **Microplate 96/V-PP**, DNA LoBind, wells colorless, Eppendorf LoBind® | | | |
| PCR clean, 80 plates (5 bags × 16 plates) | ☐ | white | 0030 603 303 |
| **Microplate 384/V-PP**, DNA LoBind, wells clear, Eppendorf LoBind® | ☐ | | |
| PCR clean, 80 plates (5 bags × 16 plates) | ☐ | white | 0030 623 304 |
| PCR clean, 240 plates (10 bags × 24 plates) | ☐ | white | 0030 627 300 |





# DNA LoBind Tubes

**Description**
DNA LoBind tubes maximize sample recovery of nucleic acids by significantly reducing sample–to–surface binding. A combination of special manufacturing technologies and selected polypropylene batches ensures nearly 100 % recovery of DNA/RNA molecules-without surface coating to eliminate the risk of sample contamination. DNA LoBind tubes are batch-tested and certified by an independent laboratory to be free from DNA, DNase, RNase, and PCR inhibitors. Eppendorf DNA LoBind tubes are ideal for sample preparation of long-term storage of nucleic acids in forensic, microarrays, NGS applications, and many others.




**Product features**
> Eppendorf LoBind material ensures optimized sample recovery for improved assay results
> Free of surface coating (e.g., silicone) to minimize the risk of sample interference
> Lot-certified PCR clean purity grade: free of human DNA, DNase, RNase and PCR inhibitors
> Available in tube, microplate, and deepwell plate formats for easy-up scaling
> Precise lid sealing for minimal evaporation rates in tube format
> Rated up to 30,000 × g (25,000 × g for 2.0 mL tube) centrifugation speed for molecular biology applications

**Applications**
> Preparation or storage of DNA and RNA samples
> Forensic trace analysis
> Preparing dilution series in quantitative qPCR
> Sample preparation in next-generation sequencing
> Creation of genomic or oligonucleotide libraries

**Ordering information**

| Description | Order no. |
|---|---|
| **DNA LoBind Tubes**, DNA LoBind, 0.5 mL, PCR clean, colorless, 250 tubes (5 bags × 50 tubes) | 0030 108 035 |
| **DNA LoBind Tubes**, DNA LoBind, 1.5 mL, PCR clean, colorless, 250 tubes (5 bags × 50 tubes) | 0030 108 051 |
| **DNA LoBind Tubes**, DNA LoBind, 2.0 mL, PCR clean, colorless, 250 tubes (5 bags × 50 tubes) | 0030 108 078 |
| **DNA LoBind Tubes**, DNA LoBind, 5.0 mL, PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 108 310 |
| **DNA LoBind Tubes**, DNA LoBind, 5.0 mL, with screw cap, PCR clean, colorless, 200 tubes (2 bags × 100 tubes) | 0030 122 348 |
| **DNA LoBind Tubes**, DNA LoBind, 15 mL, conical tubes, PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 122 208 |
| **DNA LoBind Tubes**, DNA LoBind, 50 mL, conical tubes, PCR clean, colorless, 200 tubes (4 bags × 50 tubes) | 0030 122 232 |

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# Tubes Accessories



**Sealing options for Sample Preparation and Storage**
> Storage Film and Foil glued seals for simple and dependable sealing during sample storage
> Heat Sealing Film and Foil for continuous locking with the best evaporation protection
> Foil products are made of aluminum, can be pierced, and protect light-sensitive samples
> Film products are transparent and provide protection against unwanted punctures
> Eppendorf Plate Lid: stable, flexible protection of samples during short-term storage

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Storage Film**, self-adhesive, PCR clean, 100 pcs. (2 bags × 50 pcs.) | 0030 127 870 |
| **Eppendorf Storage Foil**, self-adhesive, PCR clean, 100 pcs. | 0030 127 889 |
| **Eppendorf Sealing Mat**, for DWP 96/2000 , PCR clean, 50 pcs. (5 bags × 10 pcs.) | 0030 127 960 |
| **Eppendorf Sealing Mat**, for DWP 96/1000 and DWP 96/500, PCR clean, 50 pcs. (5 bags × 10 pcs.) | 0030 127 978 |
| **Eppendorf Plates® Lid**, for MTP and DWP, PCR clean, 80 pcs. (5 bags × 16 pcs.) | 0030 131 517 |
| **Eppendorf Plates® Lid**, for MTP and DWP, Sterile, 80 pcs. (5 bags × 16 pcs.) | 0030 131 525 |
| **Eppendorf Heat Sealing Film**, PCR clean, 100 pcs. | 0030 127 838 |
| **Eppendorf Heat Sealing Foil**, PCR clean, 100 pcs. | 0030 127 854 |



**Eppendorf Tube and Cuvette Racks**
> Made from high quality polypropylene (PP):
> Ensuring dimensional stability across a broad temperature range (-86° C to 121° C)
> Providing chemical resistance
> The racks are UV-light resistant
> Six different formats always offer the optimal choice for all common tubes and cuvettes
> A wavelike design enables you to clearly identify your samples, even when tubes are placed vertically in a column
> Non-slip silicone feet ensure safe handling
> The racks are laboratory washer-safe for fast and easy cleaning
> The racks are autoclavable (121° C/20 min) and stackable
> For more information see: www.eppendorf.com/tube-racks

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Tube Rack**, 48 positions, for 0.5 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 800 |
| **Eppendorf Tube Rack**, 36 positions, for 1.5 mL and 2.0 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 819 |
| **Eppendorf Tube Rack**, 12 positions, for 5.0 mL and 15 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 827 |
| **Eppendorf Tube Rack**, 12 positions, 6 for 5.0 mL and 15 mL tubes and 6 for 25 mL and 50 mL tubes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 835 |
| **Eppendorf Cuvette Rack**, 30 positions, for glass and plastic cuvettes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 851 |
| **Eppendorf Tube Rack**, 36 positions, for cryogenic tubes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 843 |







**Micropestle**
> Two sides for optimal fit in 1.5 mL and 2.0 mL vessels
> Autoclavable (121 °C, 20 min)

**Ordering information**

| Description | Order no. |
|---|---|
| **Micropestle**, for resuspending pellets in 1.5/2.0 mL vessels, 10 pcs. | 0030 120 973 |



**Eppendorf Storage Boxes**
> Made of polypropylene (PP) for high stability in freezing applications and smooth opening and closing
> For freezing to -86 °C
> High-contrast permanent alphanumeric marking of each location through laser labeling enables easy sample reference and minimizes risk of sample mix-up
> Autoclavable (121 °C, 20 min)
> Transparent lid for easy and fast sample inspection
> Flexible labeling on the light colored box and on the 5 writing areas of the lid
> Optimal use of freezer space due to flexible combination of the different formats

**Ordering information**

| | Description | Order no. |
|---|---|---|
| | **Storage Box 10 × 10**, for 100 cryogenic tubes w. int. thread, 3 pcs., height 53 mm, 2 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 508 |
| | **Storage Box 9 × 9**, for 81 screw cap (cryog.) tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 516 |
| | **Storage Box 9 × 9**, for 81 screw cap (cryog.) tubes 3 mL, 2 pcs., height 76 mm, 3 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 540 |
| | **Storage Box 9 × 9**, for 81 screw cap (cryog.) tubes 4 – 5 mL, 2 pcs., height 102 mm, 4 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 567 |
| | **Storage Box 8 × 8**, for 64 tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 524 |
| | **Storage Box 5 × 5**, for 25 tubes 5 mL, 4 pcs., height 64 mm, 2.5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 532 |
| | **Storage Box 5 × 5**, for 25 tubes 5 mL screw cap, 2 pcs., height 76 mm, 3 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 613 |
| | **Storage Box 5 × 5**, for 25 tubes 15 mL, 2 pcs., height 127 mm, 5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 583 |
| New | **Storage Box 3 × 3**, for 9 tubes 25 mL, 2 pcs., height 89 mm, 3.5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 729 |
| | **Storage Box 3 × 3**, for 9 tubes 50 mL and 4 tubes 15 mL, 2 pcs., height 127 mm, 5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 591 |

# Sample Handling







SELECTION GUIDE







| Model | MiniSpin®/MiniSpin® plus | 5418 R | 5420 |
|---|---|---|---|
| **Positioning** | Space saving 12-place mini-centrifuge for quick spin downs even in the smallest workstation, non-refrigerated | Compact refrigerated 18-place microcentrifuge for temperature sensitive samples | Small footprint 24-place microcentrifuge for molecular biology routine applications, non-refrigerated |
| **Page(s)** | **146** | **147** | **148** |
| **Max. capacity** | 12 × 1.5/2.0 mL | 18 × 1.5/2.0 mL | 24 × 1.5/2.0 mL |
| **Max. RCF** | 12,100 × g/14,100 × g | 16,873 × g | 21,300 × g |
| **Max. speed** | 13,400 rpm/14,500 rpm | 14,000 rpm | 15,060 rpm |
| **Rotors available** | 2 | 1 | 2 |
| **Temperature control range** | | 0 °C to +40 °C | |
| **Dimensions (W × D × H)** | 22.5 × 23.0 × 13.0 cm/ 22.6 × 23.9 × 12.0 cm | 30 × 46 × 25 cm | 24 × 35 × 22 cm |
| **Height (with open lid)** | 25 cm | 52 cm | 44 cm |
| **Weight w/o accessories** | 3.7 kg | 22 kg | 13 kg |
| **Max. power consumption** | 70 W/85 W | 320 W | 290 W |
| **Tube/plate/bottle capacity** | | | |
| 1.5/2.0 mL Eppendorf Tubes® | 12 | 18 | 24 |
| Eppendorf Tubes® 5.0 mL | – | – | – |
| 8-place PCR strips | 2 | – | 4 |
| 15 mL conical tubes | – | – | – |
| 25 mL conical tubes | – | – | – |
| 50 mL conical tubes | | – | – |
| 13 mm round-bottom and blood collection tubes | – | – | – |
| 16 mm round-bottom and blood collection tubes | – | – | – |
| 17.5 mm round-bottom and blood collection tubes | – | – | – |
| PCR plates/MTP | – | – | – |
| Deepwell plates (DWP) | – | – | – |









| 5424 R | 5425 | 5427 R | 5430/5430 R |
|---|---|---|---|
| Refrigerated 24-place standard microcentrifuge for temperature sensitive samples | Whisper quiet 24-place standard microcentrifuge with outstanding feature set for broad range of applications, non-refrigerated | High-throughput refrigerated 48-place microcentrifuge for temperature sensitive samples | Crossover microcentrifuge with multipurpose versatility and 12 rotor options including rotor for 15 and 50 mL conical tubes, 30-place high speed rotor and swing-bucket rotor for MTPs or DWPs, refrigerated for temperature sensitive samples or non-refrigerated |
| **149** | **151** | **153** | **156** |
| 24 × 1.5/2.0 mL | 10 × 5.0 mL | 48 × 1.5/2.0 mL | 48 × 1.5/2.0 mL, 6 × 50 mL, 2 × MTP |
| 21,130 × g | 21,300 × g | 25,000 × g | 30,130 × g |
| 15,000 rpm | 15,060 rpm | 16,220 rpm | 17,500 rpm |
| 4 | 6 | 9 | 12 |
| -10 °C to +40 °C | | -11 °C to 40 °C | -11 °C to 40 °C |
| 29 × 48 × 26 cm | 24 × 39 × 24 cm | 31.9 × 54.0 × 25.4 cm | 33 × 42 × 25 cm/38 × 64 × 29 cm |
| 51 cm | 48 cm | | 56 cm/63 cm |
| 21 kg | 15.6 kg | 30 kg | 29 kg/56 kg |
| 350 W | 280 W | 550 W | 475 W/1,050 W |
| | | | |
| 24 | 24 | 48 | 48 |
| – | 10 | 12 | 16 |
| 4 | 12 | 6 | 8 |
| – | – | – | 6 |
| – | – | – | 6 |
| – | – | – | 6 |
| – | – | – | 12 |
| – | – | – | 12 |
| – | – | – | 12 |
| – | – | – | 2 |
| – | – | – | 2 |

i For more information go to www.eppendorf.com/centrifugation

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# Sample Handling







| Model | 5702/5702 R/5702 RH | 5804/5804 R |
|---|---|---|
| **Positioning** | General purpose centrifuge with medium capacity for low speed cell culture applications, refrigerated for temperature sensitive samples, active heating and cooling to improve cell viability or non-refrigerated | High speed multipurpose centrifuge with medium capacity, refrigerated for temperature sensitive samples or non-refrigerated |
| **Page(s)** | **162** | **168** |
| **Max. capacity** | 4 × 100 mL | 4 × 250 mL/2 × 5 MTP |
| **Max. RCF** | 3,000 × g | 20,913 × g |
| **Max. speed** | 4,400 rpm | 14,000 rpm |
| **Temperature control range** | – /-9 °C to 40 °C/-9 °C to 42 °C | -9 °C to 40 °C |
| **Dimensions (W × D × H)** | 32 × 40 × 24 cm/38 × 58 × 26 cm/38 × 58 × 26 cm | 47 × 55 × 34 cm/64 × 55 × 34 cm |
| **Height (with open lid)** | 53 cm/60 cm/60 cm | 74 cm |
| **Footprint (dimensions w/o front panel, WxD)** | 47 × 50 cm/64 × 50 cm | |
| **Weight w/o accessories** | 20 kg/36 kg/36 kg | 55 kg/80 kg |
| **Max. power consumption** | 200 W/380 W/380 W | 900 W/1,650 W |
| **Tube/plate/bottle capacity** | | |
| 1.5/2.0 mL Eppendorf Tubes® | 24 | 104 |
| Eppendorf Tubes® 5.0 mL | 4 | 32 |
| 8-place PCR strips | – | 6 |
| 15 mL conical tubes | 20 | 40 |
| 25 mL conical tubes | 4/4 | 16 |
| 50 mL conical tubes | 4/4 | 16 |
| 13 mm round-bottom and blood collection tubes | 40/40 | 56 |
| 16 mm round-bottom and blood collection tubes | 16/16 | 52 |
| 17.5 mm round-bottom and blood collection tubes | 24/24 | 48 |
| 180 – 250 mL bottles (flat) | –/– | 4 |
| 500 mL Corning® | –/– | – |
| 750 mL bottles | –/– | – |
| 1,000 mL Eppendorf bottles | –/– | – |
| 1,000 mL standard bottles | –/– | – |
| PCR plates/MTP | –/– | 10 |
| Deepwell plates (DWP) | –/– | 4 |







| 5810/5810 R | Centrifuge 5910 R | Centrifuge 5920 R |
|---|---|---|
| Compact multipurpose centrifuge with medium capacity, refrigerated for temperature sensitive samples or non-refrigerated | Super versatile multipurpose centrifuge with high capacity for broad range of consumables, refrigerated for temperature sensitive samples | High-throughput multipurpose centrifuge with very high capacity, refrigerated for temperature sensitive samples |
| **168** | **194** | **194** |
| 4 × 750 mL/4 × 4 MTP | 4 × 1,000 mL/4 × 5 MTP | 4 × 1,000 mL/4 × 7 MTP |
| 20,913 × g | 22,132 × g | 21,194 × g |
| 14,000 rpm | 14,000 rpm | 13,700 rpm |
| –/-9 °C to 40 °C | -11 °C to 40 °C | -11 °C to 40 °C |
| 54 × 61 × 35 cm/70 × 61 × 35 cm | 72 × 66 × 37 cm | 74 × 71 × 40 cm |
| 80 cm | 85 cm | 94 cm |
| 54 × 54 cm/70 × 54 cm | 72 × 62 cm | 74 × 67 cm |
| 68 kg/99 kg | 109 kg | 139 kg |
| 900 W/1,650 W | 1,650 W | 1,650 W |
| | | |
| 200 | 200 | 368 |
| 56 | 64 | 108 |
| 6 | | |
| 56 | 64 | 108 |
| 32 | 36 | 52 |
| 28 | 36 | 52 |
| 100 | 120 | 196 |
| 80 | 104 | 148 |
| 80 | 84 | 80 |
| 4 | 4 | 8 |
| 4 | 4 | 4 |
| 4 | 4 | 4 |
| – | 4 | – |
| – | – | 4 |
| 16 | 20 | 28 |
| 4 | 4 | 8 |

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# MiniSpin®/MiniSpin® plus

**Description**
Powerful and user-friendly MiniSpin and MiniSpin plus are small enough so that each workstation can be equipped with a „personal" centrifuge. Two models are available to meet your performance requirements. MiniSpin plus provides speed sufficient for molecular biology separations.







**Product features**
> Rotor capacity: 12 × 1.5/2.0 mL vessels, 2 × PCR strip
> Max. speed: 14,100 × g (14,500 rpm)
> Extremely compact footprint
> Acceleration and deceleration time < 13 s
> User-friendly digital display for time and speed
> Metal rotor bowl
> Separate short-spin key for fast and comfortable centrifugation
> Optimal ventilation flow reduces heating and protects temperature-sensitive samples
> Soft-touch lid closure for ergonomic lid locking
> Automatic lid opening at the end of the run to prevent sample warming and to allow easy access to samples

**Special features for MiniSpin plus**
> Automatic rpm/rcf conversion
> Extended time to 99 min or continous centrifugation

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge MiniSpin®**, non-refrigerated, with Rotor F-45-12-11, 230 V/50 – 60 Hz | 5452 000 010 |
| **Centrifuge MiniSpin® plus**, non-refrigerated, with Rotor F-45-12-11, 230 V/50 – 60 Hz | 5453 000 015 |
| **Rotor F-55-16-5 PCR** | 5452 727 007 |
| **Rotor F-45-12-11** | 5452 720 008 |
| **Adapter**, for 1 tube 0.5 mL or Microtainer®, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Adapter**, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 717 008 |

Ordering information for other voltage options begins on page 450



**Rotor F-45-12-11**
> For 12 x 1.5/2.0 mL tubes



**Rotor F-55-16-5 PCR**
> For 2 x PCR strips





# Centrifuge 5418 R

**Description**
The refrigerated Centrifuge 5418 R with its 18-place capacity rotor is specifically designed for low to medium capacity in 1.5/2.0 mL tubes and Microtainer®. Its speed of up to 16,873 × g allows for standard molecular biology applications. Moreover, this compact device has an especially low access height and is characterized by a remarkably quiet operation.




**Product features**
> Max. rotor capacity: 18 × 1.5/2.0 mL vessels
> Max. speed: 16,873 × g (14,000 rpm) for quick separation
> Small footprint and low access height of 23 cm
> OptiBowl® design for quiet operation – even without a rotor lid
> Eppendorf QuickLock® rotor allows for fast and ergonomic lid locking
> Soft-touch one-finger lid closure for ergonomic operation
> Temperature range from 0 °C to +40 °C
> Ensured temperature of 4 °C at maximum rotational speed
> FastTemp function for quick pre-cooling and maximized temperature accuracy inside the rotor
> ECO power shut-off engages after 8 hours of nonuse to reduce energy consumption (46 % over night) and extend compressor life (can be deactivated)

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5418 R**, refrigerated, with Rotor FA-45-18-11 and rotor lid, 230 V/50 – 60 Hz | 5401 000 010 |
| **Rotor FA-45-18-11**, aerosol-tight, 45° angle, 18 places, max. tube diameter 11 mm, incl. rotor lid (aluminum) | 5418 707 005 |
| **Adapter**, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Adapter**, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 717 008 |

Ordering information for other voltage options begins on page 450



**Rotor FA-45-18-11**
> For 18 × 1.5/2.0 mL tubes comes standard with unique Eppendorf QuickLock aerosol-tight lid for fast and reliable locking



**Adapter for 0.2 mL PCR Tubes**
> Ideal to spin down PCR Tubes after reaction setup. Adapter fits in any Eppendorf 1.5/2.0 mL rotor



**Adapter for BD Microtainer® and 0.5 mL tubes**
> The adapter can be used with every Eppendorf rotor for 1.5/2.0 mL tubes

# Centrifuge 5420

**Description**
The new Centrifuge 5420 was designed with your molecular biology routine applications in mind. The spectrum of methods includes DNA/RNA purification, DNA extraction from agarose gels and PCR reaction set-up. It has a particularly small footprint to save space on the lab bench and an easy to clean keypad control panel. You can spin up to 24 tubes from 1.5 to 2.0 mL. Optional adapters extend the volume range to 0.4 and 0.5 mL tubes as well as 0.6 mL BD Microtainer®. A rotor for 32 PCR tubes (0.2 mL) or four PCR strips is available as well. For your safety, the standard rotor provides aerosol-tight containment for the centrifugation of hazardous samples such as viruses, pathogen bacteria or radioactive probes.




**Product features**
> Standard rotor for up to 24 x 1.5 and 2.0 mL tubes
> Rotor option for up to 32 x 0.2 mL PCR tubes or 4 x 8-place PCR strips
> Adapters for 0.2, 0.4 and 0.5 mL tubes as well as 0.6 mL BD Microtainer®
> Soft-touch one-finger lid closure for ergonomic lid locking
> Automatic lid opening at the end of the run to prevent sample warming and to allow easy access to samples
> High quality anodized aluminum rotors and rotor lids
> One push short-spin key for quick centrifugation – no need to hold key all the while
> Easy to clean keypad control panel
> Particularly small footprint to save precious space on the lab bench: 24 × 35 × 22 cm (W × D × H)
> Max. speed: 21,300 × g (15,060 rpm)

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5420**, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5420 000 318 |
| **Centrifuge 5420**, non-refrigerated, with aerosol-tight Rotor FA-24x2, keypad, 230 V/50 – 60 Hz | 5420 000 113 |
| **Rotor F-32x0.2-PCR for Centrifuge 5420**, for 32 × 0.2 mL PCR tubes or 4 × 8 PCR strips, incl. rotor lid | 5495 404 007 |
| **Rotor FA-24x2 for Centrifuge 5420**, aerosol-tight, for 24 × 1.5/2.0 mL tubes, incl. aerosol-tight rotor lid | 5495 400 001 |
| **Adapter**, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Adapter**, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 717 008 |

Ordering information for other voltage options begins on page 450



**Rotor FA-24x2 for Centrifuge 5420**
> Max. speed: 21,300 × g (15,060 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight



**Rotor F-32x0.2-PCR for Centrifuge 5420**
> Max. speed: 18,257 × g (15,060 rpm)
> Max capacity: 4 × PCR strips or 32 × PCR tubes (0.2 mL)





# Centrifuge 5424 R

**Description**
The refrigerated Centrifuge 5424 R is the laboratory standard when it comes to efficient cooling performance (e.g. quick cooling down from room temperature to set temperature) in a very ergonomic product design. It features state of the art cooling technology to ensure high temperature accuracy for maximized sample protection and best separation results. Ideal for everyday laboratory use.






**Product features**
> Max. rotor capacity: 24 × 1.5/2.0 mL vessels
> Max. speed: 21,130 × g (15,000 rpm)
> OptiBowl® design for quiet operation, even without a rotor lid
> Soft-touch one-finger lid closure for ergonomic operation
> Temperature range from -10 °C to +40 °C
> ECO power shut-off engages after 8 hours of non-use to reduce energy consumption (40 % over night) and extend compressor life (can be deactivated)
> FastTemp function for quick pre-cooling of the centrifuge, e.g. from ~ 21 °C to 4 °C in only 8 minutes
> Ensured temperature of 4 °C at maximum rotational speed
> Built-in condensation drain to eliminate water accumulation in the rotor chamber
> The patented compressor technology reduces vibrations and protects your samples

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5424 R**, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5404 000 210 |
| **Centrifuge 5424 R**, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5404 000 610 |
| **Centrifuge 5424 R**, refrigerated, with Rotor FA-45-24-11, keypad, 230 V/50 – 60 Hz | 5404 000 010 |
| **Centrifuge 5424 R**, refrigerated, with Rotor FA-45-24-11, rotary knobs, 230 V/50 – 60 Hz | 5404 000 410 |

Ordering information for other voltage options begins on page 450

# Rotors for Centrifuge 5424 R



**Rotor FA-45-24-11**
> Max. speed: 21,130 × g (15,000 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight for safe centrifugation of hazardous samples



**Rotor FA-45-24-11-Special**
> Max. speed: 21,130 × g (15,000 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight for safe centrifugation of hazardous samples
> PTFE coating for increased chemical resistance



**Rotor F-45-18-11-Kit**
> Max. speed: 18,111 × g (15,000 rpm)
> Max. capacity: 18 × spin columns or 1.5/2.0 mL tubes
> Extended rim that protects tube caps from shearing off



**Rotor F-45-32-5-PCR**
> Max. speed: 18,615 × g (15,000 rpm)
> Max. capacity: 4 × PCR strips

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-45-24-11**, aerosol-tight | 5424 702 007 |
| **Rotor FA-45-24-11-Special**, aerosol-tight | 5424 700 004 |
| **Rotor F-45-18-11-Kit** | 5424 706 002 |
| **Rotor F-45-32-5-PCR** | 5424 704 000 |
| **Adapter**, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Adapter**, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 717 008 |

i For more information go to www.eppendorf.com/centrifugation





# Centrifuge 5425

**Description**
This 24-place centrifuge has been engineered to be extremely quiet. Short runs up to 12 minutes are whisper quiet at an average of 45 dB(A). This is sufficient for centrifugation steps of most routinely used DNA/RNA purification kits. During longer runs the cooling fan works at full capacity to dissipate the heat for the remainder of the run. Centrifuge 5425 is the successor of the legendary Centrifuge 5424. It has everything you loved before plus great new features to make everyday work more enjoyable.






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**Product features**
> Whisper quiet microcentrifuge for stress-free work
> Aerosol-tight Eppendorf QuickLock® lids for simple and safe handling
> Outstanding software features (e.g. 10 acceleration and braking ramps, 3 program buttons, short function without continous pressing of the key)
> Extended rotor program (e.g. 5.0 mL rotor, swing-bucket rotor for PCR strips)
> OptiBowl® design for quiet operation, even without a rotor lid
> Soft-touch one-finger lid closure for ergonomic operation
> Automatic lid opening at the end of the run – prevents sample warming and allows easy access to samples
> Max. rotor capacity: 10 × 5.0 mL vessels
> Max. speed: 21,300 × g (15,060 rpm)

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5425**, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5405 000 310 |
| **Centrifuge 5425**, non-refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5405 000 719 |
| **Centrifuge 5425**, non-refrigerated, with Rotor FA-24x2, keypad, 230 V/50 – 60 Hz | 5405 000 115 |
| **Centrifuge 5425**, non-refrigerated, with Rotor FA-24x2, rotary knobs, 230 V/50 – 60 Hz | 5405 000 514 |

Ordering information for other voltage options begins on page 450

# Rotors for Centrifuge 5425



**Rotor FA-24x2**
> Max. speed: 21,300 × g (15,060 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid



**Rotor FA-24x2-PTFE**
> Max. speed: 21,300 × g (15,060 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock
> PTFE coating for increased chemical resistance



**Rotor FA-10x5**
> Max. speed: 21,300 × g (15,060 rpm)
> Max capacity: 10 × Eppendorf Tubes® 5.0 mL
> Aerosol-tight with Eppendorf QuickLock® lid



**Rotor FA-18x2 Kit**
> Max. speed: 18,565 × g (15,060 rpm)
> Rotor with higher edge for safe centrifugation of up to 18 spin columns
> Aerosol-tight with Eppendorf QuickLock® lid



**Rotor F-32x0.2-PCR**
> Max. speed: 18,134 × g (15,060 rpm)
> for 4 × PCR strips or 32 × PCR tubes (0,2 mL)



**Rotor 96x0.2-PCR**
> Max. speed: 3,217 × g (6,000 rpm)
> New swing bucket rotor
> for 12 × 8 PCR strips 0.1/0.2 mL or 4 × 1/4 twin.tec PCR plate 96, unskirted divisible or 96 × PCR tubes with 0.2 mL

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-24x2**, aerosol-tight, for 24 × 1.5/2.0 mL tubes, incl. aerosol-tight rotor lid | 5495 500 006 |
| **Rotor FA-24x2-PTFE**, aerosol-tight, with PTFE coating, for 24 × 1.5/2.0 mL tubes, incl. aerosol-tight rotor lid | 5495 503 005 |
| **Rotor FA-10x5**, aerosol-tight, for 10 × 5.0 mL tubes (snap and screw cap), incl. aerosol-tight rotor lid | 5495 505 008 |
| **Rotor FA-18x2-Kit**, aerosol-tight, for 18 × 1.5/2.0 mL tubes or spin columns, incl. aerosol-tight rotor lid | 5495 508 007 |
| **Rotor F-32x0.2-PCR**, for 32 × 0.2 mL PCR tubes or 4 × 8 PCR strips, incl. rotor lid | 5495 510 001 |
| **Rotor S-96x0.2-PCR**, for 96 × 0.2 mL PCR tubes or 12 × 8 PCR strips, incl. buckets | 5495 512 004 |
| **Adapter**, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Adapter**, for 1 vessel 1.5 – 2.0 mL, for all 5.0 mL rotors, set of 4 pcs. | 5820 768 002 |
| **Adapter**, for 1 cryo tube, for all 5.0 mL rotors, set of 4 pcs. | 5820 769 009 |
| **Adapter**, for 1 HPLC tube, for all 5.0 mL rotors, set of 4 pcs. | 5820 770 007 |
| **Adapter**, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 717 008 |





# Centrifuge 5427 R

**Description**
The refrigerated Centrifuge 5427 R was designed with high-throughput research applications in mind. With its aerosol-tight 48-place rotor it handles even the toughest challenges in a safe and reliable manner to provide you the efficiency boost you need. All aerosol-tight rotors are equipped with the Eppendorf QuickLock® lids for easy rotor lid opening and closing. Choose the Centrifuge 5427 R if a 24-place microcentrifuge doesn't meet your needs regarding tube capacity and if you don't need the extra versatility our cross-over Centrifuge 5430 R can offer you.






**Product features**
> Rotor capacity: 48 × 1.5/2.0 mL, 12 × 5.0 mL; Eppendorf QuickLock® rotor allows for fast and ergonomic lid locking
> Max. speed: 25,000 × g (16,220 rpm)
> High capacity 48-place rotor significantly increases productivity to save you valuable time
> Soft touch one-finger closure for ergonomic operation
> Temperature range from -11 °C to 40 °C
> FastTemp function for quick pre-cooling of the centrifuge, e.g., from ~ 23 °C to 4 °C in only 11 minutes
> ECO shut-off can be programmed to engage after 1, 2, 4 or 8 hours of non-use for maximized energy savings and extended compressor life
> Built-in condensation drain to eliminate water accumulation
> Automatic rotor recognition and imbalance detection for maximized operational safety

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5427 R**, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5409 000 010 |
| **Centrifuge 5427 R**, refrigerated, with Rotor FA-45-12-17, rotary knobs, 230 V/50 – 60 Hz | 5409 000 630 |
| **Centrifuge 5427 R**, refrigerated, with Rotor FA-45-30-11, rotary knobs, 230 V/50 – 60 Hz | 5409 000 530 |
| **Centrifuge 5427 R**, refrigerated, with Rotor FA-45-48-11, rotary knobs, 230 V/50 – 60 Hz | 5409 000 210 |

Ordering information for other voltage options begins on page 450

CENTRIFUGES AND ROTORS

# Rotors for Centrifuge 5427 R



**Rotor F-45-48-11**
> Max. speed: 18,210 × g (12,700 rpm)
> Max. capacity: 48 × 1.5/2.0 mL tubes



**Rotor FA-45-48-11**
> Max. speed: 18,210 × g (12,700 rpm)
> Max. capacity: 48 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid



**Rotor FA-45-30-11**
> Max. speed: 20,800 × g (14,000 rpm)
> Max. capacity: 30 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid



**Rotor S-24-11-AT**
> Max. speed: 16,049 × g (12,700 rpm)
> Swing-bucket rotor for 24 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid
> Perfect for phase-separation applications such as phenol-chloroform extraction



**Rotor FA-45-12-17**
> Max. speed: 20,600 × g (14,000 rpm)
> Max capacity: 12 × Eppendorf Tubes® 5.0 mL
> Aerosol-tight with Eppendorf QuickLock® lid



**Rotor F-45-48-5-PCR**
> Max. speed: 11,710 × g (10,500 rpm)
> PCR strip rotor for up to 48 × 0.2 mL PCR tubes



**Rotor F-45-30-11**
> Max. speed: 20,817 × g (14,000 rpm)
> Max. capacity: 30 × 1.5/2.0 mL tubes



**Rotor FA-45-24-11**
> Max. speed: 25,000 × g (16,220 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid



**Rotor FA-45-24-11-Kit**
> Max. speed: 19,100 × g (13,200 rpm)
> Rotor with higher edge for safe centrifugation of up to 24 spin columns
> Aerosol-tight with Eppendorf QuickLock® lid

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-45-48-11**, aerosol-tight, incl. rotor lid | 5409 710 001 |
| **Rotor F-45-48-11**, incl. rotor lid | 5409 712 004 |
| **Rotor FA-45-30-11**, aerosol-tight, incl. rotor lid | 5409 706 004 |
| **Rotor F-45-30-11**, incl. rotor lid | 5409 708 007 |
| **Rotor FA-45-24-11**, aerosol-tight, incl. rotor lid | 5409 702 009 |
| **Rotor FA-45-24-11-Kit**, aerosol-tight, incl. rotor lid | 5409 704 001 |
| **Rotor S-24-11-AT**, aerosol-tight, incl. wind shield and rotor lid | 5409 715 003 |
| **Rotor F-45-48-5-PCR** | 5409 714 007 |
| **Rotor FA-45-12-17**, aerosol-tight, incl. rotor lid, for 12 × Eppendorf Tubes® 5.0 mL | 5409 700 006 |
| **Adapter**, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Adapter**, for 1 vessel 1.5 – 2.0 mL, for all 5.0 mL rotors, set of 4 pcs. | 5820 768 002 |
| **Adapter**, for 1 cryo tube, for all 5.0 mL rotors, set of 4 pcs. | 5820 769 009 |
| **Adapter**, for 1 HPLC tube, for all 5.0 mL rotors, set of 4 pcs. | 5820 770 007 |
| **Adapter**, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 717 008 |

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

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# Centrifuge 5430/5430 R

**Description**
Unique cross-over Centrifuge 5430 and 5430 R combine the best features of a microcentrifuge (small footprint) and multipurpose centrifuge (versatility) in one instrument. These centrifuges spin rotors for Eppendorf tubes and PCR strips as you would expect from any microcentrifuge. But that's not all. In a compact size, Centrifuge 5430 and 5430 R also accommodate rotors for microplates and 15/50 mL conical tubes. Now, the rotor program has been expanded with additional Eppendorf QuickLock® rotors. This includes 48-place rotors (1.5/2.0 mL), a 16-place rotor for Eppendorf Tubes® 5.0 mL and a swing-bucket rotor (24 × 1.5/2.0 mL). With their unmatched versatility, Centrifuge 5430 and Centrifuge 5430 R are the flagship products among the Eppendorf microcentrifuge portfolio.



**Product features**
> Max. rotor capacity: 48 × 1.5/2.0 mL, 6 × 50 mL, 2 × MTP
> Max. speed: 30,130 × g (17,500 rpm)
> Remarkable versatility with 12 different rotors
> Soft-touch one-finger lid closure for ergonomic operation
> Menu-driven, multi lingual operation menu (English, German, French, Spanish) with large backlit display
> 5 program keys for easy access to routine programs
> Saves up to 50 user-defined programs
> Automatic rotor recognition and imbalance detection for maximized operational safety
> Eppendorf QuickLock® – System for quickly opening and closing the rotor lid

**Special features for Centrifuge 5430 R**
> Temperature range: -11 °C to +40 °C
> The patented compressor technology reduces vibrations and protects your samples
> Continuous cooling maintains a constant temperature after the run has been completed – your samples stay cool
> FastTemp pro® function for programmable pre-cooling according to day and time
> ECO shut-off engages after 8 hours of nonuse to reduce energy consumption (37 % overnight) and extend compressor life (can be deactivated in menu)
> Built-in condensation drain to eliminate water accumulation

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5430**, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5427 000 015 |
| **Centrifuge 5430**, non-refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5427 000 610 |
| **Centrifuge 5430**, non-refrigerated, with Rotor FA-45-30-11 incl. rotor lid, keypad, 230 V/50 – 60 Hz | 5427 000 210 |
| **Centrifuge 5430**, non-refrigerated, with Rotor FA-45-30-11 incl. rotor lid, rotary knobs, 230 V/50 – 60 Hz | 5427 000 415 |
| **Centrifuge 5430 R**, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5428 000 205 |
| **Centrifuge 5430 R**, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5428 000 610 |
| **Centrifuge 5430 R**, refrigerated, with Rotor FA-45-30-11 and rotor lid, keypad, 230 V/50 – 60 Hz | 5428 000 010 |
| **Centrifuge 5430 R**, refrigerated, with Rotor FA-45-30-11 and rotor lid, rotary knobs, 230 V/50 – 60 Hz | 5428 000 410 |

↗ Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.



# Rotors for Centrifuge 5430/5430 R



**Rotor FA-45-48-11**
> Max. speed: 18,210 × g (12,700 rpm)
> Max. capacity: 48 × 1.5/2.0 mL tubes
> Aerosol-tight for safe centrifugation of hazardous samples
> Eppendorf QuickLock® lid



**Rotor F-45-48-11**
> Max. speed: 18,210 × g (12,700 rpm)
> Max. capacity: 48 × 1.5/2.0 mL tubes



**Rotor S-24-11-AT**
> Max. speed: 16,049 × g (12,700 rpm)
> Swing-bucket rotor for 24 × 1.5/2.0 mL tubes
> Aerosol-tight with Eppendorf QuickLock® lid
> Perfect for phase-separation applications such as phenol-chloroform extraction



**Rotor FA-45-16-17**
> Max. speed: 21,191 × g (14,200 rpm)
> Max. capacity: 16 × Eppendorf Tubes® 5.0 mL
> Aerosol-tight for safe centrifugation of hazardous samples
> Eppendorf QuickLock® lid
> Eppendorf Tubes® 5.0 mL with screw caps only can use up half (8 ×) of the places in the rotor



**Rotor FA-45-30-11**
> Max.speed: 20,817 × g (14,000 rpm)
> Max. capacity: 30 × 1.5/2.0 mL tubes
> Aerosol-tight for safe centrifugation of hazardous samples
> PTFE coating for increased chemical resistance
> Eppendorf QuickLock® lid



**Rotor FA-45-24-11-Kit**
> Max. speed: 19,090 × g (13,200 rpm)
> Rotor with higher edge for safe centrifugation of up to 24 spin columns
> Aerosol-tight for safe centrifugation of hazardous samples
> Eppendorf QuickLock® lid

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CENTRIFUGES AND ROTORS

# Rotors for Centrifuge 5430/5430 R



**Rotor F-45-30-11**
> Max. speed: 20,817 × g (14,000 rpm)
> Max. capacity: 30 × 1.5/2.0 mL tubes
> PTFE coating for increased chemical resistance



**Rotor FA-45-24-11-HS**
> Max.speed: 30,130 × g (17,500 rpm)
> Max. capacity: 24 × 1.5/2.0 mL tubes
> Extremely fast separation results
> Aerosol-tight for safe centrifugation of hazardous samples
> PTFE coating for increased chemical resistance



**Rotor F-35-6-30**
> Max. speed: 7,745 × g (7,830 rpm)
> Rotor for 6 × 15/50 mL conical or 12 × Vacutainer® tubes



**Rotor A-2-MTP**
> Max. speed: 2,204 × g (4,680 rpm)
> 2-place swing-bucket rotor for MTP, PCR and Deepwell Plates
> Windshield design for quiet operation



**Rotor F-45-64-5-PCR**
> Max. speed: 13,543 × g (11,800 rpm)
> PCR strip rotor for up to 64 × 0.2 mL PCR tubes



**Rotor F-45-18-17-Cryo**
> Max. speed: 8,324 × g (8,900 rpm)
> 18-place rotor for Cryovial® tubes

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-45-16-17**, aerosol-tight, incl. rotor lid, for 16 × Eppendorf Tubes® 5.0 mL | 5427 750 002 |
| **Adapter**, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Rotor FA-45-48-11**, aerosol-tight, incl. rotor lid | 5427 754 008 |
| **Rotor F-45-48-11**, incl. rotor lid | 5427 755 004 |
| **Rotor S-24-11-AT**, aerosol-tight, incl. rotor lid | 5427 757 007 |
| **Rotor FA-45-30-11**, aerosol-tight, incl. rotor lid | 5427 753 001 |
| **Rotor FA-45-24-11-Kit**, aerosol-tight, incl. rotor lid | 5427 752 005 |
| **Rotor F-45-30-11**, incl. rotor lid | 5427 712 003 |
| **Rotor FA-45-24-11-HS**, aerosol-tight, incl. rotor lid | 5427 710 000 |
| **Rotor F-35-6-30**, incl. rotor lid, with 6 adapters each for 15 mL/50 mL conical tubes | 5427 716 009 |
| **Rotor A-2-MTP**, incl. wind shield and rotor lid, with 2 buckets | 5427 700 005 |
| **Rotor F-45-64-5-PCR**, incl. rotor lid and adapters | 5427 714 006 |
| **Rotor F-45-18-17-Cryo**, incl. rotor lid and cryovial adapters | 5427 705 007 |
| **Adapter**, for 1 cryo containers (max. Ø 13 mm) or lidded centrifugation tubes (Ø 12.2 mm), max. length 50 mm, for Rotor F-45-18-17-Cryo, set of 6 pcs. | 5702 752 002 |
| **Adapter**, for 1 vessel 1.5 – 2.0 mL, for all 5.0 mL rotors, set of 4 pcs. | 5820 768 002 |
| **Adapter**, for 1 cryo tube, for all 5.0 mL rotors, set of 4 pcs. | 5820 769 009 |
| **Adapter**, for 1 HPLC tube, for all 5.0 mL rotors, set of 4 pcs. | 5820 770 007 |
| **Adapter**, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 717 008 |
| **Adapter**, for 1 HPLC vessel 1.5 mL, for Rotor F-45-18-17-Cryo | 5427 708 006 |

**Adapter options 6 x 15/50 mL conical tube rotor**

| Adapter | Rotor capacity[3] | Max. tube dimensions Ø x L | Max. RCF | For bore hole | Order no.[4] |
|---|---|---|---|---|---|
| 13 mm round | 12 | 13 × 65 – 89 mm | 6,443 × g | small | 5427 740 007 |
| | | | 6,100 × g | large | 5427 742 000 |
| 13 mm round | 12 | 13 × 90 – 110 mm | 7,471 × g | small | 5427 741 003 |
| | | | 7,129 × g | large | 5427 743 006 |
| 16 mm round | 12 | 16 × 75 – 105 mm | 7,005 × g | small | 5427 732 004 |
| | | 16 × 90 – 105 mm | 7,005 × g | large | 5427 734 007 |
| 17 mm round | 12 | 17 × 90 – 125 mm | 7,745 × g | small | 5427 735 003 |
| | | | 7,403 × g | large | 5427 738 002 |
| Eppendorf Tubes® 5.0 mL | | 17.5 × 80 mm | 6,237 × g | small | 5427 746 005 |
| | | 17.5 × 80 mm | 7,129 × g | large | 5427 747 001 |
| 15 mL conical | 6 | 17.5 × 100 – 125 mm | 7,540 × g | small | 5427 726 004 |
| 30 mL round | 6 | 26 × 92 – 112 mm | 7,087 × g | large | 5427 736 000 |
| 50 mL round | 6 | 29 × 95 – 125 mm | 7,581 × g | large | 5427 737 006 |
| 50 mL conical | 6 [1) 2)] | 29.5 × 100 – 125 mm | 7,197 × g | large | 5427 727 000 |
| Centriprep® | 6 | 29.5 × 100 – 125 mm | 7,567 × g | large | 5427 723 005 |

[1)] Three set of 2 included within 6 x 15/50 mL rotor package. [2)] Adapter accommodates skirted 50 mL conical tubes. [3)] Please perform a manual test to determine the actual loading capacity. [4)] Set of 2

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Technical specifications subject to change.

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# Technical Specification Microcentrifuges

| Technical specifications | | | | |
|---|---|---|---|---|
| **Model** | **MiniSpin®** | **MiniSpin® plus** | **5418 R** | **5420** |
| **Max. RCF** | 12,100 × g | 14,100 × g | 16,873 × g | 21,300 × g |
| **Max. speed** | 13,400 rpm | 14,500 rpm | 14,000 rpm | 15,060 rpm |
| **Max. capacity** | 12 × 1.5/2.0 mL | 12 × 1.5/2.0 mL | 18 × 1.5/2.0 mL | 24 × 1.5/2.0 mL |
| **Rotors available** | 2 | 2 | 1 | 2 |
| **Acceleration time**[1] | 13 s | 13 s | 11 s | 15 s |
| **Deceleration time**[1] | 12 s | 12 s | 12 s | 15 s |
| **Display** | large LCD | large LCD | large LCD | large, brightly lit LCD |
| **Timer** | 15 s – 30 min | 15 s to 99 min, with continuous run function | 30 s to 9:59 h, with continuous run function | 10 s to 9:59 h, with continuous run function |
| **SOFT brake function** | | | no | 10 ramps |
| **Noise level** | < 49 dB(A) | < 52 dB(A) | < 47 dB(A) | < 56 dB(A) with Rotor FA-24x2 |
| **Max. power consumption** | 70 W | 85 W | 320 W | 290 W |
| **Dimensions (W × D × H)** | 22.5 × 23.0 × 13.0 cm | 22.6 × 23.9 × 12.0 cm | 30 × 46 × 25 cm | 24 × 35 × 22 cm |
| **Height (with open lid)** | 25 cm | 25 cm | 52 cm | 44 cm |
| **Weight w/o accessories** | 3.7 kg | 3.7 kg | 22 kg | 13 kg |
| **Cooling** | non-refrigerated | non-refrigerated | refrigerated | non-refrigerated |
| **Temperature control range** | | | 0 °C to +40 °C | |

[1] Acceleration and deceleration times may vary depending on rotor, load and voltage version.

| Technical specifications | | | | | |
|---|---|---|---|---|---|
| **Model** | **5424 R** | **5425** | **5427 R** | **5430** | **5430 R** |
| **Max. RCF** | 21,130 × g | 21,300 × g | 25,000 × g | 30,130 × g | 30,130 × g |
| **Max. speed** | 15,000 rpm | 15,060 rpm | 16,220 rpm | 17,500 rpm | 17,500 rpm |
| **Max. capacity** | 24 × 1.5/2.0 mL | 10 × 5.0 mL | 48 × 1.5/2.0 mL | 48 × 1.5/2.0 mL, 6 × 50 mL, 2 × MTP | 48 × 1.5/2.0 mL, 6 × 50 mL, 2 × MTP |
| **Rotors available** | 4 | 6 | 9 | 12 | 12 |
| **Acceleration time**[1] | 15 s | 15 s | 18 s | 14 s | 14 s |
| **Deceleration time**[1] | 16 s | 15 s | 18 s | 15 s | 15 s |
| **Display** | LCD | large, brightly lit LCD | large LCD | large, brightly lit LCD | large, brightly lit LCD |
| **Timer** | 30 s to 9:59 h, with continuous run function | 10 s to 9:59 h, with continuous run function | 10 s to 9:59 h | 30 s to 99:59 h, with continuous run function | 30 s to 99:59 h, with continuous run function |
| **SOFT brake function** | yes | 10 ramps | | yes | yes |
| **Noise level** | < 48 dB(A) with Rotor FA-45-24-11 | average of 45 dB(A) in the first 12 minutes and < 51 dB(A) thereafter with Rotor FA-24x2 | < 46 dB(A) with Rotor F-45-48-11 | < 58 dB(A) with Rotor F-45-30-11 | < 54 dB(A) with Rotor F-45-30-11 |
| **Max. power consumption** | 350 W | 280 W | 550 W | 475 W | 1,050 W |
| **Dimensions (W × D × H)** | 29 × 48 × 26 cm | 24 × 39 × 24 cm | 31.9 × 54.0 × 25.4 cm | 33 × 42 × 25 cm | 38 × 64 × 29 cm |
| **Height (with open lid)** | 51 cm | 48 cm | | 56 cm | 63 cm |
| **Weight w/o accessories** | 21 kg | 15.6 kg | 30 kg | 29 kg | 56 kg |
| **Cooling** | refrigerated | non-refrigerated | refrigerated | non-refrigerated | refrigerated |
| **Temperature control range** | -10 °C to +40 °C | | -11 °C to 40 °C | | -11 °C to 40 °C |

[1] Acceleration and deceleration times may vary depending on rotor, load and voltage version.















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# Centrifuge 5702/5702 R/5702 RH

**Description**
The 5702 family of low speed, general purpose centrifuges was especially designed to meet the requirement of low- to mid-throughput research and cell culture labs. They are compact in design so that one can fit comfortably on every lab bench, quiet in operation to benefit your work environment, and provide 6 different rotor options to accommodate any type of tube.

**The right model for your application:**
> Centrifuge 5702 for standard applications
> Refrigerated Centrifuge 5702 R for heat sensitive samples
> Heated and refrigerated Centrifuge 5702 RH allows centrifugation under biological conditions to improve cell viability for more accurate results in downstream applications (e.g. cell cultivation)



AR

www.eppendorf.com/app

**Product features**
> Max. speed: 3,000 × g (4,400 rpm)
> Very compact footprint to fit on every lab bench
> Very quiet operation to benefit your environment
> Low access height for simple loading and unloading of samples
> SOFT brake function for slow acceleration and braking. Optimized for cell separation by gradient centrifugation
> "At set RPM" function starts the timer when the selected rotational speed is reached for reproducible centrifugation runs
> Key lock to prevent unintentional adjustments
> Stainless steel rotor chamber is rust-free and easy to clean
> Electronic imbalance detection for maximum safety

**Special features for Centrifuge 5702 R and Centrifuge 5702 RH**
> Temperature settings from -9 °C to 40 °C
> FastTemp function for fast precooling
> Continuous cooling maintains a constant temperature after the run has been completed – your samples stay cool
> ECO shut-off engages after 8 hours of non-use to reduce energy consumption and extend compressor life
> Two program keys to store routine programs
> Active heating guarantees high temperature accuracy during the entire centrifugation cycle (only 5702 RH)




Centrifuge 5702 display




Centrifuge 5702 R and 5702 RH display

| Technical specifications | | | |
|---|---|---|---|
| **Model** | **5702** | **5702 R** | **5702 RH** |
| **Max. RCF** | 3,000 × g | 3,000 × g | 3,000 × g |
| **Max. speed** | 4,400 rpm | 4,400 rpm | 4,400 rpm |
| **Speed** | 100 – 4,400 rpm (100 rpm steps) | 100 – 4,400 rpm (100 rpm steps) | 100 – 4,400 rpm (100 rpm steps) |
| **Max. capacity** | 4 × 100 mL | 4 × 100 mL | 4 × 100 mL |
| **Rotors available** | 6 | 6 | 6 |
| **Acceleration time**[1)] | ≤19 s | ≤20 s | ≤19 s |
| **Deceleration time**[1)] | ≤19 s | ≤28 s | ≤29 s |
| **Display** | LCD | LCD | LCD |
| **Timer** | 0 – 99 min, with continuous run function | 0 – 99 min, with continuous run function | 0 – 99 min, with continuous run function |
| **SOFT brake function** | yes | yes | yes |
| **Noise level** | < 52 dB(A) with Rotor A-4-38 | <46 dB(A) with Rotor A-4-38 | <46 dB(A) with Rotor A-4-38 |
| **Max. power consumption** | 200 W | 380 W | 380 W |
| **Dimensions (W × D × H)** | 32 × 40 × 24 cm | 38 × 58 × 26 cm | 38 × 58 × 26 cm |
| **Height (with open lid)** | 53 cm | 60 cm | 60 cm |
| **Weight w/o accessories** | 20 kg | 36 kg | 36 kg |
| **Cooling** | non-refrigerated | refrigerated | refrigerated/heated |
| **Temperature control range** | – | -9 °C to 40 °C | -9 °C to 42 °C |

[1)] Acceleration and deceleration times may vary depending on rotor, load and voltage version.

| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **Centrifuge 5702**, non-refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5702 000 010 |
| **Centrifuge 5702**, non-refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz | 5702 000 320 |
| **Centrifuge 5702 R**, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5703 000 010 |
| **Centrifuge 5702 R**, refrigerated, with Rotor A-4-38 incl. adapters for 13/16 mm blood collection tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz | 5703 000 320 |
| **Centrifuge 5702 R**, refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz | 5703 000 425 |
| **Centrifuge 5702 RH**, refrigerated/heated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5704 000 010 |

Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

# Rotors for Centrifuge 5702/5702 R/5702 RH



**Rotor A-4-38 with round buckets**
> Maximum speed: 3,000 × g (4,400 rpm)
> Standard rotor for centrifugation of blood collection tubes or 15/50 mL conical tubes
> Round buckets for vessels with 1.5 – 100 mL
> Wide variety of adapters for all blood collection tubes and cell culture tube types
> Aerosol-tight[1)] caps for safe centrifugation of hazardous samples optionally available

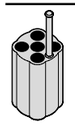
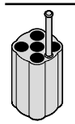
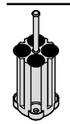
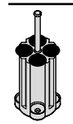
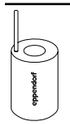
[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.



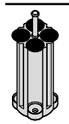
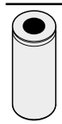
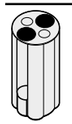
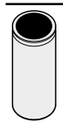
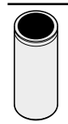
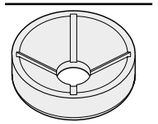




| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **Rotor A-4-38 with round buckets**, incl. 4 round buckets 100 mL | 5702 720 003 |
| **Round bucket 100 mL**, for Rotor A-4-38, set of 4 | 5702 722 006 |
| **Caps for 100 mL round buckets**, aerosol-tight, set of 2 pcs. | 5702 721 000 |

| **Adapters for Rotor A-4-38 with round buckets** | | | | | | |
|---|---|---|---|---|---|---|
| **Tube Volume** | 1.5 – 2.0 mL | 1.1 – 1.4 mL | 2 – 7 mL | 2.6 – 7 mL | 4 – 10 mL | Eppendorf Tubes® 5.0 mL |
| **Max. tube diameter** | 11 mm | 8.5 mm | 12.5 mm | 13.5 mm | 16 mm | 17 mm |
| **Max. vessel height** | 43 mm | 100 mm | 100 mm | 100 mm | 100 mm | 60 mm |
| **Max. vessel height for use with cap/lid[1)]** | 43 mm | 100 mm | 100 mm | 100 mm | 100 mm | 60 mm |
| **Adapter** |  |  |  |  |  |  |
| **Number of vessels per adapter/rotor** | 4/16 | 5/20 | 5/20 | 4/16 | 4/16 | 1/4 |
| **Bottom shape** | round | flat | flat | flat | flat | flat |
| **Centrifugation radius** | 134 mm | 132 mm | 132 mm | 132 mm | 132 mm | 136 mm |
| **Max. RCF** | 2,900 × g | 2,850 × g | 2,850 × g | 2,850 × g | 2,850 × g | 2,943 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5702 745 006 | 5702 736 007 | 5702 737 003 | 5702 719 005 | 5702 735 000 | 5702 733 008 |

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.[2)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[3)] Please order adapter for 25 mL conical tubes srew cap 5820 734 000.

| | | | | | | |
|---|---|---|---|---|---|---|
| 9 – 15 mL | 15 mL conical | 15 mL conical | 25 mL snap cap[2)] | 25 mL screw cap[3)] | 50 mL conical | 85/100 mL |
| 17.5 mm | 17.2 mm | 17.2 mm | 30 mm | 30 mm | 30 mm | 38 mm |
| 100 mm | 121 mm | 121 mm | 83 mm | 78.5 mm | 115 mm | 106 mm |
| 100 mm | 120 mm | – | 83 mm | 78.5 mm | 115 mm | 106 mm |
|  |  |  |  |  |  |  |
| 4/16 | 1/4 | 2/8 | 1/4 | 1/4 | 1/4 | 1/4 |
| round | conical | conical | conical | conical | conical | round |
| 130 mm | 137 mm | 137 mm | 107 mm | 97 mm | 135 mm | 135 mm |
| 2,800 × g | 3,000 × g | 3,000 × g | 2,316 × g | 2,100 × g | 2,900 × g | 2,900 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| 5702 724 009 | 5702 732 001 | 5702 723 002 | 5702 734 004 | 5702 734 004 | 5702 734 004 | 5702 718 009 |

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# Rotors for Centrifuge 5702/5702 R/5702 RH



**Rotor A-4-38 with rectangular buckets**
> Maximum speed: 2,750 × g (4,400 rpm)
> Rectangular buckets for vessels with 5 – 25 mL

**Adapters for Rotor A-4-38 with rectangular buckets**

| Tube Volume | round-bottom tubes | 5 – 7 mL | 9 mL | 15 mL | 25 mL | 20 mL |
|---|---|---|---|---|---|---|
| Max. tube diameter | 12 mm | 13 mm | 14.5 mm | 17.5 mm | 25 mm | 22 mm |
| Max. vessel height | 75 mm | 100 mm | 100 mm | 100 mm | 100 mm | 100 mm |
| Adapter |  |  |  |  |  |  |
| Number of vessels per adapter/rotor | 9/36 | 10/40 | 8/32 | 6/24 | 2/8 | 4/16 |
| Bottom shape | round | flat | flat | flat | flat | flat |
| Centrifugation radius | 119 mm | 127 mm | 127 mm | 127 mm | 127 mm | 127 mm |
| Max. RCF | 2,577 × g | 2,750 × g | 2,750 × g | 2,750 × g | 2,750 × g | 2,750 × g |
| Packing | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| Order no. | 5702 763 004 | 5702 710 008 | 5702 711 004 | 5702 712 000 | 5702 716 006 | 5702 713 007 |

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor A-4-38**, without buckets | 5702 740 004 |
| **Rectangular bucket 90 mL**, for Rotor A-4-38, set of 4 pcs. | 5702 709 000 |







**Rotor A-8-17**
> Maximum speed: 2,800 × g (4,400 rpm)
> Low capacity rotor for centrifugation of 15 mL conical tubes or 15 mL glass tubes[1)]
> Adapters for 15 mL conical tubes and rubber mat inserts for glass tubes optionally available

[1)] Max. vessel height: 120 mm



**Rotor F-45-24-11**
> Maximum speed: 1,770 × g (4,400 rpm)
> Fixed-angle rotor for 24 × 1.5/2.0 mL tubes
> Quiet centrifugation even without rotor lid
> Adapters optionally available for:
  - 0.2 mL PCR tubes (5425 715 005)
  - 0.4 mL centrifuge tubes (5425 717 008)
  - 0.5 mL micro test tubes and BD Microtainer® tubes (5425 716 001)
> Rotor and adapters are autoclavable (121 °C, 20 min)



**Rotor F-35-30-17**
> Maximum speed: 2,750 × g (4,400 rpm)
> High capacity rotor for 20 × 15 mL conical tubes or 30 × 15 mL glass tubes
> Inserts for 15 mL conical tubes and rubber mats for use with glass tubes are included



**Rotor F-45-18-17-Cryo**
> Maximum speed: 1,970 × g (4,400 rpm)
> Quiet centrifugation even without rotor lid
> Centrifugation of 1 – 2 mL cryo container (max. 13 mm Ø, use with adapter) and tubes with screw cap (max. 17 mm Ø, no adapter required)
> Rotor and adapters are autoclavable (121 °C, 20 min)

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor A-8-17**, 8 × 15 mL, without adapter, without rubber mats | 5702 700 002 |
| **Rotor F-35-30-17**, incl. 30 steel sleeves for 15 mL vessels, with 20 adapters for conical tubes and 30 rubber mats for round-bottom tubes | 5702 704 008 |
| **Rotor F-35-30-17**, incl. 10 steel sleeves for 15 mL vessels, with 10 adapters for conical tubes and 10 rubber mats for round-bottom tubes | 5702 705 004 |
| **Rotor F-45-24-11**, without lid | 5702 746 002 |
| **Rotor F-45-18-17-Cryo**, without rotor lid, without adapters | 5702 747 009 |
| **Adapter**, for 1 cryo containers (max. Ø 13 mm) or lidded centrifugation tubes (Ø 12.2 mm), max. length 50 mm, for Rotor F-45-18-17-Cryo, set of 6 pcs. | 5702 752 002 |
| **Adapter**, for 1 HPLC vessel 1.5 mL, for Rotor F-45-18-17-Cryo | 5427 708 006 |

CENTRIFUGES AND ROTORS

# Centrifuge 5804/5804 R and 5810/5810 R













**Description**
Eppendorf Centrifuge 5804/5804 R and 5810/5810 R with their renowned quality and reliability offer you cost efficient solutions for your medium- throughput applications. Centrifuge 5804/5804 R is a high speed centrifuge for medium capacity needs. It allows for molecular biology applications in bottles up to 250 mL and offers additional swing-bucket and fixed-angle rotors as well as deepwell plate capacity for increased versatility. Centrifuge 5810/5810 R is a workhorse for medium throughput laboratories. It spins up to 28 conical tubes with 50 mL or 56 tubes with 15 mL.

**Product features**
> Swing-bucket rotors and adapters accommodate tubes and bottles from 0.2 mL to 750 mL
> Plate rotor for centrifugation of all types of MTP, PCR, cell culture, or Deepwell Plates
> Fixed-angle rotors for high-speed applications in tubes from 0.2 mL to 85 mL
> Centrifugation speed of up to 20,913 × g (14,000 rpm)
> Aerosol-tight Eppendorf QuickLock® caps and lids for easy, one-hand operation
> Low access height of 29 cm for easy loading and unloading of samples
> Compact footprint saves valuable bench space
> Automatic rotor recognition and imbalance detection for maximum operational safety

**Additional features of refrigerated Centrifuge 5804 R and 5810 R**
> Temperature range from -9 °C to 40 °C
> FastTemp function for fast pre-cooling
> Continuous cooling maintains a constant temperature after the run has been completed – your samples stay cool
> ECO shut-off engages after 8 hours of non-use to reduce energy consumption and to extend compressor life

**i** For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

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# Centrifuge 5804/5804 R and 5810/5810 R

| Technical specifications | | | | |
|---|---|---|---|---|
| **Model** | **5804** | **5804 R** | **5810** | **5810 R** |
| **Max. RCF** | 20,913 × g | 20,913 × g | 20,913 × g | 20,913 × g |
| **Max. RCF with fixed-angle rotor** | 20,913 × g | 20,913 × g | 20,913 × g | 20,913 × g |
| **Max. RCF with swing-bucket rotor** | 4,500 × g | 4,500 × g | 4,500 × g | 4,500 × g |
| **Max. RCF with plate rotor** | 2,250 × g | 2,250 × g | 3,486 × g | 3,486 × g |
| **Max. speed** | 14,000 rpm | 14,000 rpm | 14,000 rpm | 14,000 rpm |
| **Speed** | 200 – 14,000 rpm | 200 – 14,000 rpm | 200 – 14,000 rpm | 200 – 14,000 rpm |
| **Max. capacity** | 4 × 250 mL/2 × 5 MTP | 4 × 250 mL/2 × 5 MTP | 4 × 750 mL/4 × 4 MTP | 4 × 750 mL/4 × 4 MTP |
| **Rotors available** | 12 | 12 | 18 | 18 |
| **Acceleration/braking ramps** | 10/10 | 10/10 | 10/10 | 10/10 |
| **Number of programs** | 35 user-defined programs | 35 user-defined programs | 35 user-defined programs | 35 user-defined programs |
| **Display** | large, brightly lit LCD | large, brightly lit LCD | large, brightly lit LCD | large, brightly lit LCD |
| **Timer** | 1 min to 99 min, with continuous run function, short-spin | 1 min to 99 min, with continuous run function, short-spin | 1 min to 99 min, with continuous run function, short-spin | 1 min to 99 min, with continuous run function, short-spin |
| **Noise level** | < 62 dB(A) | < 58 dB(A) | <70 dB(A) | <56 dB(A) |
| **Noise level** | | | | |
| **Rotor FA-45-6-30 (6×50 mL)** | <55 dB(A) | <54 dB(A) | <56 dB(A) | <55 dB(A) |
| **Rotor S-4-104 (4×750 mL)** | – | – | <59 dB(A) | <56 dB(A) |
| **Rotor S-4-72 (4×250 mL)** | <62 dB(A) | <58 dB(A) | – | – |
| **Power supply** | 230 V, 50 – 60 Hz | 230 V, 50 – 60 Hz | 230 V, 50 – 60 Hz | 230 V, 50 – 60 Hz |
| **Max. power consumption** | 900 W | 1,650 W | 900 W | 1,650 W |
| **Dimensions (W × D × H)** | 47 × 55 × 34 cm | 64 × 55 × 34 cm | 54 × 61 × 35 cm | 70 × 61 × 35 cm |
| **Footprint (dimensions w/o front panel, WxD)** | 47 × 50 cm | 64 × 50 cm | 54 × 54 cm | 70 × 54 cm |
| **Height (with open lid)** | 74 cm | 74 cm | 80 cm | 80 cm |
| **Weight w/o accessories** | 55 kg | 80 kg | 68 kg | 99 kg |
| **Cooling** | non-refrigerated | refrigerated | non-refrigerated | refrigerated |
| **Temperature control range** | – | -9 °C to 40 °C | – | -9 °C to 40 °C |

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5804**, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5804 000 010 |
| **Centrifuge 5804 R**, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5805 000 010 |
| **Centrifuge 5810**, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5810 000 010 |
| **Centrifuge 5810 R**, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5811 000 015 |

↗ Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com/centrifugation





# Rolling Cabinet




**Description**
If space is a limited resource in your lab, Eppendorf's rolling cabinet can give you the freedom and flexibility to use your Centrifuge 5804/5804 R or 5810/5810 R wherever you need it. Use the rolling cabinet if there is not enough space on the regular lab bench or to transport and use the centrifuge in other labs. The included drawer provides extra storage space for your rotors and adapters.



**Product features**
> Rolling cabinet with closed centrifuge fits under standard 90 cm lab benches
> With 4 castors (2 lockable) and drawer
> Dimensions (W × D × H): 70 × 62 × 45 cm





**Ordering information**

| Description | Order no. |
|---|---|
| **Rolling Cabinet**, for Centrifuge 5804/5804 R and 5810/5810 R | 5821 020 010 |

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CENTRIFUGES AND ROTORS

# Centrifuge Packages




**Description**
Whether you need a refrigerated or non-refrigerated centrifuge for low, medium throughput applications, one of these packages will definitely suit your requirements.

**Cell Culture Centrifuge packages include**
> Centrifuge 5702/5702 R, 5804/5804 R or 5810/5810 R
> Swing-bucket rotor incl. buckets
> Four adapters for 15 mL conical tubes (two sets of 2)
> Four adapters for 50 mL conical tubes (two sets of 2)

**Centrifuge packages for round-bottom tubes include**
> Centrifuge 5810/ 5810 R
> Swing-bucket rotor S-4-104 incl. buckets
> Four adapters for 13 mm (5/7 mL) round bottom tubes (two sets of 2)
> Four adapters for 16 mm (10 mL) round bottom tubes (two sets of 2)




**Eppendorf Conical Tubes 15 mL, 25 mL and 50 mL**
The Eppendorf Conical Tubes are the optimal solution for sample preparation protocols in microbiology and molecular biology laboratories. Safe design and easy handling ensure best sample processing.

**Premium USP class 6 raw material ensures**
> Highest sample integrity
> High g-Safe® centrifugation stability
> Optimal sample and pellet visibility

For more information go to chapter „tubes and plates“ on page 120

| | Number of vessels per adapter/rotor | |
|---|---|---|
| **Centrifuge Packages** | **15 mL conical** | **50 mL conical** |
| **5702/5702 R** | 2/8 | 1/4 |
| **5804/5804 R + Rotor A-4-44** | 4/16 | 1/4 |
| **5804/5804 R + Rotor S-4-72** | 8/32 | 4/16 |
| **5810/5810 R + Rotor A-4-62** | 9/36 | 4/16 |
| **5810/5810 R + Rotor A-4-81** | 12/48 | 5/20 |
| **5810/5810 R + Rotor S-4-104** | 14/56 | 7/28 |
| | **13 mm** | **16 mm** |
| **5810/5810 R + S-4-104** | 23/92 | 20/80 |

**Ordering information**

| Description | Max. capacity per rotor | Order no. |
|---|---|---|
| **Centrifuge 5702**, non-refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz | 8 × 15 mL/4 × 50 mL | 5702 000 320 |
| **Centrifuge 5702 R**, refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz | 8 × 15 mL/4 × 50 mL | 5703 000 425 |
| **Centrifuge 5804**, non-refrigerated, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 16 × 15 mL/4 × 50 mL | 5804 000 320 |
| **Centrifuge 5804 R**, refrigerated, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 16 × 15 mL/4 × 50 mL | 5805 000 320 |
| **Centrifuge 5804**, non-refrigerated, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 32 × 15 mL/16 × 50 mL | 5804 000 520 |
| **Centrifuge 5804 R**, refrigerated, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 32 × 15 mL/16 × 50 mL | 5805 000 620 |
| **Centrifuge 5810**, non-refrigerated, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 36 × 15 mL/16 × 50 mL | 5810 000 320 |
| **Centrifuge 5810 R**, refrigerated, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 36 × 15 mL/16 × 50 mL | 5811 000 325 |
| **Centrifuge 5810**, non-refrigerated, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 48 × 15 mL/20 × 50 mL | 5810 000 420 |
| **Centrifuge 5810 R**, refrigerated, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 48 × 15 mL/20 × 50 mL | 5811 000 420 |
| **Centrifuge 5810**, non-refrigerated, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 56 × 15 mL/28 × 50 mL | 5810 000 525 |
| **Centrifuge 5810 R**, refrigerated, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 56 × 15 mL/28 × 50 mL | 5811 000 620 |
| **Centrifuge 5810**, non-refrigerated, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes, keypad, 230 V/50 – 60 Hz | 92 × 13 mm/80 × 16 mm | 5810 000 620 |
| **Centrifuge 5810 R**, refrigerated, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes, keypad, 230 V/50 – 60 Hz | 92 × 13 mm/80 × 16 mm | 5811 000 820 |

Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

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CENTRIFUGES AND ROTORS

# Overview of Swing-Bucket Rotors 58xx Family







| Model | Rotor S-4-104 | Rotor A-4-81 | Rotor A-4-62 |
|---|---|---|---|
| Max. capacity 5804/5804 R | 4 × 750 mL | 4 × 500 mL | 4 × 250 mL |
| 5810/5810 R | ■ | ■ | ■ |
| Positioning | Medium capacity swing-bucket rotor for blood, bacteria, cell culture and plate centrifugation | Medium capacity swing-bucket rotor for blood, bacteria, cell culture and plate centrifugation | Economic swing-bucket rotor for blood, bacteria, cell culture and plate centrifugation |
| Aerosol-tightness tubes/plates | yes/yes | yes/no | yes/no |
| Max. RCF | 3,214 × g | 3,220 × g | 3,220 × g |
| Max. speed | 3,900 rpm | 4,000 rpm | 4,000 rpm |
| Eppendorf Tubes® 5.0 mL and 15 mL conical | 56 | 48 | 36 |
| 25 mL snap cap tubes | 24 | 20 | 12 |
| 25 mL screw cap tubes | 28 | 20 | 12 |
| 50 mL conical tubes | 28 | 20/28[1)] | 16 |
| 13 mm round-bottom and blood collection tubes | 92 | 100 | 60 |
| 16 mm round-bottom and blood collection tubes | 80 | 64 | 48 |
| 1.5/2.0 mL micro tube | 200 | 80 | 64 |
| PCR plates/MTP | 16 | 16 | 16 |
| Deepwell plates (DWP) | 4 | 4 | 4 |

[1)] Maximum capacity with dedicated bucket/adapter. [2)] Maximum capacity with dedicated 50 mL bucket.









| Rotor S-4-72 | Rotor A-4-44 | Rotor A-2-DWP-AT | Rotor A-2-DWP |
|---|---|---|---|
| 4 × 250 mL | 4 × 100 mL | 2 × 6 MTP | 2 × 5 MTP |
| ■ | ■ | | ■ |
| ■ | ■ | ■ | ■ |
| Economic swing-bucket rotor for blood, bacteria, cell culture centrifugation | High-speed swing-bucket rotor for platelet poor plasma, blood, bacteria and cell culture | Aerosol-tight deepwell plate rotor for safe centrifugation of hazardous samples. | Economic deepwell plate rotor |
| no/– | yes/– | –/yes | –/no |
| 3,234 × g | 4,500 × g | 3,486 × g | 2,250 × g |
| 4,200 rpm | 5,000 rpm | 4,500 rpm | 3,700 rpm |
| 32 | 16 | – | – |
| 16 | 4 | – | – |
| 16 | 4 | – | – |
| 16 | 4/8[2)] | – | – |
| 56 | 36 | – | – |
| 52 | 28 | – | – |
| 104 | 48 | 48 | 48 |
| – | – | 8 | 8 |
| – | – | 4 | 4 |

# Advanced Rotor Design – Swing-Bucket Rotors




**Improved energy efficiency**
The round buckets have been designed to be especially aerodynamic. The result is a more efficient design that reduces power consumption by up to 48 %.

**Longer rotor lifetime**
The seccond rotor generation of both swing-bucket and fixed-angle rotors has been designed with a longer lifetime in mind.

**Product features**
> New Eppendorf QuickLock® caps for one-hand operation
> Significantly improved handling, easy operation with one or two hands
> Handle allows the closed bucket to be carried to the biosafety cabinet where it can be opened in a safe environment.
> Aerosol-tightness has been tested and verified by Public Health England, Porton Down, UK




**Mixed bucket loading**
Rotors S-4-104 and A-4-81 allow for mixed loading with 2 plate buckets and 2 round/rectangular buckets. You can, for example, order the rotor with 4 rectangular/round buckets for tubes and, in addition, buy a set of 2 plate buckets. There is no need to buy a complete set of 4 plate buckets.



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# Overview of the Main Fixed-Angle Rotors 58xx Family





| Model | Rotor F-34-6-38 | Rotor FA-45-6-30 |
|---|---|---|
| **Max. capacity** | 6 × 85 mL | 6 × 50 mL |
| **5804/5804 R** | ■ | ■ |
| **5810/5810 R** | ■ | ■ |
| **Positioning** | High-speed rotor suitable for molecular applications in tubes up to 85 mL | Aerosol-tight high-speed rotor for safe centrifugation of hazardous samples |
| **Aerosol-tightness** | no | yes |
| **Max. RCF** | 18,514 × g | 20,133 × g |
| **Max. speed** | 12,000 rpm | 12,000 rpm |
| **1.5/2.0 mL micro tube** | 24 | – |
| **Eppendorf Tubes® 5.0 mL and 15 mL conical** | 6 | 6 |
| **50 mL conical tubes** | 6 | 6 |
| **25 mL conical tubes** | 6[1)2)] | 6[2)3)] |
| **85 mL Oakridge®** | 6 | – |

[1)] Screw cap tubes only. [2)] Please order adapter for 25 mL conical tubes screw cap 5820 734 000. [3)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.

# Advanced Rotor Design – Fixed-Angle Rotors



**Product features**
> All rotors are anodized for high chemical resistance and to prevent corrosion
> Optimized design of rotor boreholes and adapters provide optimal support for high-speed centrifugation of tubes
> Aluminum rotors are recyclable

**Low rotor weight**
Eppendorf's fixed-angle rotors are among the lightest in the industry to improve handling and operational safety. Light-weight rotors cause less wear and tear on the motor and allow for faster acceleration and braking times.

**Eppendorf QuickLock® lids for ergonomic lid locking**
Our aerosol-tight QuickLock rotors close with only ¼ of a turn. This not only saves you time during every day use, it also takes repetitive stress off your wrist.

**Superior temperature control**
Aluminum, with its high heat conductivity, allows fast pre-cooling and accurate temperature control in refrigerated centrifuges.











| Rotor FA-45-20-17 | Rotor FA-45-48-11 | Rotor F-45-30-11/Rotor FA-45-30-11 |
|---|---|---|
| 20 × 5.0 mL | 48 × 1.5/2.0 mL | 30 × 1.5/2.0 mL |
| ■ | ■ | ■ |
| ■ | ■ | ■ |
| Applications in Eppendorf Tubes® 5.0 mL | Aerosol-tight microcentrifuge tube rotor for safe centrifugation of hazardous samples | Micro centrifuge tube rotor |
| yes | yes | no/yes |
| 20,913 × g | 19,083 × g | 20,817 × g |
| 13,100 rpm | 13,000 rpm | 14,000 rpm |
| 20 | 48 | 30 |
| 20/- | – | – |
| – | – | – |
| – | – | – |
| – | – | – |

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-45-20-17**, incl. rotor lid, for 20 × Eppendorf Tubes® 5.0 mL | 5820 765 003 |
| **Adapter**, for 1 vessel 1.5 – 2.0 mL, for all 5.0 mL rotors, set of 4 pcs. | 5820 768 002 |
| **Adapter**, for 1 cryo tube, for all 5.0 mL rotors, set of 4 pcs. | 5820 769 009 |
| **Adapter**, for 1 HPLC tube, for all 5.0 mL rotors, set of 4 pcs. | 5820 770 007 |
| **Rotor FA-45-48-11**, incl. rotor lid, for 48 × 1.5/2.0 mL tubes | 5820 760 001 |
| **Rotor F-45-30-11**, incl. rotor lid, for 30 × 1.5/2.0 mL reaction vessels | 5804 715 004 |
| **Rotor FA-45-30-11**, incl. rotor lid, for 30 × 1.5/2.0 mL reaction vessels, aerosol-tight | 5804 726 006 |

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# Rotors for 58xx Family







| Model | Rotor F-35-48-17[1)] | Rotor T-60-11 | Rotor F-45-48-PCR |
|---|---|---|---|
| Max. capacity | | 60 × 1.5/2.0 mL | 6 × 5/8 PCR strips (48 x 0.2 mL) |
| 5804/5804 R | ■ | ■ | ■ |
| 5810/5810 R | ■ | ■ | ■ |
| Aerosol-tightness | no | no | no |
| Max. RCF | 5,005 × g | 16,435 × g | 15,294 × g |
| Max. speed | 5,500 rpm | 14,000 rpm | 12,000 rpm |
| 1.5/2.0 mL micro tube | – | 60 | – |
| Eppendorf Tubes® 5.0 mL and 15 mL conical | -/40 | – | – |

[1)] Please note that a software upgrade will be necessary for older centrifuges when using this rotor. Please contact your local Eppendorf organization or dealer for further information.

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor F-35-48-17**, for 24 × 15 mL conical tubes, incl. 24 steel sleeves and adapters | 5820 771 003 |
| **Rotor F-35-48-17**, for 36 × 15 mL conical tubes, incl. 48 steel sleeves and adapters | 5820 772 000 |
| **Rotor T-60-11**, incl. rotor lid, for 1.5/2.0 mL tubes, without adapter | 5804 730 003 |
| **Adapter**, for 10 reaction vessels 1.5/2.0 mL, for Rotor T-60-11, set of 6 pcs. | 5804 731 000 |
| **Adapter**, for 20 reaction vessels 0.4 mL, for Rotor T-60-11, set of 6 pcs. | 5804 732 006 |
| **Rotor F-45-48-PCR**, for 6 × 8, 6 × 5 PCR tube strips, 48 × 0.2 mL individual PCR tubes | 5804 735 005 |



**Rotor A-2-DWP-AT**
> For use in Centrifuge 5810/5810 R only[1)]
> Max. speed: 3,486 × g (4,500 rpm)
> Rotor can handle up to
-2 × 6 MTP
-2 × 2 DWP
-2 × 1 Filtration plate kits
> Maximum loading height of 67 mm (89 mm without lid)
> Rotor comes with aerosol-tight caps[2)] for safe centrifugation of hazardous samples
> Rotor and buckets are autoclavable (121 °C, 20 min)

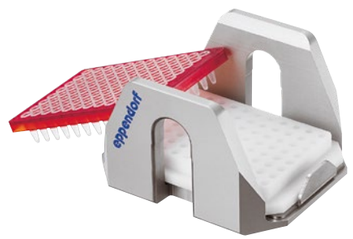
[1)] Please note that a software upgrade may be necessary for older centrifuges when using Rotor A-2-DWP-AT. Please contact your local Eppendorf organization or dealer for further information. [2)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor A-2-DWP-AT**, incl. 2 buckets, 2 aerosol-tight caps and 2 plate carriers | 5820 710 004 |







**Adapter**
> PCR plate adapters are designed to support thin-walled PCR plate wells during centrifugation
> Available for 96-well and 384-well PCR plates
> Adapters can be used in all Eppendorf plate rotors



**Cell culture flask adapter**
> Adapter to spin down cell cultures directly in a cell culture flask
> Suitable for 25 $cm^2$ and selective 75 $cm^2$ flasks (please ask for details)
> Adapters can be used in Eppendorf plate rotor A-4-81-MTP/Flex



**IsoRack adapter**
> IsoRack adapters to support 0.5 mL and 1.5/2.0 mL IsoRacks during centrifugation
> Adapters can be used in Eppendorf plate rotors A-2-DWP and A-4-81-MTP/Flex

**Ordering information**

| Description | Order no. |
|---|---|
| **Adapter**, for 1 cell culture flask, for Rotors A-4-81-MTP/Flex | 5825 719 000 |
| **Adapter**, for 1 PCR plate (96 wells) PCR plate 96 wells, for plate rotors, set of 2 pcs. | 5825 711 009 |
| **Adapter**, for 1 PCR plate (384 wells) PCR plate 384 wells, for plate rotors, set of 2 pcs. | 5825 713 001 |
| **Adapter**, for 24 vessels in the IsoRack 0.5 mL, for Rotor A-4-81 (MTP), set of 2 pcs. | 5825 708 008 |
| **Adapter**, for 24 vessels in the IsoRack 1.5/2.0 mL, for Rotor A-4-81 (MTP), set of 2 pcs. | 5825 709 004 |
| **CombiSlide Adapter**, for 12 slides Combi Slide, for Rotors A-2-MTP and A-4-81 (MTP), set of 2 pcs. | 5825 706 005 |



**Rotor A-2-DWP**
> For use in Centrifuge 5804/5804 R and 5810/5810 R
> Max. speed: 2,250 × g (3,700 rpm)
> Rotor can handle up to
-2 × 5 MTP
-2 × 4 Cell culture plates
-2 × 2 DWP
-2 × 1 Filtration plate kits
> Maximum loading height of 89 mm
> Rotor and buckets are autoclavable (121 °C, 20 min)

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor A-2-DWP**, rotor for Deepwell Plates incl. 2 buckets | 5804 740 009 |

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# Rotors for Centrifuge 5810 and 5810 R



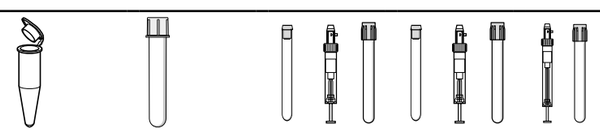
**Rotor S-4-104**

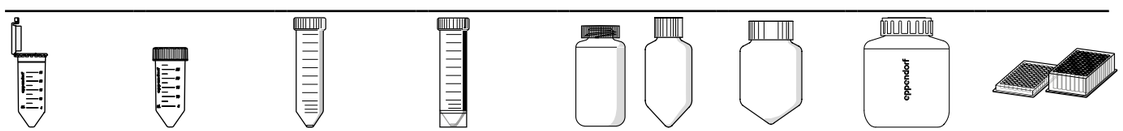
> Medium capacity swing-bucket rotor with max. speed 3,214 × g (3,900 rpm)[1)]
> Broad range of adapters enables high versatility for tubes and bottles from 0.2 mL to 750 mL and plates
> Aerodynamic round bucket design for up to 36 % energy savings compared to Rotor A-4-81
> Mixed loading with 2 plate buckets and 2 round tube buckets allows for increased versatility
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[2)]
> Buckets, lids and adapters are autoclavable (121 °C, 20 min)

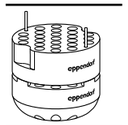
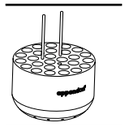
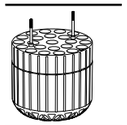
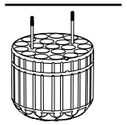
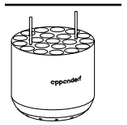
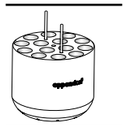
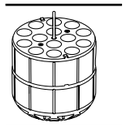
[1)] Please note that a software upgrade will be necessary for older centrifuges when using this rotor. Please contact your local Eppendorf organization or dealer for further information. [2)]Aerosol-tightness tested by Public Health England, Porton Down, UK.

**Ordering information**

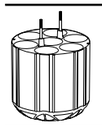
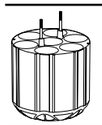
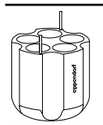
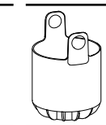
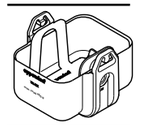
| Description | Order no. |
|---|---|
| **Rotor S-4-104** | |
| incl. 4 × 750 mL round buckets | 5820 740 000 |
| incl. 4 plate buckets (aerosol-tight capable) | 5820 754 001 |
| without buckets | 5820 755 008 |
| **Plate bucket (aerosol-tight capable)**, for Rotor S-4-104, incl. plate carrier, set of 2 pcs. | 5820 744 006 |
| **Plate bucket (aerosol-tight capable)**, for Rotor S-4-104, incl. plate carrier, set of 4 pcs. | 5820 743 000 |
| **Bucket 750 mL**, for Rotor S-4-104, set of 2 pcs. | 5820 742 003 |
| **Bucket 750 mL**, for Rotor S-4-104, set of 4 pcs. | 5820 741 007 |
| **Caps for plate buckets (aerosol-tight capable)**, aerosol-tight, for Rotor S-4-104 and Rotor S-4x750, set of 2 pcs. | 5820 748 001 |
| **Caps for 750 mL round buckets**, aerosol-tight, for Rotor S-4-104, Rotor S-4x750 and Rotor S-4x1000, set of 2 pcs. | 5820 747 005 |
| **Wide-neck bottle 750 mL**, for Rotor S-4-104, S-4x750, S-4x1000, set of 2 pcs. | 5820 708 000 |





| Adapters for Rotor S-4-104 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Tube Volume** | 1.5/2.0 mL | 12 × 75 mm, 5 mL FACS | 2.6 – 8 mL | 5.5 – 12 mL | 9 mL | 14 mL | Eppendorf Tubes® 5.0 mL and 15 mL conical |
| **Max. tube diameter** | 11 mm | 12 mm | 13 mm | 16 mm | 17.5 mm | 17.5 mm | 17 mm |
| **Max. vessel height** | 39 mm | 115 mm | 115 mm | 119 mm | 111 mm | 117 mm | 125 mm |
| **Max. vessel height for use with cap/lid[1)]** | 39 mm | 108 mm | 108 mm | 114 mm | 106 mm | 112 mm | 121 mm |
| **Adapter** |  |  |  |  |  |  |  |
| **Number of vessels per adapter/rotor** | 50/200 | 27/108 | 23/92 | 20/80 | 20/80 | 14/56 | 14/56 |
| **Bottom shape** | flat | round | round | round | round | round | conical |
| **Centrifugation radius** | 188 mm | 183 mm | 179 mm | 180 mm | 179 mm | 185 mm | 188 mm |
| **Max. RCF** | 3,197 × g | 3,112 × g | 3,044 × g | 3,061 × g | 3,044 × g | 3,146 × g | 3,197 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5825 740 009 | 5825 747 003 | 5825 738 004 | 5825 736 001 | 5825 743 008 | 5825 748 000 | 5825 734 009 |

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[3)] Please order adapter for 25 mL conical tubes srew cap 5820 734 000.[4)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer. [5)] 225 mL conical bottles from BD®/Corning® and 250 mL conical bottles from Nunc® for Rotor S-4-104.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 25 mL snap cap[2)] | 25 mL screw cap[3)] | 50 mL conical | 50 mL conical, skirted | 250 mL flat, 175 – 225/250 mL conical[4)5)] | 500 mL Corning® | 750 mL | MTP, DWP, PCR plates |
| 39 mm | 29.8 mm | 30 mm | 30 mm | 62 mm | 96 mm | 102 mm | – |
| 83 mm | 78.5 mm | 122 mm | 120 mm | 145 mm | 147 mm | 140 mm | 60 mm |
| 83 mm | 78.5 mm | 116 mm | 116 mm | 125 mm | – | – | 47 mm |
|  |  |  |  |  |  |  |  |
| 6/24 | 7/28 | 7/28 | 5/20 | 1/4 | 1/4 | 1/4 | 4/16 (MTP) 1/4 (DWP) |
| conical | conical | conical | conical | flat | conical | flat | flat |
| 161 mm | 151 mm | 187 mm | 178 mm | 183 mm | 187 mm | 185 mm | 151 mm |
| 2,737 × g | 2,567 × g | 3,180 × g | 3,027 × g | 3,112 × g | 3,146 × g | 3,146 × g | 2,568 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| 5825 733 002 | 5825 733 002 | 5825 733 002 | 5825 732 006 | 5825 741 005 | 5825 745 000 | 5825 744 004 | 5820 744 006 |



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# Rotors for Centrifuge 5810 and 5810 R



**Rotor A-4-81**
> Swing-bucket rotor with max. speed 3,220 × g (4,000 rpm)
> Rotor A-4-81 accommodates tubes and bottles from 0.2 mL to 500 mL as well as plates
> Aerosol-tight caps[1)] for safe centrifugation of hazardous samples optionally available
> Mixed loading with 2 plate buckets and 2 rectangular tube buckets allows for increased versatility
> Buckets, caps and adapters are autoclavable (121 °C, 20 min)

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor A-4-81**, incl. 4 x 500 mL rectangular buckets | 5810 718 007 |
| **Rotor A-4-81**, without buckets | 5810 743 001 |
| **Rotor A-4-81**, with 4 MTP/Flex buckets | 5810 725 003 |
| **Bucket 500 mL rectangular**, for Rotor A-4-81, set of 4 pcs. | 5810 730 007 |
| **Bucket for 7 x 50 mL conical tubes**, for Rotor A-4-81, set of 4 pcs. | 5825 730 003 |
| **Lid**, aerosol-tight, for 500 mL rectangular bucket, set of 2 pcs. | 5810 724 007 |
| **Wide-neck bottle 500 mL**, for Rotor A-4-81 and Rotor S-4x500, square, set of 2 pcs. | 5820 707 003 |
| **Wide-neck bottle 400 mL**, for Rotor A-4-81 and Rotor S-4x500, set of 2 pcs. | 5810 729 009 |
| **MTP/Flex bucket**, for Rotor A-4-81 and Rotor S-4x500, set of 2 pcs. | 5810 742 005 |
| **MTP/Flex bucket**, for Rotor A-4-81 and Rotor S-4x500, set of 4 pcs. | 5810 741 009 |

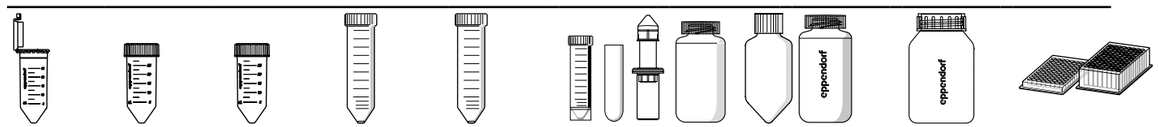
**Adapters for Rotor A-4-81**

| Tube Volume | 1.5/2.0 mL | 1.2 – 5 mL | 2.6 – 5 mL | 2.6 – 7 mL | 3 – 15 mL | 7 – 17 mL | Eppendorf Tubes® 5.0 mL and 15 mL conical tubes | 25 mL snap cap |
|---|---|---|---|---|---|---|---|---|
| **Max. tube diameter** | 11 mm | 11 mm | 13 mm | 13 mm | 16 mm | 17.5 mm | 17.5 mm | 39 mm |
| **Max. vessel height** | 43 mm | 108 mm | 108 mm | 108 mm | 108 mm | 118 mm | 121 mm | 83 mm |
| **Max. vessel height for use with cap/lid[1)]** | 43 mm | 108 mm | 107 mm | 108 mm | 108 mm | 118 mm | 121 mm | 83 mm |
| **Adapter** | | | | | | | | |
| **Number of vessels per adapter/rotor** | 20/80 | 20/80 | 25/100 | 18/72 | 16/64 | 16/64 | 12/48 | 5/20 |
| **Bottom shape** | flat | flat | flat with rubber mat | flat with rubber mat | flat with rubber mat | flat with rubber mat | conical | conical |
| **Centrifugation radius** | 165 mm | 168 mm | 168 mm | 168 mm | 168 mm | 168 mm | 173 mm | 158 mm |
| **Max. RCF** | 2,950 × g | 3,000 × g | 3,000 × g | 3,000 × g | 3,000 × g | 3,000 × g | 3,100 × g | 2,826 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5810 745 004 | 5810 746 000 | 5810 720 001 | 5810 747 007 | 5810 748 003 | 5810 721 008 | 5810 722 004 | 5810 723 000 |

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[3)] Please order adapter for 25 mL conical tubes srew cap 5820 734 000.[4)] Please order adapter for 50 mL conical tubes skirted 5804 737 008.








| | 25 mL snap cap[2)] | 25 mL screw cap | 25 mL screw cap[3)] | 50 mL conical | 50 mL conical | 30 – 50 mL and 50 mL conical tubes, skirted[4)] | 180 – 250 mL flat/ 175 – 225 mL conical | 400 mL | 500 mL | MTP, DWP, PCR plates |
|---|---|---|---|---|---|---|---|---|---|---|
| **Max. tube diameter** | 39 mm | 29.8 mm | 29.8 mm | 30 mm | 30 mm | 30 mm | 62 mm | 133 mm | 83 mm | – |
| **Max. vessel height** | 83 mm | 78.5 mm | 78.5 mm | 122 mm | 122 mm | 121 mm | 133 mm | 133 mm | 134 mm | 60 mm |
| **Max. vessel height for use with cap/lid[1)]** | 83 mm | 78.5 mm | 78.5 mm | – | 116 mm | – | – | – | 134 mm | – |
| **Adapter** | | | | | | | | | | |
| **Number of vessels per adapter/rotor** | 7/28 | 5/20 | 7/28 | 7/28 | 5/20 | 5/20 | 1/4 | 1/4 | –/4 | 4/16 (MTP) 1/4 (DWP) |
| **Bottom shape** | conical | conical | conical | conical | conical | flat with rubber mat | flat with rubber mat | flat, rubber | flat | flat with rubber mat |
| **Centrifugation radius** | 155 mm | 148 mm | 145 mm | 180 mm | 173 mm | 173 mm | 173 mm | 180 mm | 180 mm | 163 mm |
| **Max. RCF** | 2,772 × g | 2,647 × g | 2,593 × g | 3,220 × g | 3,100 × g | 3,100 × g | 3,100 × g | 3,220 × g | 3,220 × g | 2 900 × g |
| **Packing** | set of 4 pcs. | set of 2 pcs. | set of 4 pcs. | set of 4 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | | set of 2 pcs. |
| **Order no.** | 5825 730 003 | 5810 723 000 | 5825 730 003 | 5825 730 003 | 5810 723 000 | 5810 739 004 | 5825 722 000 | 5810 728 002 | – | 5810 742 005 |

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# Rotors for Centrifuge 5810 and 5810 R

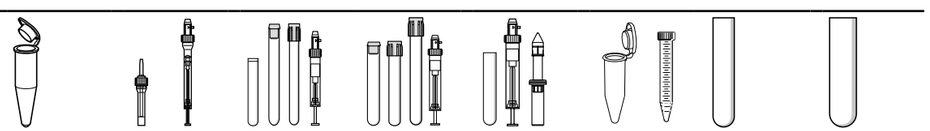


**Rotor A-4-62**
> Swing-bucket rotor with max. speed 3,220 × g (4,000 rpm)
> Rotor A-4-62 accommodates tubes and bottles from 0.2 mL to 250 mL as well as plates
> Aerosol-tight caps[1)] for safe centrifugation of hazardous samples optionally available
> Rotor, buckets, caps and adapters are autoclavable (121 °C, 20 min)

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

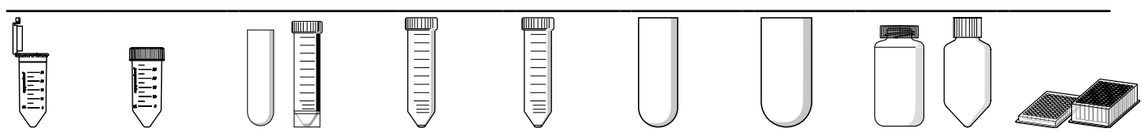
**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor A-4-62**, incl. 4 × 250 mL rectangular buckets | 5810 709 008 |
| **Rotor A-4-62**, with 4 MTP buckets | 5810 711 002 |
| **MTP bucket**, for Rotor A-4-62-MTP, for 4 MTP or 1 DWP, set of 4 pcs. | 5810 702 003 |
| **Caps**, aerosol-tight, for rectangular bucket 250 mL, set of 2 pcs. | 5810 710 006 |
| **Rectangular bucket 250 mL**, for Rotor A-4-62, 4 pieces | 5810 716 004 |



| Adapters for Rotor A-4-62 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Tube Volume** | 1.5 – 2.0 mL | 1.2 – 5 mL | 2.6 – 7 mL | 3 – 15 mL | 7 – 17 mL | Eppendorf Tubes® 5.0 mL and 15 mL conical | 7 – 18 mL | 18 – 25 mL |
| **Max. tube diameter** | 11 mm | 11 mm | 13 mm | 16 mm | 17.5 mm | 17.5 mm | 20 mm | 26 mm |
| **Max. vessel height** | 43 mm | 123 mm | 121 mm | 121 mm | 118 mm | 127 mm | 126 mm | 119 mm |
| **Max. vessel height for use with cap/lid[1)]** | 43 mm | 115 mm | 118 mm | 116 mm | 114 mm | 121 mm | 119 mm | 116 mm |
| **Adapter** | | | | | | | | |
| **Number of vessels per adapter/rotor** | 16/64 | 25/100 | 15/60 | 12/48 | 12/48 | 9/36 | 8/32 | 4/16 |
| **Bottom shape** | flat | flat with rubber mat | flat with rubber mat | flat with rubber mat | flat with rubber mat | conical | flat with rubber mat | flat with rubber mat |
| **Centrifugation radius** | 171 mm | 173 mm | 173 mm | 173 mm | 173 mm | 178 mm | 173 mm | 173 mm |
| **Max. RCF** | 3,000 × g | 3,050 × g | 3,050 × g | 3,050 × g | 3,050 × g | 3,150 × g | 3,050 × g | 3,050 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5810 751 004 | 5810 750 008 | 5810 752 000 | 5810 753 007 | 5810 754 003 | 5810 755 000 | 5810 756 006 | 5810 757 002 |

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please order adapter for 50 mL conical tubes skirted 5804 737.008.



| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 25 mL snap cap | 25 mL screw cap | 30 – 50 mL round-bottom/ 50 mL conical, skirted[2)] | 50 mL conical | 50 mL conical | 50 – 75 mL | 80 – 120 mL | 200 – 250 mL flat/ 175 – 225 mL conical | MTP, DWP, PCR plates |
| 39 mm | 29.8 mm | 30 mm | 30 mm | 30 mm | 35 mm | 45 mm | 62 mm | – |
| 83 mm | 78.5 mm | 115 mm | 122 mm | 122 mm | 122 mm | 138 mm | 136 mm | 53 mm |
| 83 mm | 78.5 mm | – | – | 116 mm | 118 mm | 125 mm | 127 mm | – |
| | | | | | | | | |
| 3/12 | 3/12 | 4/16 | 4/16 | 3/12 | 2/8 | 1/4 | 1/4 | 4/16 (MTP) 1/4 (DWP) |
| conical | conical | flat with rubber mat | flat with conical inlay | conical | flat with rubber mat | flat with rubber mat | flat with rubber mat | flat with rubber mat |
| 151 mm | 141 mm | 173 mm | 173 mm | 178 mm | 173 mm | 173 mm | 180 mm | 154 mm |
| 2,701 × g | 2,522 × g | 3,050 × g | 3,050 × g | 3,150 × g | 3,050 × g | 3,050 × g | 3,220 × g | 2 750 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 4 pcs. |
| 5810 758 009 | 5810 758 009 | 5810 759 005 | 5810 763 002 | 5810 758 009 | 5810 760 003 | 5810 761 000 | 5810 770 009 | 5810 702 003 |



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# Rotors for 58xx Family

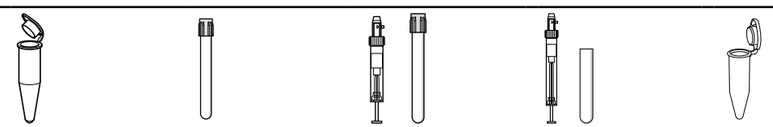


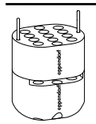
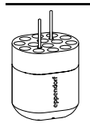
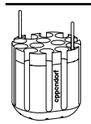
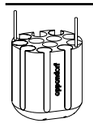
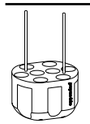
**Rotor S-4-72**
> Medium capacity swing-bucket rotor with speed up to 3,234 × g (4,200 rpm)[1)]
> Broad range of adapters available to handle all common tube formats from 0.2 mL to 250 mL
> Aerodynamic round bucket design for up to 48 % energy savings compared to Rotor A-4-62
> Buckets and adapters are autoclavable (121 °C, 20 min)

[1)] Please note that a software upgrade will be necessary for older centrifuges when using this rotor. Please contact your local Eppendorf organization or dealer for further information.

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor S-4-72**, incl. 4 × 250 mL round buckets | 5804 746 007 |

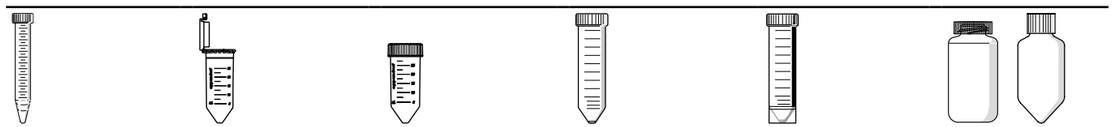


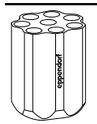
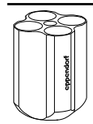
| Adapters for Rotor S-4-72 | | | | | |
|---|---|---|---|---|---|
| **Tube Volume** | 1.5/2.0 mL | 2.6 – 8 mL | 5.5 – 12 mL | 9 mL | Eppendorf Tubes® 5.0 mL |
| **Max. tube diameter** | 11 mm | 13 mm | 16 mm | 17.5 mm | 17 mm |
| **Max. vessel height** | 43 mm | 115 mm | 112 mm | 113 mm | 60 mm |
| **Adapter** |  |  |  |  |  |
| **Number of vessels per adapter/rotor** | 26/104 | 14/56 | 13/52 | 12/48 | 8/32 [1)] |
| **Bottom shape** | flat | round | round | round | conical |
| **Centrifugation radius** | 159 mm | 159 mm | 157 mm | 158 mm | 163 mm |
| **Max. RCF** | 3,136 × g | 3,136 × g | 3,096 × g | 3,116 × g | 3,215 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5804 794 001 | 5804 789 008 | 5804 791 002 | 5804 792 009 | 5804 793 005 |

[1)] For Eppendorf Tubes® 5.0 mL with screw cap the capacity is limited to 6 tubes per adapter.[2)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[3)] Please order adapter for 25 mL conical tubes srew cap 5820 734 000.[4)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer.







| | | | | | |
|---|---|---|---|---|---|
| 15 mL conical | 25 mL snap cap[2)] | 25 mL screw cap[3)] | 50 mL conical | 50 mL conical, skirted | 250 mL flat/ 175 mL Falcon®[4)] |
| 17 mm | 39 mm | 29.8 mm | 30 mm | 30 mm | 62 mm |
| 120 mm | 83 mm | 78.5 mm | 120 mm | 120 mm | 130 mm |
|  |  |  |  |  |  |
| 8/32 | 4/16 | 4/16 | 4/16 | 2/8 | 1/4 |
| conical | conical | conical | conical | conical | flat |
| 164 mm | 137 mm | 128 mm | 164 mm | 153 mm | 160 mm |
| 3,234 × g | 2,701 × g | 2,524 × g | 3,234 × g | 2,602 × g | 3,155 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| 5804 783 000 | 5804 784 006 | 5804 784 006 | 5804 784 006 | 5804 785 002 | 5804 787 005 |

CENTRIFUGES AND ROTORS

# Rotors for 58xx Family

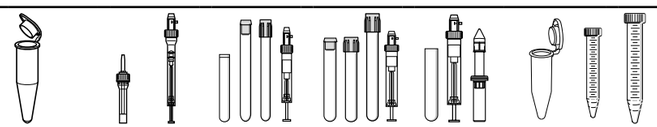


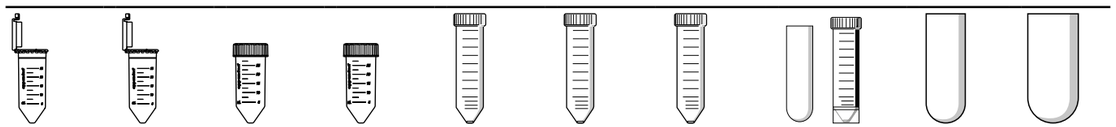

**Rotor A-4-44**
> High-speed swing-bucket rotor for applications up to 4,500 × g (5,000 rpm)
> Rotor A-4-44 accommodates tubes from 0.2 mL to 100 mL
> Aerosol-tight caps[1)] for safe centrifugation of hazardous samples optionally available
> Rotor, buckets, caps and adapters are autoclavable (121 °C, 20 min)

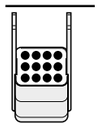
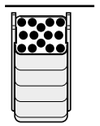
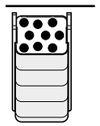
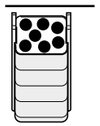
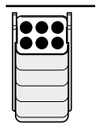
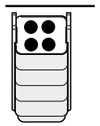
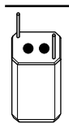
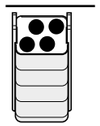
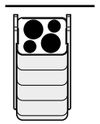
[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

**Ordering information**

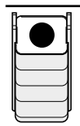
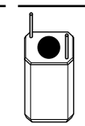
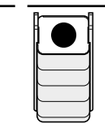
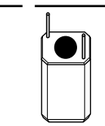
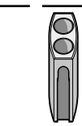
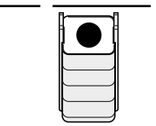
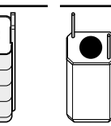
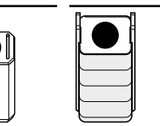
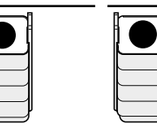
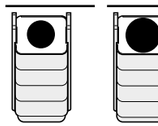
| Description | Order no. |
|---|---|
| **Rotor A-4-44**, incl. 4 rectangular buckets 100 mL | 5804 709 004 |
| **Rotor A-4-44**, incl. 4 buckets for 2 × 50 mL conical tubes | 5804 719 000 |
| **Bucket for 2 × 50 mL conical tubes**, for Rotor A-4-44, set of 4 pcs. | 5804 706 005 |
| **Rectangular bucket 100 mL**, for Rotor A-4-44, set of 4 pcs. | 5804 741 005 |
| **Caps**, aerosol-tight, for rectangular bucket 100 mL, set of 2 pcs. | 5804 712 005 |
| **Adapter**, for 50 mL conical tubes with skirted bottom, set of 8 pieces | 5804 737 008 |





| Adapters for Rotor A-4-44 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Tube Volume** | 1.5 – 2.0 mL | 1.2 – 5 mL | 2.6 – 7 mL | 3 – 15 mL | 7 – 17 mL | Eppendorf Tubes® 5.0 mL and 15 mL conical | 15 mL conical | 7 – 18 mL | 18 – 30 mL |
| **Max. tube diameter** | 11 mm | 11 mm | 13 mm | 16 mm | 17.5 mm | 17.5 mm | 17.5 mm | 20 mm | 26 mm |
| **Max. vessel height** | 43 mm | 105 mm | 108 mm | 108 mm | 110 mm | 121 mm | 121 mm | 107 mm | 110 mm |
| **Max. vessel height for use with cap/lid[1)]** | 43 mm | 102 mm | 106 mm | 106 mm | 106 mm | – | 121 mm | 104 mm | 100 mm |
| **Adapter** |  |  |  |  |  |  |  |  |  |
| **Number of vessels per adapter/rotor** | 12/48 | 14/56 | 9/36 | 7/28 | 6/24 | 4/16 | 2/8 | 4/16 | 2/8 |
| **Bottom shape** | flat | flat with rubber mat | flat with rubber mat | flat with rubber mat | flat with rubber mat | conical | conical | flat with rubber mat | flat with rubber mat |
| **Centrifugation radius** | 148 mm | 150 mm | 150 mm | 150 mm | 150 mm | 155 mm | 157 mm | 150 mm | 150 mm |
| **Max. RCF** | 4,100 × g | 4,200 × g | 4,200 × g | 4,200 × g | 4,200 × g | 4,332 × g | 4,388 × g | 4,200 × g | 4,200 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5804 751 000 | 5804 750 004 | 5804 752 007 | 5804 753 003 | 5804 754 000 | 5804 755 006 | 5804 717 007 | 5804 756 002 | 5804 757 009 |

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[3)] Please order adapter for 25 mL conical tubes srew cap 5820 734 000.[4)] Reordering of 50 mL form inserts: 5804 728.009.[5)] Please order adapter for 50 mL conical tubes skirted 5804 737.008.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 mL snap cap | 25 mL snap cap[2)] | 25 mL screw cap | 25 mL screw cap[3)] | 50 mL[4)] conical | 50 mL conical | 50 mL conical | 30 – 50 mL round-bottom/ 50 mL conical, skirted[5)] | 50 – 75 mL | 80 – 100 mL |
| 39 mm | 39 mm | 29.8 mm | 29.8 mm | – | 31 mm | 31 mm | 31 mm | 35 mm | 45 mm |
| 83 mm | 83 mm | 78.5 mm | 78.5 mm | 120 mm | 122 mm | 122 mm | 122 mm | 119 mm | 114 mm |
| 83 mm | 83 mm | 78.5 mm | 78.5 mm | – | – | 119 mm | 108 mm | 108 mm | 100 mm |
|  |  |  |  |  |  |  |  |  |  |
| 1/4 | 1/4 | 1/4 | 1/4 | –/8 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 |
| conical | conical | conical | conical | flat with conical inlay | conical | conical | flat with rubber mat | flat with rubber mat | flat with rubber mat |
| 124 mm | 126 mm | 114 mm | 116 mm | 161 mm | 155 mm | 157 mm | 150 mm | 150 mm | 150 mm |
| 3,465 × g | 3,521 × g | 3,186 × g | 3,242 × g | 4,500 × g | 4,332 × g | 4,388 × g | 4,200 × g | 4,200 × g | 4,200 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 4 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| 5804 758 005 | 5804 718 003 | 5804 758 005 | 5804 718 003 | 5804 706 005 | 5804 758 005 | 5804 718 003 | 5804 759 001 | 5804 760 000 | 5804 761 006 |



Your local distributor: www.eppendorf.com/contact
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CENTRIFUGES AND ROTORS

# Rotors for 58xx Family



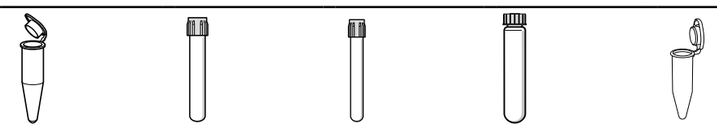
**Rotor F-34-6-38**

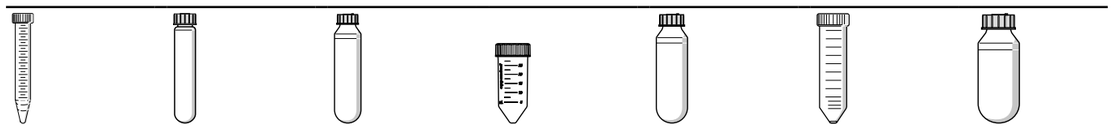
> High-speed rotor for molecular applications in tubes from 0.2 mL to 85 mL
> Max. speed: 18,514 × g (12,000 rpm) in Centrifuge 5810 R or 15,557 × g (11,000 rpm) in 5804/5804 R/5810[1)]
> Low rotor weight (3.2 kg) for easy handling
> 34° borehole angle reduces pellet smears along tube wall
> Anodized aluminum for high chemical resistance
> Rotor, lid and adapters are autoclavable (121 °C, 20 min)

[1)] Rotors F-34-6-38 and FA-45-6-30 maintain 4 °C at 11,000 rpm

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor F-34-6-38**, for 6 × 85 mL tubes, incl. rotor lid | 5804 727 002 |





| Adapters for Rotor F-34-6-38 | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Tube Volume** | 1.5 – 2.0 mL | 2.6 – 7 mL (13x75 mm) | 2.6 – 7 mL (13x100 mm) | 7 – 15 mL | Eppendorf Tubes® 5.0 mL | 15 mL conical | 15 – 18 mL | 20 – 30 mL | 25 mL screw cap[1)] | 50 mL | 50 mL conical | 85 mL |
| **Max. tube diameter** | 11 mm | 13 mm | 13 mm | 16 mm | 17 mm | 17 mm | 18 mm | 26 mm | 29.8 mm | 29 mm | 30 mm | 38 mm |
| **Max. vessel height** | | | | | | | | | 78.5 mm | | | |
| **Max. vessel height for use with cap/lid** | 110 mm | 90 mm | 110 mm | 112 mm | 104 mm | 123 mm | 123 mm | 123 mm | 78.5 mm | 123 mm | 121 mm | 121 mm |
| **Adapter** | | | | | | | | | | | | |
| **Number of vessels per adapter/rotor** | 4/24 | 3/18 | 3/18 | 2/12 | 1/6 | 1/6 | 1/6 | 1/6 | 1/4 | 1/6 | 1/6 | –/6 |
| **Bottom shape** | round | flat | flat | round | conical | conical | round | round | conical | round | conical | round |
| **Centrifugation radius** | 113 mm | 106 mm | 114 mm | 112 mm | 105 mm | 107 mm | 109 mm | 110 mm | 87 mm | 112 mm | 108 mm | 115 mm |
| **Max. RCF at 12.100 rpm (5810 R)** | 18,200 × g | 17,065 × g | 18,353 × g | 18,000 × g | 17,187 × g | 17,200 × g | 17,550 × g | 17,700 × g | | 18,014 × g | 17,400 × g | 18,500 × g |
| **Max. RCF at 11.000 rpm (5804, 5804 R, 5810)** | 15,300 × g | 14,339 × g | 15,422 × g | 15,150 × g | 14,204 × g | 14,450 × g | 14,750 × g | 14,900 × g | 14,070 × g | 15,157 × g | 14,600 × g | 15,550 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | |
| **Order no.** | 5804 770 005 | 5804 738 004 | 5804 739 000 | 5804 771 001 | 5804 777 000 | 5804 776 003 | 5804 772 008 | 5804 773 004 | 5804 775 007 | 5804 774 000 | 5804 775 007 | – |

[1)] Please order adapter for 25 mL conical tubes srew cap 5820 734 000.

**i** For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

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# Rotors for 58xx Family



**Rotor FA-45-6-30**
> High-speed rotor for applications in tubes from 5 – 50 mL[1)]
> Max. speed 20,133 × g (12,100 rpm) in Centrifuge 5810 R or 16,639 × g (11,000 rpm) in 5804/5804 R/5810[2)]
> Eppendorf QuickLock® rotor lid for fast lid locking
> Aerosol-tight[3)] for safe centrifugation of hazardous samples
> Low rotor weight (3.2 kg) for easy lifting
> Anodized aluminum for high chemical resistance
> 45° borehole angle minimizes pellets smear
> Rotor, lid and adapters are autoclavable (121 °C, 20 min)

[1)] Please note that a software upgrade may be necessary for older centrifuges when using this rotor. Please contact your local Eppendorf organization or dealer for further information.
[2)] Rotors F-34-6-38 and FA-45-6-30 maintain 4 °C at 11,000 rpm
[3)] Aerosol-tightness tested by Public Health England, Porton Down, Great Britain

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-45-6-30**, incl. rotor lid, for 6 × 15/50 mL conical tubes | 5820 715 006 |

| | | | | | |
|---|---|---|---|---|---|
| **Adapters for Rotor FA-45-6-30** | | | | | |
| **Tube Volume** | 2.6 – 5 mL | 4 – 8 mL | 5.5 – 10 mL | 7.5 – 12 mL | Eppendorf Tubes® 5.0 mL |
| **Max. tube diameter** | 13 mm | 13 mm | 16 mm | 16 mm | 17 mm |
| **Max. vessel height for use with cap/lid** | 119 mm | 119 mm | 119 mm | 119 mm | 121 mm |
| **Adapter** | | | | | |
| **Number of vessels per adapter/rotor** | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 [1)] |
| **Bottom shape** | round | round | round | round | conical |
| **Centrifugation radius** | 120 mm | 120 mm | 120 mm | 120 mm | 121 mm |
| **Max. RCF at 12.100 rpm (5810 R)** | 19,642 × g | 19,642 × g | 19,642 × g | 19,642 × g | 19,806 × g |
| **Max. RCF at 11.000 rpm (5804, 5804 R, 5810)** | 16,233 × g | 16,233 × g | 16,233 × g | 16,233 × g | 16,369 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5820 726 008 | 5820 725 001 | 5820 728 000 | 5820 727 004 | 5820 730 005 |

[1)] Eppendorf Tubes® 5.0 mL with screw cap will not fit in this adapter.





# Eppendorf Conical Tubes

Whether centrifugation, mixing, or other applications – the Eppendorf Conical Tubes 15 mL, 25 mL and 50 mL will perfectly fit into your workflows. They represent the next step in Eppendorf's comprehensive system solutions in liquid, sample and cell handling.

More information: www.eppendorf.com/conicals





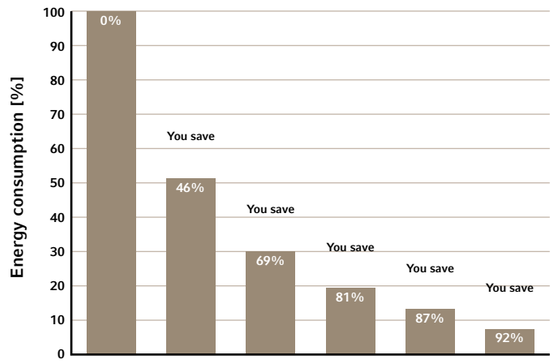

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| 7 – 17 mL | 15 mL | 15 – 18 mL | 20 – 30 mL | 25 mL snap cap | 25 mL screw cap | 50 mL conical |
| 17.5 mm | 17 mm | 18 mm | 26 mm | 39 mm | 29.8 mm | 30 mm |
| 122 mm | 125 mm | 125 mm | 125 mm | 83 mm | 78.5 mm | 121 mm |
| | | | | | | |
| 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | –/6 |
| round | conical | round | round | conical | conical | conical |
| 120 mm | 120 mm | 120 mm | 105 mm | 104 mm | 97 mm | 123 mm |
| 19,642 × g | 19,642 × g | 19,642 × g | 17,187 × g | 17,023 × g | 15,616 × g | 20,133 × g |
| 16,233 × g | 16,223 × g | 16,223 × g | 14,204 × g | 14,069 × g | 13,122 × g | 16,639 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 6 pcs. | set of 6 pcs. | – |
| 5820 729 007 | 5820 717 009 | 5820 720 000 | 5820 721 006 | 5820 733 004 | 5820 734 000 | – |

# Centrifuge 5910 R and Centrifuge 5920 R

Whether you choose the new Centrifuge 5910 R with great versatility or the well established Centrifuge 5920 R with more capacity, both instruments follow the same extremely high Eppendorf standards in temperature management and safety.

**Advanced temperature management**
Eppendorf developed the Dynamic Compressor Control (DCC). Unlike other compressors which switch back and forth between 0 % and 100 % performance output, DCC allows for a constant and smooth temperature regulation. This results in a precise cooling performance and the set temperature is kept stable at all time.
In addition to the well-known FastTemp function for super fast pre-cooling, both instruments include the new FastTemp pro® software option. This feature allows for automated pre-cooling based on pre-programmable time and date. Simply turn the centrifuge into standby mode when you leave your lab and let FastTemp pro take care of pre-cooling in the morning so you don't have to. This saves you more than 90 % of energy over night and programming is super easy.

**Centrifuge 5920 R: Energy saving overnight with ECO shut-off and FastTemp pro®**




| | Centrifuge 5910 R | Centrifuge 5920 R |
|---|---|---|
| 1,000 mL Eppendorf bottles | 4 | – |
| 1,000 mL standard bottles | – | 4 |
| 750 mL bottles | 4 | 4 |
| 180 – 250 mL bottles (flat) | 4 | 8 |
| 50 mL conical tubes | 36 | 52 |
| 25 mL conical tubes | 36 | 52 |
| 5 mL and 15 mL conical tubes | 68 | 108 |
| 1.5/2.0 mL Eppendorf Tubes® | 200 | 368 |
| BD Vacutainer® CPT™ (16 mm × 125 mm/8 mL) | 28 | 80 |
| 16 mm round-bottom and blood collection tubes | 104 | 148 |
| 13 mm round-bottom and blood collection tubes | 120 | 196 |
| PCR plates/MTP | 20/4 | 28/8 |
| Universal adapters for conical tubes, plates and bottles | ■ | ■ |
| Dual use of plates and tubes in one rotor bucket | ■ | ■ |
| Plate rotor options for MTP, PCR or DWP | ■ | ■ |
| Fixed-angle rotors for high-speed applications | ■ | ■ |

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5910 R**, refrigerated, without rotor, 230 V/50 – 60 Hz | 5942 000 010 |
| **Centrifuge 5920 R**, refrigerated, without rotor, 230 V/50 – 60 Hz | 5948 000 010 |

↗ Ordering information for other voltage options begins on page 450





**Innovative safety features**
Centrifuge 5910 R and Centrifuge 5920 R have an automatic rotor recognition. This feature detects a newly inserted rotor and automatically limits the centrifuge speed to the rotor's maximum permissible value.
When handling substances that pose a health hazard it is highly recommended to use aerosol-tight fixed-angle rotors with Eppendorf QuickLock® lids or swing-bucket rotors in combination with Eppendorf QuickLock® caps.



**Technical specifications**

| Model | Centrifuge 5910 R | Centrifuge 5920 R |
|---|---|---|
| Max. RCF | 22,132 × g | 21,194 × g |
| Max. RCF with fixed-angle rotor | 22,132 × g | 21,194 × g |
| Max. RCF with swing-bucket rotor | 5,263 × g | 4,791 × g |
| Max. speed | 14,000 rpm | 13,700 rpm |
| Speed | 100 – 14,000 rpm | 100 – 13,700 rpm |
| Max. capacity | 4 × 1,000 mL/4 × 5 MTP | 4 × 1,000 mL/4 × 7 MTP |
| Acceleration/braking ramps | 10/10 | 10/10 |
| Number of programs | 99 (5 program keys) | 99 (5 program keys) |
| Display | large, brightly lit LCD | large, brightly lit LCD |
| Timer | 10 s to 99 h 59 min, with continuous run function, short-spin | 10 s to 99 h 59 min, with continuous run function, short-spin |
| Noise level | | |
| Rotor FA-6x50 | <59 dB(A) | <60 dB(A) |
| Rotor S-4x750 | <57 dB(A) | |
| Rotor S-4xUniversal | <53 dB(A) | |
| Rotor S-4xUniversal-Large | | <55 dB(A) |
| Power supply | 230 V, 50 – 60 Hz | 230 V, 50 – 60 Hz |
| Max. power consumption | 1,650 W | 1,650 W |
| Dimensions (W × D × H) | 72 × 66 × 37 cm | 74 × 71 × 40 cm |
| Footprint (dimensions w/o front panel, WxD) | 72 × 62 cm | 74 × 67 cm |
| Height (with open lid) | 85 cm | 94 cm |
| Weight w/o accessories | 109 kg | 139 kg |
| Cooling | refrigerated | refrigerated |
| Temperature control range | -11 °C to 40 °C | -11 °C to 40 °C |
| Dual use of plates and tubes in one rotor bucket | yes | yes |
| Fixed-angle rotors for high-speed applications | yes | yes |
| Plate rotor options for MTP, PCR or DWP | yes | yes |
| Universal adapters for conical tubes, plates and bottles | yes | yes |

# Centrifuge 5910 R

**Description**
With its great versatility, the refrigerated Centrifuge 5910 R is setting the next benchmark for benchtop centrifuges. With a comprehensive portfolio of fixed-angle and swing-bucket rotors, this centrifuge was designed to accommodate a particularly broad spectrum of applications. Cell harvests in bottles of capacities up to 1,000 mL, large-scale DNA and RNA isolations as well as Ficoll® gradients for the purification of lymphocytes and monocytes are merely a few examples of the many areas of application. The new universal swing-bucket rotor with unique universal adapters facilitates even quicker loading. This system allows centrifugation of conical vessels up to 50 mL, plates, and 250 mL bottles for the first time without the need to change rotors, rotor buckets, or adapters.




**Great versatility for a variety of applications**
> Swing-bucket rotors and adapters accommodate tubes and bottles from 0.2 mL to 1,000 mL
> Plate rotor options for centrifugation of all types of MTP, PCR or deepwell plates (DWP)
> Fixed-angle rotors for high-speed molecular biology applications in vessels from 0.2 mL to 250 mL
> High centrifugation speed of up to 22,132 × g (14,000 rpm)

**Greater versatility**
New swing-bucket standard-rotor S-4xUniversal and its unique universal adapters accommodate bottles, plates and conical tubes. No need to change rotor or rotor buckets. This improves handling and saves time.

> Adapter 1: 5.0 mL and 15 mL conical tubes, MTP/DWP
> Adapter 2: 25 mL and 50 mL conical tubes, MTP
> Adapter 3: 25 mL and 50 mL conical tubes, 250 mL bottles, MTP

AR

www.eppendorf.com/app




Technical specifications subject to change.



# Centrifuge 5920 R

**Description**
Centrifuge 5920 R delivers extraordinary high capacity in a very compact and ergonomic product design. It has similar dimensions as competing refrigerated 3 Liter models and yet features a superior capacity of up to 4 × 1,000 mL or 52 × 50 mL thus making it the ideal instrument for high-throughput applications.




**More Capacity for higher throughput**
> Swing-bucket rotors accommodate tubes and bottles from 0.2 mL to 1,000 mL
> Fixed-angle rotors for high-speed molecular biology applications in tubes from 0.2 mL to 50 mL
> Plate rotor options for centrifugation of all types of MTP, PCR or DWP

**Rotor S-4x1000 for 1 liter bottles**
> Round buckets accommodate standard 1 liter Nalgene® bottles setting a new standard in the table top centrifuge segment
> 4 liter capacity to process a higher volume in fewer runs
> Range of adapters for tubes and plates available
> Maximum rcf at 3,413 × g

**New universal adapters**
Unique universal adapters for rotor S-4xUniversal-Large accommodate bottles, plates and conical tubes. No need to change rotor or rotor buckets.

> Adapter 1: 5.0 mL and 15 mL conical tubes, MTP/DWP
> Adapter 2: 25 mL and 50 mL conical tubes, MTP
> Adapter 3: 50 mL conical tubes, 250 mL bottles, MTP

SCIENTISTS' CHOICE AWARDS 17 WINNER

GOOD DESIGN

As awarded by The Chicago Athenaeum: Museum of Architecture and Design.



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# Centrifuge Packages 5910 R



**Ordering information**

| Description | Max. capacity per rotor | Order no. |
|---|---|---|
| **Centrifuge 5910 R**, refrigerated, with Rotor S-4xUniversal, 230 V/50 – 60 Hz, incl. universal buckets and adapters for 5 mL/15 mL/50 mL conical tubes and plates[1)] | 68 × 15 mL/36 × 50 mL | 5942 000 315 |
| **Centrifuge 5910 R**, refrigerated, with Rotor S-4xUniversal, 230 V/50 – 60 Hz, incl. universal buckets and adapters for 5 mL/15 mL/50 mL conical tubes, 175 mL – 250 mL bottles and plates | 68 × 15 mL/28 × 50 mL | 5942 000 215 |
| **Centrifuge 5910 R**, refrigerated, with Rotor S-4xUniversal, 230 V/50 – 60 Hz, incl. universal buckets and adapters for round-bottom tubes with diameter 13/16 mm | 120 × 13 mm/104 × 16 mm | 5942 000 410 |
| **Centrifuge 5910 R**, refrigerated, with Rotor S-4x750, 230 V/50 – 60 Hz, incl. round buckets and adapters for 5 mL/15 mL/50 mL conical tubes | 56 × 15 mL/28 × 50 mL | 5942 000 515 |
| **Centrifuge 5910 R**, refrigerated, with Rotor S-4x500, 230 V/50 – 60 Hz, incl. rectangular buckets and adapters for 15 mL/50 mL conical tubes | 48 × 15 mL/20 × 50 mL | 5942 000 615 |
| **Centrifuge 5910 R**, refrigerated, with Rotor S-4x400, 230 V/50 – 60 Hz, incl. round buckets and adapters for 5 mL/15 mL/50 mL conical tubes | 28 × 15 mL/16 × 50 mL | 5942 000 710 |

[1)] When used with aerosol-tight caps the max. capacity is reduced to 20 x 50 mL (5 x 50 mL per bucket)

↗ Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com/centrifugation





# Centrifuge Packages 5920 R

**Ordering information**

| Description | Max. capacity per rotor | Order no. |
|---|---|---|
| **Centrifuge 5920 R**, refrigerated, with Rotor S-4xUniversal-Large, 230 V/50 – 60 Hz, incl. universal buckets and adapters for 15 mL/50 mL conical tubes | 96 × 15 mL/40 × 50 mL | 5948 000 910 |
| **Centrifuge 5920 R**, refrigerated, with Rotor S-4xUniversal-Large, 230 V/50 – 60 Hz, incl. universal buckets and adapters for round-bottom tubes with diameter 13/16 mm | 196 × 13 mm/148 × 16 mm | 5948 000 810 |
| **Centrifuge 5920 R**, refrigerated, with Rotor S-4x1000, 230 V/50 – 60 Hz, incl. high-capacity buckets and adapters for 15 mL/50 mL conical tubes | 108 × 15 mL/52 × 50 mL | 5948 000 210 |
| **Centrifuge 5920 R**, refrigerated, with Rotor S-4x1000, 230 V/50 – 60 Hz, incl. plate/tube buckets and adapters for 15 mL/50 mL conical tubes | 88 × 15 mL/40 × 50 mL | 5948 000 410 |
| **Centrifuge 5920 R**, refrigerated, with Rotor S-4x1000, 230 V/50 – 60 Hz, incl. round buckets and adapters for 15 mL/50 mL conical tubes | 56 × 15 mL/28 × 50 mL | 5948 000 315 |

↗ Ordering information for other voltage options begins on page 450



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# Swing-Bucket Rotors 59xx Family – Overview









| Model | Rotor S-4xUniversal-Large | Rotor S-4x1000 high-capacity buckets | Rotor S-4x1000 plate/tube buckets | Rotor S-4x1000 round buckets |
|---|---|---|---|---|
| Positioning | Extra high capacity | Extra high capacity | High capacity | Medium capacity, compatible with 1 Liter bottle |
| 5910 R | | | | |
| 5920 R | ■ | ■ | ■ | ■ |
| Universal bucket | yes | no | no | no |
| Aerosol-tightness | yes | no | yes | yes |
| Max. capacity | 4 × 750 mL | 8 × 250 mL | 40 × 50 mL | 4 × 1,000 mL |
| Max. RCF | 4,402 × g | 3,153 × g | 3,076 × g | 3,428 × g |
| Max. speed | 4,250 rpm | 3,700 rpm | 3,700 rpm | 3,700 rpm |
| 1.5/2.0 mL micro tube | 368 | | | 200 |
| Eppendorf Tubes® 5.0 mL and 15 mL conical | 96 | 108 | 88 | 56 |
| 50 mL conical tubes | 40 | 52 | 40 | 28 |
| New 25 mL snap cap tubes | 40 | 48 | 36 | 24 |
| 25 mL screw cap tubes | 40 | 52 | 40 | 28 |
| 13 mm round-bottom and blood collection tubes | 196 | 196 | 140 | 92 |
| 16 mm round-bottom and blood collection tubes | 148 | 144 | 132 | 80 |
| 750 mL bottles | 4 | | | 4 |
| 1,000 mL Eppendorf bottles | | | | |
| 1,000 mL standard bottles | | | | 4 |
| PCR plates/MTP | 20 | 24 | 28 | |
| Deepwell plates (DWP) | 8 | 8 | 8 | |









| Rotor S-4xUniversal | Rotor S-4x750 with round buckets | Rotor S-4x500 | Rotor S-4x400 |
|---|---|---|---|
| High capacity and versatility | Medium capacity, high speed | Medium capacity | Medium capacity, high speed |
| ■ | ■ | ■ | ■ |
| | ■ | | |
| yes | no | no | no |
| yes | yes | yes | yes |
| 4 × 1,000 mL | 4 × 750 mL | 4 × 500 mL | 4 × 400 mL |
| 4,347 × g | 4,800 × g | 3,220 × g | 5,263 × g |
| 4,500 rpm | 4,700 rpm | 4,000 rpm | 5,100 rpm |
| | 200 | 96 | 104 |
| 68 | 56 | 48 | 28 |
| 36 | 28 | 20 | 16 |
| 36 | 24 | 20 | 16 |
| 120 | 92 | 100 | 60 |
| 104 | 80 | 64 | 44 |
| 4 | 4 | | |
| 4 | | | |
| | | | |
| 20 | 16 | 16 | |
| 4 | 4 | 4 | |



400 mL



500 mL



750 mL

New



400 mL

New



1,000 mL

**Eppendorf bottles for Centrifuge 5920 R**

| Bottle Manufacturer | Volume | Order no. | Size Diameter × Height | Bottom shape | Material | S-4x Universal-Large | AT[1)] | S-4x1000 Round Bucket | AT[1)] |
|---|---|---|---|---|---|---|---|---|---|
| Eppendorf | 400 mL | 5810 729 009 | 80 × 133 mm | flat | PP | | | | |
| Eppendorf | 500 mL | 5820 707 003 | 83 × 134 mm | flat | PP | | | | |
| Eppendorf | 750 mL | 5820 708 000 | 102 × 133 mm | flat | PP | ■ | ■ | ■ | ■ |
| Eppendorf | 400 mL | 5910 707 002 | 81 × 117 mm | flat | PP | | | | |
| Eppendorf | 1,000 mL | 5910 770 006 | 118 × 133.1 mm | flat | PP | | | | |

[1)] Aerosol tight cap possible.

**Eppendorf bottles for Centrifuge 5910 and Centrifuge 5920 R**

| S-4x750 | AT[1)] | S-4xUniversal | AT[1)] | S-4x500 | AT[1)] | S-4x400 | AT[1)] |
|---|---|---|---|---|---|---|---|
| | | | | ■ | | | |
| | | | | ■ | ■ | | |
| ■ | ■ | ■ | | | | | |
| | | | | | | ■ | ■ |
| | | ■ | ■ | | | | |

i For more information go to www.eppendorf.com/centrifugation

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# Rotors for 5910 R



**Rotor S-4xUniversal**
> High capacity swing-bucket rotor with max. speed 4,347 × g (4,500 rpm)
> Broad range of adapters enables high versatility for tubes and flasks from 4 mL to 1,000 mL and plates
> Universal bucket design accommodates both plates and tubes
> Universal adapters accommodate selective plate formats and conical tubes
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[1)2)3)]
> Buckets, caps and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK. [2)]Aerosol-tight caps compatible with MTP, DWP 96 500 µL, DWP 384 200 µL. Aerosol-tight caps not compatible with DWP 96 1,000 µL and 2,000 µL. [3)] When used with aerosol-tight caps the max. capacity is reduced to 20 × 50 mL (5 × 50 mL per adapter).

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor S-4xUniversal**, incl. universal buckets | 5895 200 001 |
| **Aerosol-tight caps**, for Rotor S-4xUniversal, set of 2 pcs. | 5910 750 005 |
| **Wide-neck bottle 750 mL**, for Rotor S-4-104, S-4x750, S-4x1000, set of 2 pcs. | 5820 708 000 |

| Adapters for Rotor S-4xUniversal | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Tube Volume** | 4 mL – 8 mL | 7.5 mL – 12 mL | 9 mL | 12 × 75 mm, 5 mL FACS | 50 mL conical, skirted | 500 mL Corning® | 750 mL | 1,000 mL | MTP, DWP, PCR plates |
| **Max. tube diameter** | 13 mm | 16 mm | 17.5 mm | 12 mm | 31 mm | 96 mm | 102 mm | 118 mm | – |
| **Max. vessel height** | 119 mm | 120 mm | 120 mm | 112 mm | 124 mm | 148 mm | 139 mm | 133 mm | 80 mm |
| **Max. vessel height for use with cap/lid[1)]** | 117 mm | 118 mm | 118 mm | 107 mm | 121 mm | – | 135 mm | 133 mm | 66 mm |
| **Adapter** | | | | | | | | | |
| **Number of vessels per adapter/ rotor** | 30/120 | 26/104 | 21/84 | 46/184 | 7/28 | 1/4 | 1/4 | 1/4 | 5/20 |
| **Bottom shape** | round | round | round | round | flat | conical | flat | flat | flat |
| **Centrifugation radius** | 190 mm | 195 mm | 188 mm | 189 mm | 185 mm | 187 mm | 188 mm | 188 mm | 170 mm |
| **Max. RCF** | 4,302 × g | 4,415 × g | 4,256 × g | 4,279 × g | 4,188 × g | 4,234 × g | 4,256 × g | 4,256 × g | 3,849 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5910 755 007 | 5910 754 000 | 5910 762 003 | 5910 758 006 | 5910 764 006 | 5910 760 000 | 5910 757 000 | 5910 756 003 | 5910 753 004 |

[1)] Please perform a manual test to determine the actual loading capacity. [2)] Aerosol-tight caps compatible with MTP, DWP 96 500 µl, DWP 384 200 µl. Aerosol-tight caps not compatible with DWP 96 1,000 µl and 2,000 µl. [3)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004. [4)] When used with aerosol-tight caps the max. capacity is reduced to 20 x 50 mL (5 x 50 mL per adapter). [5)] Please order adapter for 25 mL conical tubes screw cap 5820 734 000.



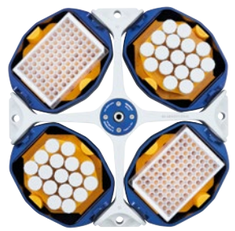




# Universal Adapters for Rotor S-4xUniversal

**Rotor S-4xUniversal brings outstanding versatility to those customers who need to spin a variety of vessels and plates. Three innovative universal adapters accommodate a selection of tubes, plates and bottles:**
> Adapter 1: 5.0 mL and 15 mL conical tubes, MTP/DWP
> Adapter 2: 25 mL and 50 mL conical tubes, MTP
> Adapter 3: 25 mL and 50 mL conical tubes, 250 mL bottles, MTP

For customers who need either stacking capability, higher speed or aerosol-tight centrifugation of certain plate formats, a separate plate carrier is available.



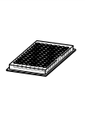
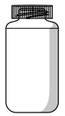
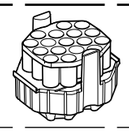
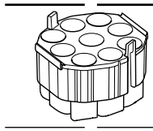
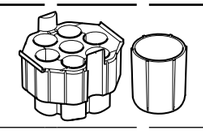
Universal adapter 1
Setup for deepwell plates and Eppendorf Tubes® 5.0 mL.



Universal adapter 2
Setup for microplates and 50 mL conical tubes.



Universal adapter 3
Setup for 50 mL conical tubes and 250 mL bottles.

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |  |  |  |  | | |
| | Eppendorf Tubes® 5.0 mL | 15 mL conical | MTP, DWP | 25 mL snap cap[3)] | 25 mL screw cap[5)] | 50 mL conical | Microplate 96/384 wells | 25 mL snap cap[3)] | 25 mL screw cap[5)] | 50 mL conical | Microplate 96/384 wells | 250 mL flat, 175 - 225 mL conical | | |
| | 17 mm | 17 mm | – | 39 mm | 39 mm | 30 mm | – | 39 mm | 29.8 mm | 29 mm | – | 62 mm | | |
| | 124 mm | 124 mm | 64 mm | 83 mm | 78.5 mm | 116[4)] mm | 16 mm | 83 mm | 78.5 mm | 124 mm | 16 mm | 146 mm | | |
| | 122 mm | 122 mm | [2)] | 83[4)] mm | 78.5[4)] mm | 116[4)] mm | – | 83 mm | 78.5 mm | 121 mm | – | 139 mm | | |
| |  | | |  | | | |  | | | | | | |
| | 17/68 | | 1/4 | | 9/36 | | 1/4 | 7/28 | | | 1/4 | | | |
| | conical | | flat | | conical | | flat | | conical | | flat | | | |
| | 191 mm | | 143 mm | 107 mm | 156 mm | 192 mm | 115 mm | 107 mm | 155 mm | 191 mm | 115 mm | 187 mm | | |
| | 4,324 × g | | 3,237 × g | 3,758 × g | 3,531 × g | 4,347 × g | 2,604 × g | 3,735 × g | 3,509 × g | 4,324 × g | 2,604 × g | 4,234 × g | | |
| | set of 2 pcs. | | | set of 2 pcs. | | | | set of 2 pcs. | | | | | | |
| | 5910 752 008 | | | 5910 769 008 | | | | 5910 751 001 | | | | | | |

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# Rotors for 5910 R



**Rotor S-4x500**
> Medium capacity swing-bucket rotor with max. speed 3,220 × g (4,000 rpm)
> Rotor S-4x500 accommodates tubes and bottles from 0.2 mL to 500 mL as well as plates
> Aerosol-tight caps for safe centrifugation of hazardous samples optionally available[1)]
> Mixed loading with 2 plate buckets and 2 rectangular tube buckets allows for increased versatility
> Buckets, caps and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor S-4x500**, for 500 mL rectangular buckets or MTP/Flex buckets | |
| incl. 4 x 500 mL rectangular buckets | 5895 170 005 |
| without buckets | 5895 171 001 |
| **Lid**, aerosol-tight, for 500 mL rectangular bucket, set of 2 pcs. | 5810 724 007 |
| **MTP/Flex bucket**, for Rotor A-4-81 and Rotor S-4x500, set of 2 pcs. | 5810 742 005 |
| **MTP/Flex bucket**, for Rotor A-4-81 and Rotor S-4x500, set of 4 pcs. | 5810 741 009 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Adapters for Rotor S-4x500** | | | | | | |
| **Tube Volume** | 1.5/2.0 mL | 1.2 – 5 mL | 2.6 – 5 mL | 2.6 – 7 mL | 3 – 15 mL | 7 – 17 mL |
| **Max. tube diameter** | 11 mm | 11 mm | 13 mm | 13 mm | 16 mm | 17.5 mm |
| **Max. vessel height** | 43 mm | 108 mm | 108 mm | 108 mm | 108 mm | 118 mm |
| **Max. vessel height for use with cap/lid[1)]** | 43 mm | 108 mm | 107 mm | 108 mm | 108 mm | 118 mm |
| **Adapter** | | | | | | |
| **Number of vessels per adapter/rotor** | 20/80 | 20/80 | 25/100 | 18/72 | 16/64 | 16/64 |
| **Bottom shape** | flat | flat | flat with rubber mat | flat with rubber mat | flat with rubber mat | flat with rubber mat |
| **Centrifugation radius** | 165 mm | 168 mm | 168 mm | 168 mm | 168 mm | 168 mm |
| **Max. RCF** | 2,950 × g | 3,000 × g | 3,000 × g | 3,000 × g | 3,000 × g | 3,000 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5810 745 004 | 5810 746 000 | 5810 720 001 | 5810 747 007 | 5810 748 003 | 5810 721 008 |

[1)] Please perform a manual test to determine the actual loading capacity.[2)] Please order adapter for 50 mL conical tubes skirted 5804 737 008.










| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Eppendorf Tubes® 5.0 mL and 15 mL conical tubes | 25 mL snap cap | 25 mL screw cap | 50 mL conical | 30 – 50 mL and 50 mL conical tubes, skirted[2)] | 180 – 250 mL flat/ 175 – 225 mL conical | 400 mL | 500 mL | MTP, DWP, PCR plates |
| **Max. tube diameter** | 17.5 mm | 39 mm | 29.8 mm | 30 mm | 30 mm | 62 mm | 133 mm | 83 mm | – |
| **Max. vessel height** | 121 mm | 83 mm | 78.5 mm | 122 mm | 121 mm | 133 mm | | 134 mm | 60 mm |
| **Max. vessel height for use with cap/lid[1)]** | 121 mm | 83 mm | 78.5 mm | 116 mm | – | – | – | 134 mm | – |
| **Adapter** | | | | | | | | | |
| **Number of vessels per adapter/rotor** | 12/48 | 5/20 | 5/20 | 5/20 | 5/20 | 1/4 | 1/4 | –/4 | 4/16 (MTP) 1/4 (DWP) |
| **Bottom shape** | conical | conical | conical | conical | flat with rubber mat | flat with rubber mat | flat, rubber | flat | flat with rubber mat |
| **Centrifugation radius** | 173 mm | 158 mm | 148 mm | 173 mm | 173 mm | 173 mm | 180 mm | 180 mm | 163 mm |
| **Max. RCF** | 3,100 × g | 2,826 × g | 2,647 × g | 3,100 × g | 3,100 × g | 3,100 × g | 3,220 × g | 3,220 × g | 2 900 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | | set of 2 pcs. |
| **Order no.** | 5810 722 004 | 5810 723 000 | 5810 723 000 | 5810 723 000 | 5810 739 004 | 5825 722 000 | 5810 728 002 | – | 5810 742 005 |

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# Rotors for 5910 R



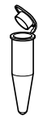
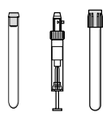
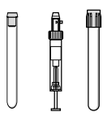
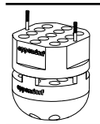
**Rotor S-4x400**
> High-speed medium capacity swing-bucket rotor with max. speed 5,263 × g (5,100 rpm)
> Broad range of adapters enables high versatility for tubes and bottles from 0.2 mL to 400 mL
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[1)]
> Buckets, caps and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.



**Ordering information**

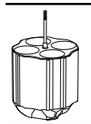
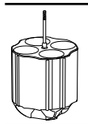
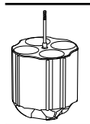
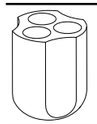
| Description | Order no. |
|---|---|
| **Rotor S-4x400**, incl. 400 mL round bucket | 5895 180 000 |
| **Aerosol-tight caps**, for Rotor S-4x400, set of 2 pcs. | 5910 700 008 |

| | | | | | | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |
| **Adapters for Rotor S-4x400** | | | | | | |
| **Tube Volume** | 1.5 mL/2.0 mL | 12 mm × 75 mm | 4 mL – 8 mL | 7.5 mL – 12 mL | 9 mL | Eppendorf Tubes® 5.0 mL and 15 mL conical |
| **Max. tube diameter** | 11 mm | 12 mm | 13 mm | 16 mm | 17.5 mm | 17 mm |
| **Max. vessel height** | 39 mm | 118 mm | 119 mm | 122 mm | 122 mm | 133 mm |
| **Max. vessel height for use with cap/lid[1)]** | – | 112 mm | 105 mm | 115 mm | 115 mm | 126 mm |
| **Adapter** |  |  |  |  |  |  |
| **Number of vessels per adapter/rotor** | 26/104 | 17/68 | 15/60 | 11/44 | 8/32 | 7/28 |
| **Bottom shape** | open | round | round | round | round | conical |
| **Centrifugation radius** | 177 mm | 172 mm | 171 mm | 173 mm | 173 mm | 180 mm |
| **Max. RCF** | 5,147 × g | 5,002 × g | 4,818 × g | 4,874 × g | 4,874 × g | 5,071 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5910 708 009 | 5910 711 000 | 5910 703 007 | 5910 704 003 | 5910 709 005 | 5910 702 000 |

[1)] Please perform a manual test to determine the actual loading capacity.[2)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[3)] Please order adapter for 25 mL conical tubes screw cap 5820 734 000.





| | | | | | | | |
|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |   |
| **Adapters for Rotor S-4x400** | | | | | | | |
| **Tube Volume** | 25 mL snap cap[2)] | 25 mL screw cap[3)] | 50 mL conical | 50 mL skirted, Centriprep and Oak Ridge 30 mL | 175 mL conical (Becton Dickinson®, Nalgene®), 250 mL flat | 175 – 225 mL conical | 400 mL |
| **Max. tube diameter** | 39 mm | 29.8 mm | 29 mm | 29 mm | 62 mm | 62 mm | 81 mm |
| **Max. vessel height** | 83 mm | 78.5 mm | 125 mm | 122 mm | 138 mm | 143 mm | 117 mm |
| **Max. vessel height for use with cap/lid[1)]** | 83 mm | 78.5 mm | 117 mm | 121 mm | 129 mm | 137 mm | 117 mm |
| **Adapter** |  |  |  |  |  |  |  |
| **Number of vessels per adapter/rotor** | 4/16 | 4/16 | 4/16 | 3/12 | 1/4 | 1/4 | 1/4 |
| **Bottom shape** | conical | conical | conical | conical | flat | conical | flat |
| **Centrifugation radius** | 152 mm | 142 mm | 179 mm | 170 mm | 174 mm | 181 mm | 173 mm |
| **Max. RCF** | 4,420 × g | 4,129 × g | 5,043 × g | 4,943 × g | 5,060 × g | 5,263 × g | 5,030 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5910 701 004 | 5910 701 004 | 5910 701 004 | 5910 712 006 | 5910 705 000 | 5910 714 009 | 5910 706 006 |

# Rotors for 5910 R/5920 R



**Rotor S-4x750**

> Medium capacity swing-bucket rotor with max. speed 4,800 × g (4,700 rpm)[1)]
> Broad range of adapters enables high versatility for tubes and flasks from 0.2 mL to 750 mL and plates
> Mixed loading with 2 plate buckets and 2 round tube buckets allows for increased versatility
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[2)]
> Buckets, caps and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.
[2)] For 100 V device, max. speed 4,031 × g /4,300 rpm

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor S-4x750**, aerosol-tight, without buckets | 5895 121 004 |
| **Rotor S-4x750**, aerosol-tight, incl. 4 × 750 mL round buckets | 5895 120 008 |
| **Plate bucket (aerosol-tight capable), incl. plate carrier**, for Rotor S-4x750, set of 2 pcs. | 5895 125 000 |
| **Round bucket**, for Rotor S-4x750, set of 2 pcs. | 5895 123 007 |
| **Round bucket**, for Rotor S-4x750, set of 4 pcs. | 5895 122 000 |
| **Plate bucket (aerosol-tight capable), incl. plate carrier**, for Rotor S-4x750, set of 4 pcs. | 5895 124 003 |
| **Caps for plate buckets (aerosol-tight capable)**, aerosol-tight, for Rotor S-4-104 and Rotor S-4x750, set of 2 pcs. | 5820 748 001 |
| **Caps for 750 mL round buckets**, aerosol-tight, for Rotor S-4-104, Rotor S-4x750 and Rotor S-4x1000, set of 2 pcs. | 5820 747 005 |
| **Wide-neck bottle 750 mL**, for Rotor S-4-104, S-4x750, S-4x1000, set of 2 pcs. | 5820 708 000 |

| **Adapters for Rotor S-4x750** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Tube Volume** | 1.5/2.0 mL | 12 × 75 mm, 5 mL FACS | 2.6 – 8 mL | 5.5 – 12 mL | 9 mL | 14 mL | Eppendorf Tubes® 5.0 mL and 15 mL conical |
| **Max. tube diameter** | 11 mm | 12 mm | 13 mm | 16 mm | 17.5 mm | 17.5 mm | 17 mm |
| **Max. vessel height** | 39 mm | 120 mm | 121 mm | 125 mm | 117 mm | 106 mm | 125 mm |
| **Max. vessel height for use with cap/lid[1)]** | 39 mm | 113 mm | 113 mm | 120 mm | 112 mm | 106 mm | 120 mm |
| **Adapter** | | | | | | | |
| **Number of vessels per adapter/ rotor** | 50/200 | 27/108 | 23/92 | 20/80 | 20/80 | 14/56 | 14/56 |
| **Bottom shape** | flat | round | round | round | round | round | conical |
| **Centrifugation radius** | 194 mm | 186 mm | 185 mm | 186 mm | 185 mm | 185 mm | 188 mm |
| **Max. RCF** | 4,791 × g | 4,594 × g | 4,569 × g | 4,594 × g | 4,569 × g | 4,569 × g | 4,643 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5825 740 009 | 5825 747 003 | 5825 738 004 | 5825 736 001 | 5825 743 008 | 5825 748 000 | 5825 734 009 |

[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[3)] Please order adapter for 25 mL conical tubes srew cap 5820 734 000.[4)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer. [5)] 225 mL conical bottles from BD®/Corning® and 250 mL conical bottles from Nunc® for Rotor S-4-104.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 25 mL snap cap[2)] | 25 mL screw cap[3)] | 30 mL | 50 mL conical | 50 mL conical, skirted | 250 mL flat, 175 – 225/ 250 mL conical[4)5)] | 500 mL Corning® | 750 mL | MTP, DWP, PCR plates |
| 39 mm | 29.8 mm | 25 mm | 30 mm | 30 mm | 62 mm | 96 mm | 102 mm | – |
| 83 mm | 78.5 mm | 119 mm | 122 mm | 122 mm | 145 mm | 147 mm | 150 mm | 64 mm |
| 83 mm | 78.5 mm | 114 mm | 116 mm | 116 mm | 125 mm | – | 150 mm | 47 mm |
| | | | | | | | | |
| 6/24 | 7/28 | 8/32 | 7/28 | 5/20 | 1/4 | 1/4 | 1/4 | 4/16 (MTP) 1/4 (DWP) |
| conical | conical | flat | conical | conical | flat | conical | flat | – |
| 167 mm | 157 mm | 181 mm | 187 mm | 177 mm | 183 mm | 186 mm | 185 mm | 161 mm |
| 4,124 × g | 3,877 × g | 4,470 × g | 4,618 × g | 4,371 × g | 4,519 × g | 4,594 × g | 4,569 × g | 3,976 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| 5825 733 002 | 5825 733 002 | 5825 755 006 | 5825 733 002 | 5825 732 006 | 5825 741 005 | 5825 745 000 | 5825 744 004 | 5895 125 000 |



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CENTRIFUGES AND ROTORS

# Rotors for 5920 R

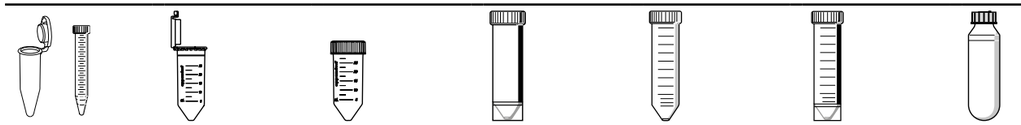


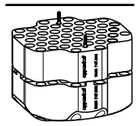
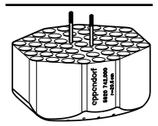
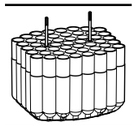
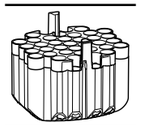
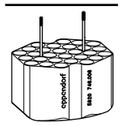
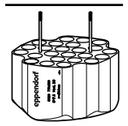
**Rotor S-4xUniversal-Large**

> Extra high capacity swing-bucket rotor with max. speed 4,402 × g (4,250 rpm)
> Broad range of adapters enables high versatility for tubes and flasks from 0.2 mL to 750 mL and plates
> Universal bucket design accommodates both plates and tubes
> Aerosol-tight Eppendorf QuickLock® caps for safe centrifugation of hazardous samples optionally available[1)]
> Buckets, caps and adapters are autoclavable

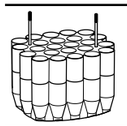
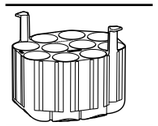
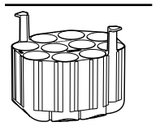
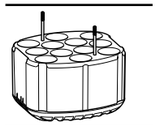
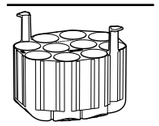
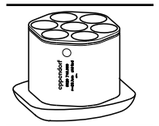
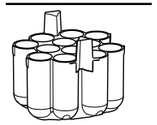
[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.





| Adapters for Rotor S-4xUniversal-Large | | | | | | |
|---|---|---|---|---|---|---|
| **Tube Volume** | 1.5/2.0 mL | 5 mL FACS | 2.6 – 8 mL | 5.5 – 12 mL | 9 mL | 14 mL |
| **Max. tube diameter** | 11 mm | 12 mm | 13 mm | 16 mm | 17.5 mm | 17.5 mm |
| **Max. vessel height** | 39 mm | 113 mm | 110 mm | 110 mm | 136 mm | 123 mm |
| **Max. vessel height for use with cap/lid** | 39 mm | 82 mm | 107 mm | 106 mm | 130 mm | 120 mm |
| **Adapter** |  |  |  |  |  |  |
| **Number of vessels per adapter/ rotor** | 92/368 | 51/204 | 49/196 | 37/148 | 28/112 | 24/96 |
| **Bottom shape** | flat | round | round | round | round | round |
| **Centrifugation radius** | 205 mm | 205 mm | 205 mm | 204 mm | 209 mm | 210 mm |
| **Max. RCF** | 4,140 × g | 4,140 × g | 4,140 × g | 4,120 × g | 4,221 × g | 4,240 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5920 747 002 | 5920 742 000 | 5920 739 000 | 5920 738 003 | 5920 746 006 | 5920 751 000 |

[1)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[2)] Please order adapter for 25 mL conical tubes screw cap 5820 734 000.

| | | | | | | |
|---|---|---|---|---|---|---|
| Eppendorf Tubes® 5.0 mL and 15 mL conical | 25 mL snap cap[1)] | 25 mL screw cap[2)] | 30 mL | 50 mL conical | 50 mL conical, skirted | 50 mL Nalgene® Oak Ridge |
| 17 mm | 39 mm | 29.8 mm | 25 mm | 30 mm | 30 mm | 29 mm |
| 131 mm | 83 mm | 78.5 mm | 117 mm | 131 mm | 141 mm | 132 mm |
| 123 mm | 83 mm | 78.5 mm | 108 mm | 125 mm | 121 mm | 121 mm |
|  |  |  |  |  |  |  |
| 24/96 | 10/40 | 10/40 | 12/48 | 10/40 | 7/28 | 12/48 |
| conical | conical | conical | flat | conical | conical | round |
| 218 mm | 189 mm | 179 mm | 194 mm | 213 mm | 197 mm | 206 mm |
| 4,402 × g | 3,816 × g | 3,614 × g | 3,918 × g | 4,301 × g | 3,978 × g | 4,160 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| 5920 736 000 | 5920 735 004 | 5920 735 004 | 5920 743 007 | 5920 735 004 | 5920 748 009 | 5920 753 002 |



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# Rotors for 5920 R



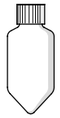
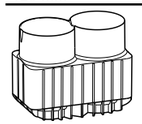
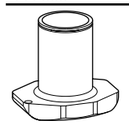
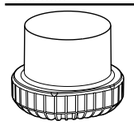


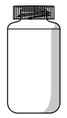
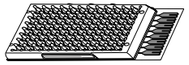
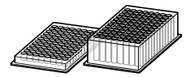
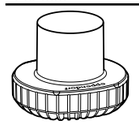
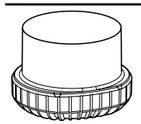




**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor S-4xUniversal-Large**, incl. buckets | 5895 190 006 |
| **Aerosol-tight caps**, for Rotor S-4xUniversal-Large, set of 2 pcs. | 5920 752 006 |

| | | | |
|---|---|---|---|
| |  |  |  |
| **Adapters for Rotor S-4xUniversal-Large** | | | |
| **Tube Volume** | 250 mL flat, 175 – 225 mL conical | 250 mL conical (Corning®, Nunc®) | 500 mL conical Corning® |
| **Max. tube diameter** | 62 mm | 62 mm | 96 mm |
| **Max. vessel height** | 133 mm | 171 mm | 160 mm |
| **Max. vessel height for use with cap/lid** | 126 mm | 144 mm | 148 mm |
| **Adapter** |  |  |  |
| **Number of vessels per adapter/rotor** | 2/8 | 1/4 | 1/4 |
| **Bottom shape** | flat | conical | conical |
| **Centrifugation radius** | 203 mm | 208 mm | 208 mm |
| **Max. RCF** | 4,099 × g | 4,200 × g | 4,200 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5920 740 008 | 5920 750 003 | 5920 744 003 |

| | | | |
|---|---|---|---|
|  |  |  |  |
| 500 mL flat Nalgene® | 750 mL | Micro Fluidic Cards | MTP, DWP, PCR plates |
| 69.5 mm | 102 mm | – | – |
| 168 mm | 166 mm | 153 mm | 116 mm |
| 143 mm | 143 mm | – | 110 mm |
|  |  |  |  |
| 1/4 | 1/4 | 3/12 | 5/20 (MTP)<br>2/8 (DWP) |
| flat | flat | flat | flat |
| 206 mm | 202 mm | 200 mm | 196 mm |
| 4,160 × g | 4,079 × g | 4,039 × g | 3,938 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| 5920 745 000 | 5920 741 004 | 5920 749 005 | 5920 737 007 |

Technical specifications subject to change.

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CENTRIFUGES AND ROTORS

# Rotors for 5920 R

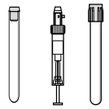
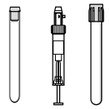
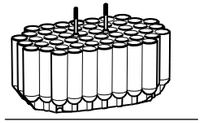
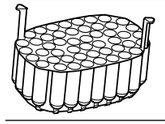
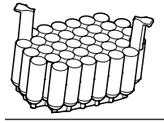
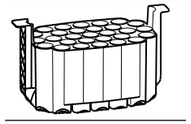


**Rotor S-4x1000 high-capacity buckets**
> Extra high capacity swing-bucket rotor with max. speed 3,153 × g (3,700 rpm)
> Bucket accommodates both plates and tubes
> Buckets, caps and adapters are autoclavable

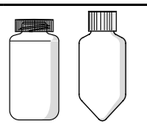
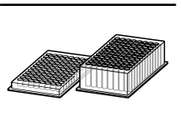
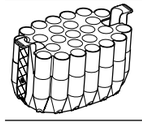
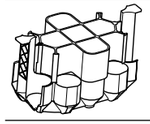
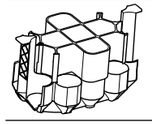
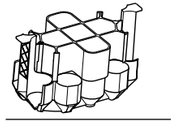
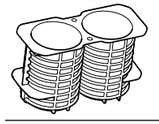
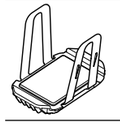


**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor S-4x1000**, without buckets | 5895 101 003 |
| **High-Capacity bucket**, for Rotor S-4x1000, set of 4 pcs. | 5895 106 005 |
| **Plate carrier for high-capacity bucket**, for Rotor S-4x1000, for high-capacity buckets, set of 2 pcs. | 5920 729 004 |

| **Adapters for Rotor S-4x1000 high-capacity buckets** | | | | |
|---|---|---|---|---|
| |  |  |  |  |
| **Tube Volume** | 5 mL FACS | 2.6 – 8 mL | 5.5 – 12 mL | 9 mL |
| **Max. tube diameter** | 12 mm | 13 mm | 16 mm | 17.5 mm |
| **Max. vessel height** | 108 mm | 107 mm | 107 mm | 129 mm |
| **Adapter** |  |  |  |  |
| **Number of vessels per adapter/rotor** | 52/208 | 49/196 | 36/144 | 29/116 |
| **Bottom shape** | round | round | round | round |
| **Centrifugation radius** | 204 mm | 204 mm | 199 mm | 204 mm |
| **Max. RCF** | 3,122 × g | 3,122 × g | 3,046 × g | 3,122 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5920 724 002 | 5920 718 002 | 5920 720 007 | 5920 722 000 |

[1] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[2] Please order adapter for 25 mL conical tubes screw cap 5820 734 000.

| |  |  |  |  |  |  |
|---|---|---|---|---|---|---|
| | Eppendorf Tubes® 5.0 mL and 15 mL conical | 25 mL snap cap[1] | 25 mL screw cap[2] | 50 mL conical | 250 mL flat, 175 – 225 mL conical and Nunc® 250 mL conical | MTP, DWP, PCR plates |
| | 17 mm | 39 mm | 29.8 mm | 30 mm | 62 mm | – |
| | 121 mm | 83 mm | 78.5 mm | 116 mm | 148 mm | 88 mm |
| |  |  |  |  |  |  |
| | 27/108 | 12/48 | 13/52 | 13/52 | 2/8 | 6/24 (MTP)<br>2/8 (DWP) |
| | conical | conical | conical | conical | flat | flat |
| | 205 mm | 179 mm | 169 mm | 206 mm | 200 mm | 185 mm |
| | 3,138 × g | 2,739 × g | 2,586 × g | 3,153 × g | 3,061 × g | 2,832 × g |
| | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| | 5920 716 000 | 5920 715 003 | 5920 715 003 | 5920 715 003 | 5920 717 006 | 5920 729 004 |



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# Rotors for 5920 R



**Rotor S-4x1000 plate/tube buckets**
> High capacity swing-bucket rotor with max. speed 3,076 × g (3,700 rpm)
> Bucket accommodates both plates and tubes
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[1)]
> Buckets, caps and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

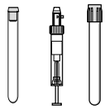
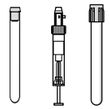
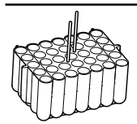
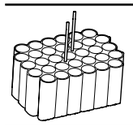
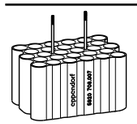
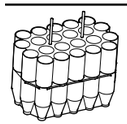
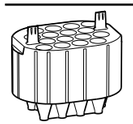




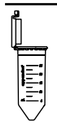
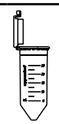
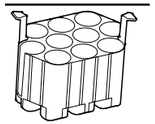
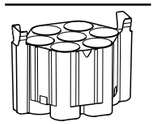
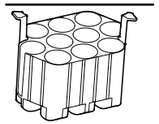
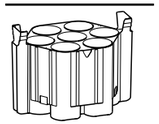
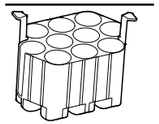
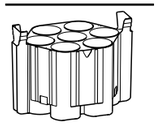
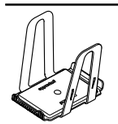


**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor S-4x1000**, without buckets | 5895 101 003 |
| **Aerosol-tight caps**, for S-4x1000 plate/tube bucket and S-4x750 plate bucket, set of 2 pcs. | 5895 111 009 |
| **Plate/tube bucket**, for Rotor S-4x1000, set of 4 pcs. | 5895 104 002 |
| **Plate carrier for plate/tube bucket**, for Rotor S-4x1000 with plate/tube buckets, Rotor S-4x1000, set of 2 pcs. | 5920 705 008 |
| **Plate/tube bucket**, for Rotor S-4x1000, set of 2 pcs. | 5895 105 009 |

| **Adapters for Rotor S-4x1000 plate/ tube buckets** |  |  |  |  |  |
|---|---|---|---|---|---|
| **Tube Volume** | 2.6 – 8 mL | 5.5 – 12 mL | 9 mL | Eppendorf Tubes® 5.0 mL and 15 mL conical | Eppendorf Tubes® 5.0 mL and 15 mL conical |
| **Max. tube diameter** | 13 mm | 16 mm | 17.5 mm | 17 mm | 17 mm |
| **Max. vessel height** | 109 mm | 109 mm | 109 mm | 121 mm | 123 mm |
| **Max. vessel height for use with cap/lid[1)]** | 108 mm | 108 mm | 109 mm | – | 121 mm |
| **Adapter** |  |  |  |  |  |
| **Number of vessels per adapter/rotor** | 35/140 | 33/132 | 28/112 | 22/88 | 16/64 |
| **Bottom shape** | round | round | round | conical | conical |
| **Centrifugation radius** | 201 mm | 200 mm | 200 mm | 201 mm | 201 mm |
| **Max. RCF** | 3,076 × g | 3,061 × g | 3,061 × g | 3,076 × g | 3,076 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5920 706 004 | 5920 707 000 | 5920 708 007 | 5920 710 001 | 5920 712 004 |

[1)] Please perform a manual test to determine the actual loading capacity.[2)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[3)] Please order adapter for 25 mL conical tubes screw cap 5820 734 000.

| |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| 25 ml snap cap[2)] | 25 mL snap cap[2)] | 25 ml screw cap[3)] | 25 mL screw cap[3)] | 50 mL conical | 50 mL conical | MTP, DWP, PCR plates |
| 39 mm | 39 mm | 29,8 mm | 29.8 mm | 30 mm | 30 mm | – |
| 83 mm | 83 mm | 78.5 mm | 78.5 mm | 121 mm | 121 mm | 104 mm |
| – | 83 mm | – | 78.5 mm | – | 121 mm | 91 mm |
|  |  |  |  |  |  |  |
| 9/36 | 6/24 | 10/40 | 7/28 | 10/40 | 7/28 | 7/28(MTP) 2/8(DWP) |
| conical | conical | conical | conical | conical | conical | flat |
| 175 mm | 107 mm | 165 mm | 166 mm | 201 mm | 201 mm | 198 mm |
| 2,678 × g | 2,693 × g | 2,525 × g | 2,540 × g | 3,076 × g | 3,076 × g | 3,030 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| 5920 709 003 | 5920 711 008 | 5920 709 003 | 5920 711 008 | 5920 709 003 | 5920 711 008 | 5920 705 008 |



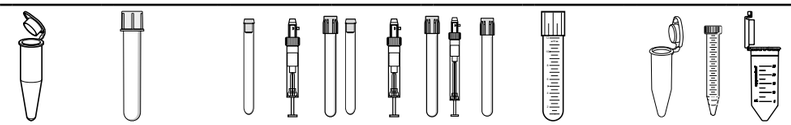
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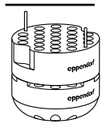
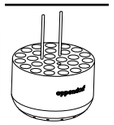
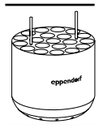
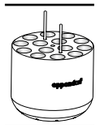
# Rotors for 5920 R



**Rotor S-4x1000 round buckets**
> Medium capacity swing-bucket rotor with max. speed 3,428 × g (3,700 rpm)
> Broad range of adapters enables high versatility for tubes and flasks from 0.2 mL to 1,000 mL and plates
> Mixed loading with 2 plate buckets and 2 round tube buckets allows for increased versatility
> Aerosol-tight QuickLock caps for safe centrifugation of hazardous samples optionally available[1)]
> Buckets, caps and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.



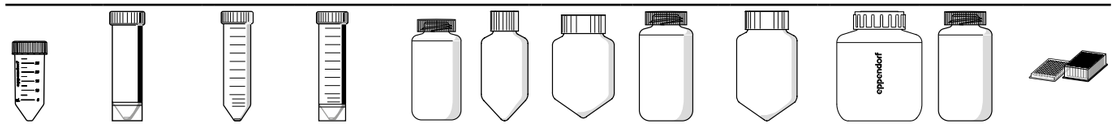
| Adapters for Rotor S-4x1000 round buckets | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Tube Volume** | 1.5/2.0 mL | 12 × 75 mm, 5 mL FACS | 2.6 – 8 mL | 5.5 – 12 mL | 9 mL | 14 mL | Eppendorf Tubes® 5.0 mL and 15 mL conical | 25 mL snap cap[2)] |
| **Max. tube diameter** | 11 mm | 12 mm | 13 mm | 16 mm | 17.5 mm | 17.5 mm | 17 mm | 39 mm |
| **Max. vessel height** | 39 mm | 115 mm | 121 mm | 140 mm | 117 mm | 117 mm | 161 mm | 83 mm |
| **Max. vessel height for use with cap/lid[1)]** | 39 mm | 108 mm | 113 mm | 140 mm | 112 mm | 112 mm | 150 mm | 83 mm |
| **Adapter** |  |  |  |  |  |  |  |  |
| **Number of vessels per adapter/rotor** | 50/200 | 27/108 | 23/92 | 20/80 | 20/80 | 14/56 | 14/56 | 6/24 |
| **Bottom shape** | flat | round | round | round | round | round | conical | conical |
| **Centrifugation radius** | 219 mm | 211 mm | 210 mm | 211 mm | 210 mm | 210 mm | 224 mm | 107 mm |
| **Max. RCF** | 3,352 × g | 3,229 × g | 3,214 × g | 3,229 × g | 3,214 × g | 3,214 × g | 3,428 × g | 2,005 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5825 740 009 | 5825 747 003 | 5825 738 004 | 5825 736 001 | 5825 743 008 | 5825 748 000 | 5825 734 009 | 5825 733 002 |

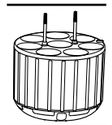
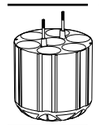
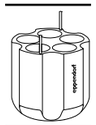
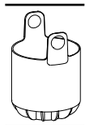
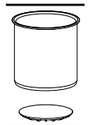
[1)] Exceeding the maximum tube length may reduce the loading capacity of the rotor. Please perform a manual swing-out test before starting the centrifuge run to make sure the tubes do not hit the rotor yoke.
[2)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.[3)] Please order adapter for 25 mL conical tubes screw cap 5820 734 000.[4)] Please note that these conical bottles need to be used together with a conical form insert provided by the manufacturer. [5)] 225 mL conical bottles from BD®/Corning® and 250 mL conical bottles from Nunc® for Rotor S-4-104.



**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor S-4x1000**, without buckets | 5895 101 003 |
| **Round bucket**, for Rotor S-4x1000, set of 4 pcs. | 5895 102 000 |
| **Rotor S-4x1000 round buckets**, aerosol-tight, incl. 4 × 1,000 mL round buckets | 5895 100 007 |
| **Aerosol-tight caps**, for S-4x1000 plate/tube bucket and S-4x750 plate bucket, set of 2 pcs. | 5895 111 009 |
| **Plate/tube bucket**, for Rotor S-4x1000, set of 4 pcs. | 5895 104 002 |
| **Plate carrier for plate/tube bucket**, for Rotor S-4x1000 with plate/tube buckets, Rotor S-4x1000, set of 2 pcs. | 5920 705 008 |
| **Plate/tube bucket**, for Rotor S-4x1000, set of 2 pcs. | 5895 105 009 |
| **Caps for 750 mL round buckets**, aerosol-tight, for Rotor S-4-104, Rotor S-4x750 and Rotor S-4x1000, set of 2 pcs. | 5820 747 005 |



| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 mL screw cap[3)] | 30 mL | 50 mL conical | 50 mL conical, skirted | 250 mL flat, 175 – 225/ 250 mL conical[4)5)] | 500 mL Corning® | 500 mL Nalgene® | 600 mL TPP | 750 mL | 1 Liter Nalgene® | MTP, DWP, PCR plates |
| 29.8 mm | 25 mm | 30 mm | 30 mm | 62 mm | 96 mm | 69.5 mm | 98 mm | 102 mm | 98 mm | – |
| 78.5 mm | 144 mm | 156 mm | 151 mm | 176 mm | 167 mm | 183 mm | 181 mm | 150 mm | 196 mm | 104 mm |
| 78.5 mm | 139 mm | 150 mm | 147 mm | 156 mm | 167 mm | 183 mm | 181 mm | 150 mm | – | 91 mm |
|  |  |  |  |  |  |  |  |  |  |  |
| 7/28 | 8/32 | 7/28 | 5/20 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 1/4 | 7/28 (MTP) 2/8 (DWP) |
| conical | flat | conical | conical | flat | conical | flat | conical | flat | flat | flat |
| 121 mm | 212 mm | 223 mm | 209 mm | 214 mm | 218 mm | 221 mm | 224 mm | 216 mm | 218 mm | 198 mm |
| 1,852 × g | 3,245 × g | 3,413 × g | 3,199 × g | 3,275 × g | 3,336 × g | 3,382 × g | 3,428 × g | 3,306 × g | 3,336 × g | 3,030 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| 5825 733 002 | 5825 755 006 | 5825 733 002 | 5825 732 006 | 5825 741 005 | 5825 745 000 | 5920 703 005 | 5920 701 002 | 5825 744 004 | 5920 700 006 | 5895 105 009 |



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CENTRIFUGES AND ROTORS

# Fixed-Angle Rotors 59xx Family - Overview



New











| Model | Rotor FA-6x250 | Rotor FA-6x50 | Rotor FA-20x5 | Rotor FA-48x2 | Rotor FA-30x2 | Rotor F-48x15 |
|---|---|---|---|---|---|---|
| **Positioning** | Processing of cells in higher volumes at high speed | Molecular biology applications in tubes up to 50 mL | Applications in Eppendorf Tubes® 5.0 mL | Aerosol-tight microcentrifuge tube rotor | Aerosol-tight microcentrifuge tube rotor for safe centrifugation of hazardous samples | High-capacity fixed-angle rotor for 15 mL conical and glass tubes |
| **5910 R** | ■ | ■ | ■ | ■ | ■ | ■ |
| **5920 R** | ■ | ■ | ■ | ■ | – | – |
| **Aerosol-tightness** | yes | yes | yes | yes | yes | |
| **Max. capacity** | 6 × 250 mL | 6 × 50 mL | 20 × 5 mL | 48 × 2 mL | 30 × 2 mL | 40 × 15 mL |
| **Max. RCF** | 15,054 × g | 20,130 × g | 20,913 × g | 21,194 × g (5920 R) / 22,132 × g (5910 R) | 20,984 × g | 5,005 x g |
| **Max. speed** | 10,100 rpm | 12,100 rpm | 13,100 rpm | 13,700 rpm (5920 R) / 14,000 rpm (5910 R) | 13,700 rpm | 5,500 rpm |
| **1.5/2.0 mL micro tube** | | 6 | 20 | 48 | 30 | |
| **Eppendorf Tubes® 5.0 mL and 15 mL conical** | 24 | 6 | 20/0 | | | 0/40 |
| New **25 mL conical tubes** | 6[1)2)] | 6[2)3)] | | | | |
| **50 mL conical tubes** | 6 | 6 | | | | |
| **85 mL Oakridge®** | 6 | | | | | |
| **250 mL conical tubes** | 6 | | | | | |

[1)] Screw cap tubes only. [2)] Please order adapter for 25 mL conical tubes screw cap 5820 734 000. [3)] Please order adapter for 25 mL conical tubes snap cap 5820 733 004.

# Advanced Rotor Design – Fixed-Angle Rotors



Cross section of Rotor FA-6x50 (6 × 50 mL conical) showing the light-weight design.

All metal not needed for safety or performance is hollowed out to reduce weight and improve handling.

**Low rotor weight**
Eppendorf's fixed-angle rotors are among the lightest in the industry to improve handling and operational safety. Light-weight rotors cause less wear and tear on the motor and allow for faster acceleration and braking times.

**Eppendorf QuickLock® lids for ergonomic lid locking**
Our aerosol-tight QuickLock rotors close with only ¼ of a turn. This not only saves you time during every day use, it also takes repetitive stress off your wrist.

**Superior temperature control**
Aluminum, with its high heat conductivity, allows fast pre-cooling and accurate temperature control in refrigerated centrifuges.



**Perfect fit with Eppendorf Conical Tubes 15 mL and 50 mL**
The Eppendorf Conical Tubes are characterized by an outstanding centrifugation stability of up to 19,500 × g[1)]. This makes them suited for a broad range of applications.

[1)] Test conditions: Rotor FA-45-6-30 in Eppendorf Centrifuge 5810 R (using a suitable centrifuge adapter for 15 mL tube), sample: Saline solution (density: 1.0 g/mL), controlled centrifugation temp.: 25 °C, centrifugation time: 90 min

i For more information go to www.eppendorf.com/centrifugation

Technical specifications subject to change.

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# Rotors for 5910 R/5920 R



**New**

**Rotor FA-6x250**

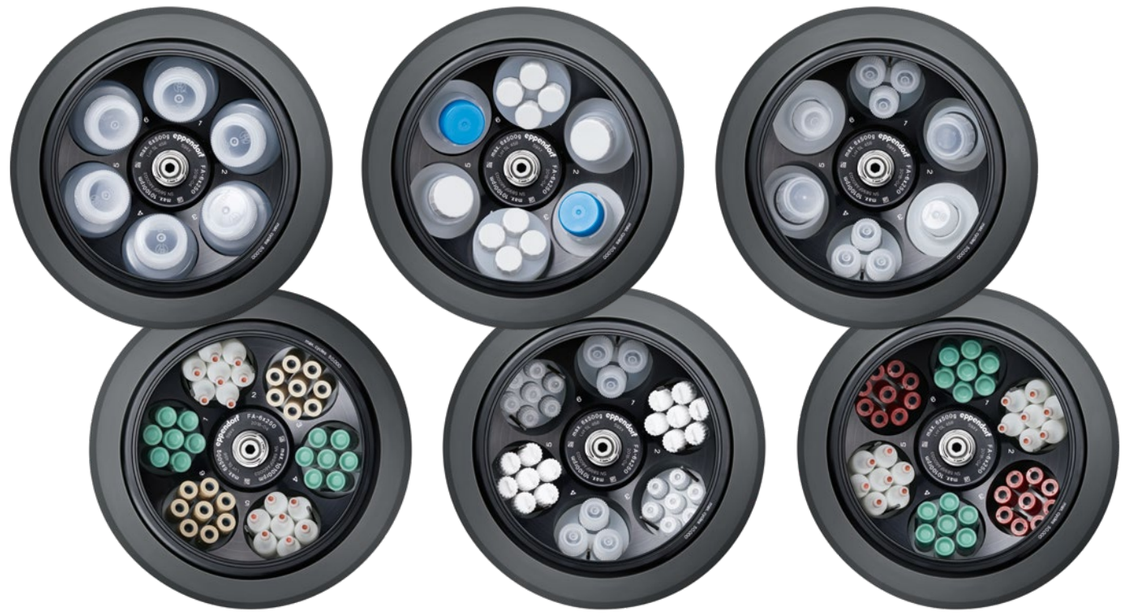
> Fixed-angle rotor for up to 6 × 250 mL bottles[1)]
> Ideal for the pelleting of microorganisms and mammalian cells
> 12 different adapters for broad range of additional applications
> Max. speed 15,054 × g (10,100 rpm)
> Eppendorf QuickLock® rotor lid for fast lid locking
> Aerosol-tight[2)] for safe centrifugation of hazardous samples
> Low weight of only 5,450 g for stress-free work
> Anodized aluminum for high chemical resistance
> Rotor, lid and adapters are autoclavable to reduce risk of contamination
> See tab ‚Additional information' for overview of adapters available

[1)] To run this rotor, a software update is required for earlier centrifuges. Please contact your local Eppendorf organization or dealer for further information. [2)] Aerosol-tightness tested by Public Health England, Porton Down, UK. Maximum 80 % of maximum filling volume.

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-6x250**, for 6 x 250 mL bottles | |
| incl. aerosol-tight Eppendorf QuickLock® rotor lid | 5895 175 007 |





| Adapters for Rotor FA-6x250 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Tube Volume** | 5 mL | 2.6 – 8.0 mL | 5.5 – 12.0 mL | 9 mL | Eppendorf Tubes® 5.0 mL[2)] and 15 mL | 25 mL screw cap[3)] | 50 mL |
| **Max. tube diameter** | 12 mm | 13 mm | 16 mm | 17.5 mm | 17 mm | 29.8 mm | 30 mm |
| **Max. vessel height for use with cap/lid[1)]** | 114 mm | 114 mm | 115 mm | 112 mm | 122 mm | 78.5 mm | 125 mm |
| **Adapter** | | | | | | | |
| **Number of vessels per adapter/rotor** | 9/54 | 8/48 | 7/42 | 7/42 | 4/24 | 1/6 | 1/6 |
| **Bottom shape** | round | round | round | round | conical | conical | conical |
| **Centrifugation radius** | 126 mm | 125 mm | 125 mm | 126 mm | 120 mm | 95 mm | 110 mm |
| **Max. RCF** | 14,370 × g | 14,256 × g | 14,256 × g | 14,370 × g | 13,686 × g | 10,834 × g | 12,545 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5920 765 000 | 5920 763 008 | 5920 762 001 | 5920 764 004 | 5920 761 005 | 5920 760 009 | 5920 760 009 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 50 mL | 10 mL | 16 mL | 30 mL | 50 mL | 85 mL | 175 mL[4)] | 250 mL[5)] |
| 30 mm | 17 mm | 18 mm | 26 mm | 29 mm | 38 mm | 62 mm | 62 mm |
| 125 mm | 115 mm | 115 mm | 116 mm | 125 mm | 118 mm | 118 mm | 135 mm |
| | | | | | | | |
| 1/6 | 7/42 | 7/42 | 3/18 | 1/6 | 1/6 | 1/6 | 1/6 |
| conical, skirted | round | round | round | round | round | conical | flat |
| 108 mm | 126 mm | 126 mm | 125 mm | 111 mm | 113 mm | 132 mm | 132 mm |
| 12,317 × g | 14,370 × g | 14,370 × g | 14,256 × g | 12,659 × g | 12,887 × g | 15,054 × g | 15,054 × g |
| set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | – | – |
| 5920 766 007 | 5920 769 006 | 5920 770 004 | 5920 767 003 | 5920 771 000 | 5920 768 000 | Conical form insert required[4)] | No adapter required[5)] |

[1)] Please perform a manual test to determine the actual loading capacity. [2)] Universal adapters for Eppendorf Tubes® 5.0 mL are required in addition (order no. 5820 732 008). [3)] Please order adapter for 25 mL conical tubes screw cap 5820 734 000. [4)] 175 mL conical bottles from BD/Corning® (352076). Please note that these conical bottles need to be used together with a conical form insert provided by the bottle manufacturer. [5)] 250 mL flat bottom bottles from Nalgene® (3127-0250, 3122-0250, 3120-0250) and Corning® (431841, 431842). When used with wide lid 250 mL flat bottom bottle from Nalgene® (3140-0250) max. capacity is reduced to 4 x 250 mL.



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# Rotors for 5910 R/5920 R

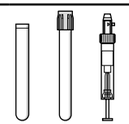
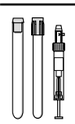
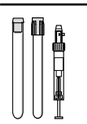
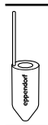
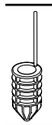


**Rotor FA-6x50**
> High-speed rotor for applications in tubes from 5 – 50 mL
> Max. speed 20,133 × g (12,100 rpm)
> Eppendorf QuickLock® rotor lid for fast lid locking
> Aerosol-tight[1)] for safe centrifugation of hazardous samples
> Low rotor weight (3.2 kg) for easy handling
> Anodized aluminum for high chemical resistance
> 45° borehole angle minimizes pellets smear
> Rotor, lid and adapters are autoclavable

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-6x50**, aerosol-tight, incl. rotor lid | 5895 150 004 |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Adapters for Rotor FA-6x50** |  |  |  |  |  |  |
| **Tube Volume** | 2.6 – 5 mL | 4 – 8 mL | 5.5 – 10 mL | 7.5 – 12 mL | Eppendorf Tubes® 5.0 mL | 7 – 17 mL |
| **Max. tube diameter** | 13 mm | 13 mm | 16 mm | 16 mm | 17 mm | 17.5 mm |
| **Max. vessel height for use with cap/lid** | 119 mm | 119 mm | 119 mm | 119 mm | 121 mm | 112 mm |
| **Adapter** |  |  |  |  |  |  |
| **Number of vessels per adapter/rotor** | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 [1)] | 1/6 |
| **Bottom shape** | round | round | round | round | conical | round |
| **Centrifugation radius** | 120 mm | 120 mm | 120 mm | 120 mm | 121 mm | 120 mm |
| **Max. RCF** | 19,642 × g | 19,642 × g | 19,642 × g | 19,642 × g | 19,806 × g | 19,642 × g |
| **Packing** | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. |
| **Order no.** | 5820 726 008 | 5820 725 001 | 5820 728 000 | 5820 727 004 | 5820 730 005 | 5820 729 007 |

[1)] Eppendorf Tubes® 5.0 mL with screw cap will not fit in this adapter.

Technical specifications subject to change.



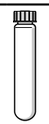
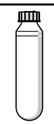
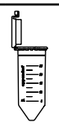
# Eppendorf Conical Tubes

Whether centrifugation, mixing, or other applications – the Eppendorf Conical Tubes 15 mL, 25 mL and 50 mL will perfectly fit into your workflows. They represent the next step in Eppendorf's comprehensive system solutions in liquid, sample and cell handling.

More information: www.eppendorf.com/conicals






| | | | | | | |
|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |
| | 15 mL | 15 – 18 mL | 20 – 30 mL | 25 mL snap cap | 25 mL screw cap | 35 mL | 50 mL conical |
| | 17 mm | 18 mm | 26 mm | 39 mm | 29.8 | 29 mm | 30 mm |
| | 125 mm | 107 mm | 104 mm | 83 mm | 78.5 mm | 113 mm | 127 mm |
| |  |  |  |  |  |  | |
| | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | 1/6 | –/6 |
| | conical | round | round | conical | conical | conical | conical |
| | 120 mm | 120 mm | 105 mm | 104 mm | 97 mm | 112 mm | 123 mm |
| | 19,642 × g | 19,642 × g | 17,187 × g | 17,023 × g | 15,877 × g | 18,333 × g | 20,133 × g |
| | set of 2 pcs. | set of 2 pcs. | set of 2 pcs. | set of 6 pcs. | set of 6 pcs. | set of 2 pcs. | – |
| | 5820 717 009 | 5820 720 000 | 5820 721 006 | 5820 733 004 | 5820 734 000 | 5820 722 002 | – |

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# Rotors for 5910 R/5920 R



**Rotor FA-20x5**
> 20 places for Eppendorf Tubes® 5.0 mL[1)]
> Max. speed: 20,913 × g (13,100 rpm)
> Aerosol-tight[2)] Eppendorf QuickLock® rotor lid
> Rotor, lid and adapters are autoclavable (121 °C, 20 min)
> Anodized aluminum for high chemical resistance

[1)] For Eppendorf Tubes® 5.0 mL with screw cap the capacity is limited to 10 tubes. [2)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-20x5**, for 20 Eppendorf Tubes® 5.0 mL, incl. aerosol-tight Eppendorf QuickLock® rotor lid | 5895 130 003 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Adapter**, for 1 tube 0.5 mL or BD Microtainer®, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **Adapter**, for 1 vessel 1.5 – 2.0 mL, for all 5.0 mL rotors, set of 4 pcs. | 5820 768 002 |
| **Adapter**, for 1 cryo tube, for all 5.0 mL rotors, set of 4 pcs. | 5820 769 009 |
| **Adapter**, for 1 HPLC tube, for all 5.0 mL rotors, set of 4 pcs. | 5820 770 007 |
| **Adapter**, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 717 008 |



**Rotor FA-48x2**
> 48 places for 1.5/2.0 mL tubes
> Max. speed: 21,194 × g/13,700 rpm (5920 R)/ 22,132 × g/ 14,000 rpm (5910 R)
> Eppendorf QuickLock® rotor lid for fast lid locking
> Aerosol-tight[1)] for safe centrifugation of hazardous samples
> Anodized aluminum for high chemical resistance
> Rotor and lid are autoclavable (121 °C, 20 min)

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-48x2**, incl. aerosol-tight Eppendorf QuickLock® rotor lid | 5895 135 005 |





# Rotors for 5910 R



**Rotor F-48x15**
> High-capacity fixed-angle rotor for 15 mL conical and glass tubes
> Maximum speed: 5,005 × g (5,500 rpm)
> Form inserts for 15 mL conical tubes

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor F-48x15**, for 40 x 15 mL conical tubes, incl. 48 steel sleeves and adapters | 5895 160 000 |



**Rotor FA-30x2**
> 30 places for 1.5/2.0 mL tubes
> Max. speed: 20,984 × g (max. 13,700 rpm)
> Eppendorf QuickLock® rotor lid for fast lid locking
> Aerosol-tight for safe centrifugation of hazardous samples[1)]
> Anodized aluminum for high chemical resistance
> Rotor and lid are autoclavable (121 °C, 20 min)

[1)] Aerosol-tightness tested by Public Health England, Porton Down, UK.

**Ordering information**

| Description | Order no. |
|---|---|
| **Rotor FA-30x2**, incl. aerosol-tight Eppendorf QuickLock® rotor lid | 5895 155 006 |

# Concentrator plus

**Description**
The Concentrator plus with its new design was designed with the customer in mind to deliver an ergonomic, intuitive and durable solution that fits comfortably right on the lab bench. An advanced heating technology provides best treatment for your sample which assures quick, efficient and gentle vacuum concentration of DNA/RNA, nucleotides, proteins and other liquid or wet samples. Our new coated lid provides superior chemical resistance against aggressive acids and organic solvents (e.g. TFA, DMSO).
The Concentrator plus is available with three configurations to meet the customers' lab specific needs:
**1)** Basic Concentrator for connecting to an existing vacuum pump
**2)** Complete system with an integrated solvent-resistant, maintenance and oil-free PTFE pump, and condensation trap
**3)** Complete system with vacuum port adds extra capability. It allows for using the integrated vacuum pump separately – without having to disconnect it from the system




**Product features**
> Comes in 3 system configurations
> Extremely quiet operation <50 dB(A)
> Chemical-resistant, maintenance-free PTFE diaphragm pump eliminates the need for changing pump oil
> Small footprint saves valuable bench space
> Wide variety of 15 different rotor options to accommodate tubes from 0.2 mL to 50 mL, microplates and PCR plates
> Motorless induction drive and chemical-resistant, stainless steel chamber for trouble-free operation
> Can be connected with most commercially available cold traps for use with vapors
> Coated lid with superior chemical resistance

| Technical specifications | | | |
|---|---|---|---|
| **Model** | **Concentrator plus basic** | **Concentrator plus system** | **Concentrator plus system w/port** |
| **Vacuum** | – | 20 hPa (20 mbar) | 20 hPa (20 mbar) |
| **Sample capacity** | max. 144 vessels/2 microplates | max. 144 vessels/2 microplates | max. 144 vessels/2 microplates |
| **Fixed speed** | 1,400 rpm | 1,400 rpm | 1,400 rpm |
| **Tube volume** | 0.2 – 50 mL | 0.2 – 50 mL | 0.2 – 50 mL |
| **Port to connect external devices to vacuum pump** | no | no | yes |
| **Max. power consumption** | 150 W | 350 W | 350 W |
| **Dimensions (W × D × H)** | 33 × 37 × 23 cm | 33 × 58 × 29 cm | 33 × 58 × 29 cm |
| **Weight w/o accessories** | 16.5 kg | 31.5 kg | 31.5 kg |

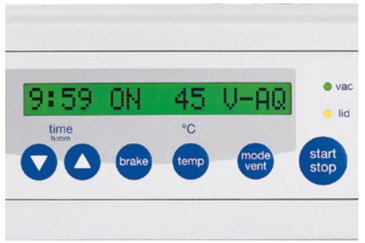
i For more information go to www.eppendorf.com/centrifugation







**Concentrator junction system**
The complete "junction" system adds extra capability/flexibility. It allows you to use the integrated vacuum pump separately – without having to disconnect it from the system; simply connect the port to any external device that requires vacuum (e.g. gel dryer).




**Key function**
> Timer selection between 1 min and 9:59 as well as Brake function
> Temperature preselection: room temperature, 30 °C, 45 °C and 60 °C
> Mode/vent function: choose between three solvent modes
> Start/Stop of concentration process

**Ordering information**

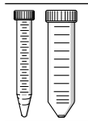
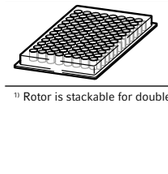
| Description | Order no. |
|---|---|
| **Concentrator plus basic device** | |
| 230 V/50 – 60 Hz, with Rotor F-45-48-11 | 5305 000 100 |
| **Concentrator plus complete system** | |
| 230 V/50 – 60 Hz, with integrated diaphragm vacuum pump, with Rotor F-45-48-11 | 5305 000 304 |
| 230 V/50 – 60 Hz, with integrated diaphragm vacuum pump, without rotor | 5305 000 509 |
| 230 V/50 – 60 Hz, with integrated diaphragm vacuum pump; with connection, e.g., for a gel dryer; without rotor | 5305 000 703 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Adapter**, for 1 tube 0.5 mL or BD Microtainer®, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **CombiSlide Adapter**, for 12 slides Combi Slide, for Rotors A-2-MTP and A-4-81 (MTP), set of 2 pcs. | 5825 706 005 |
| **Adapter**, for 1 PCR tube 0.2 mL, for Rotor F-45-72-8, set of 6 pcs. | 5425 723 008 |
| **Rotor spacer**, required for stacking rotors F-45-72-8 and F-45-48-11 | 5301 316 005 |
| **Work tray**, for semi-/unskirted PCR plates, PCR strips and 0.2 mL PCR tubes, for Rotor A-2-VC, set of 10 pcs. | 0030 124 235 |
| **Frame for work tray**, for Rotor A-2-VC, set of 5 pcs. | 0030 124 243 |

↗ Ordering information for other voltage options begins on page 450

CONCENTRATORS

# Rotors for Concentrator plus

**Ordering information**

| | Description | Max. tube dimensions Ø x L | Sample capacity | Order no. |
|---|---|---|---|---|
|  | Rotor F-45-72-8 | 8 × 31 mm[1] | 72 × 0.5 mL | 5490 034 007 |
| | Rotor F-45-70-11 | 11 × 41/47 mm | 70 × 1.5 mL, 70 × 2.0 mL | 5490 032 004 |
| | Rotor F-45-48-11 | 11 × 41/47 mm[1] | 48 × 1.5 mL / 2.0 mL | 5490 030 001 |
|  | Rotor F-40-36-12 | 12 × 32 mm | 36 × 1.5 mL | 5490 040 007 |
| | Rotor F-45-36-15 | 15 × 45 – 48 mm [2] | 36 × 3.0/5.0 mL | 5490 035 003 |
| | Rotor F-45-16-20 | 20 × 42 – 55 mm [2] | 16 × 6.5/10 mL | 5490 043 006 |
| | Rotor F-40-18-19 | 19 × 66 mm | 18 × 10 mL | 5490 037 006 |
| | Rotor F-45-12-31 | 31 × 55 mm | 12 × 20 mL | 5490 044 002 |
| | Rotor F-35-8-24 | 24 × 86 – 105 mm [2] | 8 × 25 mL | 5490 039 009 |
|  | Rotor F-45-24-12 | 12 × 67 – 100 mm [2] [3] | 24 × 5 – 7 mL | 5490 036 000 |
| | Rotor F-50-8-16 | 16 × 105 – 120 mm [2] | 8 × 8 – 12 mL | 5490 041 003 |
| | Rotor F-50-8-18 | 18 × 105 – 128 mm [2] | 8 × 10 – 18 mL | 5490 042 000 |
|  | Rotor F-45-8-17 | 17 × 116 – 123 mm [2] | 8 × 15 mL conical tubes | 5490 038 002 |
| | Rotor F-35-6-30 | 17 × 116 – 123 mm or 30 × 116 – 123 mm [2] | 6 × 15 mL conical tubes or 6 × 50 mL conical tubes | 5490 047 001 |
|  | Rotor A-2-VC | 128 × 86 × 27 mm | 2 × MTP or skirted PCR plates<br>2 × Deepwell plates (DWP)<br>(max. height = 27 mm) | 5490 045 009 |

[1] Rotor is stackable for double capacity using spacer 5301 316.005. [2] Min./max. tube length. [3] Tube length = 75 mm: max capacity 24 tubes, tube length > 75 mm: max capacity 12 tubes.



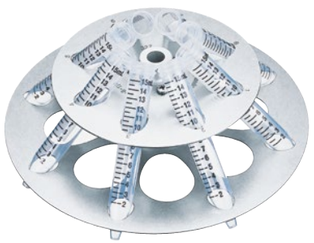
**Rotor F-45-48-11**
> Rotor for 48 × 1.5/2.0 mL microcentrifuge tubes
> A spacer enables additional stacking (double capacity)



**Rotor F-35-6-30**
> Rotor for 6 × 50 mL conical tubes
> Rotor for 6 × 15 mL conical tubes
> Also accommodates for 6 × 25 mL conical tubes



**Rotor A-2-VC**
> For use with MTP, PCR and Deepwell Plates up to 27 mm high
> A work tray with frame is available for PCR test plates and microplates without frames
> Rotor can be autoclaved for 20 min. at 121 °C
> Suitable for the CombiSlide Adapter



**Rotor F-45-8-17**
> Rotor for 8 × 15 mL conical tubes



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# Sample Handling









| Model | Eppendorf BioSpectrometer® fluorescence | Eppendorf BioSpectrometer® kinetic |
|---|---|---|
| **Page(s)** | **237** | **236** |
| **Wavelength range absorption** | Scan (nm): 200 – 830 at 1 nm increments | Scan (nm): 200 – 830 at 1 nm increments |
| **Wavelength Selection Increment** | 1 nm | 1 nm |
| **Scanning** | yes | yes |
| **Spectral bandwidth** | ≤4 nm | ≤4 nm |
| **Systematic error wavelength** | ±1 nm | ±1 nm |
| **Random error wavelength** | ≤0.5 nm | ≤0.5 nm |
| **Absorption measuring range** | 0 A – 3.0 A (260 nm) | 0 A – 3.0 A (260 nm) |
| **Systematic error absorption** | – | ±1 % (A = 1) |
| **Random error absorption** | ≤0.002 at A = 0<br>≤0.005 (0.5 %) at A = 1 | ≤0.002 at A = 0<br>≤0.005 (0.5 %) at A = 1 |
| **Light source absorption** | Xenon flash lamp | Xenon flash lamp |
| **Detector Type** | CMOS photodiode array, 1024 pixel | CMOS photodiode array, 1024 pixel |
| **Measuring principle absorption** | Single-beam absorption spectrophotometer with reference beam | Single-beam absorption spectrophotometer with reference beam |
| **Sample light path length** | 8.5 mm | 8.5 mm |
| **Light source fluorescence** | LED | – |
| **Beam receiver fluorescence** | Photodiodes | |
| **Measuring principle fluorescence** | Confocal filter fluorometer with reference beam | – |
| **Fluorescence measuring range** | 0.5 nM – 2,000 nM fluorescein (emission wavelength 520 nm) | – |
| **dsDNA concentration range (for 1 to 10 mm path length)** | 2.5 ng/µL – 45,450 ng/µL (with fluorescence down to 1 pg/µL) | 2.5 ng/µL – 1,500 ng/µL |
| **BSA concentration range (for 1 to 10 mm path length, calculation factor for BSA = 1.515 µg/µL)** | 76 ng/µL – 45,450 ng/µL<br>(with fluorescence down to 0.01 ng/µL) | 76 ng/µL – 45,450 ng/µL |
| **Operator guidance language** | Spanish, Italian, French, English, German, Japanese | Spanish, Italian, French, English, German, Japanese |
| **Method memory** | >100 method programs | >100 method programs |
| **Dimensions (W × D × H)** | 295 × 400 × 150 mm / 11.6 × 15.7 × 6 in | 295 × 400 × 150 mm / 11.6 × 15.7 × 6 in |
| **Weight w/o accessories** | 5.4 kg | 5.5 kg |
| **Cuvette shaft** | 12.5 mm × 12.5 mm | 12.5 mm × 12.5 mm, tempered 20 °C – 42 °C |
| **Power supply** | 100 – 240 V, 50 – 60 Hz | 100 – 240 V, 50 – 60 Hz |
| **Power consumption** | Approx. 15 W during operating step<br>Approx. 5 W with dimmed display | Approx. 30 W during operating step<br>Approx. 5 W with dimmed display and temperature control switched off |
| **Interfaces** | > USB master: for USB stick and thermal printer DPU-S445<br>> USB slave for connecting to a PC (All functions available without PC)<br>> Serial interface RS-232: for thermal printer DPU-414<br>> Ethernet interface RJ45: For connecting to a network printer or emailing data outputs directly off instrument | > USB master: for USB stick and thermal printer DPU-S445<br>> USB slave for connecting to a PC (All functions available without PC)<br>> Serial interface RS-232: for thermal printer DPU-414<br>> Ethernet interface RJ45: For connecting to a network printer or emailing data outputs directly off instrument |

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Technical specifications subject to change.













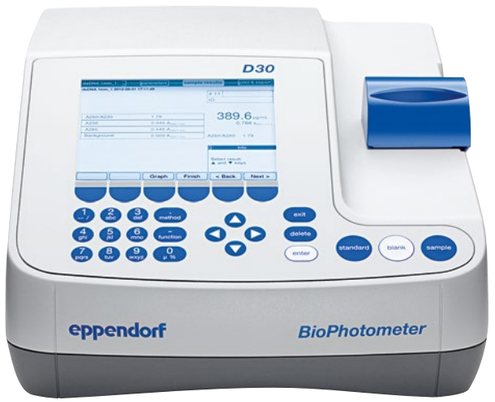
| Eppendorf BioSpectrometer® basic | Eppendorf BioPhotometer® D30 |
|---|---|
| **235** | **234** |
| Scan (nm): 200 – 830 at 1 nm increments | 230, 260, 280, 320, 340, 405, 490, 562, 595, 600 nm |
| 1 nm | N/A |
| yes | no |
| ≤4 nm | ≤4 nm |
| ±1 nm | ±1 nm |
| ≤0.5 nm | ≤0.5 nm |
| 0 A – 3.0 A (260 nm) | 0 A – 3.0 A (260 nm) |
| ±1 % (A = 1) | ±1 % (A = 1) |
| ≤0.002 at A = 0<br>≤0.005 (0.5 %) at A = 1 | ≤0.002 at A = 0<br>≤0.005 (0.5 %) at A = 1 |
| Xenon flash lamp | Xenon flash lamp |
| CMOS photodiode array, 1024 pixel | CMOS photodiodes |
| Single-beam absorption spectrophotometer with reference beam | Single-beam absorption photometer with reference beam |
| 8.5 mm | 8.5 mm |
| – | – |
| | N/A |
| – | – |
| – | – |
| 2.5 ng/µL – 1,500 ng/µL | 2.5 ng/µL – 1,500 ng/µL |
| 76 ng/µL – 45,450 ng/µL | 76 ng/µL – 45,450 ng/µL |
| Spanish, Italian, French, English, German, Japanese | Spanish, Italian, French, English, German, Japanese |
| >100 method programs | >100 method programs |
| 295 × 400 × 150 mm / 11.6 × 15.7 × 6 in | 295 × 400 × 150 mm / 11.6 × 15.7 × 6 in |
| 5.4 kg | 5.4 kg |
| 12.5 mm × 12.5 mm | 12.5 mm × 12.5 mm |
| 100 – 240 V, 50 – 60 Hz | 100 – 240 V, 50 – 60 Hz |
| Approx. 15 W during operating step<br>Approx. 5 W with dimmed display | Approx. 15 W during operating step<br>Approx. 5 W with dimmed display |
| > USB master: for USB stick and thermal printer DPU-S445<br>> USB slave for connecting to a PC (All functions available without PC)<br>> Serial interface RS-232: for thermal printer DPU-414<br>> Ethernet interface RJ45: For connecting to a network printer or emailing data outputs directly off instrument | > USB master: for USB stick and thermal printer DPU-S445<br>> USB slave for connecting to a PC (All functions available without PC)<br>> Serial interface RS-232: for thermal printer DPU-414<br>> Ethernet interface RJ45: For connecting to a network printer or emailing data outputs directly off instrument |

epServices for premium performance

On page 388 you will find detailed information on services for these products!

# Eppendorf BioPhotometer® D30

**Description**
The Eppendorf BioPhotometer D30 is the 3rd generation of Eppendorf spectrophotometers to become an established standard in the life sciences. Routine pre-defined wavelengths are easily selectable, allowing for quick and simple programming. Users are guided through every step of the assay with short, simple on-screen instructions. The ultra-stable Xenon flash lamp doesn't require any warm up time and a measurement typically takes 5 seconds. Raw and processed data are clearly presented on the large color screen and can be exported directly from the instrument in a variety of common formats. Eppendorf disposable UVette® cuvettes enable measurements with as little as 50 µL of sample and the Eppendorf µCuvette® G1.0 reduces this further to 1.5 µL of sample.




**Product features**
> Absorption measurements for one or more fixed wavelengths
> Scan for specific UV applications with automatically determined purity ratios
> Preprogrammed applications for quick start and applications with evaluation via factor, standard or standard series
> Integrated application and results memory
> Guided software process to minimize errors
> Compatible with standard, semi-micro and micro-volume measuring cells
> Fixed wavelengths without moving parts for a long life time
> Integrated self-test and calibration history for documentation
> Data transfer via USB interface, Ethernet or via e-mail and direct printout of results
> Data output as *.PNG screenshots, Microsoft® Excel®, or secure PDF files to a standard USB flash drive or via email

**Applications**
> Nucleic acid quantification
> Direct protein quantification (UV 280 nm)
> Microvolume measurement via µCuvette G1.0 for highly concentrated samples
> Bacteria growth measurement (OD 600)
> Colorimetric assays for protein quantification, e.g., BCA, Bradford, Lowry
> 340 nm: endpoint assays using NADPH or NAPH
> 405 nm: endpoint assays using para-nitrophenol
> 490 nm: cytotoxicity endpoint assay
> Transmission measurement

www.eppendorf.com/D30-Poster

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf BioPhotometer® D30**, 230 V/50 – 60 Hz | 6133 000 001 |
| **Eppendorf µCuvette® G1.0 and Eppendorf BioPhotometer® D30**, 230 V/50 – 60 Hz | 6133 000 907 |
| **Eppendorf BioPhotometer® D30 Reference Filter Set**, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®) | 6133 928 004 |
| **Thermal Printer DPU-S445** | 6135 011 000 |

Ordering information for other voltage options begins on page 450

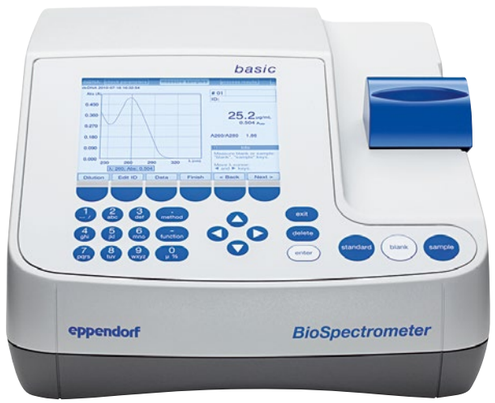
i For more information go to www.eppendorf.com/photometry





# Eppendorf BioSpectrometer® basic

**Description**
Building on the legacy of the Eppendorf BioPhotometer D30, the Eppendorf BioSpectrometer basic shares its simplicity, flexibility and reliability. In addition to the Biophotometer D30, the Biospectrometer basic has freely selectable wavelengths from 200 – 830 nm (selectable in 1 nm increments). This allows the user to define the parameters of each assay, whether it be a scan, a single-wavelength measurement or a multi-wavelength measurement. The Eppendorf BioSpectrometer basic caters to more disciplines as the wavelengths are not pre-defined and allows for non-routine assays or new assays to be easily programmed (in addition to the pre-programmed routine methods). The Eppendorf BioSpectrometer basic is a robust yet flexible "workhorse".




**Product features**
> Absorbance measurement for one or more wavelengths, recording of wavelength scans from 200 nm to 830 nm (increment: 1 nm)
> Automatic evaluation and storage of measurement data with clear presentation of results
> Spectral graph to display sample purity with automatic ratio calculation
> Freely programmable applications with evaluation via factor, standard or standard series and freely programmable parameters
> Two-wavelength method with substraction or division evaluation
> Integrated application and results memory
> Guided software process to minimize errors
> Integrated self-test and calibration history
> Data transfer via USB interface, Ethernet or via e-mail and direct printout of results
> Data output as *.PNG screenshots, Microsoft® Excel®, or secure PDF files to a standard USB flash drive or via email

**Applications**
> Nucleic acid quantification
> Direct protein quantification (UV 280 nm)
> Microvolume measurement via µCuvette G1.0 for highly concentrated samples
> Bacteria growth measurement (OD 600)
> Colorimetric assays for protein quantification, e.g., BCA, Bradford, Lowry
> Evaluation of FOI for dye-labeled biomolecules (nucleic acid or proteins)
> Free selectable wavelengths, e.g., 340 nm: assays using NADPH or NAPH, 405 nm: assays using para-nitrophenol, 420 nm: assays using ortho-nitrophenol, 490 nm: colorimetric fructose determination, 490 nm: cytoxicity endpoint assay
> Transmission measurement

**Ordering information**

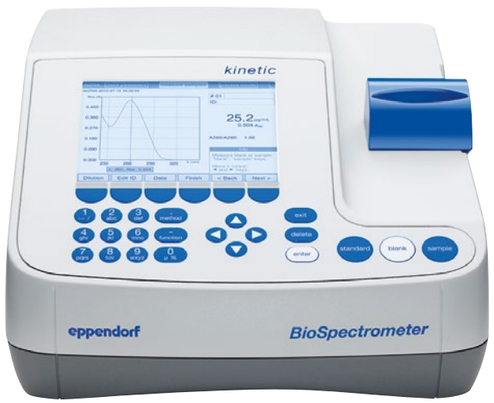
| Description | Order no. |
|---|---|
| **Eppendorf BioSpectrometer® basic**, 230 V/50 – 60 Hz | 6135 000 009 |
| **Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® basic**, 230 V/50 – 60 Hz | 6135 000 904 |
| **Eppendorf BioSpectrometer® Reference Filter Set**, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®) | 6135 928 001 |
| **Thermal Printer DPU-S445** | 6135 011 000 |

Ordering information for other voltage options begins on page 450

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# Eppendorf BioSpectrometer® kinetic

**Description**
The Eppendorf BioSpectrometer kinetic is an expansion of the Eppendorf BioSpectrometer basic and offers preprogrammed and freely programmable timed and temperature controlled assays. It features an integrated heated cuvette shaft. Its integrated peltier element guarantees high-precision for determining enzyme and substrate kinetics as well as other temperature-sensitive applications. Guided software is included; minimal effort is required to set up new assays. Retrospective modification of the time window for regression analysis can be made directly on the device. The BioSpectrometer kinetic replaces the traditional large cumbersome setup required for temperature controlled timed assays.




**Product features**
> All Eppendorf BioSpectrometer basic options
> Integrated temperature-controlled cuvette shaft (adjustment range +20 °C to +42 °C in 0.1 °C increments)
> Integrated interval timer (minimum interval 5 s, maximum measuring time range 59 min 59 s)
> Preprogrammed and freely programmable kinetic methods
> Retrospective modification of the time window for regression analysis
> Data transfer via USB interface, Ethernet or via e-mail and direct printout of results
> Data output as *.PNG screenshots, Microsoft® Excel®, or secure PDF files to a standard USB flash drive or via email

**Applications**
> All Eppendorf BioSpectrometer basic applications
> Additional kinetic applications, and enzyme activity testings at different temperatures e.g.:
  > Hexokinase activity measurements (340 nm, 37 °C)
  > Determination of ATP concentration (340 nm, 37 °C)
  > Beta-galactosidase assays (420 nm, 30 °C)

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf BioSpectrometer® kinetic**, 230 V/50 – 60 Hz | 6136 000 002 |
| **Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® kinetic**, 230 V/50 – 60 Hz | 6136 000 800 |
| **Eppendorf BioSpectrometer® Reference Filter Set**, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®) | 6135 928 001 |
| **Thermal Printer DPU-S445** | 6135 011 000 |

Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com/photometry

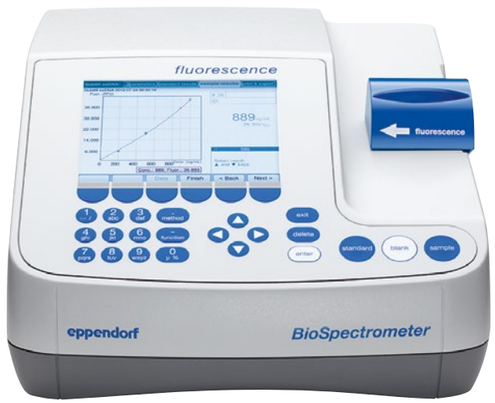






# Eppendorf BioSpectrometer® fluorescence

**Description**
The Eppendorf BioSpectrometer fluorescence is an expansion of the Eppendorf BioSpectrometer basic and features an integrated fluorescence module. UV/Vis assays, fluorescence assays and semi-micro/micro-volume measurements can all be carried out on a single instrument without the need for external control (PC/Laptop). Eppendorf BioSpectrometer fluorescence can be used to increase the measuring range for biomolecules (nucleic acids and proteins) by a factor of 1,000, compared to UV measurements. Pre-programmed (modified) methods for Qubit DNA quantification kits (SS, HS, BR) expand the flexibility and functionality of the instrument. Additionally, the use of the Eppendorf µCuvette G1.0 for fluorescence assays (5 µL loading volume) allows for a vast reduction in reagent usage.




**Product features**
> All Eppendorf BioSpectrometer basic options
> Preprogrammed and freely programmable fluorescence methods
> Preprogrammed (modified) methods for Qubit DNA quantification kits (SS, HS, BR)
> Fluorescence measurement concentration of dsDNA down to 1 pg/µL, using Pico Green®
> Fluorescence measurement concentration of BSA down to 0.01 ng/µL
> Fluorescence excitation wavelength 470 nm, emission wavelengths 520 nm and 560 nm
> Fluorescence intensity across a range of 0.5 nM to 2,000 nM fluorescein
> Single consumable (UVette) for UV/Vis and fluorescence assays
> Data transfer via USB interface, Ethernet or via e-mail and direct printout of results
> Data output as *.PNG screenshots, Microsoft® Excel®, or secure PDF files to a standard USB flash drive or via email

**Applications**
> Ideal for NGS applications (micro-volume UV/Vis and fluorescence assays in a single instrument)
> dsDNA quantification down to 1 pg/µL with common kits, e.g., Pico Green®
> ssDNA quantification down to 10 pg/µL
> RNA quantification down to 20 pg/µL
> Oligo quantification down to 10 pg/µL
> Protein (BSA) quantification down to 0.01 ng/µL
> Quantification of GFP-binding proteins
> Growth measurement of GFP-producing bacteria

www.eppendorf.com/biospectrometer-fluorescence-video

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf BioSpectrometer® fluorescence**, 230 V/50 – 60 Hz | 6137 000 006 |
| **Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® fluorescence**, 230 V/50 – 60 Hz | 6137 000 901 |
| **Eppendorf BioSpectrometer® fluorescence Reference Filter Set**, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®) and verifying fluorimetric precision (random error) and linearity | 6137 928 009 |
| **Thermal Printer DPU-S445** | 6135 011 000 |

Ordering information for other voltage options begins on page 450

PHOTOMETERS AND SPECTROMETERS

# Technical Specification

| Technical specifications | | |
|---|---|---|
| **Model** | **Eppendorf BioSpectrometer® fluorescence** | **Eppendorf BioSpectrometer® kinetic** |
| **Wavelength range absorption** | Scan (nm): 200 – 830 at 1 nm increments | Scan (nm): 200 – 830 at 1 nm increments |
| **Absorption measuring range** | 0 A – 3.0 A (260 nm) | 0 A – 3.0 A (260 nm) |
| **Random error absorption** | ≤0.002 at A = 0<br>≤0.005 (0.5 %) at A = 1 | ≤0.002 at A = 0<br>≤0.005 (0.5 %) at A = 1 |
| **Systematic error absorption** | – | ±1 % (A = 1) |
| **Systematic error wavelength** | ±1 nm | ±1 nm |
| **Random error wavelength** | ≤0.5 nm | ≤0.5 nm |
| **dsDNA concentration range (UV 260 nm) µCuvette® G1.0** | 25 ng/µL – 1,500 ng/µL | 25 ng/µL – 1,500 ng/µL |
| **dsDNA concentration range (UV 260 nm) UVette® 2 mm** | 12.5 ng/µL – 750 ng/µL | 12.5 ng/µL – 750 ng/µL |
| **dsDNA concentration range (UV 260 nm) UVette® 10 mm** | 2.5 ng/µL – 150 ng/µL | 2.5 ng/µL – 150 ng/µL |
| **BSA concentration range (UV 280 nm) µCuvette® G1.0** | 758 ng/µL – 45,450 ng/µL | 758 ng/µL – 45,450 ng/µL |
| **BSA concentration range (UV 280 nm) UVette® 2 mm** | 379 ng/µL – 22,725 ng/µL | 379 ng/µL – 22,725 ng/µL |
| **BSA concentration range (UV 280 nm) UVette® 10 mm** | 76 ng/µL – 4,545 ng/µL | 76 ng/µL – 4,545 ng/µL |
| **Adjustable temperature range** | – | 20 – 42 °C (smallest step size 0.1 °C) |
| **Systematic temperature error** | – | ±0.2 °C at 25 – 37 °C |
| **Random temperature error** | – | ±0.15 °C at 25 – 37 °C |
| **Measuring time range** | – | 00:05 – 59:59 min:sec |
| **Interval between two measuring points** | – | 00:05 – 10:00 min:sec |
| **Light source absorption** | Xenon flash lamp | Xenon flash lamp |
| **Light source fluorescence** | LED | – |
| **Measuring principle fluorescence** | Confocal filter fluorometer with reference beam | – |
| **Excitation wavelength fluorescence** | 470 nm, bandwidth: 25 nm | – |
| **Emission wavelength I fluorescence** | 520 nm, bandwidth: 15 nm | – |
| **Emission wavelength II fluorescence** | 560 nm, bandwidth: 40 nm | – |
| **Fluorescence measuring range** | 0.5 nM – 2,000 nM fluorescein (emission wavelength 520 nm) | – |
| **Random error fluorescence** | ±2 % at 1 nM fluorescein | – |

| Technical specifications | | |
|---|---|---|
| **Model** | **BioSpectrometer® basic** | **Eppendorf BioPhotometer® D30** |
| **Wavelength range absorption** | Scan (nm): 200 – 830 at 1 nm increments | Fixed wavelength (nm): 230, 260, 280, 320, 340, 405, 490, 562, 595, 600 |
| **Absorption measuring range** | 0 A – 3.0 A (260 nm) | 0 A – 3.0 A (260 nm) |
| **Random error absorption** | ≤0.002 at A = 0<br>≤0.005 (0.5 %) at A = 1 | ≤0.002 at A = 0<br>≤0.005 (0.5 %) at A = 1 |
| **Systematic error absorption** | ±1 % (A = 1) | ±1 % (A = 1) |
| **Systematic error wavelength** | ±1 nm | ±1 nm |
| **Random error wavelength** | ≤0.5 nm | ≤0.5 nm |
| **dsDNA concentration range (UV 260 nm) µCuvette® G1.0** | 25 ng/µL – 1,500 ng/µL | 25 ng/µL – 1,500 ng/µL |
| **dsDNA concentration range (UV 260 nm) UVette® 2 mm** | 12.5 ng/µL – 750 ng/µL | 12.5 ng/µL – 750 ng/µL |
| **dsDNA concentration range (UV 260 nm) UVette® 10 mm** | 2.5 ng/µL – 150 ng/µL | 2.5 ng/µL – 150 ng/µL |
| **BSA concentration range (UV 280 nm) µCuvette® G1.0** | 758 ng/µL – 45,450 ng/µL | 758 ng/µL – 45,450 µg/µL |
| **BSA concentration range (UV 280 nm) UVette® 2 mm** | 379 ng/µL – 22,725 ng/µL | 379 ng/µL – 22,725 ng/µL |
| **BSA concentration range (UV 280 nm) UVette® 10 mm** | 76 ng/µL – 4,545 ng/µL | 76 ng/µL – 4,545 ng/µL |
| **Adjustable temperature range** | – | – |
| **Systematic temperature error** | – | – |
| **Random temperature error** | – | – |
| **Measuring time range** | – | – |
| **Interval between two measuring points** | – | – |
| **Light source absorption** | Xenon flash lamp | Xenon flash lamp |
| **Light source fluorescence** | – | – |
| **Measuring principle fluorescence** | – | – |
| **Excitation wavelength fluorescence** | – | – |
| **Emission wavelength I fluorescence** | – | – |
| **Emission wavelength II fluorescence** | – | – |
| **Fluorescence measuring range** | – | – |
| **Random error fluorescence** | – | – |

Technical specifications subject to change.

Your local distributor: www.eppendorf.com/contact
Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg · Germany · eppendorf@eppendorf.com · www.eppendorf.com · www.eppendorf.com/eshop

# Sample Handling













| Model | Eppendorf µCuvette® G1.0 | Eppendorf UVette® | Macro Vis Cuvette | Semi-micro Vis Cuvette |
|---|---|---|---|---|
| **Page(s)** | **241** | **242** | **243** | **243** |
| **dsDNA concentration range (UV 260 nm)** | 25 ng/µL – 1,500 ng/µL | 2.5 ng/µL – 750 ng/µL | 1 pg/µL to 1,000 pg/µL (Pico Green Assay) | 1 pg/µL to 1,000 pg/µL (Pico Green Assay) |
| **BSA concentration range (UV 280 nm)** | 758 ng/µL – 45,450 ng/µL | 76 ng/µL – 22,725 ng/µL | 0.01 ng/µL – 0.01 µg/µL (NanoOrange Assay) | 0.01 ng/µL – 0.01 µg/µL (NanoOrange Assay) |
| **Colorimetric protein assays** | yes | yes | yes | yes |
| **OD 600 methods** | no | yes | yes | yes |
| **Fluorescence measurements** | yes | yes | yes | yes |
| **UV transparency** | >180 nm | >220 nm | – | – |
| **Light transmission** | 180 nm – 2,000 nm | 220 nm – 1,600 nm | 300 nm – 900 nm | 300 nm – 900 nm |
| **Material** | quartz glass (with hydrophobic coating) | UV-transparent plastic | PMMA | PMMA |
| **Dimensions (W × D × H)** | 12.5 × 12.5 × 48 mm | 12.5 × 12.5 × 36 mm | 12.5 × 12.5 × 45 mm | 12.5 × 12.5 × 45 mm |
| **Temperature control** | no | no | yes | no |
| **Minimum filling volume** | | | | |
| **in Eppendorf photometers** | 1.5 µL | 50 µL | 1,000 µL | 400 µL |
| **in devices of other manufacturers** | – | 50 µL | 2,500 µL | 1,500 µL |
| **Maximum filling volume** | 10 µL | 2,000 µL | 4,500 µL | 3,000 µL |
| **Sample light path length** | 1 mm | 2 mm and 10 mm | 10 mm | 10 mm |
| **Cuvette blank** | ≤0.05 A at 260 nm | ≤0.5 A at 260 nm | – | – |
| **Height of light source** | 8.5 mm | 8.5[1)] mm | all common cell heights | all common cell heights |
| **Use in Eppendorf BioPhotometer®** | yes | yes | yes | yes |
| **Use in Eppendorf BioSpectrometer®** | yes | yes | yes | yes |
| **Use in devices of other manufacturers** | no | yes (adapters available) | yes | yes |

[1)] (adapters available for height adjustment)

i For more information go to www.eppendorf.com

eppendorf.com/eshop

Technical specifications subject to change.



# Eppendorf µCuvette® G1.0

**Description**
The Eppendorf µCuvette G1.0 microvolume measuring cell is a high-quality cuvette made of aluminum and quartz glass. It is the perfect tool for measuring high concentrations in small volumes. With a fixed optical path length of only 1 mm, the µCuvette G1.0 features a light path that is ten times shorter than in standard cuvettes. This allows nucleic acid and protein concentrations to be measured with high reproducibility in a much higher concentration range without prior dilution.
Due to the hydrophobic coating on the quartz glass only 1.5 µL nucleic acid or 3 µL protein sample are required for precise formation of the liquid column. Self-absorption of the µCuvette G1.0 is very low, meaning that the entire measuring range of the photometer can be used. Furthermore, 5 µL of sample solution can be used for specific fluorometric assays saving reagent.







**Product features**
> Microvolume measuring cell for measuring 1.5 – 10 µL sample volumes
> Concentration determination of nucleic acids and proteins, amongst other target analytes
> Measurement of highly concentrated samples without prior dilution
> Suitable for fluorescence assays
> Low self-absorption (≤0.05 A at 260 nm)
> Hydrophobic surface coating on quartz glass for precise formation and positioning of the sample volume
> Simple cleaning to minimize the risk of sample carry-over
> A defined angle for folding the sides of the cuvette guarantees reproducible handling
> One-component hinged design prevents the loss of individual parts
> Exclusively available for use with Eppendorf BioPhotometer and Eppendorf BioSpectrometer

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf µCuvette® G1.0**, Microvolume measuring cell for Eppendorf BioPhotometer® and BioSpectrometer® | 6138 000 018 |

Ordering information for other voltage options begins on page 450

# Eppendorf UVette®

**Description**
The Eppendorf UVette allows for measurements in the UV/Vis range with transparency from 220 nm to 1,600 nm with just a typical minimum volume of 50 µL. The UVette allows the user to choose between two optical path lengths (10 mm and 2 mm). The path length can be reduced by a factor of x5 without diluting or wasting any sample – simply by turning the UVette 90°. The UVette is suitable for fluorescence assays due to its low auto-fluorescence. The PCR-clean and protein-free individually sealed variant is ideal for accurate nucleic acid and protein quantification. The UVette is ideally matched for use with the Eppendorf BioPhotometer and Eppendorf BioSpectrometer families. The UVette can be used in other spectrophotometers with the aid of an adapter.




**Product features**
> Suitable for measuring small volumes (≥50 µL)
> UV and Vis measurements from 220 nm to 1,600 nm
> UV transparent plastic, free of fluoropolymers and other halogenated hydrocarbons
> Two built-in optical path lengths in a single cuvette - just turn the UVette 90° to change from 10 mm and 2 mm
> Volume markings for 500 µL and 1,000 µL
> Individually packaged and certified PCR clean and protein-free quality for sensitive (e.g. RNA) and valuable samples
> Deep-lying optical window prevents scratches
> Tapered cuvette base for optimal filling, frosted grip for labeling
> Ideal for use in the Eppendorf BioPhotometer and Eppendorf BioSpectrometer, adapters available for use with other common spectrophotometers
> Routine pack for convenient access to each UVette and safe storage in a reclosable box

**Ordering information**

| Description | Order no. |
|---|---|
| **UVette® 220 nm – 1,600 nm**, original Eppendorf plastic cuvette, individually packed, (including RNase-free, DNase-free) and protein-free, PCR clean, 50 – 2,000 µL, 80 pcs. | 0030 106 300 |
| **UVette® starter set**, 80 UVettes and 1 universal adapter for light path height of 15 mm and 8.5 mm, 50 – 2,000 µL | 4099 100 007 |
| **UVette® routine pack 220 nm – 1,600 nm**, reclosable box, Eppendorf Quality™, 200 pcs. | 0030 106 318 |
| **Adapter for UVette®**, for photometer/spectrophotometer with light path height | |
| 8.5 mm | 4099 001 009 |
| 10 mm | 4099 002 005 |
| 15 mm | 4099 003 001 |
| 20 mm | 4099 005 004 |
| **Eppendorf Cuvette Rack**, 30 positions, for glass and plastic cuvettes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 851 |

i For more information go to www.eppendorf.com/photometry







# Eppendorf Vis Cuvettes



**Description**
The Eppendorf Vis Cuvettes are disposable cuvettes made of clear plastic with a light transmission of 300 nm to 900 nm for spectrophotometers or photometers. The Vis cuvettes are the perfect tool for applications outside of the UV range, for example, colorimetric protein assays (Bradford, Lowry, etc.), determining of the optical density of bacterial cultures (OD 600 methods), kinetic, and fluorescence measurements. Based on the volume you would like to measure, you can select semi-micro or macro cuvette.

**Product features**
> Two different cuvette sizes (semi-micro and macro) for a wide variety of volumes and applications
> Disposable cuvettes made of clear plastic with a light transmission of 300 nm to 900 nm

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf macro Vis Cuvette**, plastic cuvette for measurements in the Vis range, max. filling volume 4,500 µL | |
| 1,000 cuvettes (10 boxes × 100 cuvettes) | 0030 079 345 |
| **Eppendorf semi-micro Vis Cuvette**, plastic cuvette for measurements in the Vis range, max. filling volume 3,000 µL | |
| 1,000 cuvettes (10 boxes × 100 cuvettes) | 0030 079 353 |
| **Eppendorf Cuvette Rack**, 30 positions, for glass and plastic cuvettes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 851 |

# Thermal Printer DPU-S445



**Description**
The Thermal Printer DPU-S445 is a thermal line dot printer with high printing speed while producing a clear type face. This allows the Thermal Printer DPU-S445 to print out scanned images. As an alternative to using USB sticks, the automatic print-out function of the DPU-S445 printer can be used to quickly obtain the results.

**Product features**
> Automatic print-out of results
> Easy and direct connection via USB
> Compact and light-weight (approx. 0.5 kg)
> Easy paper operation
> Max. printing speed: 90 mm/sec.
> Number of dots/line: 832
> Resolution (dots/mm): 8

**Ordering information**

| Description | Order no. |
|---|---|
| **Thermal Printer DPU-S445** | 6135 011 000 |
| **Thermal paper**, 5 rolls | 0013 021 566 |

Ordering information for other voltage options begins on page 450

# Eppendorf BioPhotometer® D30 Reference Filter Set




**Secondary UV/Vis Eppendorf BioSpectrometer D30 Reference Filter Set:** This filter set is used for verifying the photometric accuracy and wavelength systematic error on the Eppendorf BioPhotometer D30.

**Product features**
- > Filter traceable to NIST®
- > Filter recertification via Eppendorf (contact: Eppendorf Service)
- > Inspection protocol preprogrammed in device
- > Verification of wavelength accuracy and precision at 260 nm and 280 nm
- > Verification of the photometric accuracy and precision for selected wavelengths
- > Contains 6 filters (1 blank filter, 2 filters for checking UV/Vis wavelength systematic error and precision, 3 filters for photometric verification)

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf BioPhotometer® D30 Reference Filter Set**, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®) | 6133 928 004 |





# Eppendorf BioSpectrometer® Reference Filter Sets




**Secondary Eppendorf BioSpectrometer Fluorescence Reference Filter Set:**
This filter set is used to verify photometric accuracy, wavelength systematic error, and fluorimetric precision (random error) and linearity on the Eppendorf BioSpectrometer fluorescence.

**Product features**
- > All features of the Eppendorf BioSpectrometer UV/Vis Reference Filter Set
- > Additional filter for verifying fluorimetric precision (random error) and linearity
- > Inspection protocol preprogrammed in device
- > 8 filters (1 blank filter, 3 filters for checking UV/Vis wavelength systematic error and precision, 3 filters for UV/Vis photometric verification, 1 filter for fluorometric verification)

**Secondary UV/Vis Eppendorf BioSpectrometer Reference Filter Set:**
This filter set is used to verify photometric accuracy and wavelength systematic errors. The reference filter can be used with the Eppendorf BioSpectrometer basic and the Eppendorf BioSpectrometer kinetic.

**Product features**
- > Filter traceable to NIST®
- > Filter recertification via Eppendorf (contact: Eppendorf Service)
- > Inspection protocol preprogrammed in device
- > Verification of wavelength accuracy and precision at 260 nm, 280 nm and 800 nm
- > Verification of the photometric accuracy and precision in the 260 nm to 800 nm range
- > The variation coefficient is listed along with the average value of 15 measurements
- > Contains 7 filters (1 blank filter, 3 filters for checking UV/Vis wavelength systematic error and precision, 3 filters for photometric verification)

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf BioSpectrometer® Reference Filter Set**, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®) | 6135 928 001 |
| **Eppendorf BioSpectrometer® fluorescence Reference Filter Set**, filter set for verifying photometric accuracy and wavelength systematic error (according to NIST®) and verifying fluorimetric precision (random error) and linearity | 6137 928 009 |

# Sample Handling

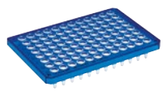
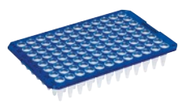
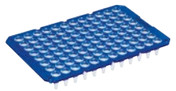







| Model | MC X50s | MC X50a | MC X50p | MC X50h |
|---|---|---|---|---|
| **Page(s)** | **248** | **248** | **248** | **248** |
| **Dimensions (W × D × H)** | 27.5 × 43 × 33 cm | 27.5 × 43 × 33 cm | 27.5 × 43 × 33 cm | 27.5 × 43 × 33 cm |
| **2D-Gradient block** | over 12 columns/over 8 rows | over 12 columns/over 8 rows | over 12 columns/over 8 rows | over 24 columns/over 16 rows |
| **Gradient block** | – | – | – | – |
| **Heating rate** | 10 °C/s | 5 °C/s | 5 °C/s | 5 °C/s |
| **Cooling rate** | 5 °C/s | 2.3 °C/s | 2.3 °C/s | 2.3 °C/s |
| **Interfaces** | Ethernet, USB | Ethernet, USB | Ethernet, USB | Ethernet, USB |
| **Lid descent** | flexlid® technology with TSP | flexlid® technology with TSP | flexlid® technology with TSP | flexlid® technology with TSP |
| **Lid temperature range** | 37 – 110 °C | 37 – 110 °C | 37 – 110 °C | 37 – 110 °C |
| **Sample capacity** | 96-well plate or 0.1/0.2 mL tubes | 96-well plate or 0.1/0.2 mL tubes | 1 PCR plate (96 wells) | 1 PCR plate 384 |
| **Gradient temperature range** | 30 – 99 °C | 30 – 99 °C | 30 – 99 °C | 30 – 99 °C |
| **Temperature control range of the block** | 4 – 99 °C | 4 – 99 °C | 4 – 99 °C | 4 – 99 °C |
| **Thermoblock** | Silver | Aluminum | Aluminum | Aluminum |
| **Remote Device Monitoring and Notifications (VisioNize®)** | VisioNize-onboard | VisioNize-onboard | VisioNize-onboard | VisioNize-onboard |

[1] measured at the block

| Model | Eppendorf twin.tec® PCR Plate 96 skirted | Eppendorf twin.tec® PCR Plate 96 semi-skirted | Eppendorf twin.tec® PCR Plate 96 unskirted | Eppendorf twin.tec® PCR Plate 96 unskirted, divisible |
|---|---|---|---|---|
| **Page(s)** | **258** | **258** | **258** | **259** |
| **Number of wells** | 96 wells | 96 wells | 96 wells | 96 wells |
| **Total volume per well** | 150 µL | 250 µL | 150 or 250 µL | 150 or 250 µL |
| **OptiTrack® frame color** | colorless<br>yellow<br>green<br>blue<br>red | colorless<br>blue | colorless<br>yellow<br>green<br>blue<br>red | colorless<br>blue |

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Technical specifications subject to change.





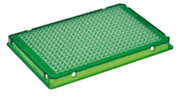








| Model | MC nexus GSX1 | MC nexus SX1 | MC nexus gradient | MC nexus | MC nexus GX2 |
|---|---|---|---|---|---|
| **Page(s)** | **252** | **252** | **252** | **252** | **253** |
| **Dimensions (W × D × H)** | 25 × 41.2 × 32.1 cm | 25 × 41.2 × 32.1 cm | 25 × 41.2 × 32.1 cm | 25 × 41.2 × 32.1 cm | 25 × 41.2 × 33 cm |
| **2D-Gradient block** | – | – | – | – | – |
| **Gradient block** | Over 12 rows (0.2 mL) | – | Over 12 rows (0.2 mL) | – | Over 8 rows (0.2 mL) |
| **Heating rate** | 5 °C/s [1] | 5 °C/s [1] | 3 °C/s [1] | 3 °C/s [1] | 3 °C/s [1] |
| **Cooling rate** | 3.5 °C/s [1] | 3.5 °C/s [1] | 2 °C/s [1] | 2 °C/s [1] | 2 °C/s [1] |
| **Interfaces** | CAN_in/CAN_out, Ethernet, USB | CAN_in/CAN_out, Ethernet, USB | CAN_in/CAN_out, Ethernet, USB | CAN_in/CAN_out, Ethernet, USB | CAN_in/CAN_out, Ethernet, USB |
| **Lid descent** | flexlid® technology, with TSP | flexlid® technology, with TSP | flexlid® technology, with TSP | flexlid® technology, with TSP | flexlid® technology, with TSP |
| **Lid temperature range** | 37 – 110 °C | 37 – 110 °C | 37 – 110 °C | 37 – 110 °C | 37 – 110 °C |
| **Sample capacity** | 96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells) | 96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells) | 96 × 0.2 mL PCR tubes, 1 PCR plate (96 wells) or 71 × 0.5 mL PCR tube positions | 96 × 0.2 mL PCR tubes, 1 PCR plate (96 wells) or 71 × 0.5 mL PCR tube positions | 64/32 × 0.2 mL PCR tubes or 24/10 × 0.5 mL PCR tube positions |
| **Gradient temperature range** | 30 – 99 °C | – | 30 – 99 °C | – | 30 – 99 °C |
| **Temperature control range of the block** | 4 – 99 °C | 4 – 99 °C | 4 – 99 °C | 4 – 99 °C | 4 – 99 °C |
| **Thermoblock** | Silver | Silver | Aluminum | Aluminum | Aluminum |
| **Remote Device Monitoring and Notifications (VisioNize®)** | VisioNize-qualified | VisioNize-qualified | VisioNize-qualified | VisioNize-qualified | VisioNize-qualified |







| Model | Eppendorf twin.tec® PCR Plate 384 | Eppendorf twin.tec® PCR Plate 96 LoBind | Eppendorf twin.tec® PCR Plates 384 LoBind | Eppendorf twin.tec® *microbiology* PCR Plate 96 | Eppendorf twin.tec® 96 *real-time* PCR Plates |
|---|---|---|---|---|---|
| **Page(s)** | **259** | **259** | **259** | **260** | **261** |
| **Number of wells** | 384 wells | 96 wells | 384 wells | 96 wells | 96 wells |
| **Total volume per well** | 40 µL | 150 or 250 µL | 40 µL | 150 or 250 µL | 150 or 250 µL |
| **OptiTrack® frame color** | colorless<br>yellow<br>green<br>blue<br>red | colorless<br>yellow<br>green<br>blue<br>red | colorless | colorless<br>blue | white<br>blue |

epServices for premium performance

On page 390 you will find detailed information on services for these products!

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# Mastercycler® X50

**Description**
The Mastercycler X50 family boasts ramp rates of up to 10 °C/s and is the ideal cycler family for routine applications as well as advanced research in molecular biology.

The Mastercycler X50 family consist of units with a user-friendly VisioNize® touchscreen interface or eco units which are externally controlled. Each cycler with a touchscreen can be networked with nine additional eco units. If that is not enough throughput, you can network up fifty Mastercycler eco units to a computer or laptop running CycleManager X50 as a central controller. Whichever you choose, you can independently control and monitor every unit. You can also manage who has access to the system and designate a level of access with our intuitive user interface. Low noise levels, low power consumption, and the versatile flexlid® concept complete the product to be a powerful and convenient PCR cycler.




**Product features**
> Heating rate: 5 °C/s
> Wide selection of blocks from a fast silver block to 384 well block
> VisioNize touchscreen interface
> Innovative 2D-Gradient for advanced PCR optimization
> X50 with Touchscreen can control up to 9 other units (connected cyclers do not have a touch screen interface)
> flexlid® concept: automatic height adjustment of the lid allows you to use all types of consumables
> Small footprint
> 2 Year warranty

**Applications**
> Fast PCR
> PCR optimization
> Standard PCR
> Incubation
> Cycle sequencing

**Ordering information**

| Description | Order no. |
|---|---|
| **Mastercycler® X50s**, 110 – 230 V/50 – 60 Hz (EU/JP/TW/US), silver block, 96-well or 0.1/0.2 mL tubes, with touchscreen interface | 6311 000 010 |
| **Mastercycler® X50a**, 110 – 230 V/50 – 60 Hz (EU/JP/TW/US), aluminium block, 96-well or 0.1/0.2 mL tubes, with touchscreen interface | 6313 000 018 |
| **Mastercycler® X50p**, 110 – 230 V/50 – 60 Hz (EU/JP/TW/US), aluminium block, 96-well, high pressure lid, with touchscreen interface | 6315 000 015 |
| **Mastercycler® X50h**, 110 – 230 V/50 – 60 Hz (EU/JP/TW/US), aluminium block, 384-well, high pressure lid, with touchscreen interface | 6316 000 019 |
| **Mastercycler® X50i**, 110 – 230 V/50 – 60 Hz (EU/JP/TW/US), silver block, 96-well or 0.1/0.2 mL tubes, eco unit | 6301 000 012 |
| **Mastercycler® X50l**, 110 – 230 V/50 – 60 Hz (EU/JP/TW/US), aluminium block, 96-well or 0.1/0.2 mL tubes, eco unit | 6303 000 010 |
| **Mastercycler® X50r**, 110 – 230 V/50 – 60 Hz (EU/JP/TW/US), aluminium block, 96-well, high pressure lid, eco unit | 6305 000 017 |
| **Mastercycler® X50t**, 110 – 230 V/50 – 60 Hz (EU/JP/TW/US), aluminium block, 384-well, high pressure lid, eco unit | 6306 000 010 |

Ordering information for other voltage options begins on page 450





# CycleManager X50 Software




**CycleManager Software - Simple, Central, Smart**

CycleManager X50 allows control of up to fifty networked Mastercycler X50 eco units. Control can be individual, simultaneous, or grouped - Perfect for high-throughput standardised protocols where reproducibility is paramount. Password protected user access is optional and users can be assigned different access rights, allowing greater documentation capabilities than ever before. It can also e-mail you when your PCR is complete!

> Individual, simultaneous or grouped control of up to fifty cyclers
> Verification / service reminders to ensure unverified cyclers are not used
> Profound documentation capabilities

Note: CycleManager X50 can only be used with Mastercycler X50 eco unit variants without Touchscreen Interface.

**Ordering information**

| Description | Order no. |
|---|---|
| **CycleManager X50 Software** | 6349 000 014 |

# Technical Specification Mastercycler® X50

| Technical specifications | | | | |
|---|---|---|---|---|
| **Model** | **MC X50s/X50i** | **MC X50a/X50l** | **MC X50p/X50r** | **MC X50h/X50t** |
| **Touchscreen Interface** | ■/– | ■/– | ■/– | ■/– |
| **Unit can control 9 other units in network** | ■/– | ■/– | ■/– | ■/– |
| **Unit can only be controlled** | –/■ | –/■ | –/■ | –/■ |
| **Thermoblock** | Silver | Aluminum | Aluminum | Aluminum |
| **Sample capacity** | 96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells) | 96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells) | 1 PCR plate (96 wells) | 1 PCR plate (384 wells) |
| **96-well plate** | ■ | ■ | ■ | – |
| **384-well plate** | – | – | – | ■ |
| **0.1/0.2 mL tubes** | ■ | ■ | – | – |
| **Heating technology** | Six peltier elements | Six peltier elements | Six peltier elements | Six peltier elements |
| **2D-Gradient block** | over 12 columns/over 8 rows | over 12 columns/over 8 rows | over 12 columns/over 8 rows | over 24 columns/over 16 rows |
| **Temperature control mode** | Fast, Intermediate, Standard, Safe | Fast, Intermediate, Standard, Safe | Fast, Intermediate, Standard, Safe | Fast, Intermediate, Standard, Safe |
| **Temperature control range of the block** | 4 – 99 °C | 4 – 99 °C | 4 – 99 °C | 4 – 99 °C |
| **Gradient range** | 1 – 30 °C | 1 – 30 °C | 1 – 30 °C | 1 – 30 °C |
| **Gradient temperature range** | 30 – 99 °C | 30 – 99 °C | 30 – 99 °C | 30 – 99 °C |
| **Block homogeneity 20–72 °C** | ≤ ±0.2 °C | ≤ ±0.2 °C | ≤ ±0.2 °C | ≤ ±0.2 °C |
| **Block homogeneity 95 °C** | ≤ ±0.3 °C | ≤ ±0.3 °C | ≤ ±0.3 °C | ≤±0.3 °C |
| **Control accuracy** | ±0.15 °C | ±0.15 °C | ±0.15 °C | ±0.15 °C |
| **Heating rate** | 10 °C/s | 5 °C/s | 5 °C/s | 5 °C/s/5 °C/s |
| **Cooling rate** | 5 °C/s | 2.3 °C/s | 2.3 °C/s | 2.3 °C/s |
| **Lid descent** | flexlid® technology with TSP | flexlid® technology with TSP | flexlid® technology with TSP | flexlid® technology with TSP |
| **High pressure lid** | – | – | ■ | ■ |
| **Lid temperature range** | 37 – 110 °C | 37 – 110 °C | 37 – 110 °C | 37 – 110 °C |
| **Interfaces** | Ethernet, USB | Ethernet, USB | Ethernet, USB | Ethernet, USB |
| **Power supply** | 110 – 230 V, 50 – 60 Hz | 110 – 230 V, 50 – 60 Hz | 110 – 230 V, 50 – 60 Hz | 110 – 230 V, 50 – 60 Hz |
| **Max. power consumption** | 850 W | 850 W | 850 W | 850 W |
| **Total weight** | 11.5 kg/10.7 kg | 11.5 kg/10.7 kg | 11.5 kg/10.7 kg | 11.5 kg/10.7 kg |
| **Dimensions (W × D × H)** | 27.5 × 43 × 33 cm | 27.5 × 43 × 33 cm | 27.5 × 43 × 33 cm | 27.5 × 43 × 33 cm |

VisioNize

This icon tags VisioNize-onboard devices which can be conveniently connected to VisioNize for device monitoring and notifications customizable to meet your needs.

Further information are available at page 11.

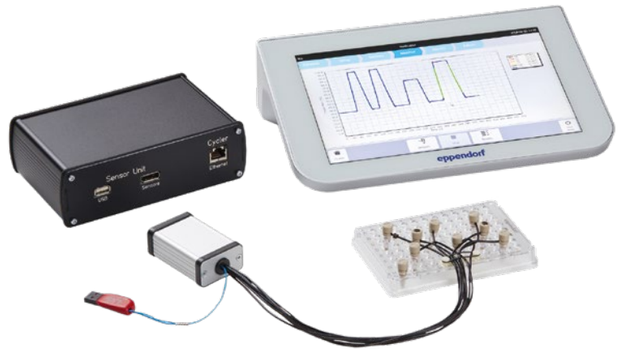
Technical specifications subject to change.



# Temperature Verification System T6 - Multi Channel

**Description**
To safeguard reproducibility of PCR results, continuous surveillance and documentation of the cycler performance is beneficious. Eppendorf offers a range of service plans to meet the requirements of different needs. We continue to support our customers beyond the point of purchase: We also offer customers the opportunity to buy our Temperature Verification System to monitor critical factors in success or failure of PCR reactions independently/in house.

The new Temperature Verification System can assess, verify and where necessary, adjust the Mastercycler X50 family as well as most other Mastercycler families regarding temperature accuracy. Minimum user input during verification ensures the integrity of the measurement, data and certificates it produces. Data and certificates can be exported via USB for archiving.







| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **Temperature Verification System T6**, without thermal sensors | 6328 006 500 |
| **Sensor unit for 96 well blocks, calibrated in an ISO 9001 certified laboratory** | 6328 007 000 |
| **Sensor unit for 96 well blocks, calibrated in an ISO 17025 accredited laboratory** | 6328 007 507 |
| **Sensor unit for 384 well blocks, calibrated in an ISO 9001 certified laboratory** | 6328 008 007 |
| **Sensor unit for 384 well blocks, calibrated in an ISO 17025 accredited laboratory** | 6328 008 503 |
| **Sensor unit flat, calibrated in an ISO 9001 certified laboratory** | 6328 009 003 |
| **Sensor unit flat, calibrated in an ISO 17025 accredited laboratory** | 6328 009 500 |

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# Mastercycler® nexus

**Description**
The Mastercycler Nexus PCR cycler provides scientists with flexibility in many forms. The 96 well aluminium block can accomodate several standard vessels types from 0.2 mL tubes to 96 well plates, there is no need to buy additional blocks. The silver block variants provide faster ramp rates than the aluminum blocks. Up to 2 eco cyclers can be connected to a programmable cycler and the configuration can also include the nexus X2 eco units, to provide a maximum of 6 independent blocks. The flexlid provides effortless height adjustment for different vessels. The Mastercycler Nexus cycler can even email you when the PCR run is complete – what else do you need from a PCR cycler?




**Product features**
> Intuitive graphic programming
> Small footprint
> Universal block for ultimate flexibility
> Connect up to 2 Mastercycler nexus eco to your existing unit
> Available with gradient
> E-mail notification
> flexlid® concept allows use of all types of consumables with automatic height adjustment of the lid

**Applications**
> Standard PCR
> Fast PCR
> Optimizing a PCR
> *In situ* PCR

**Ordering information**

| Description | Order no. |
|---|---|
| **Mastercycler® nexus GSX1**, 230 V/50 – 60 Hz | 6345 000 010 |
| **Mastercycler® nexus SX1**, 230 V/50 – 60 Hz | 6346 000 013 |
| **Mastercycler® nexus GSX1e**, 230 V/50 – 60 Hz | 6347 000 017 |
| **Mastercycler® nexus SX1e**, 230 V/50 – 60 Hz | 6348 000 010 |
| **Mastercycler® nexus gradient**, 230 V/50 – 60 Hz | 6331 000 017 |
| **Mastercycler® nexus**, 230 V/50 – 60 Hz | 6333 000 014 |
| **Mastercycler® nexus gradient eco**, 230 V/50 – 60 Hz | 6334 000 018 |
| **Mastercycler® nexus eco**, 230 V/50 – 60 Hz | 6332 000 010 |
| **Mastercycler® nexus flat**, 230 V/50 – 60 Hz | 6335 000 011 |
| **Mastercycler® nexus flat eco**, 230 V/50 – 60 Hz | 6330 000 013 |
| **CAN bus connecting cable**, 150 cm | 5341 611 000 |
| **CAN bus connecting cable**, 50 cm | 5341 612 006 |

Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com/Mastercycler





# Mastercycler® nexus X2

**Description**
The Mastercycler nexus X2 gives you the ability to run two totally independent protocols at the same time. Smaller assays fit nicely on the 32-well-block – larger assays can exceed 48 samples and run on the 64-well-block. The larger block is available with a gradient function. As every member of the Mastercycler nexus family, the Mastercycler nexus X2 can be combined with all other family members in a network of up to 3 units. In combination with Eppendorf's PCR Tubes, PCR Strips or divisible plates, the Mastercycler nexus X2 will give you consistent and publishable results – every day!




**Product features**
> Large block for large assays – small block for small assays
> Intuitive graphic programming
> Universal block for strips, 0.1 mL, 0.2 mL and 0.5 mL PCR tubes
> Small footprint
> Optional gradient for PCR optimization
> E-mail notification
> flexlid® concept allows use of all types of consumables with automatic height adjustment of the lid

**Applications**
> Standard PCR
> Optimizing a PCR

**Ordering information**

| Description | Order no. |
|---|---|
| **Mastercycler® nexus GX2**, 230 V/50 – 60 Hz | 6336 000 015 |
| **Mastercycler® nexus GX2e**, 230 V/50 – 60 Hz | 6338 000 012 |
| **Mastercycler® nexus X2**, 230 V/50 – 60 Hz | 6337 000 019 |
| **Mastercycler® nexus X2e**, 230 V/50 – 60 Hz | 6339 000 016 |

Ordering information for other voltage options begins on page 450

www.eppendorf.com/nexus-x2-brochure

i For more information go to www.eppendorf.com/pcr

Technical specifications subject to change.

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# Technical Specification Mastercycler® nexus

| Technical specifications | | | |
|---|---|---|---|
| **Model** | **MC nexus GSX1/GSX1e** | **MC nexus SX1/SX1e** | **MC nexus gradient/gradient eco** |
| **Unit can control 2 other units in network** | ■/– | ■/– | ■/– |
| **Unit can only be controlled**[1)] | –/■ | –/■ | –/■ |
| **Thermoblock** | Silver | Silver | Aluminum |
| **Sample capacity** | 96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells) | 96 × 0.2 mL PCR vessels, 1 PCR plate (96 wells) | 96 × 0.2 mL PCR tubes, 1 PCR plate (96 wells) or 71 × 0.5 mL PCR tube positions |
| **Heating technology** | Peltier elements, triple circuit technology | Peltier elements, triple circuit technology | Peltier elements, Triple Circuit Technology |
| **Gradient block** | Over 12 rows (0.2 mL) | – | Over 12 rows (0.2 mL) |
| **Gradient temperature range** | 30 – 99 °C | – | 30 – 99 °C |
| **Gradient range** | 1 – 20 °C | – | 1 – 20 °C |
| **Temperature control mode** | Fast, standard, safe | Fast, standard, safe | Fast, standard, safe |
| **Temperature control range of the block** | 4 – 99 °C | 4 – 99 °C | 4 – 99 °C |
| **Intuitive graphic programming** | ■/– | ■/– | ■/– |
| **Block homogeneity 20–72 °C** | ≤ ±0.3 °C | ≤ ±0.3 °C | ≤ ±0.3 °C |
| **Control accuracy** | ±0.2 °C | ±0.2 °C | ±0.2 °C |
| **E-mail Notification** | ■ | ■ | ■ |
| **2 years warranty** | ■ | ■ | ■ |
| **USB port** | ■/– | ■/– | ■/– |
| **Block homogeneity 90 °C** | ≤ ±0.4 °C | ≤ ±0.4 °C | ≤ ±0.4 °C |
| **Heating rate** | 5 °C/s [2)] | 5 °C/s [2)] | 3 °C/s [2)] |
| **Cooling rate** | 3.5 °C/s [2)] | 3.5 °C/s [2)] | 2 °C/s [2)] |
| **Lid descent** | flexlid® technology with TSP | flexlid® technology with TSP | flexlid® technology with TSP |
| **Lid temperature range** | 37 – 110 °C | 37 – 110 °C | 37 – 110 °C |
| **Interfaces** | CAN_in/CAN_out, Ethernet, USB | CAN_in/CAN_out, Ethernet, USB | CAN_in/CAN_out, Ethernet, USB |
| **Power supply** | 230 V, 50 – 60 Hz | 230 V, 50 – 60 Hz | 230 V, 50 – 60 Hz |
| **Max. power consumption** | 540 W | 540 W | 700 W |
| **Total weight** | 10.9 kg | 10.9 kg | 10.9 kg |
| **Dimensions (W × D × H)** | 25 × 41.2 × 32.1 cm | 25 × 41.2 × 32.1 cm | 25 × 41.2 × 32.1 cm |
| **Number of programs on device** | > 700 | > 700 | > 700 |

[1)] Control through a Mastercycler® nexus, Mastercycler® nexus gradient, Mastercycler® nexus GSX1, Mastercycler® nexus SX1, Mastercycler® nexus GX2, Mastercycler® nexus X2 or Mastercycler® nexus flat [2)] measured at the block



| Technical specifications | | |
|---|---|---|
| **Model** | **MC nexus/nexus eco** | **MC nexus flat/flat eco** |
| **Unit can control 2 other units in network** | ■/– | ■/– |
| **Unit can only be controlled**[1)] | –/■ | –/■ |
| **Thermoblock** | Aluminum | Aluminum |
| **Sample capacity** | 96 × 0.2 mL PCR tubes, 1 PCR plate (96 wells) or 71 × 0.5 mL PCR tube positions | 4 slides or other matching consumables |
| **Heating technology** | Peltier elements, triple circuit technology | Peltier elements, triple circuit technology |
| **Gradient block** | – | – |
| **Gradient temperature range** | – | – |
| **Gradient range** | – | – |
| **Temperature control mode** | Fast, standard, safe | Fast, standard, safe |
| **Temperature control range of the block** | 4 – 99 °C | 4 – 99 °C |
| **Intuitive graphic programming** | ■/– | ■/– |
| **Block homogeneity 20–72 °C** | ≤ ±0.3 °C | ≤ ±0.3 °C |
| **Control accuracy** | ±0.2 °C | ±0.2 °C |
| **E-mail Notification** | ■ | ■ |
| **2 years warranty** | ■ | ■ |
| **USB port** | ■/– | ■/– |
| **Block homogeneity 90 °C** | ≤ ±0.4 °C | ≤ ±0.4 °C |
| **Heating rate** | 3 °C/s [2)] | 3 °C/s [2)] |
| **Cooling rate** | 2 °C/s [2)] | 2 °C/s [2)] |
| **Lid descent** | flexlid® technology with TSP | flexlid® technology with TSP |
| **Lid temperature range** | 37 – 110 °C | 37 – 110 °C |
| **Interfaces** | CAN_in/CAN_out, Ethernet, USB | CAN_in/CAN_out, Ethernet, USB |
| **Power supply** | 230 V, 50 – 60 Hz | 230 V, 50 – 60 Hz |
| **Max. power consumption** | 700 W/540 W | 700 W/540 W |
| **Total weight** | 10.9 kg | 10.4 kg |
| **Dimensions (W × D × H)** | 25 × 41.2 × 32.1 cm | 25 × 41.2 × 32.1 cm |
| **Number of programs on device** | > 700 | > 700 |

[1)] Control through a Mastercycler® nexus, Mastercycler® nexus gradient, Mastercycler® nexus GSX1, Mastercycler® nexus SX1, Mastercycler® nexus GX2, Mastercycler® nexus X2 or Mastercycler® nexus flat [2)] measured at the block

**i** For more information go to www.eppendorf.com/Mastercycler

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# Technical Specification Mastercycler® nexus X2

| Technical specifications | | |
|---|---|---|
| **Model** | **MC nexus GX2/GX2e** | **MC nexus X2/X2e** |
| **Unit can control 2 other units in network** | ■/– | ■/– |
| **Unit can only be controlled1)** | –/■ | –/■ |
| **Thermoblock** | Aluminum | Aluminum |
| **Sample capacity** | 64/32 × 0.2 mL PCR tubes or 24/10 × 0.5 mL PCR tube positions | 64/32 × 0.2 mL PCR tubes or 24/10 × 0.5 mL PCR tube positions |
| **Heating technology** | Peltier elements, Triple Circuit Technology | Peltier elements, Triple Circuit Technology |
| **Gradient block** | Over 8 rows (0.2 mL)/Over 8 rows | – |
| **Gradient temperature range** | 30 – 99 °C/30 – 99 °C | – |
| **Gradient range** | 1 – 12 °C/1 – 12 °C | – |
| **Temperature control mode** | Fast, Standard, Safe | Fast, Standard, Safe |
| **Temperature control range of the block** | 4 – 99 °C | 4 – 99 °C |
| **Intuitive graphic programming** | ■/– | ■/– |
| **Block homogeneity 20–72 °C** | ≤ ±0.3 °C | ≤ ±0.3 °C |
| **Control accuracy** | ±0.2 °C | ±0.2 °C |
| **E-mail Notification** | ■ | ■ |
| **2 years warranty** | ■ | ■ |
| **USB port** | ■/– | ■/– |
| **Block homogeneity 90 °C** | ≤ ±0.4 °C | ≤ ±0.4 °C |
| **Heating rate** | 3 °C/s 2) | 3 °C/s 2) |
| **Cooling rate** | 2 °C/s 2) | 2 °C/s 2) |
| **Lid descent** | flexlid® technology with TSP | flexlid® technology with TSP |
| **Lid temperature range** | 37 – 110 °C | 37 – 110 °C |
| **Interfaces** | CAN_in/CAN_out, Ethernet, USB/CAN_in/CAN_out, Ethernet | CAN_in/CAN_out, Ethernet, USB/CAN_in/CAN_out, Ethernet |
| **Max. power consumption** | 700 W | 700 W |
| **Total weight** | 10.5 kg | 11 kg |
| **Dimensions (W × D × H)** | 25 × 41.2 × 33 cm | 25 × 41.2 × 33 cm |
| **Number of programs on device** | > 700 | > 700 |

1) Control through a Mastercycler® nexus, Mastercycler® nexus gradient, Mastercycler® nexus GSX1, Mastercycler® nexus SX1, Mastercycler® nexus GX2, Mastercycler® nexus X2 or Mastercycler® nexus flat
2) measured at the block

www.eppendorf.com/nexus-x2-info

i For more information go to www.eppendorf.com/Mastercycler

Technical specifications subject to change.



# HeatSealer



**HeatSealer S100 and S200**
> Hermetic sealing of multiwell plates
> Fixed sealing temperature for reproducible results (S100)
> Adjustable sealing temperatures for more flexibility (S200)
> Eliminates evaporation in PCR, reducing cross contamination
> Seals 96- and 384-well plates
> Compact design, portable device
> Integrated thermostats prevents overheating
> Improved mechanics for even easier sealing
> PCR Plate Adapter included

| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **HeatSealer S100**, incl. PCR Plate Adapter, 100 – 230 V/50 – 60 Hz | 5391 000 001 |
| **HeatSealer S200**, incl. PCR Plate Adapter, 100 – 230 V/50 – 60 Hz | 5392 000 005 |
| **Plate Adapter low profile**, for HeatSealer S100 | 5391 070 018 |
| **Plate Adapter high profile**, for HeatSealer S100 | 5391 070 034 |
| **96-well-PCR Plate Adapter**, for HeatSealer S100 | 5391 070 026 |
| **Plate Adapter high profile**, for HeatSealer S200 | 5392 070 011 |
| **Plate Adapter low profile**, for HeatSealer S200 | 5392 070 020 |
| **96-well Plate Adapter**, for HeatSealer S200 | 5392 070 038 |
| **Eppendorf Heat Sealing Film**, PCR clean, 100 pcs. | 0030 127 838 |
| **Eppendorf Heat Sealing Foil**, PCR clean, 100 pcs. | 0030 127 854 |

Ordering information for other voltage options begins on page 450

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PCR CONSUMABLES

# Eppendorf twin.tec® PCR Plates

**Product features**
> One-piece design: combining a polycarbonate frame and polypropylene wells for optimum performance
> Extremely thin-walled polypropylene wells guarantee optimum heat transfer to the sample
> Exceptionally solid and torque-resistant polycarbonate frame
> Improved well-to-well tolerance
> Cut-away corner and alphanumeric grid-referencing
> Raised well rims for effective sealing, also reduces risk of cross-contamination
> Certified free of any detectable human DNA, DNase, RNase and PCR inhibitors[1)]
> Available with barcode (upon request), for skirted and semi-skirted only
> Ideal for quantitative real-time PCR as well

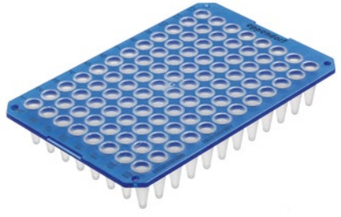
[1)] Download of certificates under www.eppendorf.com/certificates



**Eppendorf twin.tec® PCR Plate 96, skirted**
> Optimized rim for barcodes and automated work processes
> Within SBS footprint recommendations (127.76 × 85.47 mm ±0.25 mm)
> Stackable
> Eight holes in the skirt aid plate positioning and removal from the thermal cycler block
> Low profile design enhances efficiency of PCR and enables the highest efficiency for small sample volumes
> 150 µL max. well volume (when used with cap strips)
> Available with barcode (upon request)
> Ideal for quantitative real-time PCR as well – OptiTrack® matrix for faster sample identification and fewer pipetting errors



**Eppendorf twin.tec® PCR Plate 96, semi-skirted**
> Semi-skirted for label and barcode
> Fits most thermal cyclers
> 250 µL max. well volume (when used with cap strips)
> Improved well-to-well tolerance
> Available with barcode (upon request)
> Ideal for quantitative real-time PCR as well – OptiTrack® matrix for faster sample identification and fewer pipetting errors



**Eppendorf twin.tec® PCR Plate 96, unskirted**
> Fits even more thermal cyclers
> OptiTrack® matrix for faster sample identification and fewer pipetting errors
> Available with regular (250 µL) or low profile (150 µL) wells
> Ideal for quantitative real-time PCR as well

➢ For more Assay/Reader MTPs go to page 108



**Eppendorf twin.tec® PCR Plate 96, unskirted, divisible**
> Can be divided in 4 segments of 24 wells each
> Fits most common thermal cyclers
> OptiTrack® matrix for faster sample identification and fewer pipetting errors
> Available with regular (250 µL) or low profile (150 µL) wells
> Can be divided into 4 segments of 24 wells each to prevent waste and save money
> Ideal for quantitative real-time PCR as well



**Eppendorf twin.tec® *microbiology* PCR Plate 96**
> Individually blistered
> Certified PCR clean
> Additionally free of bacterial DNA
> For all applications that need ultimate purity or certified absense of bacterial DNA
> Available with barcode (upon request), for skirted and semi-skirted only
> Ideal for quantitative real-time PCR as well – OptiTrack® matrix for faster sample identification and fewer pipetting errors



**Eppendorf twin.tec® PCR Plate 384**
> Optimized rim for barcodes and automated work processes
> Stackable
> Within SBS footprint recommendations
> Ideal for most common 384-well thermocyclers, particularly for Eppendorf Mastercycler X50 and Mastercycler nexus
> 40 µL max. well volume
> Available with barcode (upon request), for skirted and semi-skirted only
> Ideal for quantitative real-time PCR as well – OptiTrack® matrix for faster sample identification and fewer pipetting errors




**Eppendorf twin.tec® PCR Plate 96 and 384 LoBind**
> Maximum recovery rates for improved assay results
> Available with barcode (upon request)
> Ideal for quantitative real-time PCR as well
> Exceptionally solid and torque-resistant polycarbonate frame
> OptiTrack® matrix for faster sample identification and fewer pipetting errors
> Raised well rims for effective sealing, also reduces risk of cross-contamination
> Batch-tested and certified free of DNA, DNAase, RNase and PCR inhibitors (PCR clean)



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# Eppendorf twin.tec® PCR Plates

| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **Eppendorf twin.tec® PCR Plate 96,** skirted, 150 µL | |
| PCR clean, colorless, 25 plates | 0030 128 648 |
| PCR clean, yellow, 25 plates | 0030 128 656 |
| PCR clean, green, 25 plates | 0030 128 664 |
| PCR clean, blue, 25 plates | 0030 128 672 |
| PCR clean, red, 25 plates | 0030 128 680 |
| Forensic DNA Grade, colorless, 10 plates, individually wrapped | 0030 129 601 |
| **Eppendorf twin.tec® PCR Plate 96**, semi-skirted, 250 µL | |
| PCR clean, colorless, 25 plates | 0030 128 575 |
| PCR clean, yellow, 25 plates | 0030 128 583 |
| PCR clean, green, 25 plates | 0030 128 591 |
| PCR clean, blue, 25 plates | 0030 128 605 |
| PCR clean, red, 25 plates | 0030 128 613 |
| Forensic DNA Grade, colorless, 10 plates, individually wrapped | 0030 129 610 |
| **Eppendorf twin.tec® PCR Plate 96, low profile**, unskirted, 150 µL | |
| PCR clean, colorless, 20 plates | 0030 133 307 |
| PCR clean, blue, 20 plates | 0030 133 331 |
| **Eppendorf twin.tec® PCR Plate 96**, unskirted, 250 µL | |
| PCR clean, colorless, 20 plates | 0030 133 366 |
| PCR clean, blue, 20 plates | 0030 133 390 |
| **Eppendorf twin.tec® PCR Plate 96,** divisible, unskirted, 150 µL | |
| PCR clean, colorless, 20 plates | 0030 133 358 |
| PCR clean, blue, 20 plates | 0030 133 382 |
| **Eppendorf twin.tec® PCR Plate 96,** divisible, unskirted, 250 µL | |
| PCR clean, colorless, 20 plates | 0030 133 374 |
| PCR clean, blue, 20 plates | 0030 133 404 |
| **Eppendorf twin.tec® *microbiology* PCR Plate 96**, skirted, 150 µL | |
| PCR clean, colorless, 10 plates | 0030 129 300 |
| PCR clean, blue, 10 plates | 0030 129 318 |
| **Eppendorf twin.tec® *microbiology* PCR Plate 96**, semi-skirted, 250 µL | |
| PCR clean, colorless, 10 plates | 0030 129 326 |
| PCR clean, blue, 10 plates | 0030 129 334 |
| **Eppendorf twin.tec® *microbiology* PCR Plate 384**, skirted, 40 µL | |
| PCR clean, colorless, 10 plates | 0030 129 342 |
| PCR clean, blue, 10 plates | 0030 129 350 |
| **Eppendorf twin.tec® PCR Plate 384**, skirted, 40 µL | |
| PCR clean, colorless, 25 plates | 0030 128 508 |
| PCR clean, yellow, 25 plates | 0030 128 516 |
| PCR clean, green, 25 plates | 0030 128 524 |
| PCR clean, blue, 25 plates | 0030 128 532 |
| PCR clean, red, 25 plates | 0030 128 540 |
| Forensic DNA Grade, colorless, 10 plates, individually wrapped | 0030 129 628 |
| **Eppendorf twin.tec® PCR plate 96 LoBind**, semi-skirted, 250 µL | |
| PCR clean, colorless, 25 plates | 0030 129 504 |
| **Eppendorf twin.tec® PCR plate 96 LoBind**, skirted, 150 µL | |
| PCR clean, colorless, 25 plates | 0030 129 512 |
| PCR clean, blue, 25 plates | 0030 129 580 |
| PCR clean, green, 25 plates | 0030 129 660 |
| PCR clean, red, 25 plates | 0030 129 598 |
| PCR clean, yellow, 25 plates | 0030 129 679 |
| **Eppendorf twin.tec® PCR plate 384 LoBind**, skirted, 40 µL | |
| PCR clean, colorless, 25 plates | 0030 129 547 |

i For more information go to www.eppendorf.com/Twintec

Technical specifications subject to change.



# Eppendorf twin.tec® *real-time* PCR Plates



**Eppendorf twin.tec® 96 *real-time* PCR Plates**
> White wells for better reflection
> High mechanical stability
> Raised rims for effective sealing
> Skirted and semi-skirted frames
> Optimal heat transfer due to reduced wall thickness
> Autoclavable (121 °C, 20 min)
> Available with barcode (upon request)

| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **Eppendorf twin.tec® 96 *real-time* PCR Plate**, skirted, 150 µL | |
| PCR clean, blue, wells white, 25 plates | 0030 132 505 |
| PCR clean, white, wells white, 25 plates | 0030 132 513 |
| **Eppendorf twin.tec® 96 *real-time* PCR Plate**, semi-skirted, 250 µL | |
| PCR clean, blue, wells white, 25 plates | 0030 132 530 |
| PCR clean, white, wells white, 25 plates | 0030 132 548 |
| **Eppendorf twin.tec® 96 *real-time* PCR Plate, low profile**, unskirted, 150 µL | |
| PCR clean, white, wells white, 20 plates | 0030 132 700 |
| PCR clean, blue, wells white, 20 plates | 0030 132 718 |
| **Eppendorf twin.tec® 96 *real-time* PCR Plate**, skirted, 150 µL | |
| Forensic DNA Grade, white, wells white, 10 plates, individually wrapped | 0030 129 636 |
| **Eppendorf twin.tec® 96 *real-time* PCR Plate**, semi-skirted, 250 µL | |
| Forensic DNA Grade, white, wells white, 10 plates, individually wrapped | 0030 129 644 |

# Eppendorf Fast PCR Tube Strips



**Description**
The Fast PCR Tube Strip allows scientists using Fast cyclers (such as the Mastercycler X50) and Fast enzymes to obtain higher PCR yield. This is achieved by the faster heat transfer from block to reaction, allowing for better control over the reaction. The Tube-strips are suitable for Fast end-point PCR and Real-Time PCR applications. The open format tube strip allows easy adoption and easy optimization.

**Eppendorf Fast PCR Tube Strips**
> Ideal for use with Fast cyclers such as the Mastercycler X50s and Fast enzymes
> 8 reaction tubes in strip-format – ideal for small sample volumes
> Easily adaptable for automation
> Sealable using flat or domed strip-lids
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

[1)] Download of certificates under www.eppendorf.com/certificates

| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **Eppendorf Fast PCR Tube Strips** | |
| 0.1 mL, without lids, PCR clean, 120 pcs. (10 × 12 pcs.) | 0030 124 901 |
| 0.1 mL, with cap strips, flat, PCR clean, 120 pcs. (10 × 12 pcs.) | 0030 124 910 |
| 0.1 mL, with cap strips, domed, PCR clean, 120 pcs. (10 × 12 pcs.) | 0030 124 928 |

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PCR CONSUMABLES

# Eppendorf PCR Tube Strips



**Eppendorf PCR Tube Strips**
> 8 reaction tubes in strip-format – ideal for small sample volumes
> Easily adaptable for automation
> Sealable using flat or domed strip-lids
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

[1)] Download of certificates under www.eppendorf.com/certificates

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf PCR Tube Strips**, 0.1 mL | |
| PCR clean, without lids (10 × 12 strips) | 0030 124 804 |
| PCR clean, with Cap Strips, domed (10 × 12 strips) | 0030 124 812 |
| PCR clean, with Cap Strips, flat (10 × 12 strips) | 0030 124 820 |
| **Eppendorf PCR Tubes**, 0.2 mL | |
| PCR clean, 8-tube strips, 120 pcs. (960 tubes) | 0030 124 359 |

# Eppendorf PCR Tubes



**Eppendorf PCR Tubes**
> Contamination shield on hinged lid
> Defined lid position due to special hinge
> High transparency even on the tube base
> Etched lid for labeling
> Tight sealing
> Easy to open
> For use with all thermal cyclers with 0.2 mL block format
> Also available in 8-tube strip format
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

[1)] Download of certificates under www.eppendorf.com/certificates

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf PCR Tubes**, 0.2 mL | |
| PCR clean, colorless, 1,000 pcs. | 0030 124 332 |
| Forensic DNA Grade, colorless, 500 pcs. (10 bags × 50 pcs.) | 0030 124 707 |
| PCR clean, 8-tube strips, 120 pcs. (960 tubes) | 0030 124 359 |

i For more information go to www.eppendorf.com/pcr





# Eppendorf PCR Tubes, 0.5 mL



**Eppendorf PCR Tubes, 0.5 mL**
> Etched lid for labeling
> Tight sealing
> Easy to open
> For use with all thermal cyclers with 0.5 mL block format
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

[1)] Download of certificates under www.eppendorf.com/certificates

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf PCR Tubes**, 0.5 mL, PCR clean, with hinged lid, clear, 500 pcs. | 0030 124 537 |

# Cap Strips



**Cap Strips**
> Strips with eight microcaps for 0.1 and 0.2 mL wells
> Easy and rapid sealing of Eppendorf twin.tec PCR Plates, PCR strips and other standard multiwell plates
> Flat Cap Strips are suitable for real-time PCR
> Autoclavable (121 °C, 20 min)
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

[1)] Download of certificates under www.eppendorf.com/certificates

**Ordering information**

| Description | Order no. |
|---|---|
| **Cap Strips**, 8-strips, domed | |
| 120 pcs. (10 bags × 12 pcs.) | 0030 124 839 |
| **Cap Strips**, 8-strips, flat | |
| 120 pcs. (10 × 12 pcs.) | 0030 124 847 |



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# Masterclear® Cap Strips and *real-time* PCR Tube Strips



**Masterclear® Cap Strips and *real-time* PCR Tube Strips**

***real-time* PCR Tube Strips**
> White wells for better reflection
> High mechanical stability
> Extremely thin walls for optimal heat transfer
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

**Masterclear Cap Strips**
> Inverted dome to avoid scratching of the optic surface
> Inverted dome to reduce volume of the tubes
> Optimized for maximum light transmission
> Certified free from human DNA, DNase, RNase and PCR inhibitors[1)]

[1)] Download of certificates under www.eppendorf.com/certificates

**Ordering information**

| Description | Order no. |
|---|---|
| ***real-time* PCR Tube Strips**, without caps | |
| 120 pcs. (10 × 12 pcs.) | 0030 132 882 |
| **Masterclear Cap Strips and *real-time* PCR Tube Strips** | |
| 120 pcs. (10 × 12 pcs.) | 0030 132 890 |
| **Masterclear Cap Strips** | |
| 120 pcs. (10 × 12 pcs.) | 0030 132 874 |

# Heat Sealing Film and Heat Sealing Foil



**Heat Sealing Film and Heat Sealing Foil**
> Hermetic sealing of multiwell plates, especially recommended for low reaction volumes
> Best protection against evaporation during PCR
> Maximum adhesiveness at high temperatures during PCR

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Heat Sealing Film**, PCR clean, 100 pcs. | 0030 127 838 |
| **Eppendorf Heat Sealing Foil**, PCR clean, 100 pcs. | 0030 127 854 |

i For more information go to www.eppendorf.com/pcr





# PCR Film (self-adhesive) and PCR Foil (self-adhesive)




**PCR Film (self-adhesive) and PCR Foil (self-adhesive)**
> Effective adhesive sealing prevents evaporation loss during PCR
> Removal from the plate with no residue
> PCR Film: Sample can be visually monitored through the transparent film
> PCR Foil: Easily pierced
> PCR Foil: No sticking of the pipette tip (ideal for automated systems)

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf PCR Film**, self-adhesive, PCR clean, 100 pcs. | 0030 127 781 |
| **Eppendorf PCR Foil**, self-adhesive, PCR clean, 100 pcs. | 0030 127 790 |

# Masterclear® *real-time* PCR Film




**Masterclear® *real-time* PCR Film**
> Optimized for maximum light transmission
> Optimized for tight sealing
> Optimized packaging for your convenience

**Ordering information**

| Description | Order no. |
|---|---|
| **Masterclear® *real-time* PCR Film**, self-adhesive, PCR clean, 100 pcs. | 0030 132 947 |

# PCR Rack



**PCR Rack**
> Rack for handling and storing tubes and plates
> For 0.1 mL, 0.2 mL and 0.5 mL tubes, as well as 96-well plates
> Stackable
> Can be stored down to -90 °C
> Autoclavable (121 °C, 20 min)

**Ordering information**

| Description | Order no. |
|---|---|
| **PCR Rack**, 10 pcs. | 0030 124 545 |

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PCR CONSUMABLES

# Sample Handling














| Model | CryoCube® F740hi, 3 c./ CryoCube® F740hi, 5 c. | CryoCube® F740hiw, 3 c./ CryoCube® F740hiw, 5 c. | CryoCube® F740h, 3c./ CryoCube® F740h, 5c. |
|---|---|---|---|
| **Page(s)** | **272/278** | **272/278** | **272/278** |
| **Insulation** | Vacuum insulation paneling / polyurethane foam | Vacuum insulation paneling / polyurethane foam | Vacuum insulation paneling / polyurethane foam |
| **Wall Thickness** | Type B | Type B | Type B |
| **Capacity** | 740 L | 740 L | 740 L |
| **No. of internal doors** | 3 | 3 | 3 |
| **No. of compartments** | 3/5 | 3/5 | 3/5 |
| **Max. racks per freezer** | 18/30 | 18/30 | 18/30 |
| **Box capacity per rack** | | | |
| 53 mm (2 in) tall boxes | 32/16 | 32/16 | 32/16 |
| 76 mm (3 in) tall boxes | 20/8 | 20/8 | 20/8 |
| 127 mm (5 in) tall boxes | 12 | 12 | 12 |
| **Box capacity per freezer** | | | |
| 53 mm (2 in) tall boxes | 576/528 | 576/528 | 576/528 |
| 76 mm (3 in) tall boxes | 360/288 | 360/288 | 360/288 |
| 102 mm (4 in) tall boxes | 288/264 | 288/264 | 288/264 |
| **Sample capacity** | | | |
| 53 mm (2 in) tall boxes | 57,600/52,800 | 57,600/52,800 | 57,600/52,800 |
| **Dimensions (W × D × H)[1)2)3)]** | 109.9 × 98 × 197.3 cm | 109.9 × 98 × 197.3 cm | 109.9 × 91.5 × 197.3 cm |
| **Dimensions internal (W × D × H)** | 86.5 × 62.1 × 139 cm | 86.5 × 62.1 × 139 cm | 86.5 × 62.1 × 139 cm |
| **Weight w/o accessories** | 315 kg/333 kg | 320 kg/328 kg | 308 kg/317 kg |
| **Shipping weight** | 364 kg/382 kg | 369 kg/377 kg | 357 kg/366 kg |
| **Pull-down time to -80 °C[4)]** | 4 h 10 min | 4 h 10 min | 4 h 10 min |
| **Noise level** | 41.3 dBA | 41.3 dBA | 47.8 dBA |
| **Heat output** | 438 W | 442 W | 492 W |
| **Power supply** | 230 V, 50 Hz | 230 V, 50 Hz | 230 V, 50 Hz |
| **Power consumption Eppendorf freezer[5)]** | 10.5 kWh/day | 10.6 kWh/day | 11.8 kWh/day |
| **Max. power consumption per 53 mm box[5)]** | 18 Wh/day/20 Wh/day | 18 Wh/day/20 Wh/day | 21 Wh/day/22 Wh/day |
| **Interior** | Stainless steel | Stainless steel | Stainless steel |
| **Password protection of setpoints** | yes | yes | yes |
| **Extras** | Automatic vent port | Automatic vent port | Automatic vent port |
| **Cooling liquid** | R290 / R170 | R290 / R170 | R290 / R170 |
| **Remote Device Monitoring and Notifications (VisioNize®)** | VisioNize-onboard | VisioNize-onboard | VisioNize-qualified |

[1)] Optional $CO_2$/$LN_2$ backup systems add 8.65 cm/3.5 in to height. [2)] To allow for handles and hinges, add 80 mm to width of upright freezers and 110 mm to the depth of chest freezers. [3)] Door open adds up to 15 cm. [4)] Empty freezer with shelves fitted, upright freezers only, pull down from 20 – 22 °C ambient conditions. [5)] Empty freezer with shelves fitted, upright freezers only, set point -80 °C, 20 – 22 °C ambient conditions.










| CryoCube® F570h | CryoCube® F570hw | CryoCube® F570 |
|---|---|---|
| **272/278** | **272/278** | **272/278** |
| Vacuum insulation paneling / polyurethane foam | Vacuum insulation paneling / polyurethane foam | Polyurethane foam |
| Type C | Type C | Type A |
| 570 L | 570 L | 570 L |
| 5 | | 5 |
| 25 | 25 | 25 |
| 16 | 16 | 16 |
| 8 | 8 | 8 |
| 400 | 400 | 400 |
| 200 | 200 | 200 |
| 40,000 | 40,000 | 40,000 |
| 102.5 × 85.2 × 194 cm | 102.5 × 85.2 × 194.0 cm | 102.5 × 85.2 × 194 cm |
| 76.5 × 57.5 × 126.5 cm | 76.5 × 57.5 × 126.5 cm | 76.5 × 57.5 × 126.5 cm |
| 296 kg | 296 kg | 270 kg |
| 341 kg | 341 kg | 315 kg |
| 3 h 30 min | 3 h 45 min | 4 h |
| 59.1 dBA | 56.0 dBA | 59.5 dBA |
| 316 W | 325 W | 438 W |
| 230 V, 50 Hz | 230 V, 50 Hz | 230 V, 50 Hz |
| 7.6 kWh/day | 7.8 kWh/day | 10.5 kWh/day |
| 19 Wh/day | 19.5 Wh/day | 26.3 Wh/day |
| Stainless steel | Stainless steel | Stainless steel |
| yes | yes | yes |
| Automatic vent port | Automatic vent port, water-cooled | Automatic vent port |
| R290 / R170 | R290 / R170 | R404A / R508B |
| VisioNize-qualified | VisioNize-qualified | VisioNize-qualified |

epServices for premium performance On page 392 you will find detailed information on services for these products!

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# Sample Handling
























New

| Model | Innova® U535 | HEF® U410 | Premium U410 | Innova® U360 | CryoCube® F101h |
|---|---|---|---|---|---|
| **Page(s)** | **272/278** | **272/278** | **272/278** | **272/278** | **272/278** |
| **Insulation** | Vacuum insulation paneling / polyurethane foam | Vacuum insulation paneling / polyurethane foam | Polyurethane foam | Vacuum insulation paneling / polyurethane foam | Vacuum insulation paneling / polyurethane foam |
| **Wall Thickness** | Type B | Type C | Type A | Type B | Type B |
| **Capacity** | 535 L | 410 L | 410 L | 360 L | 101 L |
| **No. of internal doors** | 3 | 5 | 5 | 3 | 2 |
| **No. of compartments** | 3 | 5 | 5 | 3 | 2 |
| **Max. racks per freezer** | 12 | 15 | 15 | 9 | 6 |
| **Box capacity per rack** | | | | | |
| 53 mm (2 in) tall boxes | 28 | 16 | 16 | 28 | 10 |
| 76 mm (3 in) tall boxes | 20 | 8 | 8 | 20 | 6 |
| 127 mm (5 in) tall boxes | 12 | | | 12 | 4 |
| **Box capacity per freezer** | | | | | |
| 53 mm (2 in) tall boxes | 336 | 240 | 240 | 252 | 60 |
| 76 mm (3 in) tall boxes | 240 | 120 | 120 | 180 | 36 |
| 102 mm (4 in) tall boxes | 144 | 120 | 120 | 108 | 24 |
| **Sample capacity** | | | | | |
| 53 mm (2 in) tall boxes | 33,600 | 24,000 | 24,000 | 25,200 | 6,000 |
| **Dimensions (W × D × H)[1)2)3)]** | 80 × 86.7 × 195 cm | 80 × 85.2 × 193.0 cm | 80 × 85.2 × 193 cm | 67 × 86.7 × 195 cm | 90 × 56.6 × 83 cm |
| **Dimensions internal (W × D × H)** | 64 × 61.5 × 136.5 cm | 55 × 57.5 × 126.5 cm | 55 × 57.5 × 126.5 cm | 44 × 61.5 × 136.5 cm | 48 × 33 × 64 cm |
| **Weight w/o accessories** | 250 kg | 262 kg | 235 kg | 230 kg | 123 kg |
| **Shipping weight** | 296 kg | 307 kg | 280 kg | 266 kg | 152 kg |
| **Pull-down time to -80 °C[4)]** | 4 h | 3 h 30 min | 4 h 30 min | 5 h 30 min | 140 min |
| **Noise level** | 56 dBA | 53 dBA | 55 dBA | 56 dBA | 55 dBA |
| **Heat output** | 550 W | 350 W | 650 W | 445 W | 263 W |
| **Power supply** | 230 V, 50 Hz | 230 V, 50 Hz | 230 V, 50 Hz | 230 V, 50 Hz | 230 V, 50 Hz |
| **Power consumption Eppendorf freezer[5)]** | 13.2 kWh/day | 8.4 kWh/day | 10.8 kWh/day | 10.7 kWh/day | 6.3 kWh/day |
| **Max. power consumption per 53 mm box[5)]** | 39.3 Wh/day | 35 Wh/day | 45 Wh/day | 42.5 Wh/day | 105 Wh/day |
| **Interior** | Stainless steel | Stainless steel | Stainless steel | Stainless steel | Stainless steel |
| **Password protection of setpoints** | yes | yes | yes | yes | yes |
| **Extras** | – | – | – | – | Stackable, fits below bench |
| **Cooling liquid** | R404A / R508B | R290 / R170 | R404A / R508B | R404A / R508B | R290 / R170 |
| **Remote Device Monitoring and Notifications (VisioNize®)** | VisioNize-qualified | VisioNize-qualified | VisioNize-qualified | VisioNize-qualified | VisioNize-qualified |

[1)] Optional $CO_2$/$LN_2$ backup systems add 8.65 cm/3.5 in to height. [2)] To allow for handles and hinges, add 80 mm to width of upright freezers and 110 mm to the depth of chest freezers. [3)] Door open adds up to 15 cm. [4)] Empty freezer with shelves fitted, upright freezers only, pull down from 20 – 22 °C ambient conditions. [5)] Empty freezer with shelves fitted, upright freezers only, set point -80 °C, 20 – 22 °C ambient conditions.

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for premium performance

On page 392 you will find detailed information on services for these products!

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# Sample Handling








| Model | Innova® C760 | CryoCube® FC660h |
|---|---|---|
| **Page(s)** | **272/278** | **272/278** |
| **Insulation** | Vacuum insulation paneling / polyurethane foam | Vacuum insulation paneling / polyurethane foam |
| **Wall Thickness** | Type B | Type C |
| **Capacity** | 760 L | 660 L |
| **No. of internal doors** | | |
| **No. of compartments** | N/A | N/A |
| **Max. racks per freezer** | 40 | 40 |
| **Box capacity per rack** | | |
| 53 mm (2 in) tall boxes | 14 | 13 |
| 76 mm (3 in) tall boxes | 9 | 9 |
| 127 mm (5 in) tall boxes | 5 | 5 |
| **Box capacity per freezer** | | |
| 53 mm (2 in) tall boxes | 560 | 520 |
| 76 mm (3 in) tall boxes | 360 | 360 |
| 102 mm (4 in) tall boxes | 280 | 280 |
| **Sample capacity** | | |
| 53 mm (2 in) tall boxes | 56,000 | 52,000 |
| **Dimensions (W × D × H)[1)2)3)]** | 205 × 82.5 × 109.2 cm | 207 × 84 × 107.5 cm |
| **Dimensions internal (W × D × H)** | 156 × 62.5 × 78 cm | 147 × 59 × 76 cm |
| **Weight w/o accessories** | 285 kg | 304 kg |
| **Shipping weight** | 358 kg | 379 kg |
| **Pull-down time to -80 °C[4)]** | 3 h | 2 h 50 min |
| **Noise level** | 58 dBA | 58.3 dBA |
| **Heat output** | 667 W | 338 W |
| **Power supply** | 230 V, 50 Hz | 230 V, 50 Hz |
| **Power consumption Eppendorf freezer[5)]** | 16 kWh/day | 8.1 kWh/day |
| **Max. power consumption per 53 mm box[5)]** | 28 Wh/day | 15.6 Wh/day |
| **Interior** | Stainless steel | Stainless steel |
| **Password protection of setpoints** | yes | yes |
| **Extras** | 30 mm thick inner lids for temp uniformity | 30 mm thick inner lids for temp uniformity |
| **Cooling liquid** | R404A / R508B | R290 / R170 |
| **Remote Device Monitoring and Notifications (VisioNize®)** | VisioNize-qualified | VisioNize-qualified |

[1)] Optional $CO_2$/$LN_2$ backup systems add 8.65 cm/3.5 in to height. [2)] To allow for handles and hinges, add 80 mm to width of upright freezers and 110 mm to the depth of chest freezers. [3)] Door open adds up to 15 cm. [4)] Empty freezer with shelves fitted, upright freezers only, pull down from 20 – 22 °C ambient conditions. [5)] Empty freezer with shelves fitted, upright freezers only, set point -80 °C, 20 – 22 °C ambient conditions.






| CryoCube® FC660 | Innova® C585 |
|---|---|
| **272/278** | **272/278** |
| Polyurethane foam | Vacuum insulation paneling / polyurethane foam |
| Type A | Type B |
| 660 L | 585 L |
| | |
| N/A | N/A |
| 40 | 32 |
| | |
| 13 | 14 |
| 9 | 9 |
| 5 | 5 |
| | |
| 520 | 448 |
| 360 | 288 |
| 280 | 224 |
| | |
| 52,000 | 44,800 |
| 207 × 84 × 107.5 cm | 169 × 82.5 × 109.2 cm |
| 147 × 59 × 76 cm | 120 × 62.5 × 78 cm |
| 280 kg | 240 kg |
| 328 kg | 310 kg |
| 3 h 15 min | 4 h |
| 58.9 dBA | 56 dBA |
| 440 W | 567 W |
| 230 V, 50 Hz | 230 V, 50 Hz |
| 10.6 kWh/day | 13.6 kWh/day |
| 20.4 Wh/day | 30.3 Wh/day |
| Stainless steel | Stainless steel |
| yes | yes |
| 30 mm thick inner lids for temp uniformity | 30 mm thick inner lids for temp uniformity |
| R404A / R508B | R404A / R508B |
| VisioNize-qualified | VisioNize-qualified |

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Technical specifications subject to change.

epServices for premium performance

On page 392 you will find detailed information on services for these products!

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# Eppendorf High-Efficiency ULT Upright Freezers

**1.** Natural refrigerants for future-proven cooling[1)]

**2.** Automated vent port for quick re-access to samples

**3.** Ergonomically designed door handle for smooth and easy operation

**4.** Personalized access control for highest sample safety[2)]

**5.** Proven two-stage compressor cascade systems for long-term working conditions

**6.** Easy access to air filter enables regular cleaning, resulting in better performance

**7.** Heavy duty castors to easily move the freezer to a new position




**8.** Vacuum insulated panels reinforced with polyurethane foam insulation are standard for safe sample storage[1)]

**9.** VisioNize touch interface for easy temperature and setting monitoring as well as data export via USB[2)]

**10.** Robust stainless-steel body for high sample safety and easy cleaning

**11.** Internal probe head located in freezer center for reliable temperature measurement

**12.** Lockable security plate protects power and alarm-off switches from accidental shut-off

**13.** Optional chart recorder for 24/7 documentation on paper

**14.** Integrated voltage inverter for flexible usage with 100 – 230 V mains/power supply[3)]

[1)] Selected models, [2)] „i" models of CryoCube F740 series,
[3)] CryoCube F740 series

i For more information go to www.eppendorf.com

Technical specifications subject to change.








**Complete Control**
Worried about the safety of your high value samples within your ULT freezer? With the Eppendorf ULT monitoring concept available on CryoCube F740 'i' series models, you can check the freezer performance whenever you want. All temperature data and all events are stored in the VisioNize touch interface.
The handling experience is based on our PhysioCare Concept® combined with extensive user test sessions.

> On-board data storage means you are not dependent on auxiliary and secondary devices to keep track of freezer data
> Easily transfer your information to your computer or colleague using the export feature and front-mounted USB port
> Quickly and easily adjust your setpoints with a single finger, even while wearing gloves
> Conveniently see all your important settings and data on a single screen with customizable views
> Event tracking for controlled environments
> Easily exchange data for documentation by USB
> Electronic lock system for controlled access and higher sample safety

Adaptable alarm settings for individual needs

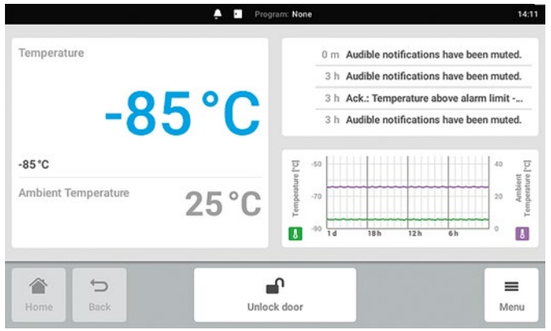
> VisioNize-onboard devices: „i" versions
> VisioNize box for other Eppendorf freezers

Find more information about the Eppendorf digital lab:
www.eppendorf.com/visionize

VisioNize

This icon tags VisioNize-onboard devices which can be conveniently connected to VisioNize for device monitoring and notifications customizable to meet your needs.

Further information are available at page 11.




**Easy Overview:** Quickly review your important parameters on the home screen




> **Ergonomic entry:** Comfortable door handle for easy opening (only CryoCubes)
> **Controlled access:** Personalized access codes (CryoCubes F740«i» models), when neccessary

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# Eppendorf High-Efficiency ULT Upright Freezers




**Confidence in Quality**
Eppendorf has a long-standing history of innovation and quality, and our freezer manufacturer process is no exception. Each Eppendorf ULT freezer is thoroughly inspected to meet our rigorous quality guidelines. The final inspection takes more than 24h and is based on manual and visual checks. This process is documented by an individual certificate, completed with serial number, provided as standard for your documentation.
As your expert partner for reliable, high-quality, and efficient storage solutions, Eppendorf finely engineers each freezer with care, using only the highest quality materials to ensure a long lasting freezer that offers peace of mind and security. Eppendorf freezers are designed to offer a longterm value over the lifetime of its ownership.
You can entrust your valuable samples to our ULT freezers, and you can trust your investment in all finely-engineered Eppendorf instruments.


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Declaration of Conformity

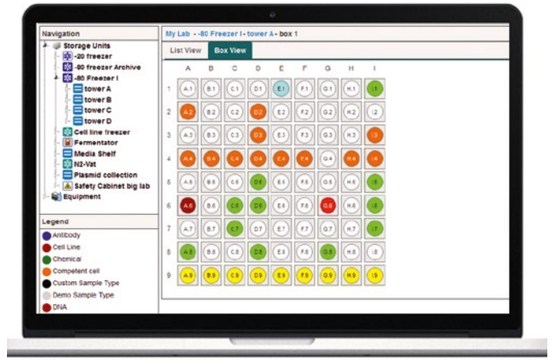

eppendorf
Eppendorf Certificate
Certificate of Quality

**Remember 2008?**
As being one of the very first movers for green gases at -86 °C, Eppendorf has now more than 10 years of experience in R&D, production, logistics, and service in the field.

**Environmentally friendly and energy efficient**
Ultra-low temperature freezers traditionally consume a large amount of energy, as they maintain extremely low temperatures 24/7. With today's high energy costs and focus on the environment, energy conservation has become even more important in the lab. Eco-friendly Eppendorf ULT freezers are designed to help you save energy without compromising sample security.
> A highly efficient compressor control system reduces cycling times to lower energy consumption and increase freezer longevity
> Low noise levels and heat output to benefit your work environment
> High-quality insulation materials and gaskets provide ultimate temperature control and optimized energy efficiency
> Environmentally safe, HCFC-free and CFC-free refrigerants minimize greenhouse gases ("h" versions)
> Biodegradable and commercially-available, high-performance, synthetic compressor lubricants prevent "oil-logging"
> A single, quiet condenser fan reduces energy consumption; compared to many freezers that require two fans
> Built with 95 – 98 % recyclable materials (by weight)
> Meets WEEE directive
> ENERGY STAR® partner

i For more information go to www.eppendorf.com

**Keep track of your samples with eLABInventory**
eLABInventory is a sample management software provided by Bio-ITech, an Eppendorf daughter company. The tool organizes any item in the laboratory inventory, including specimens, materials, samples, and chemicals. Store samples in self-configured storage units such as freezers or refrigerators. eLABInventory is flexible and fully configurable to work in your laboratory.
> Fully configurable to fit any type of laboratory
> Stores any type of samples, specimens, and materials for high flexibility
> Works on any device, delivered via the cloud or on-premise
> Intuitive user interface includes visual inventory browsing for easy handling
> Barcode labeling and scanning for high-throughput
> Import/export to other formats for data flexibility
> Track and tracing for audit trail
> GLP compliant sample management software
> 21 CFR part 11 compliance for documentation security

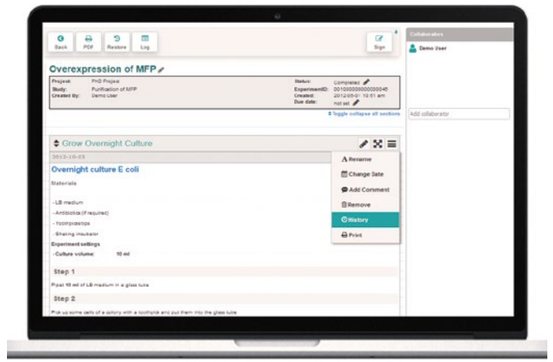



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For more information, visit www.eLABJournal.com

Please check www.eppendorf.com regarding the specific software licence models and related order numbers for eLABInventory and eLABJournal software.






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# Eppendorf ULT Freezers




**Less force needed?** New door handle design based on Eppendorf PhysioCare Concept® to enable easy access (limited to upright CryoCube freezers)




**If you are in a hurry:** Automatic vent port enables fast sample access (CryoCube F570 series and CryoCube F740 series only)



**Keep it tight:** Compact and flexible outer door seal for optimal insulation



**External probes or back ups:** Two access ports in the upper corner
**Easy cleaning:** Stainless steel inner chamber



**Double safety:** Gaskets at outer door as well as inner door (CryoCube F740 series + Innova® series)



**Easy access to filter:** Just flip down the cover of CryoCube F740 series
**Silence:** Filter position reduces noise level of CryoCube F740 series



**Freedom to store:** Stainless steel racks for freezer boxes of up to 136 × 136 mm footprint



**You prefer privacy:** The CryoCube F101h freezer – a real ULT in one small package below the bench



**Comfortable storage:** 30 mm thick inner lids, constructed from molded insulation, help maintain temperature stability



**Easy cleaning:** Inner doors can easily be removed for good access to compartments during cleaning of freezer



**Decide what you need:** 3-compartment/ shelves or 5-compartment/ shelves **(**CryoCube F740 series only)



**Get the maximum in:** 3-compartment set-up with MAX racks use every empty spot (CryoCube F740 series only)



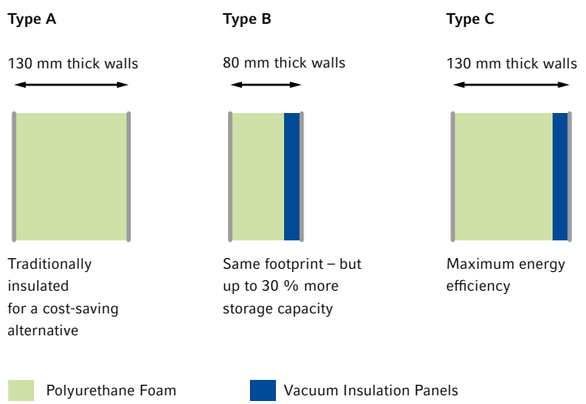

**VisioNize® box:**
The easy-to-install hardware hub connects your VisioNize-qualified devices to VisioNize. The hub works as a translation system enabling data collection of the device data in VisioNize. Gain access to the functions and features of VisioNize. Learn more on the page 11.

**www.eppendorf.com/visionize**

**Ordering information**

| Description | Order no. |
|---|---|
| **VisioNize® box**, with mains/power adapter | 1006 000 009 |
| **VisioNize® box cable**, Ethernet, length 5 m | 1006 073 006 |




i For more information go to www.eppendorf.com

Technical specifications subject to change.

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# Eppendorf ULT Upright Freezers

**Ordering information**

| Description | Order no. |
|---|---|
| **CryoCube® F740h**, 740 L, with LED interface, green cooling liquids, and air-cooling, handle left side, 3 shelves, 230 V/50 Hz | F740340011 |
| **CryoCube® F740h**, 740 L, with LED interface, green cooling liquids, and air-cooling, handle right side, 3 shelves, 230 V/50 Hz | F740340021 |
| **CryoCube® F740h**, 740 L, with LED interface, green cooling liquids, and air-cooling, handle left side, 5 shelves, 230 V/50 Hz | F740340031 |
| **CryoCube® F740h**, 740 L, with LED interface, green cooling liquids, and air-cooling, handle right side, 5 shelves, 230 V/50 Hz | F740340041 |
| **CryoCube® F740hi**, 740 L, with touchscreen interface, green cooling liquids, and air-cooling, handle left side, 3 shelves, 230 V/50 Hz | F740320011 |
| **CryoCube® F740hi**, 740 L, with touchscreen interface, green cooling liquids, and air-cooling, handle right side, 3 shelves, 230 V/50 Hz | F740320021 |
| **CryoCube® F740hi**, 740 L, with touchscreen interface, green cooling liquids, and air-cooling, handle left side, 5 shelves, 230 V/50 Hz | F740320031 |
| **CryoCube® F740hi**, 740 L, with touchscreen interface, green cooling liquids, and air-cooling, handle right side, 5 shelves, 230 V/50 Hz | F740320041 |
| **CryoCube® F740hiw**, 740 L, with touchscreen interface, green cooling liquids, and water-cooling, handle left side, 3 shelves, 230 V/50 Hz | F740320111 |
| **CryoCube® F740hiw**, 740 L, with touchscreen interface, green cooling liquids, and water-cooling, handle left side, 5 shelves, 230 V/50 Hz | F740320131 |
| **CryoCube® F570**, 570 L, with LED interface, classic cooling liquids, and air-cooling, handle left side, 5 shelves, 230 V/50 Hz | F570300001 |
| **CryoCube® F570h**, 570 L, with LED interface, green cooling liquids, and air-cooling, handle left side, 5 shelves, 230 V/50 Hz | F570320001 |
| **CryoCube® F570hw**, 570 L, with LED interface, green cooling liquids, and water-cooling, handle left side, 230 V/50 Hz | F570320101 |
| **Innova® U535**, 535 L, with LED interface, classic cooling liquids, and air-cooling, 3 shelves, 230 V/50 Hz | U9430-0001 |
| **HEF® U410**, 410 L, with LED interface, green cooling liquids, and air-cooling, 5 shelves, 230 V/50 Hz | U9260-0008 |
| **Premium U410**, 410 L, with LED interface, classic cooling liquids, and air-cooling, 5 shelves, 230 V/50 Hz | U9260-0001 |
| **Innova® U360**, 360 L, with LED interface, classic cooling liquids, and air-cooling, 3 shelves, 230 V/50 Hz | U9425-0001 |
| **CryoCube® F101h**, 101 L, with LED interface, green cooling liquids, and air-cooling, handle left side, 2 shelves, 230 V/50 Hz | F101340001 |

↗ Ordering information for other voltage options begins on page 450

➢ For racks please check page 284

# Eppendorf ULT Chest Freezers

**Ordering information**

| Description | Order no. |
|---|---|
| **Innova® C760** , 760 L, with LED interface, classic cooling liquids, and air-cooling, 230 V/50 Hz | U9410-0001 |
| **CryoCube® FC660**, 660 L, with LED interface, classic cooling liquids, and air-cooling, 230 V/50 Hz | F660300001 |
| **CryoCube® FC660h**, 660 L, with LED interface, green cooling liquids, and air-cooling, 230 V/50 Hz | F660320001 |
| **Innova® C585**, 585 L, with LED interface, classic cooling liquids, and air-cooling, 230 V/50 Hz | U9400-0001 |

↗ Ordering information for other voltage options begins on page 450

➢ For racks please check page 284

# Freezer Accessories



**eLABInventory, eLABJournal® software**
Please check www.eppendorf.com regarding the specific software licence models and related order numbers for eLABInventory and eLABJournal software.





# Freezer Accessories



**$CO_2$ and $LN_2$ Back-up System**
> Equipped with a battery back-up to temporarily protect the contents of your freezer in case of power failure
> Available in either liquid $CO_2$ and $LN_2$. Liquid $CO_2$ can maintain temperatures between -50 °C and -70 °C, where as $LN_2$ can go down to -85 °C
> Both systems can be factory installed with your freezer order or retrofitted on location
> Info: $CO_2$ and $LN_2$ are not interchangeable systems

**$CO_2$ and $LN_2$ Back-up System for Innova® U101, U360, U535, U725/ -G, C585, C760, CryoCube® F101h and F740 series**

| Description | Order no. |
|---|---|
| **Eppendorf $CO_2$ and $LN_2$ Back-up System**, 100 V/50/60 Hz | F652999005 |
| **$CO_2$ back-up system**, 120 – 220 V/60 Hz, Innova® and Green „G“, („narrow“) | U9043-0002 |
| **Innova® Green „G“ / F740, $LN_2$ Backup**, 100 V/50 – 60 Hz | F652999006 |
| **$LN_2$ back-up system**, 120 – 220 V/60 Hz, Innova® and Green „G“, („narrow“) | U9044-0002 |
| **$CO_2$ back-up system**, 230 V/50 Hz, Innova®, Green „G“, and CryoCube® 740 series, („narrow“) | U9043-0004 |
| **$LN_2$ back-up system**, 230 V/50 Hz, Innova®, Green „G“, and CryoCube® 740 series, („narrow“) | U9044-0004 |

**$CO_2$ and $LN_2$ Back-up System for CryoCube® F570 series, FC660 series, Premium U410, HEF® U410**

| Description | Order no. |
|---|---|
| **$CO_2$ back-up system**, 120 – 220 V/60 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF® | U9043-0006 |
| **$LN_2$ back-up system**, 120 – 220 V/60 Hz, CryoCube® F570 series, CryoCube® FFC660 series, Premium, and HEF® | U9044-0006 |
| **$CO_2$ back-up system**, 230 V/50 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF® | U9043-0008 |
| **$LN_2$ back-up system**, 230 V/50 Hz, CryoCube® F570 series, CryoCube® FC660 series, Premium, and HEF® | U9044-0008 |



**Chart Recorder**
> Type II: ULT freezer powered with backup battery (CryoCube F740 series)
> Can be factory installed with your freezer order or retrofitted on location
> Selectable temperature range (0 to -50 °C and -50 to -100 °C) and rotation speed
> User configurable built in high and low temperature alarms

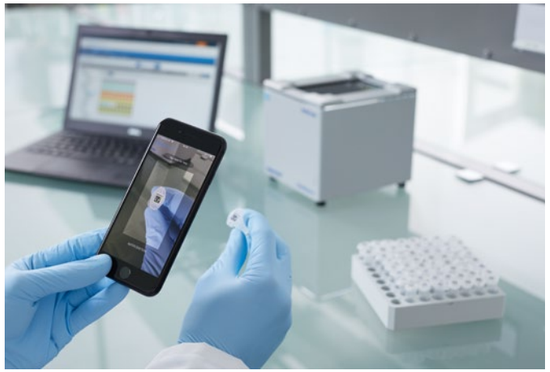
**Ordering information**

| Description | Order no. |
|---|---|
| **Chart Recorder (Type I)** | P0625-2100 |
| **Chart Recorder (Type II) (100 – 120V)**, (CryoCube® F740 series) | F652999001 |
| **Chart Recorder (Type II) (208 – 230V)**, (CryoCube® F740 series) | F652999002 |
| **Chart Recorder pens (Type I)**, 3 pk | K0660-0051 |
| **Chart Recorder pens (Type II)**, 3 pcs. | F652999004 |
| **Chart Recorder paper**, 0 to -50 °C | P0625-2111 |
| **Chart Recorder paper**, -50 to -100 °C | P0625-2110 |
| **Chart Recorder paper**, 0 to -100 °C, 60 pcs. | F652999003 |

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# Eppendorf SafeCode system

**Safe sample identification needed?**
»Stored vessels must be labeled« – naturally, every lab member agrees. In reality you always find some vessels in your freezer without any labeling or with non-readable labeling. Clear labeling is recommended to make reading as easy and as reliable as possible for everyone. Printed labels on vessels in plain writing are the minimum condition for safe reading. Barcodes or 2D datamatrix codes are one step further towards a fast and safe sample identification. Pre-labeled vessels with up to a 3-level coding in different formats enable you to improve your processes.
Smart labeling of your high-value samples is crucial for safe identification and ultimately for safe results. Manage your coded samples with sample management software like eLABInventory.












# Eppendorf CryoStorage Vials

New




**Scanning labels of 20 vials in a row?**
The SafeCode system for Eppendorf CryoStorage Vials is based on a 3-level coding to enable safe sample identification. Up to 96 pre-labeled vials are pre-racked and pre-capped for convenient usage.

**Features & benefits**
> Pre-racked for convenient handling
> Pre-capped for easy handling and clean conditions
> Easy and fast sample recognition for safe sample ID by 3-level coding:
  > 1D barcode (side)
  > Clear coding (side)
  > 2D datamatrix code with ECC 200 error correction (bottom)
> Further information like certificates etc. available (via Eppendorf homepage)
> Automated data transfer to sample management software e.g. eLABInventory or external databases








i For more information go to www.eppendorf.com



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# Eppendorf CryoStorage Vials



**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf CryoStorage Vial**, 0.5 mL, free of DNase, RNase, human DNA, endotoxin; external thread, pre-capped gray, with 2D SafeCode (DataMatrix/ECC200), linear and human readable code, 960 vials (10 racks × 96 vials), individually packed racks | 0030 079 400 |
| **Eppendorf CryoStorage Vial**, 1.0 mL, free of DNase, RNase, human DNA, endotoxin; external thread, pre-capped gray, with 2D SafeCode (DataMatrix/ECC200), linear and human readable code, 960 vials (10 racks × 96 vials), individually packed racks | 0030 079 418 |
| **Eppendorf CryoStorage Vial**, 1.5 mL, free of DNase, RNase, human DNA, endotoxin; external thread, pre-capped gray, with 2D SafeCode (DataMatrix/ECC200), linear and human readable code, 480 vials (10 racks × 48 vials), individually packed racks | 0030 079 426 |
| **Eppendorf CryoStorage Vial**, 2.0 mL, free of DNase, RNase, human DNA, endotoxin; external thread, pre-capped gray, with 2D SafeCode (DataMatrix/ECC200), linear and human readable code, 480 vials (10 racks × 48 vials), individually packed racks | 0030 079 434 |
| **Eppendorf CryoStorage Vial**, 4.0 mL, free of DNase, RNase, human DNA, endotoxin; external thread, pre-capped gray, with 2D SafeCode (DataMatrix/ECC200), linear and human readable code, 480 vials (10 racks × 48 vials), individually packed racks | 0030 079 442 |
| **Eppendorf CryoStorage Vial**, Sterile, 0.5 mL, free of DNase, RNase, human DNA, endotoxin; external thread, pre-capped gray, with 2D SafeCode (DataMatrix/ECC200), linear and human readable code, Sterile, 960 vials (10 racks × 96 vials), individually packed racks | 0030 079 450 |
| **Eppendorf CryoStorage Vial**, Sterile, 1.0 mL, free of DNase, RNase, human DNA, endotoxin; external thread, pre-capped gray, with 2D SafeCode (DataMatrix/ECC200), linear and human readable code, Sterile, 960 vials (10 racks × 96 vials), individually packed racks | 0030 079 469 |
| **Eppendorf CryoStorage Vial**, Sterile, 1.5 mL, free of DNase, RNase, human DNA, endotoxin; external thread, pre-capped gray, with 2D SafeCode (DataMatrix/ECC200), linear and human readable code, Sterile, 480 vials (10 racks × 48 vials), individually packed racks | 0030 079 477 |
| **Eppendorf CryoStorage Vial**, Sterile, 2.0 mL, free of DNase, RNase, human DNA, endotoxin; external thread, pre-capped gray, with 2D SafeCode (DataMatrix/ECC200), linear and human readable code, Sterile, 480 vials (10 racks × 48 vials), individually packed racks | 0030 079 485 |
| **Eppendorf CryoStorage Vial**, Sterile, 4.0 mL, free of DNase, RNase, human DNA, endotoxin; external thread, pre-capped gray, with 2D SafeCode (DataMatrix/ECC200), linear and human readable code, Sterile, 480 vials (10 racks × 48 vials), individually packed racks | 0030 079 493 |





# Eppendorf RackScan

**Scanning more than one sample in parallel?**
The Eppendorf RackScan provides you different solutions to scan samples tubes with datamatrix (2D) codes. The Eppendorf RackScan b scans data from the bottom of the vessels. The instrument can be equipped with the „s“ accessory to read side-labeled barcodes.
Data can be exported in different formats to downstream software applications.

New




**Features & benefits**
> Easy and fast sample code recognition
> Camera-based system for fast data reading
> Automated data transfer to databases, e.g. eLABInventory software
> Small footprint to save space
> Robust design for long life time
> Code scanner for side reading as accessory

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf RackScan s**, code scanner for side reading of SBS racks and cryostorage boxes, accessory for the RackScan product family | 6002 000 014 |
| **Eppendorf RackScan b**, scanner (bottom reading) for 2D-coded tubes in SBS racks and cryostorage boxes, incl. software RackScan Analyzer | 6002 000 006 |





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# Freezer Racks

**Drawer or side access?**
When using racks with drawers, only the drawer with the freezer boxes of interest is pulled out. All other boxes stay in the cold inner area of the ULT freezer. Eppendorf drawers are optimized for smooth movement at -80 °C for ergonomic handling.
When using side access racks, most of the storage boxes have to be pulled out of the cold inner area of the ULT freezer to access the samples.
Racks for chest freezers can be equipped with locking rods to secure freezer boxes when pulling out the rack tower.



**Stainless steel or aluminum?**
By standard, there are two types of rack materials available.

**Stainless steel:**
> Stable/robust for longevity and higher capacity
> For freezer boxes up to 136 mm × 136 mm for high flexibility regarding boxes
> Special design for optimized cooling conditions and improved sample safety

**Aluminum:**
> For freezer boxes up to 133 mm × 133 mm
> Non-corrosive anodized aluminum for long-term use

**Depth of racks**
There are two systems used in laboratories - the standard 4-boxes deep racks and 5-boxes deep racks. Why is this of any interest? In case of an emergency, you want to rescue your valuable samples. The easiest way is to take out all racks (with the samples/ boxes included) and store those racks in some backup freezer. To be compatible with most common ULT freezer suppliers, Eppendorf ULT freezers are designed for 4-boxes deep racks.

**3-compartment or 5-compartment?**
The ULT freezer with 3 compartments/ shelves (e.g. Innova U535) has higher compartments compared to the 5-compartment ULT freezer (e.g. CryoCube F570 series). Racks of a 5-compartment freezer do fit into a 3-compartment freezer but not vice versa.
To get the maximum capacity out of your ULT freezer, the CryoCube F740 series (3-compartment) can be equipped with „3-compartment MAX" racks. These racks only fit into the CryoCube F740 series 3-compartment instruments.

i For more information go to www.eppendorf.com



Rack without locking rod for Eppendorf chest freezer



Rack with locking rod for Eppendorf chest freezer



Rack for Eppendorf ULT freezer



Side access rack for Eppendorf ULT freezer

## Stainless steel racks

**Ordering information**

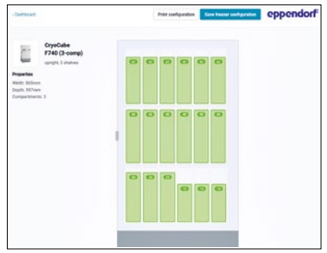
| Description | Order no. |
|---|---|
| **Freezer Rack: Innova® U101, CryoCube® F101h** | |
| 2 in or 53 mm, drawer, stainless steel | 6001 062 210 |
| 2.5 in or 64 mm, drawer, stainless steel | 6001 062 910 |
| 3 in or 76 mm, drawer, stainless steel | 6001 062 310 |
| 4 in or 102 mm, drawer, stainless steel | 6001 062 410 |
| 5 in or 127 mm, drawer, stainless steel | 6001 062 510 |
| 2 in or 53 mm, side access, stainless steel | 6001 061 210 |
| 2.5 in or 64 mm, side access, stainless steel | 6001 061 910 |
| 3 in or 76 mm, side access, stainless steel | 6001 061 310 |
| 4 in or 102 mm, side access, stainless steel | 6001 061 410 |
| 5 in or 127 mm, side access, stainless steel | 6001 061 510 |
| **Freezer Rack: Innova® U360, U535, U725, U725-G, CryoCube® F740 series (3-compartment, Standard)** | |
| 2 in or 53 mm, drawer, stainless steel | 6001 012 210 |
| 2.5 in or 64 mm, drawer, stainless steel | 6001 012 910 |
| 3 in or 76 mm, drawer, stainless steel | 6001 012 310 |
| 4 in or 102 mm, drawer, stainless steel | 6001 012 410 |
| 5 in or 127 mm, drawer, stainless steel | 6001 012 510 |
| 2 in or 53 mm, side access, stainless steel | 6001 011 210 |
| 2.5 in or 64 mm, side access, stainless steel | 6001 011 910 |
| 3 in or 76 mm, side access, stainless steel | 6001 011 310 |
| 4 in or 102 mm, side access, stainless steel | 6001 011 410 |
| 5 in or 127 mm, side access, stainless steel | 6001 011 510 |
| DWP (53 mm), side access, stainless steel | 6001 011 110 |

Technical specifications subject to change.

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# Freezer Racks

Please check the rack brochure for easy rack selection or use the rack configuration tool at https://econfig.bio-itech.de




**Ordering information**

| Description | Order no. |
|---|---|
| **Freezer Rack: Premium U410, U700, HEF® U410, CryoCube® F570 series, CryoCube® F740 series (5-compartment, compartment 1-4)** | |
| 2 in or 53 mm, drawer, stainless steel | 6001 022 210 |
| 2.5 in or 64 mm, drawer, stainless steel | 6001 022 910 |
| 3 in or 76 mm, drawer, stainless steel | 6001 022 310 |
| 4 in or 102 mm, drawer, stainless steel | 6001 022 410 |
| 2 in or 53 mm, side access, stainless steel | 6001 021 210 |
| 2.5 in or 64 mm, side access, stainless steel | 6001 021 910 |
| 3 in or 76 mm, side access, stainless steel | 6001 021 310 |
| 4 in or 102 mm, side access, stainless steel | 6001 021 410 |
| DWP (53 mm), side access, stainless steel | 6001 021 110 |

**Ordering information**

| Description | Order no. |
|---|---|
| **Freezer Rack: CryoCube® F740 series (5-compartment, MAX for 5th comp.)** | |
| 2 in or 53 mm, side access, stainless steel | 6001 081 210 |
| 2.5 in or 64 mm, side access, stainless steel | 6001 081 910 |
| 3 in or 76 mm, side access, stainless steel | 6001 081 310 |
| 4 in or 102 mm, side access, stainless steel | 6001 081 410 |
| 5 in or 127 mm, side access, stainless steel | 6001 081 510 |
| DWP (53 mm), side access, stainless steel | 6001 081 110 |
| 2 in or 53 mm, drawer, stainless steel | 6001 082 210 |
| 2.5 in or 64 mm, drawer, stainless steel | 6001 082 910 |
| 3 in or 76 mm, drawer, stainless steel | 6001 082 310 |
| 4 in or 102 mm, drawer, stainless steel | 6001 082 410 |
| 5 in or 127 mm, drawer, stainless steel | 6001 082 510 |

## Freezer Rack: CryoCube® F740 series (5-compartment, Standard compartment 1 – 4)

**Ordering information**

| Description | Order no. |
|---|---|
| **Freezer Rack: CryoCube® F740 series (3-compartment, MAX)** | |
| 2 in or 53 mm, side access, stainless steel | 6001 071 210 |
| 2.5 in or 64 mm, side access, stainless steel | 6001 071 910 |
| 3 in or 76 mm, side access, stainless steel | 6001 071 310 |
| 4 in or 102 mm, side access, stainless steel | 6001 071 410 |
| 5 in or 127 mm, side access, stainless steel | 6001 071 510 |
| DWP (53 mm), side access, stainless steel | 6001 071 110 |
| 2 in or 53 mm, drawer, stainless steel | 6001 072 210 |
| 2.5 in or 64 mm, drawer, stainless steel | 6001 072 910 |
| 3 in or 76 mm, drawer, stainless steel | 6001 072 310 |
| 4 in or 102 mm, drawer, stainless steel | 6001 072 410 |
| 5 in or 127 mm, drawer, stainless steel | 6001 072 510 |

## Freezer Rack: CryoCube® F740 series (3-compartment, Standard)

➢ see page 285 at Innova table





## Freezer Rack: Innova® C585, C760

**Ordering information**

| Description | Order no. |
|---|---|
| 2 in or 53 mm, side access, stainless steel | 6001 040 210 |
| 2.5 in or 64 mm, side access, stainless steel | 6001 000 910 |
| 3 in or 76 mm, side access, stainless steel | 6001 000 310 |
| 4 in or 102 mm, side access, stainless steel | 6001 000 410 |
| 5 in or 127 mm, side access, stainless steel | 6001 000 510 |
| DWP (53 mm), side access, stainless steel | 6001 040 110 |
| MTP, side access, stainless steel | 6001 040 010 |
| locking rod, 2 in or 53 mm, side access, stainless steel | 6001 040 211 |
| locking rod, 2.5 in or 64 mm, side access, stainless steel | 6001 000 911 |
| locking rod, 3 in or 76 mm, side access, stainless steel | 6001 000 311 |
| locking rod, 4 in or 102 mm, side access, stainless steel | 6001 000 411 |
| locking rod, DWP (53 mm), side access, stainless steel | 6001 040 111 |
| locking rod, MTP, side access, stainless steel | 6001 040 011 |

## Freezer Rack: CryoCube® FC660 series

**Ordering information**

| Description | Order no. |
|---|---|
| 2 in or 53 mm, side access, stainless steel | 6001 050 210 |
| 2.5 in or 64 mm, side access, stainless steel | 6001 000 910 |
| 3 in or 76 mm, side access, stainless steel | 6001 000 310 |
| 4 in or 102 mm, side access, stainless steel | 6001 000 410 |
| 5 in or 127 mm, side access, stainless steel | 6001 000 510 |
| DWP (53 mm), side access, stainless steel | 6001 050 110 |
| MTP, side access, stainless steel | 6001 050 010 |
| locking rod, 2 in or 53 mm, side access, stainless steel | 6001 050 211 |
| locking rod, 2.5 in or 64 mm, side access, stainless steel | 6001 000 911 |
| locking rod, 3 in or 76 mm, side access, stainless steel | 6001 000 311 |
| locking rod, 4 in or 102 mm, side access, stainless steel | 6001 000 411 |
| locking rod, DWP (53 mm), side access, stainless steel | 6001 050 111 |
| locking rod, MTP, side access, stainless steel | 6001 050 011 |

## Aluminum racks

**Ordering information**

| Description | Order no. |
|---|---|
| **Upright freezer rack: Innova® U101, CryoCube® F101h** | |
| 10 boxes per rack, 2 in or 53 mm, drawer, aluminum | K0641-3003 |
| 6 boxes per rack, 3 in or 76 mm, drawer, aluminum | K0641-3004 |
| 4 boxes per rack, 4 in or 102 mm, drawer, aluminum | K0641-3005 |
| **Chest freezer rack: Innova® C585, C760, CryoCube® FC660 series** | |
| 13 boxes per rack, 2 in or 53 mm, side access, aluminum | K0641-1690 |
| 9 boxes per rack, 3 in or 76 mm, side access, aluminum | K0641-1700 |
| 6 boxes per rack, 4 in or 102 mm, side access, aluminum | K0641-1750 |
| **Upright freezer rack: Innova® U360, U535, U725, U725-G, CryoCube® F740 series (3-compartment)** | |
| 28 boxes per rack, 2 in or 53 mm, drawer, aluminum | K0641-3000 |
| 20 boxes per rack, 3 in or 76 mm, drawer, aluminum | K0641-3001 |
| 12 boxes per rack, 4 in or 102 mm, drawer, aluminum | K0641-3002 |
| **Upright freezer rack: U410, HEF® U410, U700, CryoCube® F570 series, CryoCube® F740 series (5-compartment)** | |
| 16 boxes per rack, 2 in or 53 mm, drawer, aluminum | K0641-1900 |
| 12 boxes per rack, 3 in or 76 mm, drawer, aluminum | K0641-1890 |
| 8 boxes per rack, 4 in or 102 mm, drawer, aluminum | K0641-1880 |

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FREEZER ACCESSORIES

# Eppendorf Storage Boxes



**In Need of Housekeeping?**
The Eppendorf Storage Boxes are a complete system solution for sample storage. The comprehensive modular concept allows you to select the optimal box combinations for your individual storage demands. The outer footprint dimensions (133 mm) are compatible with common freezer rack systems. The different inner grids provide a perfect fit for all typical tube formats: cryogenic tubes, microcentrifuge tubes, conical tubes (5 mL, 25 mL, and 50 mL), and other laboratory vessels. This space-saving approach, together with the application benefits, helps to optimize your storage and archiving of samples.



**1.** Transparent lid for easy and fast sample inspection

**2.** 5 additional inscription labels on the lid enable user-specific labeling

**3.** Optimal use of freezer space throught flexible combination of the different formats

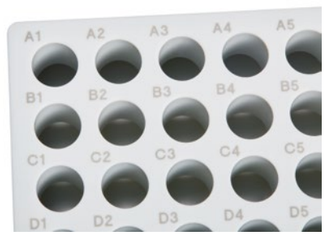
**4.** Autoclavable (121 °C, 20 min) for sterilization

**5.** 15 and 50 mL conical tube boxes with ventilation slots for an evenly distributed freezing process. Prevent tube damage or breakage, which is frequently observed when freezing long tube formats in closed boxes

**1.** Laser-labeled, high-contrast, permanent alpanumeric markings of each location for easy sample reference and minimized risk of sample mix-up

**2.** Made of polypropylene (PP) for hight stability in freezing applications and a smooth opening and closing

**3.** Dishwasher safe for easy cleaning



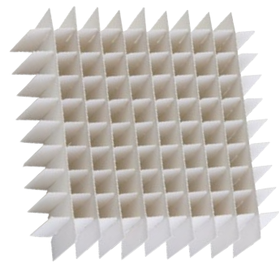

i For more information go to www.eppendorf.com

Technical specifications subject to change.

**Ordering information**

| Description | Order no. |
|---|---|
| **Storage Box 10 × 10**, for 100 cryogenic tubes w. int. thread, 3 pcs., height 53 mm, 2 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 508 |
| **Storage Box 9 × 9**, for 81 screw cap (cryog.) tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 516 |
| **Storage Box 9 × 9**, for 81 screw cap (cryog.) tubes 3 mL, 2 pcs., height 76 mm, 3 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 540 |
| **Storage Box 9 × 9**, for 81 screw cap (cryog.) tubes 4 – 5 mL, 2 pcs., height 102 mm, 4 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 567 |
| **Storage Box 8 × 8**, for 64 tubes 1 – 2 mL, 3 pcs., height 53 mm, 2 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 524 |
| **Storage Box 5 × 5**, for 25 tubes 5 mL, 4 pcs., height 64 mm, 2.5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 532 |
| **Storage Box 5 × 5**, for 25 tubes 5 mL screw cap, 2 pcs., height 76 mm, 3 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 613 |
| **Storage Box 5 × 5**, for 25 tubes 15 mL, 2 pcs., height 127 mm, 5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 583 |
| **Storage Box 3 × 3**, for 9 tubes 25 mL, 2 pcs., height 89 mm, 3.5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 729 |
| **Storage Box 3 × 3**, for 9 tubes 50 mL and 4 tubes 15 mL, 2 pcs., height 127 mm, 5 in, polypropylene, for freezing to -86 °C, autoclavable, with lid and alphanumeric code | 0030 140 591 |





**Freezer Cardboard Storage Boxes**
> White cardboard box with water resistant coating, designed to withstand ultra-low temperature
> Available in 53 mm (2 in), 76 mm (3 in), and 102 mm (4 in) tall boxes
> Compatible with box dividers 7 × 7 to 10 × 10 (dividers sold separately)
> Dimensions: 133 mm x 133 mm

**Freezer Boxes Dividers**
> Available in 7 × 7, 8 × 8, 9 × 9 and 10 × 10 configurations
> Compatible with freezer cardboard storage boxes (sold separately)

**Ordering information**

| Description | Order no. |
|---|---|
| **Freezer Boxes Dividers** | |
| 7 × 7, 17.4 mm max. tube diameter, holds 49 tubes | D49 |
| 8 × 8, 15 mm max. tube diameter, holds 64 tubes | D64 |
| 9 × 9, 13 mm max. tube diameter, holds 81 tubes | D81 |
| 10 × 10, 11.8 mm max. tube diameter, holds 100 tubes | D100 |
| **Freezer Cardboard Storage Boxes,** white | |
| 53 mm tall | B50-SQ |
| 76 mm tall | B75-SQ |
| 102 mm tall | B95-SQ |

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# Cell Handling



## Eppendorf Eporator®

**Description**
The Eppendorf Eporator is a compact instrument designed for fast and controlled electroporation of bacteria, yeasts and other microorganisms. The instrument features an intuitive operation and user-friendly programming of standard methods. Experimental data can easily be exported and documented using its USB port.




**Product features**
> Faster sample handling – simple one-button operation
> Maximum safety via integrated cuvette holder
> Compact, space-saving design
> Self-explanatory operation guided by display indicators
> Fast, freely programmable softkeys for saving and accessing the 2 most frequently used parameter settings
> USB interface for data transfer and GLP supporting documentation

**Applications**
> Transformation of bacteria, yeast or microorganisms with an optimal transformation efficiency of approx. 5 ms time constant
> Mainly for delivery of plasmid DNA, but also RNA, proteins and other small molecules

| Technical specifications | |
|---|---|
| **Model** | **Eporator** |
| **Interfaces** | USB 2.0 |
| **Dimensions (W × D × H)** | 19 × 27.5 × 12.5 cm |
| **Weight w/o accessories** | 3.2 kg |
| **Capacitor** | 10 µF |
| **Pulse form** | Exponentially decreasing |
| **Pulse voltage** | 200 – 2,500 V |
| **Resistance** | 600 Ohm |
| **Special features** | Electronic protective circuit to prevent arcs |
| **Time constant** | Nominal 5 ms |

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Eporator®**, for bacteria and yeasts, 230 V/50 – 60 Hz | 4309 000 019 |
| **Eppendorf Cuvette Rack**, 30 positions, for glass and plastic cuvettes, 2 pcs., polypropylene, numbered positions, autoclavable | 0030 119 851 |

Ordering information for other voltage options begins on page 450

epServices
for premium performance

On page 394 you will find detailed information on services for these products!





## TransferMan® 4r

**Description**
The user-friendly TransferMan 4r possesses an ergonomic and innovative design to meet the most demanding micromanipulation requirements. Smart functions, such as improved automated home function and position storage, enable simple and fast execution of even the most complex micromanipulation techniques. The DualSpeed™ joystick allows for precise and intuitive movement in all three dimensions, and dynamic movement for covering longer distances. It is ideal for manipulation of oocytes and early embryos, transfer of stem cells and microparticles, and a wide range of applications in non human reproductive biology. Application-specific user profiles simplify the individual workflow process with four pre-defined application masks to choose from (e.g., for cell transfer, DNA injection, etc). The freely programmable „My app" mask can be optimized according to individual needs. The TransferMan 4r is for research use only.







**Applications**
> Micromanipulation of oocytes and early embryos
> ES and iPS cell transfer
> Nuclear transfer
> Pronuclear and cytoplasmic injection (e.g., CRISPR/Cas, TALEN)
> Selection of individual cells (e.g., biopsies, single cell picking)
> Positioning and selection of microparticles
> Microdissection of chromosomes, etc.
> Microinjection into 3D organoids

**Product features**
> Unique DualSpeed™ joystick for precise and instantaneous movement control
> Maximum stability ensures vibration-free work
> One Joystick for all 3 axes (X, Y, Z) movements and in axial direction (X/Z)
> Angle adjustment from 0° to 90°
> One-hand operation for capillary and angle settings
> Programmable Z-axis limit for preventing capillary breakage
> Connection with Eppendorf PiezoXpert® and electronic microinjectors FemtoJet® 4i/4x
> Can be adapted to all conventional microscopes
> PC interface for remote control

www

www.eppendorf.com/TransferMan4r

**Ordering information**

| Description | Order no. |
|---|---|
| **TransferMan® 4r**, micromanipulator with DualSpeed™ joystick for direct and dynamic movement control, 100 – 240 V/50 – 60 Hz | 5193 000 012 |

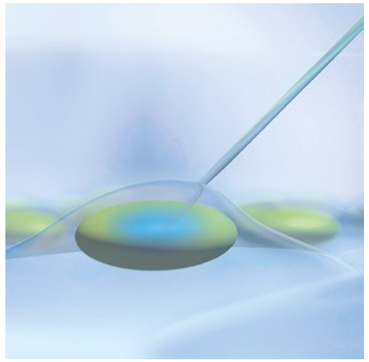
Ordering information for other voltage options begins on page 450

MICROMANIPULATORS

# InjectMan® 4

**Description**
The InjectMan 4 is ideal for microinjection into adherent cells, smaller organisms and embryos in the early stages of development. In combination with the FemtoJet 4i or 4x, it enables fast semi-automatic injection. Furthermore, the InjectMan 4 is the ideal micromanipulator for all complex applications that require a dynamic movement mode and direct control of the injection process via the joystick button. The axial injection movement (X/Z direction) helps to minimize mechanical stress to the adherent cells upon injection. The high penetration speed makes injection into rigid structures easier than ever. The new user interface with four pre-defined application masks facilitates the individual workflow process (e.g., for adherent cell injection, serial microinjection into fish larvae, etc.). The freely programmable „My app" mask can be optimized for individual needs. Due to its exceptional precision and position stability, the InjectMan 4 is also suited for applications such as patch clamp. The motor modules can be uncoupled electronically to prevent accidental movement of the micropipette. The InjectMan 4 is for research use only.





Electronic coupling with the FemtoJet - for fast, serial (>20 cells/min) and minimally invasive (axial direction) injections

**Applications**
> Semi-automatic microinjection into adherent cells
> Serial microinjection into fish larvae, frog eggs, insect embryos, etc.
> Injection into living plant cells, *C. elegans* and other roundworms and flatworms
> Automatic dispensing of cell suspensions or solutions
> Stable, drift-free positioning, e.g. for electrophysiology techniques

**Product features**
> Maximum stability ensures drift-free work
> Electronic coupling to FemtoJet microinjectors for fast serial semi-automatic injections with highest reproducibility
> Selection and programming of advanced functions (e.g. axial movement, step injection)
> Ergonomically shaped control panel for fatigue-free work
> Easy and precise angle adjustment
> Connection with Eppendorf PiezoXpert for piezo-assisted penetration over a pre-defined distance
> Can be adapted to all conventional microscopes
> PC interface for remote control

**Ordering information**

| Description | Order no. |
|---|---|
| **InjectMan® 4**, micromanipulator with dynamic movement control, 100 – 240 V/50 – 60 Hz | 5192 000 019 |

Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com

Technical specifications subject to change.

**Technical specifications**

| Model | InjectMan 4 | TransferMan 4r |
|---|---|---|
| **Motor module set** | | |
| **Max. traveling distance** | ≥20 mm in X, Y, Z and X/Z direction | ≥20 mm in X, Y, Z and X/Z direction |
| **Weight (complete)** | 2.15 kg | 2.15 kg |
| **Stepper motor** | X-, Y-, Z-module | X-, Y-, Z-module |
| **Single module (X, Y, Z)** | | |
| **Step size** | <20 nm (computational resolution) | <20 nm (computational resolution) |
| **Speed** | 0 – 10,000 µm/s | 0 – 10,000 µm/s |
| **Mechanical adjustability** | >80 mm | >80 mm |
| **Dimensions** | 129 × 51 × 36 mm | 129 × 51 × 36 mm |
| **Weight** | 570 g | 570 g |
| **Swivel joint** | | |
| **Direction of rotation** | -45° to +90° | -45° to +90° |
| **Capillary exchange** | Direction of rotation: forward | Direction of rotation: forward |
| **Sample replacement** | Direction of rotation: backward | Direction of rotation: backward |
| **Angle head** | | |
| **Operating angle** | 0° – 90° | 0° – 90° |
| **Control board** | | |
| **Control** | Joystick (dynamic kinetics) | Joystick (proportional and dynamic kinetics) |
| **Speed modes** | coarse, fine, x-fine | coarse, fine, x-fine |
| **External Device/PC** | Serial interface SUBD9, male | Serial interface SUBD9, male |
| **Dimensions (W x H x D)** | 205 × 288 × 152 mm | 205 × 288 × 152 mm |
| **Weight** | 1.8 kg | 1.8 kg |

**Accessories**

| Description | Order no. |
|---|---|
| **Positioning aid**, pack of 2, for mounting and re-positioning universal capillary holder and the capillary holder 4 on TransferMan® 4r and InjectMan® 4 | 5192 072 001 |
| **Spare parts kit** | 5192 071 005 |
| **Headstage holder** | 5192 073 008 |
| **Foot control for triggering injection with FemtoJet® 4i and FemtoJet® 4x** | 5252 070 020 |
| **Connection cable**, for connecting TransferMan® 4r/InjectMan® 4 to FemtoJet® 4i/4x | 5192 082 007 |
| **Connection cable**, for connecting Eppendorf micromanipulators with FemtoJet® and FemtoJet® express | 5181 070 015 |
| **Connection cable**, for connecting Eppendorf micromanipulators with PC or Eppendorf PiezoXpert® | 5181 150 094 |
| **Y-cable FJ4**, Y-cable for connecting FemtoJet® 4i/4x with a PC and TransferMan® 4r or InjectMan® 4 | 5192 080 004 |
| **Y-cable PX**, Y-cable for connecting Eppendorf PiezoXpert® or a PC with TransferMan® 4r or InjectMan® 4 and FemtoJet® 4i/4x | 5192 081 000 |

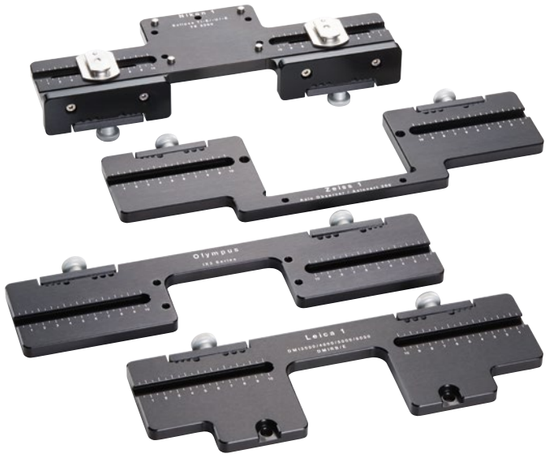
www

www.eppendorf.com/InjectMan4



See our capillary portfolio on page 303

# Microscope Adapters for Micromanipulation Systems





**Microscope adapters**
Eppendorf microscope adapters enable the simple installation of the TransferMan® 4r or InjectMan® 4 on all conventional inverted microscopes manufactured by Leica®, Nikon®, Olympus® and Zeiss®

**Universal stand**
The Universal stand can be used for mounting the TransferMan 4 and InjectMan 4 micromanipulators on upright microscopes and stereo microscopes independent of the microscope tripod used. With its magnetic foot the Universal stand can be firmly fixed to any ferromagnetic base (plate or table).

Compatible to the four major microscope brands

Find all available adapters here

www.eppendorf.com/microscope_adapter

**Ordering information**

| Description | Order no. |
|---|---|
| **Adapter Leica® 1**, for Eppendorf micromanipulation systems, for Leica® DMi8, DMI3000 B, 3000 M, 4000 B, 5000 B, 5000 M, 6000 B, DM IRB E, HC and DM IRE 2 microscopes | 5192 301 000 |
| **Adapter Leica® 2**, for Eppendorf micromanipulation systems, for Leica® DM IL LED and HC microscopes | 5192 302 007 |
| **Adapter Nikon® 1**, for Eppendorf micromanipulation systems, for Nikon® Eclipse® Diaphot 200, 300 and Eclipse® Ti-E, Ti-U, Ti-S, TE200, TE300, TE2000 microscopes | 5192 316 008 |
| **Adapter Nikon® 2**, for Eppendorf micromanipulation systems, for Nikon® Eclipse® Ts2R microscope | 5192 317 004 |
| **Adapter Nikon® 3**, for Eppendorf micromanipulation systems, for Nikon® Eclipse Ti2-E/-A/-U microscopes | 5192 318 000 |
| **Adapter Olympus® 1**, for Eppendorf micromanipulation systems, for Olympus® IX50, IX51, IX70, IX71, IX80 and IX81 microscopes | 5192 306 002 |
| **Adapter Olympus® 2**, for Eppendorf micromanipulation systems, for microscopes of Olympus® IX3 series with illumination column IX3-ILL | 5192 307 009 |
| **Adapter Olympus® 3**, for Eppendorf micromanipulation systems, for microscopes of Olympus® IX3 series with illumination column IX2-ILL30 | 5192 308 005 |
| **Adapter Zeiss® 1**, for Eppendorf micromanipulation systems, for Zeiss® Axiovert® 200, Axio Observer A1, D1, Z1 and Axio Observer 3, 5 and 7 microscopes | 5192 311 006 |
| **Adapter Zeiss® 2**, for Eppendorf micromanipulation systems, for Zeiss® Axio Vert.A1 microscope | 5192 312 002 |
| **Universal stand**, for mounting Eppendorf micromanipulators on upright microscopes and stereo microscopes independent of the microscope tripod used | 5192 325 007 |
| **Adapter bridge**, for mounting Eppendorf micromanipulators on microscope adapters for TransferMan® NK 2, InjectMan® NI 2 and PatchMan NP 2 | 5192 321 001 |







# Antivibration Pad

**Description**
The antivibration pads are specifically designed to effectively protect your micromanipulation system against external vibrations. The pads are simply positioned directly under the base points of your microscope. Five different formats optimized for specific weight ranges are available to guarantee optimal results. A selection of pads specifically chosen for each microscope ensures effective protection for your sample.

**Product features**
> Effectively protects micromanipulation workstations from external vibrations
> Five different formats available
> Different formats can be combined for optimal adjustment





**Ordering information**

| Description | Order no. |
|---|---|
| **Antivibration Pad XS**, weight range 4.5 – 6.0 kg | 5181 301 009 |
| **Antivibration Pad S**, weight range 6.0 – 8.0 kg | 5181 303 001 |
| **Antivibration Pad M**, weight range 8.0 – 10.0 kg | 5181 305 004 |
| **Antivibration Pad L**, weight range 10.0 – 12.5 kg | 5181 307 007 |
| **Antivibration Pad XL**, weight range 12.5 – 16.5 kg | 5181 309 000 |

i It is decisive to take into account the total weight of your microscope, including the mounted accessories, and the load distribution of the individual contact points.

MICROMANIPULATION SYSTEMS

# Eppendorf PiezoXpert®

**Description**
The Eppendorf PiezoXpert allows for piezo-assisted micromanipulation, enabling simple penetration of cells for microinjection or micromanipulation. Perforation of the cell membrane is supported by piezo impulses which are directly transferred to the capillary without any loss of intensity. Piezo-assisted micromanipulation improves the results of a variety of applications including transfer of embryonic or induced pluripotent stem cells into blastocysts and morulae, injection into mammalian oocytes and zygotes, and enucleation/nuclear transfer. The Eppendorf PiezoXpert forms the perfect system with Eppendorf micromanipulators, but it integrates just as easily into non-Eppendorf micromanipulation systems. The Eppendorf PiezoXpert is for research use only.




**Product features**
> Fast and simple sample processing due to intuitive operation
> Reproducible parameter setting
> Program keys to save your experimental parameters
> Trigger impulses with an ergonomic foot control or rotary knobs right on the device
> Optical feedback of triggered impulses
> Additional „Clean" function for simple removal of contamination on the outside of the capillary

**Applications**
> Piezo-ICSI (Intracytoplasmic Sperm Injection) in mouse, equine, porcine etc.
> Transfer of embryonic or induced pluripotent stem cells into blastocysts or morulae
> Enucleation/nuclear transfer
> Blastomere biopsy from mouse embryos
> Biopsy of equine embryos for Preimplantation Genetic Diagnosis
> RNA/DNA injection into fertilized oocytes of mammals

| Technical specifications | |
|---|---|
| **Model** | **PiezoXpert** |
| **Interfaces** | USB (for technical service), RS-232 (connection to foot control) |
| **Power supply** | 100 – 240 V, 50 – 60 Hz |
| **Max. power consumption** | 18 W |
| **Dimensions (W × D × H)** | 17 × 23 × 11.5 cm |
| **Weight w/o accessories** | 2.8 kg |
| **Piezo impulse** | |
| **Intensity (of piezo impulses)** | 1 – 86 (1 – 22 adjustable in increments of 1, 22 – 86 adjustable in increments of 4) |
| **Number (number of piezo impulses)** | 1 – 10, ∞ (1 – 10 adjustable in increments of 1) |
| **Speed (frequency of piezo impulses/sec)** | 1 – 40 (1 – 40 adjustable in increments of 1, 1 – 10: 1 Hz per increment, 10 – 20: 2 Hz per increment, 20 – 34: 5 Hz per increment, 34 – 40: 25 Hz per increment) |
| **Clean function** | |
| **Intensity (of piezo impulses)** | 1 – 86 (1 – 22 adjustable in increments of 1, 22 – 86 adjustable in increments of 4) |
| **Speed (frequency of piezo impulses/sec)** | 1 – 40 (1 – 40 adjustable in increments of 1, 1 – 10: 1 Hz per increment, 10 – 20: 2 Hz per increment, 20 – 34: 5 Hz per increment, 34 – 40: 25 Hz per increment) |

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf PiezoXpert®**, for piezo-assisted micromanipulation, incl. actuator 2, foot control and spacer plate and grip head 4 size 0, 100 – 240 V/50 – 60 Hz | 5194 000 016 |
| **Actuator 2**, for piezo-assisted micromanipulation, as accessory for the Eppendorf PiezoXpert | 5194 075 156 |
| **Grip head set 4 size 0**, for microcapillaries with outer diameter 1.0 to 1.1 mm | 5196 082 001 |
| **Grip head set 4 size 1**, for microcapillaries with outer diameter 1.2 to 1.3 mm | 5196 083 008 |
| **Grip head set 4 size 2**, for microcapillaries with outer diameter 1.4 to 1.5 mm | 5196 084 004 |
| **Grip head set 4 size 3**, for microcapillaries with outer diameter 0.7 to 0.9 mm | 5196 085 000 |
| **Tube adapter**, pack of 2, for connecting tubes with an outer diameter of 2 mm or 3 mm with the capillary holder and the capillary holder 4 | 5194 075 407 |
| **Piezo Drill Tip ICSI**, for piezo-assisted mouse ICSI (for research use only), 25° tip angle, 6 µm inner diameter, 6 mm flange, sterile, set of 25 | 5195 000 087 |
| **Piezo Drill Tip ES**, for piezo-assisted mouse ES cell transfer (for research use only), 25° tip angle, 15 µm inner diameter, 6 mm flange, sterile, set of 25 | 5195 000 095 |

Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com

Technical specifications subject to change.

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MICROINJECTORS

# CellTram® 4r Air/Oil

**Description**
The CellTram 4r Air and CellTram 4r Oil are manual microinjectors suitable for a broad range of life science applications. The CellTram 4r Air is a pneumatic injector for oil-free micromanipulation and gentle holding of cells in suspension. Due to its excellent performance, it is also highly suitable for uptake and injection of cells (e.g., of sperm or ES cells). For this application, its performance is comparable to that of oil-filled injectors. The CellTram 4r Oil is a hydraulic, oil-filled microinjector that provides more direct sample control and can generate higher pressures than an air system. It is optimized for leakage-free work and easy oil filling. Both models can be used with all common micromanipulation systems yet they develop their full potential with Eppendorf manipulators. The CellTram 4r Air/Oil injectors are for research use only.




**1.** Non-hydraulic system for oil-free manipulation and injection of cells (CellTram 4r Air)

**2.** Piston position scale enables setting of air volume and injection characteristics according to individual needs (CellTram 4r Air)

**3.** Improved oil-filling system for quick and clean re-filling (CellTram 4r Oil)

**4.** Coarse and fine drive for precise and intuitive sample control

**5.** Improved rotary knob design for better handling and easier cleaning

**6.** Capillary holder 4 with markings for easier positioning

**7.** New grip head 4 system for simple capillary change and higher user safety

**8.** Position indicators and marking for in/out to reduce risk of user errors

**9.** Stable, nonslip base plate

**10.** Highly reliable performance with minimal maintenance

i For more information go to www.eppendorf.com



CellTram 4r Air: Pressure responsiveness for various applications can be adjusted by different piston positions



CellTram 4r Oil: The new oil-filling system helps avoid oil-spilling and facilitates the filling process

**Applications**
> ICSI of mouse and large mammals (e.g., equine, porcine...)
> Piezo-assisted micromanipulation in combination with the Eppendorf PiezoXpert®
> Transfer of cells or organelles (e.g., ES cell or iPS cell transfer into blastocysts or morulae)
> Enucleation/nuclear transfer
> (Xeno)transplantations
> Removal of cells (e.g., for polar body biopsy, blastomere biopsy or trophectoderm biopsy)
> Manual microinjection and dispensing of aqueous solutions
> Single cell picking

| Technical specifications | | |
|---|---|---|
| **Model** | **CellTram 4r Air** | **CellTram 4r Oil** |
| **Cylinder volume** | 10 mL | 1,000 µL |
| **Max. pressure** | 3,000 hPa | 20,000 hPa |
| **Min. adjustable volume** | < 100 nL | < 1.5 nL |
| **Pressure generation** | Cylinder/piston system, air-filled | Cylinder/piston system, oil-filled |
| **Volume change per revolution** | 60 µL/600 µL (fine/ coarse rotary knob) | 1 µL/10 µL (fine/ coarse rotary knob) |

| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **CellTram® 4r Air**, manual pneumatic microinjector, with gears 1:1 and 1:10, for holding and injection | 5196 000 013 |
| **CellTram® 4r Oil**, manual hydraulic microinjector, with gears 1:1 and 1:10, for holding and injection | 5196 000 030 |
| **Capillary holder 4**, for mounting microcapillaries | 5196 081 005 |
| **Capillary holder 4 slim shape**, for flat angle injections, for microcapillaries with outer diameter 1.0 mm | 5196 062 000 |
| **Filling and Cleaning set**, incl. filling tube, Luer lock adapter, 2 syringes for CellTram® 4 | 5196 088 000 |
| **Grip head set 4 size 0**, for microcapillaries with outer diameter 1.0 to 1.1 mm (1 only) | 5196 082 001 |
| **Grip head set 4 size 1**, for microcapillaries with outer diameter 1.2 to 1.3 mm (1 only) | 5196 083 008 |
| **Grip head set 4 size 2**, for microcapillaries with outer diameter 1.4 to 1.5 mm (1 only) | 5196 084 004 |
| **Grip head set 4 size 3**, for microcapillaries with outer diameter 0.7 to 0.9 mm (1 only) | 5196 085 000 |
| **Injection tube Air**, white ring mark, I.D. 0.5 mm, length 1.3 m | 5196 061 004 |
| **Injection tube Oil**, blue ring mark, I.D. 1.0 mm, length 1.3 m | 5196 089 006 |
| **O-ring set 4** , incl. 10 o-rings large, 10 o-rings small, 2 distance sleeves, o-ring removal tool for grip head set 4 | 5196 086 007 |

Technical specifications subject to change.

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# FemtoJet® 4i and FemtoJet® 4x

**Description**
Eppendorf's electronic microinjectors FemtoJet 4i and FemtoJet 4x with their simple operation menu and a range of functionalities are perfectly suited for injecting small to intermediate volumes. With a built-in compressor, the FemtoJet 4i is the tool of choice for injecting aqueous solutions into adherent cells and suspension cells. If your research demands injecting volumes greater than 100 pL and/or longer series at higher pressures, FemtoJet 4x with its external pressure supply (not included) delivers the precise and continuous pressure required. Featuring the same quality design and compatibility features as the FemtoJet 4i, the FemtoJet 4x is the „heavy duty" device for those more demanding applications. Both the FemtoJet 4i and FemtoJet 4x, form the perfect system with Eppendorf micromanipulators, yet they integrate just as easily with non-Eppendorf micromanipulation systems. The electronic connection between FemtoJet 4i or 4x and TransferMan 4r or InjectMan 4 guarantees simple, rapid and reproducible microinjections into cells, simplifying your daily work and speeding up your workflow. The FemtoJet 4i/ 4x injectors are for research use only.




**Product features**
> Very simple and clearly arranged operation for routine tasks
> Injection volume ranges from femtoliters to microliters
> Inject and Clean function can be triggered right on the device using the included mouse or optional foot control
> Programmable injection guarantees high reproducibility
> Connection to TransferMan 4r, InjectMan 4 or InjectMan NI 2 enables semi-automatic microinjection
> Small footprint
> Can be combined with all conventional micromanipulation systems
> Independent pressure supply via built-in compressor (only FemtoJet 4i)
> External pressure supply guarantees the continuous availability of higher injection pressures – even with large volumes and very short intervals (only FemtoJet 4x)

## Gentle treatment for your cells



Minimizing mechanical trauma to your sample is critical for achieving optimal results. The new capillary holder 4 (slim shape) in combination with Eppendorf manipulators allows for injecting with straight capillaries at angles lower than 15°. This capillary holder 4 (slim shape) can be used in combination with the FemtoJet 4 as well as with the CellTram 4r. This helps to achieve highest survival rates for your developing embryos.



i For more information go to www.eppendorf.com

Technical specifications subject to change.



# FemtoJet® 4i




**Description**
The electronic microinjector, FemtoJet 4i, with its simple operation and wide range of functionality is ideally suited for injecting small to intermediate volumes (of up to 100 pL) into adherent cells and suspension cells for research purposes. The FemtoJet 4i with its built-in compressor forms a perfect team with Eppendorf micromanipulators, but it integrates just as easily with non-Eppendorf micromanipulator systems.
The electronic connection between FemtoJet 4i and TransferMan 4r and InjectMan 4 guarantees simple, rapid and reproducible microinjections into cells.

**Applications**
> Reproducible and serial microinjection into adherent cells when combined with the InjectMan 4 or InjectMan NI 2 micromanipulator
> Pronuclear or cytoplasmic injection of RNA/DNA solutions into fertilized oocytes of mammals, when combined with the TransferMan 4r micromanipulator
> Especially well suited for injection volumes from femtoliters to 100 pL

# FemtoJet® 4x




**Description**
The FemtoJet 4x is the ideal solution if your research demands injection volumes greater than 100 pL and/or longer series at higher pressures – increasingly seen in functional genomics and developmental biology applications.
The FemtoJet 4x with its external pressure supply (not included) delivers the precise and continuous pressure required. Featuring the same quality design and compatibility as the FemtoJet 4i, the 4x model is the „heavy duty" device for those more volume demanding applications.

**Applications**
> Microinjection into small organisms and embryos in the early stages of development (e.g., *Drosophila melanogaster*, Zebrafish, etc.)
> Especially well suited for serial injection volumes from 100 pL to 1 µL or more

| Typical Injection Volume | FemtoJet 4i → FemtoJet 4x |
|---|---|
| **Cell nucleus of adherent cells** | |
| **Cytoplasm of adherent cells** | |
| **Pronucleus of fertilized mouse oocytes** | |
| ***Caenorhabditis elegans*** | |
| **Fish embryos in early development phases** | |
| ***Xenopus laevis*** oocytes | |
| **Volume (liter, logarithm, measurement unit)** | $10^{-15}$ $10^{-12}$ $10^{-9}$ $10^{-6}$ |
| **Unit** | femtoliter picoliter nanoliter microliter |

FemtoJet 4i is suitable for applications that require lower volume ranges; FemtoJet 4x is better suited for applications that require higher volume ranges. Both feature the same injection time and pressure parameters.

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# FemtoJet® 4i and FemtoJet® 4x



Both the FemtoJet 4i and FemtoJet 4x, can easily be combined for all types of micromanipulators, yet they form the perfect system with Eppendorf micromanipulators.

| Technical specifications | | |
|---|---|---|
| **Model** | **FemtoJet 4i** | **FemtoJet 4x** |
| **Dimensions (W × D × H)** | 21.3 × 20.7 × 25 cm | 21.3 × 20.7 × 25 cm |
| **Weight w/o accessories** | 5 kg | 3.5 kg |
| **Clean function** | Max. 6,000 hPa (87 psi) | Max. 6,000 hPa (87 psi) |
| **Compensation pressure** | 5 – 6,000 hPa (87 psi); can be set in increments of 1 hPa | 5 – 6,000 hPa (87 psi); can be set in increments of 1 hPa |
| **Injection pressure** | 5 – 6,000 hPa (87 psi); can be set in increments of 1 hPa | 5 – 6,000 hPa (87 psi); can be set in increments of 1 hPa |
| **Injection time interval** | 0.10 s – 99.99 s | 0.10 s – 99.99 s |
| **Pressure supply** | Integrated compressor | External pressure supply (not included) |

**Ordering information**

| Description | Order no. |
|---|---|
| **FemtoJet® 4i**, programmable microinjector with integrated pressure supply, including foot control | 5252 000 013 |
| **FemtoJet® 4x**, programmable microinjector with external pressure supply (not included), including foot control | 5253 000 017 |
| **Capillary holder 4**, for mounting microcapillaries | 5196 081 005 |
| **Capillary holder 4 slim shape**, for flat angle injections, for microcapillaries with outer diameter 1.0 mm | 5196 062 000 |
| **Injection tube**, for universal capillary holder and capillary holder 4, 2 m | 5252 070 054 |
| **O-ring set 4** , incl. 10 o-rings large, 10 o-rings small, 2 distance sleeves, o-ring removal tool for grip head set 4 | 5196 086 007 |
| **Grip head set 4 size 0**, for microcapillaries with outer diameter 1.0 to 1.1 mm (1 only) | 5196 082 001 |
| **Grip head set 4 size 1**, for microcapillaries with outer diameter 1.2 to 1.3 mm (1 only) | 5196 083 008 |
| **Grip head set 4 size 2**, for microcapillaries with outer diameter 1.4 to 1.5 mm (1 only) | 5196 084 004 |
| **Grip head set 4 size 3**, for microcapillaries with outer diameter 0.7 to 0.9 mm (1 only) | 5196 085 000 |
| **Grip head set 4 (slim shape)**, for Capillary holder 4 slim shape incl. 6 O-rings and 2 distance sleeves, for capillaries with outer diameter 1.0 mm | 5196 063 007 |
| **Hand control**, for triggering inject function | 5252 070 011 |
| **Y-cable FJ4**, Y-cable for connecting FemtoJet® 4i/4x with a PC and TransferMan® 4r or InjectMan® 4 | 5192 080 004 |
| **Y-cable PX**, Y-cable for connecting Eppendorf PiezoXpert® or a PC with TransferMan® 4r or InjectMan® 4 and FemtoJet® 4i/4x | 5192 081 000 |

Ordering information for other voltage options begins on page 450

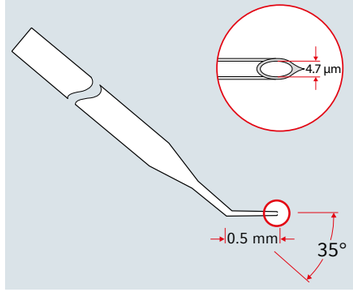






# Cell Transfer Capillaries

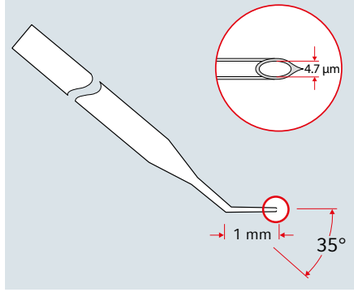
**TransferTip® RP (ICSI)**




**Applications**
> Sperm transfer into oocytes

**Description**
> 4.7 µm inner diameter
> 35° tip angle
> 0.5 mm flange length
> Fine tapered and rigid tip flange for optimal cell penetration
> Heat-formed spike eases penetration
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

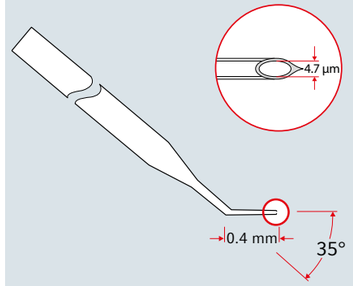
**TransferTip® R (ICSI)**




**Applications**
> Sperm transfer into oocytes

**Description**
> 4.7 µm inner diameter
> 35° tip angle
> 1 mm flange length
> Rigid tip flange for successful penetration
> Heat-formed spike eases penetration
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

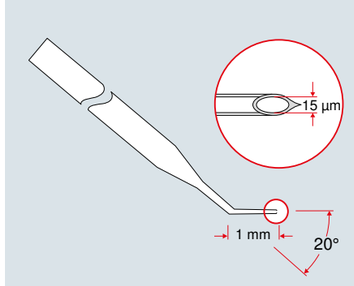
**TransferTip® F (ICSI)**




**Applications**
> Sperm transfer into oocytes

**Description**
> 4.7 µm inner diameter
> 35° tip angle
> 0.4 mm flange length
> Fine tapered and flexible tip flange for minimal cell trauma
> Heat-formed spike eases penetration
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

**TransferTip® (ES)**

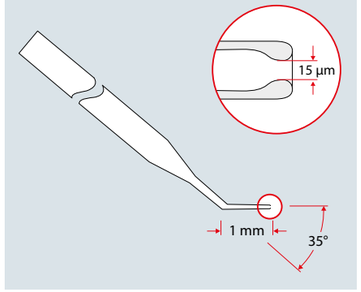



**Applications**
> Transfer of ES cells into mouse blastocyst or morula

**Description**
> 15 µm inner diameter
> 20° tip angle
> Rigid flange, 1 mm length
> Heat-formed spike eases penetration
> Sterilized via validated gamma irradiation
> Capillary safe for optimum protection

# Holding Capillaries

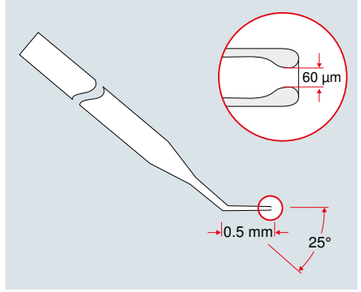
**VacuTip I**




**Applications**
> For holding oocytes, blastocysts, etc.

**Description**
> 15 µm inner diameter
> 100 µm outer diameter
> 35° tip angle
> Flange length 1 mm
> Smooth, rounded tip end for gentle holding
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

**VacuTip II**

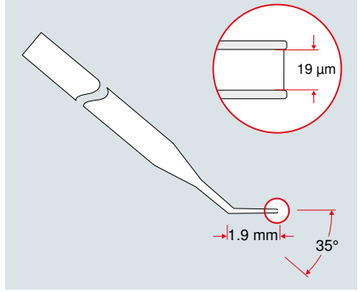



**Applications**
> For holding oocytes, blastocysts, etc.

**Description**
> 60 µm inner diameter
> 110 µm outer diameter
> 25° tip angle
> Flange length 0.5 mm
> Smooth rounded tip end for gentle holding
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

# Biopsy Tips

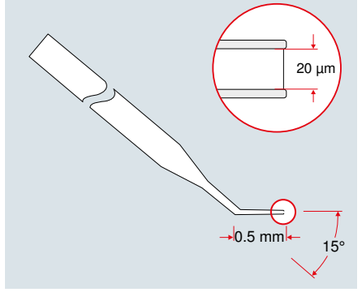
**Biopsy Tip I**




**Applications**
> Laser-assisted biopsy of cells and organelles

**Description**
> 19 µm inner diameter
> 35° tip angle
> 1.9 mm flange length
> Rounded tip end to minimize oolemma trauma
> Sterilized via validated gamma radiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

**Biopsy Tip II**

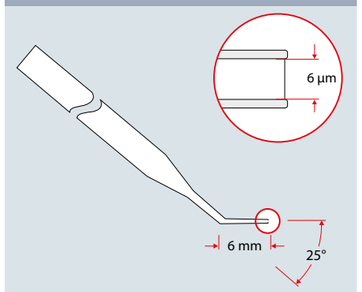



**Applications**
> Laser-assisted biopsy of cells and organelles

**Description**
> 20 µm inner diameter
> 15° tip angle
> 0.5 mm flange length
> Rounded tip end to minimize oolemma trauma
> Sterilized via validated gamma irradiation
> Non-cytotoxic (as proven by mouse embryo assay)
> Capillary safe for optimum protection

# Capillaries for Piezo-assisted Cell Transfer

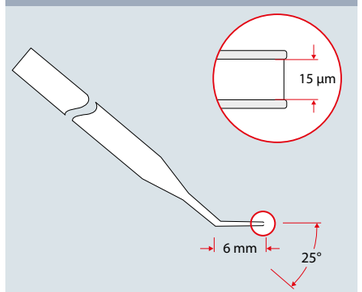
**Piezo Drill Tip ICSI**




**Applications**
> Piezo-assisted transfer of sperms into mammalian oocytes

**Description**
> 6 µm inner diameter
> 25° tip angle for optimal pulse transfer
> 6 mm flange length
> Non-polished, blunt tip end for optimal piezo pulse force transfer and minimal trauma
> Sterilized via validated gamma irradiation
> Capillary safe for optimum protection

**Piezo Drill Tip ES**




**Applications**
> Piezo-assisted transfer of embryonic stem cells into blastocysts

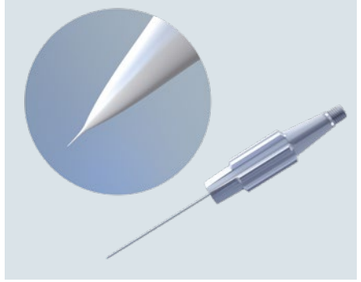
**Description**
> 15 µm inner diameter
> 25 ° tip angle for optimal pulse transfer
> 6 mm flange length
> Non-polished, blunt tip end for optimal piezo pulse force transfer and minimal trauma
> Sterilized via validated gamma irradiation
> Capillary safe for optimum protection

Technical specifications subject to change.

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# Microinjection Capillaries

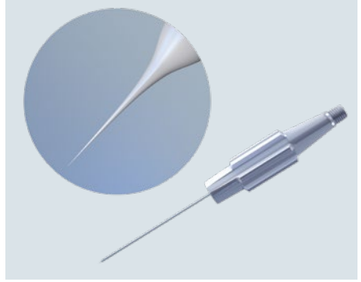
## Femtotips®



**Applications**
> Injection into adherent cells
> Near-surface injection into oocytes, early stage embryos and smaller organisms

**Description**
> 0.5 µm inner diameter
> Screw-in thread for quick assembly into FemtoJet capillary holder
> Sterile
> 100 % individual testing of every Femtotip using a flow parameter
> Safe transport packaging

## Femtotip II



**Applications**
> Injection into adherent cells
> Deep injection into mammalian oocytes, early stage embryos (e.g. Zebrafish) and smaller organisms

**Description**
> 0.5 µm inner diameter
> Screw-in thread for quick assembly into FemtoJet capillary holder
> Sterile
> 100 % individual testing of every Femtotip using a flow parameter
> Safe transport packaging



# Microloader™

## Microloader™



**Applications**
> Pipette tip for back-filling of Femtotips and other microcapillaries

**Description**
> Extremely long, fine and flexible tip for filling of microcapillaries for microinjection and where additional reach is needed
> Microloader tips and rack autoclavable
> Highest precision and accuracy when used with Eppendorf pipettes for 0.5 to 10 µL (gray control button)



**Learn more:**
**eppendorf.com/microcapillaries**

**Ordering information**

| Description | Order no. |
|---|---|
| **Microloader™**, tip for filling Femtotips and other glass microcapillaries (for research use only), 0.5 – 20 µL, 100 mm, light gray, 192 pcs. (2 racks × 96 pcs.) | 5242 956 003 |
| **Femtotips®**, injection capillary (for research use only), sterile, set of 20 | 5242 952 008 |
| **Femtotip II**, injection capillary (for research use only), sterile, set of 20 | 5242 957 000 |
| **VacuTip I**, holding capillary (for research use only), 35° tip angle, 15 µm inner diameter, 100 µm outer diameter, 1 mm flange, sterile, set of 25 | 5195 000 036 |
| **VacuTip II**, holding capillary (for research use only), 25° tip angle, 60 µm inner diameter, 110 µm outer diameter, 0.5 mm flange, sterile, set of 25 | 5195 000 044 |
| **TransferTip® RP (ICSI)**, for sperm injection using the ICSI technique (for research use only), 35° tip angle, 4 µm inner diameter, 0.5 mm flange, sterile, set of 25 | 5195 000 010 |
| **TransferTip® F (ICSI)**, for sperm injection using the ICSI technique (for research use only), 35° tip angle, 4 µm inner diameter, 0.4 mm flange, sterile, set of 25 | 5195 000 001 |
| **TransferTip® R (ICSI)**, for sperm injection using the ICSI technique (for research use only), 35° tip angle, 4 µm inner diameter, 1 mm flange, sterile, set of 25 | 5195 000 028 |
| **Biopsy Tip I**, capillary for laser-assisted biopsy of cells and organelles (for research use only), 35° tip angle, 19 µm inner diameter, 1.9 mm flange, sterile, set of 25 | 5195 000 052 |
| **Biopsy Tip II**, capillary for laser-assisted biopsy of cells and organelles (for research use only), 15° tip angle, 20 µm inner diameter, 0.5 mm flange, sterile, set of 25 | 5195 000 060 |
| **TransferTip® (ES)**, for ES cell transfer (for research use only), 20° tip angle, 15 µm inner diameter, 1 mm flange, sterile, set of 25 | 5195 000 079 |
| **Piezo Drill Tip ICSI**, for piezo-assisted mouse ICSI (for research use only), 25° tip angle, 6 µm inner diameter, 6 mm flange, sterile, set of 25 | 5195 000 087 |
| **Piezo Drill Tip ES**, for piezo-assisted mouse ES cell transfer (for research use only), 25° tip angle, 15 µm inner diameter, 6 mm flange, sterile, set of 25 | 5195 000 095 |

Technical specifications subject to change.

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# Workstations for Microinjection and Micromanipulation



**Workstation for cell transfer and injection and related techniques**
Recommended setup:
> 2 × TransferMan® 4r
> 1 × Microscope adapter (to be specified at time of order)
> 1 × CellTram® 4r Air
> 1 × CellTram® 4r Oil
> 1 × set of 25 TransferTip® microcapillaries (to be specified at time of order)
> 1 × set of antivibration pads (number and format depending on setup)

**Optional for piezo-assisted micromanipulation:**
> 1 × Eppendorf PiezoXpert®
> 1 × set of 25 Piezo Drill Tips (to be specified at time of order)



**Workstation for injection into adherent cells, plant cells, *Drosophila, C.elegans,* etc.**
Recommended setup:
> 1 × InjectMan® 4
> 1 × Microscope adapter (to be specified at time of order)
> 1 × FemtoJet® 4i or FemtoJet® 4x
> 1 × set of 20 Femtotips® (to be specified at time of order)
> 2 × racks of 96 Microloader
> 1 × set of antivibration pads (number and format depending on setup)

**Optional for adherent cell injection:**
> 1 × Eppendorf Cell Imaging Dishes



**Workstation for pronulear and cytoplasmic injection of nucleic acid solutions**
Recommended setup:
> 2 × TransferMan® 4r
> 1 × Microscope adapter (to be specified at time of order)
> 1 × CellTram® 4r Air
> 1 × FemtoJet® 4i or FemtoJet® 4x
> 1 × set of 20 Femtotip II
> 2 × racks of 96 Microloader
> 1 × set of antivibration pads (number and format depending on setup)

**Optional for piezo-assisted micromanipulation:**
> 1 × Eppendorf PiezoXpert®
> If necessary: 1 × Y cable PX)



**Workstation for injection into fish embryos**
Recommended setup:
> 1 × InjectMan 4
> 1 × Universal stand
> 1 × FemtoJet® 4x
> 1 × set of 20 Femtotips® (to be specified at time of order)
> 2 × racks of 96 Microloader

**Optional for piezo-assisted injection:**
> 1 × Eppendorf PiezoXpert®

i For more information go to www.eppendorf.com

Technical specifications subject to change.

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# Eppendorf Cell Culture Consumables

**Description**
How much impact does seemingly simple plastic have on your cell culture results?

Together with the medium nothing comes closer to your cells, especially for a long duration. Therefore, the chemical composition including all additives and the absence of certain factors is crucial. In addition to smart solutions for contamination prevention, simplified handling and improved optical performance, Eppendorf cell culture consumables offer a transparent and certified insight into material quality.
For improved reproducibility with minimized interference of your cell culture results. Improve now.




**Applications**
> Expansion and culture of adherent and suspension cells on TC treated or on non-treated polystyrene
> Performance of cell-based assays and microscopic analysis

www

www.eppendorf.com/ccc

| All non-coated Cell Culture Consumables | |
|---|---|
| **Surface** | Tissue culture treated or non-treated (TC-treatment test for cell attachment and cell growth: passed) |
| Sterility/Purity | All products are sterile: Production in controlled class 8 clean room environment based on ISO 14644-1. Sterility is assured by irradiation according to DIN EN ISO 11137-2015 with sterility assurance level (SAL) of $10^{-6}$. Sterility is tested according to USP, Ph. Eur. 2.6.1. Test for absence of pyrogens, RNase/DNase and DNA: passed |
| **Material** | Polysterene. The raw material used complies with USP Class VI standards |
| **Certficates** | |
| Trace metal release | Al, Pb, Cd, Ca, Cr, Cu, Mg, Mn, Ni, Hg, Zn (measured with inductively coupled plasma – mass spectrometry after 72 h at 40 °C incubation) |
| Leachables | > Material suppliers of Eppendorf do not use or intentionally incorporate the following agents into the materials for the production:<br>> Slip agents (including oleamide, erucamide, stearamides), Biocides (including di(2-hydroxyethyl) methyldodecylammonium salts (DiHEMDA)), Plasticizers (including phthalates), Bisphenol A, Latex, Antistatic agents, Metallic dyes, Mineral oil |
| Download certificates | www.eppendorf.com > Cell Culture Consumables > Certificates |
| Cytotoxicity testing | Tested in a cell-based assay for in-vitro cytotoxicity according to ISO 10993-5 by an external partner |
| Production conditions | Quality management system is certified according to ISO 9001, 13485 and 14001 |



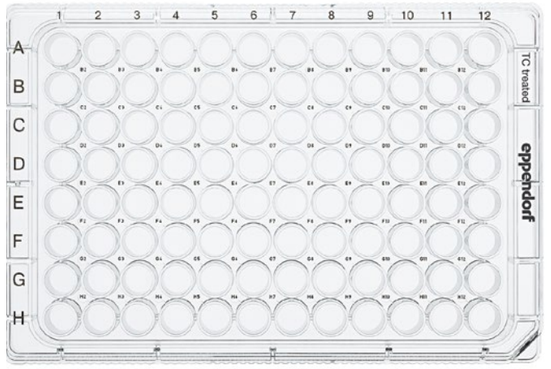


# Eppendorf Cell Culture Plates

**Description**
Keep your cells warm outside the incubator, avoid the edge effect and use more wells.

Eppendorf Cell Culture Plates are designed for expansion of smaller cell numbers and for cell-based assays.

The chimney-well design avoids inhomogeneous growth of cells in the outer ring of wells which reduces costs and increases efficiency. If cells need to spend more time outside of the incubator, filling the inter-well spaces of the plate will keep the temperature stable and prevent unwanted temperature shifts. We optimized the optical performance by enhancement of the planarity, material clarity, and reduction of the liquid meniscus to facilitate both manual and automated read-out.




**Product features**
> Prevent the edge effect and use 38 % more wells by filling the moat surrounding the outer wells with liquid
> Level out well-to-well temperature shifts outside the incubator by chimney-well design that enables filling of the inter-well spaces
> Robust stacking performance by pronounced rims on plate lid and excellent fitting of lid and base when used in stacks
> Minimized surface contact and reduced contamination risk by lid taps under the plate
> Easy and fast well identification by contrast rich individual well ID and OptiTrack alphanumeric labeling
> Easy differentiation of lid and plate bottom due to a pronounced corrugation and wider sized base
> Optimized gas and temperature transfer when incubating in stacks by pronounced ventilation gaps
> Optimized microscopical performance due to enhanced planarity, reduction of meniscus and clarity of the material

| Plates | | | | | |
|---|---|---|---|---|---|
| | **6-Well** | **12-Well** | **24-Well** | **48-Well** | **96-Well** |
| **Theoretical total volume** | 16.0 mL | 6.8 mL | 3.6 mL | 1.5 mL | 0.4 mL |
| **Work volume** | 3 – 5 mL | 1 – 2 mL | 0.5 – 1 mL | 0.3 – 0.5 mL | 0.1 – 0.2 mL |
| **Growth area/well**[1)] | 940.3 $mm^2$ | 391.1 $mm^2$ | 208.9 $mm^2$ | 85.6 $mm^2$ | 37.0 $mm^2$ |
| **Well diameter** | 34.6 mm | 22.4 mm | 16.2 mm | 10.4 mm | 6.8 mm |
| **L × W × H** | 127.8 × 85.5 × 20.0 mm | 127.8 × 85.5 × 20.0 mm | 127.8 × 85.5 × 20.0 mm | 127.8 × 85.5 × 20.0 mm | 127.8 × 85.5 × 14.4 mm |
| **Height with lid** | 23.2 mm | 23.2 mm | 23.2 mm | 23.2 mm | 17.6 mm |
| **Dimensions** | Conforms to ANSI/SBS I | Conforms to ANSI/SBS I | Conforms to ANSI/SBS I | Conforms to ANSI/SBS I | Conforms to ANSI/SBS I to V |
| **Centrifugation** | Can be centrifuged up to 2,500 x g. When stacked (up to 5 for 96-Well plates and up to 4 for all other formats) can be centrifuged up to 300 x g. | | | | |

[1)] For the initial seeding of cells, take into account the growth area in order to support optimal cell growth.

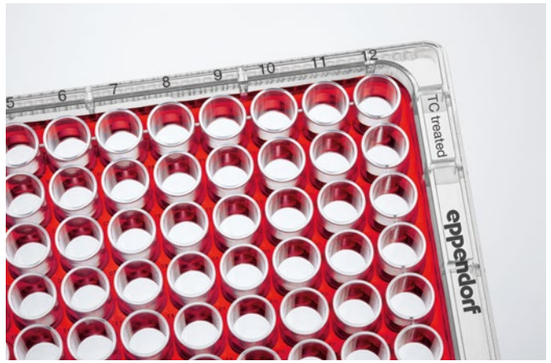
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# Eppendorf Cell Culture Plates

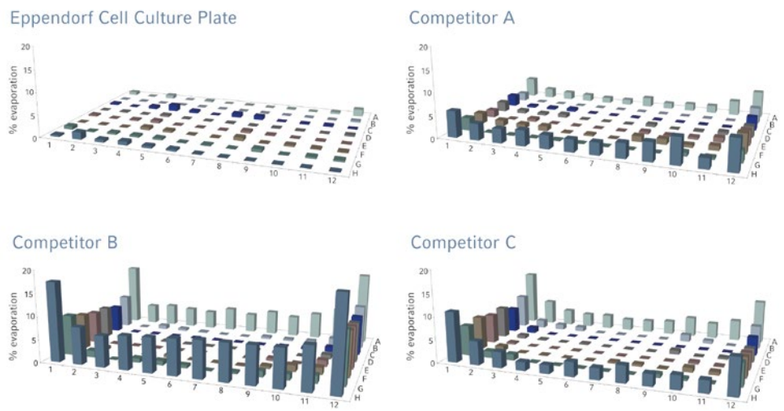
**Enhance reproducibility and use up to 38 % more wells**
Evaporation of cell culture medium plays a critical role in multi-well based cellular assays because it can deteriorate assay performance. As evaporation mainly affects the peripheral wells of a plate this phenomenon is called the edge effect. With the Eppendorf 96-Well Cell Culture Plate evaporation from the wells can be reduced to a minimum. The plate offers two options for insulating the wells. A moat surrounding the edge wells and the complete chimney design of the inner wells allow filling of the complete inter-well space with liquid. Together this results in a more homogeneous distribution of temperature and humidity throughout the plate and reduces the edge effect.




The filling of the surrounding moat prevents edge effect and yields up to 38 % more usable wells




Filling the complete inter-well space enables for additional insulation of all 96 wells. This not only prevents the edge effect, it also prevents well-to-well temperature shifts outside the incubator

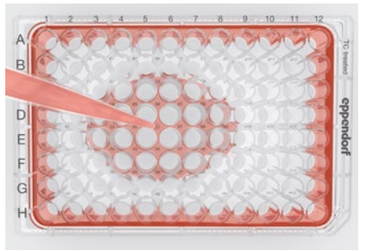



**Comparison of evaporation in different 96-well plates**
A comparison of different 96-well cell culture plates shows that filling the outer moat of the Eppendorf Cell Culture Plate leads to a superior well-to-well consistency in cell growth in the Eppendorf Cell Culture Plate. By this, the phenomenon of the edge effect can be minimized leading to reproducible performance in cell-based assays. For more information see Application Notes 326 and 384.





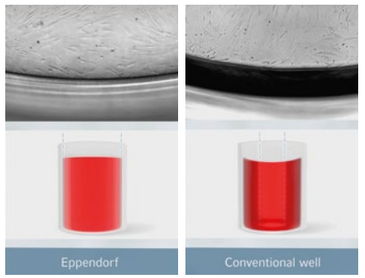
## Keep your cells warm outside




When you take your cells out of the incubator, how do you prevent rapid temperature shifts from affecting your cell performance and experimental reproducibility?

The inter-well spaces of Eppendorf Cell Culture Plates can be filled with liquid before incubation because of the chimney-well design. This keeps your cells warm and cozy outside.

## See more cells, harvest more clones

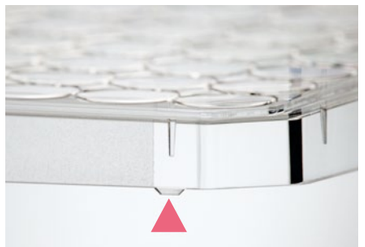



The surface of cell culture vessels needs to be modified physically during production to ensure cell attachment (TC treatment).

Undirected TC treatment causes the medium to form a meniscus and leads to optical interference. This results in shadow formation at the edge of the well.

Here, observation of the growth area is impeded and valuable clones get lost in analysis. A specialized, targeted surface treatment for Eppendorf Cell Culture Plates prevents this effect. Together with enhanced planarity this makes microscopic analysis of cells more reliable and faster.

## Put your lids down safely



What do you do with your lids if you need to open the plate completely for full access?

How do you put them on the bench surface without risking contamination?

Eppendorf Cell Culture Plates come with lid taps that minimize the surface contact and therefore significantly reduce the risk of contamination.

## Reproducibility in stacks



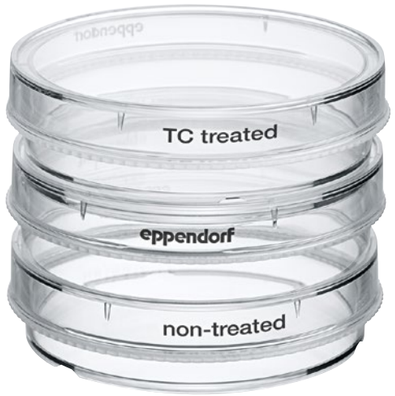
Did you ever see variations in cell growth on different plates of the same stack?

The reason is often a temperature heterogeneity caused by impaired air- flow between the plates. Ventilation gaps ensure proper airflow and avoid vacuum formation for enhanced handling safety.

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# Eppendorf Cell Culture Dishes

**Description**
Whenever you need direct access to your cells, dishes are the format of choice. Eppendorf cell culture dishes were designed with a focus on improved handling and stacking performance to ensure a new level of safe and carefree usage. It all starts with the packaging: the innovative design can be easily opened without tools and resealed without tape. The bags are shrinkable for space-saving and safe storage of unused dishes. With the Eppendorf dishes, a corrugated handling ring provides safety in handling during transportation and expansion of cells. A SplashProtect™ ring inside the dish lid prevents spillage and traps fluid if condensation occurs. Combined with the outstanding, sturdy stacking, our cell culture dishes are unparalleled in their ease of transport and handling, safety, and convenience.




**Product features**
> Unsurpassed safety in handling during transportation and while working due to corrugated handling ring
> SplashProtect™ ring inside of the dish lid traps liquid and prevents spills during transportation or incubation
> Pronounced rim on dish lid and exact fitting of lid and bottom ensure sturdy, secure stacking
> Easy differentiation of lid and dish bottom prevents unintended removal of the lid
> Packaging combines tool-free opening, resealable top and side for tape-free closing, and an easy solution to shrink the package for space-conscious storage
> SAL $10^{-6}$
> Certificates for leachables, trace metals, cytotoxicity etc. available

| Dishes | | | |
|---|---|---|---|
| | **35 mm** | **60 mm** | **100 mm** |
| **Theoretical total volume** | 8.1 mL | 26.6 mL | 99.2 mL |
| **Work volume** | 2.0 – 3.0 mL | 3.0 – 5.0 mL | 8.0 – 10.0 mL |
| **Growth area** | 9.5 $cm^2$ | 21.9 $cm^2$ | 56.8 $cm^2$ |
| **Diameter × height** | 36.7 × 10.8 mm | 59.7 × 14.0 mm | 93.8 × 19.4 mm |
| **Height with lid** | 12.5 mm | 15.7 mm | 21.3 mm |
| **Centrifugation** | Cannot be centrifuged. | | |



Safe handling by corrugated handling ring



The SplashProtect™ ring on the inside of the lide traps liquid and prevents spills during transport or incubation




Easy and tape-free closing is possible by a package-included resealing clip



# Eppendorf Cell Culture Flasks

**Description**
Flasks are the preferred vessel for long term cultivation or large-scale expansion of cells, providing the best protection against contamination. Unsurpassed protection of your cells from contaminants was one of the key requirements in developing the Eppendorf Cell Culture Flasks. A new, high efficiency air filter technology combines excellent protection with reliable gas exchange. In-line pressure testing for each flask guarantees leakage-free flasks for maximum workflow safety. The unique ConvexAccess™ shape of the neck facilitates the access to the growth area and makes cell seeding and media exchange much more convenient, safe, and reliable.

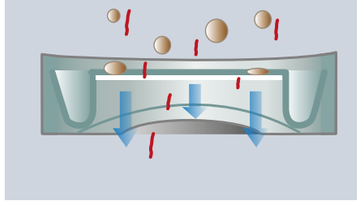



**Product features**
> 100 % Mycoplasma-safe advanced filter technology and optimized gas exchange
> Patented ConvexAccess™ geometry for facilitated access to growth area and easier and safe cell treatment
> Defined arrested position on plug-seal caps to prevent undesired closing
> Anti-rolling cap with corrugation facilitates cultivation steps when the cap needs to be set aside
> 100 % in-line control for leakage-free flasks and maximum safety
> Direct surface identification on flask and cap
> SAL $10^{-6}$
> Certificates for leachables, trace metals, cytotoxicity etc. available

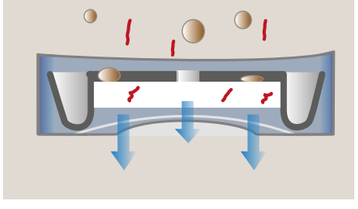
| Flasks | | | |
|---|---|---|---|
| | **T-25** | **T-75** | **T-175** |
| **Theoretical total volume** | 83.6 mL | 279.8 mL | 662.1 mL |
| **Work volume** | 3.0 – 7.0 mL | 8.0 – 20.0 mL | 20.0 – 30.0 mL |
| **Growth area** | 26.9 $cm^2$ | 77.9 $cm^2$ | 179.5 $cm^2$ |
| **L × W × H** | 99.0 × 56.0 × 37.0 mm | 163.0 × 82.0 × 46.6 mm | 230.0 × 122.0 × 48.0 mm |
| **Centrifugation** | Can be centrifuged with the suitable adapters; refer to the manufacturer's instruction. | | |



ConvexAccess™ neck for better and safer access to the growth surface



**Standard membrane filter**
Membrane filter with defined and constant pore size. Particles smaller than this (e.g., Mycoplasma) size can pass through.



Advanced filter technology of Eppendorf filter caps are 100 % Mycoplasma-safe in realistic and even more challenging experimental scenarios proven by an external testing institute. A certificate can be downloaded.

**How to prevent contamination in your cell culture lab?**

www.eppendorf.com/ccflasks-video2

**Download Whitepaper: Improved Handling of Cells and Protection against Contamination**

www.eppendorf.com/whitepaper024

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CELL CULTURE CONSUMABLES

# Eppendorf Cell Culture Consumables

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Cell Culture Plates, 6-Well**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| TC Treated, 5 mL, 60 plates, individually wrapped | 0030 720 113 |
| Non-Treated, 5 mL, 60 plates, individually wrapped | 0030 720 016 |
| TC Treated, 5 mL, 100 plates (10 bags × 10 plates) | 0030 720 130 |
| **Eppendorf Cell Culture Plates, 12-Well**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| TC Treated, 2 mL, 60 plates, individually wrapped | 0030 721 110 |
| Non-Treated, 2 mL, 60 plates, individually wrapped | 0030 721 012 |
| **Eppendorf Cell Culture Plates, 24-Well**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| TC Treated, 1 mL, 60 plates, individually wrapped | 0030 722 116 |
| Non-Treated, 1 mL, 60 plates, individually wrapped | 0030 722 019 |
| **Eppendorf Cell Culture Plates, 48-Well**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| TC Treated, 0.5 mL, 60 plates, individually wrapped | 0030 723 112 |
| Non-Treated, 0.5 mL, 60 plates, individually wrapped | 0030 723 015 |
| **Eppendorf Cell Culture Plates, 96-Well**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| TC Treated, 0.2 mL, 80 plates, individually wrapped | 0030 730 119 |
| Non-Treated, 0.2 mL, 80 plates, individually wrapped | 0030 730 011 |
| TC Treated, 0.2 mL, 100 plates (10 bags × 10 plates) | 0030 730 135 |

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Cell Culture Dishes, 35 mm**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| TC Treated, 3.0 mL, 300 dishes (30 bags × 10 dishes) | 0030 700 112 |
| Non-Treated, 3.0 mL, 300 dishes (30 bags × 10 dishes) | 0030 700 015 |
| **Eppendorf Cell Culture Dishes, 60 mm**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| TC Treated, 5.0 mL, 300 dishes (30 bags × 10 dishes) | 0030 701 119 |
| Non-Treated, 5.0 mL, 300 dishes (30 bags × 10 dishes) | 0030 701 011 |
| **Eppendorf Cell Culture Dishes, 100 mm**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| TC Treated, 10.0 mL, 300 dishes (30 bags × 10 dishes) | 0030 702 115 |
| Non-Treated, 10.0 mL, 300 dishes (30 bags × 10 dishes) | 0030 702 018 |

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Cell Culture Flasks T-25**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| with filter cap, TC Treated, 7.0 mL, 192 flasks (24 bags × 8 flasks) | 0030 710 126 |
| with plug-seal cap, TC Treated, 7.0 mL, 192 flasks (24 bags × 8 flasks) | 0030 710 118 |
| with filter cap, Non-Treated, 7.0 mL, 192 flasks (24 bags × 8 flasks) | 0030 710 029 |
| with plug-seal cap, Non-Treated, 7.0 mL, 192 flasks (24 bags × 8 flasks) | 0030 710 010 |
| **Eppendorf Cell Culture Flasks T-75**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| with filter cap, TC Treated, 20.0 mL, 80 flasks (16 bags × 5 flasks) | 0030 711 122 |
| with plug-seal cap, TC Treated, 20.0 mL, 80 flasks (16 bags × 5 flasks) | 0030 711 114 |
| with filter cap, Non-Treated, 20.0 mL, 80 flasks (16 bags × 5 flasks) | 0030 711 025 |
| with plug-seal cap, Non-Treated, 20.0 mL, 80 flasks (16 bags × 5 flasks) | 0030 711 017 |
| **Eppendorf Cell Culture Flasks T-175**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| with filter cap, TC Treated, 30.0 mL, 48 flasks (12 bags × 4 flasks) | 0030 712 129 |
| with plug-seal cap, TC Treated, 30.0 mL, 48 flasks (12 bags × 4 flasks) | 0030 712 110 |
| with filter cap, Non-Treated, 30.0 mL, 48 flasks (12 bags × 4 flasks) | 0030 712 021 |
| with plug-seal cap, Non-Treated, 30.0 mL, 48 flasks (12 bags × 4 flasks) | 0030 712 013 |



Technical specifications subject to change.



# CCCadvanced® FN1 motifs

**Description**
Tired of spending precious lab time coating vessels for your iPSC- or MSC-culture, sometimes even with unpredictable culturing results? How about a xeno-free, or even better, a synthetic surface, ready-to-use for fully defined conditions of your stem cell culture? Improve your experiments with the new CCCadvanced® FN1 motifs cultureware today.

Get a sample, let us support you with transition and convince yourself.




**Product features**
> Ready-to-use, synthetic surface for reliable expansion and differentiation
> Synthetic RGD-derived motifs with optimized steric configuration
> Easy logistics with long shelf life of 36 months at room temperature
> Advanced protection against contamination and temperature shifts outside the incubator
> Guideline for easy transition of iPSCs to FN1 motifs surface available
> GMP-compliant

**Main applications**
Expansion and differentiation of:
> Stem cells (e.g., hiPSCs, hMSCs)
> Primary cells
> Other ECM-sensitive eukaryotic cells
> Feeder-free cell culture
> Restrictive culture conditions (serum-and xeno-free)



Available formats: 6/24/96-well plates, T-75/T-175 flasks, and 30/60 mm dishes

## Papers on detailed expansion analysis

**hiPSCs - Long-term expansion**
Analysis of growth rate, morphology and differentiation potential during 20 successive passages + comparison to Corning® Matrigel®

www.eppendorf.com/appnote389

**hMSCs-BM - Long-term expansion**
Analysis of growth rate, morphology and differentiation potential during 10 successive passages + comparison to competitors

www.eppendorf.com/appnote390

**Handling tips for iPSC-transfer**
Get some tips for successful transition of iPSCs from your current surface to CCCadvanced® FN1 motifs

www.eppendorf.com/HandlingTips

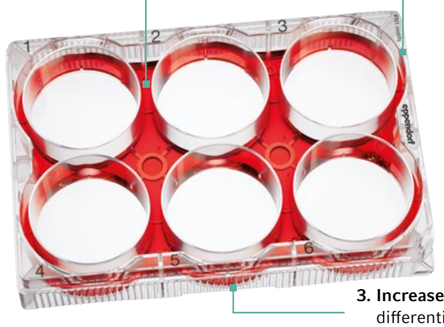


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# Optimized to protect your stem cells

**1. Optimized temperature stability during handling outside the incubator** with inter-well space filling

**2. Safer transport in stacks** with stacking aid on the lid




**3. Increased handling safety** with easy differentiation of lid and plate

| **Materials** | |
|---|---|
| Material | Polystyrene, meets requirements of USP Class VI |
| Quality Management System (QMS) | Manufactured in compliance to standard QMS requirements (e.g. ISO 13485) |
| Surface | Coated with synthetic RGD-derived motifs (optimized steric configuration to mimic ECM proteins) |
| Xeno-free/synthetic | Manufactured by using animal- and human-component-free materials |
| Compatibility | Compatible with a broad range of cell dissociation reagents as well as serum-, animal- and human component-free media. More information under www.eppendorf.com/ccc-advanced-shop under „Notes & Papers“ |
| **Ambient Conditions** | |
| Working Temperature | 15 °C to 37 °C |
| Storage and shelf life | Shelf life of 36 months from date of manufacture (stored dry at 15 °C to 30 °C) |
| **Certificates** | |
| General | Leachables, Trace metal release, Production conditions, Purity and cytotoxicity |
| Lot-specific (tested by LADR, an independent accredited laboratory) | > Absence of DNase/RNase (Method: DNA/RNA digestion, Limit: 1.0 x $10^{-6}$ Kunitz-units (DNase)/ 1.0 x $10^{-9}$ Kunitz-units (RNase)<br>> Absence of human or bacterial DNA (Method: qPCR, Limit: < 2 pg for DNA, < 50 fg for RNA)<br>> Endotoxin level (Method: (LAL Test) Eur. Ph. 2.6.14, Limit: < 0.001 EU/ml)<br>> Sterility (Method: Ph. Eur. 2.6.1, Limit: no microbial growth detected)<br>> Cell growth test on Eppendorf Mimitate FN1 motifs consumables |
| Production conditions | Production takes place in a controlled class 5 clean room environment according to ISO 14644-1 and EU-GMP Grade A. Eppendorf FN1 motifs Consumables are manufactured using aseptic processing according to ISO 13408-1 “Aseptic processing of healthcare products”. Each step was validated to ensure that the Eppendorf FN1 motifs Consumables meet the Sterility Assurance Level (SAL) $10^{-3}$. The consistent reliable quality of Eppendorf FN1 motifs Consumables is ensured by monitored process controls and checks from the raw material to the final packed product. |

**Ordering information**

| | Description | Order no. |
|---|---|---|
| | **CCCadvanced® FN1 motifs Cell Culture Plates, 6-well**, with lid, flat bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, 5 plates, individually wrapped | 0038 110 010 |
| | **CCCadvanced® FN1 motifs Cell Culture Plates, 24-well**, with lid, flat bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, 5 plates, individually wrapped | 0038 110 030 |
| New | **CCCadvanced® FN1 motifs Cell Culture Plates, 96-well**, with lid, flat bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, 5 plates, individually wrapped | 0038 110 050 |
| | **CCCadvanced® FN1 motifs Cell Culture Flasks, T-75**, with filter cap, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, 5 flasks, individually wrapped | 0038 120 020 |
| | **CCCadvanced® FN1 motifs Cell Culture Flasks, T-175**, with filter cap, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, 5 flasks, individually wrapped | 0038 120 030 |
| New | **CCCadvanced® FN1 motifs Cell Culture Dishes, 60 mm**, Sterile, pyrogen free, free of detectable RNase & DNase, free of detectable mouse and human DNA, non-cytotoxic, 18 dishes (3 bags × 6 dishes) | 0038 130 020 |
| New | **CCCadvanced® FN1 motifs Cell Culture Dishes, 35 mm**, Sterile, pyrogen free, free of detectable RNase & DNase, free of detectable mouse and human DNA, non-cytotoxic, 18 dishes (6 bags × 3 dishes) | 0038 130 010 |

Technical specifications subject to change.

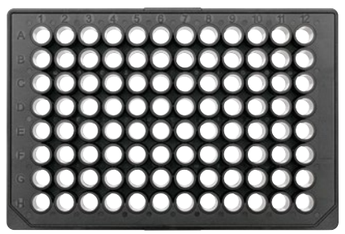




# Eppendorf Cell Imaging Consumables

**Description**
Eppendorf Cell Imaging Consumables allow sophisticated imaging and microscopy applications on an expert level. The products combine premium performance with innovative solutions for demanding optical analysis and fluorescent stainings. Whether you perform inverse microscopy, life cell imaging or fluorescence-based analysis:
Find tailored solutions for single and parallel analysis as well as High Content Analysis (HCA) with Eppendorf Cell Imaging Consumables.









**Eppendorf Cell Imaging Plates**
Eppendorf Cell Imaging Plates with film bottom have excellent light transmission rates even for UV-A and UV-B light. The autofluorescence of the material is lower than a conventional polystyrene bottom with a significant reduction in background signaling. Furthermore, the film bottom enables high gas transfer: oxygen supply and equilibration with the atmosphere are achieved directly through the plate bottom. The glass bottom plates offer excellent planarity for sophisticated microscopic analysis.

**Eppendorf Cell Imaging Slides**
Eppendorf Cell Imaging Slides and Coverglasses offer a high chemical resistance of materials for reliable and reproducible results in fixation protocols. Tool-free and easy removal of chambers from Cell Imaging Slides and Coverglasses makes working easy, convenient and reliable. Products are available with one to eight chambers to suit a variety of applications.

**Eppendorf Cell Imaging Dishes**
Eppendorf Cell Imaging Dishes ensure excellent results in high resolution microscopy of living and fixed cells. The bottom of the 35 mm dishes is made from cover glass.
The central 18 mm cavity is lower than the level of the surrounding polystyrene dish, which enables the concentration of the cells during seeding on the glass surface and helps to reduce costs of antibodies and dyes. Plate handling and reference are easy, safe, and convenient due to a polygonal gripping zone and directional orientation marking.

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# Eppendorf Cell Imaging Consumables

**Product features**
> Outstanding performance of glass and film surfaces for adherent cells due to innovative tissue culture treatment
> Low intrinsic fluorescence and high light transmission for enhanced signal-to-noise ratio
> Easy access to the complete imaging area with immersion lenses for alleviated handling and advanced compatibility with microscopes
> Ergonomic and robust design
> Precise planarity supports high resolution microscopes and autofocus systems



**Special Features Cell Imaging Plates**
> All plate types have a low skirt design perfectly suited to access all wells with immersion objectives
> An excellent signal-to-noise ratio can be expected regardless of the plate bottom type
> Excellent planarity of all plates ensures unsurpassed manual handling and reliable results in automated devices
> Individually wrapped for reliable purity
> The ultrathin film bottom allows for high gas permeability and UV-light transparancy, ideal for phototoxicity and hypoxic studies



**Special Features Cell Imaging Slides and Coverglasses**
> Choose between a microscopic slide with 1 mm thickness or a 170 µm coverglass, both providing excellent signal-to-noise ratios in fluorescent staining protocols
> Chambers and lids show high chemical resistance, so fixation even with acetone is possible without problems
> Benefit from easy and tool-free removal of the chambers with minimized glue residues



**Special Features Cell Imaging Dishes**
> An 18 mm central cavity for defined growth and staining of cells for reduced costs of antibodies and dyes
> Polygonal gripping zone for improved handling
> Macroscopic orientation marks facilitate easy orientation
> Low rim side walls allow easy access for microinjection/micromanipulation
> Available thickness: 145 µm and 170 µm

**How to simplify handling of imaging consumables**

www.eppendorf.com/cic-video1

**How to mount cells for fluorescent microscopy**

www.eppendorf.com/cic-video2

i For more information go to www.eppendorf.com

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Cell Imaging Plates**, with lid, black with clear F-bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| 24-Well Cell Imaging Plate with 170 µm coverglass bottom, individually wrapped, 20 pcs. | 0030 741 021 |
| 96-Well Cell Imaging Plate with 170 µm coverglass bottom, individually wrapped, 20 pcs. | 0030 741 030 |
| 24-Well Cell Imaging Plate with 25 µm film bottom, individually wrapped, 20 pcs. | 0030 741 005 |
| 96-Well Cell Imaging Plate with 25 µm film bottom, individually wrapped, 20 pcs. | 0030 741 013 |

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Cell Imaging Dishes**, with coverglass bottom, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| 35 × 10 mm Cell Imaging Dish 145 µm (1), 2 dishes per bag, 30 pcs. | 0030 740 009 |
| 35 × 10 mm Cell Imaging Dish 170 µm (1.5), 2 dishes per bag, 30 pcs. | 0030 740 017 |

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Cell Imaging Slides**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| Cell Imaging Slide with 1 chamber, individually wrapped, 16 pcs. | 0030 742 044 |
| Cell Imaging Slide with 2 chambers, individually wrapped, 16 pcs. | 0030 742 052 |
| Cell Imaging Slide with 4 chambers, individually wrapped, 16 pcs. | 0030 742 060 |
| Cell Imaging Slide with 8 chambers, individually wrapped, 16 pcs. | 0030 742 079 |
| **Eppendorf Cell Imaging Coverglasses**, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic, Sterile, pyrogen-, DNase-, RNase-, human and bacterial DNA-free. Non-cytotoxic | |
| Cell Imaging Coverglass with 1 chamber, individually wrapped, 16 pcs. | 0030 742 001 |
| Cell Imaging Coverglass with 2 chambers, individually wrapped, 16 pcs. | 0030 742 010 |
| Cell Imaging Coverglass with 4 chambers, individually wrapped, 16 pcs. | 0030 742 028 |
| Cell Imaging Coverglass with 8 chambers, individually wrapped, 16 pcs. | 0030 742 036 |

Technical specifications subject to change.

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# Cell Handling














| Model | Galaxy® 48 R | CellXpert® C170i | CellXpert® C170 | New Brunswick™ S41i |
|---|---|---|---|---|
| **Positioning** | Mid size (48 L) $CO_2$ incubator for isolation applications (also hypoxic) and small labs | Large (170 L) $CO_2$ incubator with advanced interface, easy monitoring/documentation/cleaning etc. | Basic version of the C170i | Large (170 L) $CO_2$ incubator with integrated shaker inside |
| **Page(s)** | **324** | **326** | **328** | **331** |
| **Capacity** | 48 L | 170 L | 170 L | 170 L |
| **Dimensions (W × D × H)** | 48.3 × 47.5 × 64.5 cm | 71.8 × 71.5 × 90.0 cm | 71.8 × 71.5 × 90.0 cm | 87.5 × 73 × 85 cm / 34.4 × 28.7 × 33.5 in |
| **Dimensions internal (W × D × H)** | 40.1 × 30.5 × 40.1 cm | 53.9 × 44.5 × 69.2 cm | 53.9 × 44.5 × 69.2 cm | 69.1 × 44.4 × 53.8 cm |
| **Weight w/o accessories** | 31.8 kg | 113 kg | 105 kg | 152 kg |
| **Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)** | B, U, F, S (x2) | B, U, F, S (x2) | B, U, F, S (x2) | U, F, S (x2) |
| **Display** | standard display | VisioNize® touch interface | standard display | touchscreen |
| **High temperature disinfection (HTD)** | 120 °C optional | 180 °C standard | 140 °C standard | 120 °C standard |
| **Sealed inner glass doors** | – | standard | standard | standard |
| **Segmented doors** | 2 segments | 4/8 segments | 1 | – |
| **Temperature range** | Ambient +4 °C to 50 °C | Ambient +4 °C to 50 °C | Ambient +4 °C to 50 °C | Ambient +4 °C to 50 °C |
| **Temperature control increment** | ±0.1 °C | ±0.1 °C | ±0.1 °C | ±0.1 °C |
| **Temperature stability at 37 °C** | ±0.1 °C | ±0.1 °C | ±0.1 °C | ±0.1 °C |
| **Temperature uniformity** | ±0.3 °C | ±0.3 °C | ±0.3 °C | ±0.25 °C at 37 °C |
| **$CO_2$ range** | 0.1 – 20 % | 0.1 – 20 % | 0.1 – 20 % | 0.1 – 20 % |
| **$CO_2$ control increment** | ±0.1 % | ±0.1 % | ±0.1 % | ±0.1 % |
| **$CO_2$ stability at 5 % $CO_2$** | ±0.2 % | ±0.1 % | ±0.1 % | ±0.2 % |
| **$CO_2$ uniformity** | ±0.1 % | ±0.1 % | ±0.1 % | ±0.1 % |
| **$O_2$ control** | 0.1 – 19 % or 1 – 19 % optional | 1 – 20 % | – | – |
| **Number of shelves (standard/max)** | 3/6 | 4/8 | 3/8 | 1/2 |
| **Copper options** | – | chamber, water tray, shelves | water tray, shelves | – |
| **Access port** | 1 | 2 | 2 | 1 |
| **On-board data logging** | standard | standard | – | standard |
| **Data export interface** | RS-232, VisioNize® box | USB, Ethernet, VisioNize® onboard | Ethernet, VisioNize® box | Ethernet, VisioNize® box |
| **Water/Humidity monitoring** | optional | optional (available beginning of 2020) | – | – |
| **BMS relay** | standard | standard | standard | standard |
| **Remote Device Monitoring and Notifications (VisioNize®)** | VisioNize-qualified | VisioNize-onboard | VisioNize-qualified | VisioNize-qualified |





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Technical specifications subject to change.

epServices for premium performance

On page 396 you will find detailed information on services for these products!

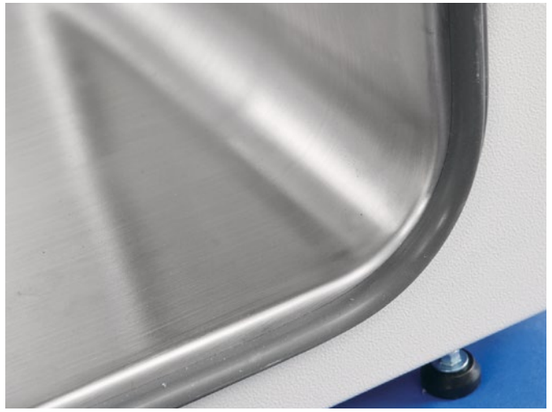
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# Galaxy® 48 R

**Description**
The Galaxy 48 R $CO_2$ Incubator is a mid-sized, 48 liter incubator designed to optimize performance in applications that require a higher level of isolation and can be used in small labs. The 48 R series of incubators feature a large backlit display with on screen help menu, control and data logging of temperature, $CO_2$, door openings, alarms, and optional $O_2$ gas and humidity monitoring.




**Product features**
> 48 Liter (1.7 ft³) provides mid-sized capacity within a small footprint
> Options: High Temp. Disinfection (4 hour at 120 °C), $O_2$ control (e.g. for hypoxic studies), 2-split inner glass door
> Fanless design offers more usable space
> Six-sided direct heating system provides a uniform incubated environment
> Deep-drawn, easy-to-clean stainless steel chamber without seams or welds
> Low gas consumption
> Integrated alarm relay



One piece seamless chamber minimizes contamination risk and simplifies cleaning



Integrated, heated, viewing window in outer door allows observation without disturbing cultures

**Ordering information**

| Description | Order no. |
|---|---|
| **Galaxy® 48 R**, 48 L, Stock, 230 V/50/60 Hz | |
| Standard | CO48300001 |
| 1 – 19 % $O_2$ Control | CO48320001 |
| High-Temp Disinfection | CO48310001 |
| High-Temp Disinfection, 1 – 19 % $O_2$ Control | CO48330001 |
| **Galaxy® 48 R**, 48 L, Built to Order, 230 V/50/60 Hz | |
| High-Temp Disinfection, 2-Split Inner Door | CO48312001 |
| High-Temp Disinfection, 0.1 – 19 % $O_2$ Control | CO48310041 |
| High-Temp Disinfection, 0.1 – 19 % $O_2$ Control, Humidity Package | CO48310061 |
| High-Temp Disinfection, 0.1 – 19 % $O_2$ Control, 2-Split Inner Door | CO48312041 |
| High-Temp Disinfection, 0.1 – 19 % $O_2$ Control, 2-Split Inner Door, Humidity Package | CO48312061 |
| High-Temp Disinfection, 1 – 19 % $O_2$ Control, 2-Split Inner Door | CO48332001 |
| High-Temp Disinfection, 1 – 19 % $O_2$ Control, 2-Split Inner Door, Humidity Package | CO48332011 |

Ordering information for other voltage options begins on page 450

**Galaxy® 48 R shelves, pans and stacking stand**

| Description | Order no. |
|---|---|
| **Lower stacking frame**, with casters | 6705 070 103 |
| **Upper stacking frame** | 6705 070 111 |
| **Under-bench stand** | 6705 070 120 |
| **2-split inner door** | 6705 851 040 |
| **Multi-position shelf rack**, 6 position | 6705 851 016 |
| **Additional shelf**, perforated | P0628-5080 |
| **Additional humidity tray**, stainless steel | P0628-5940 |

i For more information go to www.eppendorf.com

Technical specifications subject to change.

# CellXpert® C170i

**Make your cell culture ready for the future**
Are you looking for a 170 L-class $CO_2$ incubator that provides flexibility for the future, makes monitoring and documentation easy and provides optimized growth conditions, even for your sensitive cells? An incubator that also saves money and is produced with highest quality standards? Welcome the new CellXpert C170i and learn more below.

CellXpert – a new family of Eppendorf $CO_2$ incubators




**Stay flexible for the future**
> In-field changeable door handle position (left/right)
> $O_2$-control upgradeable in-field later
> VisioNize® touch interface for easy and full control over parameter setting, monitoring, documentation, customized tasks and alarms
> Easy documentation
> Two access ports for experiments inside the incubator with user-validated devices

**Safety for your cells**
> Uniform temperature verified at 27 points (German DIN 12880 norm) by four temperature sensors and four individually controlled heating circuits
> Fast temperature and $CO_2$ recovery < 5 min without overshoot with advanced microprocessor control
> 180 °C high temperature disinfection
> Vibration and turbulence protection by fan-less design

**Save money**
> Up to 25 % more usable space with fan-less design
> Significantly reduced gas consumption by smart gas control
> No internal spare parts that need regular replacement (Hepa-filters, UV-lamps etc.)
> Increased workflow speed for handling, cleaning and documentation

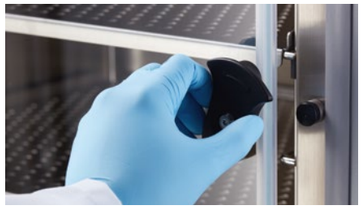
i For more information go to www.eppendorf.com




**Full control and easy documentation** with the intuitive to use, clearly arranged VisioNize® touch interface. Export performance charts or HTD-protocols within seconds via the integrated USB ports at the front.



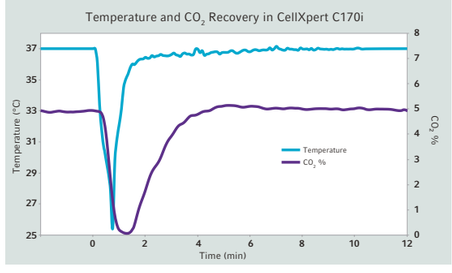




**Easy to handle:** The magnetic door locking concept significantly reduces opening forces of the tightly sealed doors. The dual way inner door latches are simply pulled to open and pushed or turned to close the inner door. This way, the mechanism can adjust to different user habits. It also offers advanced vibration protection for sensitive cells when the door latch is turned to close.






360° ZOOM

**Highly homogenous growth conditions and fast recovery:** A fast feedback $CO_2$ sensor, 4 temperature sensors, four individually controlled heating circuits and advanced microprocessor control ensure optimal growth conditions.

**Want to know more about the CellXpert and see it in 360°?**
www.eppendorf.com/cellxpert

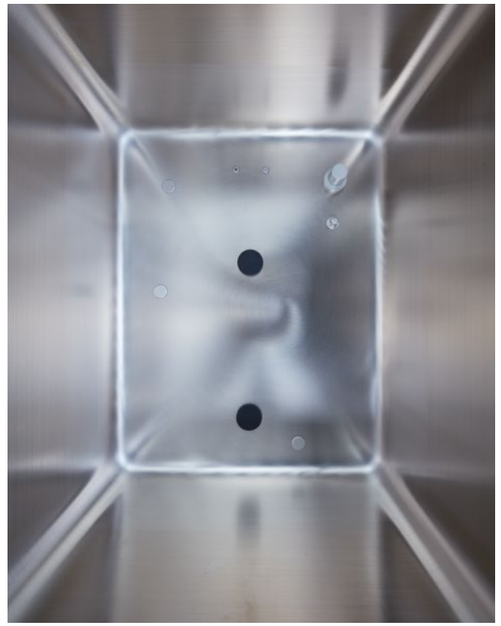
$CO_2$ INCUBATORS

Technical specifications subject to change.

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# CellXpert® C170i





**Up to 25 % more space:** The fan-less design, the smart racking system and an innovative insulation concept ensure highest capacity with minimal footprint.

**Easy cleaning and disinfection:** Disassemble the interior within 40 seconds, quickly wipe the seamless chamber, and start the HTD by push of a button. If it is easy, it gets done.

| | C170i | C170 |
|---|---|---|
| **Display** | VisioNize® touch interface, onboard data log | Standard display |
| **High temperature disinfection** | 180 °C standard (protocol downloadable) | 140 °C standard |
| **$O_2$ control** | 1 - 20 % optional (upgradeable in-field later) | – |
| **In-field upgradeable options** | > $O_2$ control<br>> humidity monitoring[1)]<br>> water monitoring[1)]<br>> door handle position | > door handle position |
| **Inner door latch** | magnetic, dual way | magnetic, single way |
| **VisioNize®** | onboard | box |
| **VisioNize® device management software including:**<br>> User management<br>> Performance charts<br>> HTD-wizard<br>> Customized tasks<br>> Remote monitoring<br>> Notifications | standard | optional |
| **USB port** | 2 (front) | no |

[1)] Available beginning of 2020

i For more information go to www.eppendorf.com

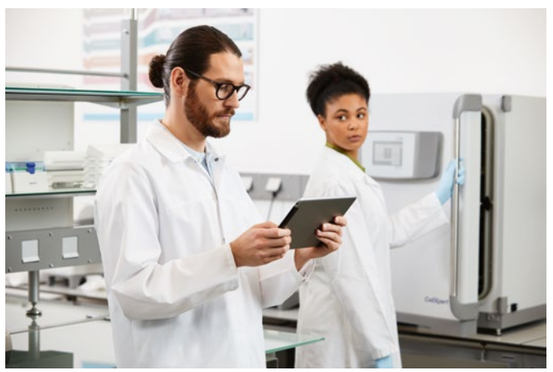
Technical specifications subject to change.

**Ordering information**

| Segmented doors | Door handle | $O_2$ control | Water/Humidity monitoring | Copper package | Order no. |
|---|---|---|---|---|---|
| 1 | right | – | – | – | 6731 000 011 |
| 1 | right | – | – | yes | 6731 000 511 |
| 1 | right | – | humidity monitoring | – | 6731 000 111 |
| 1 | right | – | water-level monitoring | – | 6731 000 211 |
| 1 | right | – | water and humidity monitoring package | – | 6731 000 311 |
| 1 | right | yes | – | – | 6731 001 011 |
| 1 | right | yes | water and humidity monitoring package | yes | 6731 001 811 |
| 1 | left | – | – | – | 6731 000 021 |
| 1 | left | – | – | yes | 6731 000 521 |
| 1 | left | – | humidity monitoring | – | 6731 000 121 |
| 1 | left | – | water-level monitoring | – | 6731 000 221 |
| 1 | left | – | water and humidity monitoring package | – | 6731 000 321 |
| 1 | left | yes | – | – | 6731 001 021 |
| 1 | left | yes | water and humidity monitoring package | yes | 6731 001 821 |
| 4 | right | – | – | – | 6731 000 041 |
| 4 | right | – | water and humidity monitoring package | – | 6731 000 341 |
| 4 | right | – | water and humidity monitoring package | yes | 6731 000 841 |
| 4 | right | yes | – | – | 6731 001 041 |
| 4 | right | yes | water and humidity monitoring package | – | 6731 001 341 |
| 4 | left | – | – | – | 6731 000 051 |
| 4 | left | – | water and humidity monitoring package | – | 6731 000 351 |
| 4 | left | – | water and humidity monitoring package | yes | 6731 000 851 |
| 4 | left | yes | water and humidity monitoring package | – | 6731 001 351 |
| 4 | left | yes | – | – | 6731 001 051 |
| 8 | right | yes | – | – | 6731 001 081 |
| 8 | left | yes | – | – | 6731 001 091 |

**CellXpert® C170/C170i shelves, pans and stacking stand**

| Description | Order no. |
|---|---|
| **Stacking stand, lower frame**, with castors | 6731 070 093 |
| **Stacking stand, upper frame** | 6731 070 085 |
| **Shelves**, for 170 L incubators, 2 pcs. | 6710 859 009 |
| **Multi-position shelf rack**, 8 position | P0628-6390 |
| **Copper water tray**, for 170 L incubators | P0628-6260 |
| **Water tray**, for 170 L incubators | P0628-6140 |
| **Copper shelves**, for 170 L incubators, 2 pcs. | 6710 859 106 |
| **Set of copper water tray and 4 copper shelves for 170 L incubators** | 6731 080 013 |



Want to know more about smart cultivation with VisioNize® or eLabJournal®?
Visit our website to learn more and order:

**www.eppendorf.com/you-and-your-lab**

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# CellXpert® C170

**A reliable partner for your cell culture**
Looking for a $CO_2$ incubator with a highly uniform atmosphere, fast recovery and effective contamination protection? A device that is easy to clean and use with a high useable volume to footprint ratio? Learn more about the CellXpert C170, the basic version of the C170i.
CellXpert – a new family of Eppendorf $CO_2$ incubators.




**Optimal growth conditions**
> Uniform temperature verified at 27 points (German DIN 12880 norm) by multiple temperature sensors and four individually controlled heating circuits
> Fast temperature and $CO_2$ recovery < 5 min without overshoot with advanced microprocessor control
> Vibration and turbulence protection by fan-less design

**Effective contamination prevention**
> 140 °C High Temperature Disinfection
> Easy cleaning with seamless chamber, fast disassembling
> Fan-less design
> No internal Hepa-filters that potentially contaminate the chamber after HTD

**Save money**
> Up to 25 % more usable space with fan-less design
> No internal spare parts that need regular replacement (Hepa-filters, UV-lamps etc.)
> Increased workflow speed for handling and cleaning

**Ordering information**

| Description | Order no. |
|---|---|
| **CellXpert® C170**, non-segmented inner door, handle right side, water tray, shelves, 220 – 240 V/50 – 60 Hz | 6734 000 011 |

Ordering information for other voltage options begins on page 450





# New Brunswick™ S41i

**Description**
Reproducibility of your results, e.g. in protein expression, highly relies on atmosphere accuracy and protection from fan-induced medium evaporation? You cannot risk loss of samples due to contamination of your shaker? And you do not want to spend too much time on programming, changing $CO_2$ cylinders or reliable cleaning?

Have a look at the smart and versatile solutions the S41i $CO_2$ incubator shaker offers and compare it with your current solution.




| New Brunswick™ S41i | |
|---|---|
| **Universal platform** | **M1334-9920** |
| **125 mL Erlenmeyer flasks** | **20** |
| **250 mL Erlenmeyer flasks** | **16** |
| **500 mL Erlenmeyer flasks** | **12** |
| **1 L Erlenmeyer flasks** | **10** |
| **2 L Erlenmeyer flasks** | **4** |
| **2 L Lauber Thompson** | **4** |
| **2.8 L Fernbach flasks** | **3** |
| **3 L Erlenmeyer flasks** | **3** |
| **4 L Erlenmeyer flasks** | **3** |
| **Test tube rack, small, 30.0 × 8.0 × 12.9 cm** | **6** |
| **Test tube rack, medium, 36 × 8 × 12.9 cm** | **3** |
| **Test tube rack, large, 45 × 8 × 12.9 cm** | **3** |
| **Platform size** | **36 × 61 cm (14 × 24 in)** |

**Product features**
> Experimental flexibility: Perforated shelf allows for static incubation at the same time as shaking
> Stable, uniform and vibration-free shaking: robust Innova triple eccentric drive
> Saves gas and provides an optimal growing atmosphere: Smart gas control (0.1 - 20% $CO_2$)
> Ensures surface sterility: automatic high temperature disinfection and inner/outer door
> Fast and reliable cleaning: Smooth, seamless chamber
> Increasable capacity: Two devices stackable
> Precise and easy control: Intuitive touch screen
> Humidification included
> Shaking speed 25 - 400 rpm (25 - 300 rpm if stacked)

# New Brunswick™ S41i





**Applications**
> Culturing of suspension cells requiring gentle agitation
> Protein expression
> Incubating adherent cells on the shelf included with the unit: adding a 2nd static shelf and using the shaking platform as a 3rd shelf
> Adherent cells such as stem cells that require both incubation and periodic gentle shaking

**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ S41i**, 170 L, $CO_2$ incubator shaker with inner shelf and touch screen control, 1 shelf, 1 (2. optional) shelves, 230 V, orbit diameter 2.5 cm (1 in) | S41I230011 |
| **Interchangeable platform for New Brunswick™ S41i**, 35.6 × 61 cm (14 × 24 in) | |
| Universal platform | M1334-9920 |
| 125 mL Erlenmeyer flask dedicated platform, comes complete with 32 clamps installed | M1334-9921 |
| 250 mL Erlenmeyer flask dedicated platform, comes complete with 24 clamps installed | M1334-9922 |
| 500 mL Erlenmeyer flask dedicated platform, comes complete with 15 clamps installed | M1334-9923 |
| 1 L Erlenmeyer flask dedicated platform, comes complete with 11 clamps installed | M1334-9924 |
| 2 L Erlenmeyer flask dedicated platform, comes complete with 6 clamps installed | M1334-9925 |
| 2.8 L Erlenmeyer flask dedicated platform, comes complete with 3 clamps installed | M1334-9926 |
| 4 L Erlenmeyer flask dedicated platform, comes complete with 3 clamps installed | M1334-9927 |
| **Stacking kit**, allows up to 2 each New Brunswick™ S41i shakers to be stacked one on top of the other | P0628-6502 |
| **Additional shelf for New Brunswick™ S41i**, perforated, can easily be added to the New Brunswick S41i for static cell culture of adherent cells | P0628-6181 |
| **Sticky pad adapter kit**, 2 anodized aluminum sheets, each 15.2 × 45.7 cm (6 × 18 in) | M1250-9504 |
| **Sticky pad**, 20 × 20 cm (8 × 8 in) | M1250-9700 |

↗ Ordering information for other voltage options begins on page 450







# $CO_2$ Incubators Accessories




**$CO_2$ Incubators Accessories**

| Description | Order no. |
|---|---|
| **Galaxy® $CO_2$, $O_2$, and RH gas analyzer** | P0628-7890 |
| **Autozero port filter** | P0628-5060 |
| **$CO_2$ cylinder auto-changeover controller** | P0628-5000 |
| **In-line gas filter for Eppendorf $CO_2$ incubators, 2 pieces** | 6710 070 251 |
| **Temperature probe**, 5 mm tip for gas analyzer | P0628-7881 |
| **Temperature probe**, 100 mm tip for gas analyzer | P0628-7880 |
| **Galaxy® $CO_2$ gas analyzer** | P0628-6150 |
| **Galaxy® $CO_2$ and $O_2$ gas analyzer** | P0628-6831 |

CO2 INCUBATORS

# Cell Handling











| Model | Innova® S44i | Innova® 44/44R | Innova® 43/43R |
|---|---|---|---|
| Page(s) | 338 | 340 | 341 |
| Temperature range | Incubated: 5 °C above ambient to 80 °C; Refrigerated: 20 °C below ambient (min. 4 °C) to 80 °C. | 5 °C above ambient to 80 °C. (Innova 44R: 20 °C below ambient (min. 4 °C) to 80 °C)[1] | 5 °C above ambient to 80 °C. (Innova 43R: 20 °C below ambient (min. 4 °C) to 80 °C)[1] |
| Temperature uniformity | ±0.25 °C at 37 °C and 250 rpm | ±0.25 °C at 37 °C | ±0.25 °C at 37 °C |
| Speed range | 2.5 cm orbit: 20 – 400 rpm, 5.1 cm orbit: 20 – 300 rpm | 25 – 400 rpm with 2.5 cm orbit; 25 – 300 rpm with 5.1 cm orbit or 2 stacked units; 25 – 250 rpm with 3 stacked units | 25 – 500 rpm with 2.5 cm orbit; 25 – 300 rpm with 5.1 cm orbit |
| Orbit | 2.5/5.1 cm (1/2 in) | 2.5/5.1 cm (1/2 in) | 2.5/5.1 cm (1/2 in) |
| Benchtop (B), Under Bench (U), Floor (F) or Stackable (S) | F, S (x3) | F, S (x3) | F |
| Platform size | 76 × 62 cm (30 × 24 in) | 76 × 46 cm (30 × 18 in) | 76 × 46 cm (30 × 18 in) |
| Slide-out platform | yes | yes | no |
| Drive mechanism | Eppendorf X-Drive with semi-automated counterbalance setting | Triple-eccentric counterbalanced drive | Triple-eccentric counterbalanced drive |
| Motor type | Solid state, DC brushless motor | Solid state, DC brushless motor | Solid state, DC brushless motor |
| Dimensions (W × D × H) | 118.2 × 86.9 × 63 cm / 46.5 × 34.2 × 24.8 in | 134.9 × 84.3 × 66 cm / 53.1 × 33.2 × 26 in | 115.6 × 81.3 × 103.1 cm / 45.5 × 20 × 40.6 in |
| External height (with lid/door open) | 115.8 cm (45.6 in) excluding base | 113.9 cm (47 in) excluding base | 165.1 cm (65 in) |
| External depth (with lid/door open) | – | – | – |
| Space-saving glide-up doors | yes | yes | no |
| Weight w/o accessories | 198 kg / 437 lb | 238 kg / 525 lb | 209 kg / 445 lb |
| Audible and visual alarms | yes | yes | yes |
| Available program modes | > Constant speed and temperature<br>> Time shaking mode up to 95:59 hours<br>> Multi step programming/cycling – Parameters include shaking speed, temperature, time and (optional) photosynthetic light intensity | > Constant speed and temperature<br>> Programmable multi-steps<br>> RS-232 communication port | > Constant speed and temperature<br>> Programmable multi-steps<br>> RS-232 communication port |
| Steps per program | unlimited | 15 | 15 |
| Stored programs | unlimited | 4 | 4 |
| Timer | 0.01 – 95.59 h, continuous | 0.01 – 99.59 h, continuous | 0.01 – 99.59 h, continuous |
| Memory | Non volatile with automatic power failure restart | Non volatile with automatic power failure restart | Non volatile with automatic power failure restart |
| cETLus and CE marked | yes | yes | yes |
| Remote Device Monitoring and Notifications (VisioNize®) | VisioNize-onboard | VisioNize-qualified | VisioNize-qualified |

[1] Configuration dependent











| Innova® 42/42R | Innova® 40/40R | Excella® E25/E25R | Excella® E24/E24R |
|---|---|---|---|
| 342 | 343 | 344 | 345 |
| 5 °C above ambient to 80 °C. (Innova 42R: 20 °C below ambient (min. 4 °C) to 80 °C)[1] | 5 °C above ambient to 80 °C. (Innova 40R: 15 °C below ambient (min. 4 °C) to 80 °C) | 7 °C above ambient to 60 °C. (Excella 25R: 15 °C below ambient (min. 4 °C) to 60 °C) | 7 °C above ambient to 60 °C. (Excella 24R: 15 °C below ambient to 60 °C) |
| ±0.25 °C at 37 °C | ±0.25 °C at 37 °C | ±0.5 °C at 37 °C | ±0.1 °C at 37 °C |
| 25 – 400 rpm; 25 – 300 rpm when using flasks > 500 mL in stacked devices | 25 – 500 rpm | 50 – 400 rpm | 50 – 400 rpm |
| 1.9/2.5 cm (0.75/1 in) | 1.9/2.5 cm (0.75/1 in) | 2.5 cm (1 in) | 1.9 cm (0.75 in) |
| B, U, S (x2) | B | F | B |
| 46 × 46 cm (18 × 18 in) | 46 × 46 cm (18 × 18 in) | 76 × 46 cm (30 × 18 in) | 46 × 46 cm (18 × 18 in) |
| no | no | no | no |
| Triple-eccentric counterbalanced drive | Triple-eccentric counterbalanced drive | Heavy-duty unicentric counterbalanced drive | Heavy-duty unicentric counterbalanced drive |
| Solid state, DC brushless motor | Solid state, DC brushless motor | Solid state, DC brushless motor | Solid state, DC brushless motor |
| 63.5 × 74.5 × 881.8 cm / 25 × 29.3 × 32.8 in | 55.9 × 76.2 × 61 cm / 22 × 30 × 24 in | 127 × 77 × 105.9 cm / 50 × 30.5 × 41.7 in | 56 × 76.2 × 61 cm / 22 × 30 × 24 in |
| – | 101.6 cm (40 in) | 165.7 cm (65.2 in) | 101.6 cm (40 in) |
| 131 cm (51.6 in) | – | – | – |
| no | no | no | no |
| 98 kg / 217 lb | 60 kg / 133 lb | 204.5 kg / 450 lb | 60 kg / 133 lb |
| yes | yes | yes | yes |
| > Constant speed and temperature<br>> Programmable multi-steps<br>> RS-232 communication port | > Constant speed and temperature<br>> Programmable multi-steps<br>> RS-232 communication port | > Constant speed and temperature<br>> Timed shaking | > Constant speed and temperature<br>> Timed shaking |
| 15 | 15 | – | – |
| 4 | 4 | – | – |
| 0.01 – 99.59 h, continuous | 0.01 – 99.59 h, continuous | 0.1 – 99.9 h | 0.1 – 99.9 h |
| Non volatile with automatic power failure restart | Non volatile with automatic power failure restart | Non volatile with automatic power failure restart | Non volatile with automatic power failure restart |
| yes | yes | yes | yes |
| VisioNize-qualified | VisioNize-qualified | – | – |

SELECTION GUIDE

SELECTION GUIDE

eppendorf.com/eshop

Technical specifications subject to change.

epServices for premium performance

On page 398 you will find detailed information on services for these products!

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# Cell Handling







| Model | Innova® 2350 | Innova® 2300 |
|---|---|---|
| **Page(s)** | **347** | **347** |
| **Dimensions (W × D × H)** | 91.4 × 61 × 16.3 cm / 36 × 24 × 6.4 in | 76.2 × 56.6 × 16.3 cm / 30 × 22.3 × 6.4 in |
| **Weight w/o accessories** | 52 kg / 115 lb | 48 kg / 105 lb |
| **Audible and visual alarms** | yes | yes |
| **Drive mechanism** | Triple-eccentric counterbalanced drive | Triple-eccentric counterbalanced drive |
| **cETLus and CE marked** | yes | yes |
| **Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)** | B | B |
| **Motor type** | Solid state, DC brushless motor | Solid state, DC brushless motor |
| **Orbit** | 2.5/5.1 cm (1/2 in) | 2.5/5.1 cm (1/2 in) |
| **Platform size** | 91 × 61 cm (36 × 24 in) | 76 × 46 cm (30 × 18 in) |
| **Timer** | 0.1 – 99.9 h | 0.1 – 99.9 h |
| **Remote Device Monitoring and Notifications (VisioNize®)** | – | – |





| Model | Innova® 2050 | Innova® 2000 |
|---|---|---|
| **Page(s)** | **349** | **349** |
| **Dimensions (W × D × H)** | 43 × 37 × 14.6 cm / 17 × 14.5 × 5.8 in | 35.5 × 37 × 14.6 cm / 14 × 14.5 × 5.8 in |
| **Weight w/o accessories** | 16 kg / 35 lb | 15 kg / 33 lb |
| **Audible and visual alarms** | yes | yes |
| **Drive mechanism** | Triple-eccentric counterbalanced drive | Triple-eccentric counterbalanced drive |
| **cETLus and CE marked** | yes | yes |
| **Benchtop (B), Under Bench (U), Floor (F) or Stackable (S)** | B | B |
| **Motor type** | Solid state, DC brushless motor | Solid state, DC brushless motor |
| **Orbit** | 1.9 cm (0.75 in) | 1.9 cm (0.75 in) |
| **Platform size** | 41 × 31 cm (16 × 12 in) | 33 × 28 cm (13 × 11 in) |
| **Timer** | 0.1 – 99.9 h | 0.1 – 99.9 h |
| **Remote Device Monitoring and Notifications (VisioNize®)** | – | – |

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Technical specifications subject to change.





| Innova® 2150 | Innova® 2100 |
|---|---|
| **348** | **348** |
| 60.1 × 59.1 × 16.3 cm / 24 × 23.3 × 6.4 in | 48 × 55.5 × 16.3 cm / 19 × 21.9 × 6.4 in |
| 36 kg / 80 lb | 34 kg / 75 lb |
| yes | yes |
| Triple-eccentric counterbalanced drive | Triple-eccentric counterbalanced drive |
| yes | yes |
| B | B |
| Solid state, DC brushless motor | Solid state, DC brushless motor |
| 1.9 cm (0.75 in) | 1.9 cm (0.75 in) |
| 61 × 46 cm (24 × 18 in) | 46 × 46 cm (18 × 18 in) |
| 0.1 – 99.9 h | 0.1 – 99.9 h |
| – | – |

epServices for premium performance

On page 398 you will find detailed information on services for these products!

## Enabling Connections




**VisioNize® box:**
The easy-to-install hardware hub connects your VisioNize-qualified devices to VisioNize. The hub works as a translation system enabling data collection of the device data in VisioNize. Gain access to the functions and features of VisioNize. Learn more on the page 11.

**www.eppendorf.com/visionize**

**Ordering information**

| Description | Order no. |
|---|---|
| **VisioNize® box**, with mains/power adapter | 1006 000 009 |
| **VisioNize® box cable**, Ethernet, length 5 m | 1006 073 006 |





SELECTION GUIDE

# Innova® S44i

**Description**
The Innova S44i is a large capacity, temperature controlled (refrigerated) stackable shaker allowing the use of high-volume flasks in large numbers in a compact footprint. The iconic slide up door provides easy access to your samples. The Eppendorf X-Drive allows for shaking high loads at high speeds – even when stacked. When there is an instance of an unbalanced load, the X-Drive's counterbalance adjustment allows for smooth shaking. The optional photosynthetic LED lightbank provides the ability to evenly light the entire platform across a wide intensity range – and it's programmable.  The VisioNize touch interface introduces onboard monitoring, user management and the ability to export data via USB; or network integration via ethernet. A comprehensive service offering including IQ/OQ is also available.




**Product features**
> High flask capacity in a smaller footprint to grow more cells in less space – 33 % more 500 mL flask capacity and 80 % more weight capacity than Innova 44
> The new Eppendorf X-Drive with semi-automated counterbalance technology for smooth and vibration-free agitation
> Double- or triple- stack the S44i for increased capacity
> VisioNize touch interface with flexible programming, integrated data- and eventlogging function and user management capability
> New slide-out platform design with quick-release handle provides easy access to samples even at the back of the platform
> Glide-up door for space-saving placement and convenient chamber access. Easily reach all your samples using the slide-out platform
> Optional static shelf for parallel static cultivation
> Photosynthetic LED light bank option provides uniform light across the platform for photosynthetic organisms

**Applications**
> Grow bacteria, yeast, fungus, photosynthetic organisms
> Plasmid DNA production and protein expression
> Process optimization and media development
> Media screening and optimization
> Seed cultures for bioprocess scale-up
> Biofuel research
> Food quality testing

VisioNize

This icon tags VisioNize-onboard devices which can be conveniently connected to VisioNize for device monitoring and notifications customizable to meet your needs.
Further information are available at page 11.



LED lamps with adjustable intensity for uniform light distribution across the platform



Eppendorf X-Drive with five eccentric mounting points and adjustable counterbalance provides dependable operation

| Technical specifications | |
|---|---|
| **Model** | **Innova® S44i** |
| **Temperature range** | Incubated: 5 °C above ambient to 80 °C;<br>Refrigerated: 20 °C below ambient (min. 4 °C) to 80 °C. |
| **Temperature accuracy** | ±0.1 °C at 37 °C |
| **Temperature uniformity** | ±0.25 °C at 37 °C and 250 rpm |
| **Agitation** | |
| **Speed** | 2.5 cm (1 in) orbit: 20 – 400 rpm<br>5.1 cm (2 in) orbit: 20 – 300 rpm |
| **Orbit** | 2.5/5.1 cm (1/2 in) |
| **Drive mechanism** | Eppendorf X-Drive with semi-automated counterbalance setting |
| **Maximum platform load** | 35.4 kg (78 lb) |
| **Available program modes** | > Constant speed and temperature<br>> Time shaking mode up to 95:59 hours<br>> Multi step programming/cycling – Parameters include shaking speed, temperature, time and (optional) photosynthetic light intensity |
| **Data export interface** | USB, Ethernet |
| **Photosynthetic LED light bank** | |
| **Intensity range** | 15 to 150 PAR adjustable in increments of 1  parProgrammable (e.g. day night cycles)Programmable (e.g. day night cycles) |
| **Main wavelength** | Wide band spectrum; 400 – 700 nm |
| **Net weight** | Incubated: 181.4 kg (411 lb)<br>Refrigerated: 188.2 kg (437 lb) |
| **Dimensions (W × D × H)** | 118.2 × 86.9 × 63 cm / 46.5 × 34.2 × 24.8 in |

| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **Innova® S44i**, incubated, 230 V, orbit diameter 2.5 cm (1 in) | S44I300001 |
| **Innova® S44i**, refrigerated, 230 V, orbit diameter 2.5 cm (1 in) | S44I310001 |
| **Innova® S44i**, refrigerated, photosynthetic LED light bank, 230 V, orbit diameter 2.5 cm (1 in) | S44I311001 |
| **Innova® S44i**, incubated, 230 V, orbit diameter 5.1 cm (2 in) | S44I320001 |
| **Innova® S44i**, refrigerated, 230 V, orbit diameter 5.1 cm (2 in) | S44I330001 |
| **Innova® S44i**, refrigerated, photosynthetic LED light bank, 230 V, orbit diameter 5.1 cm (2 in) | S44I331001 |
| **10.5 cm (4.1 in) positioning base** | S44I041001 |
| **30.7 cm (12.1 in) positioning base** | S44I041002 |
| **Stacking kit for double stack of Innova® S44i** | S44I041005 |
| **Stacking kit for Innova® S44i to Innova® 44/44R** | S44I041006 |
| **Stacking kit for triple stack of Innova®  S44i** | S44I041003 |
| **Static incubation shelf** | S44I042001 |
| **Darkening window shade**, (removable) | S44I042002 |
| **Universal platform**, (76 × 62 cm) | S44I040001 |
| **125 mL Erlenmeyer flask dedicated platform**, 86 clamps | S44I040002 |
| **250 mL Erlenmeyer flask dedicated platform**, 53 clamps | S44I040003 |
| **500 mL Erlenmeyer flask dedicated platform**, 39 clamps | S44I040004 |
| **1 L Erlenmeyer flask dedicated platform**, 23 clamps | S44I040005 |
| **2 L Erlenmeyer flask dedicated platform**, 15 clamps | S44I040006 |

Ordering information for other voltage options begins on page 450



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# New Brunswick™ Innova® 44/44R

**Description**
The Innova 44 and 44R (refrigerated) stackable shakers are designed for culturing a wide variety of organisms in flasks up to 5L. The cast iron triple-eccentric counterbalanced drive is specifically designed to support high-speed applications and heavy workloads – the design has stood the test of time for over 70 years and continues to enable scientists today. A water reservoir with drain allows for humidification of the chamber, whilst protecting the drive unit from any spills. The simple user interface allows for easy programming of speed, temperature, time and when installed, the photo-synthetic light bank. The VisioNize box can be added to enhance monitoring and adds notifications functionality. Regular servicing can be carried out in-situ, allowing for minimized downtime.




**Product features**
> Stackable – up to three units for optimized space savings
> Continuous mode or multiple-step programming
> Programmable Innova controls automatically change temperature, speed, and optional photosynthetic and UV germicidal lights at timed intervals (Store up to 4 individual programs with 15 steps each)
> Accessory platform (sold separately) accommodates flasks up to 5 L
> Slide-out platform mechanism – provides easy access to flasks
> Built in spill pan catches accidental spills to aid cleaning and protects drive mechanism. Also allows use as a water reservoir to reduce sample evaporation
> Pull-out service module allows access to all electronic and heating/cooling components for easy service, without having to unstack the units

**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 44** | |
| 230 V, orbit diameter 2.5 cm (1 in) | M1282-0002 |
| 230 V, orbit diameter 5.1 cm (2 in) | M1282-0012 |
| **New Brunswick™ Innova® 44R** | |
| 230 V, orbit diameter 2.5 cm (1 in) | M1282-0006 |
| 230 V, orbit diameter 5.1 cm (2 in) | M1282-0016 |
| **Stacking kit**, for stacking one additional 44 or 44R (3 × Innova 44/44R can be placed in a single stack) | M1282-0500 |
| **Photosynthetic light bank**, for Innova® 44R only, orbit diameter 2.5/5.1 cm (1/2 in) | M1282-9922 |
| **12-port gassing manifold**, for Innova® 44R, orbit diameter 2.5/5.1 cm (1/2 in) | M1282-0291 |
| **Humidity monitor**, for Innova® 44R, orbit diameter 2.5/5.1 cm (1/2 in) | M1282-5011 |
| **UV germicidal light**, for Innova® 44R only, orbit diameter 2.5/5.1 cm (1/2 in) | M1282-9921 |
| **Remote alarm option**, for Innova® 44/44, Innova® 43/43, Innova® 42/42 or Innova® 40/40 | M1320-8029 |
| **Universal platform for Innova® 44/44R**, 76 × 46 cm, not interchangeable with other 76 × 46 cm platforms | |
| Universal platform | M1282-9904 |
| **Aluminum platform for Innova® 44/44R**, 76 × 46 cm, not interchangeable with other 76 × 46 cm platforms | |
| 125 mL Erlenmeyer flask dedicated platform | M1282-9905 |
| 250 mL Erlenmeyer flask dedicated platform | M1282-9906 |
| 500 mL Erlenmeyer flask dedicated platform | M1282-9907 |
| 1 L Erlenmeyer flask dedicated platform | M1282-9908 |
| 2 L Erlenmeyer flask dedicated platform | M1282-9909 |
| Sticky pad platform, sticky pads sold separately | M1282-9913 |
| **Heavy duty 0.95 cm-thick aluminum plate platform for Innova® 44/44R only**, 76 × 46 cm, not interchangeable with other 76 × 46 cm platforms. Heavy-duty platforms are recommended for shaking full loads of flasks, 1 L and larger, containing more than 20 % volume or with baffles | |
| Heavy duty universal platform | M1282-9915 |
| 1 L Erlenmeyer flask dedicated platform, heavy duty | M1282-9925 |
| 2 L Erlenmeyer flask dedicated platform, heavy duty | M1282-9926 |
| **Positioning bases**, increases the height of the shaker for easier access, for Innova® 44/44R | |
| 10.2 cm, short | M1282-0600 |
| 30.5 cm, medium | M1282-0800 |
| 40.6 cm, tall | M1282-0700 |







# New Brunswick™ Innova® 43/43R

**Description**
The Innova 43 and 43R (refrigerated) shakers are the perfect choice for handling large volumes of cultures with precision and ease. The top loading design allows for vertical placement of the flasks. A pedal operated lid and a window in the sidewall overlooking the samples are examples of why our customers continue to trust our designs. The cast iron triple-eccentric counterbalanced drive is specifically designed to support high-speed applications and heavy workloads – the design has stood the test of time for over 70 years and continues to enable scientists today. The simple user interface allows for easy programming of speed, temperature, time and the VisioNize box can be added to enhance monitoring and adds notifications functionality. Regular servicing can be carried out in-situ, allowing for minimized downtime.




**Product features**
> Console style shaker/incubator with triple-eccentric drive – provides large capacity shaking for flasks up to 6 L
> Continuous mode or multiple-step programming
> Programmable Innova controls – automatically changes temperature, speed, and optional photosynthetic and UV germicidal lights at timed intervals (Store up to 4 individual programs with 15 steps each)
> Top mounted controls and display – for easy, ergonomic viewing and setting
> Foot pedal release with easy to opening lid – provides hands-free door opening/closing operation and effortless access to samples
> Built in spill pan catches accidental spills to aid cleaning and protects drive mechanism. Also allows use as a water reservoir to reduce sample evaporation

**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 43** | |
| 230 V, orbit diameter 2.5 cm (1 in) | M1320-0002 |
| 230 V, orbit diameter 5.1 cm (2 in) | M1320-0012 |
| **New Brunswick™ Innova® 43R** | |
| 230 V, orbit diameter 2.5 cm (1 in) | M1320-0006 |
| 230 V, orbit diameter 5.1 cm (2 in) | M1320-0016 |
| **Photosynthetic light bank**, for Innova® 43R only, orbit diameter 2.5/5.1 cm (1/2 in) | M1320-0300 |
| **UV germicidal light**, in the airflow path outside the chamber reduces the bio-burden of circulated air, Innova® 43R only, orbit diameter 2.5/5.1 cm (1/2 in) | M1320-0400 |
| **12-port gassing manifold**, permits direct gassing into flasks, orbit diameter 2.5/5.1 cm (1/2 in) | M1320-0500 |
| **Humidity monitor**, orbit diameter 2.5/5.1 cm (1/2 in) | M1320-0600 |
| **Remote alarm option**, for Innova® 44/44, Innova® 43/43, Innova® 42/42 or Innova® 40/40 | M1320-8029 |
| **Platforms for Innova® 2300/43/43R, Excella® E10/E25/E25R**, 76 × 46 cm, aluminum | |
| Universal platform, aluminum | M1250-9920 |
| 50 mL Erlenmeyer flask dedicated platform | M1191-9908 |
| 125 mL Erlenmeyer flask dedicated platform | M1191-9909 |
| 250 mL Erlenmeyer flask dedicated platform | M1191-9910 |
| 500 mL Erlenmeyer flask dedicated platform | M1191-9911 |
| 1 L Erlenmeyer flask dedicated platform | AG-1 |
| 2 L Erlenmeyer flask dedicated platform | AG-2 |
| Sticky pad platform, sticky pads sold separately, anodized Aluminum | M1250-9904 |
| **Utility tray**, with non-skid rubber surface | AG-00 |

↗ Ordering information for other voltage options begins on page 450

# New Brunswick™ Innova® 42/42R

**Description**
The Innova 42 and 42R (refrigerated) shakers are our most versatile incubator shakers in terms of placement and options. They can be stacked up to two units high and can also be placed on or under a standard height laboratory bench. In every scenario, the side opening door/s allow users access right up to the chamber. Options include a static culture drawer, gassing manifold, remote alarm, and humidity monitor and drip pan. Additionally, a photosynthetic light bank and UV germicidal light are available for the 42R.

The cast iron triple-eccentric counterbalanced drive is specifically designed to support high-speed applications and heavy workloads – the design has stood the test of time for over 70 years and continues to enable scientists today. The simple user interface allows for easy programming of speed, temperature, time and when installed, the photosynthetic light bank. The VisioNize box can be added to enhance monitoring and adds notifications functionality. Regular servicing can be carried out in-situ, allowing for minimized downtime.




**Product features**
> Continuous, timed or Multi-step programming
> Programmable Innova controls automatically changes temperature, speed, and optional photosynthetic and UV germicidal lights at timed intervals (Storage up to 4 individual programs with each 15 steps)
> Large viewing window and internal light provide easy viewing of samples without the need to open the door
> Integrated sub platforms diverts spills away from drive
> Built in spill pan catches accidental spills to aid cleaning and protects drive mechanism. Also allows use as a water reservoir to reduce sampe evaporation
> Platforms (sold separately) accommodates flasks up to 6 L (configuration dependant) as well as test tube racks and microplate holders
> One height adjustable static shelf included. Optional culture drawer sold separately (allowing reduced sample desiccation)

**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 42** | |
| 230 V, orbit diameter 1.9 cm (0.75 in) | M1335-0002 |
| 230 V, orbit diameter 2.5 cm (1 in) | M1335-0012 |
| **New Brunswick™ Innova® 42R** | |
| 230 V, orbit diameter 1.9 cm (0.75 in) | M1335-0006 |
| 230 V, orbit diameter 2.5 cm (1 in) | M1335-0016 |
| **Stacking kit**, for stacking Innova® 42/42R units | M1335-0800 |
| **Stacking kit**, for stacking Innova® 4200/4230 units on top of Innova® 42/42R shakers | M1335-0810 |
| **Photosynthetic light bank**, programmable, Innova® 42R only, orbit diameter 1.9/2.5 cm (0.75/1 in) | M1335-0300 |
| **UV germicidal light**, programmable, Innova® 42R only, orbit diameter 1.9/2.5 cm (0.75/1 in) | M1335-0400 |
| **Humidity monitor**, for Innova® 42/42R, orbit diameter 1.9/2.5 cm (0.75/1 in) | M1335-0500 |
| **12-port gassing manifold**, for Innova® 42/42R, orbit diameter 1.9/2.5 cm (0.75/1 in) | M1335-0600 |
| **Remote alarm option**, for Innova® 44/44, Innova® 43/43, Innova® 42/42 or Innova® 40/40 | M1320-8029 |
| **Additional perforated shelf and brackets**, for Innova® 42/42R | M1335-0080 |
| **Platforms for Innova® 2100/40/40R/42/42R, Excella® E24/E24R**, 45.7 × 45.7 cm, phenolic resin (unless otherwise stated) | |
| Universal platform, aluminum | M1250-9902 |
| **Drip pan**, to catch accidental spills, for universal platform M1250-9902 | M1250-9906 |
| 50 mL Erlenmeyer flask dedicated platform | M1194-9903 |
| 125 mL Erlenmeyer flask dedicated platform | M1194-9904 |
| 250 mL Erlenmeyer flask dedicated platform | M1194-9905 |
| 500 mL Erlenmeyer flask dedicated platform | M1194-9906 |
| 1 L Erlenmeyer flask dedicated platform | M1194-9907 |
| 2 L Erlenmeyer flask dedicated platform | M1194-9908 |
| Sticky pad platform, sticky pads sold separately – anodized Aluminum | M1250-9903 |
| **Quick-change platform kit**, enables platform attachment without tools | M1192-9901 |
| **Culture drawer**, (height adjustable) prevents plates from drying | M1335-0501 |
| **Utility carrier**, holds racks and vessels between x2 rubber-cushioned cross bars[1)] | M1194-9909 |
| **Rod kit**, for utility carrier (one additional rod) | M1194-9923 |
| **Utility tray**, with non-skid rubber surface[1)] | M1194-9910 |

[1)] Please order Utility carrier, Utility tray, Rod kit

↗ Ordering information for other voltage options begins on page 450







# New Brunswick™ Innova® 40/40R

**Description**
The Innova 40 and 40R (refrigerated) benchtop shakers provide years of dependable operation. This is the perfect shaker to begin working on small-scale projects with a view to increase volume or throughput. The self-supporting transparent lid allows samples to be in view all the time. The ability to shake flasks up to 3 L in such a compact benchtop unit provides clear scope to upscale and options include a drip pan and remote alarm. The simple user interface allows for easy programming of speed, temperature, time. The VisioNize box can be added to enhance monitoring and adds notifications functionality. Regular servicing can be carried out in-situ, allowing for minimized downtime.




**Product features**
> Triple-eccentric counterbalanced drive in cast iron housing provides vibration and trouble-free operation for years
> Compact benchtop model – fits easily on the bench and holds flasks up to 3 L
> Clear cover allows easy viewing of the cultures and lifts easily to access all samples
> Versatile accessory platform (sold separately) accommodates flasks up to 3 L as well as test tube racks and microplate holders
> Certified. Meets cETL, UL, CSA and CE standards

**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 40** | |
| 230 V, orbit diameter 1.9 cm (0.75 in) | M1299-0082 |
| 230 V, orbit diameter 2.5 cm (1 in) | M1299-0092 |
| **New Brunswick™ Innova® 40R** | |
| 230 V, orbit diameter 1.9 cm (0.75 in) | M1299-0086 |
| 230 V, orbit diameter 2.5 cm (1 in) | M1299-0096 |
| **Remote alarm option**, for Innova® 44/44, Innova® 43/43, Innova® 42/42 or Innova® 40/40 | M1320-8029 |
| **Drip pan**, to catch accidental spills, for universal platform M1250-9902 | M1250-9906 |
| **Platforms for Innova® 2100/40/40R/42/42R, Excella® E24/E24R**, 45.7 × 45.7 cm, phenolic resin (unless otherwise stated) | |
| Universal platform, aluminum | M1250-9902 |
| 50 mL Erlenmeyer flask dedicated platform | M1194-9903 |
| 125 mL Erlenmeyer flask dedicated platform | M1194-9904 |
| 250 mL Erlenmeyer flask dedicated platform | M1194-9905 |
| 500 mL Erlenmeyer flask dedicated platform | M1194-9906 |
| 1 L Erlenmeyer flask dedicated platform | M1194-9907 |
| 2 L Erlenmeyer flask dedicated platform | M1194-9908 |
| Sticky pad platform, sticky pads sold separately – anodized Aluminum | M1250-9903 |
| **Quick-change platform kit**, enables platform attachment without tools | M1192-9901 |
| **Utility carrier**, holds racks and vessels between x2 rubber-cushioned cross bars[1)] | M1194-9909 |
| **Rod kit**, for utility carrier (one additional rod) | M1194-9923 |
| **Utility tray**, with non-skid rubber surface[1)] | M1194-9910 |

[1)] Please order Utility carrier, Utility tray, Rod kit

↗ Ordering information for other voltage options begins on page 450

# New Brunswick™ Excella® E25/E25R

**Description**
The Excella E25 and E25R (refrigerated) shakers accommodate flasks up to 6 L in volume. A large viewing window allows you to keep an eye on your samples without opening the lid. A wide variety of platforms, clamps and test tube racks provide for a number of different workstreams. The E25 and E25R are complemented by Eppendorf's service offering, ranging from preventative maintenance through to parameter calibration.



**Product features**
> Heavy-duty counterbalanced drive provides long life, vibration-free, quiet and dependable operation
> Large platform size provides increased flexibility with the number and size of cultures (sold separately)
> Large viewing window and internal light – for easy viewing of samples without the need to open the door
> Microprocessor controls precisely regulate temperature, speed and running time
> Audible and visual alarms alert you to setpoint deviations or end of study
> Powerful fan and heater provide rapid heat up and temperature recovery after door opening

**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Excella® E25**, 230 V, orbit diameter 2.5 cm (1 in) | M1353-0002 |
| **New Brunswick™ Excella® E25R**, 230 V, orbit diameter 2.5 cm (1 in) | M1353-0006 |
| **Platforms for Innova® 2300/43/43R, Excella® E10/E25/E25R**, 76 × 46 cm, aluminum | |
| Universal platform, aluminum | M1250-9920 |
| 50 mL Erlenmeyer flask dedicated platform | M1191-9908 |
| 125 mL Erlenmeyer flask dedicated platform | M1191-9909 |
| 250 mL Erlenmeyer flask dedicated platform | M1191-9910 |
| 500 mL Erlenmeyer flask dedicated platform | M1191-9911 |
| 1 L Erlenmeyer flask dedicated platform | AG-1 |
| 2 L Erlenmeyer flask dedicated platform | AG-2 |
| Sticky pad platform, sticky pads sold separately, anodized Aluminum | M1250-9904 |
| **Utility tray**, with non-skid rubber surface | AG-00 |

Ordering information for other voltage options begins on page 450



# New Brunswick™ Excella® E24/E24R

**Description**
The benchtop Excella E24 and E24R (refrigerated) shakers accommodate flasks up to 2.8 L in volume. The acrylic lid provides excellent visibility of your samples. A wide variety of platforms, clamps and test tube racks provide for a number of different workstreams. The E24 and E24R are complemented by Eppendorf's service offering, ranging from preventative maintenance through to parameter calibration.




**Product features**
> Heavy-duty unicentric counterbalanced drive provides long life, vibration-free, quiet, and dependable operation
> Versatile accessory platform (sold separately) accommodates flasks up to 2.8 L as well as test tube racks and microplate holders
> User-friendly keypad with simple LED display is clearly visible and easy to use
> Clear large lid provides excellent visibility minimizing the need to open the lid
> Audible and visual alarms alert you to setpoint deviations or end of study
> Acceleration/deceleration circuit prevents sudden starts and stops protecting your cells
> Microprocessor controls precisely regulate temperature, speed and running time

**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Excella® E24** | |
| 230 V, orbit diameter 1.9 cm (0.75 in) | M1352-0002 |
| **New Brunswick™ Excella® E24R** | |
| 230 V, orbit diameter 1.9 cm (0.75 in) | M1352-0006 |
| **Drip pan**, to catch accidental spills, for universal platform M1250-9902 | M1250-9906 |
| **Platforms for Innova® 2100/40/40R/42/42R, Excella® E24/E24R**, 45.7 × 45.7 cm, phenolic resin (unless otherwise stated) | |
| Universal platform, aluminum | M1250-9902 |
| 50 mL Erlenmeyer flask dedicated platform | M1194-9903 |
| 125 mL Erlenmeyer flask dedicated platform | M1194-9904 |
| 250 mL Erlenmeyer flask dedicated platform | M1194-9905 |
| 500 mL Erlenmeyer flask dedicated platform | M1194-9906 |
| 1 L Erlenmeyer flask dedicated platform | M1194-9907 |
| 2 L Erlenmeyer flask dedicated platform | M1194-9908 |
| Sticky pad platform, sticky pads sold separately – anodized Aluminum | M1250-9903 |
| **Quick-change platform kit**, enables platform attachment without tools | M1192-9901 |
| **Utility carrier**, holds racks and vessels between x2 rubber-cushioned cross bars[1)] | M1194-9909 |
| **Rod kit**, for utility carrier (one additional rod) | M1194-9923 |
| **Utility tray**, with non-skid rubber surface[1)] | M1194-9910 |

[1)] Please order Utility carrier, Utility tray, Rod kit

Ordering information for other voltage options begins on page 450


SHAKERS

# Open Air Shakers

**Description**
The New Brunswick open air shakers specifically designed be used at full capacity in a 24/7 environment. A wide variety of platforms, clamps and test tube racks provide for a number of different workstreams. The cast iron triple-eccentric counterbalanced drive is specifically designed to support high-speed applications and heavy workloads – the design has stood the test of time for over 70 years and continues to enable scientists today.




**Product features**
> Triple-eccentric counterbalanced drive in cast iron housing provides vibration and trouble-free operation for years
> Quiet operation provides a favorable work environment
> Shaking speeds between 25 – 500 rpm (±1 rpm) provide versatility for culturing a wide range of cell types
> Simple, easy to use LED display
> Timed or continuous shaking
> Speed controlled and displayed in increments of 1 rpm
> Includes audible and visual alarms, timer (0 – 99.9 h) with continuous operation or automatic shut-off at the end of the study
> Enclosed electronics and mechanical components prevent internal damage from accidental spills
> Versatile 33 × 28 cm (13 × 11 in) accessory platform (sold separately) accommodates flasks up to 500 mL
> Low profile – less than 6" (15 cm) tall-enables use of multiple shakers in an environmental chamber

i For more information go to www.eppendorf.com



Technical specifications subject to change.



# New Brunswick™ Innova® 2350



**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 2350**, platform sold separately | |
| 220/230 V, orbit diameter 2.5 cm (1 in) | M1191-0012 |
| 220/230 V, orbit diameter 5.1 cm (2 in) | M1191-0032 |
| **Interchangeable platform for Innova® 2350**, 91.4 × 61 cm, marine plywood unless otherwise noted | |
| Universal platform, aluminum | PTL-393 |
| 125 mL Erlenmeyer flask dedicated platform | M1191-9912 |
| 250 mL Erlenmeyer flask dedicated platform | M1191-9913 |
| 500 mL Erlenmeyer flask dedicated platform | M1191-9914 |
| **Utility tray**, with non-skid rubber surface | AG-21-00 |
| **Temperature and speed monitoring kit**, for recording on an external chart recorder | |
| for Innova® 2100/2150/2300/2350 | M1194-9924 |

Ordering information for other voltage options begins on page 450

# New Brunswick™ Innova® 2300



**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 2300**, platform sold separately | |
| 220/230 V, orbit diameter 2.5 cm (1 in) | M1191-0002 |
| 220/230 V, orbit diameter 5.1 cm (2 in) | M1191-0022 |
| **Drip pan**, to catch accidental spills, for use with universal platform M1250-9920 | M1250-9921 |
| **Platforms for Innova® 2300/43/43R, Excella® E10/E25/E25R**, 76 × 46 cm, aluminum | |
| Universal platform, aluminum | M1250-9920 |
| 50 mL Erlenmeyer flask dedicated platform | M1191-9908 |
| 125 mL Erlenmeyer flask dedicated platform | M1191-9909 |
| 250 mL Erlenmeyer flask dedicated platform | M1191-9910 |
| 500 mL Erlenmeyer flask dedicated platform | M1191-9911 |
| 1 L Erlenmeyer flask dedicated platform | AG-1 |
| 2 L Erlenmeyer flask dedicated platform | AG-2 |
| Sticky pad platform, sticky pads sold separately, anodized Aluminum | M1250-9904 |
| **Utility tray**, with non-skid rubber surface | AG-00 |
| **Quick-change platform kit**, enables platform attachment without tools | M1191-9904 |
| **Capacity upgrade kit**, to convert a Model 2300 to a Model 2350 | M1191-9905 |
| **Temperature and speed monitoring kit**, for recording on an external chart recorder | |
| for Innova® 2100/2150/2300/2350 | M1194-9924 |

Ordering information for other voltage options begins on page 450



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# New Brunswick™ Innova® 2150



**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 2150**, platform sold separately, 220/230 V, orbit diameter 1.9 cm (0.75 in) | M1194-0012 |
| **Interchangeable platform for Innova® 2150**, 61 × 45.7 cm, phenolic resin | |
| Universal platform | M1194-9912 |
| 1 L Erlenmeyer flask dedicated platform | M1194-9919 |
| 2 L Erlenmeyer flask dedicated platform | M1194-9920 |
| **Utility carrier**, holds glassware between rubber-cushioned cross bars | M1194-9921 |
| **Rod kit**, for utility carrier (one additional rod) | M1194-9925 |
| **Utility tray**, with non-skid rubber surface | M1194-9922 |
| **Quick-change platform kit**, enables platform attachment without tools | M1194-9927 |
| **Temperature and speed monitoring kit**, for recording on an external chart recorder for Innova® 2100/2150/2300/2350 | M1194-9924 |

Ordering information for other voltage options begins on page 450

# New Brunswick™ Innova® 2100



**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 2100**, platform sold separately, 220/230 V, orbit diameter 1.9 cm (0.75 in) | M1194-0002 |
| **Platforms for Innova® 2100/40/40R/42/42R, Excella® E24/E24R**, 45.7 × 45.7 cm, phenolic resin (unless otherwise stated) | |
| Universal platform, aluminum | M1250-9902 |
| 50 mL Erlenmeyer flask dedicated platform | M1194-9903 |
| 125 mL Erlenmeyer flask dedicated platform | M1194-9904 |
| 250 mL Erlenmeyer flask dedicated platform | M1194-9905 |
| 500 mL Erlenmeyer flask dedicated platform | M1194-9906 |
| 1 L Erlenmeyer flask dedicated platform | M1194-9907 |
| 2 L Erlenmeyer flask dedicated platform | M1194-9908 |
| Sticky pad platform, sticky pads sold separately – anodized Aluminum | M1250-9903 |
| **Quick-change platform kit**, enables platform attachment without tools | M1192-9901 |
| **Utility carrier**, holds racks and vessels between x2 rubber-cushioned cross bars[1)] | M1194-9909 |
| **Rod kit**, for utility carrier (one additional rod) | M1194-9923 |
| **Utility tray**, with non-skid rubber surface[1)] | M1194-9910 |
| **Capacity upgrade kit**, to convert a Model 2100 to a Model 2150 | M1194-9926 |
| **Drip pan**, to catch accidental spills, for universal platform M1250-9902 | M1250-9906 |
| **Temperature and speed monitoring kit**, for recording on an external chart recorder for Innova® 2100/2150/2300/2350 | M1194-9924 |

[1)] Please order Utility carrier, Utility tray, Rod kit

Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com

Technical specifications subject to change.



# New Brunswick™ Innova® 2050



**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 2050**, platform sold separately, 220/230 V, orbit diameter 1.9 cm (0.75 in) | M1190-0012 |
| **Platform for Innova® 2050**, 40.6 × 30.5 cm, stainless steel | |
| Universal platform | M1190-9900 |
| 25 mL Erlenmeyer flask dedicated platform | M1190-9902 |
| 50 mL Erlenmeyer flask dedicated platform | M1190-9903 |
| 125 mL Erlenmeyer flask dedicated platform | M1190-9904 |
| 250 mL Erlenmeyer flask dedicated platform | M1190-9905 |
| 500 mL Erlenmeyer flask dedicated platform | M1190-9906 |
| 1 L Erlenmeyer flask dedicated platform | M1190-9911 |
| **Utility carrier**, holds glassware between rubber-cushioned cross bars | M1190-9907 |
| **Utility tray**, with non-skid rubber surface | M1190-9908 |

Ordering information for other voltage options begins on page 450

# New Brunswick™ Innova® 2000



**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 2000**, platform sold separately, 220/230 V, orbit diameter 1.9 cm (0.75 in) | M1190-0002 |
| **Platform for Innova® 2000**, 33 × 28 cm, stainless steel | |
| Universal platform | M1001-0240 |
| 25 mL Erlenmeyer flask dedicated platform | M1190-9919 |
| 50 mL Erlenmeyer flask dedicated platform | M1190-9915 |
| 125 mL Erlenmeyer flask dedicated platform | M1190-9916 |
| 250 mL Erlenmeyer flask dedicated platform | M1190-9917 |
| 500 mL Erlenmeyer flask dedicated platform | M1190-9918 |
| **Utility carrier**, holds glassware between rubber-cushioned cross bars | AG2-UT |
| **Utility tray**, with non-skid rubber surface | AG2-00 |
| **Rod kit**, for utility carrier (one additional rod) | M1001-9920 |
| **Capacity upgrade kit**, to convert a Model 2000 to a Model 2050 | M1190-9910 |
| **Temperature and speed monitoring kit**, for recording on an external chart recorder | M1190-9909 |

Ordering information for other voltage options begins on page 450

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# New Brunswick™ Innova® 5050/5051 Racking Systems



**Description**
Save space and stack Innova 2300 open air shakers. Model 5050 consists of a sturdy, stainless-steel rack to hold up to 4 Innova 2300 shakers. Innova 5051 rack extension can be added to support an additional 4 shakers, bringing the total number to 8 Innova 2300 shakers.

**Product features**
> Includes electrical strip for power multiple shakers
> Maximum speed 400 rpm for 2.5 cm (1 in) orbits and 300 rpm for 5.1 cm (2 in) orbits
> Larger flasks can be accomodated by removing adjustable-height shelves
> Comes pre-assembled

**Ordering information**

| Description | Order no. |
|---|---|
| **New Brunswick™ Innova® 5050 Rack System**, 230/240 V | M1232-0101 |
| **New Brunswick™ Innova® 5051 Rack Extension**, 230/240 V | M1232-0111 |

# Clamps and Accessories for Universal Platforms

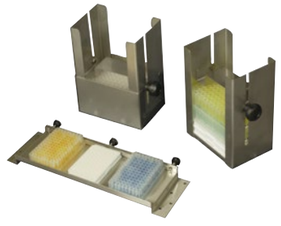




Dedicated platforms come with clamps of one size pre-installed.



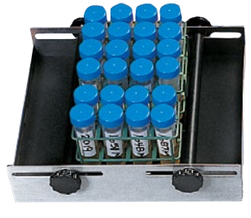
Flask clamp, of one-piece stainless steel, fitted with springs for stability at elevated speeds.



Microplate racks and carriers mount to any universal platform and are used to secure microplates. Racks can either be ordered for stacking the plates or laying plates flat in a single layer.



Test tube racks, small, medium and large.



Utility carries secure vessels between adjustable, cushioned rods.

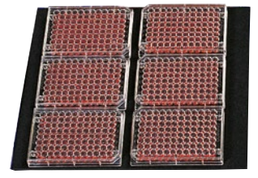


Universal platform shown with accessory clamps, test tube racks and sticky tape.

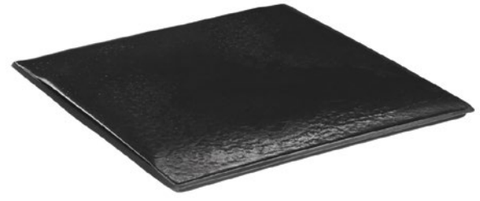
i For more information go to www.eppendorf.com

Technical specifications subject to change.





Utility trays provide a non-slip surface for low-speed applications.



Sticky pad (shown) and sticky tape replace clamps for speeds up to 250 rpm. Sticky pad requires an anodized aluminum surface.

**Accessories**

| Description | Order no. |
|---|---|
| **Test tube rack**, small, 30.0 × 8.0 × 12.9 cm | |
| diameter 8 – 11 mm, 48 tubes | M1289-0001 |
| diameter 12 – 15 mm, 34 tubes | M1289-0002 |
| diameter 15 – 18 mm, 24 tubes | M1289-0003 |
| diameter 18 – 21 mm, 18 tubes | M1289-0004 |
| diameter 22 – 26 mm, 13 tubes | M1289-0005 |
| diameter 26 – 30 mm, 12 tubes | M1289-0006 |
| **Test tube rack**, medium, 36 × 8 × 12.9 cm | |
| diameter 8 – 11 mm, 60 tubes | M1289-0010 |
| diameter 12 – 15 mm, 44 tubes | M1289-0020 |
| diameter 15 – 18 mm, 31 tubes | M1289-0030 |
| diameter 18 – 21 mm, 23 tubes | M1289-0040 |
| diameter 22 – 26 mm, 16 tubes | M1289-0050 |
| diameter 26 – 30 mm, 16 tubes | M1289-0060 |
| **Test tube rack**, large, 45 × 8 × 12.9 cm | |
| diameter 8 – 11 mm, 80 tubes | M1289-0100 |
| diameter 12 – 15 mm, 60 tubes | M1289-0200 |
| diameter 15 – 18 mm, 42 tubes | M1289-0300 |
| diameter 18 – 21 mm, 30 tubes | M1289-0400 |
| diameter 22 – 26 mm, 22 tubes | M1289-0500 |
| diameter 26 – 30 mm, 20 tubes | M1289-0600 |
| **Clamp**, for 1 L media bottles | ACSB-1000S |
| **Clamp**, for 500 mL media bottles | ACSB-500S |
| **Angled test tube rack holder**, for user-supplied test tube racks and microplates | TTR-210 |
| **Spacer bar for TTR-210** | TTR-215 |
| **Microplate rack, single layer**, for single layer of five plates | TTR-221 |
| **Microplate rack, stack**, stack three deepwell or nine standard plates | M1289-0700 |
| **Sticky pad adapter kit**, 2 anodized aluminum sheets, each 15.2 × 45.7 cm (6 × 18 in) | M1250-9504 |
| **Sticky tape**, 23 × 3.8 cm (75 feet × 1.5 in) roll | M1250-9600 |
| **Sticky pad**, 20 × 20 cm (8 × 8 in) | M1250-9700 |
| **Drip pan**, to catch accidental spills, for use with universal platform M1250-9920 | M1250-9921 |
| **Drip pan**, to catch accidental spills, for universal platform M1250-9902 | M1250-9906 |

8 – 11 mm: fits e.g. Eppendorf tubes 1.5 mL
15 – 18 mm: fits e.g. 15 mL Conicals
26 – 30 mm: fits e.g. 50 mL Conicals



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# Universal Platforms and Clamps for Incubated Shakers

**Universal Platforms and Clamps for Incubated Shakers**

| | Innova® S44i | Innova® 44/44R | Innova® 43/43R | Innova® 42/42R | Innova® 40/40R | Excella® E25/E25R | Excella® E24/E24R | Clamps | Clamps |
|---|---|---|---|---|---|---|---|---|---|
| **Platforms for Shakers** | M1250-9920 | M1282-9904 | M1250-9920 | M1250-9902 | M1250-9902 | M1250-9920 | M1250-9902 | | |
| | Clamps | Clamps | Clamps | Clamps | Clamps | Clamps | Clamps | Dimensions (W × H) | Order no. |
| **10 mL Erlenmeyer flasks** | 238 | 187 | 183 | 109 | 109 | 183 | 109 | 31 × 26 mm | ACE-10S |
| **25 mL Erlenmeyer flasks** | 238 | 93 | 92 | 64 | 64 | 92 | 64 | 38 × 21 mm | M1190-9004 |
| **50 mL Erlenmeyer flasks** | 130 | 91 | 92 | 45 | 45 | 92 | 45 | 51 × 26 mm | M1190-9000 |
| **125 mL Erlenmeyer flasks** | 81 | 39 | 39 | 21 | 21 | 39 | 21 | 66 × 36 mm | M1190-9001 |
| **250 mL Erlenmeyer flasks** | 49 | 30 | 30 | 18 | 18 | 30 | 18 | 79 × 48 mm | M1190-9002 |
| **500 mL Erlenmeyer flasks** | 36 | 24 | 18 | 14 | 14 | 18 | 14 | 100 × 52 mm | M1190-9003 |
| **1 L Erlenmeyer flasks** | 20 | 14 | 12 | 8 | 8 | 12 | 8 | 120 × 63 mm | ACE-1000S |
| **2 L Erlenmeyer flasks** | 13 | 8 | 8 | 5 | 5 | 8 | 5 | 152 × 71 mm | ACE-2000S |
| **2 L Lauber Thompson** | 13 | 8 | 8 | 5 | 5 | 8 | 5 | 168 × 112 mm | M1190-9005 |
| **2.8 L Fernbach flasks** | 8 | 6 | 6 | 4 | 4 | 6 | 4 | 198 × 66 mm | ACFE-2800S |
| **3 L Erlenmeyer flasks** | 8 | 6 | 6 | 4 | 4 | 6 | 4 | 189 × 128 mm | ACE-3000S |
| **4 L Erlenmeyer flasks** | 8 | 6 | 6 | 4 | | 6 | | 196 × 95 mm | ACE-4000S |
| **5 L Erlenmeyer flasks** | 6[1] | 6[2] | 6[2] | 4[1] | | 6[2] | | 222 × 145 mm | ACE-5000S |
| **6 L Erlenmeyer flasks** | | | 4 | 2 | | 4 | | 225 × 96 mm | ACE-6000S |
| **500 mL media bottle flasks** | 20 | 18 | 19 | 9 | 9 | 19 | 9 | 110 × 108 mm | ACSB-500S |
| **1 L media bottle flasks** | 20 | 13 | 13 | 8 | 8 | 13 | 8 | 129 × 146 mm | ACSB-1000S |
| **Microplate rack, single layer** | 4 | 4 | 4 | 2 | 2 | 4 | 2 | | TTR-221 |
| **Microplate rack, stack** | 20 | 16 | 16 | 8 | 8 | 16 | 8 | | M1289-0700 |
| **Test tube rack, small, 30 × 8 × 12.9 cm** | 12 | 9 | 9 | 5 | 5 | 9 | 5 | | see page 350 |
| **Test tube rack, medium, 36 × 8 × 12.9 cm** | 10 | 9 | 9 | 5 | 5 | 9 | 5 | | see page 350 |
| **Test tube rack, large, 45 × 8 × 12.9 cm** | 8 | 7 | 7 | 4 | 4 | 7 | 4 | | see page 350 |
| **Platform size** | 76 × 62 cm (30 × 24 in) | 76 × 46 cm (30 × 18 in) | 76 × 46 cm (30 × 18 in) | 46 × 46 cm (18 × 18 in) | 46 × 46 cm (18 × 18 in) | 76 × 46 cm (30 × 18 in) | 46 × 46 cm (18 × 18 in) | | |

ACE-2002 does not fit narrow-neck Erlenmeyer according to DIN ISO 1773, please use M1190-9005 instead

[1] Max. flask size 4 L with photosynthetic light bank, shelf or drawer installed. Shelf and drawer are easily removable [2] Max. flask size 4 L with photosynthetic light bank installed



**Dedicated Platforms and Clamps for Incubated Shakers**

| | Innova® S44i | | Innova® 44/44R | | Innova® 43/43R | | Innova® 42/42R | | Innova® 40/40R | | Excella® E25/E25R | | Excella® E24/E24R | | Clamps |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Clamps | Order no. | Clamps | Order no. | Clamps | Order no. | Clamps | Order no. | Clamps | Order no. | Clamps | Order no. | Clamps | Order no. | Dimensions (W × H) |
| **50 mL Erlenmeyer flasks** | | | | | 108 | M1191-9908 | 64 | M1194-9903 | 64 | M1194-9903 | 108 | M1191-9908 | 64 | M1194-9903 | 51 × 26 mm |
| **125 mL Erlenmeyer flasks** | 86 | S44I040002 | 60 | M1282-9905 | 60 | M1191-9909 | 34 | M1194-9904 | 34 | M1194-9904 | 60 | M1191-9909 | 34 | M1194-9904 | 66 × 36 mm |
| **250 mL Erlenmeyer flasks** | 53 | S44I040003 | 40 | M1282-9906 | 40 | M1191-9910 | 25 | M1194-9905 | 25 | M1194-9905 | 40 | M1191-9910 | 25 | M1194-9905 | 79 × 48 mm |
| **500 mL Erlenmeyer flasks** | 39 | S44I040004 | 24 | M1282-9907 | 24 | M1191-9911 | 16 | M1194-9906 | 16 | M1194-9906 | 24 | M1191-9911 | 16 | M1194-9906 | 100 × 52 mm |
| **1 L Erlenmeyer flasks** | 23 | S44I040005 | 15 | M1282-9908 | 15 | AG-1 | 9 | M1194-9907 | 9 | M1194-9907 | 15 | AG-1 | 9 | M1194-9907 | 120 × 63 mm |
| **2 L Erlenmeyer flasks** | 15 | S44I040006 | 12 | M1282-9909 | 12 | AG-2 | 5 | M1194-9908 | 5 | M1194-9908 | 12 | AG-2 | 5 | M1194-9908 | 152 × 71 mm |
| **Sticky pad platform** | | | | M1282-9913 | | M1250-9904 | | M1250-9903 | | M1250-9903 | | M1250-9904 | | M1250-9903 | |
| **Platform size** | 76 × 62 cm (30 × 24 in) | | 76 × 46 cm (30 × 18 in) | | 76 × 46 cm (30 × 18 in) | | 46 × 46 cm (18 × 18 in) | | 46 × 46 cm (18 × 18 in) | | 76 × 46 cm (30 × 18 in) | | 46 × 46 cm (18 × 18 in) | | |

The S44i Universal platform is designed to be compatible with sticky pads

ACE-2002 does not fit narrow-neck Erlenmeyer according to DIN ISO 1773, please use M1190-9005 instead

Sticky pads to be ordered separately see page 351

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# Universal Platforms and Clamps for Innova® Open Air Shakers

**Universal Platforms and Clamps for Innova® Open Air Shakers**

| | Innova® 2350 | Innova® 2300 | Innova® 2150 | Innova® 2100 | Innova® 2050 | Innova® 2000 | Clamps | Clamps |
|---|---|---|---|---|---|---|---|---|
| **Platforms for Shakers** | **PTL-386** | **M1250-9920** | **M1194-9912** | **M1250-9902** | **M1190-9900** | **M1001-0240** | | |
| | **Clamps** | **Clamps** | **Clamps** | **Clamps** | **Clamps** | **Clamps** | **Dimensions (W × H)** | **Order no.** |
| **10 mL Erlenmeyer flasks** | | 183 | | 109 | 86 | 60 | 31 × 26 mm | ACE-10S |
| **25 mL Erlenmeyer flasks** | | 92 | | 64 | 32 | 20 | 38 × 21 mm | M1190-9004 |
| **50 mL Erlenmeyer flasks** | | 92 | 63 | 45 | 32 | 15 | 51 × 26 mm | M1190-9000 |
| **125 mL Erlenmeyer flasks** | 75 | 39 | 35 | 21 | 16 | 11 | 66 × 36 mm | M1190-9001 |
| **250 mL Erlenmeyer flasks** | 50 | 30 | 24 | 18 | 10 | 6 | 79 × 48 mm | M1190-9002 |
| **500 mL Erlenmeyer flasks** | 30 | 18 | 20 | 14 | 8 | 4 | 100 × 52 mm | M1190-9003 |
| **1 L Erlenmeyer flasks** | 24 | 12 | 12 | 8 | | | 120 × 63 mm | ACE-1000S |
| **2 L Erlenmeyer flasks** | 15 | 8 | 6 | 5 | | | 152 × 71 mm | ACE-2000S |
| **2 L Lauber Thompson** | 12 | 6 | 5 | 4 | | | 168 × 112 mm | M1190-9005 |
| **2.8 L Fernbach flasks** | 12 | 6 | 5 | 4 | | | 198 × 66 mm | ACFE-2800S |
| **3 L Erlenmeyer flasks** | 11 | 6 | 5 | 4 | | | 189 × 128 mm | ACE-3000S |
| **4 L Erlenmeyer flasks** | 11 | 6 | 5 | 4 | | | 196 × 95 mm | ACE-4000S |
| **5 L Erlenmeyer flasks** | 8 | 6 | 4 | | | | 222 × 145 mm | ACE-5000S |
| **6 L Erlenmeyer flasks** | 7 | 4 | 3 | 2 | | | 225 × 96 mm | ACE-6000S |
| **500 mL media bottle flasks** | 35 | 19 | 15 | 9 | 6 | 4 | 110 × 108 mm | ACSB-500S |
| **1 L media bottle flasks** | 23 | 13 | 11 | 8 | 4 | | 129 × 146 mm | ACSB-1000S |
| **Microplate rack, stack** | 16 | 16 | 16 | 8 | | | | M1289-0700 |
| **Microplate rack, single layer** | 4 | 4 | 4 | 2 | | | | TTR-221 |
| **Test tube rack, small, 30 × 8 × 12.9 cm** | 18 | 9 | 9 | 5 | 4 | 3 | | see page 350 |
| **Test tube rack, medium, 36 × 8 × 12.9 cm** | 13 | 9 | 9 | 5 | 3 | | | see page 350 |
| **Test tube rack, large, 45 × 8 × 12.9 cm** | 12 | 7 | 7 | 4 | | | | |
| **Platform size** | 91 × 61 cm (36 × 24 in) | 76 × 46 cm (30 × 18 in) | 61 × 46 cm (24 × 18 in) | 46 × 46 cm (18 × 18 in) | 41 × 31 cm (16 × 12 in) | 33 × 28 cm (13 × 11 in) | | |

ACE-2002 does not fit narrow-neck Erlenmeyer according to DIN ISO 1773, please use M1190-9005 instead

ACCESSORIES

**Dedicated Platforms and Clamps for Innova Open Air Shakers**

| | Innova® 2350 | | Innova® 2300 | | Innova® 2150 | | Innova® 2100 | | Innova® 2050 | | Innova® 2000 | | Clamps |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Clamps** | **Order no.** | **Clamps** | **Order no.** | **Clamps** | **Order no.** | **Clamps** | **Order no.** | **Clamps** | **Order no.** | **Clamps** | **Order no.** | **Dimensions (W × H)** |
| **25 mL Erlenmeyer flasks** | | | | | | | | | 48 | M1190-9902 | 32 | M1190-9919 | 38 × 21 mm |
| **50 mL Erlenmeyer flasks** | | | 108 | M1191-9908 | 80 | M1194-9915 | 64 | M1194-9903 | 35 | M1190-9903 | 20 | M1190-9915 | 51 × 26 mm |
| **125 mL Erlenmeyer flasks** | 96 | M1191-9912 | 60 | M1191-9909 | 48 | M1194-9916 | 34 | M1194-9904 | 20 | M1190-9904 | 12 | M1190-9916 | 66 × 36 mm |
| **250 mL Erlenmeyer flasks** | 70 | M1191-9913 | 40 | M1191-9910 | 35 | M1194-9917 | 25 | M1194-9905 | 12 | M1190-9905 | 8 | M1190-9917 | 79 × 48 mm |
| **500 mL Erlenmeyer flasks** | 40 | M1191-9914 | 24 | M1191-9911 | 20 | M1194-9918 | 16 | M1194-9906 | 8 | M1190-9906 | 6 | M1190-9918 | 100 × 52 mm |
| **1 L Erlenmeyer flasks** | | | 15 | AG-1 | 12 | M1194-9919 | 9 | M1194-9907 | 6 | M1190-9911 | | | 120 × 63 mm |
| **2 L Erlenmeyer flasks** | | | 12 | AG-2 | 8 | M1194-9920 | 5 | M1194-9908 | | | | | 152 × 71 mm |
| **Sticky pad platform** | | | | M1250-9904 | | | | M1250-9903 | | | | M1190-0300 | |
| **Platform size** | 91 × 61 cm (36 × 24 in) | | 76 × 46 cm (30 × 18 in) | | 61 × 46 cm (24 × 18 in) | | 46 × 46 cm (18 × 18 in) | | 41 × 31 cm (16 × 12 in) | | 33 × 28 cm (13 × 11 in) | | |

ACE-2002 does not fit narrow-neck Erlenmeyer according to DIN ISO 1773, please use M1190-9005 instead

Sticky pads to be ordered separately see page 351

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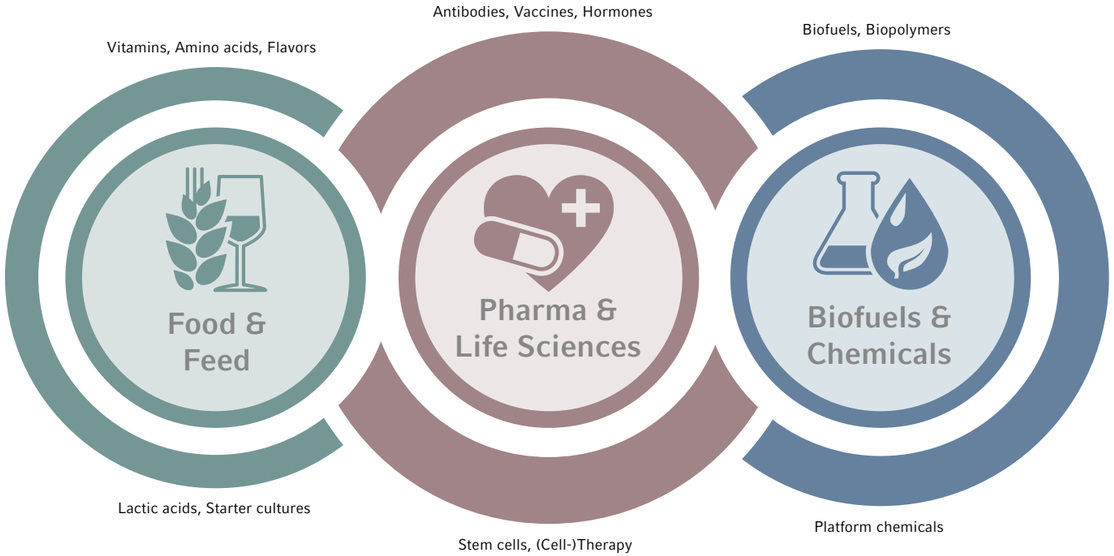


# »Heal, fuel, and feed the World.«

*Stephen Sherwin*

Bioprocess engineers develop and produce a multitude of products and ingredients available today. Their applications are diverse, and the products can be found in pharmaceutical, chemical, and nutrition industries. Stephen Sherwin, former chairman of BIO association put it aptly: “Heal, fuel, and feed the world”.

Our Eppendorf bioprocess solutions are successfully used in these industries and in applied research for decades. By exploiting the strong synergies in bioreactor technology and polymer manufacturing, Eppendorf has emerged as a global player and valuable resource to its customers. With an integrated portfolio comprising software, instruments, consumables, and services, we can satisfy the demands of bioprocess development through production. In that way and in line with our corporate mission, we contribute to the efforts of Eppendorf customers worldwide to improve human living conditions.




BIOPROCESSING

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# Addressing Our Customers' Challenges

Single-use equipment, automation, perfusion culture, and other techniques have the potential to increase efficiency and change the way scientists and engineers work. Along with process intensification comes the need to utilize resources wisely. Users have to cope with rising amounts of data in order to achieve their goals faster.

They are being appraised by process performance characteristics such as costs per run and turn-around times.
Eppendorf is the right partner to meet these challenges. Satisfying professionals with full solutions to their tasks is what our bioprocess specialists are focussing on day-to-day. Expert teams take care of our customers worldwide.

»Our bioprocess customers expect a special kind of support. Not only do our employees need to know their way around the technical devices; a knowledge of biological applications is also required. After all, we can only help if we understand exactly what our customers do and need. And in many cases, this close contact also results in new solutions.«
Dr. Karl Rix, Vice President, Head of Business Unit Bioprocess, Eppendorf



**Process and Manufacturing**
The biopharmaceutical landscape has long been dominated by the production of recombinant proteins and monoclonal antibodies (mABs). Nowadays, the industry is moving towards more diverse pipelines with a broader variety of biological active pharmaceutical ingredients (APIs), including biosimilars. Reacting to these rising demands, companies put flexible systems in place, optimized to balance costs and time-to-market.
Eppendorf offers flexible bioprocess solutions from a single source, supporting batch, fed-batch, continuous, and perfusion cultivation. From parallel small-scale bioreactor systems for early stage bioprocess development, benchtop bioreactors and fermentors for the laboratory scale to sterilize-in-place products for technology transfer and scale-up to production. They enable bioprocess professionals to establish robust and reproducible processes in all scales.



**Control and Analytics**
Monitoring and control is key in bioprocess development and ensures the process environment for optimum cell growth and high-titer production. Applying Process Analytical Technology (PAT) concepts provides real-time insights improving product quality. Predictive models of cell and process performance enhance process understanding and optimize control through forecasting and estimating optimum parameter settings. Statistical tools like Multivariate Data Analysis (MVA) help scientists to get the most out of their data.

Software solutions from Eppendorf make use of these techniques by providing more than just bioprocess control. Comprehensive data- and information management supports scientists in enhancing their development efforts.




**Quality and Regulatory Aspects**
The FDA's Quality by Design approach aims to design product quality and process efficiency into the process as early as possible. It includes the identification of critical process parameters (CPPs) and critical quality attributes (CQAs). These have to be monitored, controlled, and documented early in biopharmaceutical development. Process automation opens up new possibilities in terms of quality control and validation. Eppendorf's parallel small-scale bioreactor systems support customers in implementing Quality by Design (QbD) principles in the development phase. Our advanced bioprocess control software is 21 CFR Part 11 compatible. Single-use bioreactor solutions from Eppendorf help make laboratories more efficient and safe.



**Integration and Services**
Bioprocess equipment requires first-class service to achieve optimum results. Globalization, digital technologies, rising cost pressures, and the urge to be flexible in their operations make companies in the bioprocessing space face new challenges. They have to adapt their processes, facilities, and supply chains to these needs, establish global networks, and ensure high-quality training of all employees.
At Eppendorf, we offer broad expertise in automation and integration of third-party devices, making sure your systems run efficiently and are seamlessly integrated. Eppendorf customers can rely on high-quality technical and application support as well as comprehensive training and technical documentation.





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# Vaccines




Driven by epidemic events and by governmental vaccination programs, there is a rising demand for development of new vaccines and the industry is growing at a double-digit rate. Eppendorf bioprocess equipment helps companies in setting up flexible processes that help balancing costs and shortening time-to-market.
Learn more on www.eppendorf.com/vaccines

# Antibodies/Hormones

Improved cultivation techniques such as perfusion and new possibilities in data handling and automation enhance development of antibodies, therapeutic proteins, and active ingredients.
See how Eppendorf can support you with these initiatives on www.eppendorf.com/antibodies

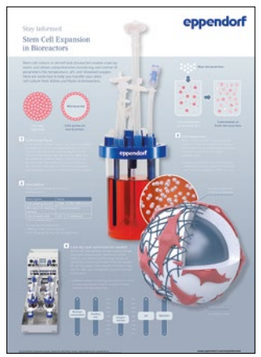
Besides standard impellers, Eppendorf offers specialty impellers which can facilitate continuous and perfusion processes: Spin filters, Cell-Lift impellers, and packed-bed basket impellers.
Fibra-Cel® disks are a solid support material for growth of adherent mammalian, animal, and insect cells, when secreted proteins are desired.

Key advantages:
> Cell densities averaging 10 times higher than traditional microcarriers, due to protection from shear forces
> Higher mass transfer of nutrients and oxygen
> Low pressure drop across the bed for efficient scale-up
> Higher surface-to-volume ratios

# Stem Cells

Stem cell-based technologies are promising approaches for therapy and drug discovery. For commercialization, researchers are evaluating standardization of their cultures and efficient scale-up. Eppendorf customers rely on our bioprocess solutions for controlled cultivation of induced pluripotent stem cells (iPSCs), mesenchymal stem cells (MSCs), and others.






Researchers at Ncardia®, Netherlands rely on the DASbox® Mini Bioreactor System to develop a process for scaling up their production of iPSC-derived cardiovascular cells.
Find this and more research examples at www.eppendorf.com/stem-cell-bioprocessing





# Food & Feed




Microorganisms are routinely used in the food and animal feed industries for processes such as alcohol fermentation, the acidification of dairy products or ensilage. Besides, bacteria and fungi are gaining popularity in the production of food additives such as vitamins, antioxidants or bioactive peptides.
Eppendorf fermentors are available in sizes ranging from 65 mL – 1,200 L and serve process engineers from research and process development through production:
> Strain and process characterization
> Scale-down
> High-cell-density fermentation
> Scale-up

Read how our customers at BIOMIN®, Evonik®, and others benefit from Eppendorf fermentation solutions:
www.eppendorf.com/food-feed

# Chemicals




Chemical synthesis, with its use of partially toxic reagents and solvents as well as high energy consumption, is in direct conflict with the sustainable handling of energy and raw material resources. Meanwhile, a large variety of chemicals can be efficiently produced by microbial fermentation. They are used for example as building blocks for polymers, food supplements, and ingredients for cosmetics. Complex biopolymers have the potential to replace fossil-derived plastics in the future.

Learn more:
www.eppendorf.com/chemicals

# Academic Customers

No matter which area you are doing research in: We understand that universities and other publicly funded institutes are facing special challenges, such as frequently changing staff and often limited budgets. Also for these requirements, Eppendorf has the right solution.



The BioFlo® 120 Auto Culture modes allow 1-touch process control for microbial and cell culture applications and make the control station the perfect workhorse for beginners.




BIOPROCESSING

# Cell Handling













New

| Model | DASbox® Mini Bioreactor System | DASGIP® Parallel Bioreactor Systems | SciVario® twin | BioFlo® 120 | BioFlo® 320 |
|---|---|---|---|---|---|
| Page | 366 | 366 | 367 | 367 | 367 |
| Working volume range[1)] | 60 – 250 mL | 0.2 – 3.8 L | 0.2 – 3.8 L | 0.25 – 40 L | 0.25 – 40 L |
| Single-use vessels available | ■ | ■ | ■ | ■ | ■ |
| Glass vessels, autoclavable | ■ | ■ | ■ | ■ | ■ |
| Stainless-steel vessels, SIP | | | | | |
| Interchangeable vessels | ■ | ■ | ■ | ■ | ■ |
| Bacteria/yeasts/fungi | ■ | ■ | ■ | ■ | ■ |
| Plant cells/algae | ■ | ■ | optional | ■ | ■ |
| Mammalian/animal cells | ■ | ■ | ■ | ■ | ■ |
| Stem cells | ■ | ■ | optional | ■ | ■ |
| Insect cells | ■ | ■ | optional | ■ | ■ |
| Number of parallel units | Up to 24 | Up to 16 | 2 | | Up to 8 |
| Controller[2)] | DWC | DWC | VisioNize-onboard | BCS | BCS |
| Touchscreen controller | | | ■ | ■ | ■ |
| BioCommand® | | | | ■ | ■ |
| DASware® | ■ | ■ | ■ | ■ | ■ |
| Gas mixing options | 4 gas (air, $N_2$, $O_2$, $CO_2$) | 4 gas (air, $N_2$, $O_2$, $CO_2$) | 4 gas (air, $N_2$, $O_2$, $CO_2$) | 4 gas (air, $N_2$, $O_2$, $CO_2$) | 4 gas (air, $N_2$, $O_2$, $CO_2$) |
| Gas flow control[3)] | TMFC | R or TMFC | TMFC | R or TMFC | TMFC |
| Exhaust analysis | ■ | ■ | ■ | ■ | ■ |
| Optical density measurement | ■ | ■ | ■ | ■ | ■ |
| Validation | | | | | ■ |

[1)] Realized using multiple vessel sizes [2)] Controllers: DWC = DASware® control, RPC = Reactor Process Controller, BCS = BioFlo® Control Software, PLC = Programmable Logic Controller [3)] Gas Flow Controllers: R = Rotameter, TMFC = Thermal Mass Flow Controller








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# Cell Handling











| Model | BioFlo® 510 | CelliGen® 510 | BioFlo® 610 | BioFlo® Pro |
|---|---|---|---|---|
| Page | 368 | 368 | 368 | 369 |
| Working volume ranges[1)] | 10.75 – 32 L | 10.75 – 32 L | 13 – 100 L | 45 – 1,200 L |
| Single-use vessels available | | | | |
| Glass vessels, autoclavable | | | | |
| Stainless-steel vessels, SIP | ■ | ■ | ■ | ■ |
| Interchangeable vessels | | | | |
| Bacteria/yeasts/fungi | ■ | | ■ | ■ |
| Plant cells/algae | ■ | ■ | ■ | ■ |
| Mammalian/animal cells | | ■ | | |
| Stem cells | | ■ | | |
| Insect cells | ■ | ■ | ■ | ■ |
| Number of parallel units | | | | |
| Controller[2)] | RPC/PLC | RPC/PLC | RPC | PLC |
| Touchscreen controller | ■ | ■ | ■ | ■ |
| BioCommand® | ■ | ■ | ■ | ■ |
| DASware® | | | | |
| Gas mixing options | 4-gas (air, $N_2$, $O_2$, $CO_2$) | 4-gas (air, $N_2$, $O_2$, $CO_2$) | 2-gas (air, $O_2$) | 2-gas (air, $O_2$) |
| Gas flow control[3)] | TMFC | TMFC | TMFC | TMFC |
| Exhaust analysis | ■ | ■ | ■ | ■ |
| Optical density measurement | | | | |
| Validation | ■ | ■ | ■ | ■ |

[1)] Realized using multiple vessel sizes [2)] Controllers: DWC = DASware® control, RPC = Reactor Process Controller, BCS = BioFlo® Control Software, PLC = Programmable Logic Controller [3)] Gas Flow Controllers: R = Rotameter, TMFC = Thermal Mass Flow Controller



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# Parallel Bioprocessing for Unparalleled Results – Small-Scale Systems



**DASbox® Mini Bioreactor System**
**60 – 250 mL working volume (autoclavable)**
**65 – 250 mL working volume (single-use)**

**Product features**
> 4-fold parallel system expandable to up to 24 vessels
> Suitable for glass and/or single-use vessels, that can be used in any combination
> Vessels can be run independently or in parallel
> Suitable for cell culture and microbial fermentation
> Compact mini bioreactor system: requires only 7 cm (3 inches) bench space per bioreactor
> Optimal tool for DoE and scale down approaches
> Agitation control supporting overhead-driven Rushton, marine-type or pitched blade impellers
> Innovative liquid-free temperature control system needs no cooling agent supply and supports independent temperature control for each bioreactor
> Accurate monitoring and control of pH, DO, and level
> Variable speed pumps for accurate liquid addition and operation in batch, fed-batch, continuous, and cyclic perfusion mode
> 4 mass flow controllers per bioreactor allow for individual mixing of air, $N_2$, $O_2$, and $CO_2$ to headspace and/or submerged aeration
> Novel liquid-free Peltier exhaust condenser with easy to handle slide in – slide out activation and deactivation
> DASware® control Software for advanced process control
> Compatible with DASware Software Suite for interconnectivity and bioprocess information management



**DASGIP® Parallel Bioreactor Systems**
**200 mL – 3.8 L working volume (autoclavable)**
**250 mL – 1.25 L working volume (single-use)**

**Product features**
> 4-fold parallel system expandable to up to 16 vessels
> Suitable for glass and/or single-use vessels, that can be used in any combination
> Vessels can be run independently or in parallel
> DASGIP Bioblock for advanced and user-friendly temperature control or temperature control via heat blankets and cooling fingers (benchtop bioreactors)
> Suitable for cell culture, microbial fermentation, and phototrophic cultivation
> Modular design of control units allows for flexible system configurations that meet the demands of specific applications
> Control of agitation, pH, level, and DO (including customizable cascade modes) in each bioreactor
> Variable speed pumps for accurate liquid addition and operation in batch, fed-batch, continuous, and cyclic perfusion mode
> Optical absorbance measurement for online calculation of e.g. $OD_{600}$ or cell dry weight
> TMFC individual gas mixing of air, $N_2$, $O_2$, and $CO_2$
> Online calculation of OTR, CTR, and RQ
> DASware control Software for advanced process control
> Compatible with DASware Software Suite for interconnectivity and bioprocess information management

BIOPROCESSING

Technical specifications subject to change.



# Exceedingly Versatile – Bench-Scale Fermentors and Bioreactors



New

**SciVario® twin**
**200 mL – 3.8 L working volume (autoclavable)**
**250 mL – 3.75 L working volume (single-use)**

**Product features**
> Parallel operation of 2 glass and/or BioBLU single-use bioreactors, in any combination of vessel types, independently run or in parallel
> Suitable for cell culture and microbial fermentation
> Temperature control block for advanced and user-friendly temperature control or temperature control via heat blankets and cooling fingers (benchtop bioreactors)
> Future proven bay-drawer concept for further extension & reconfiguration
> VisioNize-onboard: intuitive and exciting new user interface supporting efficient and intelligent process control
> Integrated digital sensor technology (Mettler Toledo ISM® and Hamilton ARC®), supporting analog sensors for pH and DO and optical DO sensors
> Compact design, 15-30 cm of bench space needed per vessel
> Variable speed pumps for accurate liquid addition and operation in batch and fed-batch mode
> Wide range TMFC to allow for individual mixing of air, $N_2$, $O_2$, and $CO_2$ to headspace and/or submerged aeration
> Compatible with DASware® control software for advanced process control



**BioFlo® 120**
**0.4 – 10.5 L working volume (autoclavable),**
**0.25 – 40 L working volume (single-use)**

**Product features**
> Flexible software platform for universal control of both microbial and cell culture applications
> Auto Culture modes offer process control at the touch of a button
> Compatible with BioBLU® Single-Use Vessels for fermentation and cell culture applications
> Precise temperature control provided through interchangeable heat-blanketed or water-jacketed vessels
> High precision thermal mass flow controller (TMFC) for automatic gas flow control
> Automatic gas mix for four independent sparge gas supplies
> Available analog input/output connection for direct integration of accessories (i.e.scales,variable-speed pumps, etc.)
> Integrated Mettler Toledo® Intelligent Sensor Management (ISM) platform
> Compatible with DASware Software Suite or BioCommand for bioprocess information management



**BioFlo® 320**
**0.6 – 10.5 L working volume (autoclavable),**
**0.25 – 40 L working volume (single-use)**

**Product features**
> Interchangeable autoclavable and BioBLU Single-Use Vessels
> Integrated Mettler Toledo Intelligent Sensor Management (ISM) platform
> Control up to eight systems from a single user interface
> Universal control for both microbial and cell culture applications
> Field-upgradable TMFC drawers for sparge and overlay gas
> Enhanced software package with new cascade and time profile features
> Built-in optical pH sensing technology for use with the BioBLU Single-Use Vessels
> DeltaV™ compatibility available through DeltaV Discovery and DeltaV ProPlus PAS
> Up to six integrated pumps capable of operating in variable-speed mode
> Eight independently controlled process gas supplies
> Validation packages available for GMP regulated processes
> Compatible with DASware Software Suite or BioCommand for bioprocess information management

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# Industry Standards Meet Flexibility - Sterilizable-in-Place Fermentors and Bioreactors



**BioFlo® 510 and CelliGen® 510**
**Bench- and pilot-scale SIP fermentor and bioreactor**
**10.75 - 32 L working volume**

**Product features**
> SIP bench and pilot scale reactors designed to meet the needs of R&D through production
> Modular design allows for complete system flexibility
> Add or remove components pre- or post-delivery
> Multiple impeller and gas flow options
> Integrated skid design with mobile table option to simplify transport
> Features intuitive RPC control software and touchscreen interface
> Optional Allen Bradley® PLC
> Integrated load cell for online vessel volume monitoring
> Fully automated SIP sequence for sterilization
> Flush mounted vessel ports for enhanced vessel design and drainability
> Validation packages available
> 7 additional analog input/output connections for local integration of ancillary equipment
> ASME-rated pressure vessel



**BioFlo® 610**
**Pilot-scale SIP fermentor**
**13 - 100 L working volume**

**Product features**
> Pilot production system without the traditional cost or footprint
> Modular design allows for complete system flexibility
> Add or remove components pre- or post-delivery
> Multiple impeller and gas flow options
> Integrated mobile skid simplifies transport
> Features intuitive RPC control software and touchscreen interface
> Integrated load cell for online vessel volume monitoring
> Fully automated SIP sequence for sterilization
> Flush mounted vessel ports for enhanced vessel design and drainability
> Validation packages available
> 7 additional analog input/output connections for local integration of ancillary equipment
> ASME-rated pressure vessel



**BioFlo® Pro**
**Large-scale SIP fermentor**
**45 – 1,200 L working volume**

**Product features**
> Large scale industrial system supporting operation in accordance to cGMP and GAMP® guidelines
> Modular design with over a hundred options allows for high level of customization pre and post delivery
> Multiple impeller and gas flow options
> NEMA-4 (IP65) rated control cabinet with industry-standard Allen Bradley® PLC
> Open piping skid allows for easy accessibility
> Fully automated SIP sequence for sterilization
> Clean-in-Place (CIP) options available for vessel and piping
> Flush mounted vessel ports for enhanced vessel design and drainability
> Validation packages available
> ASME-rated pressure vessel



BIOPROCESSING

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i For more information go to www.eppendorf.com

Technical specifications subject to change.

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# BioBLU® Single-Use Vessels – Dependability through Proven Design

**Single-use simplicity**
With renowned polymer expertise, Eppendorf is proud to offer the largest portfolio of rigid walled stirred-tank single-use vessels – in small and bench scale, to be operated with parallel DASbox Mini Bioreactor System, DASGIP Parallel Bioreactor Systems or BioFlo bench-scale systems.




From 65 mL to 40 L, working volume, Eppendorf has a single-use solution to meet your needs

**Product features**
> Proven performance and scalability of stirred-tank design
> User-friendly set-up for rapid turnaround, shorter development times and lower operating costs
> Specifically adapted designs available for microbial applications
> Packed-bed configuration with Fibra-Cel disks is ideal for perfusion/continuous processes
> Non-invasive or industry standard sensor technology







**BioBLU c Single-Use Vessels for cell culture applications**
Single-use solutions for small and bench scale cell culture applications. A full portfolio of vessels covers a working volume range of 100 mL - 40 L, offering unmatched scalability. The single-layer polymer design mitigates issues related to leachables and extractables.




**BioBLU 5p Single-Use Vessel with packed bed**
For the cultivation of adherent cells and for perfusion processes we offer the BioBLU 5p packed-bed vessel. It utilizes the proprietary Eppendorf packed-bed impeller design and is pre-loaded with Fibra-Cel® disks. Providing a shear-free environment, it is a premium choice in a wide variety of applications, including the production of secreted products and stem cell culture.



**BioBLU f Single-Use Vessels for microbial applications**
Single-use solutions for small and bench scale fermentation applications, covering a working volume range of 65 mL – 3.75 L. Fermentation processes have high mass transfer and heat removal requirements. Proven stirred-tank design, powerful overhead drives featuring Rushton-type impellers, and effective cooling make it possible for the BioBLU f vessels to achieve these demands.



**BioBLU Single-Use Vessel Adaptor Kits**
BioBLU vessels are designed for use with the Eppendorf DASbox and DASGIP systems, BioFlo 120, and BioFlo 320. A range of adaptor kits is offered as well, enabling your existing bioreactor system for single-use operation without the expense of replacing the whole system.
BioBLU Single-Use Vessel bundles for your BioFlo 120 or 320 provide you with highest flexibility. It is easy to switch your bioreactor system from single-use to reusable vessel usage, back and forth.

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BIOPROCESSING

# Eppendorf Bioprocess Software – Much More Than Just Bioprocess Control

Eppendorf offers BioCommand and DASware control Supervisory Control and Data Acquisition (SCADA) software packages for advanced bioprocess control. The comprehensive DASware software suite provides next-generation bioprocess management.

**DASware software suite**
Next-generation bioprocess management
A suite of smart and flexible software solutions to accelerate bioprocess development, with DASware control for parallel bioprocess control. The DASware licences enable interconnectivity of bioreactors with external lab-devices, comprehensive data- and information management, Design of Experiments (DoE) and remote control of bioprocesses. DASware can be used with any Eppendorf benchtop bioreactor solution.




**DASware control**
> Advanced process monitoring, control, and data logging - for parallel cultivation with individual control of each bioreactor



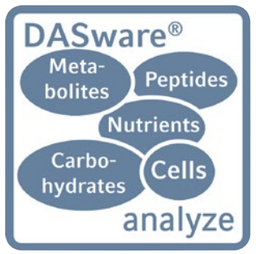

**DASware connect**
> Integration into process control systems and legacy corporate historians facilitating company-wide access to all relevant bioprocess data




**DASware access**
> Remote monitoring and control of bioprocesses via PC, Notebook and Netbook or with the DASGIP iApp via iPhone®, iPod touch® and iPad®




**DASware design**
> Applies the Design of Experiments (DoE) concept via a full factorial DoE builder or by importing DoE designs from third-party DoE tools




**DASware analyze**
> Seamless integration of external lab devices to the bioreactor allows for process automation and feedback control loops

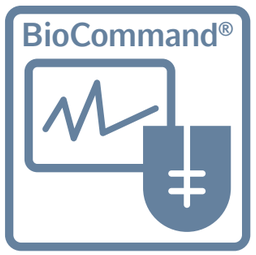



**DASware discover**
> A comprehensive and user-friendly information management solution for bioprocessing










**BioCommand software**
The BioCommand software enhances your ability to monitor, control, and log data from your fermentation and cell culture processes through your personal computer. Three distinct packages provide the tools needed for research, optimization, and if needed, the security and audit trails to support your regulatory requirements.

> **Track and Trend:** Provides the ability to trend and control parameter setpoints, establish alarm settings, and produce batch records; and is ideal for basic process management
> **Batch Control:** Additional enhanced control features including a sophisticated programming module, custom synoptic display window, and equipment lock feature
> **Batch Control Plus:** Includes three levels of security, event logs, and audit-trail capabilities to be compatible with the FDA 21 CFR Part 11

| Features | Track and Trend | Batch Control | Batch Control Plus | DASware control |
|---|---|---|---|---|
| Batch info | ■ | ■ | ■ | ■ |
| User-defined event log | ■ | ■ | ■ | ■ |
| Summary | ■ | ■ | ■ | ■ |
| Loop info | ■ | ■ | ■ | ■ |
| Alarms | ■ | ■ | ■ | ■ |
| Trend graphs | ■ | ■ | ■ | ■ |
| Data log | ■ | ■ | ■ | ■ |
| Reports | ■ | ■ | ■ | ■ |
| Graphical programming | | ■ | ■ | |
| Script programming | | ■ | ■ | ■ |
| Synoptic display | | ■ | ■ | ■ |
| Equipment lock | | ■ | ■ | ■ |
| Audit trail/security | | | ■ | ■ |
| 21 CFR Part 11 | | | ■ | ■[1)] |
| OPC compliance | ■ | ■ | ■ | ■ |
| Parallel calibration | | | | ■ |
| DASware compatibility | | | | ■ |

[1)] 21 CFR Part 11 compatibility is available for DASware control as an optional package. Please contact us for further information.

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# epServices

Eppendorf is known as a market leader in providing outstanding quality and consistently reliable instruments and consumables. Above all, we are committed to providing cost-efficient, reliable services and tools to help you maintain premium performance for maximum productivity and uptime of our instruments and reproducibility of your application results. These services are performed by our dedicated Application, Training, and Technical Service teams worldwide.

Our certification support is designed to support compliance with your laboratory guidelines.

www.eppendorf.com/epServices

Application Support

Seminars and Trainings

Technical Service and Support

Maintenance and Certification

Technical specifications subject to change.





## Application Support

You can expect the highest standards of support for your products and applications from Eppendorf.

Our teams of Application Specialists and our highly trained Product Support Staff in the international Support Centers are pleased to help you with advice and assistance for all kinds of questions about our products and their applications:

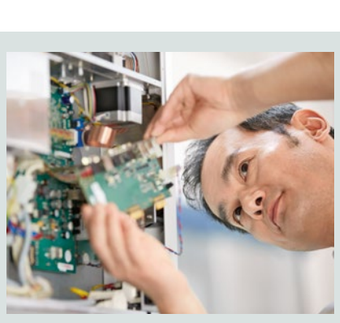
Our highly trained Scientific Support Staff is available in all time zones to assist you with any questions concerning the handling of our products for achieving reliable results.



## Seminars and Training

Professional training of your staff helps you achieve reliable and reproducible results in your laboratory every day. Our courses will teach you how to perform workflows in a straightforward manner as well as how to handle and maintain your instruments.
Our aim is to develop the necessary expertise within your team and to find practical solutions to your specific questions. On our website, we offer various workshops and webinars on specific laboratory topics in the areas of manual and automated Liquid Handling, Sample Handling, Cell Handling and Bioprocessing.

For up-to-date information go to www.eppendorf.com/training



## Technical Service

Eppendorf is commited to providing complete service plans for your instruments to help you maintain premium performance of our instruments in your laboratory. Our technical and certification services will give you the sense of security over your instrument uptime, and performance - guaranteed by the high quality of our original spare parts. We inspect your instrument and provide a detailed report of its present condition as well as an estimate for maintenance, certification, or repair services, if deemed necessary.



## Maintenance and Certification

Be ensured that, thanks to the regular maintenance, calibration and certification (Installation and Operational Qualification - IQ/OQ) services performed by our trained service technicians, your precision instruments will continuously achieve repeatable results.

Documentation is supplied to help you prepare for your quality compliance & audits.

**Knowledge Base**
Various Application Notes, Short Protocols, FAQs, and videos are available on our website.

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SERVICE PRODUCTS

# Pipette Performance Plans



**Preventive Maintenance, Calibration and Adjustment Services**
Precision and accuracy of the pipettes and dispensers are important for the quality of all your work results. Regular maintenance and calibration by Eppendorf assures a consistent result quality.

We offer a range of service options:
> We maintain every pipette's conformity to ISO 8655 or manufacturer specifications
> Customized designed calibration services
> From quick economical calibration to calibration in ISO 17025 accredited laboratories in our major markets

We provide high-quality pipette and dispenser calibration, certification, maintenance and repair services for all major brands of pipettes and dispensers – not just our own.

**Value of service**
> Consistent, reliable liquid handling handheld instruments
> Highest confidence in results
> GLP supporting documentation

**Spa and Wellnes for your liquid-handling handheld instruments to generate reproducible results**

www.eppendorf.com/pipette-video





| Service Operation | BASIC | STANDARD | PREMIUM | CALIBRATION ISO 17025[4] |
|---|---|---|---|---|
| **Order Number for calibration for fixed-volume pipettes** | 0050 600 015 | 0050 600 017 | 0050 600 025 | 0082 000 000 |
| **Order Number for calibration for adjustable-volume pipettes and dispensers** | 0050 600 071 | 0050 600 076 | 0050 600 084 | 0082 000 001 |
| **Order Number for calibration for 8-channel pipettes** | 0050 600 116 | 0050 600 122 | 0050 600 092 | 0082 000 002 |
| **Order Number for calibration for 12-channel pipettes** | 0050 600 128 | 0050 600 130 | 0050 600 033 | 0082 000 003 |
| **Order Number for calibration for 16-channel pipettes** | 0082 000 104 | 0082 000 105 | 0082 000 106 | 0082 000 107 |
| **Order Number for calibration for 24- channel pipettes** | 0082 000 114 | 0082 000 115 | 0082 000 116 | 0082 000 117 |
| Initial inspection to determine pipette condition | | | ■ | |
| Replace all defective parts[1] | | | ■ | |
| **Maintenance and Cleaning** Cleaning and lubrication of seals, o-rings and piston, replacement of small parts like seals and o-rings, checking seals for damage/integrity | | ■ | ■ | ■ |
| **Calibration according to ISO 8655** 10 measurements per test volume (min, mid, max)[2] | | ■ | ■ | ■ |
| **Verification** 4 measurements per test volume (min, mid, max)[2] | ■ | | | |
| **Documentation** Issue calibration report | ■ | ■ | ■ | ■ |
| **ISO 17025 Calibration Certificate**[4] Comprehensive certificate including ISO 17025 accreditation mark of the laboratory | | | | ■ |
| **Supporting Information** Service turnaround (from time of receipt, in business days)[3] | 3-5 | 3-5 | 3-5 | 3-5 |

[1] Handgrip, motor and PCB are priced separately. [2] 10 %, 50 % and 100 % of nominal volumes. [3] Standard value, deviations possible, excl. shipping duration. [4] Calibration in accredited laboratories

■ **BASIC**
Affordable verification

■ **STANDARD**
Maintenance and calibration according to ISO 8655

■ **PREMIUM**
Total care calibration services according to ISO 8655

■ **CALIBRATION ISO 17025**
Certificate with comprehensive data according to ISO 17025

> CUSTOMIZED
e.g. testing according to customer specifications

**Additional services**
> Trade-in program
> Reminder of service intervals
> Customized maintenance contracts
> Inspection of pipettes from all manufacturers – not just Eppendorf
> Emergency service
> On-site service
> Pipette training, with emphasis on ergonomics (PhysioCare Concept®)

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.

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SERVICE PRODUCTS

# ep*Motion*® 96 Performance Plans



**ep*Motion* 96 Performance Plans**
The Eppendorf ep*Motion* 96 is a semi-automated electronic pipette system for fast and precise parallel 96-channel microplate processing. The reliability of the electronic parallel pipetting system movement is the prerequisite for high precision and reproducibility of the results across the whole 96- or 384-well plate. Maintaining and verifying your system´s accuracy and precision on a regular basis is thus highly recommended to make sure your system still dispenses according to the specification.

In the end you will receive assured results with your downstream applications and your valuable samples and reagents. Eppendorf offers a range of services for different user requirements including GLP supporting documentation

**Value of service**
> Confirmation of performance with manufacturer specifications
> Confidence in results
> GLP supporting documentation

**96 × confidence by verified performance!**

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.






| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number** | 0082 030 003 | 0082 030 004 | 0082 030 005 | 0082 030 007 | 0082 030 008 |
| **Checks and Maintenance** | | | | | |
| Cleaning | | ■ | ■ | | |
| Lubrication of dispensing head | | ■ | ■ | | |
| Checking and exchanging of 96 o-rings from cones | ■ | ■ | ■ | | |
| Software/firmware update if neccessary | | ■ | ■ | | |
| **Verification (Calibration)** | | | | | |
| Leak Test (50 µL and 300 µL) | ■ | ■ | ■ | ■ | ■ |
| Gravimetric Test – systematic error (50 µL and 300 µL) | | ■ | ■ | | ■ |
| Photometric Test – random error (2 volumes) | | ■ | ■ | | ■ |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| Calibration Report | | ■ | ■ | | ■ |
| IQ Report | | | | ■ | |
| OQ Report/Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■[1)] | | |
| Contract period | one year | one year | one year | n/a | n/a |
| Number of preventive services included | one | one | one | n/a | n/a |

**Order Number for combined Installation and Operational Qualification (IQ/OQ) services: 0082 030 009**
**Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.**

[1)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.

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# ep*Motion*® Performance Plans



**ep*Motion* Performance Plans**
ep*Motion* and its dispensing tools are precision instruments. As such, they should be regularly maintained and calibrated which will help ensure continuing high accuracy, precision and reproducibility. With our Performance Plans options we help you maintain premium performance of your ep*Motion* over an extended period of time. Our qualified service technicians will take care of your instrument. Our Certification Services include all function tests, calibration and adjustment services needed for Installation and Operational Qualification (IQ/OQ) of your instrument.

**Dispensing tools calibration**
Calibration of the dispensing tools are based on ISO 8655 supporting your GLP documentation.

**Find more information about our training program at www.eppendorf.com/training**

**Value of service**
> Confidence in high-quality results and instrument reliability
> Simple service process
> Professional maintenance

**Keep your process in motion!**




**Order Numbers for combined Installation and Operational Qualification (IQ/OQ) services:**
> For ep*Motion*® 5070: 0082 030 019
> For ep*Motion*® 5073: 0082 030 039
> For ep*Motion*® 5075: 0082 030 029

Additionally, if you require a Customized Service, exchanges of spare parts, we will be very pleased to discuss your requirements.

**Order Numbers for additional services:**
> 1-channel dispensing tool calibration (< epBlue™ 40.0): 5070 005 036
> 8-channel dispensing tool calibration (< epBlue™ 40.0): 5070 005 044
> 1-channel dispensing tool calibration (≥ epBlue™ 40.0): 0050 600 255
> 8-channel dispensing tool calibration (≥ epBlue™ 40.0): 0050 600 259
> Thermal module calibration: 5075 005 018
> TMX Module calibration: 5075 005 174
> HEPA filter exchange: 5073 920 061
> UV lamp exchange: 5073 920 070

**i** For more and up-to-date information go to www.eppendorf.com/epServices. Performance Plans are available in selected countries only and service offer may differ.





| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number for ep*Motion*® 5070** | 0082 030 013 | 0082 030 014 | 0082 030 015 | 0082 030 017 | 0082 030 018 |
| **Order Number for ep*Motion*® 5073** | 0082 030 033 | 0082 030 034 | 0082 030 035 | 0082 030 037 | 0082 030 038 |
| **Order Number for ep*Motion*® 5075** | 0082 030 023 | 0082 030 024 | 0082 030 025 | 0082 030 027 | 0082 030 028 |
| **Cleaning and Maintenance** | | | | | |
| Cleaning of housing/accessories | ■ | ■ | ■ | | |
| Checking ep*Motion*® for external visible damages | ■ | ■ | ■ | ■ | ■ |
| Exchange of CAN bus cables/o-rings of dispensing tools | | ■ | ■ | | |
| Software update[1)] | ■ | ■ | ■ | ■ | ■ |
| **Functional Check** | | | | | |
| Instrument set-up, intitial operation, instruction of user | | | | ■ | |
| Tip ejector, level sensor and carrier | ■ | ■ | ■ | | ■ |
| Barcode Reader with epBlue™ ID[1)] | ■ | ■ | ■ | | |
| Thermal modules[1)] and vacuum chamber[1)] | ■ | ■ | ■ | ■ | ■ |
| TMX module[1)]/TMX module w. Magnetic Finger module[1)] | ■ | ■ | ■ | ■ | ■ |
| UV light/CleanCap (HEPA Filter)[1)] | ■ | ■ | ■ | ■ | ■ |
| **Memory** | | | | | |
| Evaluation of stored data | | ■ | ■ | | |
| **Verification** | | | | | |
| Calibration/adjustment of level sensor and carrier | | ■ | ■ | ■ | ■ |
| Calibration/adjustment of vacuum chamber[1)] | | ■ | ■ | | |
| Verification of operating parameters acc. to specifications | | | | | ■[3)] |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| IQ Report and Certificate | | | | ■ | |
| OQ Report and Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■[2)] | | |
| Contract period | one year | one year | one year | n/a | n/a |
| Number of preventive services included | one | one | one | n/a | n/a |

[1)] Where feature is present. [2)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying. [3)] The detailed certification service contents are listed in the OQ Report.

| Certification Plans | BASIC |
|---|---|
| **Order Number** | 5075 005 182 |
| **Installation and Operational Qualification (IQ/OQ):** according to Eppendorf SOPs incl. one single and one 8-channel dispensing tool calibration (based on ISO 8655), complete documentation and certificates | ■ |
| **ep*Motion*®/epBlue™ User Starter Training:** incl. training documents and certificates | ■ |
| **ep*Motion*® GxP Software User, Administrator Lab and Administrator IT**: incl. training documents and certificates | ■ |

| Additional Services: | Order no. |
|---|---|
| **ep*Motion*® GxP Software Upgrade,** Installation and User/Administrator Training, ep*Motion*®/epBlue™ Version | 5075 005 220 |
| **ep*Motion*® GxP Software Operational Qualification (OQ)**, according to Eppendorf SOP's, incl. one single-channel and one 8-channel dispensing tool calibration (based on ISO 8655) | 5075 005 212 |
| **ep*Motion*® GxP Software – single channel dispensing tool calibration** (based on ISO 8655) | 5075 005 239 |
| **ep*Motion*® GxP Software – 8-channel dispensing tool calibration** (based on ISO 8655) | 5075 005 247 |
| **ep*Motion*® GxP Software User Training** | 5075 005 263 |

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SERVICE PRODUCTS

# ep*Motion*® Application Implementation



**Automated Pipetting – difficult Application?**
Are you having trouble with a protocol or are not sure how to optimize your automated application? We are happy to advise and assist you with your application. Eppendorf offers various application support services for ep*Motion* users with low to high throughput experiments. Our network of highly skilled and extensively trained In-Field Automation Specialist are available for comprehensive application training and support after installation of your ep*Motion* and during the setup of your own advanced methods.

More ready-to-go methods, labware and software updates are available for downloading from our VIP login web page.
**www.eppendorf.com/automation**

**Application Implementation Terms**
Eppendorf will provide the on-site support to program your ep*Motion* methods for a single application as well as optimize all liquid classes needed for the application to the best of the instrument's capability. An initial in-house feasibility test is performed. Upon completion of the method on the customer's ep*Motion*, the application will be approved by the user. Optimization to the maximum level of performance!



i For additional information, go to www.eppendorf.com/epServices.
Liquid Class Optimization and Eppendorf Training Center offers are only available in selected countries and the services offered may vary.





| Application Implementation, Seminars and Training Options | |
|---|---|
| **Application Implementation**[1)] | on request |
| > The Eppendorf ep*Motion*® Application Implementation agreement standard is intended for both new and existing instruments. Eppendorf will provide the on-site support to program the desired application methods for a single application as well as optimize all liquid classes needed. All users will receive a customized training that will include all necessary elements to properly use this workflow. In addition, a customized user guide will be prepared and given to the account during their training, which includes instructions on reagent volumes, deck setup and accessories needed. | |
| **Liquid Class Optimization**[1)] | 0082 030 169 |
| > Initial inspection of the liquid | |
| > Adjustment of liquid class parameters | |
| > Confirmation that liquid is handled to the best of the instrument's capability | |
| **On-site Training** | |
| > ep*Motion*® introductory training: epBlue™ software programming and usage, hardware functionalties, etc | on request |
| > ep*Motion*® GxP software - two days training | 5075 005 263 |

[1)] Our In-Field Application Specialist accomplishes the programming, optimization and/or support of an application project beyond the scope covered in the seminars and training. The application contract does not include or guarantee the generation of application relevant data. All equipment (ep*Motion*® and tools) must be within calibration and in good working condition prior to the initiation of the Application Implementation agreement. All liquids/reagents and consumables (tips, plates, tubes etc.) needed must be provided by the user.



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# Temperature Control and Mixing Performance Plans



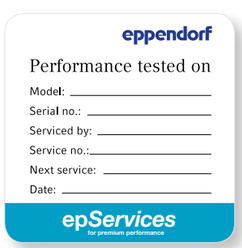
**Temperature Control and Mixing Performance Plans**
The right heating, cooling and mixing conditions are made very easy with our Temperature Control and Mixing instruments. We also understand that slight deviations in temperature and mixing frequency of your samples can affect their reaction conditions and may lead to non-reproducible results. To guarantee you the precise function of the instrument we offer manufacturer designed maintenance services. Our certification services support your Quality Management requirements with Installation Qualification (IQ) and Operational Qualification (OQ) in accordance with manufacturer specifications.

With our Performance Plans options we will make sure that your instruments are in good working condition by professional maintenance and certification service.

**Value of service**
> Reliable system operation and results
> GLP supporting documentation

**We care for your samples – with our mix of services**

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.








| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number** | 0082 100 003 | 0082 100 004 | 0082 100 005 | 0082 100 007 | 0082 100 008 |
| **External Checks and Maintenance** | | | | | |
| Cleaning of housing | | ■ | ■ | | |
| Visual check of housing | ■ | ■ | ■ | | |
| Visual check of plate holder | | ■ | ■ | | |
| Cleaning of accessories | | ■ | ■ | | |
| Visual check of accessories | ■ | ■ | ■ | | |
| **Internal Equipment and Fittings** | | | | | |
| Cleaning of internal parts and assemblies | | ■ | ■ | | |
| Visual check of internal parts and assemblies | | ■ | ■ | | |
| Visual check of electrical connection | | ■ | ■ | | |
| **Functional Check** | | | | | |
| Check of delivery | | | | ■ | |
| Instrument set-up and initial operation | | | | ■ | |
| Instruction of user | | | | ■ | |
| LED, display, and keyboard check | | ■ | ■ | | |
| Check of vortex sensor | | ■ | ■ | | |
| Functional check with service functions | | ■ | ■ | | |
| Check of SmartBlock or exchangeable thermoblock detection | ■ | ■ | ■ | | ■ |
| Check of mixing, heating, cooling, and vortexing[1)] | ■ | ■ | ■ | | |
| Check and measurement of mixing, heating, cooling, and vortexing | | | | | ■ |
| Check of overload protection | | ■ | ■ | | |
| Check of fans | | ■ | ■ | | |
| Check of ThermoTop detection | | ■ | ■ | | |
| Check of timer | | | | | ■ |
| **Memory** | | | | | |
| Evaluation of stored data | | ■ | ■ | | |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| IQ Report and Certificate | | | | ■ | |
| OQ Report and Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■[2)] | | |
| Contract period | one year | one year | one year | N/A | N/A |
| Number of preventive services included | one | one | one | N/A | N/A |

**Order Number for combined Installation and Operational Qualification (IQ/OQ) services: 0082 100 009**
**Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.**

[1)] Without measurement. [2)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.

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SERVICE PRODUCTS

# Centrifuge Performance Plans



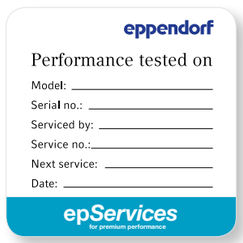
**Centrifuge Performance Plans**
Quality Management Systems increasingly ask for regular service of centrifuges and rotors in either an operational or a disassembled state to ensure a safe working environment.
Functional inspections ensure that all technical specifications, such as temperature accuracy, rotational speed and operating time comply with the manufacturer specifications. The Centrifuge Performance Plans assist with your preparation for internal and external audits.

**Value of service**
> Highest degree of security in your lab
> GLP supporting documentation
> Productive long life of the system

**Relax while your samples are spinning safely!**

Take a break and watch this video about
recommended routine maintenance of your centrifuge
www.eppendorf.com/centrifuge-video

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.




Technical specifications subject to change.



| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number for microcentrifuge w/o refrigeration** | 0082 020 003 | 0082 020 004 | 0082 020 005 | 5424 860 036 | 0082 020 008 |
| **Order Number for microcentrifuge with refrigeration** | 0082 020 013 | 0082 020 014 | 0082 020 015 | 5424 860 044 | 0082 020 018 |
| **Order Number for multipurpose w/o refrigeration** | 0082 020 023 | 0082 020 024 | 0082 020 025 | 5810 860 040 | 0082 020 028 |
| **Order Number for multipurpose with refrigeration** | 0082 020 033 | 0082 020 034 | 0082 020 035 | 5810 860 059 | 0082 020 038 |
| **Cleaning and Maintenance** | | | | | |
| Cleaning of housing/Checking condensation water tray [1] | ■ | ■ | ■ | | |
| Cleaning and checking of rotor bowl and internal parts | | ■ | ■ | | |
| Checking of instrument for any damage | ■ | ■ | ■ | | ■ |
| Checking of stability, housing, display and keypad | | ■ | ■ | | |
| Software update if required | | ■ | ■ | | |
| Checking of lid latch | ■ | ■ | ■ | | ■ |
| **Functional check** | | | | | |
| Instrument set-up/Initial operation/Instruction of user | | | | ■ | |
| Checking of rotor detection | ■ | ■ | ■ | | |
| Checking of temperature sensors [1] and speed sensor | | ■ | ■ | | ■ |
| Checking of imbalance detection [1] | | ■ | ■ | | |
| Performing system test run | ■ | ■ | ■ | ■ | ■ |
| **Memory** | | | | | |
| Evaluating of stored data | | ■ | ■ | | |
| **Verification** | | | | | |
| Verification of operating parameters according to specifications | | | | | ■ [3] |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| IQ Report and Certificate | | | | ■ | |
| OQ Report and Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■ [2] | | |
| Contract period | one year | one year | one year | N/A | N/A |
| Number of preventive services included | one | one | one | N/A | N/A |

**Order numbers for combined Installation & Operational Qualification (IQ/OQ) services:**
> **For microcentrifuge w/o refrigeration: 0082 020 009**
> **For microcentrifuge with refrigeration: 0082 020 019**
> **For multipurpose w/o refrigeration : 0082 020 029**
> **For multipurpose with refrigeration: 0082 020 039**

**Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.**

[1] Where feature is present. [2] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying. [3] The detailed certification service contents are listed in the OQ Report.

| Inspection service for rotors | Recommended service periods | Fixed-angle rotors | Swing-bucket rotors and buckets |
|---|---|---|---|
| Visual rotor inspection [1] | Annually | 5424 860 109 | 5810 860 113 |

[1] For all Eppendorf rotors and accessories

**Order Number for obligatory check of rotor according to country-specific regulations: 5424 860 150**

**Attention:**
All rotors must be clean and dry before inspection, or additional cleaning charges apply at prevailing rates.

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SERVICE PRODUCTS

# Photometry Performance Plans



**Photometry Performance Plans**
Qualitative and reproducible results depend upon quality instrumentation and measurements. To optimize photometric and fluorometric precision, accuracy, and linearity, your instrument should be routinely checked and adjusted by a qualified Eppendorf Service Technician. Photometry Performance Plans include a choice of preventive maintenance programs which are designed to verify that your instrument meets manufacturer specifications. We also take care of the optics cleaning, instrument adjustments and provide you with full documentation and certificates.
Installation Qualification (IQ) and Operational Qualification (OQ) certification services support your Quality Management requirements, providing you with qualified assurance that your photometer is delivering the highest possible quality results.

**Value of service**
> Reliable system operation over the total system lifetime
> GLP supporting documentation

**Stay tuned to the right wavelength!**

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.

eppendorf
Performance tested on
Model: _____
Serial no.: _____
Serviced by: _____
Service no.: _____
Next service: _____
Date: _____
epServices
for premium performance

Technical specifications subject to change.



| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number for Eppendorf BioPhotometer® D30** | 0082 110 003 | 0082 110 004 | 0082 110 005 | 0082 110 007 | 6132 005 018 |
| **Order Number for Eppendorf BioSpectrometer®** | 0082 110 013 | 0082 110 014 | 0082 110 015 | 0082 110 017 | 6135 005 019 |
| **Cleaning and Maintenance** | | | | | |
| Cleaning of housing and cuvette shaft | ■ | ■ | ■ | | |
| Cleaning and inspection of internal parts and light path | | ■ | ■ | | |
| Checking for damages | ■ | ■ | ■ | ■ | ■ |
| Inspection of housing/Testing of stability | ■ | ■ | ■ | ■ | |
| Software update | | ■ | ■ | | |
| **Functional Check** | | | | | |
| Instrument set-up, intitial operation, instruction of user | | | | ■ | |
| Checking of keyboard, and display | ■ | ■ | ■ | | ■ |
| Testing of printer output and USB port (master/slave[1)]) | ■ | ■ | ■ | | ■ |
| Setting number of flashes | | ■ | ■ | | |
| dsDNA test – 260 nm (Biophotometer plus) | ■ | ■ | ■ | | |
| Self test (Biospectrometer/Biophotometer D30) | ■ | ■ | ■ | ■ | ■ |
| **Memory** | | | | | |
| Evaluation of stored data | | ■ | ■ | | ■ |
| **Verification** | | | | | |
| Photometer Test (wavelength systematic error/precision and photometric accuracy/fluorescence test[1)]) | | ■ | ■ | | ■ |
| Temperature verification/adjustment[1)] | | ■ | ■ | | ■ |
| Verification of operating parameters according to specifications | | | | | ■[3)] |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| IQ Report and Certificate | | | | ■ | |
| OQ Report and Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■[2)] | | |
| Contract period | one year | one year | one year | n/a | n/a |
| Number of preventive services included | one | one | one | n/a | n/a |

**Order Numbers for combined Installation and Operational Qualification (IQ/OQ) services:**
> **For Eppendorf BioPhotometer®: 0082 110 009**
> **For Eppendorf BioSpectrometer®: 0082 110 019**
> **Order Numbers for additional services:**
> **Photometer Test for Eppendorf BioPhotometer®: 6132 005 026**
> **Photometer Test for Eppendorf BioSpectrometer®: 6135 005 027**
> **Photometer Test for Eppendorf BioSpectrometer® fluorescence: 6137 005 008**
> **Temperature verification for Eppendorf BioSpectrometer® kinetic: 6136 005 004**

[1)] Where feature is present. [2)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying. [3)] The detailed certification service contents are listed in the OQ Report.

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SERVICE PRODUCTS

# Mastercycler® Performance Plans



**Mastercycler Performance Plans**
To ensure your instrument is operating consistently at peak performance and to guarantee reproducible results over an extended period of time, we offer service programs to meet your needs. Our maintenance service is a prerequisite for temperature verification of the cycler. The exact cadherence to defined temperatures is crucial for reproducible results.
Our certification services can support your Quality Management requirements by Installation Qualification (IQ) and Operational Qualification (OQ) in accordance with manufacturer specifications to guarantee you the precise function of the instrument. With our Performance Plans options we will make sure that your instruments are in good working condition by professional maintenance and certification service from the manufacturer.

**Additional stand-alone temperature verification and certification services:**
Temperature verfication of selected well positions and adjustment of the cycler block temperature if necessary is highly recommended to ensure instrument consistency and accuracy.

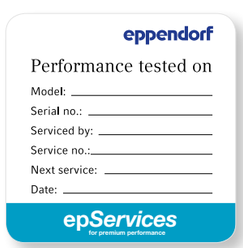
**Sequential temperature verification – measuring one temperature at the time**
**Order Number:**
> For Mastercycler® X50, pro, nexus: 6321 897 000
> Temperature verification system (calibrated in an ISO 17025 accredited laboratory): 0082 040 027

**Parallel temperature verification - measuring various wells at the same time and of ramping speeds between 40 – 90 °C.**
**Order Number:**
> For Mastercycler® X50, pro, nexus, in selected countries: 6321 897 507

Please inquire locally for ordering information on Certification of Temperature Verification systems (Single-well and multi-well).

**Value of service**
> High confidence in results
> Permanently reliable and reproducible results
> GLP supporting documentation

**Keep operating –**
**with absolute confidence**




Technical specifications subject to change.



| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number for Mastercycler® X50, pro, nexus** | 0082 040 043 | 0082 040 044 | 0082 040 045 | 0082 040 047 | 0082 040 048 |
| **External Checks and Maintenance** | | | | | |
| Cleaning of MC module | | ■ | ■ | | |
| Visual check of housing | ■ | ■ | ■ | | |
| Cleaning of heated lid | | ■ | ■ | | |
| Visual check of accessories | | ■ | ■ | | |
| **Internal Equipment and Fittings** | | | | | |
| Cleaning of internal parts and assemblies | | ■ | ■ | | |
| Visual check of internal parts and assemblies | | ■ | ■ | | |
| Visual check of electrical connection (incl. mains power) | | ■ | ■ | | |
| Software update | | ■ | ■ | | |
| **Functional Check** | | | | | |
| Check of delivery | | | | ■ | |
| Instrument set-up and initial operation | | | | ■ | |
| Instruction of the user | | | | ■ | |
| LED, display and keyboard check | ■ | ■ | ■ | ■ | ■ |
| Check USB-interface | | ■ | ■ | ■ | ■ |
| Check touchscreen | | ■ | ■ | ■ | ■ |
| Check of thermoblock | ■ | ■ | ■ | ■ | ■ |
| Check of heated lid | ■ | ■ | ■ | ■ | ■ |
| Check of fan(s) | ■ | ■ | ■ | ■ | ■ |
| Temperature verification – with single-channel system | | ■ | ■ | ■ | ■ |
| Temperature verification – with multi-channel system (if available[1]) | | ■ | ■ | ■ | ■ |
| **Memory** | | | | | |
| Evaluation of stored data | | ■ | ■ | | |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| IQ Report and Certificate | | | | ■ | |
| OQ Report and Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■[1] | | |
| Contract period | one year | one year | one year | n/a | n/a |
| Number of preventive services included | one | one | one | n/a | n/a |

**Order Numbers for combined Installation and Operational Qualification (IQ/OQ) services:**
> **For Mastercycler® X50, pro, nexus: 0082 040 049**

**Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.**

[1] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.

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SERVICE PRODUCTS

# ULT Freezer Performance Plans




**ULT Freezer Performance Plans**
Eppendorf Ultra-Low Temperature (ULT) Freezers offer you the advanced design and intuitive features you like on the outside plus the security and performance you need for your most precious samples on the inside. Reliable and efficient performance can be expected for years of smooth operation from any of our ULT Freezers, which vary in configuration and capacity. In addition to our extensive standard warranty, Eppendorf offers ULT Freezer Performance Plans to suit your lab's needs while enhancing your peace of mind.
You can choose between essential function checks, preventive maintenance plans, or Installation and Operational (IQ/OQ) certification services. These protocols are designed to check, validate, and promote reliable freezer performance that coincide with our manufacturer specifications.

**Value of service**
> Increased uptime and reduced risk of system failure
> Long lifetime of instruments
> Confirmation of performance within manufacturer specification

**Protect your priceless samples!**

SERVICE PRODUCTS

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.

eppendorf
Performance tested on
Model: _____
Serial no.: _____
Serviced by: _____
Service no.: _____
Next service: _____
Date: _____
epServices
for premium performance

Technical specifications subject to change.



| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number** | 0082 070 003 | 0082 070 004 | 0082 070 005 | 0082 070 007 | 0082 070 008 |
| **External Checks and Maintenance** | | | | | |
| Check installation environment | ■ | ■ | ■ | ■ | ■ |
| Check electrical supply and fittings | | ■ | ■ | ■ | ■ |
| Check $CO_2$ /$LN_2$ backup system installation[1)] | | ■ | ■ | ■ | ■ |
| Check independent temperature monitoring system[1)] | | ■ | ■ | ■ | ■ |
| Operation of freezer lid gas strut (chest freezer only) | | ■ | ■ | | ■ |
| Alignment of door handle | ■ | ■ | ■ | | ■ |
| Alignment and sealing of outer door (upright freezer only) | | ■ | ■ | | ■ |
| Air filter inspection and cleaning | ■ | ■ | ■ | | ■ |
| **Internal Equipment and Fittings** | | | | | |
| Inspection and cleaning of heated vent/condensor | ■ | ■ | ■ | | ■ |
| Condition and function of inner doors/lids | | ■ | ■ | | ■ |
| Compressors: operating temperature check | | ■ | ■ | | ■ |
| Cooling fan: condition of fan motor, bearings, fan blades | | ■ | ■ | | ■ |
| Condition of insulation – accessible cooling circuit pipes | | ■ | ■ | | ■ |
| Condition of accessible electrical wiring | | ■ | ■ | | ■ |
| Display and function keys operation | ■ | ■ | ■ | | ■ |
| Chamber temperature sensor function, alarms function | ■ | ■ | ■ | | ■ |
| RS-232 communications port functionality check | | ■ | ■ | | ■ |
| **Validation and Metrology** | | | | | |
| Validation and adjustment of operating parameters to within Eppendorf specifications | ■ | ■ | ■ | | ■[3)] |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | ■ |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| IQ Report and Certificate | | | | ■ | |
| OQ Report and Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■[2)] | | |
| Contract period | one year | one year | one year | n/a | n/a |
| Number of preventive services | one | one | one | n/a | n/a |
| **Order Number for combined Installation and Operational Qualification (IQ/OQ) services: 0082 070 009** | | | | | |
| **Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.** | | | | | |

[1)] Where this optional feature is present.[2)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.[3)] The detailed certification service contents are listed in the OQ Report: e.g. test of battery, alarm, vacuum effectiveness, and final test run.

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# Cell Manipulation Performance Plans



**Cell Manipulation Performance Plans**
From our knowledgeable Sales and Field Application Specialists to our trained Customer Service and Technical Service Group, our entire team demonstrates a passion for helping you achieve success with your cell manipulation work. Our combination of excellent products and service will prepare you for optimal performance.
With our Performance Plans options we will ensure that your instruments are in good working condition by professional inspection and maintenance service including the exchange of parts due to wear and tear.
Installation Qualification and Operational Qualification (IQ/OQ) services assure that your Eppendorf cell manipulation instruments are delivered, installed, and consistently operating at peak performance to manufacturer specifications. IQ/OQ certification can support documentation for your Quality Management System.

**Value of service**
> Reliable system operation at peak performance over the total lifetime of the system
> GLP supporting documentation

**Precise and accurate instruments will further improve your Cell Manipulation success!**

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.




Technical specifications subject to change.



| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number for Electroporators** | 0082 010 003 | 0082 010 004 | 0082 010 005 | 0082 010 007 | 0082 010 008 |
| **Order Number for Microinjectors/Micromanipulators** | 0082 010 013 | 0082 010 014 | 0082 010 015 | 0082 010 017 | 0082 010 018 |
| **External Checks and Maintenance** | | | | | |
| Cleaning of housing | ■ | ■ | ■ | | |
| Checking of keyboard | | ■ | ■ | | ■ |
| Visual inspection of display | | ■ | ■ | | ■ |
| Stability test | ■ | ■ | ■ | | |
| **Internal Equipment and Fittings** | | | | | |
| Cleaning of internal assemblies | | ■ | ■ | | |
| Leak-tightness text (CellTram®/FemtoJet®) | ■ | ■ | ■ | | ■ |
| Oil exchange (CellTram® Oil/vario) | ■ | ■ | ■ | | |
| Inspection of contacts (Electroporator) | | ■ | ■ | | ■ |
| Software upgrade | | ■ | ■ | | |
| **Functional check** | | | | | |
| Check of delivery | | | | ■ | |
| Instrument set-up and initial operation | | | | ■ | |
| Instruction of user | | | | ■ | |
| Motor module test (Micromanipulator) | ■ | ■ | ■ | | ■ |
| System test | ■ | ■ | ■ | | ■ |
| **Memory** | | | | | |
| Analysis of error statistics | ■ | ■ | ■ | | ■ |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| IQ Report and Certificate | | | | ■ | |
| OQ Report and Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■[1)] | | |
| Contract period | one year | one year | one year | N/A | N/A |
| Number of preventive services included | one | one | one | N/A | N/A |

**Order Numbers for combined Installation and Operational Qualification (IQ/OQ) services:**
> **For Electroporators: 0082 010 009**
> **For Microinjectors/Micromanipulators: 0082 010 019**
> **Eppendorf PiezoXpert® Actuator Verification: 5194 075 016**

**Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.**

[1)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.

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SERVICE PRODUCTS

# $CO_2$ Incubator Performance Plans




**$CO_2$ Incubator Performance Plans**

$CO_2$ incubators are the pivotal instruments in cell culture labs. They feature complex, dynamic control systems to maintain user-defined culturing parameters. Accurate measurement and control feedback of multiple environmental variables is necessary in order to optimize cell growth and proliferation, at the same time minimizing intercellular variation in physiology, metabolic function and expression.
$CO_2$ Incubator Performance Plan components include a choice of preventive maintenance protocols designed to check, validate and to promote continuous and stable incubator performance, optimizing instrument conformity with programmed culturing parameters.
Installation Qualification (IQ) and Operational Qualification (OQ) certification services support your Quality Management requirements by providing you with qualified assurance that your $CO_2$ incubator is functioning correctly, in accordance with manufacturer specifications.

**Value of service**

> Reliable results over an extended period of time
> Improves consistency and productivity of culturing

**Our service culture for peace of mind!**

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.

eppendorf

Performance tested on

Model: _____
Serial no.: _____
Serviced by: _____
Service no.: _____
Next service: _____
Date: _____

epServices
for premium performance





| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number** | 0082 060 003 | 0082 060 004 | 0082 060 005 | 0082 060 007 | 0082 060 008 |
| **External Checks and Maintenance** | | | | | |
| Check installation environment | ■ | ■ | ■ | ■ | ■ |
| Check electrical/gas supply and fittings | | ■ | ■ | ■ | ■ |
| Replace in-line gas filter(s) and auto-zero filter | | ■ | ■ | | ■ |
| Check door seals and door hinges | | ■ | ■ | ■ | ■ |
| **Internal Equipment and Fittings** | | | | | |
| Check condition of all chamber gas, temperature, humidity sensors | | ■ | ■ | ■ | ■ |
| Check security of incubator shelf/shelves and racking system | | ■ | ■ | ■ | ■ |
| Check sensor covers are present and undamaged | | ■ | ■ | | ■ |
| Check condition of humidity trays | | ■ | ■ | | ■ |
| Check condition of wiring system, PCB's, display and controller | | ■ | ■ | | ■ |
| Check alarms functionality | | ■ | ■ | | ■ |
| **Validation and Metrology** | | | | | |
| Validation and adjustment of operating parameters within Eppendorf specifications | ■ | ■ | ■ | | ■[2)] |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | ■ |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| IQ Report and Certificate | | | | ■ | |
| OQ Report and Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■[1)] | | |
| Contract period | one year | one year | one year | n/a | n/a |
| Number of preventive services included | one | one | one | n/a | n/a |

**Order Number for combined Installation and Operational Qualification (IQ/OQ) services: 0082 060 009**

**Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.**

[1)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.[2)] The detailed certification service contents are listed in the OQ Report: e.g. verification of temperature, $CO_2$, speed, alarm, and final test run.

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SERVICE PRODUCTS

# Biological Shaker Performance Plans

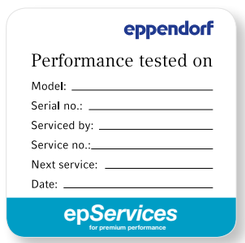



**Biological Shaker Performance Plans**
Biological shakers are essential to cell culture applications and are required to be in continuous use for years. Relatively small, short-term variations in shaker operation can significantly influence culturing outcomes, with negative effects on yields and/or cell expression. Eppendorf's Biological Shaker Performance Plans ensure consistent, reliable shaker performance meeting manufacturer specifications. Biological Shaker Performance Plans include a choice of preventive maintenance protocols which are designed to check and validate stable shaker performance.
Installation Qualification (IQ) and Operational Qualification (OQ) certification services support your Quality Management requirements by providing you with qualified assurance that your biological shaker is functioning correctly, in accordance with manufacturer specifications.

**Value of service**
> Improves reliability and consistancy
> Highest uptime and long lifetime of instruments

**Care for your shaker – optimize your cultures!**

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.








| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number for shakers with heating/cooling** | 0082 080 003 | 0082 080 004 | 0082 080 005 | 0082 080 007 | 0082 080 008 |
| **Order Number for open air shakers** | 0082 080 013 | 0082 080 014 | 0082 080 015 | 0082 080 017 | 0082 080 018 |
| **Order Number for shakers with heating** | 0082 080 023 | 0082 080 024 | 0082 080 025 | 0082 080 027 | 0082 080 028 |
| **Order Number for shaker Innova® S44i** | 0082 080 213 | 0082 080 214 | 0082 080 215 | 0082 080 217 | 0082 080 218 |
| **Order Number for industrial shakers** | 0082 080 033 | 0082 080 034 | 0082 080 035 | 0082 080 037 | 0082 080 038 |
| **External Checks and Maintenance** | | | | | |
| Check installation environment | ■ | ■ | ■ | ■ | ■ |
| Check electrical/gas[1] supply and fittings | | ■ | ■ | ■ | ■ |
| Check condition/operation of any door/lid open sensors | | ■ | ■ | ■ | ■ |
| Check security of doors/lids, handles, door struts[1] and hinges | | ■ | ■ | ■ | ■ |
| **Internal Equipment and Fittings** | | | | | |
| Check security of shaker mechanism; lubricate non-sealed bearings, as appropriate[1] | | ■ | ■ | | |
| Check shaker drive motor, and circulation fan[1] | | ■ | ■ | | ■ |
| Check condition of shaker drive belt; adjust belt tension as necessary | | ■ | ■ | | |
| Clean and check condenser[1] | | ■ | ■ | | |
| **Validation and Metrology** | | | | | |
| Validation and adjustment of operating parameters to within Eppendorf specifications | ■ | ■ | ■ | | ■[3] |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| IQ Report and Certificate | | | | ■ | |
| OQ Report and Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■[2] | | |
| Contract period | one year | one year | one year | n/a | n/a |
| Number of preventive services included | one | one | one | n/a | n/a |

**Order Numbers for combined Installation and Operational Qualification (IQ/OQ) services:**
> **For open shaker: 0082 080 019**
> **For shaker with heating: 0082 080 029**
> **For shaker with heating/cooling: 0082 080 009**
> **For shaker Innova® S44i: 0082 080 219**
> **For industrial shaker: 0082 080 039**

**Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.**

[1] Where feature is present. [2] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying. [3] The detailed certification service contents are listed in the OQ Report: e.g. verification of rpm, temperature, alarms, and final test run.

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SERVICE PRODUCTS

# S41i Incubator Shaker Performance Plans



**S41i Incubator Shaker Performance Plans**

The versatility of the New Brunswick™ S41i Incubator Shaker supports simultaneous culture of adherent and suspension cultures. The smallest deviations in the culturing environment can result in undesirable outcomes. To ensure reproducible results and to protect your precious cultures from undesirable variables, we offer a range of maintenance services.
For your Quality Management requirements we also offer certification services that include Installation Qualification (IQ) and Operational Qualification (OQ) certification to provide optimal instrument performance, stability and accuracy of culturing parameters, in accordance with manufacturer specifications.

**Value of service**

> Reliable system performance and culturing results over the entire system lifetime
> GLP supporting documentation

**Optimized system - relialble results!**

i For more and up-to-date information go to www.eppendorf.com/epServices.
Performance Plans are available in selected countries only and service offer may differ.








| Service Operation | ESSENTIAL CHECK | ADVANCED MAINTENANCE | PREMIUM SERVICE | Installation Qualification (IQ) | Operational Qualification (OQ) |
|---|---|---|---|---|---|
| **Order Number** | 0082 050 003 | 0082 050 004 | 0082 050 005 | 0082 050 007 | 0082 050 008 |
| **External Checks and Maintenance** | | | | | |
| Check installation environment | ■ | ■ | ■ | ■ | ■ |
| Check electrical/gas supply and fittings | | ■ | ■ | ■ | ■ |
| Replace in-line $CO_2$ filter and auto-zero filter | | ■ | ■ | | |
| **Internal Equipment and Fittings** | | | | | |
| Check security of shaker platform(s) and flask holders | | ■ | ■ | ■ | ■ |
| Check security of incubator shelf/shelves and racking system | | ■ | ■ | ■ | ■ |
| Replace platform support post boot seals | | ■ | ■ | | |
| Check condition of humidity trays | | ■ | ■ | | |
| Check condition of shaker drive belt | | ■ | ■ | | |
| Check condition of chamber $CO_2$ and temperature sensors | ■ | ■ | ■ | | ■ |
| **Validation and Metrology** | | | | | |
| Validation and adjustment of operating parameters to within Eppendorf specifications | ■ | ■ | ■ | | ■[2)] |
| **Documentation** | | | | | |
| Check list provided | ■ | ■ | ■ | | |
| Dated service sticker to confirm Eppendorf service | ■ | ■ | ■ | ■ | ■ |
| IQ Report and Certificate | | | | ■ | |
| OQ Report and Certificate | | | | | ■ |
| **Supporting Information** | | | | | |
| Discount on parts replacement, labor and travel time of repairs outside scope of preventive maintenance visit (where Eppendorf product warranty has expired) | | | ■[1)] | | |
| Contract period | one year | one year | one year | n/a | n/a |
| Number of preventive services included | one | one | one | n/a | n/a |

**Order number for combined Installation & Operational Qualification (IQ/OQ) services: 0082 050 009**
**Additionally, if you require a Customized Service we will be very pleased to discuss your requirements.**

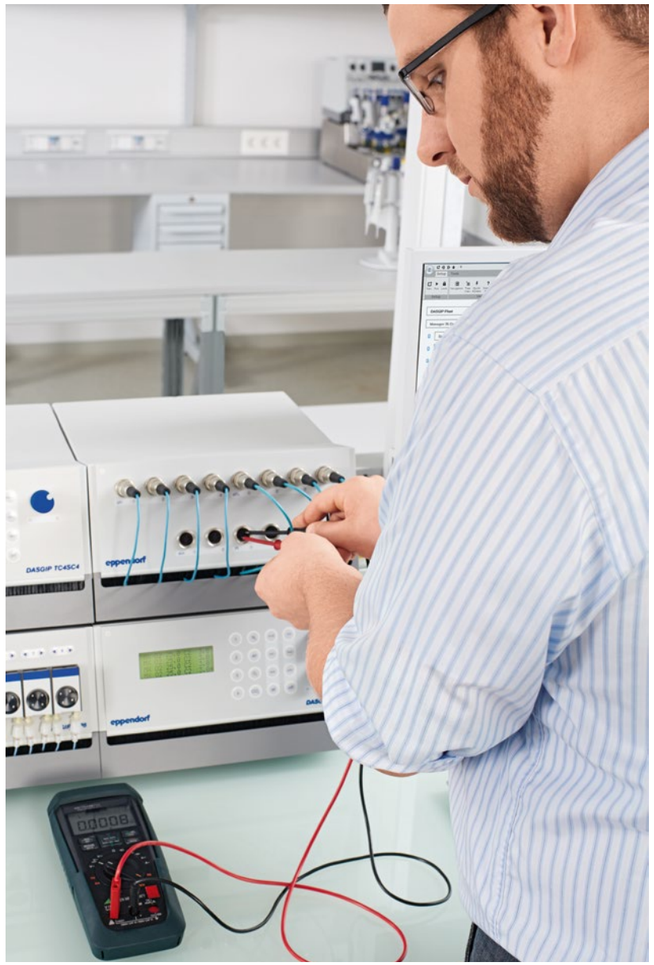
[1)] Please contact your local Eppendorf Service representative for details of discounts and/or any potential additional charges applying.[2)] The detailed certification service contents are listed in the OQ Report: e.g. verification of temperature, $CO_2$, speed, alarm and final test run.

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SERVICE PRODUCTS

# Bioprocess Performance Plans

**Bioprocess Performance Plans**
Bioprocess systems include several sophisticated technologies. Peak performance requires smooth interplay of the subsystems and fully functioning consumable parts. Regular maintenance by qualified engineers helps to ensure reliable operation, while deferring it can cause unreliable results, expensive repairs, and prolonged downtime. Eppendorf Bioprocess Performance Plans help you to maintain the optimal performance of your equipment over years of frequent use.






**You will find details and ordering information for all Bioprocess Performance Plans in the Bioprocess Catalog 2020/2021!**

www

www.eppendorf.com/catalog

Technical specifications subject to change.

# EU-IVD Products

If your lab work is predominantly a clinical or diagnostic application EU-IVD compliant products can add peace of mind to support your documentation and accreditation requirements. Eppendorf has taken all the measurements needed to make sure the EU-IVD compliant documentation is fulfilled and furthermore CE certificates are provided.

To support regulatory compliance, Eppendorf offers manual air cushion pipettes, pipette tips, tubes and centrifuges as EU-IVD compliant, CE marked version for diagnostic applications (according to Directive 98/79/EC). EU-IVD compliant products give peace of mind by supporting your documentation and accreditation requirements where needed. We spare you the effort of validating a "research product" for clinical purposes. EU-IVD compliant products follow the extremely high quality standards at Eppendorf. We are not making any compromises if it comes to precision, accuracy, robustness, safety and ergonomics.

We want you to concentrate on your work, for the better of mankind, and take care of necessary EU-IVD compliant documentation.

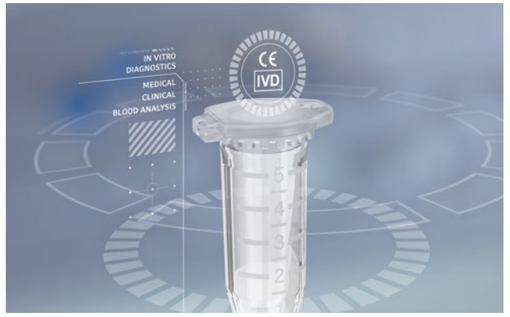
**EU-IVD compliant pipettes – see page 403**




**EU-IVD compliant pipette tips – see page 412**




**EU-IVD compliant tubes – see page 418**




**EU-IVD compliant centrifuges – see page 419**




**Find out more at www.eppendorf.com/easy-choice**

www

# EU-Medical Devices

If you are working in a lab for human in-vitro fertilization (IVF), Eppendorf micromanipulation and microinjection products compliant to the Medical Device Directive 93/42/EEC of the European Union support you with documentation and accreditation requirements.

Eppendorf has taken all the measurements needed to make sure the EU medical device compliant documentation is fulfilled and furthermore CE certificates are provided.

**In-vitro fertilization (IVF) equipment – see page 431**











## Eppendorf Reference® 2

**Description**
The name "Reference" stands for extraordinary precision and accuracy, a long service life, and an ergonomic design. The Reference 2 boasts these proven premium characteristics and this operating philosophy with its innovative state-of-the-art technology.

The Reference 2 is the premium pipette of Eppendorf. Our best material and the latest technologies are implemented in this pipette, making it a reliable partner for you and your demanding work.




* The Eppendorf Reference® 2 pipette is designed and constructed for low-contamination transfer of liquids, in particular for samples from the human body and for reagents within the scope of an in-vitro diagnostic application in order to allow the in-vitro diagnostic medical device to be used as intended. This pipette is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

### Single-channel pipettes, fixed volume

**Ordering information**

| Volume range | Color code | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|
| **Eppendorf Reference® 2 (EU-IVD)**, single-channel, fixed | | | | | | |
| 1 µL | dark gray | ±2.5 % | ±0.025 µL | ±1.8 % | ±0.018 µL | 4921 000 010 |
| 2 µL | dark gray | ±2.0 % | ±0.04 µL | ±1.2 % | ±0.024 µL | 4921 000 028 |
| 5 µL | medium gray | ±1.2 % | ±0.06 µL | ±0.6 % | ±0.03 µL | 4921 000 036 |
| 10 µL | medium gray | ±1.0 % | ±0.1 µL | ±0.5 % | ±0.05 µL | 4921 000 044 |
| 10 µL | yellow | ±1.2 % | ±0.12 µL | ±0.5 % | ±0.05 µL | 4921 000 052 |
| 20 µL | light gray | ±0.8 % | ±0.16 µL | ±0.3 % | ±0.06 µL | 4921 000 060 |
| 20 µL | yellow | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | 4921 000 079 |
| 25 µL | yellow | ±1.0 % | ±0.25 µL | ±0.3 % | ±0.075 µL | 4921 000 087 |
| 50 µL | yellow | ±0.7 % | ±0.35 µL | ±0.3 % | ±0.15 µL | 4921 000 095 |
| 100 µL | yellow | ±0.6 % | ±0.6 µL | ±0.2 % | ±0.2 µL | 4921 000 109 |
| 200 µL | yellow | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | 4921 000 117 |
| 200 µL | blue | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | 4921 000 125 |
| 250 µL | blue | ±0.6 % | ±1.5 µL | ±0.2 % | ±0.5 µL | 4921 000 133 |
| 500 µL | blue | ±0.6 % | ±3.0 µL | ±0.2 % | ±1.0 µL | 4921 000 141 |
| 1,000 µL | blue | ±0.6 % | ±6.0 µL | ±0.2 % | ±2.0 µL | 4921 000 150 |
| 2 mL | red | ±0.6 % | ±0.012 mL | ±0.2 % | ±0.004 mL | 4921 000 168 |
| 2.5 mL | red | ±0.6 % | ±0.015 mL | ±0.2 % | ±0.005 mL | 4921 000 176 |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

➤ Pipette service and maintenance contracts can be found on page 376-377.

# Eppendorf Reference® 2

## Single-channel pipettes, variable volume

| Ordering information | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Volume range** | **Color code** | **Volume** | **Rel. systematic error[1)]** | **Abs. systematic error[1)]** | **Rel. random error[1)]** | **Abs. random error[1)]** | **Order no.** |
| **Eppendorf Reference® 2 (EU-IVD)**, single-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.1 – 2.5 µL | dark gray | 0.1 µL | ±48.0 % | ±0.048 µL | ±12.0 % | ±0.012 µL | 4920 000 016 |
| | | 0.25 µL | ±12.0 % | ±0.03 µL | ±6.0 % | ±0.015 µL | |
| | | 1.25 µL | ±2.5 % | ±0.031 µL | ±1.5 % | ±0.019 µL | |
| | | 2.5 µL | ±1.4 % | ±0.035 µL | ±0.7 % | ±0.018 µL | |
| 0.5 – 10 µL | medium gray | 05 µL | ±8.0 % | ±0.04 µL | ±5.0 % | ±0.025 µL | 4920 000 024 |
| | | 1.0 µL | ±2.5 % | ±0.025 µL | ±1.8 % | ±0.018 µL | |
| | | 5.0 µL | ±1.5 % | ±0.075 µL | ±0.8 % | ±0.04 µL | |
| | | 10 µL | ±1.0 % | ±0.10 µL | ±0.4 % | ±0.04 µL | |
| 2 – 20 µL | light gray | 2.0 µL | ±3.0 % | ±0.06 µL | ±1.5 % | ±0.03 µL | 4920 000 032 |
| | | 10 µL | ±1.0 % | ±0.10 µL | ±0.6 % | ±0.06 µL | |
| | | 20 µL | ±0.8 % | ±0.16 µL | ±0.3 % | ±0.06 µL | |
| 2 – 20 µL | yellow | 2.0 µL | ±5.0 % | ±0.10 µL | ±1.5 % | ±0.03 µL | 4920 000 040 |
| | | 10 µL | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | |
| | | 20 µL | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±0.7 % | ±0.07 µL | 4920 000 059 |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.3 % | ±0.15 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.2 % | ±0.2 µL | |
| 20 – 200 µL | yellow | 20 µL | ±2.5 % | ±0.5 µL | ±0.7 % | ±0.14 µL | 4920 000 067 |
| | | 100 µL | ±1.0 % | ±1.0 µL | ±0.3 % | ±0.3 µL | |
| | | 200 µL | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | |
| 30 – 300 µL | orange | 30 µL | ±2.5 % | ±0.75 µL | ±0.7 % | ±0.21 µL | 4920 000 075 |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.3 % | ±0.45 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.2 % | ±0.6 µL | |
| 100 – 1,000 µL | blue | 100 µL | ±3.0 % | ±3.0 µL | ±0.6 % | ±0.6 µL | 4920 000 083 |
| | | 500 µL | ±1.0 % | ±5.0 µL | ±0.2 % | ±1.0 µL | |
| | | 1,000 µL | ±0.6 % | ±6.0 µL | ±0.2 % | ±2.0 µL | |
| **Eppendorf Reference® 2 (EU-IVD)**, single-channel, variable, incl. epT.I.P.S.® sample bag | | | | | | | |
| 0.25 – 2.5 mL | red | 0.25 mL | ±4.8 % | ±0.012 mL | ±1.2 % | ±0.003 mL | 4920 000 091 |
| | | 1.25 mL | ±0.8 % | ±0.010 mL | ±0.2 % | ±0.0025 mL | |
| | | 2.5 mL | ±0.6 % | ±0.015 mL | ±0.2 % | ±0.005 mL | |
| 0.5 – 5 mL | violet | 0.5 mL | ±2.4 % | ±0.012 mL | ±0.6 % | ±0.003 mL | 4920 000 105 |
| | | 2.5 mL | ±1.2 % | ±0.030 mL | ±0.25 % | ±0.006 mL | |
| | | 5.0 mL | ±0.6 % | ±0.030 mL | ±0.15 % | ±0.0075 mL | |
| 1 – 10 mL | turquoise | 1.0 mL | ±3.0 % | ±0.030 mL | ±0.6 % | ±0.006 mL | 4920 000 113 |
| | | 5.0 mL | ±0.8 % | ±0.040 mL | ±0.2 % | ±0.010 mL | |
| | | 10.0 mL | ±0.6 % | ±0.060 mL | ±0.15 % | ±0.015 mL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

## 3-pack single-channel pipettes, variable volume

| Ordering information | |
|---|---|
| **Eppendorf Reference® 2** | **Order no.** |
| **Eppendorf Reference® 2, 3-pack (EU-IVD)**, single-channel, variable, incl. epT.I.P.S.® Box or sample bag and ballpoint pen | |
| **Option 1:** 0.5 – 10 µL, 10 – 100 µL, 100 – 1,000 µL | 4920 000 903 |
| **Option 2:** 2 – 20 µL yellow, 20 – 200 µL, 100 – 1,000 µL | 4920 000 911 |
| **Option 3:** 100 – 1,000 µL, 0.5 – 5 mL, 1 – 10 mL | 4920 000 920 |



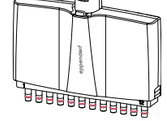




## 8-channel pipettes, variable volumes

| Ordering information | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Volume range** | | **Volume** | **Rel. systematic error[1)]** | **Abs. systematic error[1)]** | **Rel. random error[1)]** | **Abs. random error[1)]** | **Order no.** |
| **Eppendorf Reference® 2 (EU-IVD)**, 8-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±12.0 % | ±0.06 µL | ±8.0 % | ±0.04 µL | 4922 000 013 |
| | | 1.0 µL | ±8.0 % | ±0.08 µL | ±5.0 % | ±0.05 µL | |
| | | 5.0 µL | ±4.0 % | ±0.2 µL | ±2.0 % | ±0.1 µL | |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±1.0 % | ±0.1 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±2.0 % | ±0.2 µL | 4922 000 030 |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.3 % | ±0.3 µL | |
| 30 – 300 µL | orange | 30 µL | ±3.0 % | ±0.9 µL | ±1.0 % | ±0.3 µL | 4922 000 056 |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.5 % | ±0.75 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.3 % | ±0.9 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.



## 12-channel pipettes, variable volumes

| Ordering information | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Volume range** | | **Volume** | **Rel. systematic error[1)]** | **Abs. systematic error[1)]** | **Rel. random error[1)]** | **Abs. random error[1)]** | **Order no.** |
| **Eppendorf Reference® 2 (EU-IVD)**, 12-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±12.0 % | ±0.06 µL | ±8.0 % | ±0.04 µL | 4922 000 021 |
| | | 1.0 µL | ±8.0 % | ±0.08 µL | ±5.0 % | ±0.05 µL | |
| | | 5.0 µL | ±4.0 % | ±0.2 µL | ±2.0 % | ±0.1 µL | |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±1.0 % | ±0.1 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±2.0 % | ±0.2 µL | 4922 000 048 |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.3 % | ±0.3 µL | |
| 30 – 300 µL | orange | 30 µL | ±3.0 % | ±0.9 µL | ±1.0 % | ±0.3 µL | 4922 000 064 |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.5 % | ±0.75 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.3 % | ±0.9 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

# Eppendorf Research® plus

**The ultra light pipette that delights your hand**
The Eppendorf Research plus mechanical pipette combines over 50 years of innovation in liquid handling and is one of the most commonly used pipettes in the world. It provides you with one of the safest and most ergonomic pipettes available today. The Research plus microliter pipette protects the health of our customers during their daily work in the laboratory. It has pioneered the renowned PhysioCare Concept® and thus reduced the strain on hand and arm during pipetting essentially. The Research plus is the pipette family with the lowest weight and lowest operation forces in the Eppendorf product families. Lower operation forces can only be reached with our Eppendorf electronic pipettes. Enjoy excellent flexibility and choose among single-channel pipettes in fixed or variable volume as well as multi-channel pipette options with 8, 12, 16 and 24 channels.




* The Eppendorf Research® plus pipette is designed and constructed for low-contamination transfer of liquids, in particular for samples from the human body and for reagents within the scope of an in-vitro diagnostic application in order to allow the in-vitro diagnostic medical device to be used as intended. This pipette is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

## Single-channel pipettes, fixed volume

**Ordering information**

| Volume range | Color code | | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus (EU-IVD)**, single-channel, fixed | | | | | | | |
| 10 µL | | medium gray | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | 3121 000 015 |
| 10 µL | | yellow | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | 3121 000 023 |
| 20 µL | | light gray | ±0.8 % | ±0.16 µL | ±0.3 % | ±0.06 µL | 3121 000 031 |
| 20 µL | | yellow | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | 3121 000 040 |
| 25 µL | | yellow | ±1.0 % | ±0.25 µL | ±0.3 % | ±0.08 µL | 3121 000 058 |
| 50 µL | | yellow | ±0.7 % | ±0.35 µL | ±0.3 % | ±0.15 µL | 3121 000 066 |
| 100 µL | | yellow | ±0.6 % | ±0.6 µL | ±0.2 % | ±0.2 µL | 3121 000 074 |
| 200 µL | | yellow | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | 3121 000 082 |
| 200 µL | | blue | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | 3121 000 090 |
| 250 µL | | blue | ±0.6 % | ±1.5 µL | ±0.2 % | ±0.5 µL | 3121 000 104 |
| 500 µL | | blue | ±0.6 % | ±3.0 µL | ±0.2 % | ±1.0 µL | 3121 000 112 |
| 1,000 µL | | blue | ±0.6 % | ±6.0 µL | ±0.2 % | ±2.0 µL | 3121 000 120 |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

➤ Pipette service and maintenance contracts can be found on page 376-377. Pipette tips can be found on page 412 onward.





## Single-channel pipettes, variable volume

**Ordering information**

| Volume range | Color code | | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus (EU-IVD)**, single-channel, variable, incl. epT.I.P.S.® Box | | | | | | | | |
| 0.1 – 2.5 µL | | dark gray | 0.1 µL | ±48.0 % | ±0.048 µL | ±12.0 % | ±0.012 µL | 3120 000 011 |
| | | | 0.25 µL | ±12.0 % | ±0.03 µL | ±6.0 % | ±0.015 µL | |
| | | | 1.25 µL | ±2.5 % | ±0.031 µL | ±1.5 % | ±0.019 µL | |
| | | | 2.5 µL | ±1.4 % | ±0.035 µL | ±0.7 % | ±0.018 µL | |
| 0.5 – 10 µL | | medium gray | 0.5 µL | ±8.0 % | ±0.04 µL | ±5.0 % | ±0.025 µL | 3120 000 020 |
| | | | 1 µL | ±2.5 % | ±0.025 µL | ±1.8 % | ±0.018 µL | |
| | | | 5 µL | ±1.5 % | ±0.075 µL | ±0.8 % | ±0.04 µL | |
| | | | 10 µL | ±1.0 % | ±0.1 µL | ±0.4 % | ±0.04 µL | |
| 2 – 20 µL | | light gray | 2 µL | ±5.0 % | ±0.1 µL | ±1.5 % | ±0.03 µL | 3120 000 097 |
| | | | 10 µL | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | |
| | | | 20 µL | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | |
| 2 – 20 µL | | yellow | 2 µL | ±5.0 % | ±0.1 µL | ±1.5 % | ±0.03 µL | 3120 000 038 |
| | | | 10 µL | ±1.2 % | ±0.12 µL | ±0.6 % | ±0.06 µL | |
| | | | 20 µL | ±1.0 % | ±0.2 µL | ±0.3 % | ±0.06 µL | |
| 10 – 100 µL | | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±1.0 % | ±0.1 µL | 3120 000 046 |
| | | | 50 µL | ±1.0 % | ±0.5 µL | ±0.3 % | ±0.15 µL | |
| | | | 100 µL | ±0.8 % | ±0.8 µL | ±0.2 % | ±0.2 µL | |
| 20 – 200 µL | | yellow | 20 µL | ±2.5 % | ±0.5 µL | ±0.7 % | ±0.14 µL | 3120 000 054 |
| | | | 100 µL | ±1.0 % | ±1.0 µL | ±0.3 % | ±0.3 µL | |
| | | | 200 µL | ±0.6 % | ±1.2 µL | ±0.2 % | ±0.4 µL | |
| 30 – 300 µL | | orange | 30 µL | ±2.5 % | ±0.75 µL | ±0.7 % | ±0.21 µL | 3120 000 100 |
| | | | 150 µL | ±1.0 % | ±1.5 µL | ±0.3 % | ±0.45 µL | |
| | | | 300 µL | ±0.6 % | ±1.8 µL | ±0.2 % | ±0.6 µL | |
| 100 – 1,000 µL | | blue | 100 µL | ±3.0 % | ±3.0 µL | ±0.6 % | ±0.6 µL | 3120 000 062 |
| | | | 500 µL | ±1.0 % | ±5.0 µL | ±0.2 % | ±1.0 µL | |
| | | | 1,000 µL | ±0.6 % | ±6.0 µL | ±0.2 % | ±2.0 µL | |
| **Eppendorf Research® plus (EU-IVD)**, single-channel, variable, incl. epT.I.P.S.® sample bag | | | | | | | | |
| 0.25 – 2.5 mL | | red | 0.25 mL | ±4.8 % | ±0.012 mL | ±1.2 % | ±0.003 mL | 3120 000 143 |
| | | | 1.25 mL | ±0.8 % | ±0.01 mL | ±0.2 % | ±0.0025 mL | |
| | | | 2.5 mL | ±0.6 % | ±0.015 mL | ±0.2 % | ±0.005 mL | |
| 0.5 – 5 mL | | violet | 0.5 mL | ±2.4 % | ±0.012 mL | ±0.6 % | ±0.003 mL | 3120 000 070 |
| | | | 2.5 mL | ±1.2 % | ±0.03 mL | ±0.25 % | ±0.006 mL | |
| | | | 5 mL | ±0.6 % | ±0.03 mL | ±0.15 % | ±0.008 mL | |
| 1 – 10 mL | | turquoise | 1 mL | ±3.0 % | ±0.03 mL | ±0.6 % | ±0.006 mL | 3120 000 089 |
| | | | 5 mL | ±0.8 % | ±0.04 mL | ±0.2 % | ±0.01 mL | |
| | | | 10 mL | ±0.6 % | ±0.06 mL | ±0.15 % | ±0.015 mL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

## 3-pack single-channel pipettes, variable volume

**Ordering information**

| Eppendorf Research® plus | Order no. |
|---|---|
| **Eppendorf Research® plus 3-pack (EU-IVD)**, single-channel, variable, incl. epT.I.P.S.® Box or sample bag and ballpoint pen | |
| **Option 1:** 0.5 – 10 µL, 10 – 100 µL, 100 – 1,000 µL | 3120 000 909 |
| **Option 2:** 2 – 20 µL yellow, 20 – 200 µL, 100 – 1,000 µL | 3120 000 917 |
| **Option 3:** 100 – 1,000 µL, 0.5 – 5 mL, 1 – 10 mL | 3120 000 925 |

# Eppendorf Research® plus



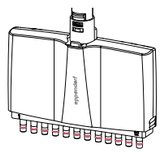
## 8-channel pipettes, variable volumes

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus (EU-IVD)**, 8-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±12.0 % | ±0.06 µL | ±8.0 % | ±0.04 µL | 3122 000 019 |
| | | 1 µL | ±8.0 % | ±0.08 µL | ±5.0 % | ±0.05 µL | |
| | | 5 µL | ±4.0 % | ±0.2 µL | ±2.0 % | ±0.1 µL | |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±1.0 % | ±0.1 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±2.0 % | ±0.2 µL | 3122 000 035 |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.3 % | ±0.3 µL | |
| 30 – 300 µL | orange | 30 µL | ±3.0 % | ±0.9 µL | ±1.0 % | ±0.3 µL | 3122 000 051 |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.5 % | ±0.75 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.3 % | ±0.9 µL | |
| New 120 – 1,200 µL | green | 120 µL | ±6.0 % | ±7.2 µL | ±0.9 % | ±1.08 µL | 3122 000 213 |
| | | 600 µL | ±2.7 % | ±16.2 µL | ±0.4 % | ±2.4 µL | |
| | | 1,200 µL | ±1.2 % | ±14.4 µL | ±0.3 % | ±3.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

**Please note:** 8-channel pipettes build a system only with epT.I.P.S. and ep Dualfilter T.I.P.S. SealMax, see pages 412-416



## 12-channel pipettes, variable volumes

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus (EU-IVD)**, 12-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 0.5 – 10 µL | medium gray | 0.5 µL | ±12.0 % | ±0.06 µL | ±8.0 % | ±0.04 µL | 3122 000 027 |
| | | 1 µL | ±8.0 % | ±0.08 µL | ±5.0 % | ±0.05 µL | |
| | | 5 µL | ±4.0 % | ±0.2 µL | ±2.0 % | ±0.1 µL | |
| | | 10 µL | ±2.0 % | ±0.2 µL | ±1.0 % | ±0.1 µL | |
| 10 – 100 µL | yellow | 10 µL | ±3.0 % | ±0.3 µL | ±2.0 % | ±0.2 µL | 3122 000 043 |
| | | 50 µL | ±1.0 % | ±0.5 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±0.8 % | ±0.8 µL | ±0.3 % | ±0.3 µL | |
| 30 – 300 µL | orange | 30 µL | ±3.0 % | ±0.9 µL | ±1.0 % | ±0.3 µL | 3122 000 060 |
| | | 150 µL | ±1.0 % | ±1.5 µL | ±0.5 % | ±0.75 µL | |
| | | 300 µL | ±0.6 % | ±1.8 µL | ±0.3 % | ±0.9 µL | |
| New 120 – 1,200 µL | green | 120 µL | ±6.0 % | ±7.2 µL | ±0.9 % | ±1.08 µL | 3122 000 221 |
| | | 600 µL | ±2.7 % | ±16.2 µL | ±0.4 % | ±2.4 µL | |
| | | 1,200 µL | ±1.2 % | ±14.4 µL | ±0.3 % | ±3.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

**Please note:** 12-channel pipettes build a system only with epT.I.P.S. and ep Dualfilter T.I.P.S. SealMax, see pages 412-416







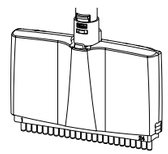
## 16-channel pipettes, variable volume, for 384-well plates

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus (EU-IVD)**, 16-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 1 – 20 µL | light pink | 1 µL | ±12 % | ±0.12 µL | ±8 % | ±0.08 µL | 3122 000 078 |
| | | 2 µL | ±8 % | ±0.16 µL | ±5 % | ±0.1 µL | |
| | | 10 µL | ±4 % | ±0.4 µL | ±2 % | ±0.2 µL | |
| | | 20 µL | ±2 % | ±0.4 µL | ±1 % | ±0.2 µL | |
| 5 – 100 µL | light yellow | 5 µL | ±6 % | ±0.3 µL | ±4 % | ±0.2 µL | 3122 000 094 |
| | | 10 µL | ±3 % | ±0.3 µL | ±2 % | ±0.2 µL | |
| | | 50 µL | ±1.2 % | ±0.6 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±1 % | ±1 µL | ±0.6 % | ±0.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

**Please note:** 16-channel pipettes build a system only with epT.I.P.S. 384, see page 417



## 24-channel pipettes, variable volume, for 384-well plates

**Ordering information**

| Volume range | Color code | Volume | Rel. systematic error[1)] | Abs. systematic error[1)] | Rel. random error[1)] | Abs. random error[1)] | Order no. |
|---|---|---|---|---|---|---|---|
| **Eppendorf Research® plus (EU-IVD)**, 24-channel, variable, incl. epT.I.P.S.® Box | | | | | | | |
| 1 – 20 µL | light pink | 1 µL | ±12 % | ±0.12 µL | ±8 % | ±0.08 µL | 3122 000 086 |
| | | 2 µL | ±8 % | ±0.16 µL | ±5 % | ±0.1 µL | |
| | | 10 µL | ±4 % | ±0.4 µL | ±2 % | ±0.2 µL | |
| | | 20 µL | ±2 % | ±0.4 µL | ±1 % | ±0.2 µL | |
| 5 – 100 µL | light yellow | 5 µL | ±6 % | ±0.3 µL | ±4 % | ±0.2 µL | 3122 000 108 |
| | | 10 µL | ±3 % | ±0.3 µL | ±2 % | ±0.2 µL | |
| | | 50 µL | ±1.2 % | ±0.6 µL | ±0.8 % | ±0.4 µL | |
| | | 100 µL | ±1 % | ±1 µL | ±0.6 % | ±0.6 µL | |

[1)] The error data, according to EN ISO 8655, only apply if original Eppendorf tips are used. Technical specifications are subject to change. Errors and omissions excepted.

Please note: 24-channel pipettes build a system only with epT.I.P.S. 384, see page 417

# epT.I.P.S.®



* The pipette tips of the epT.I.P.S.® product group with the respective product numbers are designed and constructed for low-contamination transfer of liquids, in particular for samples from the human body and for reagents within the scope of an in-vitro diagnostic application in order to allow the in-vitro diagnostic medical device to be used as intended. The above mentioned epT.I.P.S.® are in-vitro diagnostic devices according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Description**
For epT.I.P.S. – the original Eppendorf "Totally Integrated Pipetting System" – the tips are optimally coordinated to Eppendorf pipettes and, of course, meet EN ISO 8655 requirements. This has resulted in minimal attachment and ejection forces with the highest level of tightness. Optimal wetting properties, high transparency and special, certified purity grades are the visible expression of our product and production philosophy.

**Applications**
> Pipetting liquids
> Dispensing liquids
> Mixing liquids
> Filling plates and reaction vessels

**Product features**
> The ergonomically optimized cone geometry provides the optimal pipette fit on the Eppendorf pipette
> Fine graduations make visual checks of the pipetting volume even easier
> Long, narrow tips reach the base of narrow and high vessels without touching the top of the vessel edge
> Fine retracted or extended tips simplify work with small volumes
> Available in purity grades of: Eppendorf Quality, PCR clean, sterile, Biopur®
> Color-coded trays make volume identification and allocation of Eppendorf pipettes easier than ever

i For more information go to www.eppendorf.com/epTips

Technical specifications subject to change.



# Overview about Packaging Units



**Box/Set**
> Contamination-free transfer of trays to stable working box
> System optimized for use with multi-channel pipettes
> Color-coded trays for simple identification of tips and pipette
> Tips can be attached to pipette from refill trays
> Boxes and trays are autoclavable
> Packaging units Box and Set available



**epT.I.P.S.® Racks**
> Biopur pipette tips offer the highest biological purity grade
> Certified PCR clean, sterile, pyrogen-, ATP- and DNA-free
> ep Dualfilter T.I.P.S. SealMax pre-sterilized packed in disposable Racks
> Each production lot inspected by an independent laboratory
> Lot-specific certificates available at www.eppendorf.com/certificates
> Sterility packaging is compliant to standards DIN EN ISO 11607 and DIN EN 868-2-10



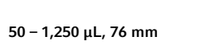
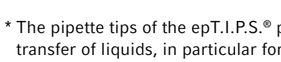
**epT.I.P.S.® Singles**
> Biopur pipette tip, individually wrapped
> Certified PCR clean, sterile, pyrogen-, ATP- and DNA-free
> For use in medical, pharmaceutical and food industry, molecular biology and cell technology
> Batch number and expiration date on each blister package
> Each production lot inspected by an independent laboratory
> Lot-specific certificates available at www.eppendorf.com/certificates



**epT.I.P.S.® Reloads**
> Reduced waste as compared with disposable racks
> The refill trays can be autoclaved up to 121 °C, in packaging and without foil, for subsequent use
> The refill system, depending on tips size, is packaged as either dual-sided or in stack form
> Available in purity grades of Eppendorf Quality and PCR clean
> Color-coded trays for simple volume and pipette identification

Your local distributor: www.eppendorf.com/contact
Eppendorf AG · Barkhausenweg 1 · 22339 Hamburg · Germany · eppendorf@eppendorf.com · www.eppendorf.com · www.eppendorf.com/eshop

# epT.I.P.S.®

| Volume range/epT.I.P.S.® (all tips shown are actual size) | Reloads | Reloads |
|---|---|---|
| dark gray | 960 tips (10 trays × 96 tips) | 960 tips (10 trays × 96 tips) |
| **0.1 – 10 µL, 34 mm** | 0030 073 363 | 0030 073 746 |
|  CE* | | |
| medium gray | 960 tips (10 trays × 96 tips) | 960 tips (10 trays × 96 tips) |
| **0.1 – 20 µL, 40 mm** | 0030 073 380 | 0030 073 762 |
|  CE* | | |
| light gray | 960 tips (10 trays × 96 tips) | 960 tips (10 trays × 96 tips) |
| **0.5 – 20 µL L, 46 mm** | 0030 073 401 | 0030 073 789 |
|  CE* | | |
| yellow | 960 tips (10 trays × 96 tips) | 960 tips (10 trays × 96 tips) |
| **2 – 200 µL, 53 mm** | 0030 073 428 | 0030 073 800 |
|  CE* | | |
| orange | 960 tips (10 trays × 96 tips) | 960 tips (10 trays × 96 tips) |
| **20 – 300 µL, 55 mm** | 0030 073 444 | 0030 073 827 |
|  CE* | | |
| blue | 960 tips (10 trays × 96 tips) | 960 tips (10 trays × 96 tips) |
| **50 – 1,000 µL, 71 mm** | 0030 073 460 | 0030 073 843 |
|  CE* | | |
| green | 960 tips (10 trays × 96 tips) | 960 tips (10 trays × 96 tips) |
| **50 – 1,250 µL, 76 mm** | 0030 073 487 | 0030 073 860 |
|  CE* | | |

[1] This article is available from May 2020.

* The pipette tips of the epT.I.P.S.® product group with the respective product numbers are designed and constructed for low-contamination transfer of liquids, in particular for samples from the human body and for reagents within the scope of an in-vitro diagnostic application in order to allow the in-vitro diagnostic medical device to be used as intended. The above mentioned epT.I.P.S.® are in-vitro diagnostic devices according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.





| Box | Set | Singles | Racks |
|---|---|---|---|
| 1 reusable box × 96 tips | 480 tips (5 trays × 96 tips), 1 reusable box | | |
| 0030 073 002 | 0030 073 207 | | |
| New 0030 076 397[1] | New 0030 076 494[1] | | |
| 1 reusable box × 96 tips | 480 tips (5 trays × 96 tips), 1 reusable box | 100 tips, individually packed | 480 tips (5 racks × 96 tips) |
| 0030 073 029 | 0030 073 223 | 0030 010 019 | 0030 075 323 |
| New 0030 076 400[1] | New 0030 076 508[1] | | |
| 1 reusable box × 96 tips | 480 tips (5 trays × 96 tips), 1 reusable box | | |
| 0030 073 045 | 0030 073 240 | | |
| New 0030 076 419[1] | New 0030 076 516[1] | | |
| 1 reusable box × 96 tips | 480 tips (5 trays × 96 tips), 1 reusable box | 100 tips, individually packed | 480 tips (5 racks × 96 tips) |
| 0030 073 061 | 0030 073 266 | 0030 010 035 | 0030 075 331 |
| New 0030 076 427[1] | New 0030 076 524[1] | | |
| 1 reusable box × 96 tips | 480 tips (5 trays × 96 tips), 1 reusable box | | 480 tips (5 racks × 96 tips) |
| 0030 073 088 | 0030 073 282 | | 0030 075 340 |
| New 0030 076 435[1] | New 0030 076 532[1] | | |
| 1 reusable box × 96 tips | 480 tips (5 trays × 96 tips), 1 reusable box | 100 tips, individually packed | 480 tips (5 racks × 96 tips) |
| 0030 073 100 | 0030 073 304 | 0030 010 051 | 0030 075 358 |
| New 0030 076 443[1] | New 0030 076 540[1] | | |
| 1 reusable box × 96 tips | 480 tips (5 trays × 96 tips), 1 reusable box | | 480 tips (5 racks × 96 tips) |
| 0030 073 126 | 0030 073 320 | | 0030 075 366 |
| New 0030 076 451[1] | New 0030 076 559[1] | | |

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# epT.I.P.S.®

| Volume range/epT.I.P.S.® (all tips shown are actual size) | Reloads | Reloads |
|---|---|---|
| **dark green** | 960 tips (10 trays × 96 tips) | 960 tips (10 trays × 96 tips) |
| **50 – 1,250 µL L, 103 mm** | 0030 073 606 | 0030 073 614 |
|  CE* | | |
| **red** | 480 tips (10 trays × 48 tips) | 480 tips (10 trays × 48 tips) |
| **0.25 – 2.5 mL, 115 mm** | 0030 073 509 | 0030 073 886 |
|  CE* | | |
| **violet** | | |
| **0.1 – 5 mL, 120 mm** | | |
|  CE* | | |
| **violet** | | |
| **0.2 – 5 mL L, 175 mm** | | |
|  CE* | | |
| **turquoise** | | |
| **0.5 – 10 mL, 165 mm** | | |
|  CE* | | |

[1] This article is available from May 2020.

* The pipette tips of the epT.I.P.S.® product group with the respective product numbers are designed and constructed for low-contamination transfer of liquids, in particular for samples from the human body and for reagents within the scope of an in-vitro diagnostic application in order to allow the in-vitro diagnostic medical device to be used as intended. The above mentioned epT.I.P.S.® are in-vitro diagnostic devices according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

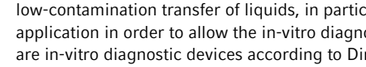




| Box | Set | Racks |
|---|---|---|
| 1 reusable box × 96 tips | | 480 tips (5 racks × 96 tips) |
| 0030 073 622 | | 0030 075 374 |
| New 0030 076 460[1] | | |
| 1 reusable box × 48 tips | 240 tips (5 trays × 48 tips), 1 reusable box | 240 tips (5 racks × 48 tips) |
| 0030 073 142 | 0030 073 347 | 0030 075 382 |
| New 0030 076 478[1] | New 0030 076 567[1] | |
| 1 reusable box × 24 tips | | 120 tips (5 racks × 24 tips) |
| 0030 073 169 | | 0030 075 390 |
| New 0030 076 486[1] | | |
| | | 120 tips (5 racks × 24 tips) |
| | | 0030 075 404 |
| | | 120 tips (5 racks × 24 tips) |
| | | 0030 075 412 |

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# ep Dualfilter T.I.P.S.® SealMax

| Volume range/ ep Dualfilter T.I.P.S.® SealMax | Racks |
|---|---|
| light gray | 960 tips (10 racks × 96 tips) |
| **0.1 – 10 µL S, 34 mm** | 0030 078 756 |
|  CE* | |
| dark gray | 960 tips (10 racks × 96 tips) |
| **0.5 – 20 µL L, 46 mm** | 0030 078 764 |
|  CE* | |
| yellow | 960 tips (10 racks × 96 tips) |
| **2 – 100 µL, 53 mm** | 0030 078 772 |
|  CE* | |
| yellow | 960 tips (10 racks × 96 tips) |
| **2 – 200 µL, 55 mm** | 0030 078 780 |
|  CE* | |
| orange | 960 tips (10 racks × 96 tips) |
| **20 – 300 µL, 55 mm** | 0030 078 799 |
|  CE* | |
| blue | 960 tips (10 racks × 96 tips) |
| **50 – 1,000 µL, 76 mm** | 0030 078 802 |
|  CE* | |

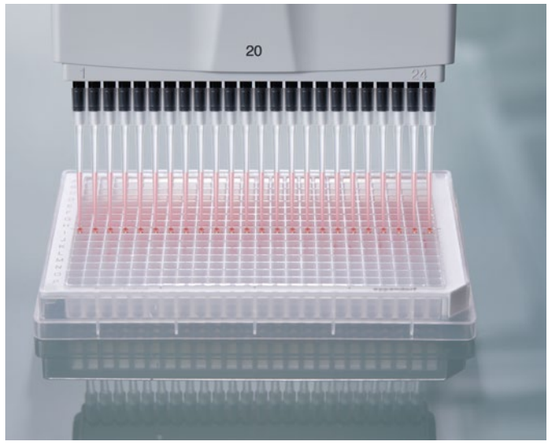
* The pipette tips of the ep Dualfilter T.I.P.S.® SealMax product group with the respective product numbers are designed and constructed for low-contamination transfer of liquids, in particular for samples from the human body and for reagents within the scope of an in-vitro diagnostic application in order to allow the in-vitro diagnostic medical device to be used as intended. The above mentioned ep Dualfilter T.I.P.S.® SealMax are in-vitro diagnostic devices according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.





# epT.I.P.S.® 384

**epT.I.P.S. 384 with SOFTattach technology for 16 and 24-channel pipettes**
For the first time, micropipette tips have elastic forming grooves. They allow the tips to stretch as much as necessary to enable a perfect seal while operating forces are reduced to a minimum. Your benefits of using this perfectly coordinated system of pipette and tip are outstanding and reliable tip fit and tightness combined with reduced tip attachment and ejection forces. It couldn't be easier to perfectly hit all 384 wells as the new micropipette tips have an extremely fine tip shape, and an extraordinary coaxiality which enables a perfect tip alignment.




**Product features**
> Designed for a cone distance of 4.5 mm
> epT.I.P.S. 384 pipette tips build a system together with the Research plus and Xplorer plus 16 and 24-channel pipettes for utmost safety and reliability
> Innovative SOFTattach technology allows for reliable tip fit and tightness
> Fill a whole 384-well plate without loosening pipette tips
> Perfect tip alignment by extraordinary coaxiality for safe plate maneuvering and liquid transfer
> The tip shape of the epT.I.P.S. 384 is adjusted to perfectly fit the wells of 384-well plates
> Tip attachment forces reduced by 40 % per cone compared to 8 and 12-channel pipettes
> Tip ejection forces reduced by SOFTattach for ergonomic working conditions
> Available as reload, and set
> Available in purity grades: Eppendorf Quality and PCR clean

**Applications**
> In vitro diagnostics
> Immunoassays
> Blood analysis
> Allergy diagnostics
> Detection of infectious diseases
> Biochemical assays such as pyruvate - lactate reaction
> CE-IVD kits, such as *real-time* PCR kits

| Volume range/epT.I.P.S.® 384 (all tips shown are actual size) | Reloads | Box |
|---|---|---|
| light pink | | |
| **0.1 – 20 µL, 42 mm** | 3,840 tips (10 trays × 384 tips) | 384 tips, 1 reusable box |
|  CE* | 0030 076 060 | 0030 076 087 |
| | New | 0030 076 370[1)] |
| light yellow | | |
| **0.5 – 100 µL, 53 mm** | 3,840 tips (10 trays × 384 tips) | 384 tips, 1 reusable box |
|  CE* | 0030 076 079 | 0030 076 095 |
| | New | 0030 076 389[1)] |

[1)] This article is available from May 2020.

* The pipette tips of the epT.I.P.S. 384 product group with the respective product numbers are designed and constructed for low-contamination transfer of liquids, in particular for samples from the human body and for reagents within the scope of an in-vitro diagnostic application in order to allow the in-vitro diagnostic medical device to be used as intended. The above mentioned epT.I.P.S. 384 are in-vitro diagnostic devices according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

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# Sample Handling

## Eppendorf Tubes® 5.0 mL

New



CE*

**Product features**
> Low risk of contamination with easy sample access
> Storage space for samples and liquid solutions in volumes up to 5 mL is significantly reduced
> No leaching - made of high-quality, virgin polypropylene, highly transparent, free of plasticizers, biocides and mold release agents
> Ensured tightness over a broad temperature range
> Centrifugation stability up to 25,000 × g

## Eppendorf Safe-Lock Tubes

New



CE*

**Product features**
> Hinged Eppendorf Safe-Lock lid prevents unintentional lid opening during incubation and storage
> Polypropylene provides high resistance to chemicals, mechanical stress and temperature extremes
> Manufactured without the use of slip agents, plasticizers, and biocides – substances that have been shown to leach from plastic consumables into the sample and negatively affect bio-assay results
> g-Safe®: Depending on Safe-Lock Tube variant (see manual) exceptional centrifugation stability up to 30.000 × g prevents sample loss due to tube breakage and provides extra safety when working with hazardous samples
> Precise lid sealing for minimal evaporation rates during long-term storage
> Large frosted lid and surface on the side for easy labeling
> Ensured functionality from -86 °C to 100 °C
> Autoclavable when open (121 °C, 20 min)

**Ordering information**

| Description | Order no. |
|---|---|
| **Eppendorf Tubes® 5.0 mL (EU-IVD)** | |
| Eppendorf Quality™, colorless, 200 tubes (2 bags × 100 tubes) | 0030 119 517 |
| **Eppendorf Safe-Lock Tubes (EU-IVD)** | |
| 0.5 mL, Eppendorf Quality™, colorless, 500 tubes | 0030 121 503 |
| 1.5 mL, Eppendorf Quality™, colorless, 1,000 tubes | 0030 121 872 |
| 2.0 mL, Eppendorf Quality™, colorless, 1,000 tubes | 0030 121 880 |

* The Eppendorf Tubes® are designed and constructed for the primary containment and preservation of specimens derived from the human body, with the exception of blood. Those Eppendorf Tubes are in vitro diagnostic devices according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.





# Sample Handling

## MiniSpin®/MiniSpin® plus




CE*

* The MiniSpin®/MiniSpin® plus is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge MiniSpin® (EU-IVD)**, non-refrigerated, with Rotor F-45-12-11, 230 V/50 – 60 Hz | 5452 000 018 |
| **Centrifuge MiniSpin® plus (EU-IVD)**, non-refrigerated, with Rotor F-45-12-11, 230 V/50 – 60 Hz | 5453 000 011 |
| **Rotor F-45-12-11** | 5452 720 008 |
| **Rotor F-55-16-5 PCR** | 5452 727 007 |
| **Adapter**, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Adapter**, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 717 008 |

↗ Ordering information for other voltage options begins on page 450

# Centrifuge 5418 R




CE*

* The Centrifuge 5418 R is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5418 R (EU-IVD)**, refrigerated, with Rotor FA-45-18-11 and rotor lid, 230 V/50 – 60 Hz | 5401 000 013 |
| **Adapter**, for 1 tube 0.5 mL or microtainer, max. Ø 8 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 716 001 |
| **Adapter**, for 1 PCR tube 0.2 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 715 005 |
| **Adapter**, for 1 tube 0.4 mL, max. Ø 6 mm, for all 1.5/2.0 mL rotors, set of 6 pcs. | 5425 717 008 |

Ordering information for other voltage options begins on page 450

i For more information go to www.eppendorf.com/centrifugation





# Centrifuge 5420




CE*

* The Centrifuge 5420 is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5420 (EU-IVD)**, non-refrigerated, without rotor, keypad, 230 V/50/60 Hz | 5420 000 210 |
| **Centrifuge 5420 (EU-IVD)**, non-refrigerated, with aerosol-tight Rotor FA-24x2, keypad, 230 V/50 – 60 Hz | 5420 000 016 |

Ordering information for other voltage options begins on page 450

# Centrifuge 5424 R




CE*

* The Centrifuge 5424 R is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5424 R (EU-IVD)**, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5404 000 219 |
| **Centrifuge 5424 R (EU-IVD)**, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5404 000 618 |
| **Centrifuge 5424 R (EU-IVD)**, refrigerated, with Rotor FA-45-24-11, keypad, 230 V/50 – 60 Hz | 5404 000 014 |
| **Centrifuge 5424 R (EU-IVD)**, refrigerated, with Rotor FA-45-24-11, rotary knobs, 230 V/50 – 60 Hz | 5404 000 413 |

Ordering information for other voltage options begins on page 450





# Centrifuge 5425




CE*

* The Centrifuge 5425 is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5425 (EU-IVD)**, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5405 000 212 |
| **Centrifuge 5425 (EU-IVD)**, non-refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5405 000 611 |
| **Centrifuge 5425 (EU-IVD)**, non-refrigerated, with Rotor FA-24x2, keypad, 230 V/50 – 60 Hz | 5405 000 018 |
| **Centrifuge 5425 (EU-IVD)**, non-refrigerated, with Rotor FA-24x2, rotary knobs, 230 V/50 – 60 Hz | 5405 000 417 |

Ordering information for other voltage options begins on page 450

# Centrifuge 5427 R




CE*

* The Centrifuge 5427 R is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5427 R (EU-IVD)**, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5409 000 012 |
| **Centrifuge 5427 R (EU-IVD)**, refrigerated, with Rotor FA-45-12-17, rotary knobs, 230 V/50 – 60 Hz | 5409 000 632 |
| **Centrifuge 5427 R (EU-IVD)**, refrigerated, with Rotor FA-45-30-11, rotary knobs, 230 V/50 – 60 Hz | 5409 000 535 |
| **Centrifuge 5427 R (EU-IVD)**, refrigerated, with Rotor FA-45-48-11, rotary knobs, 230 V/50 – 60 Hz | 5409 000 217 |

↗ Ordering information for other voltage options begins on page 450



# Centrifuge 5430/5430 R




CE*

* The Centrifuge 5430/5430 R is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5430 (EU-IVD)**, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5427 000 011 |
| **Centrifuge 5430 (EU-IVD)**, non-refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5427 000 615 |
| **Centrifuge 5430 (EU-IVD)**, non-refrigerated, with Rotor FA-45-30-11 incl. rotor lid, keypad, 230 V/50 – 60 Hz | 5427 000 216 |
| **Centrifuge 5430 (EU-IVD)**, non-refrigerated, with Rotor FA-45-30-11 incl. rotor lid, rotary knobs, 230 V/50 – 60 Hz | 5427 000 410 |
| **Centrifuge 5430 R (EU-IVD)**, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5428 000 210 |
| **Centrifuge 5430 R (EU-IVD)**, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5428 000 619 |
| **Centrifuge 5430 R (EU-IVD)**, refrigerated, with Rotor FA-45-30-11 incl. rotor lid, keypad, 230 V/50 – 60 Hz | 5428 000 015 |
| **Centrifuge 5430 R (EU-IVD)**, refrigerated, with Rotor FA-45-30-11 incl. rotor lid, rotary knobs, 230 V/50 – 60 Hz | 5428 000 414 |

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# Centrifuge 5702/5702 R/5702 RH




CE*

* The Centrifuge 5702/5702 R/5702 RH is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5702 (EU-IVD)**, non-refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5702 000 019 |
| **Centrifuge 5702 (EU-IVD)**, non-refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz | 5702 000 329 |
| **Centrifuge 5702 R (EU-IVD)**, refrigerated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5703 000 012 |
| **Centrifuge 5702 R (EU-IVD)**, refrigerated, with Rotor A-4-38 incl. adapters for 13/16 mm blood collection tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz | 5703 000 322 |
| **Centrifuge 5702 R (EU-IVD)**, refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz | 5703 000 420 |
| **Centrifuge 5702 RH (EU-IVD)**, refrigerated/heated, without rotor, rotary knobs, 230 V/50 – 60 Hz | 5704 000 016 |

Ordering information for other voltage options begins on page 450





# Centrifuge 5804/5804 R and 5810/5810 R




CE*

* The Centrifuge 5804/5804 R and 5810/5810 R is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5804 (EU-IVD)**, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5804 000 013 |
| **Centrifuge 5804 R (EU-IVD)**, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5805 000 017 |
| **Centrifuge 5810 (EU-IVD)**, non-refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5810 000 017 |
| **Centrifuge 5810 R (EU-IVD)**, refrigerated, without rotor, keypad, 230 V/50 – 60 Hz | 5811 000 010 |

Ordering information for other voltage options begins on page 450

# Centrifuge Packages

**Ordering information**

| Description | Max. capacity per rotor | Order no. |
|---|---|---|
| **Centrifuge 5702 (EU-IVD)**, non-refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz | 8 × 15 mL/4 × 50 mL | 5702 000 329 |
| **Centrifuge 5702 R (EU-IVD)**, refrigerated, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters, rotary knobs, 230 V/50 – 60 Hz | 8 × 15 mL/4 × 50 mL | 5703 000 420 |
| **Centrifuge 5804 (EU-IVD)**, non-refrigerated, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 16 × 15 mL/4 × 50 mL | 5804 000 323 |
| **Centrifuge 5804 R (EU-IVD)**, refrigerated, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 16 × 15 mL/4 × 50 mL | 5805 000 327 |
| **Centrifuge 5804 (EU-IVD)**, non-refrigerated, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 32 × 15 mL/16 × 50 mL | 5804 000 528 |
| **Centrifuge 5804 R (EU-IVD)**, refrigerated, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 32 × 15 mL/16 × 50 mL | 5805 000 629 |
| **Centrifuge 5810 (EU-IVD)**, non-refrigerated, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 36 × 15 mL/16 × 50 mL | 5810 000 327 |
| **Centrifuge 5810 R (EU-IVD)**, refrigerated, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 36 × 15 mL/16 × 50 mL | 5811 000 320 |
| **Centrifuge 5810 (EU-IVD)**, non-refrigerated, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 48 × 15 mL/20 × 50 mL | 5810 000 424 |
| **Centrifuge 5810 R (EU-IVD)**, refrigerated, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 48 × 15 mL/20 × 50 mL | 5811 000 428 |
| **Centrifuge 5810 (EU-IVD)**, non-refrigerated, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 56 × 15 mL/28 × 50 mL | 5810 000 521 |
| **Centrifuge 5810 R (EU-IVD)**, refrigerated, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes, keypad, 230 V/50 – 60 Hz | 56 × 15 mL/28 × 50 mL | 5811 000 622 |
| **Centrifuge 5810 (EU-IVD)**, non-refrigerated, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes, keypad, 230 V/50 – 60 Hz | 92 × 13 mm/80 × 16 mm | 5810 000 629 |
| **Centrifuge 5810 R (EU-IVD)**, refrigerated, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes, keypad, 230 V/50 – 60 Hz | 92 × 13 mm/80 × 16 mm | 5811 000 827 |

Ordering information for other voltage options begins on page 450





# Centrifuge 5910 R




CE*

* The Centrifuge 5910 R is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5910 R (EU-IVD)**, refrigerated, without rotor, 230 V/50 – 60 Hz | 5942 000 016 |

Ordering information for other voltage options begins on page 450

# Centrifuge Packages

**Ordering information**

| Description | Max. capacity per rotor | Order no. |
|---|---|---|
| **Centrifuge 5910 R (EU-IVD)**, refrigerated, with Rotor S-4xUniversal, 230 V/50 – 60 Hz, incl. universal buckets and adapters for 5 mL/15 mL/50 mL conical tubes and plates[1)] | 68 × 15 mL/36 × 50 mL | 5942 000 318 |
| **Centrifuge 5910 R (EU-IVD)**, refrigerated, with Rotor S-4xUniversal, 230 V/50 – 60 Hz, incl. universal buckets and adapters for 5 mL/15 mL/50 mL conical tubes, 175 mL – 250 mL bottles and plates | 68 × 15 mL/28 × 50 mL | 5942 000 210 |
| **Centrifuge 5910 R (EU-IVD)**, refrigerated, with Rotor S-4x750, 230 V/50 – 60 Hz, incl. round buckets and adapters for 5 mL/15 mL/50 mL conical tubes | 56 × 15 mL/28 × 50 mL | 5942 000 512 |
| **Centrifuge 5910 R (EU-IVD)**, refrigerated, with Rotor S-4x500, 230 V/50 – 60 Hz, incl. rectangular buckets and adapters for 15 mL/50 mL conical tubes | 48 × 15 mL/20 × 50 mL | 5942 000 610 |
| **Centrifuge 5910 R (EU-IVD)**, refrigerated, with Rotor S-4x400, 230 V/50 – 60 Hz, incl. round buckets and adapters for 5 mL/15 mL/50 mL conical tubes | 28 × 15 mL/16 × 50 mL | 5942 000 717 |
| **Centrifuge 5910 R (EU-IVD)**, refrigerated, with Rotor S-4xUniversal, 230 V/50 – 60 Hz, incl. universal buckets and adapters for round-bottom tubes with diameter 13/16 mm | 120 × 13 mm/104 × 16 mm | 5942 000 415 |

[1)] When used with aerosol-tight caps the max. capacity is reduced to 20 × 50 mL (5 × 50 mL per bucket)

Ordering information for other voltage options begins on page 450

# Centrifuge 5920 R




GOOD DESIGN

As awarded by The Chicago Athenaeum: Museum of Architecture and Design.

SCIENTISTS' CHOICE AWARDS 17 WINNER

CE*

* The Centrifuge 5920 R is designed for separating liquid substance mixtures with different densities, in particular, for processing and analyzing samples from the human body in in-vitro diagnostic applications to ensure that the in-vitro diagnostic device can be used according to its intended purpose. This centrifuge including components is an in-vitro diagnostic device according to Directive 98/79/EC of the European Parliament and the Council dated October 27, 1998.

**Ordering information**

| Description | Order no. |
|---|---|
| **Centrifuge 5920 R (EU-IVD)**, refrigerated, 230 V/50 – 60 Hz | 5948 000 018 |

Ordering information for other voltage options begins on page 450

# Centrifuge Packages

**Ordering information**

| Description | Max. capacity per rotor | Order no. |
|---|---|---|
| **Centrifuge 5920 R (EU-IVD)**, refrigerated, with Rotor S-4x1000, 230 V/50 – 60 Hz, incl. high-capacity buckets and adapters for 15 mL/50 mL conical tubes | 108 × 15 mL/52 × 50 mL | 5948 000 212 |
| **Centrifuge 5920 R (EU-IVD)**, refrigerated, with Rotor S-4xUniversal-Large, 230 V/50 – 60 Hz, incl. universal buckets and adapters for 15 mL/50 mL conical tubes | 96 × 15 mL/40 × 50 mL | 5948 000 913 |
| **Centrifuge 5920 R (EU-IVD)**, refrigerated, with Rotor S-4x1000, 230 V/50 – 60 Hz, incl. plate/tube buckets and adapters for 15 mL/50 mL conical tubes | 88 × 15 mL/40 × 50 mL | 5948 000 417 |
| **Centrifuge 5920 R (EU-IVD)**, refrigerated, with Rotor S-4x1000, 230 V/50 – 60 Hz, incl. round buckets and adapters for 15 mL/50 mL conical tubes | 56 × 15 mL/28 × 50 mL | 5948 000 310 |
| **Centrifuge 5920 R (EU-IVD)**, refrigerated, with Rotor S-4xUniversal-Large, 230 V/50 – 60 Hz, incl. universal buckets and adapters for round-bottom tubes with diameter 13/16 mm | 196 × 13 mm/148 × 16 mm | 5948 000 816 |

Ordering information for other voltage options begins on page 450





# Cell Handling

## TransferMan® 4m

**Description**
You are facing an increasing number of ICSI-cycles per day with the same high fertilization/blastocyst rates of precious oocytes? Did you ever experience work-related stress or pain in arms, neck or back due to unergonomic (setup of) micromanipulators?

The TransferMan® 4m was designed to solve main challenges of modern IVF-labs to increase fertilization/blastocyt rates, reproducibility, throughput, and to minimize work-related stress for the user. Request a personal on-site demo to compare easy, ergonomic handling and excellent performance of the TransferMan® 4m to your current solution - convince yourself.

CE*




**Applications**
> Micromanipulation of oocytes or embryos of the early developmental stages (e.g. ICSI, hatching, etc.)
> Combined with CellTram® 4m perfectly suited for biopsies (e.g. trophectoderm, blastocysts, blastocoelic fluid), TESE or IMSI

**See how fast capillaries can be changed in this video**

www.eppendorf.com/fast-capillary-exchange

* The TransferMan® 4m was designed and manufactured for the purpose of intracytoplasmic sperm injection (ICSI) within the context of human reproductive medicine. Therefore the TransferMan® 4m is a medical product in accordance with the guideline 93/42/EEC of the European Union.

**Higher fertilization/blastocyst rates**
> Less traumatic injections by minimized lesion holes with Y motor off function (100% movement in x-direction only)
> Real-time feeling, direct mode for precise and dynamic mode for fast movements - with the unique DualSpeed joystick

**Increased workflow-speed**
> Fast capillary exchange and re-positioning without re-focusing within a few seconds by home function, swivel joint and reproducible positioning of the capillary inside the holder (no exchange of the capillary holder)
> Fast automatic switch between stored capillary positions in and above the medium droplet
> Adjustable speed control of the joystick to fit meets of training centers, as well as high-throughput clinics

**Reduced work-related stress and pain - Eppendorf PhysioCare® concept:**
> The hand can rest relaxed on the panel without accidental activation of buttons
> „One joystick"-concept omits the need to switch between several control elements

> Easy training of beginners with intuitive „one-joystick"-concept
> Programmable Z-axis limit to prevent capillary breakage

# TransferMan® 4m



Workstation for intracytoplasmic sperm injection (ICSI). TransferMan 4m mounted on Olympus IX73



Smooth Operator – The Eppendorf system speeds up workflow with high cell survival rates

| Technical specifications | |
|---|---|
| **Model** | **TransferMan 4m** |
| **Motor module set** | |
| Max. traveling distance | ≥20 mm in X, Y, Z and X/Z direction |
| Weight (complete) | 2,15 kg |
| Stepper motor | X-, Y-, Z-module |
| **Single module (X, Y, Z)** | |
| Step size | < 20 nm (computational resolution) |
| Speed | 0 – 10,000 µm/s |
| Mechanical adjustability | >80 mm |
| Dimensions | 129 × 51 × 36 mm |
| Weight | 570 g |
| **Swivel joint** | |
| Direction of rotation | -45° to +90° |
| Capillary exchange | Direction of rotation: forward |
| Sample replacement | Direction of rotation: backward |
| **Angle head** | |
| Operating angle | 0° – 90° |
| **Control board** | |
| Control | Joystick (proportional and dynamic kinetics) |
| Speed modes | coarse, fine, x-fine |
| Speed control | Proportional and dynamic kinetics |
| Dimensions (W x H x D) | 205 × 288 × 152 mm |
| Weight | 1.8 kg |



A fast capillary exchange within a few seconds is ensured via home function, swivel joint and a reproducible positioning of the capillary inside the holder.

**Ordering information**

| Description | Order no. |
|---|---|
| **TransferMan® 4m**, micromanipulator with DualSpeed™ joystick for direct and dynamic movement control<br>The TransferMan® 4m was designed and manufactured for the purpose of intracytoplasmic sperm injection (ICSI) within the context of human reproductive medicine.<br>Therefore the TransferMan® 4m is a medical product in accordance with the guideline 93/42/EEC of the European Union. | 5191 000 015 |

Technical specifications subject to change.



# CellTram® 4m Air/Oil

**Description**
The CellTram 4m Air and CellTram 4m Oil are manual microinjectors specially designed for various ART-applications. The CellTram 4m Air is a pneumatic injector for oil-free micromanipulation and gentle holding of oocytes and embryos. Due to its pressure performance, it is also highly suitable for uptake and injection of cells (e.g., sperm). For this application, its performance is comparable to that of oil-filled injectors. The CellTram 4m Oil is a hydraulic, oil-filled microinjector optimized for precise control of high pressures, e.g. for biopsies, leakage-free work and easy oil filling.




CE*

* The CellTram 4m was designed and manufactured for injection and aspiration of cells or cellular parts in the context of ex-vivo micromanipulations in combination with suitable microcapillaries in the area of human reproductive medicine. Therefore the CellTram 4m is a medical product in accordance with the guideline 93/42/EWG of the European Union.

**Product features**
> Non-hydraulic system for oil-free manipulation but also injection of cells (CellTram 4m Air)
> Piston position scale enables setting of air volume and injection characteristics according to individual needs (CellTram 4m Air)
> Improved oil-filling system for minimal interruption of the workflow (CellTram 4m Oil)
> Coarse and fine drive for precise and intuitive sample control
> Improved rotary knob design for better handling and easier cleaning
> Capillary holder 4 with markings for easier positioning and defined capillary position
> New grip head 4 system for simple capillary change and higher user safety
> Position indicators and marking for in/out to reduce risk of user errors
> Heavy, stable, nonslip base plate
> Highly reliable performance with minimal maintenance

**Applications**
> Intracytoplasmic sperm injection (ICSI)
> Gentle holding of cells or embryos (e.g., oocytes or blastocysts)
> Uptake and microinjection of small cells (e.g., sperm)
> Transfer of suspension cells or organelles
> Removal of cells (e.g., for embryo biopsies)

# CellTram® 4m Air/Oil



CellTram 4m Air: Pressure responsiveness for various applications can be adjusted by different piston positions



CellTram 4m Oil: The new oil-filling system helps avoid oil-spilling and facilitates the filling process

| Technical specifications | | |
|---|---|---|
| **Model** | **CellTram 4m Air** | **CellTram 4m Oil** |
| **Cylinder volume** | 10 mL | 1,000 µL |
| **Max. pressure** | 3,000 hPa | 20,000 hPa |
| **Min. adjustable volume** | < 100 nL | < 1.5 nL |
| **Pressure generation** | Cylinder/piston system, air-filled | Cylinder/piston system, oil-filled |
| **Volume change per revolution** | 60 µL/600 µL | 1 µL/10 µL |

| Ordering information | |
|---|---|
| **Description** | **Order no.** |
| **CellTram® 4m Air**, manual pneumatic microinjector, with gears 1:1 and 1:10, for holding and injection, The CellTram 4m was designed and manufactured for injection and aspiration of cells or cellular parts in the context of ex-vivo micromanipulations in combination with suitable microcapillaries in the area of human reproductive medicine. Therefore the CellTram 4m is a medical product in accordance with the guideline 93/42/EWG of the European Union. | 5196 000 021 |
| **CellTram® 4m Oil**, manual hydraulic microinjector, with gears 1:1 and 1:10, for holding and injection, The CellTram 4m was designed and manufactured for injection and aspiration of cells or cellular parts in the context of ex-vivo micromanipulations in combination with suitable microcapillaries in the area of human reproductive medicine. Therefore the CellTram 4m is a medical product in accordance with the guideline 93/42/EWG of the European Union. | 5196 000 048 |
| **Capillary holder 4**, for mounting microcapillaries | 5196 081 005 |
| **Filling and Cleaning set**, incl. filling tube, Luer lock adapter, 2 syringes for CellTram® 4 | 5196 088 000 |
| **Grip head set 4 size 0**, for microcapillaries with outer diameter 1.0 to 1.1 mm (1 only) | 5196 082 001 |
| **Grip head set 4 size 1**, for microcapillaries with outer diameter 1.2 to 1.3 mm (1 only) | 5196 083 008 |
| **Grip head set 4 size 2**, for microcapillaries with outer diameter 1.4 to 1.5 mm (1 only) | 5196 084 004 |
| **Grip head set 4 size 3**, for microcapillaries with outer diameter 0.7 to 0.9 mm (1 only) | 5196 085 000 |
| **Injection tube Air**, white ring mark, I.D. 0.5 mm, length 1.3 m | 5196 061 004 |
| **Injection tube Oil**, blue ring mark, I.D. 1.0 mm, length 1.3 m | 5196 089 006 |
| **O-ring set 4** , incl. 10 o-rings large, 10 o-rings small, 2 distance sleeves, o-ring removal tool for grip head set 4 | 5196 086 007 |

Technical specifications subject to change.





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INDEX

# Order Numbers for Different Mains Voltage Versions

The following products are available in the listed mains voltage versions. For mains voltage versions for which no separate order number is listed, the valid order numbers are also those listed in the first column or in the product description. The versions marked n.a. are not available. Order-related production is marked with *

## Automated Liquid Handling

| Power supply | Europe | UK/HKG | Australia | China | Japan | Argentinia | ROW |
|---|---|---|---|---|---|---|---|
| ep*Motion*® 96 | 5069 000 012 | 5069 000 020 | 5069 000 039 | 5069 000 047 | 5069 000 004 | 5069 000 055 | 5069 000 004 |
| ep*Motion*® 96 with 2-position slider | 5069 000 110 | 5069 000 128 | 5069 000 136 | 5069 000 144 | 5069 000 101 | 5069 000 152 | 5069 000 101 |
| ep*Motion*® 96xl | 5069 000 217 | 5069 000 225 | 5069 000 233 | 5069 000 241 | 5069 000 209 | 5069 000 250 | 5069 000 209 |
| ep*Motion*® 96xl with 2-position slider | 5069 000 314 | 5069 000 322 | 5069 000 330 | 5069 000 349 | 5069 000 306 | 5069 000 357 | 5069 000 306 |
| ep*Motion*® 5070 EasyCon | 5070 006 032 | 5070 007 002 | 5070 007 003 | 5070 007 004 | 5070 007 001 | 5070 007 005 | 5070 007 001 |
| ep*Motion*® 5070f EasyCon | 5070 006 108 | 5070 007 102 | 5070 007 103 | 5070 007 104 | 5070 007 101 | 5070 007 105 | 5070 007 101 |
| ep*Motion*® 5070 MultiCon | 5070 000 282 | 5070 007 012 | 5070 007 013 | 5070 007 014 | 5070 007 011 | 5070 007 015 | 5070 007 011 |
| ep*Motion*® 5070f MultiCon | 5070 000 283 | 5070 007 112 | 5070 007 113 | 5070 007 114 | 5070 007 111 | 5070 007 115 | 5070 007 111 |
| ep*Motion*® P5073 | 5073 000 000 | 5073 000 227 | 5073 000 035 | 5073 000 043 | 5073 000 019 | 5073 000 051 | 5073 000 019 |
| ep*Motion*® M5073 | 5073 000 205 | 5073 000 221 | 5073 000 230 | 5073 000 248 | 5073 000 507 | 5073 000 256 | 5073 000 213 |
| ep*Motion*® P5073c | 5073 000 302 | 5073 007 202 | 5073 007 203 | 5073 007 204 | 5073 007 201 | 5073 007 205 | 5073 007 201 |
| ep*Motion*® M5073c | 5073 000 400 | 5073 007 302 | 5073 007 303 | 5073 007 304 | 5073 000 515 | 5073 007 305 | 5073 007 301 |
| ep*Motion*® 5073l EasyCon | 5073 000 582 | 5073 007 402 | 5073 007 403 | 5073 007 404 | 5073 007 401 | 5073 007 405 | 5073 007 401 |
| ep*Motion*® 5073l MultiCon | 5073 000 590 | 5073 007 412 | 5073 007 413 | 5073 007 414 | 5073 007 411 | 5073 007 415 | 5073 007 411 |
| ep*Motion*® 5073lc EasyCon | 5073 000 604 | 5073 007 502 | 5073 007 503 | 5073 007 504 | 5073 007 501 | 5073 007 505 | 5073 007 501 |
| ep*Motion*® 5073lc MultiCon | 5073 000 612 | 5073 007 512 | 5073 007 513 | 5073 007 514 | 5073 007 511 | 5073 007 515 | 5073 007 511 |
| ep*Motion*® 5073m EasyCon | 5073 000 787 | 5073 007 802 | 5073 007 803 | 5073 007 804 | n.a. | 5073 007 805 | 5073 007 801 |
| ep*Motion*® 5073m MultiCon | 5073 000 795 | 5073 007 812 | 5073 007 813 | 5073 007 814 | 5073 000 884 | 5073 007 815 | 5073 007 811 |
| ep*Motion*® 5073mc EasyCon | 5073 000 809 | 5073 007 902 | 5073 007 903 | 5073 007 904 | n.a. | 5073 007 905 | 5073 007 901 |
| ep*Motion*® 5073mc MultiCon | 5073 000 817 | 5073 007 912 | 5073 007 913 | 5073 007 914 | 5073 000 892 | 5073 007 915 | 5073 007 911 |
| ep*Motion*® 5075l | 5075 000 301 | * | * | * | * | * | * |
| ep*Motion*® 5075t | 5075 000 302 | * | * | * | * | * | * |
| ep*Motion*® 5075t NGS solution | 5075 000 962 | * | * | * | * | * | * |
| ep*Motion*® 5075tc NGS solution | 5075 000 963 | * | * | * | * | * | * |
| ep*Motion*® 5075v | 5075 000 303 | * | * | * | * | * | * |
| ep*Motion*® 5075vt | 5075 000 304 | * | * | * | * | * | * |
| ep*Motion*® 5075m | 5075 000 305 | * | * | * | * | * | * |
| ep*Motion*® 5073m EasyCon NGS solution | 5073 000 930 | * | * | * | * | * | * |
| ep*Motion*® 5073m MultiCon NGS solution | 5073 000 949 | * | * | * | * | * | * |
| ep*Motion*® 5073mc EasyCon NGS solution | 5073 000 957 | * | * | * | * | * | * |
| ep*Motion*® 5073mc MultiCon NGS solution | 5073 000 965 | * | * | * | * | * | * |





## Sample Preparation

| Power supply | Europe | UK/HKG | Australia | China | Japan | Argentinia | ROW |
|---|---|---|---|---|---|---|---|
| Eppendorf ThermoMixer® C, basic device without thermoblock | 5382 000 015 | 5382 000 031 | 5382 000 066 | 5382 000 074 | 5382 000 023 | 5382 000 082 | 5382 000 023 |
| Eppendorf ThermoMixer® F0.5, with thermoblock for 24 reaction vessels 0.5 mL | 5386 000 010 | 5386 000 036 | 5386 000 060 | 5386 000 079 | 5386 000 028 | 5386 000 087 | 5386 000 028 |
| Eppendorf ThermoMixer® F1.5, with thermoblock for 24 reaction vessels 1.5 mL | 5384 000 012 | 5384 000 039 | 5384 000 063 | 5384 000 071 | 5384 000 020 | 5384 000 080 | 5384 000 020 |
| Eppendorf ThermoMixer® F2.0, with thermoblock for 24 reaction vessels 2.0 mL | 5387 000 013 | 5387 000 030 | 5387 000 064 | 5387 000 072 | 5387 000 021 | 5387 000 080 | 5387 000 021 |
| Eppendorf ThermoMixer® FP, with thermoblock for Microplates and Deepwell Plates, including lid | 5385 000 016 | 5385 000 032 | 5385 000 067 | 5385 000 075 | 5385 000 024 | 5385 000 083 | 5385 000 024 |
| Eppendorf ThermoStat™ C, basic device without thermoblock | 5383 000 019 | 5383 000 035 | 5383 000 060 | 5383 000 078 | 5383 000 027 | 5383 000 086 | 5383 000 027 |
| MixMate®, basic device without tube holders | 5353 000 510 | 5353 000 537 | 5353 000 545 | 5353 000 553 | n.a. | n.a. | 5353 000 022 |

## Centrifuges and Rotors - General Lab Products

| Power supply | Europe | UK/HKG | Australia | China | Japan | Argentinia | ROW |
|---|---|---|---|---|---|---|---|
| Centrifuge MiniSpin® plus, with Rotor F-45-12-11 | 5453 000 015 | 5452 000 060 | 5453 000 089 | | 5453 000 038 | 5453 000 054 | n.a. |
| Centrifuge MiniSpin®, with Rotor F-45-12-11 | 5452 000 010 | 5453 000 060 | 5452 000 085 | | 5452 000 034 | 5452 000 050 | n.a. |
| Centrifuge 5418 R, with Rotor FA-45-18-11 and rotor lid | 5401 000 010 | 5401 000 060 | 5401 000 080 | | 5401 000 030 | 5401 000 056 | 5401 000 021 |
| Centrifuge 5420, without rotor | 5420 000 318 | 5420 000 369 | 5420 000 288 | | 5420 000 237 | 5420 000 253 | 5420 000 229 |
| Centrifuge 5420, with aerosol-tight Rotor FA-24x2 | 5420 000 113 | 5420 000 164 | 5420 000 083 | | 5420 000 032 | 5420 000 059 | 5420 000 024 |
| Centrifuge 5424 R, with Rotor FA-45-24-11 | 5404 000 010 | 5404 000 060 | 5404 000 081 | | 5404 000 030 | 5404 000 057 | 5404 000 022 |
| Centrifuge 5424 R, with Rotor FA-45-24-11 | 5404 000 410 | 5404 000 460 | 5404 000 480 | | 5404 000 430 | 5404 000 456 | 5404 000 421 |
| Centrifuge 5424 R, without rotor | 5404 000 610 | 5404 000 265 | 5404 000 286 | | n.a. | 5404 000 251 | 5404 000 227 |
| Centrifuge 5424 R, without rotor | 5404 000 210 | 5404 000 660 | 5404 000 685 | | 5404 000 634 | 5404 000 650 | 5404 000 626 |
| Centrifuge 5425, without rotor | 5405 000 310 | 5405 000 360 | 5405 000 280 | | n.a. | 5405 000 255 | 5405 000 220 |
| Centrifuge 5425, without rotor | 5405 000 719 | 5405 000 760 | 5405 000 689 | | 5405 000 638 | 5405 000 654 | 5405 000 620 |
| Centrifuge 5425, with Rotor FA-24x2 | 5405 000 115 | 5405 000 166 | 5405 000 085 | | n.a. | 5405 000 050 | 5405 000 026 |
| Centrifuge 5425, with Rotor FA-24x2 | 5405 000 514 | 5405 000 565 | 5405 000 484 | | 5405 000 433 | 5405 000 450 | 5405 000 425 |
| Centrifuge 5427 R, without rotor | 5409 000 010 | 5409 000 060 | 5409 000 080 | | 5409 000 039 | 5409 000 055 | 5409 000 020 |
| Centrifuge 5427 R, with Rotor FA-45-12-17 | 5409 000 630 | 5409 000 660 | 5409 000 683 | | n.a. | 5409 000 659 | 5409 000 624 |
| Centrifuge 5427 R, with Rotor FA-45-30-11 | 5409 000 530 | 5409 000 565 | 5409 000 586 | | 5409 000 519 | 5409 000 551 | 5409 000 527 |
| Centrifuge 5427 R, with Rotor FA-45-48-11 | 5409 000 210 | 5409 000 260 | 5409 000 284 | | 5409 000 233 | 5409 000 250 | 5409 000 225 |
| Centrifuge 5430, without rotor | 5427 000 015 | 5427 000 060 | 5427 000 089 | | 5427 000 038 | 5427 000 054 | 5427 000 020 |
| Centrifuge 5430, without rotor | 5427 000 610 | 5427 000 660 | 5427 000 682 | | 5427 000 631 | 5427 000 658 | 5427 000 623 |
| Centrifuge 5430, with Rotor FA-45-30-11 incl. rotor lid | 5427 000 210 | 5427 000 260 | 5427 000 283 | | 5427 000 232 | 5427 000 259 | 5427 000 224 |
| Centrifuge 5430, with Rotor FA-45-30-11 incl. rotor lid | 5427 000 415 | 5427 000 465 | 5427 000 488 | | 5427 000 437 | 5427 000 453 | 5427 000 429 |
| Centrifuge 5430 R, without rotor | 5428 000 205 | 5428 000 255 | 5428 000 287 | | 5428 000 236 | 5428 000 252 | 5428 000 228 |
| Centrifuge 5430 R, without rotor | 5428 000 610 | 5428 000 655 | 5428 000 686 | | 5428 000 635 | 5428 000 651 | 5428 000 627 |
| Centrifuge 5430 R, with Rotor FA-45-30-11 and rotor lid | 5428 000 010 | 5428 000 060 | 5428 000 082 | | 5428 000 031 | 5428 000 058 | 5428 000 023 |
| Centrifuge 5430 R, with Rotor FA-45-30-11 and rotor lid | 5428 000 410 | 5428 000 460 | 5428 000 481 | | 5428 000 430 | 5428 000 457 | 5428 000 422 |

## Centrifuges and Rotors - General Lab Products

| Power supply | Europe | UK/HKG | Australia | China | Japan | Argentinia | ROW |
|---|---|---|---|---|---|---|---|
| Centrifuge 5702, without rotor | 5702 000 010 | 5702 000 065 | 5702 000 086 | | 5702 000 043 | 5702 000 051 | 5702 000 817 |
| Centrifuge 5702, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters | 5702 000 320 | 5702 000 365 | 5702 000 388 | | n.a. | 5702 000 353 | 5702 000 345 |
| Centrifuge 5702 R, without rotor | 5703 000 010 | 5703 000 060 | 5703 000 080 | | 5703 000 039 | 5703 000 055 | 5703 000 047 |
| Centrifuge 5702 R, with Rotor A-4-38 incl. adapters for 13/16 mm blood collection tubes, 2 sets of 2 adapters | 5703 000 320 | 5703 000 360 | 5703 000 381 | | n.a. | 5703 000 357 | 5703 000 349 |
| Centrifuge 5702 R, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters | 5703 000 425 | 5703 000 460 | 5703 000 489 | | n.a. | 5703 000 454 | 5703 000 470 |
| Centrifuge 5702 RH, without rotor | 5704 000 010 | 5704 000 060 | 5704 000 083 | | 5704 000 032 | 5704 000 059 | 5704 000 040 |
| Centrifuge 5804, without rotor | 5804 000 010 | 5804 000 060 | 5804 000 080 | | n.a. | 5804 000 056 | 5804 000 170 |
| Centrifuge 5804 R, without rotor | 5805 000 010 | 5805 000 060 | 5805 000 084 | | n.a. | 5805 000 050 | n.a. |
| Centrifuge 5804, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes | 5804 000 320 | 5804 000 360 | 5804 000 382 | | * | 5804 000 358 | 5804 000 374 |
| Centrifuge 5804, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes | 5804 000 520 | 5804 000 565 | 5804 000 587 | | * | 5804 000 552 | 5804 000 544 |
| Centrifuge 5804, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes | 5804 000 320 | 5805 000 365 | 5805 000 386 | | * | 5805 000 351 | 5805 000 378 |
| Centrifuge 5804, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes | 5804 000 520 | 5805 000 665 | 5805 000 688 | | * | 5805 000 653 | 5805 000 645 |
| Centrifuge 5810, without rotor | 5810 000 010 | 5810 000 060 | 5810 000 084 | | n.a. | 5810 000 050 | 5810 000 190 |
| Centrifuge 5810 R, without rotor | 5811 000 015 | 5811 000 065 | 5811 000 088 | | n.a. | 5811 000 053 | n.a. |
| Centrifuge 5810 R, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes | 5811 000 325 | 5811 000 360 | 5811 000 380 | | * | 5811 000 355 | 5811 000 371 |
| Centrifuge 5810, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes | 5810 000 420 | 5810 000 460 | 5810 000 483 | | * | 5810 000 459 | 5810 000 475 |
| Centrifuge 5810 R, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes | 5811 000 420 | 5811 000 465 | 5811 000 487 | | * | 5811 000 452 | 5811 000 479 |
| Centrifuge 5810, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes | 5810 000 525 | 5810 000 560 | 5810 000 580 | | * | 5810 000 556 | 5810 000 548 |
| Centrifuge 5810 R, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes | 5811 000 620 | 5811 000 660 | 5811 000 681 | | * | 5811 000 657 | 5811 000 649 |
| Centrifuge 5810, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes | 5810 000 620 | 5810 000 665 | 5810 000 688 | | * | 5810 000 653 | 5810 000 670 |
| Centrifuge 5810, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes | 5810 000 320 | 5810 000 365 | 5810 000 386 | | 5810 000 378 | 5810 000 351 | 5810 000 378 |
| Centrifuge 5810 R, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes | 5811 000 820 | 5810 000 665 | 5811 000 886 | | * | 5811 000 851 | 5811 000 843 |
| Centrifuge 5910 R, without rotor | 5942 000 010 | 5942 000 060 | 5942 000 083 | | 5942 000 032 | 5942 000 059 | 5942 000 024 |
| Centrifuge 5910 R, with Rotor S-4xUniversal | 5942 000 315 | 5942 000 360 | 5942 000 385 | | 5942 000 334 | 5942 000 350 | 5942 000 326 |
| Centrifuge 5910 R, with Rotor S-4xUniversal | 5942 000 215 | 5942 000 265 | 5942 000 288 | | 5942 000 229 | 5942 000 253 | 5942 000 229 |
| Centrifuge 5910 R, with Rotor S-4xUniversal | 5942 000 410 | 5942 000 460 | 5942 000 482 | | 5942 000 431 | 5942 000 458 | 5942 000 423 |
| Centrifuge 5910 R, with Rotor S-4x750 | 5942 000 515 | 5942 000 560 | 5942 000 580 | | 5942 000 539 | 5942 000 555 | 5942 000 520 |
| Centrifuge 5910 R, with Rotor S-4x500 | 5942 000 615 | 5942 000 665 | 5942 000 687 | | 5942 000 636 | 5942 000 652 | 5942 000 628 |
| Centrifuge 5910 R, with Rotor S-4x400 | 5942 000 710 | 5942 000 760 | 5942 000 784 | | 5942 000 733 | 5942 000 750 | 5942 000 725 |
| Centrifuge 5920 R, without rotor | 5948 000 010 | 5948 000 060 | 5948 000 085 | | | 5948 000 050 | 5948 000 026 |
| Centrifuge 5920 R, with Rotor S-4xUniversal-Large | 5948 000 910 | 5948 000 960 | 5948 000 980 | | | 5948 000 956 | 5948 000 921 |
| Centrifuge 5920 R, with Rotor S-4xUniversal-Large | 5948 000 810 | 5948 000 860 | 5948 000 883 | | | 5948 000 859 | 5948 000 824 |
| Centrifuge 5920 R, with Rotor S-4x1000 | 5948 000 210 | 5948 000 260 | 5948 000 280 | | | 5948 000 255 | 5948 000 220 |
| Centrifuge 5920 R, with Rotor S-4x1000 | 5948 000 410 | 5948 000 460 | 5948 000 484 | | | 5948 000 450 | 5948 000 425 |
| Centrifuge 5920 R, with Rotor S-4x1000 | 5948 000 315 | 5948 000 365 | 5948 000 387 | | | 5948 000 352 | 5948 000 328 |
| Centrifuge 5920 R, with Rotor S-4x750 | 5948 000 510 | 5948 000 560 | 5948 000 581 | | | 5948 000 557 | 5948 000 522 |
| Concentrator plus basic device | 5305 000 100 | 5305 000 169 | 5305 000 185 | 5305 000 193 | 5305 000 142 | 5305 000 150 | 5305 000 177 |
| Concentrator plus complete system | 5305 000 304 | 5305 000 363 | 5305 000 380 | 5305 000 398 | 5305 000 347 | 5305 000 355 | 5305 000 371 |
| Concentrator plus complete system | 5305 000 509 | 5305 000 568 | 5305 000 584 | 5305 000 592 | 5305 000 541 | 5305 000 550 | 5305 000 576 |
| Concentrator plus complete system | 5305 000 703 | 5305 000 762 | 5305 000 589 | 5305 000 797 | 5305 000 746 | 5305 000 754 | 5305 000 770 |





## Detection

| Power supply | Europe | UK/HKG | Australia | China | Japan | Argentinia | ROW |
|---|---|---|---|---|---|---|---|
| Eppendorf BioPhotometer® D30 | 6133 000 001 | 6133 000 028 | 6133 000 036 | 6133 000 044 | 6133 000 010 | 6133 000 052 | 6133 000 010 |
| Eppendorf µCuvette® G1.0 and Eppendorf BioPhotometer® D30 | 6133 000 907 | 6133 000 909 | 6133 000 910 | 6133 000 911 | 6133 000 908 | 6133 000 912 | 6133 000 908 |
| Eppendorf BioSpectrometer® basic | 6135 000 009 | 6135 000 025 | 6135 000 033 | 6135 000 041 | 6135 000 017 | 6135 000 050 | 6135 000 050 |
| Eppendorf BioSpectrometer® fluorescence | 6137 000 006 | 6137 000 022 | 6137 000 030 | 6137 000 049 | 6137 000 014 | 6137 000 057 | 6137 000 014 |
| Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® fluorescence | 6137 000 901 | 6137 000 903 | 6137 000 904 | 6137 000 905 | 6137 000 902 | 6137 000 906 | 6137 000 902 |
| Eppendorf BioSpectrometer® kinetic | 6136 000 002 | 6136 000 029 | 6136 000 037 | 6136 000 045 | 6136 000 010 | 6136 000 053 | 6136 000 053 |
| Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® kinetic | 6136 000 800 | 6136 000 029 | 6136 000 827 | 6136 000 835 | 6136 000 851 | 6136 000 843 | 6136 000 851 |
| Eppendorf µCuvette® G1.0 and Eppendorf BioSpectrometer® basic | 6135 000 904 | 6135 000 906 | 6135 000 907 | 6135 000 908 | 6135 000 905 | 6135 000 909 | 6135 000 905 |
| Thermal Printer DPU-S445 | 6135 011 000 | 6135 012 007 | n.a. | n.a. | 6135 010 004 | n.a. | 6135 011 000 |

## PCR

| Power supply | Europe | UK/HKG | Australia | China | Japan | Argentinia | ROW |
|---|---|---|---|---|---|---|---|
| Mastercycler® nexus | 6333 000 014 | 6333 000 049 | 6333 000 065 | 6333 000 073 | 6333 000 030 | n.a. | 6333 000 030 |
| Mastercycler® nexus eco | 6332 000 010 | 6332 000 045 | 6332 000 061 | 6332 000 070 | 6332 000 037 | n.a. | 6332 000 037 |
| Mastercycler® nexus gradient | 6331 000 017 | 6331 000 041 | 6331 000 068 | 6331 000 076 | 6331 000 033 | n.a. | 6331 000 033 |
| Mastercycler® nexus flat | 6335 000 011 | 6335 000 046 | 6335 000 062 | 6335 000 070 | 6335 000 038 | 6335 000 089 | 6335 000 038 |
| Mastercycler® nexus flat eco | 6330 000 013 | 6330 000 048 | 6330 000 064 | 6330 000 072 | 6330 000 021 | 6330 000 080 | 6330 000 021 |
| Mastercycler® nexus GSX1 | 6345 000 010 | 6345 000 044 | 6345 000 060 | 6345 000 079 | 6345 000 028 | 6345 000 087 | 6345 000 028 |
| Mastercycler® nexus GSX1e | 6347 000 017 | 6347 000 041 | 6347 000 068 | 6347 000 076 | 6347 000 025 | 6347 000 084 | 6347 000 025 |
| Mastercycler® nexus SX1e | 6348 000 010 | 6348 000 045 | 6348 000 061 | 6348 000 070 | 6348 000 029 | 6348 000 088 | 6348 000 029 |
| Mastercycler® nexus SX1 | 6346 000 013 | 6346 000 048 | 6346 000 064 | 6346 000 072 | 6346 000 021 | 6346 000 080 | 6346 000 021 |
| Mastercycler® nexus GX2 | 6336 000 015 | 6336 000 040 | 6336 000 066 | 6336 000 074 | n.a. | 6336 000 082 | 6336 000 023 |
| Mastercycler® nexus GX2e | 6338 000 012 | 6338 000 047 | 6338 000 063 | 6338 000 071 | n.a. | 6338 000 080 | 6338 000 020 |
| Mastercycler® nexus X2 | 6337 000 019 | 6337 000 043 | 6337 000 060 | 6337 000 078 | 6337 000 027 | 6337 000 086 | n.a. |
| Mastercycler® nexus X2e | 6339 000 016 | 6339 000 040 | 6339 000 067 | 6339 000 075 | n.a. | 6339 000 083 | 6339 000 024 |
| Mastercycler® X50s | 6311 000 010 | 6311 000 045 | 6311 000 061 | 6311 000 070 | n.a. | 6311 000 088 | n.a. |
| Mastercycler® X50a | 6313 000 018 | 6313 000 042 | 6313 000 069 | 6313 000 077 | n.a. | 6313 000 085 | n.a. |
| Mastercycler® X50p | 6315 000 015 | 6315 000 040 | 6315 000 066 | 6315 000 074 | n.a. | n.a. | n.a. |
| Mastercycler® X50h | 6316 000 019 | 6316 000 043 | 6316 000 060 | 6316 000 078 | n.a. | 6316 000 086 | n.a. |
| Mastercycler® X50i | 6301 000 012 | 6301 000 047 | 6301 000 063 | 6301 000 071 | n.a. | 6301 000 080 | n.a. |
| Mastercycler® X50l | 6303 000 010 | 6303 000 044 | 6303 000 060 | 6303 000 079 | n.a. | 6303 000 087 | n.a. |
| Mastercycler® X50r | 6305 000 017 | 6305 000 041 | 6305 000 068 | 6305 000 076 | n.a. | 6305 000 084 | n.a. |
| Mastercycler® X50t | 6306 000 010 | 6306 000 045 | 6306 000 061 | 6306 000 070 | n.a. | 6306 000 088 | n.a. |
| HeatSealer S100,incl. PCR Plate Adapter | 5391 000 001 | 5391 000 036 | 5391 000 044 | 5391 000 060 | n.a. | 5391 000 079 | 5391 000 010 |
| HeatSealer S200,incl. PCR Plate Adapter | 5392 000 005 | 5392 000 030 | 5392 000 048 | 5392 000 064 | n.a. | 5392 000 072 | 5392 000 013 |

# Freezers

| Power supply | 230 V, 50 Hz | 120 V, 60 Hz | 208-230 V, 60 Hz | 120-220 V, 60 Hz |
|---|---|---|---|---|
| CryoCube® F570, with LED interface, classic cooling liquids, and air-cooling | F570300001 | F570200005 | F570400005 | |
| CryoCube® F570h, with LED interface, green cooling liquids, and air-cooling | F570320001 | F570220005 | | |
| CryoCube® F570hw, with LED interface, green cooling liquids, and water-cooling | F570320101 | | | |
| Innova® U535, with LED interface, classic cooling liquids, and air-cooling | U9430-0001 | U9430-0000 | U9430-0002 | |
| HEF® U410, with LED interface, green cooling liquids, and air-cooling | U9260-0008 | U9260-0007 | | |
| Premium U410, with LED interface, classic cooling liquids, and air-cooling | U9260-0001 | U9260-0000 | U9260-0002 | |
| Innova® U360, with LED interface, classic cooling liquids, and air-cooling | U9425-0001 | U9425-0000 | | |
| Innova® C760 , with LED interface, classic cooling liquids, and air-cooling | U9410-0001 | | U9410-0002 | |
| CryoCube® FC660, with LED interface, classic cooling liquids, and air-cooling | F660300001 | | F660400005 | |
| Innova® C585, with LED interface, classic cooling liquids, and air-cooling | U9400-0001 | U9400-0000 | U9400-0002 | |
| CryoCube® FC660h, with LED interface, green cooling liquids, and air-cooling | F660320001 | | F660420005 | |
| $CO_2$ back-up system, narrow version | U9043-0004 | | | U9043-0002 |
| $LN_2$ back-up system, narrow version | U9044-0004 | | | U9044-0002 |
| $CO_2$ back-up system, premium version | U9043-0008 | | | |
| $LN_2$ back-up system, premium version | U9044-0008 | | | U9044-0006 |

| Power supply | Europe | UK/HKG | Australia | China | USA | Japan |
|---|---|---|---|---|---|---|
| CryoCube® F101h, with LED interface, green cooling liquids, and air-cooling | F101340001 | F101340002 | F101340003 | F101340004 | F101240005 | – |
| CryoCube® F740h, 3c., with LED interface, green cooling liquids, and air-cooling, 100 – 240 V | | | | | F740540015 | |
| CryoCube® F740h, 3c., with LED interface, green cooling liquids, and air-cooling | F740340011 | F740340012 | F740340013 | F740340014 | | F740040016 |
| CryoCube® F740h, 3c., with LED interface, green cooling liquids, and air-cooling, 100 – 240 V | | | | | F740540024 | |
| CryoCube® F740h, 3c., with LED interface, green cooling liquids, and air-cooling | F740340021 | F740340022 | F740340023 | F740340024 | | F740040026 |
| CryoCube® F740h, 5c., with LED interface, green cooling liquids, and air-cooling, 100 – 240 V | | | | | F740540035 | |
| CryoCube® F740h, 5c., with LED interface, green cooling liquids, and air-cooling | F740340031 | F740340032 | F740340033 | F740340034 | | F740400036 |
| CryoCube® F740h, 3c., with LED interface, green cooling liquids, and air-cooling, 100 – 240 V | | | | | F740540025 | |
| CryoCube® F740h, 3c., with LED interface, green cooling liquids, and air-cooling | F740340021 | F740340022 | F740340023 | F740340024 | | F740040026 |
| CryoCube® F740hi, 5 c., with touchscreen interface, green cooling liquids, and air-cooling, 110 – 120 V | | | | | F740220035 | |
| CryoCube® F740hi, 5 c., with touchscreen interface, green cooling liquids, and air-cooling, 208 V | | | | | F740420035 | |
| CryoCube® F740hi, 5 c., with touchscreen interface, green cooling liquids, and air-cooling | F740320031 | F740320032 | F740320033 | F740320034 | | F740020036 |
| CryoCube® F740hi, 3 c., with touchscreen interface, green cooling liquids, and air-cooling, 110 – 120 V | | | | | F740220015 | |
| CryoCube® F740hi, 3 c., with touchscreen interface, green cooling liquids, and air-cooling, 208 V | | | | | F740420015 | |
| CryoCube® F740hi, 3 c., with touchscreen interface, green cooling liquids, and air-cooling | F740320011 | F740320012 | F740320013 | F740320014 | | F740020016 |
| CryoCube® F740hiw, 5 c., with touchscreen interface, green cooling liquids, and water-cooling, 110 – 120 V | | | | | F740220135 | |
| CryoCube® F740hiw, 5 c., with touchscreen interface, green cooling liquids, and water-cooling, 208 V | | | | | F740420135 | |
| CryoCube® F740hiw, 5 c., with touchscreen interface, green cooling liquids, and water-cooling | F740320131 | F740320132 | F740320133 | F740320134 | | F740020136 |
| CryoCube® F740hiw, 3 c., with touchscreen interface, green cooling liquids, and water-cooling, 110 – 120 V | | | | | F740220115 | |
| CryoCube® F740hiw, 3 c., with touchscreen interface, green cooling liquids, and water-cooling, 208 V | | | | | F740420115 | |
| CryoCube® F740hiw, 3 c., with touchscreen interface, green cooling liquids, and water-cooling | F740320111 | F740320112 | F740320113 | F740320114 | | F740020116 |

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# Cell Technology

| Power supply | Europe | UK/HKG | Australia | China | Japan | Argentinia | ROW |
|---|---|---|---|---|---|---|---|
| Eppendorf Eporator®, for bacteria and yeasts | 4309 000 019 | 4309 000 035 | 4309 000 051 | 4309 000 060 | 4309 000 027 | 4309 000 078 | n.a. |
| Eppendorf PiezoXpert®, for piezo-assisted micromanipulation, incl. actuator 2, foot control and spacer plate and grip head 4 size 0 | 5194 000 016 | 5194 000 032 | 5194 000 059 | 5194 000 067 | 5194 000 024 | 5194 000 075 | n.a. |
| FemtoJet® 4x, programmable microinjector with external pressure supply (not included) | 5253 000 017 | 5253 000 033 | 5253 000 050 | 5253 000 068 | 5253 000 025 | 5253 000 076 | n.a. |
| FemtoJet® 4i, programmable microinjector with integrated pressure supply | 5252 000 013 | 5252 000 030 | 5252 000 056 | 5252 000 064 | 5252 000 021 | 5252 000 072 | n.a. |
| InjectMan® 4, micromanipulator with dynamic movement control | 5192 000 019 | 5192 000 035 | 5192 000 043 | 5192 000 051 | 5192 000 027 | 5192 000 060 | – |
| TransferMan® 4m, micromanipulator with DualSpeed™ joystick for direct and dynamic movement control | 5191 000 015 | 5191 000 031 | – | – | – | – | – |
| TransferMan® 4r, micromanipulator with DualSpeed™ joystick for direct and dynamic movement control | 5193 000 012 | 5193 000 039 | 5193 000 047 | 5193 000 055 | 5193 000 020 | 5193 000 063 | – |

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# Incubator

| Power supply | Europe | UK/HKG | Australia | China | ROW |
|---|---|---|---|---|---|
| Galaxy® 48 R,Standard | CO48300001 | CO48300002 | CO48300003 | CO48300004 | CO48200005 |
| Galaxy® 48 R,1 – 19 % $O_2$ Control | CO48320001 | CO48320002 | CO48320003 | CO48320004 | CO48220005 |
| Galaxy® 48 R,High-Temp Disinfection | CO48310001 | CO48310002 | CO48310003 | CO48310004 | CO48210005 |
| Galaxy® 48 R,High-Temp Disinfection, 1 – 19 % $O_2$ Control | CO48330001 | CO48330002 | CO48330003 | CO48330004 | CO48230005 |
| Galaxy® 48 R,High-Temp Disinfection, 2-Split Inner Door | CO48312001 | CO48312002 | CO48312003 | CO48312004 | CO48212005 |
| Galaxy® 48 R,High-Temp Disinfection, 0.1 – 19 % $O_2$ Control | CO48310041 | CO48310042 | CO48310043 | CO48310044 | CO48210045 |
| Galaxy® 48 R,High-Temp Disinfection, 0.1 – 19 % $O_2$ Control, Humidity Package | CO48310061 | CO48310062 | CO48310063 | CO48310064 | CO48210065 |
| Galaxy® 48 R,High-Temp Disinfection, 0.1 – 19 % $O_2$ Control, 2-Split Inner Door | CO48312041 | CO48312042 | CO48312043 | CO48312044 | CO48212045 |
| Galaxy® 48 R,High-Temp Disinfection, 0.1 – 19 % $O_2$ Control, 2-Split Inner Door, Humidity Package | CO48312061 | CO48312062 | CO48312063 | CO48312064 | CO48212065 |
| Galaxy® 48 R,High-Temp Disinfection, 1 – 19 % $O_2$ Control, 2-Split Inner Door | CO48332001 | CO48332002 | CO48332003 | CO48332004 | CO48232005 |
| Galaxy® 48 R,High-Temp Disinfection, 1 – 19 % $O_2$ Control, 2-Split Inner Door, Humidity Package | CO48332011 | CO48332012 | CO48332013 | CO48332014 | CO48232015 |

| Power supply | Europe | UK/HKG | Australia | China | ROW |
|---|---|---|---|---|---|
| C170, Std, Right, 230 V EU | 6734 000 011 | 6734 000 012 | 6734 000 013 | 6734 000 014 | 6734 010 015 |
| C170i, Std, Right, 230 V EU | 6731 000 011 | 6731 000 012 | 6731 000 013 | 6731 000 014 | 6731 010 015 |
| C170i, Std, Right, Copper, 230 V EU | 6731 000 511 | 6731 000 512 | 6731 000 513 | 6731 000 514 | 6731 010 515 |
| C170i, Std, Right, O2, 230 V EU | 6731 001 011 | 6731 001 012 | 6731 001 013 | 6731 001 014 | 6731 011 015 |
| C170i, Std, Left, 230 V EU | 6731 000 021 | 6731 000 022 | 6731 000 023 | 6731 000 024 | 6731 010 025 |
| C170i, Std, Left, Copper, 230 V EU | 6731 000 521 | 6731 000 522 | 6731 000 523 | 6731 000 524 | 6731 010 525 |
| C170i, Std, Left, O2, 230 V EU | 6731 001 021 | 6731 001 022 | 6731 001 023 | 6731 001 024 | 6731 011 025 |

| Power supply | Europe | UK/HKG | Australia | China | ROW |
|---|---|---|---|---|---|
| New Brunswick™ S41i | S41I230011 | S41I230012 | S41I230013 | S41I230014 | S41I120010 |



# Shakers

| Power supply | 230 V, 50 Hz | 120 V, 60 Hz | 100 V, 60 Hz | 100 V, 50 Hz |
|---|---|---|---|---|
| New Brunswick™ Innova® 40, 1.9 cm (3/4 in) | M1299-0082 | M1299-0080 | M1299-0081 | M1299-0083 |
| New Brunswick™ Innova® 40, 2.5 cm (1 in) | M1299-0092 | M1299-0090 | M1299-0091 | M1299-0093 |
| New Brunswick™ Innova® 40R, 1.9 cm (3/4 in) | M1299-0086 | M1299-0084 | M1299-0085 | M1299-0087 |
| New Brunswick™ Innova® 40R, 2.5 cm (1 in) | M1299-0096 | M1299-0094 | M1299-0095 | M1299-0097 |
| New Brunswick™ Innova® 42, 1.9 cm (3/4 in) | M1335-0002 | M1335-0000 | M1335-0001 | M1335-0003 |
| New Brunswick™ Innova® 42, 2.5 cm (1 in) | M1335-0012 | M1335-0010 | M1335-0011 | M1335-0013 |
| New Brunswick™ Innova® 42R, 1.9 cm (3/4 in) | M1335-0006 | M1335-0004 | M1335-0005 | M1335-0007 |
| New Brunswick™ Innova® 42R, 2.5 cm (1 in) | M1335-0016 | M1335-0014 | M1335-0015 | M1335-0017 |
| New Brunswick™ Innova® 43, 2.5 cm (1 in) | M1320-0002 | M1320-0000 | M1320-0001 | M1320-0003 |
| New Brunswick™ Innova® 43, 5.1 cm (2 in) | M1320-0012 | M1320-0010 | M1320-0011 | M1320-0013 |
| New Brunswick™ Innova® 43R, 2.5 cm (1 in) | M1320-0006 | M1320-0004 | M1320-0005 | M1320-0007 |
| New Brunswick™ Innova® 43R, 5.1 cm (2 in) | M1320-0016 | M1320-0014 | M1320-0015 | M1320-0017 |
| New Brunswick™ Innova® 44, 2.5 cm (1 in) | M1282-0002 | M1282-0000 | M1282-0001 | M1282-0003 |
| New Brunswick™ Innova® 44, 5.1 cm (2 in) | M1282-0012 | M1282-0010 | M1282-0011 | M1282-0013 |
| New Brunswick™ Innova® 44R, 2.5 cm (1 in) | M1282-0006 | M1282-0004 | M1282-0005 | M1282-0007 |
| New Brunswick™ Innova® 44R, 5.1 cm (2 in) | M1282-0016 | M1282-0014 | M1282-0015 | M1282-0017 |
| New Brunswick™ Excella® E24, 1.9 cm (3/4 in) | M1352-0002 | M1352-0000 | M1352-0001 | |
| New Brunswick™ Excella® E24R, 1.9 cm (3/4 in) | M1352-0006 | M1352-0004 | M1352-0005 | |
| New Brunswick™ Excella® E25, 2.5 cm (1 in) | M1353-0002 | M1353-0000 | M1353-0001 | M1353-0003 |
| New Brunswick™ Excella® E25R, 2.5 cm (1 in) | M1353-0006 | | | |

| Power supply | Europe | UK/HKG | Australia | China | Japan | Argentina | Brazil | ROW |
|---|---|---|---|---|---|---|---|---|
| Innova® S44i, 2.5 cm (1 in) orbit, orbit 2.5 cm (1 in), incubated | S44I300001 | S44I300002 | S44I300003 | S44I300004 | S44I000006 | S44I300008 | S44I300009 | S44I200005 |
| Innova® S44i, 2.5 cm (1 in) orbit, orbit 2.5 cm (1 in), refrigerated | S44I310001 | S44I310002 | S44I310003 | S44I310004 | S44I010006 | S44I310008 | S44I310009 | S44I210005 |
| Innova® S44i, 2.5 cm (1 in) orbit, orbit 2.5 cm (1 in), refrigerated, photosynthetic LED light bank | S44I311001 | S44I311002 | S44I311003 | S44I311004 | | S44I311008 | S44I311009 | S44I211005 |
| Innova® S44i, 5.1 cm (2 in) orbit, orbit 5.1 cm (2 in), incubated | S44I320001 | S44I320002 | S44I320003 | S44I320004 | S44I020006 | S44I320008 | S44I320009 | S44I220005 |
| Innova® S44i, 5.1 cm (2 in) orbit, orbit 5.1 cm (2 in), refrigerated | S44I330001 | S44I330002 | S44I330003 | S44I330004 | S44I030006 | S44I330008 | S44I330009 | S44I230005 |
| Innova® S44i, 5.1 cm (2 in) orbit, orbit 5.1 cm (2 in), refrigerated, photosynthetic LED light bank | S44I331001 | S44I331002 | S44I331003 | S44I331004 | | S44I331008 | S44I331009 | S44I231005 |

| Power supply | 230 V, 50 Hz | 230 V, 50/60 Hz | 220/230 V, 50/60 Hz | 230/240 V, 50/60 Hz | 240 V, 50/60 Hz |
|---|---|---|---|---|---|
| New Brunswick™ Innova® 2000, 1.9 cm (0.75 in) | n.a. | n.a. | M1190-0002 | n.a. | M1190-0003 |
| New Brunswick™ Innova® 2050, 1.9 cm (0.75 in) | n.a. | n.a. | M1190-0012 | n.a. | M1190-0013 |
| New Brunswick™ Innova® 2100, 1.9 cm (0.75 in) | n.a. | n.a. | M1194-0002 | n.a. | M1194-0003 |
| New Brunswick™ Innova® 2150, 1.9 cm (0.75 in) | n.a. | n.a. | M1194-0012 | n.a. | M1194-0013 |
| New Brunswick™ Innova® 2300, 2.5 cm (1 in) | n.a. | n.a. | M1191-0002 | n.a. | M1191-0003 |
| New Brunswick™ Innova® 2300, 5.1 cm (2 in) | n.a. | n.a. | M1191-0022 | n.a. | M1191-0023 |
| New Brunswick™ Innova® 2350, 2.5 cm (1 in) | n.a. | n.a. | M1191-0012 | n.a. | M1191-0013 |
| New Brunswick™ Innova® 2350, 5.1 cm (2 in) | n.a. | n.a. | M1191-0032 | n.a. | M1191-0033 |
| New Brunswick™ Innova® 5000, 5.1 cm (2 in) | n.a. | n.a. | M1196-0002 | n.a. | M1196-0003 |
| New Brunswick™ Innova® 5050 Rack System | n.a. | n.a. | * | M1232-0101 | * |
| New Brunswick™ Innova® 5051 Rack Extension | n.a. | n.a. | * | M1232-0111 | * |

## Shakers

| Power supply | 120 V, 60 Hz | 120 V, 50/60 Hz | 100/120 V, 50/60 Hz | 100 V, 60 Hz | 100 V,50 Hz | 100 V, 50/60 Hz |
|---|---|---|---|---|---|---|
| New Brunswick™ Innova® 2000, 1.9 cm (0.75 in) | | M1190-0000 | | | | M1190-0001 |
| New Brunswick™ Innova® 2050, 1.9 cm (0.75 in) | | M1190-0010 | | | | M1190-0011 |
| New Brunswick™ Innova® 2100, 1.9 cm (0.75 in) | | M1194-0000 | | | | M1194-0001 |
| New Brunswick™ Innova® 2150, 1.9 cm (0.75 in) | | M1194-0010 | | | | M1194-0011 |
| New Brunswick™ Innova® 2300, 2.5 cm (1 in) | | M1191-0000 | | | | M1191-0001 |
| New Brunswick™ Innova® 2300, 5.1 cm (2 in) | | M1191-0020 | | | | M1191-0021 |
| New Brunswick™ Innova® 2350, 2.5 cm (1 in) | | M1191-0010 | | | | M1191-0011 |
| New Brunswick™ Innova® 2350, 5.1 cm (2 in) | | M1191-0030 | | | | M1191-0031 |
| New Brunswick™ Innova® 5050 Rack System | | | M1232-0100 | | | |
| New Brunswick™ Innova® 5051 Rack Extension | | | M1232-0110 | | | |

## Centrifuges and Rotors - EU-IVD Products

| Power supply | Europe | UK | Australia | China[1)] | Japan | Argentinia | ROW |
|---|---|---|---|---|---|---|---|
| Centrifuge MiniSpin® plus, with Rotor F-45-12-11 | 5453 000 011 | 5452 000 069 | | 5452 000 093 | | | |
| Centrifuge MiniSpin®, with Rotor F-45-12-11 | 5452 000 018 | 5453 000 062 | | 5453 000 097 | | | |
| Centrifuge 5418 R, with Rotor FA-45-18-11 and rotor lid | 5401 000 013 | 5401 000 064 | | 5401 000 099 | | | |
| Centrifuge 5420, without rotor | 5420 000 210 | 5420 000 261 | | 5420 000 296 | | | |
| Centrifuge 5420, with aerosol-tight Rotor FA-24x2 | 5420 000 016 | 5420 000 067 | | 5420 000 091 | | | |
| Centrifuge 5424 R, with Rotor FA-45-24-11 | 5404 000 014 | 5404 000 065 | | 5404 000 090 | | | |
| Centrifuge 5424 R, with Rotor FA-45-24-11 | 5404 000 413 | 5404 000 464 | | 5404 000 499 | | | |
| Centrifuge 5424 R, without rotor | 5404 000 219 | 5404 000 260 | | 5404 000 294 | | | |
| Centrifuge 5424 R, without rotor | 5404 000 618 | 5404 000 669 | | 5404 000 693 | | | |
| Centrifuge 5427 R, without rotor | 5409 000 012 | 5409 000 063 | | 5409 000 098 | | | |
| Centrifuge 5427 R, with Rotor FA-45-12-17 | 5409 000 632 | 5409 000 667 | | 5409 000 691 | | | |
| Centrifuge 5427 R, with Rotor FA-45-30-11 | 5409 000 535 | 5409 000 560 | | 5409 000 594 | | | |
| Centrifuge 5427 R, with Rotor FA-45-48-11 | 5409 000 217 | 5409 000 268 | | 5409 000 292 | | | |
| Centrifuge 5430 R, with Rotor FA-45-30-11 incl. rotor lid | 5428 000 015 | 5428 000 066 | | 5428 000 090 | | | |
| Centrifuge 5430 R, with Rotor FA-45-30-11 incl. rotor lid | 5428 000 414 | 5428 000 465 | | 5428 000 490 | | | |
| Centrifuge 5430 R, without rotor | 5428 000 210 | 5428 000 260 | | 5428 000 295 | | | |
| Centrifuge 5430 R, without rotor | 5428 000 619 | 5428 000 660 | | 5428 000 694 | | | |
| Centrifuge 5430, with Rotor FA-45-30-11 incl. rotor lid | 5427 000 216 | 5427 000 267 | | 5427 000 291 | | | |
| Centrifuge 5430, with Rotor FA-45-30-11 incl. rotor lid | 5427 000 410 | 5427 000 461 | | 5427 000 496 | | | |
| Centrifuge 5430, without rotor | 5427 000 011 | 5427 000 062 | | 5427 000 097 | | | |
| Centrifuge 5430, without rotor | 5427 000 615 | 5427 000 666 | | 5427 000 690 | | | |

[1)] Listed articles (except for Centrifuge 5920 R) registered as medical devices class 1 in China.



| Power supply | Europe | UK | Australia | China[1)] | Japan | Argentinia | ROW |
|---|---|---|---|---|---|---|---|
| Centrifuge 5702, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters | 5702 000 329 | 5702 000 361 | | 5702 000 396 | | | |
| Centrifuge 5702 R, with Rotor A-4-38 incl. adapters for 15/50 mL conical tubes, 2 sets of 2 adapters | 5703 000 420 | 5703 000 462 | | 5703 000 497 | | | |
| Centrifuge 5702 R, with Rotor A-4-38 incl. adapters for 13/16 mm blood collection tubes, 2 sets of 2 adapters | 5703 000 322 | 5703 000 365 | | 5703 000 390 | | | |
| Centrifuge 5702 R, without rotor | 5703 000 012 | 5703 000 063 | | 5703 000 098 | | | |
| Centrifuge 5702 RH, without rotor | 5704 000 016 | 5704 000 067 | | 5704 000 091 | | | |
| Centrifuge 5702, without rotor | 5702 000 019 | 5702 000 060 | | 5702 000 094 | | | |
| Centrifuge 5804, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes | 5804 000 323 | 5804 000 366 | | 5804 000 390 | | | |
| Centrifuge 5804, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes | 5804 000 528 | 5804 000 560 | | 5804 000 595 | | | |
| Centrifuge 5804 R, with Rotor A-4-44 incl. adapters for 15/50 mL conical tubes | 5805 000 327 | 5805 000 360 | | 5805 000 394 | | | |
| Centrifuge 5804 R, with Rotor S-4-72 incl. adapters for 15/50 mL conical tubes | 5805 000 629 | 5805 000 661 | | 5805 000 696 | | | |
| Centrifuge 5804 R, without rotor | 5805 000 017 | 5805 000 068 | | 5805 000 092 | | | |
| Centrifuge 5804, without rotor | 5804 000 013 | 5804 000 064 | | 5804 000 099 | | | |
| Centrifuge 5810, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes | 5810 000 327 | 5810 000 360 | | 5810 000 394 | | | |
| Centrifuge 5810, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes | 5810 000 424 | 5810 000 467 | | 5810 000 491 | | | |
| Centrifuge 5810, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes | 5810 000 521 | 5810 000 564 | | 5810 000 599 | | | |
| Centrifuge 5810, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes | 5810 000 629 | 5810 000 661 | | 5810 000 696 | | | |
| Centrifuge 5810 R, with Rotor A-4-62 incl. adapters for 15/50 mL conical tubes | 5811 000 320 | 5811 000 363 | | 5811 000 398 | | | |
| Centrifuge 5810 R, with Rotor A-4-81 incl. adapters for 15/50 mL conical tubes | 5811 000 428 | 5811 000 460 | | 5811 000 495 | | | |
| Centrifuge 5810 R, with Rotor S-4-104 incl. adapters for 15/50 mL conical tubes | 5811 000 622 | 5811 000 665 | | 5811 000 690 | | | |
| Centrifuge 5810 R, with Rotor S-4-104 incl. adapters for 13/16 mm round-bottom tubes | 5811 000 827 | 5811 000 860 | | 5811 000 894 | | | |
| Centrifuge 5810 R, without rotor | 5811 000 010 | 5811 000 061 | | 5811 000 096 | | | |
| Centrifuge 5810, without rotor | 5810 000 017 | 5810 000 068 | | 5810 000 092 | | | |
| Centrifuge 5910 R, without rotor | 5942 000 016 | 5942 000 067 | | 5942 000 091 | | | |
| Centrifuge 5910 R, with Rotor S-4xUniversal | 5942 000 210 | 5942 000 261 | | 5942 000 296 | | | |
| Centrifuge 5910 R, with Rotor S-4xUniversal | 5942 000 318 | 5942 000 369 | | 5942 000 393 | | | |
| Centrifuge 5910 R, with Rotor S-4xUniversal | 5942 000 415 | 5942 000 466 | | 5942 000 490 | | | |
| Centrifuge 5910 R, with Rotor S-4x750 | 5942 000 512 | 5942 000 563 | | 5942 000 598 | | | |
| Centrifuge 5910 R, with Rotor S-4x500 | 5942 000 610 | 5942 000 660 | | 5942 000 695 | | | |
| Centrifuge 5910 R, with Rotor S-4x400 | 5942 000 717 | 5942 000 768 | | 5942 000 792 | | | |
| Centrifuge 5920 R | 5948 000 018 | 5948 000 069 | | 5948 000 093 | | | |
| Centrifuge 5920 R, with Rotor S-4x1000 | 5948 000 212 | 5948 000 263 | | 5948 000 298 | | | |
| Centrifuge 5920 R, with Rotor S-4x1000 | 5948 000 310 | 5948 000 360 | | 5948 000 395 | | | |
| Centrifuge 5920 R, with Rotor S-4x1000 | 5948 000 417 | 5948 000 468 | | 5948 000 492 | | | |
| Centrifuge 5920 R, with Rotor S-4xUniversal-Large | 5948 000 816 | 5948 000 867 | | 5948 000 891 | | | |
| Centrifuge 5920 R, with Rotor S-4xUniversal-Large | 5948 000 913 | 5948 000 964 | | 5948 000 999 | | | |

[1)] Listed articles (except for Centrifuge 5920 R) registered as medical devices class 1 in China.

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| BioBLU® 0.3c, BioBLU® 0.3f, BioBLU® 1c, BioBLU® 1f, BioBLU® 3c, BioBLU® 3f, BioBLU® 10c, BioBLU® 10f | US 10,030,220 |
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| Centrifuge 5418R, 5424R, 5430R, 5427R | US 8,845,967 |
| Centrifuge 5424R, 5427R | US 8,783,737 |
| Centrifuge 5418, 5418 R, 5424, 5702, 5702R, 5702RH | US 7,029,040 |
| Centrifuge 5425, 5420, 5419 | US 9,149,815 |
| Centrifuge 5702 swing-bucket rotor | US 6,746,391 |
| Aerosol-tight fixed-angle rotor for Centrifuges 5920R, 5804, 5804R, 5810, 5810R, 5427R, 5430, 5430R, 5418, 5418R | US 9,149,815 |
| Combitips advanced® 25ml / 50ml | US 8,839,685<br>US 8,813,584<br>US 9,291,529 |
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| Eppendorf Reference® 2 single channel ≤ 1000 µl<br>Eppendorf Reference® 2 multi channel | US 7,434,484<br>US 9,027,419 |
| Eppendorf Reference® 2 variable | US 9,295,986 |
| Eppendorf Research® plus | US 7,674,432<br>US 8,133,453<br>US 8,297,134 |
| Eppendorf Research® plus ≤ 1000 µl | US 7,434,484 |
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| Eppendorf ThermoMixer® C | US 8,827,540<br>US 9,016,929<br>US 9,352,323 |
| Eppendorf ThermoMixer® F0.5, F1.5, F2.0 | US 8,827,540<br>US 9,016,929 |
| Eppendorf ThermoMixer® FP | US 8,827,540<br>US 9,352,323 |
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| Eppendorf Xplorer®/Eppendorf Xplorer® plus single channel ≤ 1.000 µl<br>Eppendorf Xplorer®/Eppendorf Xplorer® plus multi channel <1.250 µl | US 7,434,484 |
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| Multipette®/Repeater® stream/ Xstream, Multipette®/ Repeater® E3/ E3x | US 7,731,908<br>US 8,813,584<br>US 9,291,529<br>US 9,289,762 |
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