

VWR® Laboratory Equipment

01. VWR® SMALL LAB
EQUIPMENT

02. FIVE-YEAR WARRANTY



Competitive advantages of VWR®

- Five-year warranty on parts and labor for all products
- Assembled in the USA
- All products are tested for safety and electrical with a nationally recognized agency; are certified UL, cUL, CSA and TUV; and are 50/60 Hz (items that are 230 V are CE marked and 50/60 Hz)
- No dropship fees
- Trial program allows customers to evaluate a new product for 30 days and, if not satisfied, return the product for full credit without restocking fees (ask your VWR® Sales Representative for details)
- Competitive pricing
- Custom manufacturing
- Most equipment is available with a NIST-traceable certificate for temperature, speed and time from Troemner's ISO/IEC 17025-accredited laboratory
- All digital models include a timer



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VWR® ADVANCED MELTING POINT APPARATUS

The VWR Advanced Melting Point Apparatus is used to determine the purity of a sample and is optimized to quickly and efficiently heat up to three samples at one time.

- LCD screen displays temperature, date and time
- Audible alarm when set temperature is reached
- Large, clear viewing window with 8× magnification and white LED to illuminate samples
- On-board memory records up to 1000 tests (four temperatures per test)
- Extendable arm allows user to adjust the height and angle of the viewing window
- Five-year warranty
- Available with a NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner

OPERATING FEATURES

Low-profile design: Takes up minimal bench space.

LCD screen: Easy-to-use touchpad controls with numeric keypad and LCD screen for temperature, date and time allow user to view settings efficiently while monitoring samples through the viewing window. Provides repeatable and accurate results every time and is easily visible across lab benches.

Viewing window with LED lamp: Viewing window with 8× magnification is illuminated with an LED lamp and aids in viewing samples.

Adjustable viewing angle: For optimal viewing, the extendable arm increases the viewing window height up to 16" above the bench and allows the user to adjust the viewing window 180°.

Microprocessor control: Microprocessor-controlled units maintain precise temperature control from ambient +5 to 400 °C. Adjustments are made in 0.1 °C increments.

Programmable ramp rate: Advanced electronics allow user to program the temperature ramp rate from 0.1 to 10 °C/min.

Onboard memory: Memory records up to 1000 tests (four temperatures per test).

USB: USB port allow user to download test data to upload to a PC.

Calibration key: Optional calibration key allows user to calibrate to either reference standards or samples of known melting points. Additionally, the key can be used to fine tune and calibrate the oven temperature to an external temperature device, such as a traceable thermometer or probe, for up to five separate user-defined points.

Built-in capillary tube holder: Rear housing features a built-in capillary tube holder.

Specifications

Temperature range	Ambient +5 to 400 °C
Temperature accuracy	±1 °C below 100 °C, ±1% above 100 °C
Ramp rate range	0.1 to 10 °C/min
Real-time clock	mm/dd/yy hh:mm A/P
Viewing angle	0° to 180°
Capacity	3 capillary tubes
Memory	1000 tests (4 temperatures per test)
Overall dimensions (L × W × H)	14 × 7.5 × 4.25"
Ship weight	4.5 lb (2.0 kg)



75840-112



SAFETY FEATURES

Audible alarm: An audible alarm will sound when the set temperature is reached.

Indefinite heating timeout: For additional safety, there is an indefinite heating time-out. If the ramping phase is not initiated within 30 min of reaching the set temperature, the unit returns to standby mode, and the heater turns off to prevent indefinite heating.

Overheat protection: To prevent overheating, there is a maximum temperature timeout. After 30 min at the maximum temperature, the unit reverts back to the set temperature.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 5 to 40 °C (41 to 104 °F), maximum 80% relative humidity.

Applications: High-throughput applications for determining the purity of substances or identifying unknown substances.

ORDERING INFORMATION

Included: Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with Euro-type plug). Includes a capillary tube starter pack of 100 tubes with one open end. Five-year limited warranty on parts and labor.

Certifications: RoHS certified. 120 V units are TUV listed. 230 V units are CE marked. Provided with a NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner which includes multiple data points within the temperature range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibration.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced Digital Melting Point Apparatus	120 V 5 A 75 W	75840-112
Advanced Digital Melting Point Apparatus	230 V 5 A 75 W	75840-114
Advanced Digital Melting Point Apparatus with NIST-traceable certificate	120 V 2.5 A 75 W	75840-014
Advanced Digital Melting Point Apparatus with NIST-traceable certificate	230 V 2.5 A 75 W	75840-016

VWR® BASIC MELTING POINT APPARATUS

The VWR® Basic Melting Point Apparatus is used primarily to determine the purity of a sample and is optimized to quickly and efficiently heat up to three samples at one time.

- LCD screen displays temperature, date and time
- Audible alarm when set temperature is reached
- Large, clear viewing window with 8× magnification and white LED to illuminate samples
- Five-year warranty
- Available with a NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner

OPERATING FEATURES

Low-profile design: Lightweight unit takes up minimal bench space.

LCD screen: Easy-to-use touchpad controls and LCD screen for temperature, date and time allow operator to view settings efficiently while monitoring samples through the viewing window. Provides repeatable and accurate results every time and is easily visible across lab benches.

Viewing window with LED lamp: Viewing window with 8× magnification offers an ergonomic viewing angle and is illuminated with an LED lamp, which aids in viewing samples.

Microprocessor control: Microprocessor-controlled units maintain precise temperature control from ambient +5 to 400 °C. Adjustments are made in 1 °C increments.

Fixed ramp rate: Temperature heats at a fixed ramp rate of 2 °C/min after set temperature is reached.

Built-in capillary tube holder: Rear housing features a built-in capillary tube holder.

SAFETY FEATURES

Audible alarm: An audible alarm will sound when the set temperature is reached.

Indefinite heating timeout: For additional safety, there is an indefinite heating timeout. If the ramping phase is not initiated within 30 min of reaching the set temperature, the unit returns to standby mode, and the heater turns off to prevent indefinite heating.

Overheat protection: To prevent overheating, there is a maximum temperature timeout. After 30 min at the maximum temperature, the unit reverts back to the set temperature.



75840-104

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 5 to 40 °C (41 to 104 °F), maximum 80% relative humidity.

Applications: Determining the purity of a substance or identifying an unknown substance.

ORDERING INFORMATION

Included: Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with Euro-type plug). Includes capillary tube starter pack. Five-year limited warranty on parts and labor.

Certifications: RoHS certified. 120 V units are TUV listed. 230 V units are CE marked. Provided with a NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the temperature range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibration.

Specifications

Temperature range	Ambient +5 to 400 °C
Temperature accuracy	±1 °C below 100 °C, ±1% above 100 °C
Fixed ramp rate from set temperature	2 °C/min
Real-time clock	±2%
Timer	mm/dd/yy hh:mm A/P
Capacity	3 capillary tubes
Overall dimensions (L × W × H)	10.75 × 7.5 × 4.25"
Ship weight	4 lb (1.8 kg)

Description	Electrical (50/60 Hz)	Cat. No.
Basic Digital Melting Point Apparatus	120 V 5 A 400 W	75840-104
Basic Digital Melting Point Apparatus	230 V 5 A 400 W	75840-106
Basic Digital Melting Point Apparatus with NIST-traceable certificate	120 V 5 A 400 W	75840-108
Basic Digital Melting Point Apparatus with NIST-traceable certificate	230 V 5 A 400 W	75840-110

MELTING POINT APPARATUS ACCESSORIES

Capillary tubes: Case of 2000 tubes in packs of 100. Tubes feature one open end for efficient sample collection.

Cooling blocks: Cooling blocks are designed to fit in the VWR Melting Point Apparatus to rapidly cool the oven back to room temperature. Constructed of copper, the blocks absorb heat, drawing it from the oven to provide an efficient transition between tests. Ideal for use in applications that require a large amount of tests with a variety of temperatures in a short amount of time.

Calibration USB drives: Calibration USB drives allow for calibrating the apparatus to fine tune the oven temperature to an external temperature device, such as a thermometer or temperature probe. Calibration USB drives can also be used to calibrate the unit to a reference sample with a known melting point. Up to five calibration points can be used.



Description	Cat. No.
Capillary tubes	75840-018
Cooling blocks	75840-020
Calibration USB drive	75840-102

Avantor® Services



Equipment and instrument services

Avantor® Services helps you simplify equipment and instrument services, in and around the laboratory.

Our team specializes in providing a quick and targeted response to your needs. We also offer consultative and customized solutions. Our services enable you to:

- Improve efficiency by keeping your equipment in compliance
- Optimize your budget and maximize your equipment investment

With our network of ISO/IEC 17025-accredited service providers, we can be your single point of contact for all equipment and instrument service needs.

We are focused on helping you in the following areas:

- Calibration
- Qualification and validation
- Preventive maintenance
- Certification
- Temperature mapping
- Warranty management

Visit <https://www.avantorsciences.com/us/en/services> for more information.

VWR® STANDARD 3500 ORBITAL SHAKER

- Microprocessor controls
- Continuous or timed operation
- 35 lb weight capacity

The VWR Standard 3500 Orbital Shaker is designed for a wide range of applications that require basic shaking control, providing reproducible motion that is evenly distributed throughout the entire surface of the tray.

OPERATING FEATURES

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. The shaker will automatically restart after a power interruption.

Triple-eccentric drive: Permanently lubricated ball bearings and maintenance-free, brushless DC motor provide reliable service and continuous-duty operation.

Adjustment knobs: Basic speed and time knobs with dial settings from 1 to 10.

SAFETY FEATURES

Speed ramping feature: Slowly increases speed to desired set point to avoid splashing.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing cold rooms, incubators and CO₂ environments at 0 to 40 °C (32 to 104 °F), maximum 80% relative humidity.

Applications: Bacterial suspensions, staining/destaining and general mixing.

ORDERING INFORMATION

Includes: Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Unit is also supplied with an 11 × 13" (27.9 × 33 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.



89032-092 with optional platform 89027-702 and flask clamps 57018-811 & 14215-224

Specifications

Speed range	25 to 500 rpm
Timer	1 to 120 min
Orbit	19 mm (0.75")
Maximum weight capacity	35 lb (16 kg)
Tray material	Aluminum
Tray dimensions (L × W)	11 × 13" (27.9 × 33 cm)
Overall dimensions (L × W × H)	16.25 × 14 × 5.75" (41.3 × 35.6 × 14.6 cm)
Ship weight	49 lb (22.2 kg)

Description	Electrical (50/60 Hz)	Cat. No.
Standard 3500 Orbital Shaker	120 V 5 A 75 W	89032-092
Standard 3500 Orbital Shaker	230 V 2.5 A 75 W	89032-094

VWR® ADVANCED 3500 ORBITAL SHAKER

- LED screens to display speed and time
- Accu-Drive Shaking System
- Calibration mode for speed

The VWR Advanced 3500 Orbital Shaker is designed for a wide range of applications, including cell cultures that require accurate and repeatable results. The microprocessor control provides consistent uniform shaking while safely ramping to the set speed.

OPERATING FEATURES

Accu-Drive Shaking System: The exclusive Accu-Drive Shaking System delivers exceptional speed control, accuracy and durability. The shaking system continuously monitors shaking speed and maintains the set point, even under changing loads. When the unit is set to a speed above 100 rpm, the speed accuracy is $\pm 1\%$ of the set speed. When set under 100 rpm, speed accuracy is ± 1 rpm.

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. Microprocessor will display the last set point and will restart if power is interrupted.

Triple-eccentric drive: Permanently lubricated ball bearings and a maintenance-free, brushless DC motor provide reliable service and continuous operation.

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed and time allow the operator to view both settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

RS-232 interface: Provides two-way communication for data logging and unit control.

Speed calibration mode: Allows user to automatically recalibrate speed display.

SAFETY FEATURES

Load sensor: A built-in load sensor detects unbalanced conditions and automatically reduces speed to protect samples.

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Specifications

Speed range	15 to 500 rpm
Speed accuracy	above 100 rpm, $\pm 1\%$ of set speed below 100 rpm, ± 1 rpm
Timer	1 to 160 hr
Orbit	19 mm (0.75")
Maximum weight capacity	35 lb (16 kg)
Tray material	Aluminum
Tray dimensions (L x W)	11 x 13" (27.9 x 33 cm)
Overall dimensions (L x W x H)	16.25 x 14 x 5.75" (41.3 x 35.6 x 14.6 cm)
Ship weight	49 lb (22.2 kg)



89032-096 with optional platform 97003-602



Audible alarm: In timed mode, the alarm will sound when the time reaches zero. Alarm has an optional mute function that can be set from the touchpad control.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing cold rooms, incubators and CO₂ environments from -10 to 60 °C (14 to 140 °F), maximum 80% relative humidity.

Applications: Cell cultures, solubility studies and extraction procedures.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Unit is also supplied with an 11 x 13" (27.9 x 33 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibration.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced 3500 Orbital Shaker	120 V 5 A 75 W	89032-096
Advanced 3500 Orbital Shaker	230 V 2.5 A 75 W	89032-098
Advanced 3500 Orbital Shaker with NIST-traceable certificate	120 V 5 A 75 W	10027-142
Advanced 3500 Orbital Shaker with NIST-traceable certificate	230 V 2.5 A 75 W	10027-144

VWR® ADVANCED DURA-SHAKER FOR EXTREME ENVIRONMENTS

- Designed for use in CO₂ incubators
- Can withstand extreme environments up to 100% humidity
- Remote controller magnetically attached to most incubators

The VWR Dura-Shaker is designed for a wide range of applications, including cell cultures that require CO₂ and humidity for optimal cell growth. The microprocessor control provides consistent uniform shaking while safely ramping to the set speed.

OPERATING FEATURES

Accu-Drive Shaking System: The exclusive Accu-Drive Shaking System delivers exceptional speed control, accuracy and durability. The shaking system continuously monitors shaking speed and maintains the set point, even under changing loads. When the unit is set to a speed above 100 rpm, the speed accuracy is $\pm 1\%$ of the set speed. When set under 100 rpm, speed accuracy is ± 1 rpm.

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. The shaker will automatically restart after a power interruption.

Triple-eccentric drive: Permanently lubricated ball bearings and a maintenance-free, brushless DC motor provide reliable service and continuous-duty operation.

Remote controller: The control module is designed to sit outside of the incubator. Settings can be easily viewed or changed from outside of the incubator without disturbing the incubator's atmosphere. The thin ribbon cable is 5.5" (14 cm) long and easily passes underneath the incubator door or through the utility port (minimum diameter 1.2" (3 cm)). Controller magnetically attaches to most incubator doors or can sit on a lab bench.

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed and time allow the operator to view both settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

RS-232 interface: Provides two-way communication for data logging and unit control.

Speed calibration mode: Allows the user to automatically recalibrate speed display.

Specifications

Speed range	15 to 500 rpm	
Speed accuracy	above 100 rpm, $\pm 1\%$ of set speed below 100 rpm, ± 1 rpm	
Timer	1 to 160 hr	
Orbit	19 mm (0.75")	
Maximum weight capacity	~35 lb (16 kg) at 75 rpm ~5 lb (2.3 kg) at 500 rpm	
Tray material	Aluminum	
Tray dimensions (L x W)	13 x 11" (33 x 27.9 cm)	
Overall dimensions (L x W x H)	Shaker	11.85 x 14 x 6.1" (30.1 x 35.6 x 15.4 cm)
	Remote	5.3 x 14 x 4.6" (13.5 x 35.6 x 11.6 cm)
Ship weight	49 lb (22.2 kg)	
Base net weight	45 lb (20.4 kg)	
Front panel net weight	1.5 lb (0.6 kg)	



10159-960

SAFETY FEATURES

Overload protection: Audible and visual signals will activate when the system detects an obstruction.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Audible alarm: In timed mode, the alarm will sound when the time reaches zero. Alarm has an optional mute function that can be set from the touchpad control.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing cold rooms, incubators and CO₂ environments from -10 to 60 °C (14 to 140 °F), maximum 100% relative humidity.

Applications: Cell cultures, solubility studies and extraction procedures.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Unit is also supplied with an 11 x 13" (27.9 x 33 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibration.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced Dura-Shaker	120 V 0.5 A 30 W	10159-960
Advanced Dura-Shaker	230 V 0.3 A 30 W	10159-962
Advanced Dura-Shaker with NIST-traceable certificate	120 V 0.5 A 30 W	10159-964

VWR® ADVANCED 3750 RECIPROCATING SHAKER

- LED screens for speed and time
- Exceptional speed control, accuracy and durability
- Calibration mode for speed

The VWR Advanced 3750 Reciprocating Shaker is designed for a wide range of applications, including cell cultures that require accurate and repeatable results. The microprocessor control provides consistent uniform shaking while safely ramping to the set speed.

OPERATING FEATURES

Continuous shaking system: The shaking system continuously monitors shaking speed and maintains the set point, even under changing loads. When the unit is set to a speed above 100 rpm, the speed accuracy is $\pm 1\%$ of the set speed. When set under 100 rpm, speed accuracy is ± 1 rpm.

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. Microprocessor will display the last set point and will restart if power is interrupted.

Single-eccentric drive: Permanently lubricated ball bearings and a maintenance-free, brushless DC motor provide reliable service and continuous operation.

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed and time allow the operator to view both settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

RS-232 interface: Provides two-way communication for data logging and unit control.

Speed calibration mode: Allows user to automatically recalibrate speed display.

SAFETY FEATURES

Load sensor: A built-in load sensor detects unbalanced conditions and automatically reduces speed to protect samples.

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Specifications

Speed range	20 to 300 rpm
Speed accuracy	above 100 rpm, $\pm 2\%$ of set speed below 100 rpm, ± 2 rpm
Timer	1 to 160 hr
Stroke	19 mm (0.75")
Maximum weight capacity	15 lb (6.8 kg)
Tray material	Aluminum
Tray dimensions (L x W)	11 x 13" (27.9 x 33 cm)
Overall dimensions (L x W x H)	16.25 x 14 x 5.75" (41.3 x 35.6 x 14.6 cm)
Ship weight	49 lb (22.2 kg)



97007-742 with optional platform 97003-632

Audible alarm: In timed mode, the alarm will sound when the time reaches zero. Alarm has an optional mute function that can be set from the touchpad control.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing cold rooms, incubators and CO₂ environments from -10 to 60 °C (14 to 140 °F), maximum 80% relative humidity.

Applications: Cell cultures, solubility studies and extraction procedures.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Unit is also supplied with an 11 x 13" (27.9 x 33 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibration.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced 3750 Reciprocating Shaker	120 V 5 A 40 W	97007-742
Advanced 3750 Reciprocating Shaker	230 V 2.5 A 40 W	76683-468
Advanced 3750 Reciprocating Shaker with NIST-traceable certificate	120 V 5 A 40 W	10027-166



89032-100 with optional platform 97003-604

VWR® STANDARD 5000 ORBITAL SHAKER

- Microprocessor controls
- Continuous or timed operation
- 50 lb weight capacity

The VWR Standard 5000 Orbital Shaker is designed for applications with heavy-duty loads, providing reproducible motion that is evenly distributed throughout the entire surface of the tray.

OPERATING FEATURES

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. The shaker will automatically restart after a power interruption.

Triple-eccentric drive: Permanently lubricated ball bearings and a maintenance-free, brushless DC motor provide reliable service and continuous-duty operation.

Adjustment knobs: Basic speed and time knobs with dial settings from 1 to 10.

SAFETY FEATURES

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Unit can be run in noncondensing cold rooms, incubators and CO₂ environments from 0 to 40 °C (32 to 104 °F), maximum 80% relative humidity.

Applications: Bacterial suspensions, staining/destaining, and general mixing.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Units are also supplied with an 18 × 24" (45.7 × 61 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.

Specifications

Speed range	25 to 500 rpm
Timer	1 to 120 min
Orbit	25 mm (1")
Maximum weight capacity	50 lb (22.7 kg)
Tray material	Aluminum
Tray dimensions (L × W)	18 × 24" (45.7 × 61 cm)
Overall dimensions (L × W × H)	23.5 × 26.7 × 6" (59.7 × 67.8 × 15.2 cm)
Ship weight	109 lb (49.5 kg)

Description	Electrical (50/60 Hz)	Cat. No.
Standard 5000 Orbital Shaker	120 V 5 A 75 W	89032-100
Standard 5000 Orbital Shaker	230 V 2.5 A 75 W	89032-102

VWR® ADVANCED 5000 ORBITAL SHAKER

- LED screens for speed and time
- Accu-Drive Shaking System
- 50 lb weight capacity

The VWR Advanced 5000 Orbital Shaker is designed for a wide range of applications with larger or heavier loads that require accurate and repeatable results.

OPERATING FEATURES

Accu-Drive Shaking System: The exclusive Accu-Drive Shaking System delivers exceptional speed control, accuracy and durability. The shaking system continuously monitors shaking speed and maintains the set point, even under changing loads. When the unit is set to a speed above 100 rpm, the speed accuracy is $\pm 1\%$ of the set speed. When set under 100 rpm, speed accuracy is ± 1 rpm.

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. Microprocessor will display the last set point and will restart if power is interrupted.

Triple-eccentric drive: Permanently lubricated ball bearings and a maintenance-free, brushless DC motor provide reliable service and continuous operation.

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed and time allow the operator to view both settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

RS-232 interface: Provides two-way communication for data logging and unit control.

Speed calibration mode: Allows user to automatically recalibrate speed display.

SAFETY FEATURES

Load sensor: A built-in load sensor detects unbalanced conditions and automatically reduces speed to protect samples.

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Specifications

Speed range	20 to 500 rpm
Speed accuracy	above 100 rpm, $\pm 1\%$ of set speed below 100 rpm, ± 1 rpm
Timer	1 to 160 hr
Orbit	25 mm (1")
Maximum weight capacity	50 lb (22.7 kg)
Tray material	Aluminum
Tray dimensions (L x W)	18 x 24" (45.7 x 61 cm)
Overall dimensions (L x W x H)	23.6 x 26.7 x 6" (59.9 x 67.8 x 15.2 cm)
Ship weight	109 lb (49.5 kg)



89032-104 with optional platform 97003-590 and flask clamps 14215-224

Audible alarm: In timed mode, the alarm will sound when the time reaches zero. Alarm has an optional mute function that can be set from the touchpad control.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing cold rooms, incubators and CO₂ environments from -10 to 60 °C (14 to 140 °F), maximum 80% relative humidity.

Applications: Cell cultures, solubility studies, and extraction procedures.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Units are also supplied with an 18 x 24" (45.7 x 61 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced 5000 Orbital Shaker	120 V 5 A 75 W	89032-104
Advanced 5000 Orbital Shaker	230 V 2.5 A 75 W	89032-106
Advanced 5000 Orbital Shaker with NIST-traceable certificate	120 V 5 A 75 W	10027-146

VWR® ADVANCED 10000 ORBITAL SHAKERS

- Accu-Drive Shaking System
- 100 lb weight capacity
- Available with an either 1 or 2" orbit

VWR Advanced 10000-1 and 10000-2 Orbital Shakers are large-capacity shakers with a more powerful drive mechanism and larger orbits for the optimal shaking of large vessels.

OPERATING FEATURES

Accu-Drive Shaking System: The exclusive Accu-Drive Shaking System delivers exceptional speed control, accuracy and durability. The system continuously monitors shaking speed and maintains the set point, even under changing loads. When the unit is set to a speed above 100 rpm, the speed accuracy is $\pm 1\%$ of the set speed. When set under 100 rpm, speed accuracy is ± 1 rpm.

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. Microprocessor will display the last set point and will restart if power is interrupted.

Triple-eccentric drive: Permanently lubricated ball bearings and a maintenance-free, brushless DC motor provide reliable service and continuous operation.

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed and time allow the operator to view both settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

RS-232 interface: Provides two-way communication for data logging and unit control.

Speed calibration mode: Allows user to automatically recalibrate speed display.

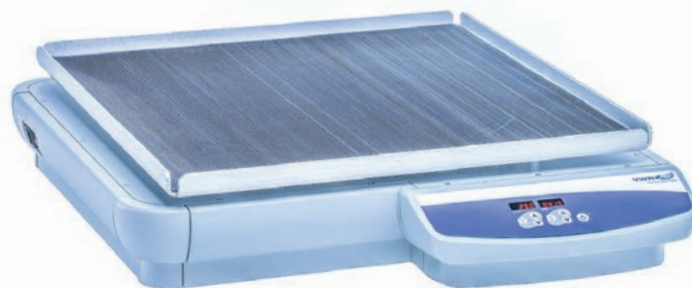
SAFETY FEATURES

Load sensor: A built-in load sensor detects unbalanced conditions and automatically reduces speed to protect samples.

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Specifications

Speed range	100000-1: 15 to 500 rpm 100000-2: 15 to 300 rpm
Speed accuracy	above 100 rpm, $\pm 1\%$ of set speed below 100 rpm, ± 1 rpm
Timer	1 to 160 hr
Orbit	100000-1: 25 mm (1") 100000-2: 51 mm (2")
Maximum weight capacity	100 lb (45.4 kg)
Tray material	Aluminum
Tray dimensions (L x W)	24 x 24" (61 x 61 cm)
Overall dimensions (L x W x H)	28.25 x 26.7 x 7" (71.8 x 67.8 x 17.8 cm)
Ship weight	200 lb (90.8 kg)



89032-112

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Audible alarm: In timed mode, the alarm will sound when the time reaches zero. Alarm has an optional mute function that can be set from the touchpad control.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Parameters: Units can be run in noncondensing cold rooms, incubators and CO₂ environments from -10 to 60 °C (14 to 140 °F), maximum 80% relative humidity.

Applications: Cell cultures, solubility studies and extraction procedures.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Units are also supplied with a 24 x 24" (61 x 61 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced 10000-1 Orbital Shaker	120 V 5 A 80 W	89032-108
Advanced 10000-2 Orbital Shaker	120 V 5 A 80 W	89032-112
Advanced 10000-1 Orbital Shaker	230 V 2.5 A 80 W	76683-470
Advanced 10000-2 Orbital Shaker	230 V 2.5 A 80 W	76683-472
Advanced 10000-1 Orbital Shaker with NIST-traceable certificate	120 V 5 A 80 W	10027-150
Advanced 10000-2 Orbital Shaker with NIST-traceable certificate	120 V 5 A 80 W	10027-154

VWR® ADVANCED 15000 ORBITAL SHAKERS

- Accu-Drive Shaking System
- Available with an either 1 or 2" orbit
- Calibration mode for speed

VWR Advanced 15000-1 and 15000-2 Orbital Shakers are the largest-capacity shakers designed for the heaviest of loads. They have the most powerful drive mechanism of all the shakers and large orbits for the optimal shaking of larger vessels.

OPERATING FEATURES

Accu-Drive Shaking System: The exclusive Accu-Drive Shaking System delivers exceptional speed control, accuracy and durability. The system continuously monitors shaking speed and maintains the set point, even under changing loads. When the unit is set to a speed above 100 rpm, the speed accuracy is $\pm 1\%$ of the set speed. When set under 100 rpm, speed accuracy is ± 1 rpm.

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. Microprocessor will display the last set point and will restart if power is interrupted.

Triple-eccentric drive: Permanently lubricated ball bearings and a maintenance-free, brushless DC motor provide reliable service and continuous-duty operation.

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed and time allow the operator to view both settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

RS-232 interface: Provides two-way communication for data logging and unit control.

Speed calibration mode: Allows user to automatically recalibrate speed display.

SAFETY FEATURES

Load sensor: A built-in load sensor detects unbalanced conditions and automatically reduces speed to protect samples.

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Specifications

Speed range	15000-1: 15 to 500 rpm 15000-2: 15 to 300 rpm
Speed accuracy	above 100 rpm, $\pm 1\%$ of set speed below 100 rpm, ± 1 rpm
Timer	1 to 160 hr
Orbit	15000-1: 25 mm (1") 15000-2: 51 mm (2")
Maximum weight capacity	150 lb (68 kg)
Tray material	Aluminum
Tray dimensions (L x W)	24 x 36" (61 x 91 cm)
Overall dimensions (L x W x H)	28.3 x 26.7 x 7" (71.8 x 67.8 x 17.8 cm)
Ship weight	230 lb (104.4 kg)



89032-116 with optional platform 97003-596 and flask clamps 14215-224

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Audible alarm: In timed mode, the alarm will sound when the time reaches zero. Alarm has an optional mute function that can be set from the touchpad control.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Parameters: Units can be run in noncondensing cold rooms, incubators and CO₂ environments from -10 to 60 °C (14 to 140 °F), maximum 80% relative humidity.

Applications: Cell cultures, solubility studies, and extraction procedures.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Units are also supplied with a 24 x 36" (61 x 91 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced 15000-1 Orbital Shaker	120 V 5 A 80 W	89032-116
Advanced 15000-2 Orbital Shaker	120 V 5 A 80 W	89032-120
Advanced 15000-1 Orbital Shaker	230 V 2.5 A 80 W	89032-118
Advanced 15000-2 Orbital Shaker	230 V 2.5 A 80 W	76683-474
Advanced 15000-1 Orbital Shaker with NIST-traceable certificate	120 V 5 A 80 W	10027-158
Advanced 15000-2 Orbital Shaker with NIST-traceable certificate	120 V 5 A 80 W	10027-162

VWR® MINI SHAKER AND MINI SHAKER 20

The VWR® Mini Shaker and Mini Shaker 20 are ideal for a wide variety of shaking applications. The included tray has a non-slip mat that can be removed to mount a variety of optional accessories.

- Five-year warranty
- 3 or 20 mm orbit
- LCD screen displays speed and time
- Includes tray/platform and mat, ready to mount a variety of optional accessories
- TUV listed for safety and electrical compliance
- Available with a NIST-traceable calibration certificate from an ISO/IEC 17025-accredited lab at Troemner

OPERATING FEATURES

Microprocessor control: VWR shakers feature variable-speed microprocessor control, providing reliable, uniform mixing action. The microprocessor displays the most recently used settings and will restart if power is interrupted.

LCD screen: The LCD screen displays speed and time for repeatable and accurate results. Easy-to-use control knobs allow for effortless input of settings and rapid access to the menu options. Speed is controllable within a resolution of 1 rpm. Timer displays the elapsed time or, when the unit is programmed to run for a user-defined duration (up to 99 h and 59 min), counts down to zero, at which point an alarm sounds and the machine automatically shuts down.

Recall feature: This feature allows the user to recall the last five settings used.

Triple-eccentric drive: The triple-eccentric drive system and maintenance-free brushless DC motor allow for continuous operation and a long, reliable service life.

Communications: An RS-232 interface provides two-way communication for data logging and unit control.

SAFETY FEATURES

Speed ramping: Speed slowly increases to a user-set point to protect against splashing.

Low-profile design: These mini shakers take up less space and easily fit within most hoods and incubators. The durable base is easy to clean and resists corrosion.

Overload protection: Audible and visual signals activate when the system detects an obstruction or overloading.

OPERATING CONDITIONS

Units can run in non-condensing environments (e.g., cold rooms, incubators, CO₂ environments) from -10 to 40 °C (14 to 104 °F) at a relative humidity of up to 80%.

APPLICATIONS

Cell cultures, immunoassays, extraction procedures, diagnostic testing, general mixing, hybridization, bacterial suspensions, staining/destaining, washing procedures, solubility analyses and genetics and protein research.

ORDERING INFORMATION

Units are 24 V DC and include a non-skid mat for the tray, power supply and 2.3 m (7.5') detachable three-wire power cord for North America. The alternate voltage model includes a mat, power supply and 2.3 m (7.5') detachable power cord for the EU/UK with CH adapter

The optional NIST-traceable calibration certificate provided by an ISO/IEC 17025-accredited laboratory includes multiple data points within the unit's speed range and time function with associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.



77623-794

Specifications

Speed range	Mini Shaker: 100 to 1200 rpm Mini Shaker 20: 50 to 300 rpm
Speed accuracy	±2% of set speed (at speeds above 100 rpm) or ±2 rpm (at speeds below 100 rpm)
Timer	Up to 99 h and 59 min
Orbit	Mini Shaker: 3 mm Mini Shaker 20: 20 mm
Maximum weight capacity	4 kg
Tray material	Aluminum
Tray dimensions (L × W)	11.75 × 8.75 (30 × 22.2 cm)
Overall dimensions (L × W × H)	17 × 11 × 4.7" (43 × 26 × 12 cm)
Ingress Protection rating	IP21
Shipping weight	21.8 lb (9.9 kg)

Description	Power supply	Cat. No.
Mini Shaker, 120 V	24 V DC	77623-744
Mini Shaker, 230 V	24 V DC	77623-746
Mini Shaker 20, 120 V	24 V DC	77623-752
Mini Shaker 20, 230 V	24 V DC	77623-754
Mini Shaker, 120 V with NIST-traceable certificate	24 V DC	77623-748
Mini Shaker, 230 V with NIST-traceable certificate	24 V DC	77623-750
Mini Shaker 20, 120 V with NIST-traceable certificate	24 V DC	77623-756
Mini Shaker 20, 230 V with NIST-traceable certificate	24 V DC	77623-758
Mini Shaker 20, 120 V bundle package with 6 × 125 ml flask clamps	24 V DC	77623-792
Mini Shaker 20, 120 V bundle package with 6 × 250 ml flask clamps	24 V DC	77623-794

VWR® MICROPLATE SHAKER

The VWR Microplate Shaker features variable-speed microprocessor control, providing reliable, uniform mixing action. Ideal for immunoassays and general microplate shaking and includes a platform to accommodate up to four plates.

- Five-year warranty
- 3 mm orbit for optimal microplate mixing
- LCD screen displays speed and time
- Includes platform ready to secure 2 - 4 microplates or deep-well plates or 2 microtube racks
- TUV listed for safety and electrical compliance
- Available with NIST-traceable calibration certificate from an ISO/IEC 17025-accredited lab at Troemner

OPERATING FEATURES

Microprocessor control: VWR shakers feature variable-speed microprocessor control, providing reliable, uniform mixing action. The microprocessor displays the most recently used settings and will restart if power is interrupted.

LCD screen: The LCD screen displays speed and time for repeatable and accurate results. Easy-to-use control knobs allow for effortless input of settings and rapid access to the menu options. Speed is controllable within a resolution of 1 rpm. Timer displays the elapsed time or, when the unit is programmed to run for a user-defined duration (up to 99 h and 59 min), counts down to zero, at which point an alarm sounds and the machine automatically shuts down.

Recall feature: This feature allows the user to recall the last five settings used.

Triple-eccentric drive: The triple-eccentric drive system and maintenance-free brushless DC motor allow for continuous operation and a long, reliable service life.

Communications: An RS-232 interface provides two-way communication for data logging and unit control.

SAFETY FEATURES

Speed ramping: Speed slowly increases to a user-set point to protect against splashing.

Low-profile design: These microplate shakers take up less space and easily fit within most hoods and incubators. The durable base is easy to clean and resists corrosion.

Overload protection: Audible and visual signals activate when the system detects an obstruction or overloading.

OPERATING CONDITIONS

Units can run in non-condensing environments (e.g., cold rooms, incubators, CO₂ environments) from -10 to 40 °C (14 to 104 °F) at a relative humidity of up to 80%.

APPLICATIONS

ELISAs, immunoassays, general mixing, hybridization, bacterial suspensions and genetics research.

ORDERING INFORMATION

Units are 24 V DC and include a non-skid mat for the tray, power supply and 2.3 m (7.5') detachable three-wire power cord for North America. The alternate voltage model includes a mat, power supply and 2.3 m (7.5') detachable power cord for the EU/UK with CH adapter.

The optional NIST-traceable calibration certificate provided by an ISO/IEC 17025-accredited laboratory includes multiple data points within the unit's speed range and time function with associated uncertainties. Troemner is accredited by the NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.



Specifications

Speed range	100 to 1200 rpm
Timer	Up to 99 h and 59 min
Orbit	3 mm
Maximum weight capacity	4 plates or 2 microtube racks
Tray material	Aluminum
Tray dimensions (L x W)	11.75 x 8.75" (30 x 22.2 cm)
Overall dimensions (L x W x H)	17 x 10.3 x 4.7" (43 x 26 x 12 cm)
Ingress Protection rating	IP21
Shipping weight	21.8 lb (9.9 kg)

Description	Power supply	Cat. No.
Microplate Shaker, 120 V	24 V DC	77623-760
Microplate Shaker, 230 V	24 V DC	77623-762
Microplate Shaker, 120 V with NIST-traceable certificate	24 V DC	77623-764
Microplate Shaker, 230 V with NIST-traceable certificate	24 V DC	77623-766

VWR® ANALOG ROCKER

- Variable control for speed, tilt and time
- 16 lb capacity
- Two-tier model doubles workable capacity

The VWR Analog Rocking Shaker is an easy and economical option for all of your rocking needs. This rocking shaker is ideal for cell culture and blotting applications and is designed to be used in a variety of environmental conditions. Rocker is supplied with a 14 × 11" (35.6 × 27.9 cm) nonskid rubber mat.

OPERATING FEATURES

Low-profile design: Takes up less bench space and fits in most hoods and incubators. Two-tier option increases the capacity with the same footprint and provides a 3.5" (8.9 cm) clearance between platforms. Cast aluminum base offers durability and added stability.

Microprocessor control: The microprocessor control provides tilt adjustment, which allows user to easily change rocking angle from 0 to 15° while unit is operating. Smooth speed control with low-speed rocking motion.

Independent control knobs: Independent control knobs for speed, tilt and time allow for easy adjustments.

SAFETY FEATURES

Overload protection: Audible signal will activate when system detects an obstruction or overload of the tray.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Timer: Timer will automatically stop rocking motion when timer reaches zero.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing cold rooms, incubators and CO₂ environments from -10 to 60 °C (14 to 140 °F), maximum 80% relative humidity.

Specifications

Speed range	1 to 75 rpm*
Tilt angle	0 to 15°*
Timer	1 to 120 min
Maximum weight capacity	16 lb (7.3 kg)**
Tray material	Aluminum
Tray dimensions (L × W)	14 × 11" (35.6 × 27.9 cm)
Overall dimensions (L × W × H)	1 Tier: 17 × 11 × 5" (43.2 × 27.9 × 12.7 cm) 2 Tier: 17 × 11 × 9" (43.2 × 27.9 × 22.9 cm)
Ship weight	15.5 lb (7 kg)

* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

** Centered on tray.



10127-876

Applications: Staining and destaining gels, hybridization procedures, hematology and blotting techniques.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Units are also supplied with a 14 × 11" (35.6 × 27.9 cm) nonskid rubber mat. Two-tier models include a second tray, nonskid mat and hardware.

Description	Electrical (50/60 Hz)	Cat. No.
Analog Rocker — one tier	120 V 15 W	10127-872
Analog Rocker — one tier	230 V 15 W	10127-874
Analog Rocker — two tier	120 V 15 W	10127-876
Analog Rocker — two tier	230 V 15 W	10127-724

VWR® ROCKING PLATFORM SHAKER

- Electronic tilt adjustment from 0 to 15° while unit is operating
- Displays for speed, tilt angle and time
- Timer with audible alarm

The VWR Rocking Platform Shaker is ideal for cell culture work and is designed to be used in a variety of environmental conditions.

OPERATING FEATURES

Low-profile design: Takes up less space and easily fits into most hoods and incubators. Cast aluminum base offers durability and added stability.

Microprocessor control: The microprocessor control provides electronic tilt-angle adjustment, which allows user to easily adjust rocking angle from 0 to 15° while unit is operating. Precise speed control provides smooth, low-speed rocking motion down to 1 rpm.

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed, tilt angle and time allow the operator to view all settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

SAFETY FEATURES

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Audible alarm: In timed mode, the alarm will sound when the time reaches zero.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing cold rooms, incubators and CO₂ environments from -10 to 60 °C (14 to 140 °F), maximum 80% relative humidity.

Specifications

Speed range	1 to 50 rpm*
Speed accuracy	±1 rpm
Tilt angle	0 to 15°*
Timer	1 to 160 hr
Maximum weight capacity	10 lb (4.5 kg)**
Tray material	Aluminum
Tray dimensions (L × W)	12.75 × 10" (32.4 × 25.4 cm)
Overall dimensions (L × W × H)	17 × 11 × 5" (43.2 × 27.9 × 12.7 cm)
Ship weight	15.5 lb (7 kg)

* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

** Centered on tray.



12620-906

Applications: Staining and destaining gels, hybridization procedures, hematology and blotting techniques.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro -type plug). Units are also supplied with a 12.75 × 10" (32.4 × 25.4 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Description	Electrical (50/60 Hz)	Cat. No.
Rocking Platform Shaker	120V 5 A 25 W	12620-906
Rocking Platform Shaker	230V 5 A 25 W	12620-908
Rocking Platform Shaker with NIST-traceable certificate	120V 5 A 25 W	10027-104



10811-240

VWR® ANALOG 3D WAVING PLATFORM SHAKER

- Variable control for speed, tilt and time
- 5 lb capacity
- Five-year warranty on parts and labor

The VWR Analog 3D Waving Platform Shaker is an easy and economical option for all of your waving needs. Ideal for cell culture and blotting applications, this shaker is designed to be used in a variety of environmental conditions.

OPERATING FEATURES

Low-profile design: Takes up less bench space and fits in most hoods and incubators. Cast aluminum base offers durability and added stability.

Microprocessor control: Provides tilt adjustment, which allows user to easily change waving angle from 0 to 16° while unit is operating. Smooth speed control with low-speed waving motion. Independent control knobs for speed, tilt and time allow for easy adjustments.

SAFETY FEATURES

Overload protection: Audible signal will activate when system detects an obstruction or overload of the tray.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Timer: If engaged, will automatically stop waving motion when timer reaches zero.

Spill-resistant design: Channels fluids away from internal components

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing cold rooms, incubators and CO₂ environments from -10 to 60 °C (14 to 140 °F), maximum 80% relative humidity.

Applications: Staining and destaining gels, hybridization procedures, hematology and blotting techniques.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Units are also supplied with a 14 × 11" (35.6 × 27.9 cm) nonskid rubber mat. Five-year limited warranty on parts and labor. TUV listed. 230 V units are CE marked.

Specifications

Speed range	1 to 75 rpm*
Tilt angle	0° to 16°**
Timer	1 to 120 min
Maximum weight capacity	5 lb (2.3 kg)**
Tray material	Aluminum
Tray dimensions (L × W)	14 × 11" (35.6 × 27.9 cm)
Overall dimensions (L × W × H)	17 × 11 × 6" (43.2 × 27.9 × 15.2 cm)
Ship weight	15.5 lb (7 kg)

* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

** Centered on tray.

Description	Electrical (50/60 Hz)	Cat. No.
Analog 3D Waving Platform Shaker	120 V 15 W	10811-240
Analog 3D Waving Platform Shaker	230 V 25 W	76683-464
Dimpled mat		10127-728

VWR® 3D ROTATOR WAYER

- Electronic tilt adjustment from 0 to 20° while unit is operating
- Displays for speed, tilt angle and time
- Timer with audible alarm

The VWR 3D Rotator Waver provides precise speed control and a smooth, low-foaming, three-dimensional "wave" motion. Ideal for use in a wide range of laboratory applications and designed to be used in a variety of environmental conditions. Tray includes a nonskid rubber mat that is suitable for holding Petri dishes.

OPERATING FEATURES

Low-profile design: Takes up less space and easily fits into most hoods and incubators. Cast aluminum base offers durability and added stability.

Microprocessor control: The microprocessor control provides electronic tilt-angle adjustment, which allows user to easily adjust waving angle from 0 to 20° while unit is operating. Precise speed control provides smooth, low-speed waving motion down to 1 rpm.

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed, tilt angle and time allow the operator to view all settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last settings, even after power has been turned off.

SAFETY FEATURES

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

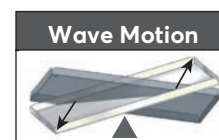
Audible alarm: In timed mode, the alarm will sound when the time reaches zero.

Spill-resistant design: Channels fluids away from internal components.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing cold rooms, incubators and CO₂ environments from -10 to 60 °C (14 to 140 °F), maximum 80% relative humidity.

Applications: Blood samples, DNA extractions, blotting techniques and general mixing of various-size tubes.



12620-916

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Units are also supplied with an 11.75 × 8.75" (29.9 × 22.2 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Specifications

Speed range	1 to 30 rpm*
Speed accuracy	±1 rpm
Tilt angle	0° to 20°*
Timer	1 to 160 hr
Maximum weight capacity	5 lb (2.3 kg)**
Tray material	Aluminum
Tray dimensions (L × W)	11.75 × 8.75" (29.9 × 22.2 cm)
Overall dimensions (L × W × H)	17 × 11 × 6" (43.2 × 27.9 × 15.2 cm)
Ship weight	16 lb (7.3 kg)

* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

** Centered on tray.

Description	Electrical (50/60 Hz)	Cat. No.
3D Rotator Waver	120 V 5 A 25 W	12620-916
3D Rotator Waver	230 V 5 A 25 W	12620-918
3D Rotator Waver with NIST-traceable certificate	120 V 5 A 25 W	10027-108



13500-890

VWR® ADVANCED HIGH-SPEED MICROPLATE SHAKER

- Programmable pulse feature
- Shakes traditional or deep-well microplates
- Shakes up to 48 microplates at one time

The VWR Advanced High-Speed Microplate Shaker handles shaking for difficult applications. This shaker operates at up to 2500 rpm while holding deep-well blocks and small-diameter test tubes no taller than 5" (12.7 cm), with variable-speed control from 600 to 2500 rpm.

OPERATING FEATURES

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed and time allow the operator to view both settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

Programmable "pulsing" feature: Enhances shaking action and allows user to program the unit to stop and start in a wide range of intervals.

RS-232 interface: Provides two-way communication for data logging and unit control.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing cold rooms and incubators from 4 to 40 °C (39 to 104 °F), 20% to 80% relative humidity.

Applications: Emulsifications and cell lysing.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Specifications

Speed range	600 to 2500 rpm
Timer	1 to 160 hr
Orbit	3.6 mm (0.14")
Maximum weight capacity	48 microplates or up to 7 lb (3.2 kg)
Tray material	Aluminum
Tray dimensions (L × W)	12.25 × 11" (31.1 × 27.9 cm)
Overall dimensions (L × W × H)	15.5 × 12 × 12.8" (39.4 × 30.5 × 32.5 cm)
Ship weight	50 lb (22.7 kg)

Description	Electrical (50/60 Hz)	Cat. No.
Advanced High-Speed Microplate Shaker	120V 1 A 120 W	13500-890
Advanced High-Speed Microplate Shaker	230V 1 A 120 W	14216-214
Advanced High-Speed Microplate Shaker with NIST-traceable certificate	120V 1 A 120 W	10027-220
Replacement tray pad set		13501-912

VWR® THERMAL SHAKE TOUCH

- Intuitive 4.3" color LCD touchscreen
- Ability for rapid heating and high-speed shaking
- Internal memory stores five separate five-step programs
- Supplied with 1.5 ml block

The VWR Thermal Shake Touch is designed for applications that require consistent and precise results. With heating and shaking capabilities, this unit uses interchangeable blocks to accommodate a wide variety of tubes and microplates. The easy-to-use 4.3" color LCD touchscreen allows the user to save and visibly track progress through the live status bar for five user-defined programs, each with five individual steps. The unit's enhanced electronics and temperature sensor provide accurate, dependable temperature settings across the operating range.

OPERATING FEATURES

Low-profile design: The low-profile design minimizes the unit's footprint on the bench.

LCD touchscreen: Enables faster setting of temperature, speed and time, which can all be viewed at once. Display features on-screen help topics with operational tips available in six languages. Touchscreen is compatible with rubber gloves used in labs. USB port can be used to transfer information to a flash drive for data logging, program storage and software updates.

Program control: Program control capabilities allow user-programmable operation for automated use and memory. Storage for five separate five-step programs, or use an unlimited number of programs via the USB port.

Temperature ramp rate: Adjustable temperature ramp rate feature separately defines the heating rate in increments of 0.5 °C/min.

Single-point calibration mode: For maximum temperature accuracy, single-point calibration allows the user to calibrate up to six different user-defined temperatures.

Pulse mode feature: The unit is equipped with a pulse mode feature ideal for quick vortex applications.

SAFETY FEATURES

Cool-touch housing: Constructed from a high-quality heat- and chemical-resistant polymer, the unit's housing remains cool to touch throughout normal operating temperatures.

Maximum temperature limit: Ensures the temperature will not exceed user-defined limits, providing the user control of temperature-sensitive samples.



89232-908

Heat caution indicator: A hot-symbol warning light will illuminate when the temperature reaches 40 °C and will remain lit until the unit is sufficiently cooled.

Audible alarm: In timed mode, an alarm will sound when the time reaches zero or the set point temperature is reached. Additionally, the heat function will automatically shut off if the unit recognizes an internal issue.

OPERATING CONDITIONS

Parameters: Unit can operate in noncondensing environments from 5 to 35 °C (41 to 95 °F), maximum 80% relative humidity.

Applications: Cell cultures, DNA, RNA, hybridization and protein studies.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Unit is also supplied with a 1.5 ml block, clear rack and cover. Five-year limited warranty on parts and labor. Compatible with Eppendorf® Thermomixer R® blocks.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Specifications

Temperature range	Ambient +4 to 100 °C
Temperature accuracy	±1 °C between 20 and 45 °C ±2 °C above 45 °C
Speed range	300 to 3000 rpm
Speed accuracy	±2%
Timer	1 min to 99 hr, 59 min
Orbit	3 mm (0.12")
Heating rate	5 °C/min
Overall dimensions (L × W × H)	10.25 × 9.75 × 5.2" (26 × 24.8 × 13.2 cm)
Ship weight	17 lb (7.7 kg)

Description	Electrical (50/60 Hz)	Cat. No.
Thermal Shake Touch	120 V 1.8 A 215 W	89232-908
Thermal Shake Touch	230 V 0.9 A 210 W	89232-910
Thermal Shake Touch with NIST-traceable certificate	120 V 1.8 A 215 W	10027-174
Thermal Shake Touch with NIST-traceable certificate	230 V 0.9 A 210 W	10027-176

VWR® COOLING THERMAL SHAKE TOUCH

- Intuitive 4.3" color LCD touchscreen
- Ability for rapid heating and cooling and high-speed shaking
- Internal memory stores five separate five-step programs
- Supplied with 1.5 ml block

The VWR Cooling Thermal Shake Touch is designed for applications that require consistent and precise results. With heating, cooling and shaking capabilities, this unit uses interchangeable blocks to accommodate a wide variety of tubes and microplates. The easy-to-use 4.3" color LCD touchscreen allows the user to save and visibly track progress through the live status bar for five user-defined programs, each with five individual steps. The unit's enhanced electronics and dual-temperature sensors provide accurate, dependable temperature settings across the operating range.

OPERATING FEATURES

Low-profile design: The low-profile design minimizes the unit's footprint on the bench.

LCD touchscreen: Enables faster setting of temperature, speed and time, which can all be viewed at once. Display features on-screen help topics with operational tips available in six languages. Touchscreen is compatible with rubber gloves used in labs. USB port can be used to transfer information to a flash drive for data logging, program storage and software updates.

Program control: Program control capabilities allow user-programmable operation for automated use and memory. Storage for five separate five-step programs, or use an unlimited number of programs via the USB port.

Temperature ramp rate: Adjustable temperature ramp rate feature separately defines the heating and cooling rates in increments of 0.5 °C/min.

Single-point calibration mode: For maximum temperature accuracy, single-point calibration allows the user to calibrate up to six different user-defined temperatures.

Pulse mode feature: The unit is equipped with a pulse mode feature ideal for quick vortex applications.

SAFETY FEATURES

Cool-touch housing: Constructed from a high-quality heat- and chemical-resistant polymer, the unit's housing remains cool to touch throughout normal operating temperatures.

Maximum temperature limit: Ensures the temperature will not exceed user-defined limits, providing the user control of temperature-sensitive samples.

Specifications

Temperature range	Ambient -17 to 100 °C
Temperature accuracy	±0.5 °C between 20 and 45 °C ±2 °C below 20 °C and above 45 °C
Speed range	300 to 3000 rpm
Speed accuracy	±2%
Timer	1 min to 99 hr, 59 min
Orbit	3 mm (0.12")
Heating rate	5 °C/min
Cooling rate	above ambient: 2 - 3 °C/min below ambient: 0.5 - 1.0 °C/min
Overall dimensions (L x W x H)	10.25 x 9.75 x 5.2" (26 x 24.8 x 13.2 cm)
Ship weight	11.9 lb (5.4 kg)



89232-904

Heat caution indicator: A hot-symbol warning will illuminate when the temperature reaches 40 °C and will remain lit until the unit is sufficiently cooled.

Audible alarm: In timed mode, an alarm will sound when the time reaches zero or the set point temperature is reached. Additionally, the heat function will automatically shut off if the unit recognizes an internal issue.

OPERATING CONDITIONS

Parameters: Unit can operate in noncondensing environments from 5 to 35 °C (41 to 95 °F), maximum 80% relative humidity.

Applications: Cell cultures, DNA, RNA, hybridization and protein studies.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Unit is also supplied with a 1.5 ml block, rack and cover. Five-year limited warranty on parts and labor. Compatible with Eppendorf® Thermomixer R® blocks.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Description	Electrical (50/60 Hz)	Cat. No.
Cooling Thermal Shake Touch	120 V 1.8 A 215 W	89232-904
Cooling Thermal Shake Touch	230 V 0.9 A 210 W	89232-906
Cooling Thermal Shake Touch with NIST-traceable certificate	120 V 1.8 A 215 W	10027-170
Cooling Thermal Shake Touch with NIST-traceable certificate	230 V 0.9 A 210 W	10027-172



VWR® Thermal Shake Touch Modular Blocks

MICROPLATE BLOCKS

Block type	No. of wells	Well size	Well depth	Dimensions	Cat. No.
Microplate thermal block with lid	1	3.1 x 5.1" (7.87 x 12.95 cm)	0.9" (2.3 cm)	4.7 x 6.4 x 3.0" (11.9 x 16.3 x 7.6 cm)	89232-912
384-Well plate thermal block with lid	384	0.16" (0.4 cm)	0.32" (0.81 cm)	4.7 x 6.4 x 3.0" (11.9 x 16.3 x 7.6 cm)	10810-738
0.2 ml PCR plate thermal block with lid	96	0.25" (0.64 cm)	0.50" (1.27 cm)	4.7 x 6.4 x 3.0" (11.9 x 16.3 x 7.6 cm)	10810-870

TUBE BLOCKS

Block type	No. of wells	Well size	Well depth	Dimensions	Cat. No.
0.5 ml Microtube block*	30	0.31" (0.79 cm)	0.97" (2.46 cm)	4.0 x 5.6 x 1.8" (10.2 x 14.2 x 4.6 cm)	89232-914
1.5 ml Microtube block*	24	0.44" (1.11 cm)	1.39" (3.53 cm)	4.0 x 5.6 x 2.1" (10.2 x 14.2 x 5.3 cm)	89232-916
2.0 ml Microtube block*	24	0.45" (1.15 cm)	1.39" (3.53 cm)	4.0 x 5.6 x 2.1" (10.2 x 14.2 x 5.3 cm)	89232-918

* Supplied with clear rack and cover.

CONICAL TUBE BLOCKS

Block type	No. of wells	Well size	Well depth	Dimensions	Cat. No.
5 ml Eppendorf tube block	9	0.66" (1.68 cm)	1.93" (4.9 cm)	4.2 x 5.8 x 5.0" (10.7 x 14.7 x 12.7 cm)	10810-740
15 ml Conical tube block	9	0.68" (1.73 cm)	4.11" (10.44 cm)	4.2 x 5.8 x 5.0" (10.7 x 14.7 x 12.7 cm)	89232-924
50 ml Conical tube block	4	1.18" (3.0 cm)	3.97" (10.09 cm)	4.0 x 5.7 x 4.8" (10.2 x 14.5 x 12.2 cm)	89232-926

VWR® INCUBATING 3500 ORBITAL SHAKER

The VWR Incubating 3500 Orbital Shaker offers exceptional temperature uniformity and is designed for a variety of shaking and incubating applications, such as cell culture.

OPERATING FEATURES

Accu-Drive Shaking System: The exclusive Accu-Drive Shaking System delivers exceptional speed control, accuracy, and durability. The system continuously monitors shaking speed and maintains the set point, even under changing loads. When the unit is set to a speed above 100 rpm, the speed accuracy is $\pm 1\%$ of the set speed. When set under 100 rpm, speed accuracy is ± 1 rpm.

Opti-Flow Forced Ventilation System: The exclusive Opti-Flow Forced Ventilation System uses twin induction fans and air deflectors to deliver exceptional temperature uniformity and stability.

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. Microprocessor will display the last set point and will restart if power is interrupted.

PID temperature controller: Maintains precise temperature control from ambient +5 to 65 °C. Easy-to-use controls allow users to adjust temperature in 1 °C increments. Meets ASTM E1292 specifications for temperature uniformity.

Triple-eccentric drive: Permanently lubricated ball bearings and a maintenance-free, brushless DC motor provide reliable service and continuous operation.

LED screens: Touchpad controls with easy-to-read, independent LED screens for temperature, speed and time allow the operator to view all settings at once. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

Temperature calibration mode: Allows user to calibrate unit to an external temperature device.

Speed calibration mode: Allows user to automatically recalibrate speed display.

RS-232 interface: Provides two-way communication for data logging and unit control.

SAFETY FEATURES

Load sensor: A built-in load sensor detects unbalanced conditions and automatically reduces speed to protect samples.

Specifications

Temperature range	Ambient +5 to 65 °C
Temperature uniformity	± 0.5 °C at 37 °C
Speed range	15 to 500 rpm
Speed accuracy	above 100 rpm, $\pm 1\%$ of set speed below 100 rpm, ± 1 rpm
Timer	1 to 160 hr
Orbit	19 mm (0.75")
Maximum weight capacity	35 lb (15.9 kg)
Tray material	Aluminum
Tray dimensions (L x W)	13 x 11" (33 x 27.9 cm)
Interior dimensions (L x W x H)	13.4 x 12 x 9.5" (34 x 30.5 x 24.1 cm)
Overall dimensions (L x W x H)	25.5 x 14 x 16" (64.8 x 35.6 x 40.6 cm)
Ship weight	83 lb (37.7 kg)



12620-946 with optional platform 89027-702 and flask clamps 57018-822



Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Overshoot protection: Audible and visual signals will activate if temperature deviates ± 1 °C from set point.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Audible alarm: In timed mode, the alarm will sound when the time reaches zero. Alarm has an optional mute function that can be set from the touchpad control.

Heat caution indicator: Symbol illuminates when the temperature of the air in the chamber reaches 40 °C and remains lit until temperature cools down.

Spill-resistant design: Channels fluids away from internal components.

Polycarbonate lid: Permits viewing of samples without disturbing internal temperature. When lid is opened, automatic shutoff of the circuit will stop the shaker tray to protect operator. Lid clearance when open is 31" (78.7 cm).

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 15 to 32 °C (59 to 90 °F), maximum 80% relative humidity.

Applications: Cell cultures, solubility studies, bacterial suspensions and extraction procedures.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Unit is also supplied with a 13 x 11" (33 x 27.9 cm) nonskid rubber mat. Five-year limited warranty on parts and labor.

Optional NIST-Traceable Calibration Certificate provided by an ISO/IEC 17025 accredited laboratory. The ISO/IEC 17025 Accredited Calibration Certificate includes multiple data points within the temperature and speed ranges and time functions with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC calibrations.

Description	Electrical (50/60 Hz)	Cat. No.
Incubating 3500 Orbital Shaker	120 V 5 A 450 W	12620-946
Incubating 3500 Orbital Shaker	230 V 5 A 450 W	12620-948
Incubating 3500 Orbital Shaker with NIST-traceable certificate	120 V 5 A 450 W	10027-242

VWR® INCUBATING 5000I ORBITAL SHAKER

- Opti-Flow Forced Ventilation System
- Accu-Drive Shaking System
- Calibration mode for temperature and speed

The VWR Incubating 5000I Orbital Shaker is designed for a variety of shaking and incubating applications, such as cell culture.

OPERATING FEATURES

Accu-Drive Shaking System: The exclusive Accu-Drive Shaking System delivers exceptional speed control, accuracy, and durability. The system continuously monitors shaking speed and maintains the set point, even under changing loads. When the unit is set to a speed above 100 rpm, the speed accuracy is $\pm 1\%$ of the set speed. When set under 100 rpm, speed accuracy is ± 1 rpm.

Opti-Flow Forced Ventilation System: The exclusive Opti-Flow Forced Ventilation System uses twin induction fans and air deflectors to deliver exceptional temperature uniformity and stability.

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. Microprocessor will display the last set point and will restart if power is interrupted.

PID temperature controller: Maintains precise temperature control from ambient +5 to 65 °C. Easy-to-use controls allow user to adjust temperature in 1 °C increments.

Triple-eccentric drive: Permanently lubricated bearings and a maintenance-free, brushless DC motor provide reliable service and continuous operation.

LED screens: Touchpad controls with easy-to-read, independent LED screens for temperature, speed, and time allow the operator to view all settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. The timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last settings, even after power has been turned off.

Temperature calibration mode: Allows user to calibrate unit to an external temperature device.

Specifications

Temperature range	Ambient +5 to 65°C
Temperature uniformity	± 0.5 °C at 37 °C
Speed range	15 to 500 rpm
Speed accuracy	above 100 rpm, $\pm 1\%$ of set speed below 100 rpm, ± 1 rpm
Timer	1 to 160 hr
Orbit	25 mm (1")
Maximum weight capacity	50 lb (22.7 kg)
Tray material	Aluminum
Tray dimensions (L x W)	18 x 18" (45.7 x 45.7 cm)
Interior dimensions (L x W x H)	20.6 x 24.8 x 17" (52.3 x 62.9 x 43.18 cm)
Overall dimensions (L x W x H)	32.1 x 26.6 x 23.5" (81.5 x 67.5 x 59.6 cm)
Ship weight	228 lb (103.4 kg)

Description	Electrical (50/60 Hz)	Cat. No.
Incubating 5000I Orbital Shaker	120 V 8 A 800 W	97009-890
Incubating 5000I Orbital Shaker	230 V 8 A 800 W	76683-476
Incubating 5000I Orbital Shaker with NIST-traceable certificate	120 V 8 A 800 W	10027-258



97009-890



Speed calibration mode: Allows user to automatically recalibrate speed display.

RS-232 Interface: Provides two-way communication for data logging and unit control.

SAFETY FEATURES

Load sensor: A built-in load sensor detects unbalanced conditions and automatically reduces speed, or stops unit, to protect samples.

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Overshoot protection: Unit will shut down and activate audible and visual alarms if temperature deviates ± 1 °C from set point.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Audible alarm: In timed mode, the alarm will sound when the time reaches zero. Alarm has optional mute function that can be set from the touchpad control.

Polycarbonate lid: Permits viewing of samples without disturbing internal temperature. When lid is opened, automatic shutoff of the circuit will stop the shaker tray to protect operator.

Spill-resistant design: Channels fluids away from internal components.

Heat caution indicator: Symbol illuminates when the temperature of the air in the chamber reaches 40 °C and remains lit until temperature cools down.

OPERATING CONDITIONS

Parameters: Units can be run in noncondensing environments from 15 to 32 °C (59 to 90 °F), maximum 80% relative humidity.

Applications: Cell cultures, solubility studies, bacterial suspensions and extraction procedures.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Unit is also supplied with a nonskid rubber mat that fits the 18 x 18" (45.7 x 45.7 cm) tray. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the temperature and speed ranges and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibration.

VWR® INCUBATING MINI SHAKER

The VWR Incubating Mini Shaker features variable-speed microprocessor control, providing reliable, uniform mixing action with accurate temperature control you can trust.

- Five-year warranty
- LCD screen displays temperature, speed and time
- Includes integrated platform ready to mount a variety of optional accessories
- TUV listed for safety and electrical compliance
- Available with a NIST-traceable calibration certificate from an ISO/IEC 17025-accredited lab at Troemner

OPERATING FEATURES

Microprocessor control: VWR shakers feature variable-speed microprocessor control, providing reliable, uniform mixing action. The microprocessor displays the most recently used settings and will restart if power is interrupted.

PID temperature controller: This feature maintains precise temperature control from +5 to 70 °C.

LCD screen: The LCD screen displays temperature, speed and time for repeatable and accurate results. Easy-to-use control knobs allow for effortless input of settings and rapid access to the menu options. Temperature is controllable within a resolution of 0.1°, and speed is controllable within a resolution of 1 rpm. Timer displays the elapsed time or, when the unit is programmed to run for a user-defined duration (up to 99 h and 59 min), counts down to zero, at which point an alarm sounds and the machine automatically shuts down.

Onboard programming: Space for programming up to eight separate five-step programs.

Recall feature: This feature allows the user to recall the last five settings used.

Triple-eccentric drive: The triple-eccentric drive system and maintenance-free brushless DC motor allow for continuous operation and a long, reliable service life.

Temperature calibration: This feature allows for calibration to three separate user-defined temperature points using an external temperature device.



77623-768 with optional 57018-800

Communications: An RS-232 interface provides two-way communication for data logging and unit control.

SAFETY FEATURES

Speed ramping: Speed slowly increases to a user-set point to protect against splashing.

Overload protection: Audible and visual signals activate when the system detects an obstruction or overloading, unit will continue to maintain temperature control.

Heat caution indicator: Symbols appear on the screen when temperatures reach 40 °C and remain visible until the temperature cools down.

Housing construction: The durable base is easy to clean and resists corrosion.

Polycarbonate lid: The clear lid allows samples to be observed without disruption to the internal temperature.

OPERATING CONDITIONS

Parameters: Units can run in non-condensing environments from 5 to 40 °C (41 to 104 °F) at a relative humidity of up to 80%.

Applications: Cell cultures, extraction procedures, diagnostic testing, general mixing, hybridization, bacterial suspensions, staining/destaining, washing procedures, solubility analyses and genetics research.

ORDERING INFORMATION:

Unit includes a 92" (234 cm) detachable, three-wire cord and plug. (230 V units are supplied with Euro and UK cords and a Swiss plug adapter.

The optional NIST-traceable calibration certificate provided by an ISO/IEC 17025-accredited laboratory includes multiple data points within the unit's speed range and time function with associated uncertainties. Troemner is accredited by the NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Specifications

Temperature range	Ambient +5 to 70 °C
Temperature uniformity	±0.5 °C at 37 °C
Speed range	100 to 1200 rpm
Timer	Up to 99 h and 59 min
Orbit	3 mm
Maximum weight capacity	4 kg
Tray material	Aluminum
Tray dimensions (L x W)	11.0 x 7.75" (28.0 x 19.7 cm)
Interior dimensions (L x W x H)	11.0 x 7.75 x 6" (27.9 x 19.7 x 15.3 cm)
Overall dimensions (L x W x H)	17 x 10.3 x 11.4" (43.2 x 26.2 x 29.0 cm)
Ingress Protection rating	IP21
Shipping weight	30.7 lb (13.9 kg)

Description	Electrical	Cat. No.
Incubating Mini Shaker, 120 V	50/60 Hz	77623-768
Incubating Mini Shaker, 230 V	50/60 Hz	77623-770
Incubating Mini Shaker, 120 V with NIST-traceable certificate	50/60 Hz	77623-772
Incubating Mini Shaker, 230 V with NIST-traceable certificate	50/60 Hz	77623-774

VWR® INCUBATING MICROPLATE SHAKER

The VWR Incubating Microplate Shaker features variable-speed, microprocessor control, providing reliable, uniform mixing action with accurate temperature control you can trust.

- Five-year warranty
- 3 mm orbit for optimal microwell mixing
- LCD screen displays temperature, speed and time
- Includes platform ready to secure 2 - 4 microplates or deep well plates or 2 microtube racks
- Available with clear lid or with opaque lid for photosensitive samples
- TUV listed for safety and electrical compliance
- Available with NIST-traceable calibration certificate from an ISO/IEC 17025-accredited lab at Troemner

OPERATING FEATURES

Microprocessor control: VWR shakers feature variable-speed microprocessor control, providing reliable, uniform mixing action. The microprocessor displays the most recently used settings and will restart if power is interrupted.

PID temperature controller: This feature maintains precise temperature control from an ambient +5 to 70 °C.

LCD screen: The LCD screen displays temperature, speed and time for repeatable and accurate results. Easy-to-use control knobs allow for effortless input of settings and rapid access to the menu options. Temperature is controllable within a resolution of 0.1°, and speed is controllable within a resolution of 1 rpm. Timer displays the elapsed time or, when the unit is programmed to run for a user-defined duration (up to 99 h and 59 min), counts down to zero, at which point an alarm sounds and the machine automatically shuts down.

Onboard programming: Space for programming up to eight separate five-step programs.

Recall feature: This feature allows the user to recall the last five settings used.

Triple-eccentric drive: The triple-eccentric drive system and maintenance-free brushless DC motor allow for continuous operation and a long, reliable service life.

Temperature calibration: This feature allows for calibration to three separate user-defined temperature points using an external temperature device.

Communications: An RS-232 interface provides two-way communication for data logging and unit control.

SAFETY FEATURES

Speed ramping: Speed slowly increases to a user-set point to protect against splashing.

Overload protection: Audible and visual signals activate when the system detects an obstruction or overloading, unit will continue to maintain temperature control.

Heat caution indicator: Symbols appear on the screen when temperatures reach 40 °C and remain visible until the temperature cools down.

Housing construction: The durable base is easy to clean and resists corrosion.

Polycarbonate lid: The clear lid allows samples to be observed without disruption to the internal temperature. The opaque lid prevents light exposure for photosensitive samples.

OPERATING CONDITIONS

Parameters: Units can run in non-condensing environments from 5 to 40 °C (41 to 104 °F) at a relative humidity of up to 80%.

Applications: Cell cultures, immunoassays, hybridization, bacterial suspensions and genetics research.

ORDERING INFORMATION:

Unit includes a 92" (234 cm) detachable, three-wire cord and plug. (230 V units are supplied with Euro and UK cords and a Swiss plug adapter.

The optional NIST-traceable calibration certificate provided by an ISO/IEC 17025-accredited laboratory includes multiple data points within the unit's temperature and speed ranges and time function with associated uncertainties. Troemner is accredited by the NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Specifications

Temperature	Ambient +5 to 70 °C
Temperature uniformity	±0.5 °C at 37 °C
Speed range	100 to 1200 rpm
Timer	Up to 99 h and 59 min
Orbit	3 mm
Maximum weight capacity	4 kg (8.8 lb)
Tray material	Aluminum
Tray dimensions (L × W)	11.0 × 7.75" (28.0 × 19.7 cm)
Overall dimensions (L × W × H)	17 × 10.3 × 8.2" (43.2 × 26.2 × 20.8 cm)
Ingress Protection rating	IP21
Shipping weight	30.7 lb (13.9 kg)

Description	Electrical	Cat. No.
Incubating Microplate Shaker, 120 V	50/60 Hz	77623-776
Incubating Microplate Shaker, 230 V	50/60 Hz	77623-778
Incubating Microplate Shaker, 120 V with opaque lid	50/60 Hz	77623-784
Incubating Microplate Shaker, 230 V with opaque lid	50/60 Hz	77623-786
Incubating Microplate Shaker, 120 V with NIST-traceable certificate	50/60 Hz	77623-780
Incubating Microplate Shaker, 230 V with NIST-traceable certificate	50/60 Hz	77623-782
Incubating Microplate Shaker, 120 V with opaque lid and NIST-traceable certificate	50/60 Hz	77623-788
Incubating Microplate Shaker, 230 V with opaque lid and NIST-traceable certificate	50/60 Hz	77623-790



77623-784 and 77623-776

VWR® INCUBATING/COOLING ORBITAL SHAKER

- Heats to 65 °C and cools to ambient -10 °C
- LED screens for temperature, speed and time
- Calibration mode for temperature

The VWR Incubating/Cooling Orbital Shaker is microplate ready without the need for any additional accessories. Optional modular blocks can accommodate microtubes, centrifuge tubes, vials or culture tubes. Unit holds microplates or modular blocks with a 5" (12.7 cm) tall interior capacity. Ideal for analyses that requires a stable, controlled temperature.

OPERATING FEATURES

Microprocessor control: The variable-speed microprocessor control provides consistent uniform shaking action. Microprocessor will display the last set point and will restart if power is interrupted.

PID temperature controller: Maintains precise temperature control from ambient -10 to 65 °C. Easy-to-use controls allow users to adjust temperature in 1 °C increments.

Triple-eccentric drive: Permanently lubricated ball bearings and maintenance-free, brushless DC motor provide reliable service and continuous-duty operation.

LED screens: Touchpad controls with easy-to-read, independent LED screens for temperature, speed and time allow the operator to view all settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

Temperature calibration mode: Allows user to calibrate unit to an external temperature device.

SAFETY FEATURES

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Audible alarm: In timed mode, the alarm will sound when the time reaches zero. Alarm has an optional mute function that can be set from the touchpad control.

Specifications

Temperature range	Ambient -10 to 65 °C
Temperature uniformity	± 0.5 °C at 37 °C
Speed range	Microplates: 100 to 1200 rpm Modular blocks: 100 to 600 rpm
Speed accuracy	±2%
Timer	1 to 160 hr
Orbit	3 mm (0.12")
Maximum weight capacity	2 microplates or 2 modular blocks
Overall dimensions (L x W x H)	17.9 x 11 x 10.5" (45.5 x 27.9 x 26.7 cm)
Ship weight	34 lb (15.4 kg)



12620-934 with optional modular blocks
13259-254 and 13259-130

Heat caution indicator: Symbol illuminates when the temperature of the air in the chamber reaches 40 °C and remains lit until temperature cools down.

Spill-resistant design: Channels fluids away from internal components.

Polycarbonate lid: Permits viewing of samples without disturbing internal temperature.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 5 to 40 °C (41 to 104 °F), maximum 80% relative humidity.

Applications: Cell and bacterial cultures, hybridizations, and enzyme reactions.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Units are also supplied with an adapter bracket to hold optional modular blocks. See Page 33 for block options. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the temperature and speed ranges and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Description	Electrical (50/60 Hz)	Cat. No.
Incubating/Cooling Orbital Shaker	120 V 2 A 200 W	12620-934
Incubating/Cooling Orbital Shaker	230 V 1 A 200 W	12620-936
Incubating/Cooling Orbital Shaker with NIST-traceable certificate	120 V 2 A 200 W	10027-136
Incubating/Cooling Orbital Shaker with NIST-traceable certificate	230 V 1 A 200 W	10027-138

PLATES



TUBES



VIALS



VWR® Incubating/Cooling Orbital Shaker Modular Blocks

VWR Modular Blocks are constructed from solid anodized aluminum. The close contact of tubes to block walls allows for maximum temperature transfer.

Dimensions (L × W × H): 3.75 × 3 × 2" (9.5 × 7.6 × 5.1 cm)

Applications:

Cell culture, hybridizations and extraction procedures.

VWR Modular Blocks also fit in VWR Dry Block Heaters. Constructed of anodized aluminum, this material is ideal for its temperature-conducting and corrosion-resistant properties. Color of block may vary.



VWR® MICROCENTRIFUGE TUBE BLOCKS

Single blocks designed for microcentrifuge tubes.

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
0.5 ml tube	30	7.9 mm	27.6 mm	13259-000
1.5 ml tube	20	11.1 mm	39.1 mm	13259-286
2 ml tube	20	11.5 mm	38.1 mm	12985-048



VWR® CENTRIFUGE TUBE COMBINATION BLOCKS

Single block. These blocks are designed for variable-sized samples.

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
1.5 ml microcentrifuge tube	4	11.1 mm	39.1 mm	12985-040
15 ml centrifuge tube	3	17.1 mm	44.5 mm	
50 ml centrifuge tube	2	29 mm	47.6 mm	



VWR® CONICAL-BOTTOM CENTRIFUGE TUBE BLOCKS

Single block.

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
15 ml tube	12	17.1 mm	44.5 mm	13259-250
50 ml tube	5	29 mm	47.6 mm	13259-254



VWR® VIAL BLOCKS

Single block. Designed for sample/serum and scintillation vials.

Sample Type	No. of Wells	Well diameter	Well depth	Cat. No.
12 mm vial	20	12.7 mm	30 mm	12621-124
15 mm vial	20	15.8 mm	35 mm	12621-126
16 mm vial	15	16.4 mm	45 mm	12985-066
17 mm vial	12	17.8 mm	45 mm	12621-128
19 mm vial	12	19.7 mm	45 mm	12621-130
21 mm vial	9	21.7 mm	45 mm	12621-132
23 mm vial	8	23.8 mm	45 mm	12621-134
25 mm vial	8	25.8 mm	45 mm	12621-136
28 mm vial	6	28.8 mm	45 mm	12621-138



VWR® STANDARD TEST TUBE BLOCKS

Single block.

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
6 mm tube	30	8.3 mm	48.4 mm	13259-105
10 mm tube	24	10.7 mm	48.4 mm	13259-107
12/13 mm tube	20	13.9 mm	48.4 mm	13259-130

VWR® INCUBATING ROCKING PLATFORM SHAKER

- Electronic tilt-angle adjustment from 0 to 15° while unit is operating
- LED screens for temperature, speed, tilt angle and time
- Timer with audible alarm

The VWR Incubating Rocking Platform Shaker combines a smooth rocking motion and general-purpose incubation in one compact benchtop unit.

OPERATING FEATURES

Microprocessor control: The microprocessor control provides electronic tilt-angle adjustment, which allows user to easily adjust rocking angle from 0 to 15° while unit is operating. Precise speed control provides smooth, low-speed rocking motion down to 1 rpm.

PID temperature controller: Maintains precise temperature control from ambient +5 to 65 °C. Easy-to-use controls allow users to adjust temperature in 1 °C increments.

LED screens: Touchpad controls with easy-to-read, independent LED screens for temperature, speed, tilt angle and time allow the operator to view all settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

SAFETY FEATURES

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Audible alarm: In timed mode, the alarm will sound when the time reaches zero.

Heat caution indicator: Symbol illuminates when the temperature of the air in the chamber reaches 40 °C and remains lit until temperature cools down.

Spill-resistant design: Channels fluids away from internal components.

Polycarbonate lid: Permits viewing of samples without disturbing internal temperature.



12620-910



OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 5 to 40 °C (41 to 104 °F), maximum 80% relative humidity.

Applications: Cell cultures, staining and destaining gels, hybridization procedures and blotting techniques.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the temperature and speed ranges and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Specifications

Temperature range	Ambient +5 to 65 °C
Temperature uniformity	±0.5 °C at 37 °C
Speed range	1 to 50 rpm*
Speed accuracy	±1 rpm
Tilt angle	0 to 15°*
Timer	1 to 160 hr
Maximum weight capacity	10 lb (4.5 kg)**
Tray material	Aluminum
Tray dimensions (L × W)	10 × 7.5" (25.4 × 19.1 cm)
Interior dimensions (L × W × H)	10.75 × 7.75 × 3.8" (27.3 × 19.7 × 9.7 cm)
Overall dimensions (L × W × H)	17 × 11 × 10.5" (43.2 × 27.9 × 26.7 cm)
Ship weight	22 lb (10 kg)

* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

** Centered on tray.

Description	Electrical (50/60 Hz)	Cat. No.
Incubating Rocking Platform Shaker	120 V 5 A 450 W	12620-910
Incubating Rocking Platform Shaker with NIST-traceable certificate	120 V 5 A 450 W	10027-112

VWR® INCUBATING 3D ROTATOR WAYER

- Electronic tilt-angle adjustment from 0 to 20° while unit is operating
- LED screens for temperature, speed, tilt angle and time
- Timer with audible alarm

The VWR Incubating 3D Rotator Waver combines a unique vertical and horizontal “wave” motion with general-purpose incubation in one compact benchtop unit.

OPERATING FEATURES

Microprocessor control: The microprocessor control provides electronic tilt-angle adjustment, which allows user to easily adjust waving angle from 0 to 20° while unit is operating. Precise speed control provides smooth, low-speed waving motion down to 1 rpm.

PID temperature controller: Maintains precise temperature control from ambient +5 to 65 °C. Easy-to-use controls allow users to adjust temperature in 1 °C increments.

LED screens: Touchpad controls with easy-to-read, independent LED screens for temperature, speed, tilt angle and time allow the operator to view all settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

SAFETY FEATURES

Overload protection: Audible and visual signals will activate when system detects an obstruction or overload of the tray.

Speed ramping feature: Slowly increases speed to the desired set point to avoid splashing.

Audible alarm: In timed mode, the alarm will sound when the time reaches zero.

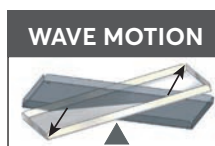
Heat caution indicator: Symbol illuminates when the temperature of the air in the chamber reaches 40 °C and remains lit until temperature cools down.

Specifications

Temperature range	Ambient +5 to 65 °C
Temperature uniformity	±0.5 °C at 37 °C
Speed range	1 to 30 rpm*
Speed accuracy	±1 rpm
Tilt angle	0 to 20°*
Timer	1 to 160 hr
Maximum weight capacity	5 lb (2.3 kg)**
Tray material	Aluminum
Tray dimensions (L x W)	9.25 x 7.25" (23.5 x 18.4 cm)
Interior dimensions (L x W x H)	10.75 x 7.75 x 3.4" (27.3 x 19.7 x 8.6 cm)
Overall dimensions (L x W x H)	17 x 11 x 10.5" (43.2 x 27.9 x 26.7 cm)
Ship weight	22 lb (10 kg)

* Maximum speed/tilt angle may vary with heavy or unbalanced loads.

** Centered on tray.



12620-920 with optional 26985-034

Spill-resistant design: Channels fluids away from internal components.

Polycarbonate lid: Permits viewing of samples without disturbing internal temperature.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 5 to 40 °C (41 to 104 °F), maximum 80% relative humidity.

Applications: Cell cultures, hybridization procedures and blotting techniques.

ORDERING INFORMATION

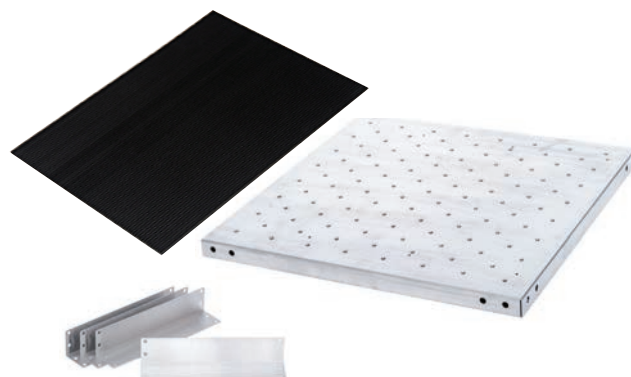
Unit includes a 92" (234 cm) detachable, three-wire cord and plug. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the temperature and speed ranges and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Description	Electrical (50/60 Hz)	Cat. No.
Incubating 3D Rotator Waver	120 V 5 A 450 W	12620-920
Incubating 3D Rotator Waver with NIST-traceable certificate	120 V 5 A 450 W	10027-114

VWR® PLATFORMS

- Allow for mounting of flask clamps, test tube racks and bottle clamps
- Platform slides over top of included tray and is tightened with adjustment screws
- Optional accessories screw directly into mounting point openings
- Two-tier braces allow stacking of platforms with a 10" (25.4 cm) clearance (available for select sizes*)
- Optional nonskid rubber mat can be placed on platform for an added nonslip surface
- Constructed of type 304 stainless steel



UNIVERSAL PLATFORMS

Description	Cat. No.
11 × 13" (27.9 × 33 cm) Universal platform	89027-702
13 × 13" (33 × 33 cm) Universal platform	97003-586
18 × 18" (45.7 × 45.7 cm) Universal platform*	97003-588
18 × 18" (45.7 × 45.7 cm) Universal platform for 5000I	97021-954
18 × 24" (45.7 × 61 cm) Universal platform*	97003-590
24 × 24" (61 × 61 cm) Universal platform	97003-592
18 × 30" (45.7 × 76.2 cm) Universal platform*	97003-594
24 × 36" (61 × 91.4 cm) Universal platform	97003-596
Two-tier braces (set of 4)	97003-646

* Two-tier ready.



VWR® CULTURE PLATFORMS

- Ideal for slow-speed applications using Petri dishes, culture flasks and other flat-bottom, low-profile vessels
- Two-tier braces (available for both sizes*) allow stacking of platforms with a 10" (25.4 cm) clearance
- Constructed of type 304 stainless steel
- Platform has a nonskid rubber surface

Description	Cat. No.
18 × 18" (45.7 × 45.7 cm) Culture platform*	97003-598
18 × 24" (45.7 × 61 cm) Culture platform*	97003-600
Two-tier braces (set of 4)	97003-646

* Two-tier ready.

RUBBER MATS

Description	Cat. No.
11 × 13" (27.9 × 33 cm) Rubber Mat	97019-050
13 × 13" (33 × 33 cm) Rubber Mat	12985-054
18 × 18" (45.7 × 45.7 cm) Rubber Mat	12985-056
18 × 24" (45.7 × 61 cm) Rubber Mat	97019-052
24 × 24" (61 × 61 cm) Rubber Mat	12985-058
24 × 36" (61 × 91.4 cm) Rubber Mat	12985-060



VWR® DEDICATED PLATFORMS

- Pre-mounted flask clamps for maximum utilization of platform space for flasks of the same size
- Two-tier braces allow stacking of platforms with a 10" (25.4 cm) clearance (available for select sizes*)
- Platform is constructed of type 304 stainless steel
- Flask clamps are constructed of PVC
- Ideal for polycarbonate flasks

Description	Flask clamp size	Flask capacity	Cat. No.
13 × 13" (33 × 33 cm) Dedicated platform	125 ml	16	97003-616
13 × 13" (33 × 33 cm) Dedicated platform	250 ml	12	97003-618
13 × 13" (33 × 33 cm) Dedicated platform	500 ml	8	97003-620
13 × 13" (33 × 33 cm) Dedicated platform	1 L	4	97003-622
18 × 18" (45.7 × 45.7 cm) Dedicated platform*	125 ml	27	97003-624
18 × 18" (45.7 × 45.7 cm) Dedicated platform*	250 ml	20	97003-626
18 × 18" (45.7 × 45.7 cm) Dedicated platform*	500 ml	13	97003-628
18 × 18" (45.7 × 45.7 cm) Dedicated platform	1 L	9	97003-630
Two-tier braces (set of 4)			97003-646

* Two-tier ready.



VWR® ADJUSTABLE PLATFORMS

- Adjustable clamping bars accommodate various vessel types
- Stainless-steel construction
- Base tray has a nonskid rubber surface
- 12620-964: Bar sits 2.5" (6.4 cm) from bottom of platform
- 97003-602 and 97003-604: Bar sits 2.25" (5.7 cm) from platform to bottom slot and 4.5" (11.4 cm) to top slot

Description	Bar size	Overall dimensions (L x W)	Net weight	Cat. No.
2-Bar adjustable platform	8.6" (21.8 cm)	8.6 x 11.7" (21.8 x 29.7 cm)	3.25 lb (1.48 kg)	12620-964
4-Bar adjustable platform	18" (45.7 cm)	18 x 18" (45.7 x 45.7 cm)	11 lb (5 kg)	97003-602
4-Bar adjustable platform	18" (45.7 cm)	18 x 24" (45.7 x 61 cm)	20 lb (9 kg)	97003-604

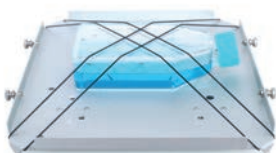
Replacement part	Used with platforms	Cat. No.
18" (45.7 cm) Adjustable bar (with mounting hardware)	97003-602, 97003-604	97003-612



VWR® MICROPLATE CLAMP

- Holds one standard microplate or deep-well plate
- Constructed of type 304 stainless steel

Description	Used on shakers	Cat. No.
Microplate clamp	Full-size shakers only	97003-634



VWR® UNIVERSAL HARNESS

- Attaches to tray to secure low-profile plates

Description	Used on shakers	Cat. No.
Universal harness	Mini Shakers 77623-744 through 77623-758	77623-742

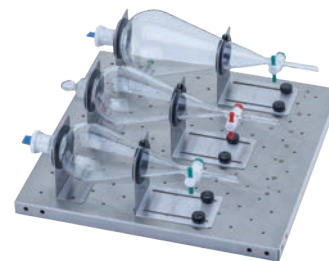


VWR® LARGE VESSEL CARRIER PLATFORMS

- Ideal for large sample containers like carboys, jugs and bottles
- High side walls secure samples
- Heavy-duty design
- Stainless-steel construction
- Base tray has a nonskid rubber surface

Description	Bar size	Overall dimensions (L x W x H)	Cat. No.
4-Bar large vessel carrier platform	18" (45.7 cm)	30.1 x 18.1 x 13.9" (76.4 x 45.9 x 93.7 cm)	97003-606
4-Bar large vessel carrier platform	24" (61 cm)	24.4 x 24.3 x 14.2" (61.9 x 61.7 x 36.0 cm)	97003-608
4-Bar large vessel carrier platform	24" (61 cm)	36.9 x 24.3 x 14.2" (93.7 x 61.7 x 36.0 cm)	97003-610

Replacement part	Used with carrier	Cat. No.
18" (45.7 cm) Adjustable bar (with mounting hardware)	97003-606	97003-612



VWR® SEPARATORY FUNNEL PLATFORM

- Holds 3 funnels at once on the included 18 x 18" (45.7 x 45.7 cm) platform
- Accommodates 500 ml to 2 L separatory funnels
- Stainless-steel construction
- Includes platform, clamps and hardware to secure 3 funnels

Description	Cat. No.
Separatory funnel platform	97003-632



VWR® DIMPLED MAT

Designed to hold centrifuge tubes, vials, culture tubes and microtubes securely in place. Mat can be easily removed for cleaning and transporting tubes from bench to tray.

Description	Used on units	Cat. No.
Dimpled mat, 12.75 × 10" (32.4 × 25.4 cm)	Rocking Platform Shaker	12985-030
Dimpled mat, 11.75 × 8.75" (29.9 × 22.2 cm)	3D Rotator Waver	12985-034
Dimpled mat, 11.75 × 8.75" (29.9 × 22.2 cm)	Mini Shaker, Mini Shaker 15	12985-038
Dimpled mat, 14 × 11" (35.6 × 27.9 cm)	Analog Rocker, Analog Waver	10127-728



VWR® STICKY MAT

Recommended for speeds up to 250 rpm. Application temperatures not to exceed 65 °C. Clean with water and air dry to restore adhesive quality.

Description	Cat. No.
Sticky mat 8.7 × 7.5" (22 × 18 cm)	77461-300



VWR® STACKING TRAY

Easily attaches to the unit-included tray to add a second tier for higher-capacity applications. Second-tier tray mounts 3.5" (8.9 cm) above lower tray and includes a nonskid rubber mat.

Description	Used on units	Cat. No.
Stacking tray, 12.75 × 10" (32.4 × 25.4 cm)	Rocking Platform Shaker	12620-914
Stacking tray, 11.75 × 8.75" (29.9 × 22.2 cm)	3D Rotator Waver	12620-924
Stacking tray, 14 × 11" (35.6 × 27.9 cm)	Analog Rocker	10127-726

Erlenmeyer flask clamps

Media bottle flask clamps

VWR® Flask Clamps

STAINLESS-STEEL FLASK CLAMPS

- Designed to hold Erlenmeyer flasks from 10 ml to 6 L
- Constructed of type 302 and 304 stainless steel
- Includes hardware for easy attachment to platforms
- Flask clamps 50 ml and higher are supplied with a spring to hold flask in place
- 2.8 L clamp is designed to hold a Fernbach flask
- Media bottle flask clamps feature the same details as flask clamps



VWR® Flask Clamps

PVC FLASK CLAMPS

- Autoclavable
- One-piece, molded PVC construction
- Will not scratch or mark flask like other clamps
- Includes hardware for easy attachment to platforms
- Attaching and removing of flasks is quick and easy



Description	Cat. No.
10 ml Stainless-steel flask clamp	57018-775
25 ml Stainless-steel flask clamp	57018-786
50 ml Stainless-steel flask clamp	57018-797
125 ml Stainless-steel flask clamp	57018-800
250 ml Stainless-steel flask clamp	57018-811
500 ml Stainless-steel flask clamp	57018-822
1 L Stainless-steel flask clamp	14215-224
2 L Stainless-steel flask clamp	14215-226
2.8 L Stainless-steel flask clamp	14215-228
3 L Stainless-steel flask clamp	10789-250
4 L Stainless-steel flask clamp	14215-230
5 L Stainless-steel flask clamp	75804-636
6 L Stainless-steel flask clamp	14215-232
500 ml Stainless-steel media bottle clamp	14215-236
1 L Stainless-steel media bottle clamp	14215-238
125 ml PVC flask clamp	97003-579
250 ml PVC flask clamp	97003-578
500 ml PVC flask clamp	97003-580
1 L PVC flask clamp	97003-582
2 L PVC flask clamp	97003-584

VWR® Test Tube Racks

Test tube racks — Half size, stationary

- PVC-coated steel
- Includes hardware for easy attachment to platforms
- (L × W × H): 5 × 7 × 4" (12.7 × 17.8 × 10.2 cm) / microtube rack: 1.7" (4.3 cm)



VWR® Test Tube Racks

Test tube racks — Full size, stationary

- PVC-coated steel
- Includes hardware for easy attachment to platforms
- Dimensions (L × W × H): 3.75 × 16.5 × 4" (9.5 × 41.9 × 10.2 cm)



Test tube racks — Full size, pivoting

- Adjustable angle, custom tilt
- Stainless-steel holder includes removable plastic rack
- Rack is easily removed to transport from work area to shaker
- Dimensions (L × W × H):
Inside rack: 5.1 × 10.8 × 3.9" (12.9 × 27.4 × 9.9 cm)
Outer rack: 5 × 10.9 × 5" (12.7 × 27.6 × 12.7 cm)

Description	Cat. No.
Half racks	
70 × 1.5 to 2 ml Microtubes	12620-952
63 × 10 to 13 mm Tubes	12620-956
48 × 14 to 16 mm Tubes	12620-958
35 × 18 to 20 mm Tubes	12620-960
24 × 22 to 24 mm Tubes	12620-962
35 × 15 ml Centrifuge tubes	11301-134
12 × 50 ml Centrifuge tubes	11301-136
Full-size racks	
48 × 10 to 14 mm Tubes	14215-240
33 × 16 to 20 mm Tubes	14215-242
21 × 21 to 25 mm Tubes	14215-244
17 × 50 ml Centrifuge tubes	12985-052
Full-size pivoting racks	
90 × 13 mm Tubes	97003-636
60 × 16 mm Tubes	97003-638
40 × 20 mm Tubes (15 ml centrifuge tubes)	97003-640
24 × 25 mm Tubes	97003-642
21 × 30 mm Tubes (50 ml centrifuge tubes)	97003-644

VWR MINI AND MICROPLATE SHAKER ACCESSORY CAPACITIES

Description	Open air			Incubating		Cat. No.
	Standard array	Universal platform	Microplate Shaker	Mini Shaker	Microplate Shaker	
10 ml Stainless-steel flask clamp	7	39	-	32	-	57018-778
25 ml Stainless-steel flask clamp	7	24	-	20	-	57018-786
50 ml Stainless-steel flask clamp	7	24	-	12	-	57018-797
125 ml Stainless-steel flask clamp	6	12	-	8	-	57018-800
250 ml Stainless-steel flask clamp	6	8	-	5	-	57018-711
500ml Stainless-steel flask clamp	4	6	-	-	-	57018-822
1 L Stainless-steel flask clamp	-	3	-	-	-	14215-224
500 ml Media bottle clamp	4	6	-	-	-	14215-236
125 ml PVC flask clamp	6	12	-	8	-	97003-576
250 ml PVC flask clamp	6	8	-	4	-	97003-578
500 ml PVC flask clamp	-	4	-	-	-	97003-580
Half rack for 70 microtubes (1.5 - 2 ml)	2	2	2	2	2	12620-952
Half rack for 63 test tubes (10 - 13 mm)	2	2	-	1	-	12620-956
Half rack for 48 test tubes (14 - 16 mm)	2	2	-	1	-	12620-958
Half rack for 35 test tubes (18 - 20 mm)	2	2	-	1	-	12620-960
Half rack for 35 centrifuge tubes (15 ml)	2	2	-	1	-	11301-134
Half rack for 12 centrifuge tubes (50 ml)	2	2	-	1	-	11301-136
Universal platform	1	-	-	-	-	77661-320
Roller bar platform	1	-	-	-	-	12620-964
Dimpled mat	1	1	-	-	-	12985-038
Sticky mat	1	1	-	1	-	77643-300
Universal harness	1	-	-	-	-	77623-742
Deep-well plate kit	-	-	1	-	-	77623-740

VWR ACCESSORY PLATFORMS FOR OPEN-AIR SHAKERS MODEL 3500 THROUGH MODEL 15000

Description	Stackable	Model 3500 and Dura-Shaker	Model 3750 Reciprocating Shaker	Model 5000	Open air		Cat. No.
					Model 10000	Model 15000	
Universal platform, 11 × 13" (28 × 33 cm)	Not stackable	*	*				89027-702
Universal platform, 13 × 13" (33 × 33 cm)	Not stackable	*	*				97003-586
Universal platform, 18 × 18" (46 × 46 cm)	Stackable	*	*				97003-588
Universal platform, 18 × 18" (46 × 46 cm) (Model 5000I only)	Not stackable						97021-954
Universal platform, 18 × 24" (46 × 61 cm)	Stackable**	*		*			97003-590
Universal platform, 18 × 30" (46 × 76 cm)	Stackable			*			97003-594
Universal platform, 24 × 24" (61 × 61 cm)	Not stackable				*		97003-592
Universal platform, 24 × 36" (61 × 91 cm)	Not stackable					*	97003-596
Culture platform with mat, 18 × 18" (46 × 46 cm)	Stackable	*	*				97003-598
Culture platform with mat, 18 × 24" (46 × 61 cm)	Stackable**	*		*			97003-600
Adjustable bar platform, 18 × 18" (46 × 46 cm)	Not stackable	*					97003-602
Adjustable bar platform, 18 × 24" (46 × 61 cm)	Not stackable			*			97003-604
Large vessel carrier, 30 × 18" (46 × 76 cm)	Not stackable			*			97003-606
Large vessel carrier, 24 × 24" (61 × 61 cm)	Not stackable				*		97003-608
Large vessel carrier, 24 × 36" (61 × 91 cm)	Not stackable					*	97003-610
Dedicated platform, 13 × 13" (33 × 33 cm), 125 ml	Not stackable	*	*				97003-616
Dedicated platform, 13 × 13" (33 × 33 cm), 250 ml	Not stackable	*	*				97003-618
Dedicated platform, 13 × 13" (33 × 33 cm), 500 ml	Not stackable	*	*				97003-620
Dedicated platform, 13 × 13" (33 × 33 cm), 1 L	Not stackable	*	*				97003-622
Dedicated platform, 18 × 18" (46 × 46 cm), 125 ml	Stackable	*	*				97003-624
Dedicated platform, 18 × 18" (46 × 46 cm), 250 ml	Stackable	*	*				97003-626
Dedicated platform, 18 × 18" (46 × 46 cm), 500 ml	Stackable	*	*				97003-628
Dedicated platform, 18 × 18" (46 × 46 cm), 1 L	Stackable	*	*				97003-630
Separatory funnel platform, 18 × 18" (46 × 46 cm)	Not stackable	*	*				97003-632

* To stack platforms, select (2) stackable platforms of the same size and (1) two-tier braces kit (97003-646).

** 18 × 24" (46 × 61 cm) platforms can not be stacked on Model 5000 shakers.

VWR FLASK CLAMP CAPACITY CHART

Description	11 × 13" (28 × 33 cm) 89027-702	13 × 13" (33 × 33 cm) 97003-586	18 × 18" (46 × 46 cm) 97003-588	18 × 24" (46 × 61 cm) 97003-590	18 × 30" (46 × 76 cm) 97003-594	24 × 24" (61 × 61 cm) 97003-592	24 × 36" (61 × 91 cm) 97003-596	Cat. No.
10 ml Stainless-steel flask clamp	60	60	113	158	203	221	336	57018-775
25 ml Stainless-steel flask clamp	25	30	64	88	112	121	160	57018-786
50 ml Stainless-steel flask clamp	13	15	32	44	56	61	94	57018-797
125 ml Stainless-steel flask clamp	10	12	20	28	36	41	61	57018-800
250 ml Stainless-steel flask clamp	9	12	20	28	36	41	64	57018-811
500 ml Stainless-steel flask clamp	7	8	13	20	26	25	40	57018-822
1 L Stainless-steel flask clamp	4	4	8	12	15	16	24	14215-224
2L Stainless-steel flask clamp	-	3	5	6	8	9	14	14215-226
2.8 L Stainless-steel flask clamp	-	1	2	3	3	5	7	14215-228
3 L Stainless-steel flask clamp	-	1	2	3	4	5	7	10789-250
4 L Stainless-steel flask clamp	-	1	4	4	6	5	9	14215-230
5 L Stainless-steel flask clamp	-	1	4	4	6	5	7	75804-636
6 L Stainless-steel flask clamp	-	1	2	3	4	5	7	14215-232
500 ml Stainless-steel media bottle clamp	5	6	16	20	28	25	40	14215-236
1 L Stainless-steel media bottle clamp	2	5	10	13	18	18	30	14215-238
125 ml PVC flask clamp	10	12	20	28	36	41	61	97003-579
250 ml PVC flask clamp	8	10	18	25	33	35	55	97003-578
500 ml PVC flask clamp	5	6	12	16	20	24	38	97003-580
1 L PVC flask clamp	2	4	8	10	14	13	22	97003-582
2 L PVC flask clamp	-	3	4	6	8	9	13	97003-584
Microplate clamp	4	6	12	18	21	24	36	97003-634

VWR Tube Rack Capacity Chart

Description	Cat. No.	11 × 13" (28 × 33 cm) 89027-702	13 × 13" (33 × 33 cm) 97003-586	18 × 18" (46 × 46 cm) 97003-588	18 × 24" (46 × 61 cm) 97003-590	18 × 30" (46 × 76 cm) 97003-594	24 × 24" (61 × 61 cm) 97003-592	24 × 36" (61 × 91 cm) 97003-596
Half racks								
70 × 1.5 to 2 ml Microtubes	12620-952	2	2	4	6	8	8	7
63 × 10 to 13 mm Tubes	12620-956	2	2	4	6	8	8	7
48 × 14 to 16 mm Tubes	12620-958	2	2	4	6	8	8	7
35 × 18 to 20 mm Tubes	12620-960	2	2	4	6	8	8	7
24 × 22 to 24 mm Tubes	12620-962	2	2	4	6	8	8	7
35 × 15 ml Centrifuge tubes	11301-134	2	2	4	6	8	8	7
12 × 50 ml Centrifuge tubes	11301-136	2	2	4	6	8	8	7
Full-size racks								
48 × 10 to 14 mm Tubes	14215-240	-	-	3	5	6	7	5
33 × 16 to 20 mm Tubes	14215-242	-	-	3	5	6	7	5
21 × 21 to 25 mm Tubes	14215-244	-	-	3	5	6	7	5
17 × 50 ml Centrifuge tubes	12985-052	-	-	3	5	6	7	5
Full-size pivoting racks								
90 × 13 mm Tubes	97003-636	1	2	2	3	4	4	6
60 × 16 mm Tubes	97003-638	1	2	2	3	4	4	6
40 × 20 mm Tubes (15 ml centrifuge tubes)	97003-640	1	2	2	3	4	4	6
24 × 25 mm Tubes	97003-642	1	2	2	3	4	4	6
21 × 30 mm Tubes (50 ml centrifuge tubes)	97003-644	1	2	2	3	4	4	6

INCUBATING 3500I AND 5000I SHAKER ACCESSORIES

Description	Model 3500I	Model 5000I	Cat. No.
Universal platform, 11 × 13" (28 × 33 cm)	1	-	89027-702
Universal platform, 18 × 18" (46 × 46 cm)	-	1	97021-954
10 ml Stainless-steel flask clamp	60	113	57018-775
25 ml Stainless-steel flask clamp	25	64	57018-786
50 ml Stainless-steel flask clamp	13	32	57018-797
125 ml Stainless-steel flask clamp	10	20	57018-800
250 ml Stainless-steel flask clamp	9	20	57018-811
500 ml Stainless-steel flask clamp	7	13	57018-822
1 L Stainless-steel flask clamp	4	8	14215-224
2L Stainless-steel flask clamp	-	5	14215-226
2.8 L Stainless-steel flask clamp	-	2	14215-228
3 L Stainless-steel flask clamp	-	2	10789-250
4 L Stainless-steel flask clamp	-	4	14215-230
5 L Stainless-steel flask clamp	-	4	75804-636
6 L Stainless-steel flask clamp	-	2	14215-232
500 ml Stainless-steel media bottle clamp	5	16	14215-236
1 L Stainless-steel media bottle clamp	2	10	14215-238
125 ml PVC flask clamp	10	20	97003-579
250 ml PVC flask clamp	8	18	97003-578
500 ml PVC flask clamp	5	12	97003-580
1 L PVC flask clamp	2	8	97003-582
2 L PVC flask clamp	-	4	97003-584
Microplate clamp	4	12	97003-634
Half racks			
70 × 1.5 to 2 ml Microtubes	2	4	12620-952
63 × 10 to 13 mm Tubes	2	4	12620-956
48 × 14 to 16 mm Tubes	2	4	12620-958
35 × 18 to 20 mm Tubes	2	4	12620-960
24 × 22 to 24 mm Tubes	2	4	12620-962
35 × 15 ml Centrifuge tubes	2	4	11301-134
12 × 50 ml Centrifuge tubes	2	4	11301-136
Full-size racks			
48 × 10 to 14 mm Tubes	-	3	14215-240
33 × 16 to 20 mm Tubes	-	3	14215-242
21 × 21 to 25 mm Tubes	-	3	14215-244
17 × 50 ml Centrifuge tubes	-	3	12985-052
Full-size pivoting racks			
90 × 13 mm Tubes	1	2	97003-636
60 × 16 mm Tubes	1	2	97003-638
40 × 20 mm Tubes (15 ml centrifuge tubes)	1	2	97003-640
24 × 25 mm Tubes	1	2	97003-642
21 × 30 mm Tubes (50 ml centrifuge tubes)	1	2	97003-644

NOTE: A Universal Platform is required to secure accessories

How to select a hotplate/stirrer

Review the following points to help you select the appropriate hotplate/stirrer for your unique application

1. CONTROL TYPES: Both Advanced and Professional Series units offer a closed-loop PID microprocessor for both temperature and speed control. This control type offers electronic feedback for control of both temperature and speed, producing greater accuracy and ease of use for reproducing your results. Microprocessor controls automatically stabilize the top plate for temperature and/or stirring speeds by regulating for variations in the system with reference to the original set point. Professional units include a built-in timer, allowing for greater independence. Also included with Professional Series units is an external stainless-steel temperature probe. The probe guarantees the utmost in sample temperature monitoring and control, delivering $\pm 1\%$ temperature stability.

The Basic Mini and Dyla Series offer an open-loop speed control and mechanical thermostat that is not designed for exact regulation of speed or temperature. When precision is not needed, these units offer an economical and reliable alternative.

2. TEMPERATURE NEEDS: Temperature uniformity refers to the consistency of temperature across the top plate. Each top plate material has its pros and cons. Ceramic top plates are more chemical resistant, heat up very quickly and are easy to clean. The white reflective surface aids in viewing the sample. However, ceramic tops are subject to thermal shock. Heating of metallic vessels should be avoided. The edges of a ceramic top plate may not be as hot as the center, where the heating element is located. Aluminum top plates offer a more uniform heating surface and will not crack or chip but are more susceptible to corrosion and more difficult to clean.

3. SAMPLE SIZE: The size or volume of your sample is another important factor to consider when selecting a hotplate or stirrer. Always consider the largest sample that you may be working with and look for a unit that can handle that capacity. The capacities listed are based on water. A viscous sample will weigh more than water.

4. VISCOSITY: Sample viscosity plays a role in selecting a stirrer. The magnetic coupling strength is a factor in determining which size stirrer to choose. The right drive magnet and stir bar combination is needed to efficiently stir the sample. Variables such as sample size or weight and top plate size dictate which stirrer will work best. The stir bar size and shape, distance between the drive magnet and the stir bar, vessel shape and size, speed and viscosity also must be considered. The more viscous the sample, the greater the magnetic coupling strength needed.

VWR® PROFESSIONAL HOTPLATE STIRRERS

Designed for applications requiring exceptional accuracy, stability and repeatability, VWR Professional hotplate stirrers are equipped with superior heating and mixing capabilities. With temperatures up to 500 °C and stirring speeds up to 1600 rpm, these hotplate stirrers are equipped to handle any research, academic or industrial application. Available in two sizes.

- Excellent temperature uniformity and powerful stirring
- Easy-to-read large LCD screen displays temperatures, speed and timer settings
- Cool-touch, chemical-resistant housing
- Includes a PT1000 RTD temperature probe
- Best-in-class, exclusive five-year warranty
- Industry-leading safety features
- Available with a NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner
- Assembled in the USA

OPERATING FEATURES

Microprocessor control: A closed-loop PID microprocessor for both temperature and speed control. This control type offers electronic feedback for control of both temperature and speed producing greater accuracy and ease of use for reproducing your results. Microprocessor control automatically stabilizes the top plate for temperature and or stirring speeds by regulating for variations in the system with reference to the original set point. Precise speed control provides consistent stirring at all speeds. Powerful continuous-duty motor delivers dependable and reliable stirring. Display will show last used settings, even after power has been turned off. Enhanced electronics regulate the heating and will bring samples to the desired temperature quickly and efficiently.

Large digital display: The easy-to-use and easy-to-read front panel includes two intuitive dial knobs to navigate the settings and menu options. The LCD always displays both set and actual temperature speed as well as timer information for convenient monitoring.

Low-profile design: The low-profile design occupies minimal bench space and fits into fume hoods. Spill-resistant design channels fluids away from internal components

Built-in support rod holder: The rear housing of the hotplate features an off-center, built-in support rod holder with locking knob and accepts a variety of accessories. Includes support rod plug to help keep clean when not in use.

Ceramic top plate: White, reflective surface is chemical resistant and easy to clean.

Timer and audible alarm: A timer displays elapsed time or, when programmed to a user-defined limit, will shut off unit when the time reaches zero. An alarm will sound when time reaches zero or when unit reaches the set-point temperature.

RTD probe: Professional models include an 8" (20 cm), PT1000 stainless-steel RTD probe, which ensures precise temperature control of the sample.

Temperature calibration: Three user-defined temperature calibration set points for allowing probe and plate calibration to an external temperature device.



76447-026 with optional Support Rod Kit 11301-110

SAFETY FEATURES

Hot plates are equipped with a variety of innovative safety features designed to facilitate efficient operation and workplace safety.

Overheat protection: Units are equipped with an industry-leading early detection system that utilizes two independent safety controls to continuously monitor the electronics and shut off heating before an over-temperature condition occurs.

Cool-touch housing: Unit housing is constructed of a heat- and chemical-resistant polymer that remains cool to touch throughout use.

Spill-resistant design: Housing channels fluids away from internal components in the event of a spill. Additional protection is available with the optional in-use cover.

Temperature limit feature: A maximum temperature limiting function ensures the plate temperature will not exceed a user defined limit, allowing for control of samples with sensitive flash points.

Hot top indicator: A large (13 mm) hot top warning light is illuminated when the heat is turned on. This hot top warning light remains lit until the top plate is below 40 °C, even when unit is turned off.

Stir protection: If stirrer motor stops or fails, unit will automatically shut down heater. If using the temperature probe, in the event that the probe disengages from the sample, the heater will automatically shut off.

Speed ramping feature: Slowly increases speed for improved safety and enhanced coupling. Avoids splashing, improves spin bar control and provides excellent low-end speed control.

OPERATING CONDITIONS

Unit can be run in noncondensing environments from 5 to 40 °C (41 to 104 °F), 20% to 80% relative humidity. Not recommended for use in vacuum or low-pressure environments.



76447-040

Specifications

Top plate dimensions	7 × 7" (17.8 × 17.8 cm) 10 × 10" (25.4 × 25.4 cm)
Temperature range	Ambient +5 to 500 °C
Temperature resolution	0.1° increments
Temperature stability of top plate*	±1% > 100 °C, ±1°C ≤ 100 °C
Temperature stability with temperature probe**	±0.5 % > 100 °C, ±1°C ≤ 100 °C
Speed range	60 to 1600 rpm
Speed stability	± 2%
Timer	1 min to 99 hr, 59 min
Maximum capacity	7 × 7": 10 L 10 × 10": 13 L
Overall dimensions	7 × 7": 12.2 × 8.8 × 4.8" (30.7 × 22.4 × 12.2 cm) 10 × 10": 16.3 × 11.25 × 4.8" (42.2 × 28.6 × 12.2 cm)
Ship weight	7 × 7": 7.8 lb (3.5 kg) 10 × 10": 12.6 lb (5.7 kg)

* 2" diameter from the center of the top plate.
** 800 ml of water in 1 L flask and 50 °C, 23 °C ambient, 8" (20 cm) stainless-steel probe.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug and a 1.5" (3.8 cm) PTFE-coated stir bar. Professional units are supplied with an 8" (20.3 cm) RTD probe. 230 V, 50/60 Hz models include a EU/UK plug and CH adapter.

Certifications: RoHS certified. TUV listed. CE marked. Calibrated Hotplates include a Troemner ISO/IEC Accredited Calibration Certificate traceable to NIST. The ISO/IEC 17025 Accredited Calibration Certificate includes multiple data points within the temperature and speed ranges and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Product safety: TÜV SÜD certified to CAN/CSA C22.2 61010-1; CAN/CSA C22.2 61010- 2-010; CAN/CSA C22.2 61010-2-051; UL 61010-1; UL 61010-2-010; UL 61010-2-051

Electromagnetic compatibility: Canada ICES-003 Class A; FCC Part 15 Class A

Compliance mark: TÜV SÜD

Replacement probes, in-use covers and vessel clamps are available; see accessories on Pages 49 - 50.

Description	Top plate material	Electrical	Cat. No.
7 × 7" Hotplate stirrer	Ceramic	120 V 10.0 A 1200 W	76447-040
7 × 7" Hotplate stirrer	Ceramic	230 V 6.0 A 1380 W	76447-046
7 × 7" Hotplate stirrer with NIST-traceable certificate	Ceramic	120 V 10.0 A 1200 W	76447-048
7 × 7" Hotplate stirrer with NIST-traceable certificate	Ceramic	230 V 6.0 A 1380 W	76447-042
10 × 10" Hotplate stirrer	Ceramic	120 V 11.2 A 1344 W	76447-026
10 × 10" Hotplate stirrer	Ceramic	230 V 7.0 A 1610 W	76447-020
10 × 10" Hotplate stirrer with NIST-traceable certificate	Ceramic	120 V 11.2 A 1344 W	76447-028
10 × 10" Hotplate stirrer with NIST-traceable certificate	Ceramic	230 V 7.0 A 1610 W	76447-022

See Page 49 for accessories.

VWR® ADVANCED HOTPLATE STIRRERS

VWR Advanced hotplates, stirrers and hotplate stirrers are designed to deliver accurate and repeatable results in all research, academic and industrial applications. With temperatures up to 500 °C and stirring speeds up to 1600 rpm, these stirrers provide proper mixing and superior temperature control. Available in three sizes and two top plate materials.

- Excellent temperature uniformity and powerful stirring
- Easy-to-read large LCD screens display temperature and speed
- Industry-leading safety features
- Cool-touch, chemical-resistant housing
- Best-in-class, exclusive five-year warranty
- Assembled in the USA

OPERATING FEATURES

Microprocessor control: A closed-loop PID microprocessor for both temperature and speed control. This control type offers electronic feedback for control of both temperature and speed, producing greater accuracy and ease of use for reproducing your results. Microprocessor controls automatically stabilize the top plate for temperature and/or stirring speeds by regulating for variations in the system with reference to the original set point. Precise speed control provides consistent stirring at all speeds. Powerful continuous-duty motor delivers dependable and reliable stirring. Display will show the last used settings, even after power has been turned off. Enhanced electronics regulate the heating and will bring samples to the desired temperature quickly and efficiently.

Large digital display: The easy-to-use and easy-to-read front panel includes two intuitive dial knobs to navigate the settings and menu options. The LCD screen displays temperature speed as well as toggles between actual and set readings.

Low-profile design: The low-profile design occupies minimal bench space and fits into fume hoods. Spill-resistant design channels fluids away from internal components

Built-in support rod holder: The rear housing of the hotplate features an off-center, built-in support rod holder with locking knob and accepts a variety of accessories. Includes support rod plug to help keep clean when not in use.

Ceramic, aluminum and resin top plate: Ceramic and resin top plates feature a chemical-resistant, reflective white surface that is easy to clean. Durable aluminum top plates will not crack or chip and offer a more uniform heating surface.

Temperature calibration: A user-defined temperature calibration set point for allowing probe and plate calibration to an external temperature device.

SAFETY FEATURES

Hot plates are equipped with a variety of innovative safety features designed to facilitate efficient operation and workplace safety.

Overheat protection: Units are equipped with an industry-leading early detection system that utilizes two independent safety controls to continuously monitor the electronics and shut off heating before an over-temperature condition occurs.

Cool-touch housing: Unit housing is constructed of a heat- and chemical-resistant polymer that remains cool to touch throughout use.



76447-044



76447-032



76447-056

Spill-resistant design: Housing channels fluids away from internal components in the event of a spill. Additional protection is available with the optional in-use cover.

Hot top indicator: A large (13 mm) hot warning light is illuminated when the heat is turned on. This hot top warning light remains lit until the top plate is below 40 °C, even when unit is turned off.

Stir protection: If stirrer motor stops or fails, unit will automatically shut down heater. If using the optional temperature probe, in the event that the probe disengages from the sample, the heater will automatically shut off (hotplate stirrer models).

Specifications

Top plate dimensions	7 × 7" (17.8 × 17.8 cm) 10 × 10" (25.4 × 25.4 cm) Round top: 5.3" (135 mm) diameter
Temperature range	Ceramic: +5 to 500 °C Aluminum 7 × 7": +5 to 340 °C Aluminum round top: +5 to 380 °C
Temperature resolution	1.0° increments
Temperature stability of top plate*	±3% > 100 °C, ±2% ≤ 100 °C
Temperature stability with temperature probe**	±1% > 100 °C, ±1°C ≤ 100 °C
Speed range	60 to 1600 rpm
Speed stability	± 2%
Maximum capacity	7 × 7": 10 L 10 × 10": 13 L Round top: 10 L
Overall dimensions	7 × 7": 12.2 × 8.8 × 4.8" (30.7 × 22.4 × 12.2 cm) 10 × 10": 16.3 × 11.25 × 4.8" (42.2 × 28.6 × 12.2 cm) Round top: 10.5 × 6.8 × 5" (26.7 × 17.3 × 12.7 cm)
Ship weight	7 × 7": 7.8 lb (3.5 kg) 10 × 10": 12.6 lb (5.7 kg) Round top: 5.1 lb (2.3 kg)

* 2" diameter center of top plate.
** 800 ml of water in 1 L flask and 50 °C, 23 °C ambient, 8" (20 cm) stainless-steel probe.

OPERATING CONDITIONS:

Unit can be run in environments from 5 to 40 °C (41 to 104 °F), 20% to 80% relative humidity. Not recommended for use in vacuum or low-pressure environments.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug. Hotplates and hotplate stirrers include a 1.5" (3.8 cm) PTFE-coated stir bar. 230 V, 50/60 Hz models include a EU/UK cord and plug and a CH adapter.

RoHS certified. TUV listed. CE marked.

Product safety: TÜV SÜD certified to CAN/CSA C22.2 61010-1; CAN/CSA C22.2 61010- 2-010; CAN/CSA C22.2 61010-2-051; UL 61010-1; UL 61010-2-010; UL 61010-2-051

Electromagnetic compatibility: Canada ICES-003 Class A; FCC Part 15 Class A

Compliance mark: TÜV SÜD

Probes sold separately, see accessories on Pages 49 - 50.

Description	Top plate material	Electrical	Cat. No.
7 × 7" Hotplate	Ceramic	120 V 10.0 A 1200 W	76447-036
7 × 7" Hotplate	Ceramic	230 V 6.0 A 1380 W	76447-034
7 × 7" Stirrer	Resin	120 V 1.0 A 120 W	76557-502
7 × 7" Stirrer	Resin	230 V 0.5 A 115 W	76557-500
7 × 7" Hotplate stirrer	Ceramic	120 V 10.0 A 1200 W	76447-044
7 × 7" Hotplate stirrer	Ceramic	230 V 6.0 A 1380 W	76447-038
7 × 7" Hotplate stirrer	Aluminum	120 V 10.0 A 1200 W	76447-032
7 × 7" Hotplate stirrer	Aluminum	230 V 6.0 A 1380 W	76447-030
Round-top hotplate stirrer	Aluminum	120 V 8.3 A 996 W	76447-056
Round-top hotplate stirrer	Aluminum	230 V 4.6 A 1058 W	76447-054
10 × 10" Hotplate stirrer	Ceramic	120 V 11.2 A 1344 W	76447-024
10 × 10" Hotplate stirrer	Ceramic	230 V 7.0 A 1610 W	76447-018



VWR® HOTPLATE STIRRER ACCESSORIES

Description	Cat. No.
8" (20.3 cm) Stainless-steel PT1000 probe	97042-770
8" (20.3 cm) PTFE PT1000 probe	97042-772
10" (25.4 cm) Stainless-steel PT1000 probe	97042-774
10" (25.4 cm) PTFE PT1000 probe	97042-776
Replacement probe kit with 8" (20.3 cm) stainless-steel PT1000 probe	97042-778
In-use cover, 7 × 7"	76458-334
In-use cover, 10 × 10"	76458-332
In-use cover, round	76458-336
Vessel clamp	76458-338
8" (20.3 cm) Stainless-steel probe, 18" (45.7 cm) stainless-steel rod, hook connector, thermometer extension clamp and 3-prong swivel clamp	97042-778



VWR® ROUND-TOP HOTPLATE STIRRER ACCESSORIES

REACTION STATION BLOCKS

- Heat and stir a variety of samples simultaneously on one hotplate
- Uni-blocks and sectional blocks accommodate nine different sample sizes
- Anodized aluminum with close block-to-tube contact ensures optimal transfer of heat

The VWR Multi-Sample Reaction Station holds up to five multiple sample sizes all in one unit. The base plate has a centrally located threaded opening to accommodate a 0.5" (13 mm) diameter support rod. Blocks are made of anodized aluminum to provide superior temperature stability and heat transfer. Each block has a thermometer well for measuring temperature. Base plate is designed to fit VWR Round-Top Hotplate Stirrers or other 5.3" (135 mm) diameter top models. Safety handles are available to aid in the safe removal of the blocks or base plate.



VWR® UNI-BLOCKS

Test tubes

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
12 mm Tube	40	12.7 mm	45.7 mm	89171-904
16 mm Tube	32	17.5 mm	45.7 mm	89171-906
20 mm Tube	32	20.5 mm	45.7 mm	89171-908
25 mm Tube	24	25.4 mm	41.9 mm	89171-910

Vials

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
12 mm Vial (2 ml)	40	12.7 mm	16.8 mm	89171-894
15 mm Vial (1 dram)	40	15.5 mm	16.8 mm	89171-896
17 mm Vial (2 drams)	32	17.8 mm	16.8 mm	89171-898
21 mm Vial (4 drams)	24	21.5 mm	16.8 mm	89171-900
28 mm Vial	16	28.8 mm	16.8 mm	89171-902



SECTIONAL BLOCKS

Test tubes

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
12 mm Tube	9	12.7 mm	45.7 mm	89171-886
16 mm Tube	8	17.5 mm	45.7 mm	89171-888
20 mm Tube	6	20.5 mm	45.7 mm	89171-890
25 mm Tube	5	25.4 mm	41.9 mm	89171-892

Vials

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
12 mm Vial (2 ml)	9	12.7 mm	16.8 mm	89171-876
15 mm Vial (1 dram)	10	15.5 mm	16.8 mm	89171-878
17 mm Vial (2 drams)	7	17.8 mm	16.8 mm	89171-880
21 mm Vial (4 drams)	5	21.5 mm	16.8 mm	89171-882
28 mm Vial	3	28.8 mm	16.8 mm	89171-884



Other accessories

Description	Cat. No.
Base plate for 5.3" (135 mm) diameter top plates	89171-872
Safety handles (set of 2)	89171-874





VWR® BASIC MINI HOTPLATES, STIRRERS & HOTPLATE STIRRERS

- New ergonomic design
- Hotplates and hotplate stirrers boil 300 ml of water in 16 min
- Ideal for educational labs
- Built-in support rod holder

VWR Basic Mini Hotplates, Stirrers and Hotplate Stirrers are rugged, compact units that heat and stir up to 1000 ml of liquid. Durable cast aluminum top plate will not crack or chip and provides an even heating surface. Bi-metallic thermostat offers reliable temperature control. Powerful heater reaches maximum temperature in only minutes. Powerful motor and magnet deliver reliable and consistent stirring. Compact design saves bench space. Built-in support rod holder with locking knob accepts optional support rod and clamp kit.

Basic Mini Fixed-Temperature Hotplate features an illuminated rocker switch to activate the preset fixed temperature of 375 °C.

Specifications

Temperature range	up to 375 °C*
Speed range	100 to 1200 rpm
Maximum capacity (H ₂ O)	1000 ml
Top plate dimensions	5 × 5" (12.7 × 12.7 cm)
Overall dimensions (L × W × H)	7.9 × 6 × 4.9" (20.1 × 15.2 × 12.4 cm)
Ship weight	4 lb (1.8 kg)

* Fixed-Temperature Hotplate has a fixed temperature of 375 °C.

Basic Mini Auto-Stirrer is automatically activated by the minimum weight of a flask or beaker and will stop stirring when mixing vessel is removed.

OPERATING FEATURES:

Adjustment knobs: Basic speed and temperature control knobs with dial markings from 1 to 10.

OPERATING CONDITIONS:

Units can be run in noncondensing environments from 5 to 40 °C (41 to 104 °F), 20% to 85% relative humidity.

Applications: Academia and basic chemistry.

ORDERING INFORMATION

Units include a 72" (183 cm), three-wire cord and plug (230 V units are supplied with a Euro-type plug). Stirrers and Hotplate Stirrers are supplied with a 1.5" (3.8 cm) PTFE-coated stir bar. Five-year limited warranty on parts and labor.

Description	Electrical (50/60 Hz)	Cat. No.
Basic Mini Hotplate	120 V 6 A 565 W	10153-300
Basic Mini Hotplate	230 V 2.5 A 430 W	10153-302
Basic Mini Fixed-Temperature Hotplate	120 V 6 A 565 W	10153-312
Basic Mini Stirrer	120 V 0.5 A 20 W	10153-304
Basic Mini Stirrer	230 V 0.25 A 20 W	76683-462
Basic Mini Auto-Stirrer	120 V 0.5 A 20 W	10153-314
Basic Mini Auto-Stirrer	230 V 0.25 A 20 W	10153-316
Basic Mini Hotplate Stirrer	120 V 6 A 565 W	10153-308
Basic Mini Hotplate Stirrer	230 V 2.5 A 430 W	10153-310



12620-970

VWR® DYLA SERIES

- Large 6.5" (16.5 cm) diameter cast aluminum top plate
- Built-in support rod holder

The economical and durable VWR Dyla Series hotplates, stirrers and hotplate stirrers are ideal for general heating and stirring. Large 6.5" (16.5 cm) diameter cast aluminum top plate provides a stable platform for large vessels. Even heating surface is capable of boiling or stirring up to 1500 ml of water with ease. Electronic speed control and bi-metallic thermostat deliver reliable and repeatable temperature and speed control. Powerful heater reaches maximum temperature in only minutes. Large magnet provides strong magnetic coupling to the spin bar. Indicator lights illuminate when the heater is turned on. Built-in support rod holder with locking knob accepts optional support rod and clamp kit that allows unit to be mounted to lab frames or ring stands (see Page 56).

ORDERING INFORMATION

Stirrers and hotplate stirrers are supplied with a 1.5" (3.8 cm) PTFE-coated stir bar. Five-year limited warranty on parts and labor.

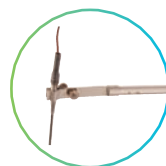
Specifications

Temperature range	up to 400 °C
Speed range	100 to 1200 rpm
Maximum capacity (H ₂ O)	1500 ml
Top plate material	Aluminum
Top plate dimensions (diameter)	6.5" (16.5 cm)
Overall dimensions (L × W × H)	8.75 × 8 × 4.75" (22.2 × 20.3 × 12.1 cm)
Ship weight	4.6 lb (2.1 kg)

Description	Electrical (50/60 Hz)	Cat. No.
Dylatherm™ Hotplate	120 V 10 A 575 W	12620-978
Dylatherm™ Hotplate	230 V 5 A 575 W	12620-980
Dylastir® Stirrer	120 V 0.5 A 20 W	12620-974
Dylastir® Stirrer	230 V 0.25 A 20 W	12620-976
Dyla-Dual™ Hotplate Stirrer	120 V 10 A 575 W	12620-970
Dyla-Dual™ Hotplate Stirrer	230 V 5 A 575 W	12620-972



Support rod and clamp kit include:



Extension clamp



3-Prong swivel clamp



Hook connector

VWR® SUPPORT ROD AND CLAMP KIT

Designed for holding temperature probes, thermometers and other glass tubes. Includes an 18" (45.7 cm) stainless-steel support rod, thermometer/temperature probe extension clamp, 3-prong medium swivel clamp and hook connector.

Recommended for all hotplates and hotplate stirrers.

Description	Cat. No.
Support rod and clamp kit	11301-110



VWR® SUPPORT PLATES

Designed to hold hotplates, stirrers and other apparatus to lab frames or ring stands. Aluminum construction offers strength and durability. Support plates include a nonskid rubber mat and can mount to vertical rods up to 0.75" (1.9 cm) in diameter.

Small support plate is recommended for Standard, Advanced 4 × 4" and Basic Mini hotplates, stirrers and hotplate stirrers.

Medium support plate is recommended for Professional, Advanced, Standard 7 × 7" and Dyla Series hotplates, stirrers and hotplate stirrers.

Large support plate is recommended for multiple units.

Size	Dimensions (L × W × H)	Cat. No.
Small	9.5 × 6.5" (24.1 × 16.5 cm)	11301-124
Medium	12.75 × 9" (32.4 × 22.9 cm)	11301-126
Large	15.75 × 12" (40 × 30.5 cm)	11301-128

VWR® STANDARD & ADVANCED HIGH-VOLUME STIRRERS

- Powerful motor and magnet mix up to 25 L of liquid
- Large top plate surface
- Microprocessor controls

VWR Standard and Advanced High-Volume Stirrers are designed for large-capacity applications. Powerful magnet and motor offer exceptional magnetic coupling force capable of stirring 25 L.

OPERATING FEATURES

Low-profile design: Takes up minimal space. Spill-resistant housing channels fluids away from internal components. Cast aluminum base offers durability and added stability.

Glass-filled nylon top plate: Features a chemical-resistant, reflective white surface that is easy to clean.

Large top plate: Accommodates oversized vessels.

Microprocessor control: Precisely regulates speed through the entire range. Stirring function, with continuous-duty motor and magnet, maintains the set speed even under changing load or viscosity.

Adjustment knob: Basic speed control knob with dial markings from 1 to 10 (Standard Series).

LED screen: Touchpad controls with easy-to-read, independent LED indicators for speed and time. Speed is adjustable in 10 rpm increments. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off unit when time reaches zero (Advanced Series).

SAFETY FEATURES

Audible alarm: In timed mode, alarm will sound when time reaches zero (Advanced Series).

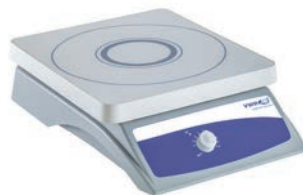
Speed ramping feature: Slowly increases speed for improved safety and enhanced coupling. Avoids splashing, improves spin bar control and provides excellent low-speed control.

OPERATING CONDITIONS

Parameters: Units can be run in noncondensing environments from 5 to 40 °C (41 to 104 °F), 20% to 80% relative humidity.

Not recommended for use in vacuum or low-pressure environments.

Applications: Carboys, chromatography and large volume sample stirring.



12621-050



12621-054

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Units are also supplied with a 2.75" (7 cm) PTFE-coated stir bar. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Specifications

Speed range	60 to 1400 rpm
Speed stability	60 to 250 rpm, ± 5 rpm 250 to 1400 rpm, $\pm 2\%$
Timer (advanced series)	1 s to 160 hr
Maximum capacity (H ₂ O)	25 L
Maximum vessel diameter	10" (25 cm)
Top plate material	Glass-filled nylon
Top plate dimensions (L x W)	12.5 x 11" (31.8 x 27.9 cm)
Overall dimensions (L x W x H)	17 x 11 x 4" (43.2 x 27.9 x 10.2 cm)
Ship weight	14.6 lb (6.6 kg)

Description	Electrical (50/60 Hz)	Positions	Cat. No.
Standard High-Volume Stirrer	120 V 1.3 A 75 W	1	12621-050
Standard High-Volume Stirrer	230 V 0.65 A 75 W	1	12621-052
Advanced High-Volume Stirrer	120 V 1.3 A 75 W	1	12621-054
Advanced High Volume Stirrer	230 V 1.3 A 75 W		76683-466
Advanced High-Volume Stirrer with NIST-traceable certificate	120 V 1.3 A 75 W	1	10027-232



12621-058

VWR® ADVANCED LARGE-CAPACITY STIRRERS

- LED screens for speed and time
- Durable, stainless-steel construction
- Mixes up to 200 L

VWR Advanced Model 1000 and Model 2000 Large-Capacity Stirrers are ideal for high-volume applications. The powerful magnetic drive is capable of mixing high-viscosity materials. Stainless-steel base offers durability and added stability.

OPERATING FEATURES

Microprocessor control: Precisely regulates speed through the entire range. Stirring function, with continuous-duty motor and magnet, maintains the set speed even under changing load or viscosity.

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed and time. Timer will display elapsed time or, when programmed to user-defined limit, will shut off unit when time reaches zero.

SAFETY FEATURES

Audible alarm: In timed mode, the alarm will sound when time reaches zero.

Speed ramping feature: Slowly increases speed for improved safety and enhanced coupling. Avoids splashing, improves spin bar control and provides excellent low-speed control.

OPERATING CONDITIONS

Parameters: Units can be run in noncondensing environments from 5 to 40 °C (41 to 104 °F), 20% to 80% relative humidity.

Applications: Mixing viscous materials, polymers and pilot scale.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Model 1000 units are supplied with a 2.75" (7 cm) egg-shaped PTFE-coated stir bar. Model 2000 units are supplied with a 4" (10.2 cm) PTFE-coated stir bar with a pivot ring. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Specifications

Speed range	Model 1000: 100 to 1800 rpm Model 2000: 100 to 1650 rpm (increased in 10 rpm increments)
Speed stability	±2%
Timer	1 to 160 hr
Maximum capacity (H ₂ O)	Model 1000: 100 L Model 2000: 200 L
Maximum weight capacity	425 lb (193 kg)
Top plate material	304 stainless steel
Top plate dimensions (L × W)	21.25 × 25" (54 × 63.5 cm)
Overall dimensions (L × W × H)	28.5 × 26.75 × 5.25" (72.4 × 68 × 13.3 cm)
Ship weight	63 lb (28.6 kg)

Description	Electrical (50/60 Hz)	Cat. No.
Model 1000 Advanced Large-Capacity Stirrer, 100 L	120 V 1 A 41 W	12621-058
Model 1000 Advanced Large-Capacity Stirrer, 100 L	230 V 0.5 A 41 W	12621-060
Model 2000 Advanced Large-Capacity Stirrer, 200 L	120 V 1 A 82 W	12621-062
Model 2000 Advanced Large-Capacity Stirrer, 200 L	230 V 0.5 A 82 W	12621-064
Model 1000 Advanced Large-Capacity Stirrer, 100 L with NIST-traceable certificate	120 V 1 A 41 W	10027-236
Model 2000 Advanced Large-Capacity Stirrer, 200 L with NIST-traceable certificate	120V 1 A 82 W	10027-090



12621-046

VWR® STANDARD & ADVANCED MULTIPOSITION STIRRERS

- Stir up to nine vessels at once
- Synchronized and uniform mixing
- Low-profile design

VWR Standard and Advanced Multiposition Stirrers are powerful magnetic stirrers with precise speed control that offer repeatable performance. Synchronized operation ensures uniform mixing at each position.

OPERATING FEATURES

Low-profile design: Takes up minimal space. Spill-resistant housing channels fluids away from internal components. Cast aluminum base offers durability and added stability.

Glass-filled nylon top plate: Features a chemical-resistant, reflective-white surface that is easy to clean.

Large top plate: Stirs up to nine vessels at once, with helpful position indicators.

Microprocessor control: Precisely regulates speed through the entire range. Stirring function, with continuous-duty motor and magnet, maintains the set speed even under changing load or viscosity.

Adjustment knob: Basic speed control knob with dial markings from 1 to 10 (Standard Series).

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed and time. Speed is adjustable in 10 rpm increments. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero (Advanced Series).

SAFETY FEATURES

Speed ramping feature: Slowly increases speed for improved safety and enhanced coupling. Avoids splashing, improves spin bar control and provides excellent low-speed control.

Audible alarm: In timed mode, the alarm will sound when time reaches zero (Advanced Series).

OPERATING CONDITIONS

Parameters: Units can be run in noncondensing environments from 5 to 40 °C (41 to 104 °F), 20% to 80% relative humidity.

Not recommended for use in vacuum or low-pressure environments.

Applications: Dissolution studies, media/reagent preparations and titration studies.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Units are also supplied with a 1" (2.5 cm) PTFE-coated stir bar for each position. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.



12621-026

Specifications

Speed range	60 to 1400 rpm
Speed stability	60 to 250 rpm, ±5 rpm 250 to 1400 rpm, ±2%
Timer (Advanced Series)	1 s to 160 hr
Top plate material	Glass-filled nylon
Top plate dimensions (L × W)	12.5 × 11" (31.8 × 27.9 cm)
Overall dimensions (L × W × H)	17 × 11 × 4" (43.2 × 27.9 × 10.2 cm)
Ship weight	14.75 lb (6.7 kg)

Description	Electrical (50/60 Hz)	Positions	Maximum capacity (H ₂ O)	Maximum vessel diameter	Cat. No.
Standard Multi-Position Stirrer 4	120 V 1.3 A 75 W	4	1 L	5.1" (13 cm)	12621-018
Standard Multi-Position Stirrer 4	230 V 0.65 A 75 W	4	1 L	5.1" (13 cm)	12621-020
Standard Multi-Position Stirrer 5	120 V 1.3 A 75 W	5	600 ml	3.75" (9.5 cm)	12621-026
Standard Multi-Position Stirrer 5	230 V 0.65 A 75 W	5	600 ml	3.75" (9.5 cm)	12621-028
Standard Multi-Position Stirrer 6	120 V 1.3 A 75 W	6	400 ml	3.2" (8 cm)	12621-034
Standard Multi-Position Stirrer 6	230 V 0.65 A 75 W	6	400 ml	3.2" (8 cm)	12621-036
Standard Multi-Position Stirrer 9	120 V 1.3 A 75 W	9	250 ml	3" (7.5 cm)	12621-042
Standard Multi-Position Stirrer 9	230 V 0.65 A 75 W	9	250 ml	3" (7.5 cm)	12621-044
Advanced Multi-Position Stirrer 4	120 V 1.3 A 75 W	4	1 L	5.1" (13 cm)	12621-022
Advanced Multi-Position Stirrer 4	230 V 0.65 A 75 W	4	1 L	5.1" (13 cm)	12621-020
Advanced Multi-Position Stirrer 6	120 V 1.3 A 75 W	6	400 ml	3.2" (8 cm)	12621-038
Advanced Multi-Position Stirrer 6	230 V 0.65 A 75 W	6	400 ml	3.2" (8 cm)	12621-036
Advanced Multi-Position Stirrer 9	120 V 1.3 A 75 W	9	250 ml	3" (7.5 cm)	12621-046
Advanced Multi-Position Stirrer 9	230 V 0.65 A 75 W	9	250 ml	3" (7.5 cm)	12621-048
Advanced Multi-Position Stirrer 4	120 V 1.3 A 75 W	4	1 L	5.1" (13 cm)	10027-068
Advanced Multi-Position Stirrer 5	120 V 1.3 A 75 W	5	600 ml	3.75" (9.5 cm)	10027-070
Advanced Multi-Position Stirrer 6	120 V 1.3 A 75 W	6	400 ml	3.2" (8 cm)	10027-076
Advanced Multi-Position Stirrer 9	120 V 1.3 A 75 W	9	250 ml	3" (7.5 cm)	10027-078



VWR® ADVANCED MINI DRY BLOCK HEATER

- Compact, ergonomic design
- Six modular block options

The VWR Advanced Mini Dry Block Heater is ideal for a variety of applications that require accurate and repeatable results, such as LAMP assays, immunoassays, enzyme reactions and denaturations. This personal-sized heater takes up minimal bench space and is small enough to fit in the palm of your hand.

The block heater accepts one interchangeable mini block for 0.2, 0.5, 1.5 or 50 ml tubes. This model includes a clear polycarbonate lid to help prevent evaporation and maintain temperature uniformity. The cover is easily removable when incubating 15 or 50 ml tubes. Efficient heater features close tube-and-block contact with a low-density design for exceptional temperature uniformity. Units include a block-lifting tool.

OPERATING FEATURES

- Microprocessor control:** PID temperature control provides temperature accuracy as low as ±0.5 °C and uniformity as low as ±0.2 °C. Samples are heated to temperature quickly and accurately. Temperature can be adjusted in 0.1 °C increments.
- LED screens:** Touchpad controls with easy-to-read, independent screens for temperature and time. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off when unit reaches zero. Display will show last settings, even after power has been turned off.
- Temperature calibration mode:** Allows user to calibrate unit to an external temperature device.

SAFETY FEATURES

- Audible alarm:** In timed mode, the alarm will sound when time reaches zero and when unit reaches set-point temperature.
- Cool-touch housing:** Constructed from a high-quality heat- and chemical-resistant polymer. The unit's housing remains cool to touch throughout normal operating temperatures.
- Caution! To avoid possible electrical hazard, do not fill well or block opening with water or other fluids. Unit is designed as a dry bath/incubator.

OPERATING CONDITIONS

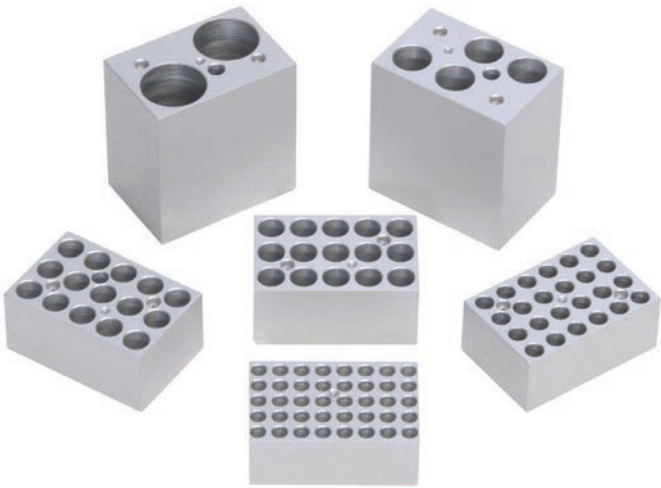
- Parameters:** Units can be run in noncondensing environments from 18 to 33 °C (64 to 91 °F), 20% to 80% relative humidity.
- Applications:** LAMP assays, immunoassays, enzyme reactions and denaturations.

Specifications

Temperature range	Ambient +5 to 100 °C
Temperature accuracy	±0.5 °C
Temperature uniformity	±0.2 °C
Time to reach 37 °C	2 min
Timer	1 s to 160 hr
Overall dimensions (L × W × H)	6.3 × 5 × 4.85" (16 × 12.7 × 12.3 cm)
Ship weight	3.5 lb (1.6 kg)



10153-318



Accessory blocks, see Page 58

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Five-year limited warranty on parts and labor. Heaters require a VWR mini modular heating block for operation (sold separately). Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the temperature range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced Mini Dry Block Heater	120 V 0.440 A 48 W	10153-318
Advanced Mini Dry Block Heater	230 V 0.250 A 48 W	10153-320
Advanced Mini Dry Block Heater with NIST-traceable certificate	120 V 0.440 A 48 W	10153-352

VWR® ADVANCED MINI DRY BLOCK HEATER WITH HEATED LID

- Heated lid option reduces condensation on sample lids
- Compact, ergonomic design
- Four modular block options

The VWR Advanced Mini Dry Block Heater with Heated Lid is ideal for a variety of applications that require accurate and repeatable results, such as LAMP assays, immunoassays, enzyme reactions and denaturations. This personal-sized heater takes up minimal bench space and is small enough to fit in the palm of your hand.

The block heater accepts one interchangeable mini block for 0.2, 0.5, 1.5 or 2 ml tubes. The heated lid helps to reduce the amount of condensation on sample lids, regulate the temperature and maintain temperature uniformity. Efficient heater features close tube-and-block contact with a low-density design for exceptional temperature uniformity. Units include a block-lifting tool.

OPERATING FEATURES

Microprocessor control: PID temperature control provides temperature accuracy as low as ± 0.3 °C and uniformity as low as ± 0.2 °C. Samples are heated to temperature quickly and accurately. Temperature can be adjusted in 0.1 °C increments.

LED screens: Touchpad controls with easy-to-read, independent screens for temperature and time. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last settings, even after power has been turned off.

Temperature calibration mode: Allows user to calibrate unit to an external temperature device.

SAFETY FEATURES

Audible alarm: In timed mode, the alarm will sound when time reaches zero and when unit reaches set-point temperature.

Cool-touch housing: Constructed from a high-quality heat- and chemical-resistant polymer. The unit's housing remains cool to touch throughout normal operating temperatures.

Caution! To avoid possible electrical hazard, do not fill well or block opening with water or other fluids. Unit is designed as a dry bath/incubator.



10153-348

OPERATING CONDITIONS

Parameters: Units can be run in noncondensing environments from 18 to 33 °C (64 to 91 °F), 20% to 80% relative humidity.

Applications: LAMP assays, immunoassays, enzyme reactions and denaturations.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Five-year limited warranty on parts and labor. Heaters require a VWR mini modular heating block for operation (sold separately).

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the temperature range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced Mini Dry Block Heater with Heater Lid	120 V 0.670 A 73 W	10153-348
Advanced Mini Dry Block Heater with Heater Lid	230 V 0.340 A 73 W	10153-350
Advanced Mini Dry Block Heater with Heater Lid and NIST-traceable certificate	120 V 0.670 A 73 W	10153-356

Specifications

Temperature range	Ambient +5 to 100 °C
Temperature accuracy	± 0.3 °C
Temperature uniformity	± 0.2 °C
Time to reach 37 °C	2 min
Timer	1 to 160 hr
Overall dimensions (L x W x H)	6.3 x 5 x 4.85" (16 x 12.7 x 12.3 cm)
Ship weight	3.5 lb (1.6 kg)

Accessories

Description	No. of wells	Dimensions (D x W x H)	Well depth	Well diameter	Thermometer well	Cat. No.
Mini block for 0.2 ml tubes	40	2.8 x 1.85 x 1.05" (7.11 x 4.69 x 2.67 cm)	15.2 mm	6.4 mm	-	10153-360
Mini block for 0.5 ml tubes	24	2.8 x 1.85 x 1.15" (7.11 x 4.69 x 2.92 cm)	21 mm	7.9 mm	-	10153-362
Mini block for 1.5 ml tubes	15	2.8 x 1.85 x 1.3" (7.11 x 4.69 x 3.30 cm)	30.5 mm	11.1 mm	Yes	10153-364
Mini block for 2.0 ml tubes	15	2.8 x 1.85 x 1.3" (7.11 x 4.69 x 3.30 cm)	30.5 mm	11.5 mm	-	10153-366
Mini block for 15 ml tubes*	4	2.8 x 1.85 x 2.95" (7.11 x 4.69 x 5.59 cm)	72.4 mm	17.1 mm	Yes	10153-368
Mini block for 50 ml tubes*	2	2.8 x 1.85 x 2.95" (7.11 x 4.69 x 5.59 cm)	72.4 mm	30.0 mm	Yes	10153-370

* Not for use with Advanced Mini Dry Block Heater with Heated Lid.

VWR® ADVANCED DRY BLOCK HEATER

- New design with smaller footprint
- Exceptional temperature uniformity and stability
- Optional External Temperature Probe Kit
- Holds interchangeable modular blocks

Designed for applications that require repeatable results and superior temperature stability. This multipurpose unit is ideal for the incubation and activation of cultures, enzyme reactions, immunoassays, melting/boiling points and a wide variety of other laboratory procedures. Integral support rod holder with locking knob accepts optional External Temperature Probe Kit to monitor actual block or sample temperature. Each of the five models accepts separate interchangeable modular blocks, accommodating various tube sizes from 0.2 ml microtubes to 50 ml centrifuge tubes. Each block has a thermometer well for measuring block temperature. Efficient heating due to close tube-and-block contact for maximum heat retention. Heaters require modular heating blocks for operation. Modular blocks are sold separately (see Pages 63 - 65).

OPERATING FEATURES

Microprocessor control: PID temperature control, with optional external RTD probe, offers a temperature stability as low as $\pm 0.1^\circ\text{C}$, with a temperature uniformity as low as $\pm 0.1^\circ\text{C}$. Samples are heated to temperature quickly and accurately. Temperature is adjusted in 0.1°C increments.

LED screens: Touchpad controls with easy-to-read, independent LED screens for temperature and time. Provide repeatable and accurate results every time and are easily visible across lab benches. Shows set point and actual temperatures. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

Temperature calibration mode: Allows user to calibrate unit to an external temperature device.

SAFETY FEATURES

Heat caution indicator: Hot-symbol warning light is illuminated when the temperature is above 40°C .

Audible alarm: In timed mode, the alarm will sound when time reaches zero and when unit reaches set-point temperature.

Caution! To avoid possible electrical hazard, do not fill well or block opening with water or other fluids. Unit is designed as a dry bath/incubator.

OPERATING CONDITIONS

Parameters: Units can be run in noncondensing environments from 18 to 33°C (64 to 91°F), 20% to 80% relative humidity.

Applications: Denaturing proteins, DNA applications, ELISA and other immunoassay studies.



11301-112

75838-270 with optional block 13259-000 and optional probe kit 11301-112

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Five-year limited warranty on parts and labor. Modular blocks are sold separately (see Pages 63 - 65).

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the temperature range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Size	Temperature range	Stability at 37 °C	Uniformity within the block at 37 °C	Uniformity across similar blocks at 37 °C	Time to reach 100 °C	Timer
1 Block	Ambient +5 to 120 °C	120 V units, ±0.1 °C 230 V units, ±0.2 °C	120 V units, ±0.1 °C 230 V units, ±0.2 °C	-	45 min	1 to 160 hr
2 Blocks				±0.1 °C	50 min	
4 Blocks				±0.2 °C	60 min	
6 Blocks				±0.3 °C	65 min	

Block capacity	Dimensions (L × W × H)	Electrical (50/60 Hz)	Ship weight	Cat. No.
Advanced Dry Block Heater				
1	10.6 × 7.7 × 4.6" (26.9 × 19.6 × 11.7 cm)	120 V 0.9 A 100 W	5 lb (2.3 kg)	75838-270
1	10.6 × 7.7 × 4.6" (26.9 × 19.6 × 11.7 cm)	230 V 0.5 A 100 W	5 lb (2.3 kg)	75838-324
2	13.7 × 7.7 × 4.6" (34.8 × 19.6 × 11.7 cm)	120 V 1.8 A 190 W	5.7 lb (2.6 kg)	75838-282
2	13.7 × 7.7 × 4.6" (34.8 × 19.6 × 11.7 cm)	230 V 0.9 A 190 W	5.7 lb (2.6 kg)	75838-320
4	16.7 × 7.9 × 4.1" (42.4 × 20.1 × 10.4 cm)	120 V 2.7 A 290 W	8.8 lb (4.0 kg)	75838-294
4	16.7 × 7.9 × 4.1" (42.4 × 20.1 × 10.4 cm)	230 V 1.3 A 270 W	8.8 lb (4.0 kg)	75838-288
6	20.7 × 7.9 × 4.1" (52.6 × 20.1 × 10.4 cm)	120 V 3.4 A 360 W	10 lb (4.5 kg)	75838-306
6	20.7 × 7.9 × 4.1" (52.6 × 20.1 × 10.4 cm)	230 V 2.0 A 420 W	10 lb (4.5 kg)	75838-300
Advanced Dry Block Heater with NIST-traceable certificate				
1	10.6 × 7.7 × 4.6" (26.9 × 19.6 × 11.7 cm)	120 V 0.9 A 110 W	5 lb (2.3 kg)	75838-316
1	10.6 × 7.7 × 4.6" (26.9 × 19.6 × 11.7 cm)	230 V 0.5 A 110 W	5 lb (2.3 kg)	75838-266
2	13.7 × 7.7 × 4.6" (34.8 × 19.6 × 11.7 cm)	120 V 1.7 A 210 W	5.7 lb (2.6 kg)	75838-284
2	13.7 × 7.7 × 4.6" (34.8 × 19.6 × 11.7 cm)	230 V 0.9 A 210 W	5.7 lb (2.6 kg)	75838-322
4	16.7 × 7.9 × 4.1" (42.4 × 20.1 × 10.4 cm)	120 V 2.6 A 310 W	8.8 lb (4.0 kg)	75838-296
4	16.7 × 7.9 × 4.1" (42.4 × 20.1 × 10.4 cm)	230 V 1.3 A 310 W	8.8 lb (4.0 kg)	75838-290
6	20.7 × 7.9 × 4.1" (52.6 × 20.1 × 10.4 cm)	120 V 3.4 A 410 W	10 lb (4.5 kg)	75838-308
6	20.7 × 7.9 × 4.1" (52.6 × 20.1 × 10.4 cm)	230 V 1.7 A 410 W	10 lb (4.5 kg)	75838-302

VWR® EXTERNAL TEMPERATURE PROBE KIT

Enables the unit to read the actual block or sample temperature and display that temperature on the control panel. Includes a stainless steel RTD PT100 probe, 18" (45.7 cm) stainless-steel support rod, thermometer/temperature probe extension clamp and hook connector. The RTD probe is designed to fit perfectly into the thermometer well of each modular block.



Description	Cat. No.
External Temperature Probe Kit	11301-112
Probe only	76683-460



VWR® ADVANCED DRY BLOCK HEATER WITH HEATED LID

- Exceptional uniformity, stability and regulation of temperature
- Heated lid reduces condensation on sample lids
- Optional External Temperature Probe Kit

The VWR Advanced Dry Block Heater with Heated Lid is designed for applications that require repeatable results and superior temperature stability. It is ideal for isothermal incubation, enzyme reactions, immunoassays, nucleic acid denaturation and a wide variety of other laboratory procedures. Integral support rod holder with locking knob accepts optional External Temperature-Probe Kit. Optional External Temperature Probe Kit, which monitors actual block or sample temperature. Block heater accepts one microplate block or two separate interchangeable modular blocks, accommodating various tube sizes from 0.2 ml microtubes to test tubes or vials up to 85 mm in height. Each block has a thermometer well for measuring block temperature. Efficient heating due to close tube-and-block contact with a low-density design for exceptional temperature uniformity. The heated lid helps to regulate the temperature and reduce the amount of condensation on sample lids. Heaters require VWR modular heating blocks for operation, sold separately (see Pages 63 - 65).

OPERATING FEATURES

Microprocessor control: PID temperature control, with optional external RTD probe, offers a temperature stability as low as $\pm 0.1^\circ\text{C}$ with a temperature uniformity as low as $\pm 0.1^\circ\text{C}$. Samples are heated to temperature quickly and accurately. Temperature is adjusted in 0.1°C increments.

LED screens: Touchpad controls with easy-to-read, independent LED screens for temperature and time. Provide repeatable and accurate results every time and are easily visible across lab benches. Shows set point and actual temperature. Timer will display elapsed time or, when programmed to a user-defined limit, will shut off the unit when the time reaches zero. Display will show the last used settings, even after power has been turned off.

Temperature calibration mode: Allows user to calibrate unit to an external temperature device.

SAFETY FEATURES

Heat caution indicator: Hot-symbol warning light is illuminated when the temperature is above 40°C .

Audible alarm: In timed mode, the alarm will sound when time reaches zero and when unit reaches set-point temperature.

Caution! To avoid possible electrical hazard, do not fill well or block opening with water or other fluids. Unit is designed as a dry bath/incubator.



75838-278 with optional block 13259-295

OPERATING CONDITIONS

Parameters: Units can be run in noncondensing environments from 18 to 33°C (64 to 91°F), 20% to 80% relative humidity.

Applications: Isothermal incubation, enzyme reactions, immunoassays and nucleic acid denaturation.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Five-year limited warranty on parts and labor. Optional External Temperature Probe Kit available (see page 60). Modular blocks are sold separately (see Pages 63 - 65).

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the temperature range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Size	Temperature range	Stability at 37°C	Uniformity within the block at 37°C	Uniformity across similar blocks at 37°C	Time to reach 100°C	Timer
2 Blocks	Ambient +5 to 100°C	120 V units, $\pm 0.1^\circ\text{C}$ 230 V units, $\pm 0.2^\circ\text{C}$	120 V units, $\pm 0.1^\circ\text{C}$ 230 V units, $\pm 0.2^\circ\text{C}$	$\pm 0.1^\circ\text{C}$ $\pm 0.2^\circ\text{C}$	50 min	1 to 160 hr

Block capacity	Dimensions (L x W x H)	Electrical (50/60 Hz)	Ship weight	Cat. No.
Advanced Dry Block Heater				
2	13.7 x 7.7 x 7.4" (34.8 x 19.6 x 18.8 cm)	120 V 3.0 A 320 W	8.7 lb (3.9 kg)	75838-278
2	13.7 x 7.7 x 7.4" (34.8 x 19.6 x 18.8 cm)	230 V 1.5 A 320 W	8.7 lb (3.9 kg)	75838-274
Advanced Dry Block Heater with NIST-traceable certificate				
2	13.7 x 7.7 x 7.4" (34.8 x 19.6 x 18.8 cm)	120 V 3.0 A 320 W	8.7 lb (3.9 kg)	75838-280
2	13.7 x 7.7 x 7.4" (34.8 x 19.6 x 18.8 cm)	230 V 1.5 A 320 W	8.7 lb (3.9 kg)	75838-276

VWR® STANDARD DRY BLOCK HEATER

- New design with smaller footprint
- Multipurpose use
- Holds interchangeable modular blocks
- Analog controls

The high-wattage, constant-temperature VWR Standard Dry Block Heater is economical, versatile and compact. This multipurpose unit is ideal for the incubation and activation of cultures, enzyme reactions, immunoassays, melting/boiling points and a wide variety of other laboratory procedures. Each of the five models accepts separate interchangeable modular blocks, accommodating various sample enclosures such as microtubes, centrifuge tubes, vials, microplates and PCR strips or tubes. Each block has a thermometer well for measuring block temperature. Anodized aluminum modular blocks provide superior temperature stability and heat transfer. Requires modular heating blocks for operation, sold separately (see Pages 63 - 65).



75838-286 with optional blocks 13259-000 and 13259-130

OPERATING FEATURES

Microprocessor control: PID temperature controller maintains precise temperature control. Samples are heated to temperature quickly and accurately

Adjustment knobs: Dual temperature control knobs with dial markings from 1 to 10 for low-temperature and high-temperature adjustments. Low-range knob adjusts from ambient to 100 °C, and high-range knob adjusts from 75 to 150 °C.

Caution! To avoid possible electrical hazard, do not fill well or block opening with water or other fluids. Unit is designed as a dry bath/incubator.

OPERATING CONDITIONS

Parameters: Units can be run in noncondensing environments from 18 to 33 °C (64 to 91 °F), 20% to 80% relative humidity.

Applications: Coagulation and RH studies.

ORDERING INFORMATION

Units include a 92" (234 cm) detachable, 3-wire cord and plug (230 V units are supplied with a Euro-type plug). Five-year limited warranty on parts and labor. Modular blocks are sold separately (see Pages 63 - 65).



75838-318 with optional 13259-000

Size	Temperature range	Stability at 37 °C	Uniformity within the block at 37 °C	Uniformity across similar blocks at 37 °C	Time to reach 100 °C
1 Block	Low range: ambient +5 to 100 °C High range: 75 to 150 °C	120 V units, ±1.0 °C 230 V units, ±1.5 °C	120 V units, ±0.1 °C 230 V units, ±0.2 °C	-	45 min
2 Block		120 V units, ±1.5 °C 230 V units, ±2.0 °C		±0.1 °C	50 min
4 Block		120 V units, ±2.0 °C 230 V units, ±2.5 °C		±0.2 °C	70 min
6 Block		120 V units, ±2.0 °C 230 V units, ±2.5 °C		±0.3 °C	75 min

Block capacity	Dimensions (L × W × H)	Electrical (50/60 Hz)	Ship weight	Cat. No.
1	10.6 × 7.7 × 4.6" (26.9 × 19.6 × 11.7 cm)	120 V 0.9 A 100 W	5 lb (2.3 kg)	75838-318
1	10.6 × 7.7 × 4.6" (26.9 × 19.6 × 11.7 cm)	230 V 0.5 A 100 W	5 lb (2.3 kg)	75838-268
2	13.7 × 7.7 × 4.6" (34.8 × 19.6 × 11.7 cm)	120 V 1.8 A 190 W	5.7 lb (2.6 kg)	75838-286
2	13.7 × 7.7 × 4.6" (34.8 × 19.6 × 11.7 cm)	230 V 0.9 A 190 W	5.7 lb (2.6 kg)	75838-272
4	16.7 × 7.9 × 4.1" (42.4 × 20.1 × 10.4 cm)	120 V 2.7 A 290 W	8.8 lb (4.0 kg)	75838-298
4	16.7 × 7.9 × 4.1" (42.4 × 20.1 × 10.4 cm)	230 V 1.3 A 270 W	8.8 lb (4.0 kg)	75838-292
6	20.7 × 7.9 × 4.1" (52.6 × 20.1 × 10.4 cm)	120 V 3.4 A 360 W	10 lb (4.5 kg)	75838-310
6	20.7 × 7.9 × 4.1" (52.6 × 20.1 × 10.4 cm)	230 V 2.0 A 420 W	10 lb (4.5 kg)	75838-304

VWR® Modular Blocks & Accessories

VWR Modular Blocks are constructed from solid anodized aluminum. The close tubes-to-block-walls contact allows for maximum heat retention. Each block has a thermometer well for measuring block temperature.

Caution! To avoid possible electrical hazard, do not fill well or block with water or other liquids. Units are designed as a dry bath/incubator. Color of block may vary.

Single-block dimensions (L × W × H): 3.75 × 3 × 2" (9.5 × 7.6 × 5.1 cm), double-block dimensions (L × W × H): 6 × 3.75 × 2.25" (15.2 × 9.5 × 5.7 cm)



VWR® MICROCENTRIFUGE TUBE BLOCKS

Single block.

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
0.5 ml Tube	30	7.9 mm	27.6 mm	13259-000
1.5 ml Tube	20	11.1 mm	39.1 mm	13259-286
1.5 ml Eppendorf tube	20	11.5 mm	36.9 mm	13259-002
2 ml Eppendorf tube	20	11.5 mm	38.1 mm	12985-048
2 ml Corning® tube	20	10.9 mm	38.1 mm	12985-050



TITER PLATE BLOCKS

Double block. Fits 2/4/6-block dry block heaters. Ideal for 96-well or 384-well titer plates. Recessed wells for better stability and flat surface good for flat and round-bottom plates.

Sample type	Well depth	Cat. No.
Titer plate	13.5 mm	13259-295



CONICAL-BOTTOM CENTRIFUGE TUBE BLOCKS

Single block.

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
15 ml Tube	12	17.1 mm	44.5 mm	13259-250
50 ml Tube	5	29 mm	47.6 mm	13259-254



STANDARD TEST TUBE BLOCKS

Single block.

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
6 mm Tube	30	8.3 mm	48.4 mm	13259-105
10 mm Tube	24	10.7 mm	48.4 mm	13259-107
12/13 mm Tube	20	13.9 mm	48.4 mm	13259-130
12/13 mm Tube	16	13.9 mm	48.4 mm	13259-120
15/16 mm Tube	12	17.5 mm	48.4 mm	13259-162
17/18 mm Tube	12	19.1 mm	48.4 mm	14216-212
20 mm Tube	8	21 mm	48.4 mm	13259-184
25 mm Tube	6	26.2 mm	48.4 mm	13259-210
35 mm Tube	4	35 mm	47.6 mm	13259-252



VWR® Modular Blocks & Accessories



VWR® COMBINATION BLOCKS

Single block. These blocks are designed for variable-sized samples.

Sample type	Tube size	No. of wells	Well diameter	Well depth	Cat. No.
Test tube combination:	6 mm	6	8.3 mm	48.4 mm	13259-242
	12/13 mm	5	13.8 mm	48.4 mm	
	25 mm	3	26.2 mm	48.4 mm	
Centrifuge tube combination:	1.5 ml	4	11.1 mm	39.1 mm	12985-040
	15 ml	3	17.1 mm	44.5 mm	
	50 ml	2	29 mm	47.6 mm	
Microtube combination:	0.5 ml	6	7.9 mm	27.6 mm	12985-042
	1.5 ml	10	11.1 mm	39.1 mm	
	2 ml	5	11.5 mm	38.1 mm	



VWR® VIAL BLOCKS

Single block. Designed for sample/serum and scintillation vials.

Sample type	No. of wells	Well diameter	Well depth	Cat. No.
12 mm Vial	20	12.7 mm	30 mm	12621-124
15 mm Vial	20	15.8 mm	35 mm	12621-126
16 mm Vial	15	16.4 mm	45 mm	12985-066
17 mm Vial	12	17.8 mm	45 mm	12621-128
19 mm Vial	12	19.7 mm	45 mm	12621-130
21 mm Vial	9	21.7 mm	45 mm	12621-132
23 mm Vial	8	23.8 mm	45 mm	12621-134
25 mm Vial	8	25.8 mm	45 mm	12621-136
28 mm Vial	6	28.8 mm	45 mm	12621-138
35 mm Vial	4	35.0 mm	47.6 mm	13259-252



VWR® PCR PLATE, TUBE & STRIP BLOCKS

Single and double blocks. Tapered tube wells for 0.2 ml tubes. Spaced for easy access and removal.

Sample type	Block size	No. of wells	Well diameter	Well depth	Cat. No.
96-well PCR plate	Double	96	6.4 mm	15.5 mm	13259-260
10 × 8 Tube strips	Single	80	6.4 mm	15.5 mm	13259-256
Individual tubes	Single	64	6.4 mm	20.2 mm	13259-258



VWR® CUVETTE BLOCKS

Single block. Two parallel slots fit six cuvettes in each slot, side by side.

Sample type	No. of wells	Well depth	Cat. No.
(12) 12.5 mm Cuvettes	2	25.4 mm	13259-290

VWR® Modular Blocks & Accessories



VWR® SOLID BLOCKS

Single and double blocks. For use as a low-temperature hotplate, for slide drying or for drilling to make a custom block.

Block size	Dimension (L × W × H)	Cat. No.
Single	3.75 × 3 × 2" (9.5 × 7.6 × 5.1 cm)	13259-288
Double	6 × 3.75 × 2.25" (15.2 × 9.5 × 5.7 cm)	13259-297



VWR® STAINLESS-STEEL SAND BATHS

Ideal for irregular vessels. Stainless-steel construction for superior corrosion resistance. Designed to hold sand, stainless-steel shot or nonvolatile liquids.

For unit	Dimensions (L × W × H)	Cat. No.
1-Block Dry Block Heater	3.8 × 3 × 2.5" (9.5 × 7.6 × 6.4 cm)	13259-262
2-Block Dry Block Heater	3.8 × 5.9 × 2.5" (9.5 × 14.9 × 6.4 cm)	13259-264
4-Block Dry Block Heater	5.8 × 7.5 × 2.5" (14.7 × 19.1 × 6.4 cm)	13259-268
6-Block Dry Block Heater	5.8 × 11.3 × 2.5" (14.7 × 28.7 × 6.4 cm)	13259-270

Accessory	Cat. No.
Sand*	13259-272
Stainless-steel shot*	13259-274

* Capacity per sand bath.

VWR® LOW-TEMPERATURE COVERS

Plexiglass covers reduce air flow for additional temperature stability in low-temperature applications. Two sides are open 0.25" (6.4 mm).

Block size	Dimensions (L × W × H)	Cat. No.
2-Block cover	6.5 × 6.5 × 1.6" (16.5 × 16.5 × 4.1 cm)	13259-301
4-Block cover	8.5 × 7.5 × 1.6" (21.6 × 19.1 × 4.1 cm)	13259-303
6-Block cover	12.5 × 7.5 × 1.6" (31.8 × 19.1 × 4.1 cm)	13259-304





10153-834



VWR® FIXED-SPEED VORTEX MIXER

- New ergonomic design
- Fixed high-speed mixing
- Touch mode operation

New ergonomic design provides optimum comfort and minimal stress. Starts mixing when the cup head is pressed down. Speed is fixed to provide vigorous vortexing of samples.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 4 to 40 °C (39 to 104 °F), 20% to 85% relative humidity.

ORDERING INFORMATION

Units include a 72" (183 cm), three-wire cord and plug (230 V units are supplied with a Euro-type plug). Includes both cup head and 3" (7.6 cm) head with cover. Five-year limited warranty on parts and labor.

Speed range*	120 V: 3200 rpm 230 V: 2800 rpm
Orbit	4.9 mm (0.194")
Capacity	0.5 kg (1.1 lb)
Controls	None
Duty rating	Intermittent duty
Dimensions (L x W x H)	7 x 4.4 x 5.3" (17.8 x 11.2 x 13.5 cm)
Ship weight	10 lb (4.5 kg)

* Maximum speed will vary depending on accessory used.

Description	Electrical (50/60 Hz)	Cat. No.
Fixed-Speed Vortex Mixer	120 V 1.2 A 135 W	10153-834
Fixed-Speed Vortex Mixer	230 V 0.6 A 135 W	10153-836



10153-838



VWR® ANALOG VORTEX MIXER

- New ergonomic design
- Variable, analog speed control
- Continuous or touch mode operation

New ergonomic design provides optimum comfort and minimal stress. Control allows low-speed startup for gentle shaking or high-speed mixing for vigorous vortexing of samples. Choose from two modes of operation: "Touch" mode, which activates mixing when cup head is depressed, or "On" mode, for continuous operation while using accessory attachments.

OPERATING CONDITIONS

Parameters: Unit can be run in conditions noncondensing environments from 4 to 40 °C (39 to 104 °F), 20% to 85% relative humidity.

ORDERING INFORMATION

Units include a 72" (183 cm), three-wire cord and plug (230 V units are supplied with a Euro-type plug). Includes both cup head and 3" (7.6 cm) head with cover. Five-year limited warranty on parts and labor.

Speed range*	120 V: 300 to 3200 rpm 230 V: 300 to 2800 rpm
Orbit	4.9 mm (0.194")
Capacity	0.5 kg (1.1 lb)
Duty rating	Intermittent duty
Controls	Auto/Off/On rocker switch, speed knob with variable 1 to 10 dial marks
Dimensions (L x W x H)	7 x 4.4 x 5.3" (17.8 x 11.2 x 13.5 cm)
Ship weight	10 lb (4.5 kg)

* Maximum speed will vary depending on accessory used.

Description	Electrical (50/60 Hz)	Cat. No.
Analog Vortex Mixer	120 V 1.2 A 135 W	10153-838
Analog Vortex Mixer	230 V 0.6 A 135 W	10153-840



10153-842



VWR® DIGITAL VORTEX MIXER

- New ergonomic design
- LED screens for speed and time
- Continuous or touch mode operation
- Microprocessor controls

New ergonomic design provides optimum comfort and minimal stress. Ideal for applications that demand repeatable results. Microprocessor control maintains the set speed for strong, consistent mixing action. Timer will display elapsed time or shut off when user-defined time limit reaches zero. Choose from two modes of operation: "Touch" mode, which activates mixing when cup head is depressed, or "On" mode for continuous operation while using accessory attachments.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 4 to 40 °C (39 to 104 °F), 20% to 85% relative humidity.

ORDERING INFORMATION

Units include a 72" (183 cm), three-wire cord and plug (230 V units are supplied with a Euro-type plug). Includes both cup head and 3" (7.6 cm) head with cover. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Speed range*	120 V: 500 to 3000 rpm 230 V: 500 to 2800 rpm
Timer	1 to 160 hr
Orbit	4.9 mm (0.194")
Capacity	0.5 kg (1.1 lb)
Duty rating	Intermittent duty
Controls	Auto/Standby/On rocker switch, LED screens for speed/time, Up/Down buttons for set-point control
Dimensions (L x W x H)	7 x 4.4 x 5.3" (17.8 x 11.2 x 13.5 cm)
Ship weight	10 lb (4.5 kg)

* Maximum speed will vary depending on accessory used.

Description	Electrical (50/60 Hz)	Cat. No.
Digital Vortex Mixer	120 V 1.2 A 135 W	10153-842
Digital Vortex Mixer	230 V 0.6 A 135 W	10153-810
Digital Vortex Mixer with NIST-traceable certificate	120 V 1.2 A 135 W	10153-816



10153-812



VWR® PULSING VORTEX MIXER

- New ergonomic design
- LED screens for time and speed
- Continuous or touch mode operation
- Glass-bead cell disruption/homogenization

New ergonomic design provides optimum comfort and minimal stress. Powerful pulsing vortex action produces excellent cell disruption for glass bead procedures. Capable of complete cell disruption of samples in only minutes. Unique pulsing action reduces heat generation while providing more effective mixing and disruption. Displayed time counts up during continuous operation and counts down during timed runs.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 4 to 40 °C (39 to 104 °F), 20% to 85% relative humidity.

ORDERING INFORMATION

Units include a 72" (183 cm), three-wire cord and plug (230 V units are supplied with a Euro-type plug). Includes cup head, three inch head with cover, and an easy-to-load 1.5 to 2 ml microtube holder. Holder has a built-in cup head. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Speed range*	120 V: 500 to 3000 rpm 230 V: 500 to 2800 rpm
Timer	1 to 160 hr
Orbit	2.5 mm (0.098")
Capacity	0.5 kg (1.1 lb)
Duty rating	Intermittent duty
Controls	Auto/Standby/On rocker switch, LED screens for speed/time, Up/Down buttons for set-point control Pulse button
Dimensions (L x W x H)	7 x 4.4 x 5.3" (17.8 x 11.2 x 13.5 cm)
Ship weight	10 lb (4.5 kg)

* Maximum speed will vary depending on accessory used.

Description	Electrical (50/60 Hz)	Cat. No.
Pulsing Vortex Mixer	120 V 1.2 A 135 W	10153-812
Pulsing Vortex Mixer	230 V 0.6 A 135 W	10153-814
Pulsing Vortex Mixer	120 V 1.2 A 135 W	10153-820

VWR® Vortex Mixer Accessories

VWR® MICROTUBE HOLDER

Mixes 48 microtubes (0.25 to 2 ml).
Requires insert retainer.

Description	Cat. No.
Microtube holder (2 pack)	12620-876
Insert retainer	58816-132

**VWR® 9 - 13 mm TUBE HOLDER**

Ideal for mixing 5 ml culture tubes and microvials. Requires Insert Retainer.

Description	Cat. No.
9 - 13 mm Tube holder (2 pack)	58816-138
Insert retainer	58816-132

**VWR® 14 - 19 mm TUBE HOLDER**

Ideal for mixing up to eight 15 ml centrifuge tubes. Requires insert retainer.

Description	Cat. No.
14 - 19 mm Tube holder (2 pack)	58816-140
Insert retainer	58816-132

**VWR® 20 - 25 mm TUBE HOLDER**

Ideal for mixing up to eight 50 ml centrifuge tubes. Requires insert retainer.

Description	Cat. No.
20 - 25 mm Tube holder (2 pack)	58816-142
Insert retainer	58816-132

**VWR® VESSEL HARNESS**

Mixes Erlenmeyer flasks and media bottles. Requires insert retainer.

Description	Cat. No.
Vessel harness (2 pack)	58816-136
Insert retainer	58816-132

**VWR® CUP HEAD**

Designed for mixing one tube at a time.

Description	Cat. No.
Cup head	58816-156

**VWR® 3" RUBBER HEAD COVER AND 3" HEAD**

Designed for mixing irregularly shaped objects.

Description	Cat. No.
3" (7.6 cm) Rubber head cover	58816-154
3" (7.6 cm) Head	58816-152
3" (7.6 cm) Head with rubber cover	12620-872

**VWR® MICRO-WELL PLATE HOLDER**

Ideal for mixing 96-well plates or deep-well blocks. Requires insert retainer.

Description	Cat. No.
Micro-well plate holder (2 pack)	12620-878
Insert retainer	58816-132

**VWR® FLAT FOAM INSERT**

Ideal for custom applications. Can be cut or drilled to fit your specifications. Requires insert retainer.

Description	Cat. No.
Flat foam insert (2 pack)	12620-884
Insert retainer	58816-132

**VWR® AMPULE TUBE HOLDER**

Mixes up to four storage vials and test tubes.

Description	Cat. No.
15 - 17 mm Ampule tube holder	12620-886
10 - 17 mm Ampule tube holder	12620-888

**VWR® STAINLESS-STEEL MICROTUBE HOLDER**

Mixes up to twelve 1.5 to 5 ml tubes. Stainless-steel construction.

Description	Cat. No.
Microtube holder	12620-890

**VWR® MICROTUBE AND MICRO-WELL PLATE HOLDER KIT****Includes:**

- 1 Microtube holder
- 1 Micro-well plate holder
- 1 Insert retainer

Description	Cat. No.
Microtube and micro-well plate holder kit	12620-874

**VWR® TUBE HOLDER KIT****Includes:**

- (1) 9 to 13 mm Tube holder
- (1) 14 to 19 mm Tube holder
- (1) 20 to 25 mm Tube holder
- 1 Flat foam insert
- 2 Vessel harnesses
- 1 Insert retainer

Description	Cat. No.
Tube holder kit	58816-130



VWR® Vortex Mixer Accessories

VWR® SINGLE TUBE HOLDER

Single-tube, hands-free mixing. Magnetically attaches to the top of any vortex mixer. Accepts tubes 2.5 to 4.5" (6.4 to 11.4 cm) in length. Minimum tube diameter of 0.75" (19 mm).

Description	Cat. No.
Single tube holder	12620-898



VWR® ADAPTER FOR VORTEX-GENIE® MIXER*

Adapter plate easily adheres to the Vortex-Genie® Mixer housing so a single tube holder (sold separately) can be attached.

Description	Cat. No.
Adapter for single tube holder	12621-252

* The Vortex-Genie® Mixer is a registered trademark of Scientific Industries, Inc.



VWR® 0.5 ml MICROTUBE HOLDER

Mixes 24 microtubes (0.5 ml). For use with Single Tube Holder.

Description	Cat. No.
Microtube adapter for single tube holder, holds 24 tubes (0.5 ml)	12620-894



VWR® 1.5 - 2 ml MICROTUBE HOLDER

Mixes 18 microtubes (1.5 to 2 ml). For use with Single Tube Holder.

Description	Cat. No.
Microtube adapter for single tube holder, holds 24 tubes (0.5 ml)	12620-896



Grinding media

VWR® 200 MICRON ACID-WASHED ZIRCONIUM GRINDING BEADS

These high-density beads have enormous grinding energy, resulting in reduced grinding times. Beads have been acid washed to remove contaminants.

Application: Suitable for yeast and bacterial spores.

Description	Cat. No.
250 g bottle	12621-158

VWR® 400 MICRON ACID-WASHED SILICA/GLASS BEADS

Useful for standard applications.

Applications: Good for disrupting molds and yeast.

Description	Cat. No.
200 g bottle	12621-152

VWR® 800 MICRON ACID-WASHED SILICA/GLASS BEADS

Excellent impact energy due to their larger size.

Applications: Good general grinding media for fungi and spores.

Description	Cat. No.
200 g bottle	12621-146

VWR® MOLECULAR BIOLOGY-GRADE ZIRCONIUM GRINDING BEADS

Treated to be DNase/RNase free, these beads are useful for the preparation of samples for molecular biology applications.

Applications: Preparation of cells for real-time PCR.

Description	Cat. No.
250 g bottle	12621-150

VWR® MOLECULAR BIOLOGY-GRADE SILICA/GLASS BEADS

Treated to be DNase/RNase free, these beads are useful for preparing samples for molecular analysis.

Applications: Molecular applications for disrupting molds and yeast.

Description	Cat. No.
200 g bottle	12621-154

VWR® MOLECULAR BIOLOGY-GRADE SILICA/GLASS BEADS

Beads are DNase/RNase free and useful for the preparation of samples for molecular applications and analysis.

Applications: Disrupting fungi and spores.

Description	Cat. No.
200 g bottle	12621-148

VWR® LOW-PROTEIN BINDING SILICA/GLASS BEADS

These treated beads are low protein binding and useful for homogenizing samples for protein analysis.

Applications: Disruption of molds/yeasts for high protein recovery.

Description	Cat. No.
200 g bottle	12621-156

VWR® LOW-PROTEIN BINDING SILICA/GLASS BEADS

Beads adsorb less protein than standard beads and are useful when high-protein recovery is necessary.

Applications: Best choice for preparation of filamentous fungi, spores or pollen that require high protein recovery.

Description	Cat. No.
200 g bottle	12621-150



VWR® STANDARD MICROPLATE VORTEX MIXER

- Designed for continuous duty
- Designed for shaking microplates or tubes
- Optional double microplate holder available

The VWR Standard Microplate Vortex Mixer is a variable-speed analog mixer designed for continuous duty. Its high speed and small orbit are optimal for effectively mixing microplates. Choose from two modes of operation: “Touch” mode, which activates mixing when cup head is depressed, or “On” mode, for continuous operation while using the microplate attachments.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 4 to 40 °C (39 to 104 °F), 20% to 85% relative humidity.

ORDERING INFORMATION

Mixer includes a cup head, single microplate holder and 92" (234 cm) detachable, three-wire cord and plug. Accessories that can be used on the Standard Microplate Vortex Mixer are cup head, single microplate holder and double microplate holder. Five-year limited warranty on parts and labor.

Specifications

Speed range	On mode: 300 to 2500 rpm Touch mode: 300 to 3500 rpm
Orbit	3.5 mm (0.13")
Controls	Analog
Capacity	2 microplates
Duty rating	Continuous duty
Dimensions (L x W x H)	10.5 x 5.4 x 4.5" (26.7 x 13.7 x 11.4 cm)
Ship weight	12 lb (5.4 kg)

Description	Electrical (50/60 Hz)	Cat. No.
Standard Microplate Vortex Mixer	120 V 0.25 A 30 W	89399-880
Standard Microplate Vortex Mixer	230 V 0.25 A 30 W	89399-882



89399-884

VWR® ADVANCED MICROPLATE VORTEX MIXER

- Designed for continuous duty
- Designed for shaking microplates or tubes
- LED screen displays speed and time

The VWR Advanced Microplate Vortex Mixer is ideal for applications that demand repeatable results. Mixer features touchpad controls and LED indicators for accurate speed (rpm) and time (min and s). Microprocessor control maintains the set speed for strong, consistent mixing action. Timer will display elapsed time or shut off when the user-defined time limit reaches zero. Choose from two modes of operation: "Touch" mode, which activates mixing when cup head is depressed, or "On" mode, for continuous operation while using the microplate attachments.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 4 to 40 °C (39 to 104 °F), 20% to 85% relative humidity.

ORDERING INFORMATION

Mixer includes a cup head, single microplate holder, and a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Accessories that can be used on the Advanced Microplate Vortex Mixer are cup head, single microplate holder and double microplate holder. Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

Speed range	On mode: 300 to 2500 rpm Touch mode: 300 to 3500 rpm
Timer	1 to 160 hr
Orbit	3.5 mm (0.13")
Controls	Touch/Standby/On rocker switch, LED displays for speed/time, Up/Down buttons for set-point control
Capacity	2 microplates
Duty rating	Continuous duty
Dimensions (L x W x H)	10.5 x 5.4 x 4.5" (26.7 x 13.7 x 11.4 cm)
Ship weight	12 lb (5.4 kg)

Description	Electrical (50/60 Hz)	Cat. No.
Advanced Microplate Vortex Mixer	120 V 0.25 A 30 W	89399-884
Advanced Microplate Vortex Mixer	230 V 0.13 A 30 W	89399-886
Advanced Microplate Vortex Mixer with NIST-traceable certificate	120 V 0.25 A 30 W	10027-198



97043-562 with optional insert 97043-590

VWR® STANDARD HEAVY-DUTY VORTEX MIXER

- Designed for continuous duty
- Includes foam insert for 1.5 to 2.0 ml microtubes
- Heavy-duty design

The VWR Standard Heavy-Duty Vortex Mixer is a variable-speed analog mixer that is designed for continuous duty. The heavy-duty design and efficient motor allow this mixer to operate in continuous duty and handle all accessories over the entire speed range. Choose from two modes of operation: “Touch” mode, which activates mixing when cup head or Universal Holder with cover is depressed, or “On” mode, for continuous operation while using any of the accessory attachments.

Speed range	On mode: 300 to 2500 rpm Touch mode: 300 to 3500 rpm
Orbit	4.9 mm (0.194")
Controls	Analog
Capacity	2.5 lb (1.1 kg)
Duty rating	Continuous duty
Dimensions (L x W x H)	9.5 x 6.6 x 6.3" (24.1 x 16.8 x 16 cm)
Ship weight	15 lb (6.8 kg)

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 4 to 40 °C (39 to 104 °F), 20% to 85% relative humidity.

ORDERING INFORMATION

Mixer includes a cup head, universal holder with cover, foam microtube insert for 38 microtubes (1.5 to 2.0 ml) and a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Five-year limited warranty on parts and labor.

Description	Electrical (50/60 Hz)	Cat. No.
Standard Heavy-Duty Vortex Mixer	120 V 0.25 A 30 W	97043-562
Standard Heavy-Duty Vortex Mixer	230 V 0.13 A 30 W	97043-566



97043-564 with optional microplate holders 97043-582 and 97043-580

VWR® ADVANCED HEAVY-DUTY VORTEX MIXER

- Designed for continuous duty
- LED screens for speed and time
- Includes foam insert for 1.5 to 2.0 ml microtubes

The VWR Advanced Heavy-Duty Vortex Mixer is ideal for applications that demand repeatable results. Mixer features touchpad controls and LED displays for accurate speed (rpm) and time (min and s). The heavy-duty design and efficient motor allow this mixer to operate in continuous duty and handle all accessories over the entire speed range. Choose from two modes of operation: "Touch" mode, which activates mixing when cup head or Universal Holder with cover is depressed, or "On" mode, for continuous operation while using any of the accessory attachments. Microprocessor control maintains set speed for strong, consistent mixing action. Timer will display elapsed time or shut off when user-defined time limit reaches zero.

Speed range	On mode: 300 to 2500 rpm Touch mode: 300 to 3500 rpm
Timer	1 to 160 hr
Orbit	4.9 mm (0.194")
Controls	Touch/Standby/On rocker switch, LED displays for speed/time, Up/Down buttons for set-point control
Capacity	2.5 lb (1.1 kg)
Duty rating	Continuous duty
Dimensions (L x W x H)	9.5 x 6.6 x 6.3" (24.1 x 16.8 x 16 cm)
Ship weight	15 lb (6.8 kg)

ORDERING INFORMATION:

Mixer includes a cup head, Universal Holder with cover, foam microtube-insert for 38 microtubes (1.5 to 2.0 ml) and 92" (234 cm) detachable, three-wire cord and plug (230-volt units are supplied with a Euro-type plug). Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.

OPERATING CONDITIONS:

Parameters: Unit can be run in noncondensing environments from 4 to 40 °C (39 to 104 °F), 20% to 85% relative humidity.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced Heavy-Duty Vortex Mixer	120 V 0.25 A 30 W	97043-564
Advanced Heavy-Duty Vortex Mixer	230 V 0.13 A 30 W	97043-568
Advanced Heavy-Duty Vortex Mixer Heavy-Duty Vortex	120 V 0.25 A 30 W	10027-194

VWR® Vortexer Accessories

VWR® FOAM INSERT FOR 0.5 ml MICROTUBES

Foam insert holds 52 microtubes (0.5 ml). Requires universal holder.



Description	Cat. No.
0.5 ml Microtubes	97043-584
Universal holder	97043-574

VWR® FOAM INSERT FOR 26 - 29 mm TEST TUBES

Foam insert holds four 26 to 29 mm diameter test tubes. Ideal for 50 ml centrifuge tubes. Requires universal holder.



Description	Cat. No.
26 - 29 mm Test tubes	97043-596
Universal holder	97043-574

VWR® MICROPLATE HOLDER (DOUBLE)*

Designed to hold two standard microplates.



Description	Cat. No.
Double holder	97043-578

VWR® FOAM INSERT FOR 1.5 - 2.0 ml MICROTUBES

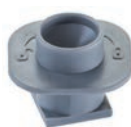
Foam insert holds 38 microtubes (1.5 to 2.0 ml). Requires universal holder.



Description	Cat. No.
1.5 - 2.0 ml Microtubes	97043-586
Universal holder	97043-574

VWR® CUP HEAD*

Designed for mixing one tube at a time.



Description	Cat. No.
Cup head	97043-570

VWR® MICROPLATE HOLDER (QUAD)

Designed to hold four standard microplates.



Description	Cat. No.
Quad holder	97043-580

VWR® FOAM INSERT FOR 15 - 18 mm TEST TUBES

Foam insert holds 2.0 ml). Ideal for 15 ml centrifuge tubes. Requires universal holder.

**VWR® SMALL VESSEL HOLDER**

Rubber holder secures 125 and 250 ml Erlenmeyer flasks. Vessel holder also includes a grip mat. Requires universal holder.



Description	Cat. No.
Small vessel holder	97043-598
Universal holder	97043-574

VWR® STACKABLE MICROPLATE HOLDER

Designed to maximize the capacity of the Heavy-Duty Vortex Mixer to eight microplates by stacking the tray on top of the four-plate holder.



Description	Cat. No.
Stackable holder	97043-582

VWR® FOAM INSERT FOR 19 - 21 mm TEST TUBES

Foam insert holds eighteen 19 to 21 mm diameter test tubes. Requires universal holder.

**VWR® LARGE VESSEL HOLDER**

Rubber holder secures 500 and 1000 ml Erlenmeyer flasks. Vessel holder also includes a grip mat. Requires universal holder.



Description	Cat. No.
Large vessel holder	97043-600
Universal holder	97043-574

VWR® FLAT FOAM INSERT

Ideal for custom applications. Can be cut or drilled to fit your specifications. Requires universal holder.



Description	Cat. No.
Flat foam insert	97043-604
Universal holder	97043-574

VWR® FOAM INSERT FOR 22 - 25 mm TEST TUBES

Foam insert holds 13 22 to 25 mm diameter test tubes. Requires universal holder.

**VWR® MICROPLATE HOLDER (SINGLE)***

Designed to hold one standard microplate



Description	Cat. No.
Single holder	97043-572

VWR® UNIVERSAL HOLDER & COVER

Replacement for items supplied with Heavy-Duty Vortex Mixer. Cover allows for mixing irregularly shaped objects.



Description	Cat. No.
Universal holder	97043-574
Universal holder cover	97043-576

NOTE: Unless noted with an asterisk (*), for use with Heavy-Duty Vortexers only.



58816-115

VWR® STANDARD MULTITUBE VORTEXERS

- Process up to 50 samples at a time
- Continuous or timed operation
- Includes foam rack for 12 mm tubes

Conveniently angled front panel features rocker switch for run, time and standby modes.

OPERATING FEATURES

Microprocessor control: The variable-speed microprocessor control provides consistent uniform mixing action.

Adjustment knobs: Basic speed and time knobs with 1 to 10 dial settings.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 4 to 40 °C (39 to 104 °F), 20% to 85% relative humidity.

Applications: Suspensions and high-throughput testing in clinical, environmental and chemistry labs.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro type-plug). Unit is also supplied with a Tray Pad Set for support and one 12 mm Test Tube Foam Rack (58816-330). Five-year limited warranty on parts and labor.

Specifications

Speed range*	1200 to 2400 rpm
Timer	0 to 60 s
Orbit	3.6 mm (0.14")
Maximum weight capacity	10 lb (4.5 kg)
Duty rating	Continuous duty
Tray dimensions (L × W)	7.25 × 12.25" (18.4 × 31.1 cm)
Overall dimensions (L × W × H)	9.5 × 15.1 × 16" (24.1 × 38.4 × 40.6 cm)
Ship weight	42 lb (19.1 kg)

* Maximum speed will vary depending on load.

Description	Electrical (50/60 Hz)	Cat. No.
Standard Multitube Vortexer	120 V 0.8 A 100 W	58816-115
Standard Multitube Vortexer	230 V 0.4 A 100 W	58816-116

VWR® ADVANCED MULTITUBE VORTEXERS

- Process up to 50 samples at a time
- Displays for speed and time
- Pulsing mode

Ideal for applications requiring accuracy and repeatability.

OPERATING FEATURES

Microprocessor control: The variable speed microprocessor control provides consistent uniform mixing action.

LED screens: Touchpad controls with easy-to-read, independent LED screens for speed and time allow the operator to view both settings at once. Provide repeatable and accurate results every time and are easily visible across lab benches. Timer will display elapsed time or shut off the when a user-defined time limit reaches zero. Display will show the last used settings, even after power has been turned off.

Pulsing mode: Programmable pulsing mode allows user to adjust the pulse-on and pulse-off times between 1 and 59 s in intervals of 1 s. This feature enhances the vortex action by creating a more vigorous mix.

OPERATING CONDITIONS

Parameters: Unit can be run in noncondensing environments from 4 to 40 °C (39 to 104 °F), 20% to 85% relative humidity.

Applications: Suspensions and high-throughput testing in clinical, environmental and chemistry labs.

ORDERING INFORMATION

Unit includes a 92" (234 cm) detachable, three-wire cord and plug (230 V units are supplied with a Euro-type plug). Unit is also supplied with a Tray Pad Set for support and one 12 mm Test Tube Foam Rack (58816-330). Five-year limited warranty on parts and labor.

Provided with an optional NIST-traceable ISO/IEC 17025-accredited calibration certificate from Troemner, which includes multiple data points within the speed range and time function with the associated uncertainties. Troemner is accredited by NVLAP under Laboratory Code 105013-0 to perform ISO/IEC 17025 calibrations.



14005-826 with 12621-142



VWR® Multitube Vortexer accessories

Specifications

Speed range*	500 to 2500 rpm
Speed accuracy	±25 rpm or ±5% of set speed
Timer	1 to 160 hr
Orbit	3.6 mm (0.14")
Maximum weight capacity	10 lb (4.5 kg)
Duty rating	Continuous duty
Tray dimensions (L × W)	7.25 × 12.25" (18.4 × 31.1 cm)
Overall dimensions (L × W × H)	9.5 × 15.1 × 16" (24.1 × 38.4 × 40.6 cm)
Ship weight	42 lb (19.1 kg)

* Maximum speed will vary depending on load.

Description	Electrical (50/60 Hz)	Cat. No.
Advanced Multitube Vortexer	120 V 0.8 A 100 W	14005-826
Advanced Multitube Vortexer	230 V 0.4 A 100 W	14005-832
Advanced Multitube Vortexer with NIST-traceable certificate	120 V 0.8 A 100 W	10027-190

VWR® FOAM TEST TUBE RACKS

Description	Tube capacity	Color*	Dimensions (L × W × H)	Cat. No.
10 mm Test tube foam rack	50	Gray	5.5 × 9.5 × 2" (14 × 24.1 × 5.1 cm)	58816-308
12 mm Test tube foam rack	50	Blue	5.5 × 9.5 × 2" (14 × 24.1 × 5.1 cm)	58816-330
13 mm Test tube foam rack	50	Yellow	5.5 × 9.5 × 2" (14 × 24.1 × 5.1 cm)	58816-363
16 mm Test tube foam rack (for 15 ml centrifuge tubes)	50	Pink	5.5 × 9.5 × 2" (14 × 24.1 × 5.1 cm)	58816-396
25 mm Test tube foam rack	28	White	5.5 × 9.5 × 2" (14 × 24.1 × 5.1 cm)	12621-140
29 mm Test tube foam rack (for 50 ml centrifuge tubes)	15	Red	5.5 × 9.5 × 2" (14 × 24.1 × 5.1 cm)	12621-142
Replacement tray pad set (upper and lower)	-	Gray	7 × 12 × 1" (17.8 × 30.5 × 2.5 cm)	58816-306

* Colors subject to change.

VWR® POST EXTENSION KIT

Adds 6" (15.2 cm) to the post of the Multitube Vortexer to accommodate tubes up to 10" (25.4 cm) tall.

Description	Cat. No.
Post extension kit	14216-210



VWR® TALON® CLAMPS

The unique design of these clamps, rods, supports, connectors and accessories conceivably offers one of the most extensive selections in the industry. With a variety of sizes, materials, hardware and designs, there is always an option to accommodate any application.

- Clamps firmly grip lab apparatus
- Ergonomic design
- Durable, heavy-duty parts
- Built to last

The following are many options to consider when choosing the right clamp to suit your needs:

MATERIAL

Most VWR clamps are made of nickel-plated zinc, which provides high tensile strength at an economical price. Stainless-steel clamps offer higher chemical resistance and durability. Aluminum is another material that is used in some products to offer a greater strength with a lighter weight.

CONFIGURATION

Multipurpose extension clamps allow placement of apparatus at various distances from a lab frame. They are constructed with round extension arms, which allow the clamps to be rotated 360°. Attachment to lab frames and other apparatus is easily accomplished with a variety of holders that are purchased separately. See the Connectors & Holders section of this catalog (Pages 87 - 88). Other clamps such as the swivel, fixed-position, and some specialty clamps have a built-in holder for attaching to lab frames or other apparatus at a closer distance to the support.

PRONG TYPE

Two-prong clamps are ideal for holding straight-sided apparatus such as burets, thermometers, beakers and flask necks. Three-prong clamps are more versatile and have the added capability of holding irregularly shaped objects. Clamps are supplied with both nonslip vinyl sleeves and, for temperatures above 100 °C, fiberglass covers.

PRONG ADJUSTMENT

Single-adjust clamps are great for applications where limited jaw adjustment is required. One prong or "finger" is adjusted using a wing nut, while the other prong remains stationary. Dual-adjust clamps offer a greater flexibility because both prongs are adjustable over a wider range. Thumbscrews are utilized for easy prong adjustment.

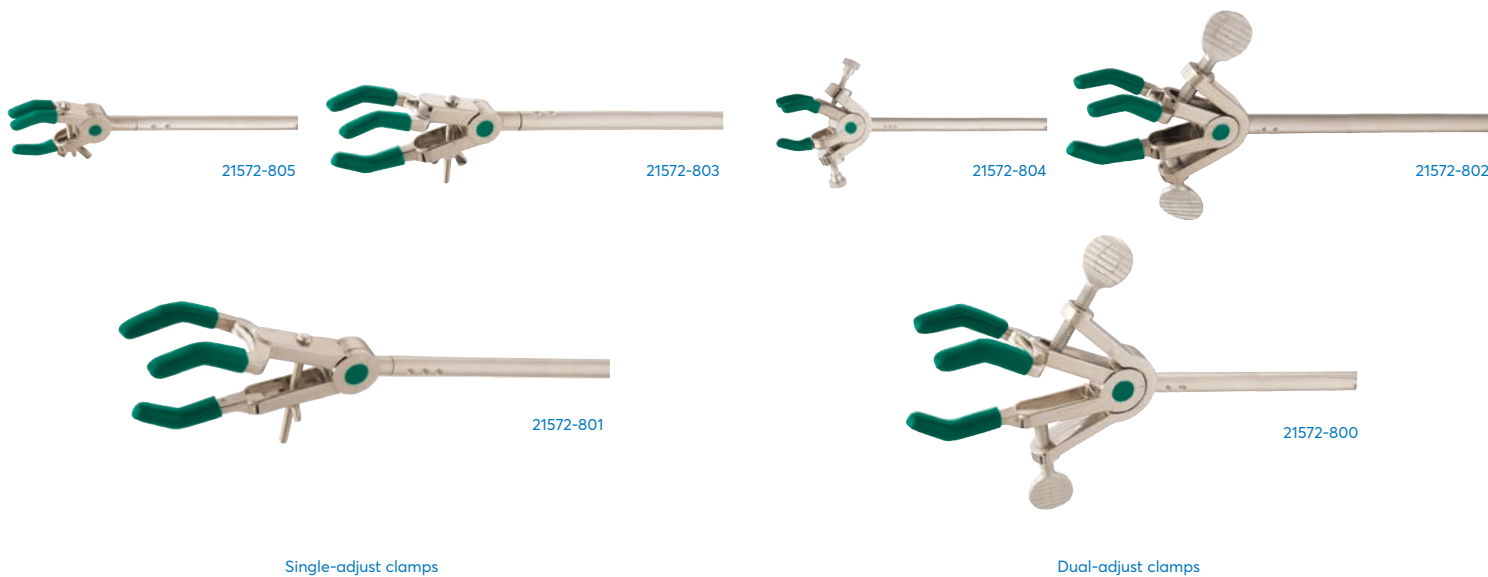
HOLDERS AND CONNECTORS

A variety of holders and connectors are available to secure apparatus specific to the different angles, diameters, and weights in your application, allowing you to customize as needed.

LAB FRAMES

VWR offers a complete choice of standard and custom frames and rods. Corrosion-resistant frames and rods are available in aluminum, fiberglass and stainless steel. Individual rods are available in standard lengths from 1.61 to 96" (41 to 2438 mm). Standard lab frame sets are available in five sizes. Combined with VWR accessories, these frames and rods can be adjusted to fit any need. Custom lab frame designs are available to meet your exacting requirements.

Depend on VWR for your custom mounting and sizing needs. Simply contact VWR for personal design and fabrication assistance.



VWR® TALON® HEAVY-DUTY CLAMPS

- Large grip adjustment range
- Single or dual adjust
- Available in three sizes; small, medium and large
- Nickel-plated zinc

VWR multipurpose Talon® Heavy-Duty Clamps feature an innovative closed-yoke construction that minimizes contamination and corrosion of internal components. The unique design enables secure gripping and positioning with added strength and durability.

Available with either single- or dual-prong adjustment, prongs open gradually to maximize grip size without binding. Both designs feature precise pressure regulation when gripping glassware surfaces to reduce the chance of breakage. Talon clamps are constructed with extension rods for easy attachment to lab frames and other apparatus. Supplied with nonslip vinyl sleeves and, for temperatures above 100 °C, fiberglass covers.

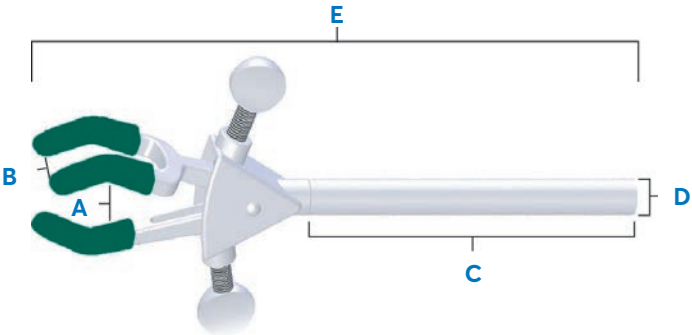
The prong height of Talon Heavy-Duty Clamps makes them ideal for use in holding and securing glassware with precision ground-glass joints. The chart below details which Talon clamps are recommended depending on joint size.

NOTE: An additional holder must be purchased in order to attach clamps to frames or other apparatus.

See the Connectors & Holders section of this catalog on Pages 87 - 88.

Replacement vinyl and fiberglass sleeves are available on Page 88.

Clamp	Joint size (mm)
Small dual adjust	10/30, 12/30, 14/20, 19/22, 24/40, 29/42, 34/45
Medium dual adjust	14/40, 19/38
Large dual adjust	45/50



Size	(A) Min. to max. grip size	(B) Prong width	(C) Arm length	(D) Arm diameter	(E) Overall length	Cat. No.
3-Prong Single-Adjust Clamps						
Medium	0 to 50 mm (0 to 1.97")	19 mm (0.75")	127 mm (5")	11 mm (0.43")	229 mm (9.02")	21572-803
Large	0 to 72 mm (0 to 2.83")	29 mm (1.14")	127 mm (5")	11 mm (0.43")	260 mm (10.24")	21572-801
3-Prong Dual-Adjust Clamps						
Small	0 to 32 mm (0 to 1.26")	6 mm (0.24")	102 mm (4")	8 mm (0.32")	152 mm (5.98")	21572-804
Medium	0 to 70 mm (0 to 2.76")	19 mm (0.75")	127 mm (5")	11 mm (0.43")	222 mm (8.74")	21572-802
Large	0 to 103 mm (0 to 4.06")	29 mm (1.14")	127 mm (5")	11 mm (0.43")	260 mm (10.24")	21572-800

VWR Talon® Multipurpose Clamps

VWR® STAINLESS-STEEL MULTIPURPOSE CLAMPS

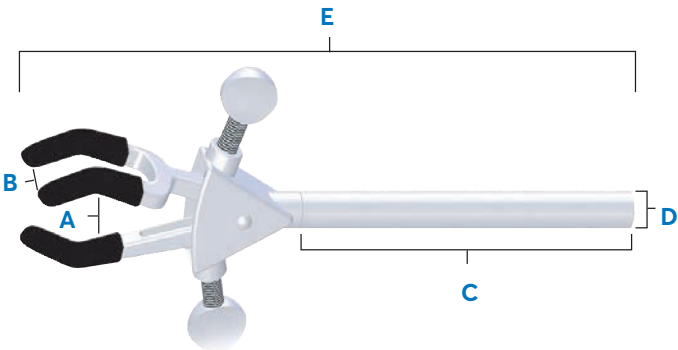
- Stainless-steel, electro-polished finish
- Large dual-adjustment range
- Available in three sizes: small, medium and large

These durable, multipurpose clamps are made entirely of stainless steel with an electro-polished finish and offer excellent chemical resistance and overall strength. The versatile 3-prong design secures various lab apparatus such as jointed glassware, columns, flasks and tubes. Dual-prong adjustments offer a wide range of motion. Long stainless-steel extension arm offers easy positioning and depth adjustment. Autoclavable. Supplied with nonslip vinyl sleeves and, for temperatures above 100 °C, fiberglass covers.

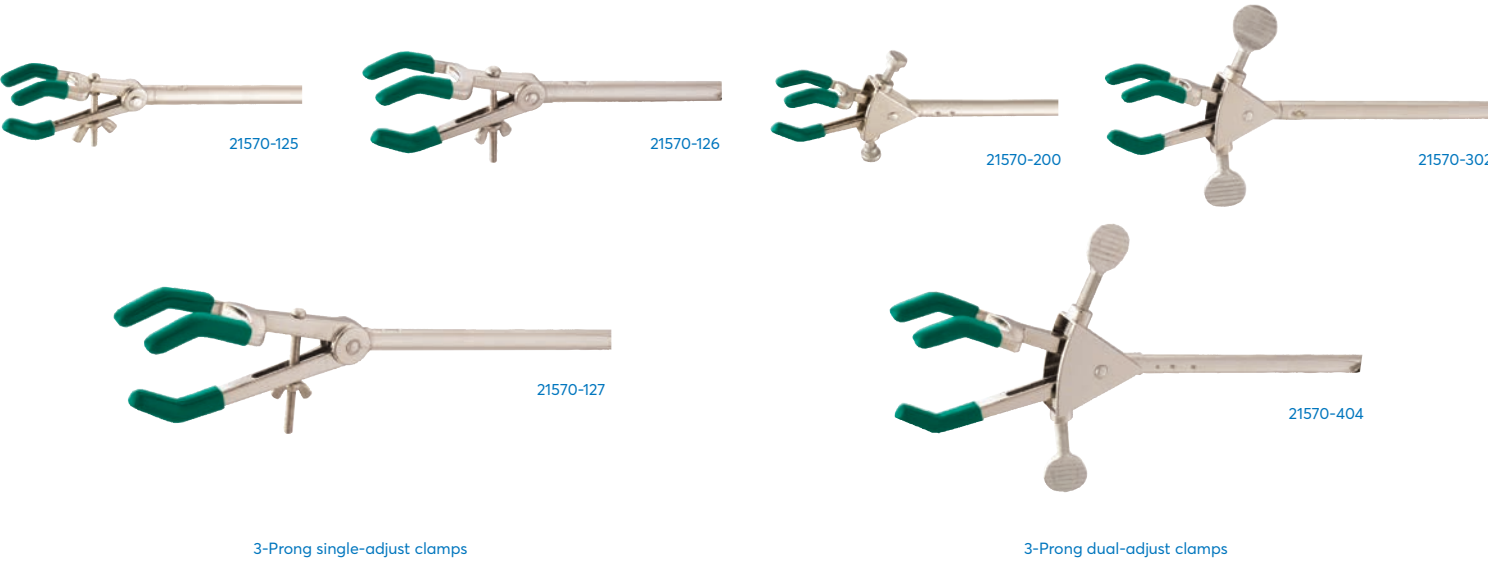
NOTE: An additional holder must be purchased in order to attach clamps to frames or other apparatus.

See the Connectors & Holders section of this catalog on Pages 87 - 88.

Replacement vinyl and fiberglass sleeves are available on Page 88.



Size	(A) Min. to max. grip size	(B) Prong width	(C) Arm length	(D) Arm diameter	(E) Overall length	Cat. No.
Small	0 to 48 mm (0 to 1.9")	13 mm (0.51")	102 mm (4")	10 mm (0.39")	172 mm (6.77")	12621-240
Medium	0 to 69 mm (0 to 2.72")	19 mm (0.75")	127 mm (5")	13 mm (0.51")	229 mm (9.02")	12621-238
Large	0 to 102 mm (0 to 4")	29 mm (1.14")	127 mm (5")	13 mm (0.51")	273 mm (10.75")	12621-236



VWR® 3-PRONG MULTIPURPOSE CLAMPS

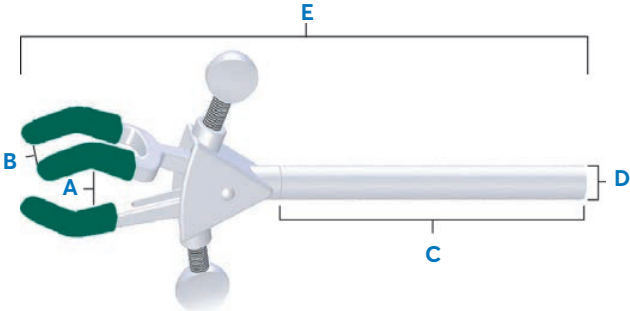
- Large grip adjustment range
- 3-prong construction
- Single or dual adjust
- Nickel-plated zinc

Designed to securely hold every type of laboratory glassware and apparatus. Long, seamless nickle-plated brass tubing attaches clamp head securely and offers easy positioning in the deepest fume hoods. Clamps are constructed with round extension arms, which allow the clamps to be rotated 360°. Extension arms also allow placement of apparatus at various distances from lab frames without compromising the integrity of your experiment. Supplied with nonslip vinyl sleeves and, for temperatures above 100 °C, fiberglass covers.

NOTE: An additional holder must be purchased in order to attach clamps to frames or other apparatus.

See the Connectors & Holders section of this catalog, on Pages 87 - 88.

Replacement vinyl and fiberglass sleeves are available on Page 88.

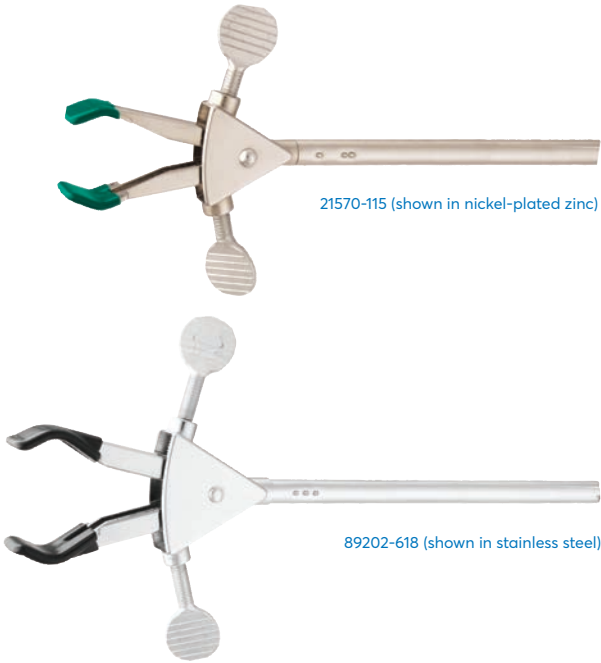


Size	(A) Min. to max. grip size	(B) Prong width	(C) Arm length	(D) Arm diameter	(E) Overall length	Cat. No.
3-Prong Single-Adjust Clamps						
Small	0 to 39 mm (0 to 1.54")	11 mm (0.43")	102 mm (4")	8 mm (0.32")	160 mm (6.3")	21570-125
Medium	0 to 71 mm (0 to 2.8")	19 mm (0.75")	127 mm (5")	11 mm (0.43")	218 mm (8.58")	21570-126
Large	0 to 108 mm (0 to 4.25")	29 mm (1.14")	127 mm (5")	11 mm (0.43")	248 mm (9.76")	21570-127
3-Prong Dual-Adjust Clamps						
Small	0 to 46 mm (0 to 1.81")	11 mm (0.43")	102 mm (4")	8 mm (0.32")	168 mm (6.61")	21570-200
Medium	0 to 69 mm (0 to 2.72")	19 mm (0.75")	127 mm (5")	11 mm (0.43")	229 mm (9.02")	21570-302
Medium (extended)	0 to 69 mm (0 to 2.72")	19 mm (0.75")	305 mm (12")	13 mm (0.5")	406 mm (16")	97035-502
Large	0 to 105 mm (0 to 4.13")	29 mm (1.14")	127 mm (5")	11 mm (0.43")	273 mm (10.75")	21570-404
Large (extended)	0 to 105 mm (0 to 4.13")	29 mm (1.14")	305 mm (12")	13 mm (0.5")	451 mm (17.76")	97035-504

VWR® Talon® Multipurpose Clamps



2-Prong single-adjust clamps



2-Prong dual-adjust clamps

2-PRONG MULTIPURPOSE CLAMPS

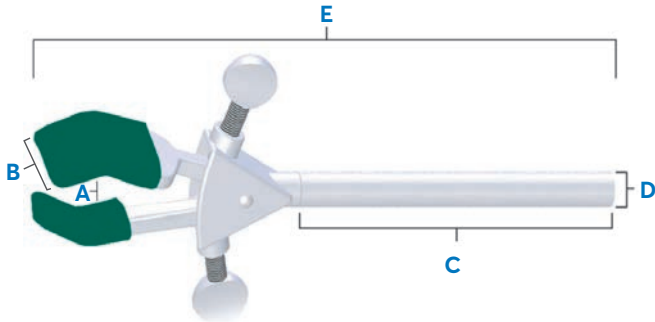
- Stainless-steel electro-polished finish or nickel-plated zinc
- Large grip adjustment range
- 2-prong construction
- Single or dual adjust

Designed to securely hold laboratory glassware and apparatus. Extension arm attaches clamp head securely and offers easy positioning in the deepest fume hoods. Clamps are constructed with round extension arms, which allow the clamps to be rotated 360°. Extension arms also allow placement of apparatus at various distances from lab frames without compromising the integrity of your experiment. Stainless-steel clamps are electro-polished and made entirely of stainless steel. They offer exceptional chemical resistance and are autoclavable. Nickel-plated zinc offers a clamp with a high tensile strength at an economical price. Supplied with nonslip vinyl sleeves and, for temperatures above 100 °C, fiberglass covers.

NOTE: An additional holder must be purchased in order to attach clamps to frames or other apparatus.

See the Connectors & Holders section of this catalog on Pages 87 - 88.

Replacement vinyl and fiberglass sleeves are available on Page 88.



Material	Size	(A) Min. to max. grip size	(B) Prong width	(C) Arm length	(D) Arm diameter	(E) Overall length	Cat. No.
2-Prong Single-Adjust Clamps							
Nickel-plated zinc	Medium	0 to 78 mm (0 to 3.07")	23 mm (0.91")	127 mm (5")	11 mm (0.43")	216 mm (8.5")	21570-007
Nickel-plated zinc	Large	0 to 92 mm (0 to 3.62")	23 mm (0.91")	127 mm (5")	11 mm (0.43")	229 mm (9.02")	21570-109
2-Prong Dual-Adjust Clamps							
Stainless steel	Medium	0 to 75 mm (0 to 2.95")	23 mm (0.91")	127 mm (5")	11 mm (0.43")	229 mm (9.02")	89202-612
Nickel-plated zinc	Medium	0 to 75 mm (0 to 2.95")	23 mm (0.91")	127 mm (5")	11 mm (0.43")	229 mm (9.02")	21570-115
Stainless steel	Large	0 to 95 mm (0 to 3.74")	23 mm (0.91")	127 mm (5")	11 mm (0.43")	248 mm (9.76")	89202-618
Nickel-plated zinc	Large	0 to 95 mm (0 to 3.74")	23 mm (0.91")	127 mm (5")	11 mm (0.43")	248 mm (9.76")	21570-120

VWR® Talon® Specialty Clamps

VWR® SWIVEL CLAMPS

Used to hold apparatus near the lab frame. Unlike extension clamps, the swivel clamps have an integral holder for attaching to a lab frame or other apparatus. Built-in holder grips rods up to 19 mm (0.75") in diameter and is adjustable for forward or reverse-facing adjustment screws. Shaft wing-nut allows the holding angle of the swivel clamp to adjust through 360° of rotation and can be locked in place once desired position is achieved. Stainless-steel electro-polished finish or nickel-plated construction. Supplied with nonslip vinyl sleeves and, for temperatures above 100 °C, fiberglass covers.

NOTE: Replacement vinyl and fiberglass sleeves are available on Page 88.



89202-622
(shown in stainless steel)

21573-504
(shown in nickel-plated zinc)

Material	Description	Size	Min. to max. grip size	Prong width	Overall length	Cat. No.
Stainless steel	2-Prong dual adjust	Medium	0 to 76 mm (0 to 3")	23 mm (0.91")	163 mm (6.42")	89202-624
Nickel-plated zinc	2-Prong single adjust	Medium	0 to 76 mm (0 to 3")	23 mm (0.91")	163 mm (6.42")	21573-504
Nickel-plated zinc	2-Prong single adjust	Large	0 to 95 mm (0 to 3.74")	23 mm (0.91")	180 mm (7.09")	21573-606
Stainless steel	3-Prong dual adjust	Medium	0 to 69 mm (0 to 2.72")	20 mm (0.79")	178 mm (7.01")	89202-622
Nickel-plated zinc	3-Prong dual adjust	Medium	0 to 69 mm (0 to 2.72")	20 mm (0.79")	178 mm (7.01")	21573-708

VWR® FIXED-POSITION CLAMPS

Used to hold apparatus near the lab frame where no adjustment is required after set-up. Built-in holder grips rods up to 19 mm (0.75") in diameter. Fixed-position clamps have an integral holder. Available with 2 or 3 prongs. Stainless-steel electro-polished finish or nickel-plated zinc construction. Supplied with nonslip vinyl sleeves and, for temperatures above 100 °C, fiberglass covers.

NOTE: Replacement vinyl and fiberglass sleeves are available on Page 88.



89202-630
(shown in stainless steel)

21573-266
(shown in nickel-plated zinc)

Material	Description	Size	Min. to max. grip size	Prong width	Overall length	Cat. No.
Stainless steel	2-Prong single adjust	Medium	0 to 77 mm (0 to 3.03")	23 mm (0.91")	133 mm (5.24")	89202-632
Nickel-plated zinc	2-Prong single adjust	Medium	0 to 77 mm (0 to 3.03")	23 mm (0.91")	133 mm (5.24")	21573-266
Stainless steel	3-Prong dual adjust	Medium	0 to 69 mm (0 to 2.72")	20 mm (0.79")	146 mm (5.75")	89202-630
Nickel-plated zinc	3-Prong dual adjust	Medium	0 to 69 mm (0 to 2.72")	20 mm (0.79")	146 mm (5.75")	21573-265

VWR® DOUBLE-JAW UTILITY CLAMP

Swivels 360° and locks securely in desired position. These 2-prong clamps have a medium and a large clamp on each end. Nickel-plated zinc construction. Supplied with nonslip vinyl sleeves and, for temperatures above 100 °C, fiberglass covers.

NOTE: Replacement vinyl and fiberglass sleeves are available on Page 88.

Description	Min. to max. grip size	Prong width	Overall length	Cat. No.
Medium 2-prong	0 to 76 mm (0 to 3")	23 mm (0.91")	222 mm (8.74")	21573-800
Large 2-prong	0 to 95 mm (0 to 3.74")			



21573-800



VWR® THERMOMETER SWIVEL CLAMP

Holds glass tubes and thermometers 114 mm (4.49") from support rod. Clamp features safety adjust spring plate jaws that adjust to any angle with locking wing-nut. Built-in holder grips rods up to 19 mm (0.75") in diameter. Lightweight, rust and corrosion resistant. Nickel-plated construction.

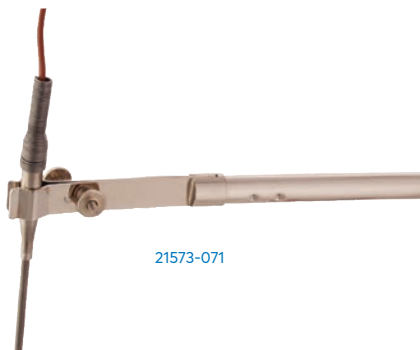
Min. to max. grip size	Overall length	Cat. No.
6 to 8 mm (0.24 to 0.32")	159 mm (6.26")	21573-060



VWR® WALL CLAMP

Ideal for securing fermentation tubes, burets or other small objects to walls where no frames are available. Integral self-tapping screw secures clamp to wall. Nickel-plated construction.

Min. to max. grip size	Overall length	Cat. No.
5 to 10 mm (0.2 to 0.39")	80 mm (3.15")	21573-154



VWR® THERMOMETER THERMOCOUPLE EXTENSION CLAMP

Lightweight clamp holds glass tubing/thermometers or thermocouples up to 178 mm (7") from support rod. Tightening wing-nut applies tension to the nickel-plated jaws.

NOTE: An additional holder must be purchased in order to attach clamps to frames or other apparatus.

See the Connectors & Holders section of this catalog on Pages 87 - 88.

Min. to max. grip size	Ext. arm length	Arm diameter	Overall length	Cat. No.
6 to 12 mm (0.24 to 0.47")	127 mm (5")	11 mm (0.43")	210 mm (8.27")	21573-071



VWR® WATER-BATH CLAMPS

Holds a variety of apparatus, including glass tubes and thermometers, onto glass waterbath walls. Built-in holder grips walls of varying thickness, up to 9 mm (0.35"). Knurled thumbscrew tightens jaws to hold objects firmly. Nickel-plated zinc construction. Large water-bath clamp is supplied with nonslip vinyl sleeves and, for temperatures above 100 °C, fiberglass covers.

NOTE: Replacement vinyl and fiberglass sleeves are available on Page 88.

Size	Min. to max. grip size	Overall length	Cat. No.
Small	5 to 10 mm (0.2 to 0.39")	89 mm (3.5")	21573-129

VWR® Talon® Specialty Clamps

For the items listed below, an additional holder must be purchased in order to attach clamps to frames or other apparatus. See the Connectors & Holders section of this catalog on Pages 87 - 88.



89202-620
(shown in stainless steel)

VWR® CHAIN CLAMPS

Holds large round or irregularly shaped objects firmly yet gently to lab frames and rods. Quick and secure slip-on chain connection with a large, easy-to-turn adjusting knob. Extension arm allows user to vary distance from the frame. Available as a stainless-steel clamp constructed entirely of a stainless-steel with electro-polished finish or as a nickel-plated zinc clamp with a strong, chromed-brass chain.

Size	Min. to max. diameter	Ext. arm length	Arm diameter	Overall length	Cat. No.
Small	35 to 170 mm (1.38 to 6.69")	127 mm (5")	13 mm (0.51")	188 mm (7.4")	21573-275
Large-5	35 to 280 mm (1.38 to 11.02")	127 mm (5")	13 mm (0.51")	206 mm (8.11")	21572-729
Large-12	35 to 280 mm (1.38 to 11.02")	305 mm (12")	13 mm (0.51")	384 mm (15.12")	97035-506
Stainless steel					
Large-5	35 to 280 mm (1.38 to 11.02")	127 mm (5")	13 mm (0.51")	206 mm (8.11")	89202-620



21572-137

VWR® COLUMN CLAMPS

These sturdy, easily adjusted, multipurpose clamps are ideal for holding large cylindrical glassware and similar objects. A large, flat thumbscrew/worm-drive permits maximum tightening or removal in minimum time. Clamp is constructed of corrosion-resistant stainless steel. Ideal for chromatography columns.

Size	Min. to max. diameter	Ext. arm length	Arm diameter	Overall length	Cat. No.
Small	65 to 89 mm (2.56 to 3.5")	211 mm (8.31")	11 mm (0.43")	282 mm (11.1")	21572-104
Medium	91 to 114 mm (3.58 to 4.49")	211 mm (8.31")	11 mm (0.43")	315 mm (12.4")	21572-137
Large	64 to 140 mm (2.52 to 5.51")	211 mm (8.31")	11 mm (0.43")	338 mm (13.31")	21572-160
X-Large	92 to 165 mm (3.62 to 6.5")	211 mm (8.31")	11 mm (0.43")	368 mm (14.49")	21572-192



21572-002

VWR® NESTER EXTENSION CLAMP

Securely holds large or small glass distillation-columns and odd-shaped glassware. Constructed of stainless steel with a strong, chromed-brass band and chain.

Min. to max. diameter	Ext. arm length	Arm diameter	Overall length	Cat. No.
50 to 102 mm (1.97 to 4")	152 mm (5.98")	10 mm (0.39")	262 mm (10.32")	21572-002



97019-056

VWR® PVC-COATED OPEN EXTENSION RINGS

Ideal for supporting funnels, round-bottom flasks, reaction vessels and other apparatus that require lower support. Opening in the PVC-coated aluminum ring allows for easy removal of sample container. PVC coating protects glassware. Long extension arm permits depth adjustment of the open ring from the lab frame or ring stand.

Ring diameter	Ext. arm length	Arm diameter	Overall length	Cat. No.
76 mm (3")	254 mm (10")	9 mm (0.35")	328 mm (12.91")	97019-054
102 mm (4")	305 mm (12")	9 mm (0.35")	404 mm (15.91")	97019-056
127 mm (5")	305 mm (12")	11 mm (0.43")	427 mm (16.81")	97019-058



28641-014

VWR® OPEN RINGS

Lightweight rings mount funnels, boiling flasks and other irregular-shaped objects to lab frames. Open ring section allows items to pass in and out of support area easily, reducing risk of breakage. Aluminum construction.

Ring diameter	Ext. arm length	Arm diameter	Overall length	Cat. No.
76 mm (3")	58 mm (2.28")	9 mm (0.35")	132 mm (5.2")	28641-010
102 mm (4")	58 mm (2.28")	9 mm (0.35")	158 mm (6.22")	28641-012
127 mm (5")	61 mm (2.4")	11 mm (0.43")	183 mm (7.2")	28641-014

VWR® Talon® Specialty Clamps

89202-636
(shown in stainless steel)



36393-030
flask not included



VWR® BURET HOLDERS

Stainless-steel electro-polished finish or nickel-plated zinc. Double-buret clamp holds any size buret from micro to 100 ml capacity. Simply compress the scissor-like mechanism, insert buret and gently release to grip. Numbers and graduation on buret remain easy to read. For height adjustments, recompress mechanism and slide buret up or down and gently release. Clamp unit attaches to optional standard support rod with built-in reinforced hook connector. Adjusting nut faces forward for easy use. Stainless-steel or aluminum support rod attaches to optional porcelain base.

- Support rod (D × L): 0.51 × 22.76" (13 × 578 mm)
- Porcelain base (L × W × H): 7 × 13 × 1" (178 × 330 × 25 mm)
- Buret clamp (L × W): 4.25 × 6.8" (108 × 173 mm)

Description	Cat. No.
Aluminum	
Double-buret clamp (only)	17683-258
Support stand with rod	17683-054
Double-buret clamp and support stand with rod (complete)	17683-000
Stainless steel	
Double-buret clamp (only)	89202-626
Support rod (only)	89202-638
Support stand with rod	89202-634
Double-buret clamp and support stand with rod (complete)	89202-636

VWR® KETTLE CLAMPS

Holds flask and cover together firmly. Three insulated spring-activated clamping arms. Stainless-steel springs. For use on reaction kettles.

Flask sizes	Inside diameter	Cat. No.
500 ml, 1000 ml	4.92" (125 mm)	36393-030
2000 ml, 3000 ml, 4000 ml	5.59" (142 mm)	36393-051

21573-153



VWR® SUSPENSION CLAMP

Holds thermometers, potash bulbs or drying tubes 114 mm (4.49") from support rod. Machine tapered, nickel-plated brass hook won't bend, rust or corrode. Built-in holder grips rods up to 19 mm (0.75") in diameter.

Overall length	Cat. No.
5.39" (137 mm)	21573-153



2-Prong clamp head



3-Prong clamp head



Spring clamp head



12621-216

VWR® TALON® SPECIALTY CLAMPS

VWR Ultra Flex Support Systems have unique flexible arms that are extremely versatile and can be placed in virtually any position or angle. Ultra Flex comes in three different systems: base plate, lab frame connector and bench clamp. Each system includes a 2-prong clamp head, 3-prong clamp head, spring clamp head, nickel-plated flex arm (12" [305 mm] or 18" [457 mm] long) and a utility wrench. The 2- and 3-prong clamp heads are also supplied with nonslip vinyl sleeves and, for temperatures above 100 °C, fiberglass covers.

Arm length	Ultra Flex 12: 12" (305 mm) Ultra Flex 18: 18" (457 mm)
Arm diameter	0.51" (13 mm)
Max. grip size	2-Prong clamp head: 2.95" (75 mm) 3-Prong clamp head: 2.72" (69 mm) Spring clamp head: 0.51" (13 mm)



12621-210

VWR® ULTRA FLEX SUPPORT SYSTEM WITH BASE PLATE

- Stable base plate
- All-metal construction

VWR Ultra Flex Support System with base plate is designed with a stable, painted steel base plate with a chemical-resistant black finish that fits easily on benchtops or in fume hoods. Base plate measures 5 × 5 × 0.5" (127 × 127 × 12.7 mm).

Description	Cat. No.
Ultra Flex 12 with base plate	12621-208
Ultra Flex 18 with base plate	12621-210

VWR® ULTRA FLEX SUPPORT SYSTEM WITH LAB FRAME CONNECTOR

- Cast alloy lab frame connector
- Mounts to lab frames or support stands

VWR Ultra Flex Support System with lab frame connector securely attaches to support stands, lab frames or any support rod up to 19 mm (0.75") in diameter. Ideal for use in fume hoods. Lab frame connector is made of cast alloy.

Description	Cat. No.
Ultra Flex 12 with lab frame connector	12621-216
Ultra Flex 18 with lab frame connector	12621-218



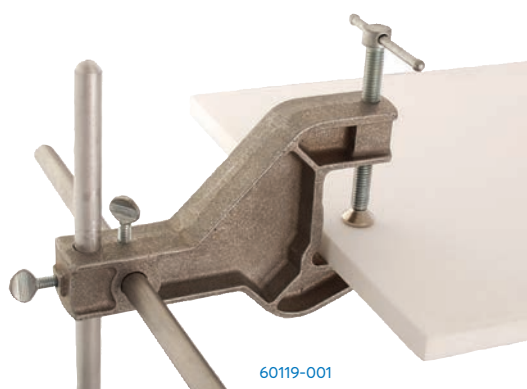
12621-214

VWR® ULTRA FLEX SUPPORT SYSTEM WITH BENCH CLAMP

- Aluminum bench clamp
- Easily attaches to most lab benches

VWR Ultra Flex Support System with bench clamp easily attaches to the side of your lab bench or counter top, which helps utilize more space in your lab. Bench clamp is aluminum.

Description	Cat. No.
Ultra Flex 12 with bench clamp	12621-212
Ultra Flex 18 with bench clamp	12621-214
Replacement parts	
2-Prong clamp head	12621-224
3-Prong clamp head	12621-226
Spring clamp head	12621-228
12" Flex arm	12621-220
18" Flex arm	12621-222
Base plate	12621-230
Lab frame connector	12621-234
Bench clamp	12621-232



60119-001



VWR® Talon® Clamp Connectors, Holders & Accessories

VWR® BENCH CLAMP

Aluminum bracket with arm fastens quickly and firmly to any convenient shelf. Accepts 13 mm (0.51") rods vertically and horizontally, to which ordinary rings and clamps attach, leaving bench surface clear for apparatus.

Clamp opening	Depth of grip	Overall length	Cat. No.
1.7" (43 mm)	2" (51 mm)	7.75" (197 mm)	60119-001

VWR® REPLACEMENT SLEEVES

Sleeves are easily removed for cleaning or replacement. Both vinyl and fiberglass sleeves are available. Fiberglass sleeves are recommended for all applications above 100 °C (212 °F).

Clamp size	Green vinyl sleeve Cat. No.	Fiberglass sleeve Cat. No.
Medium 2-prong (2 pack)	21572-900	21572-901
Small 3-prong (3 pack)	21572-904	21572-905
Medium 3-prong (3 pack)	21572-906	21572-907
Large 3-prong (3 pack)	21572-908	—

VWR® Talon Connectors & Holders



89202-610
(shown in stainless steel)



21572-501
(shown in nickel-plated zinc)



12621-250
(shown in stainless steel)



21572-556
(shown in aluminum)

VWR® REGULAR HOLDER

Stainless-steel electro-polished finish or nickel-plated zinc construction. Ideal for holding clamps to lab frames. Use wherever clamping at 90° is required.

Material	Min. to max. grip size	Cat. No.
Stainless steel	0 to 18 mm (0 to 0.71")	89202-610
Nickel-plated zinc	0 to 18 mm (0 to 0.71")	21572-501

VWR® JUMBO HOLDER

Stainless-steel electro-polished finish or aluminum construction. Ideal for holding clamps to lab frames or ring stands.

Material	Min. to max. grip size	Cat. No.
Stainless steel	0 to 21 mm (0 to 0.83")	12621-250
Aluminum	0 to 21 mm (0 to 0.83")	21572-556



14216-208



21572-658

VWR® HEAVY-DUTY HOLDER

For mounting stirrers and other apparatus. Clamp is constructed of strong aluminum alloy, fitted with over-sized knobs for very secure positioning. Rods supported on 102 mm (4") long surface to avoid vibration and wobble.

Material	Min. to max. grip size	Cat. No.
Aluminum	6 to 24 mm (0.24 to 0.95")	14216-208

VWR® ALL-POSITION CLAMP HOLDER

Surpasses standard holding capabilities. The all-position clamp holder permits adjustment at any angle in any plane. Holders are set at 90° to each other, connected by a 90° connector, allowing 360° rotation. Nickel-plated zinc construction.

Material	Min. to max. grip size	Cat. No.
Nickel-plated zinc	0 to 19 mm (0 to 0.75")	21572-658



89202-628
(shown in stainless steel)



21572-603
(shown in nickel-plated zinc)



12985-062
(shown in stainless steel)



60079-166
(shown in nickel-plated zinc)

VWR® SWIVEL HOLDER

Two rod holders with center-swivel capacity allow tilting of clamps at any angle in parallel planes. Outside adjustment screw allows close proximity between items being held. Stainless-steel electro-polished finish or nickel-plated zinc construction.

Material	Min. to max. grip size	Cat. No.
Stainless steel	0 to 19 mm (0 to 0.75")	89202-628
Nickel-plated zinc	0 to 19 mm (0 to 0.75")	21572-603

VWR® HOOK CONNECTOR

Stainless-steel electro-polished finish or nickel-plated zinc construction. Simple, versatile and easy to use. Hook connectors allow one-handed assembly of two components with one adjustment screw.

Material	Min. to max. grip size	Cat. No.
Stainless steel	0 to 13 mm (0 to 0.51")	12985-062
Nickel-plated zinc	0 to 13 mm (0 to 0.51")	60079-166

VWR® Talon Connectors & Holders



60079-100



12621-246
(shown in stainless steel)



60097-056
(shown in nickel-plated zinc)

VWR® END-TO-END CONNECTOR

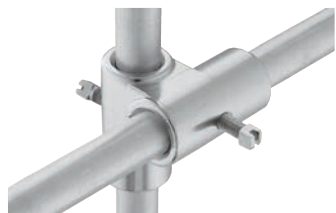
Extend the length of lab frame rods. Strong aluminum alloy connector permits end-to-end joining of rods. Precision boring of connector ensures perfect alignment of rods. Corrosion resistant. Comes with two set-screws.

Material	Min. to max. grip size	Cat. No.
Aluminum	0 to 13 mm (0 to 0.51")	60079-100

VWR® S-CONNECTOR

Stainless-steel electro-polished finish or nickel-plated zinc construction. Clamp is ideal for constructing lab frames or other supports requiring the connection of two perpendicular rods. Clamp connects two 13 mm (0.51") rods at a 90° angle and features separate adjustment screws for each rod location.

Material	Min. to max. grip size	Cat. No.
Stainless steel	0 to 13 mm (0 to 0.51")	12621-246
Nickel-plated zinc	0 to 13 mm (0 to 0.51")	60097-056



89202-616
(shown in stainless steel)



60079-010
(shown in nickel-plated zinc)



60097-055

VWR® ROD-END CONNECTOR

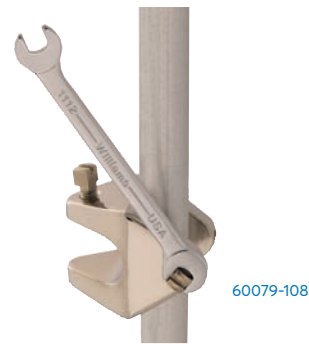
Holds rods firmly at 90°. Use when semi-permanent installations are required. Comes with two set-screws and is precision bored for a close fit. Stainless steel electro-polished finish or nickel-plated zinc construction.

Material	Min. to max. rod size	Cat. No.
Stainless steel	0 to 13 mm (0 to 0.51")	89202-616
Nickel-plated zinc	0 to 13 mm (0 to 0.51")	60079-010

VWR® FRAME CONNECTOR (PACK OF 12)

Improved contour delivers simplicity and strength. Angled adjustment screws allow easy set-up and prevents misalignment. Smooth, rounded surfaces are easy to clean. Small size maximizes lab frame space. Bright dipped-aluminum finish sealed with silicon for maximum protection against corrosion.

Material	Min. to max. grip size	Cat. No.
Aluminum	0 to 13 mm (0 to 0.51")	60097-055



VWR® MULTI-ROD CONNECTOR

Maximum adjustment capability within one connector. Two adjustment rods fit into the oval hole in the connector, preventing turning when tightened. Side and front 13 mm (0.51") holes allow for the creation of a variety of configurations. Nickel-plated zinc construction.

Min. to max. rod size	Cat. No.
0 to 13 mm (0 to 0.51")	60079-053

VWR® WRENCH

Special adjusting wrench for use with lab frame items with set screws.

Length	Cat. No.
79 mm (3.11")	60079-108



VWR® HORIZONTAL MOUNTING BARS WITH COUPLER

Threaded end for direct installation into channels. Comes with spring coupler for use in steel 41 mm (1.61") channels. Locking nut included. Use with steel channel frames.

Bar length	Cat. No.
51 mm (2")	60079-104
152 mm (6")	60079-106
203 mm (8")	60079-107



stainless steel



aluminum

LAB FRAME RODS

VWR offers the widest choice of standard frames available, plus the accessories to custom fit any laboratory with the right frame for the job. Standard lab frame sets are available in five sizes. Options of traditional centerless ground aluminum or tough stainless steel rods are available. Nickel-plated zinc connectors and lab frame feet are standard with all kits.

STAINLESS STEEL

Heavy-duty, top-of-the-line rods provide maximum strength and durability. Constructed of 303 stainless steel.

ALUMINUM

Centerless ground for a precise fit, these hard aluminum rods provide a smooth fit with lab frames. Corrosion resistant with chamfered ends for easy location.

Rod diameter	Rod length	Aluminum Cat. No.	Stainless steel Cat. No
0.5" (13 mm)	1.6" (41 mm)	60079-325	60079-530
0.5" (13 mm)	2" (51 mm)	60079-326	60079-531
0.5" (13 mm)	6" (153 mm)	60079-348	60079-532
0.5" (13 mm)	12" (305 mm)	60079-360	60079-533
0.5" (13 mm)	18" (457 mm)	60079-381	60079-534
0.5" (13 mm)	24" (610 mm)	60079-406	60079-535
0.5" (13 mm)	36" (914 mm)	60079-428	60079-536
0.5" (13 mm)	48" (1219 mm)	60079-440	60079-537
0.5" (13 mm)	60" (1524 mm)	60079-461	60079-538
0.5" (13 mm)	72" (1827 mm)	60079-483	60079-539
0.5" (13 mm)	96" (2438 mm)	60079-508	60079-540



12621-248
(shown in stainless steel)

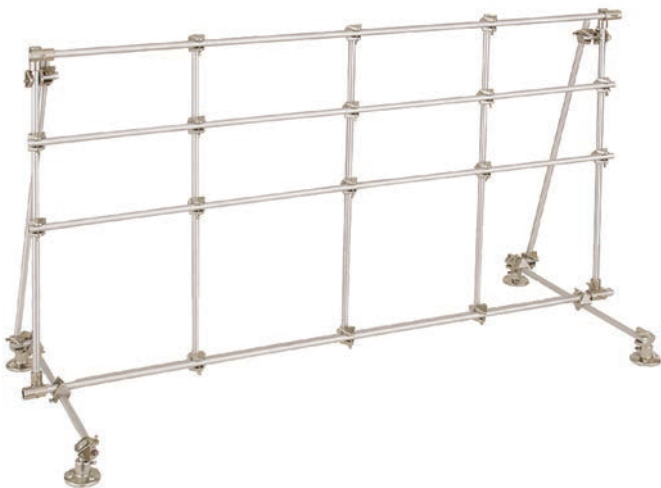
VWR® LAB FRAME FOOT

Stainless-steel electro-polished finish or nickel-plated zinc construction. Strong, durable lab frame foot is designed for mounting lab frames permanently to benchtops, fume hoods, walls and floors. Spilled fluids roll right off the smooth body contour, minimizing contamination and easing cleanup. Features a set screw and includes three 19 mm (0.75") mounting screws.

Material	Min. to max. grip size	Dimensions (D x H)	Cat. No.
Stainless steel	0 to 0.51" (0 to 13 mm)	2.3 x 1.25" (58 x 32 mm)	12621-248
Nickel-plated zinc	0 to 0.51" (0 to 13 mm)	2.3 x 1.25" (58 x 32 mm)	60079-257

VWR® Lab Frame Kits

VWR offers the widest choice of standard frames available, plus the accessories to custom fit any laboratory with the right frame for the job. Standard lab frame kits are available in five sizes. Options of traditional centerless ground aluminum or tough stainless-steel rods are available. Nickel-plated zinc connectors and lab frame feet are standard with all kits.



VWR® SMALL LAB FRAME

Vertical mounting, great for glassware setups in small laboratories or where space is limited. Base is 18" wide for stability and may be permanently mounted to benchtop with screws (included).

Components:	(8) 2" (51 mm) rods
	(2) 18" (457 mm) rods
	(8) 24" (610 mm) rods
	(18) S-connectors
	(4) Rod-end connectors
	(4) Lab frame feet

Description	Frame dimensions	Base dimensions	Cat. No.
Aluminum	24 × 24" (610 × 610 mm)	18" (457 mm) wide	60075-008
Stainless steel	24 × 24" (610 × 610 mm)	18" (457 mm) wide	60079-552

VWR® MEDIUM LAB FRAME

Horizontal or vertical mounting, convenient for distillation or general set up. Frame measures 24 × 48" (610 × 1219 mm). Base is 18" wide for stability.

Components:	(8) 2" (51 mm) rods
	(2) 18" (457 mm) rods
	(7) 24" (610 mm) rods
	(4) 48" (1219 mm) rods
	(35) S-connectors
	(4) Rod-end connectors
	(4) Lab frame feet

Description	Frame dimensions	Base dimensions	Cat. No.
Aluminum	24 × 48" (610 × 1219 mm)	18" (457 mm) wide	60075-009
Stainless steel	24 × 48" (610 × 1219 mm)	18" (457 mm) wide	60079-554



VWR® LARGE LAB FRAME

This frame is ideal for complex glassware setups. Base is 18" wide for stability.

Components:	(10) 2" (51 mm) rods
	(3) 18" (457 mm) rods
	(2) 36" (914 mm) rods
	(10) 48" (1219 mm) rods
	(38) S-connectors
	(4) Rod-end connectors
	(6) Lab frame feet

Description	Frame dimensions	Base dimensions	Cat. No.
Aluminum	48 × 48" (1219 × 1219 mm)	18" (457 mm) wide	60077-003
Stainless steel	48 × 48" (1219 × 1219 mm)	18" (457 mm) wide	60079-556

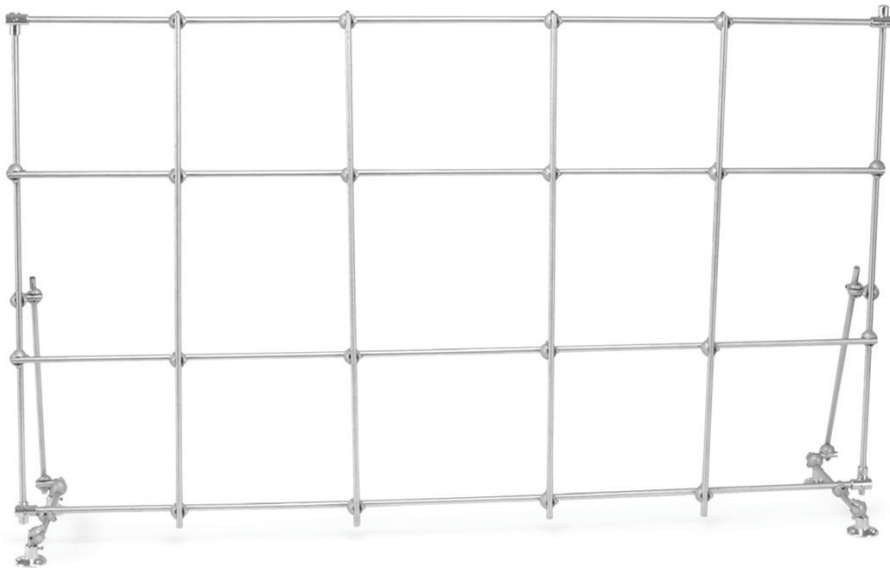


VWR® EXTRA LARGE LAB FRAME

Extra-large lab frame offers the greatest versatility for your most demanding setups. Can be horizontally or vertically mounted.

Components:	(6) 2" (51 mm) rods
	(6) 12" (305 mm) rods
	(2) 24" (610 mm) rods
	(7) 48" (1219 mm) rods
	(5) 72" (1829 mm) rods
	(45) S-connectors
	(4) Rod-end connectors
	(8) Lab frame feet

Description	Frame dimensions	Base dimensions	Cat. No.
Aluminum	48 × 72" (1219 × 1830 mm)	18" (457 mm) wide	60078-006
Stainless steel	48 × 72" (1219 × 1830 mm)	18" (457 mm) wide	60079-558



VWR® FUME HOOD KITS

Choose from four kits specifically designed to fit within laboratory fume hoods. All components are constructed of stainless steel, with the exception of the frame connectors, which are made of aluminum with a silicone finish.

4' (1.22 m) Fume hood kit

Components:	(8)	2" (51 mm) rods
	(2)	12" (305 mm) rods
	(2)	18" (457 mm) rods
	(4)	36" (914 mm) rods
	(4)	38" (965 mm) rods
	(30)	Frame connectors
	(4)	Rod-end connectors
	(4)	Lab frame feet
Cat. No.	14224-400	

Frame: 36 x 38" (914 x 965 mm)
Base: 12" (305 mm) wide

5' (1.52 m) Fume hood kit

Components:	(8)	2" (51 mm) rods
	(2)	12" (305 mm) rods
	(2)	18" (457 mm) rods
	(5)	36" (914 mm) rods
	(4)	50" (1270 mm) rods
	(34)	Frame connectors
	(4)	Rod-end connectors
	(4)	Lab frame feet
Cat. No.	14224-402	

Frame: 36 x 50" (914 x 1270 mm)
Base: 12" (305 mm) wide

6' (1.83 m) Fume hood Kit

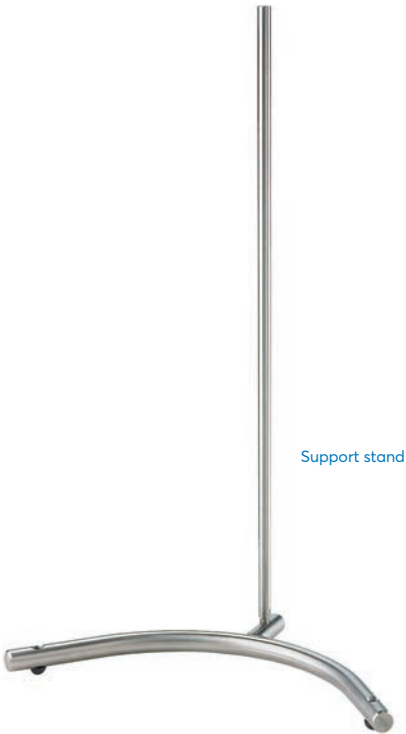
Components:	(8)	2" (51 mm) rods
	(2)	12" (305 mm) rods
	(2)	18" (457 mm) rods
	(6)	36" (914 mm) rods
	(4)	62" (1575 mm) rods
	(38)	Frame connectors
	(4)	Rod-end connectors
	(4)	Lab frame feet
Cat. No.	14224-404	

Frame: 36 x 62" (914 x 1575 mm)
Base: 12" (305 mm) wide

8' (2.44 m) Fume hood kit

Components:	(10)	2" (51 mm) rods
	(3)	12" (305 mm) rods
	(2)	18" (457 mm) rods
	(8)	36" (914 mm) rods
	(4)	86" (2184 mm) rods
	(45)	Frame connectors
	(4)	Rod-end connectors
	(6)	Lab frame feet
Cat. No.	14224-406	

Frame: 36 x 86" (914 x 2184 mm)
Base: 12" (305 mm) wide



Support stand



Heavy-duty support stand

VWR® Talon® Support Stands

VWR® SUPPORT STANDS

VWR Support Stands are made entirely of 303 stainless steel. They have a durable base that can accommodate vessels up to 18" (457 mm) in diameter within the curve. The base area is 17.75" (451 mm) across and 10.5" (267 mm) deep overall. The stainless-steel support rod is 0.63" (16 mm) in diameter and is screwed to the support base. Two additional threaded holes in the base legs accommodate rods, enabling the stand to support two mixers. The curved shape of the base should be turned from the mixing apparatus when the two outside rods are in use. This balances the weight, preventing the base from tipping.

Description	Cat. No.
Support stand with 23" (584 mm) rod	14010-002
Support stand with 28" (711 mm) rod	58958-459
Support stand with 36" (914 mm) rod	14010-004
Support stand with 40" (1016 mm) rod	97035-508
Support stand with 48" (1219 mm) rod	14010-008
Support stand with 60" (1524 mm) rod	14010-010

VWR® SUPPORT STAND STABILIZER KNOBS

VWR Support stand stabilizer knobs can be added to the two additional threaded holes in the base legs to secure the stand to a benchtop.

Description	Cat. No.
Support stand stabilizer knobs (2 per pack)	58958-462

VWR® HEAVY-DUTY SUPPORT STANDS

VWR Heavy-Duty Support Stands have a four-point cast iron base with a stainless-steel support rod. They are designed to accommodate vessels up to 12" (30.5 cm) in diameter to sit close to the support rod. They have rubber cushions on each of the four corners. The base area is 16.5" (41.9 cm) across and 12" (30.5 cm) deep overall. They are ideal for heavy-duty mixers.

Description	Cat. No.
Heavy-duty support stand with 18" (457 mm) rod	60100-105
Heavy-duty support stand with 23" (584 mm) rod	97035-510
Heavy-duty support stand with 28" (711 mm) rod	97035-512
Heavy-duty support stand with 36" (914 mm) rod	97035-514
Heavy-duty support stand with 40" (1016 mm) rod	97035-516
Heavy-duty support stand with 48" (1219 mm) rod	97035-518
Heavy-duty support stand with 60" (1524 mm) rod	97035-520

VWR® REPLACEMENT SUPPORT RODS

Description	Diameter	Cat. No.
18" (457 mm) Stainless-steel rod	0.63" (16 mm)	97039-966
23" (584 mm) Stainless-steel rod	0.63" (16 mm)	97035-522
28" (711 mm) Stainless-steel rod	0.63" (16 mm)	97035-524
36" (914 mm) Stainless-steel rod	0.63" (16 mm)	97039-968
40" (1016 mm) Stainless-steel rod	0.63" (16 mm)	97035-526
48" (1219 mm) Stainless-steel rod	0.63" (16 mm)	97039-970
60" (1524 mm) Stainless-steel rod	0.63" (16 mm)	97039-972

VWR® Talon® Support Stands

Cast iron support stand bases are constructed with black enamel finish for chemical resistance and durability. All bases feature a built-in support rod holder with locking knob that accepts a 0.51" (13 mm) diameter support rod. U-shaped base features three built-in support rod holders and accommodates vessels up to 5" (127 mm) in diameter.

* Support rods are not included.



12985-074



Aluminum support rods

VWR® RECTANGULAR BASE SUPPORT STAND, CAST IRON

Description	Dimensions	Cat. No.
Rectangular base (only)	4 × 6" (102 × 152 mm)	12985-068
Rectangular base (only)	5 × 8" (127 × 203 mm)	12985-070
Rectangular base (only)	6 × 9" (152 × 229 mm)	12985-072
Rectangular base (only)	8 × 10" (203 × 254 mm)	12985-074



12985-076

VWR® TRIPOD BASE SUPPORT STAND, CAST IRON

Description	Overall footprint diameter	Cat. No.
Tripod base (only)	14.75" (375 mm)	12985-076



12985-078

VWR® U-SHAPED BASE SUPPORT STAND, CAST IRON

Description	Dimensions	Cat. No.
U-shaped base (only)	7 × 7" (178 × 178 mm)	12985-078

VWR® ALUMINUM SUPPORT RODS

Length	Diameter	Cat. No.
1.61" (41 mm)	0.51" (13 mm)	60079-325
6" (152 mm)	0.51" (13 mm)	60079-348
12" (305 mm)	0.51" (13 mm)	60079-360
18" (457 mm)	0.51" (13 mm)	60079-381
24" (610 mm)	0.51" (13 mm)	60079-406
36" (914 mm)	0.51" (13 mm)	60079-428
48" (1219 mm)	0.51" (13 mm)	60079-440
60" (1524 mm)	0.51" (13 mm)	60079-461
72" (1829 mm)	0.51" (13 mm)	60079-483
96" (2438 mm)	0.51" (13 mm)	60079-508



stainless-steel support rods

VWR® STAINLESS STEEL SUPPORT RODS

Length	Diameter	Cat. No.
1.61" (41 mm)	0.51" (13 mm)	60079-530
6" (152 mm)	0.51" (13 mm)	60079-532
12" (305 mm)	0.51" (13 mm)	60079-533
18" (457 mm)	0.51" (13 mm)	60079-534
24" (610 mm)	0.51" (13 mm)	60079-535
36" (914 mm)	0.51" (13 mm)	60079-536
48" (1219 mm)	0.51" (13 mm)	60079-537
72" (1829 mm)	0.51" (13 mm)	60079-539
96" (2438 mm)	0.51" (13 mm)	60079-540

VWR® Talon® Support Plates



VWR® ROUND SUPPORT PLATE

Aluminum plate supports beakers, mantles and Petri dishes. Fits standard lab frames using VWR connectors or holders, shown on Pages 87 - 89.

Plate diameter	Distance from rod	Cat. No.
6" (152 mm)	2.6" (66 mm)	60079-000

VWR® SUPPORT PLATES

Designed to hold hotplates, stirrers, hotplate stirrers and other apparatus to lab frames or ring stands. Aluminum construction offers strength and durability. Support plates include a nonskid rubber mat and a built-in holder that grips rods up to 0.75" (19 mm) in diameter.

Size	Plate dimensions	Distance from rod	Cat. No.
Small	9.5 × 6.5" (241 × 165 mm)	1.9" (48 mm)	11301-124
Medium	12.75 × 9" (324 × 229 mm)	1.9" (48 mm)	11301-126
Large	15.75 × 12" (400 × 305 mm)	1.9" (48 mm)	11301-128

VWR® Gas Cylinder Safety Supports

VWR® CYLINDER BENCH CLAMPS

Rugged cast aluminum clamps safely secure gas cylinders to benches, tables or other flat surfaces up to 2.5" (64 mm) thick. The 1" (25 mm) wide, 54" (1372 mm) long nylon strap features a nickel-plated, nonslip spring catch and buckle for easy adjustment around cylinders from 4 to 14" (102 to 356 mm) in diameter. Models 711 and 716 are available with or without a "Secure Cylinder" safety message strap.



Safety message strap



Safety message strap

VWR® MODEL 711 BENCH CLAMP

This bench clamp has a large tightening handle for mounting to any flat surface up to 2.5" (64 mm) thick. A nylon pad prevents damage to the bench or table surface. Two tapered mounting screw holes are provided for permanent attachment to bench-top.

Description	Dimensions (L x W x H [closed])	Cylinder diameter	Cat. No.
Model 711 bench clamp with strap	3.25 x 5.25 x 6.5" (83 x 133 x 165 mm)	4 to 14" (102 to 356 mm)	60142-003
Model 711 bench clamp with safety message strap	3.25 x 5.25 x 6.5" (83 x 133 x 165 mm)	4 to 14" (102 to 356 mm)	97035-528

VWR® MODEL 716 BENCH CLAMP

This bench clamp is similar to Model 711 but includes a sturdy safety chain for extra security. Chain measures 49 " (124.5 cm).

Description	Dimensions (L x W x H [closed])	Cylinder diameter	Cat. No.
Model 716 bench clamp with strap and chain	3.25 x 5.25 x 6.5" (83 x 133 x 165 mm)	4 to 14" (102 to 356 mm)	60142-006
Model 716 bench clamp with safety message strap and chain	3.25 x 5.25 x 6.5" (83 x 133 x 165 mm)	4 to 14" (102 to 356 mm)	97035-530

VWR® MODEL 712 HEAVY-DUTY BENCH CLAMP

This bench clamp has two screw clamps to tighten for extra-firm mounting to any flat surface up to 1.75" (45 mm) thick with a 1.25" (32 mm) overhang. Especially convenient for temporary storage situations. Rugged cast aluminum bench clamp features a 1" (25 mm) wide, 54" (1372 mm) long nylon strap with nickel-plated, nonslip spring catch buckle to hold cylinders 4 to 14" (102 to 356 mm) in diameter. This clamp is not available with a safety message strap.

Description	Dimensions (L x W x H [closed])	Cylinder diameter	Cat. No.
Model 712 heavy-duty bench clamp with strap	3.25 x 6 x 4.5" (83 x 152 x 114 mm)	4 to 14" (102 to 356 mm)	97035-532



VWR® Gas Cylinder Safety Supports



Safety message strap



safety message strap



Safety message strap and chain



safety message strap and chain

VWR® MODEL 715 WALL BRACKET

Cylinder wall-mount brackets are constructed of cast aluminum and contoured to allow cylinders to fit firmly along the support edge. Recessed screw holes at each side of the bracket allow for easy wall mounting. Features a 1" (25 mm) wide, 54" (1372 mm) long nylon strap with nickel-plated, nonslip spring catch and buckle for fast, easy adjustment. Available with or without a "Secure Cylinder" safety message strap. For cylinders 4 to 14" (102 to 356 mm) in diameter.

Description	Dimensions (L × W × H)	Cylinder diameter	Cat. No.
Model 715 Wall Bracket with strap	1.88 × 8.13 × 4.63" (48 × 206 × 118 mm)	4 to 14" (102 to 356 mm)	60141-124
Model 715 Wall Bracket with safety message strap	1.88 × 8.13 × 4.63" (48 × 206 × 118 mm)	4 to 14" (102 to 356 mm)	97035-534

VWR® MODEL 717 WALL BRACKET

This wall bracket is similar to Model 715 but includes a sturdy safety chain for extra security. Chain measures 49" (124.5 cm).

Description	Dimensions (L × W × H)	Cylinder diameter	Cat. No.
Model 717 Wall Bracket with strap and chain	1.88 × 8.13 × 4.63" (48 × 206 × 118 mm)	4 to 14" (102 to 356 mm)	60141-126
Model 717 Wall Bracket with safety message strap and chain	1.88 × 8.13 × 4.63" (48 × 206 × 118 mm)	4 to 14" (102 to 356 mm)	97035-536

VWR® Cylinder Stands



VWR® MODEL 704 ADJUSTABLE STAND

Heavy-duty, cast aluminum stand with adjustable "L" brackets hold cylinders 6 to 9.25" (152 to 235 mm) in diameter. Hinges open for installation without lifting the cylinder or disturbing connections. Prevents accidental tipping.

Description	Dimensions (D × H)	Cylinder diameter	Cat. No.
Model 704 adjustable stand	18.5 × 7.5" (470 × 191 mm)	6 × 9.25" (152 × 235 mm)	97035-540



VWR® MODEL 713 PORTABLE STAND

This cast iron portable cylinder stand offers a sturdy cylinder stand and a convenient cylinder dolly all-in-one. This cylinder stand is designed in two interlocking halves and can be installed without lifting the tank. Built-in rubber wheels for easy mobility. Three thumbscrews tightly grip cylinder.

Description	Dimensions (D × H)	Cylinder diameter	Cat. No.
Model 713 portable stand	15.5 × 3" (394 × 76mm)	7 × 9.25" (178 × 235mm)	60141-000



12620-904



12620-902

VWR® Lab Jacks

VWR® ALUMINUM SUPPORT JACKS

- Exceptional stability and durability
- Aluminum construction
- Three convenient sizes

VWR Aluminum support jacks provide stable height adjustment for various items in the lab, such as flasks, baths and small equipment. Top and bottom decks are constructed of anodized aluminum. Internal supports and drive screws are constructed of stainless steel. Oversized sure-grip adjustment knobs provide smooth and accurate height adjustment. Jacks accept optional support rod kit, which mounts to the upper deck.

Deck size	Min. to max. height	Max load*	Cat. No.
4 x 4" (102 x 102 mm)	2.5 to 5" (64 to 127 mm)	66 lb (29.94 kg)	12620-900
6 x 6" (152 x 152 mm)	3 to 9.75" (76 to 248 mm)	132 lb (59.87 kg)	12620-902
8 x 8" (203 x 203 mm)	3 to 9.75" (76 to 248 mm)	176 lb (79.83 kg)	12620-904
10 x 10" (254 x 254 mm)	3.5 to 13" (89 to 330 mm)	186 lb (84.37 kg)	10027-578

* Maximum load rating represents static weight only. Static weight is the amount a unit can hold, not lift.

OPTIONAL ACCESSORIES

VWR® 17" SUPPORT ROD KIT

Ideal for creating an adjustable support stand for mounting various items such as thermometer clamps, temperature probes and flask and column clamps. This kit allows you to mount a 17" (432 mm) threaded vertical support rod to the upper deck of a 6 x 6" (152 x 152 mm), 8 x 8" (203 x 203 mm) or 10 x 10" (254 x 254 mm) support jack by screwing the rod into the pre-drilled hole.

17" Support rod kit includes:	(1) 17" (432 mm) Stainless-steel rod
	(1) Jam nut
	(1) Flat washer

Description	Rod diameter	Cat. No.
17" Support rod kit	0.51" (13 mm)	14217-532



OPTIONAL
ACCESSORIES

VWR® HEAVY-DUTY SUPPORT JACKS

- Stainless-steel construction
- Seven convenient sizes to choose from
- Autoclavable and chemical resistant

VWR Heavy-duty stainless-steel support jacks are ultra-stable lifting platforms with exceptional strength and durability. Constructed of stainless steel, they are designed for use in extreme environments and high-load applications. Equipped with oversized sure-grip adjustment knobs that provide extra leverage for easy height adjustments. Durable construction allows lifts to be autoclaved or on chemically cleaned. Ideal for use in fume hoods or on benchtops and for holding a variety of items, such as glassware, hotplates, baths and magnetic stirrers.

Deck size	Min. to max. height	Max. load*	Cat. No.
3 × 3" (76 × 76 mm)	2.5 to 5" (64 to 127 mm)	100 lb (45.36 kg)	14233-360
4 × 4" (102 × 102 mm)	2.5 to 5" (64 to 127 mm)	100 lb (45.36 kg)	14233-362
6 × 6" (152 × 152 mm)	3 to 9.75" (76 to 248 mm)	133 lb (60.33 kg)	14233-364
8 × 8" (203 × 203 mm)	3 to 9.75" (76 to 248 mm)	227 lb (102.97 kg)	14233-366
10 × 10" (254 × 254 mm)	3.5 to 13" (89 to 330 mm)	247 lb (112.04 kg)	14233-368
12 × 12" (305 × 305 mm)	4 to 19.5" (102 to 495 mm)	100 lb (45.36 kg)	14233-370

* Maximum load rating represents static weight only. Static weight is the amount a unit can hold, not lift.

VWR® 17" SUPPORT ROD KIT

Ideal for creating an adjustable support stand for mounting various items such as thermometer clamps, temperature probes, flask and column clamps. This kit allows you to mount a 17" (432 mm) threaded vertical support rod to the upper deck of a 6 × 6" (152 × 152 mm), 8 × 8" (203 × 203 mm), 10 × 10" (254 × 254 mm), 12 × 12" (305 × 305 mm) and 16 × 16" (406 × 406 mm) support jack by screwing the rod into the pre-drilled hole.

17" Support rod kit includes:	(1) 17" (432 mm) Stainless-steel rod
	(1) Jam nut
	(1) Flat washer

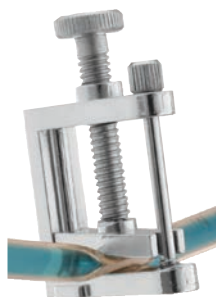
RATCHET TOOL

Designed to add extra leverage to your 12 × 12" (305 × 305 mm) or 16 × 16" (406 × 406 mm) support jack. This recommended ratchet tool easily attaches to the actuating rod to allow easy, accurate adjustments.

Description	Rod diameter	Cat. No.
17" Support rod kit	0.51" (13 mm)	14217-532
Ratchet tool	-	14233-232

VWR® Talon® Flow Control

VWR flow control devices offer selection and quality. They are finely machined to deliver accurate regulation or interruption of fluid flow. Every flow control device resists corrosion and rust. Hosecocks offer easy one-hand operation. Convex bearing surfaces and rounded edges protect tubing. Premium stainless-steel or nickel-plated zinc.



89202-614



21716-102

REGULAR HOSECOCK

Adjustment screw with oversized head for accurate regulation. Built-in side lugs for foot mounting. Tubing retainer screw.

Stainless steel

Min. to max. grip	Dimensions (W × H [open])	Cat. No.
0 to 17 mm (0 to 0.67")	37 × 62 mm (1.46 × 2.44")	89202-614

Nickel-plated zinc

Min. to max. grip	Dimensions (W × H [open])	Cat. No.
0 to 17 mm (0 to 0.67")	37 × 62 mm (1.46 × 2.44")	21716-102



50809-022



50809-020

VWR® INOCULATING TURNTABLES

Hand-operated turntables produce almost concentric circles of bacterial colonies that are evenly distributed across Petri dishes.

The 3" (76 mm) small turntable accommodates 100 mm Petri dishes. It has a tripod base to bring work approximately to eye level and a center disk covered with nonskid rubber lining.

The large turntable accommodates 100 or 150 mm Petri dishes and has a height of only 1.25" (32 mm).

Description	Dimensions (D × H)	Cat. No.
Small turntable	4.49 × 3.03" (114 × 77 mm)	50809-022
Large turntable	5.91 × 1.26" (150 × 32 mm)	50809-020



15153-821

VWR® SLIDE STAINING RACK

Constructed of stainless steel, this rack resists corrosion under normal use. Adjustable to fit trays or sinks up to 21" (533 mm) inside.

Description	Dimensions (L × W)	Cat. No.
Slide staining rack	23.74 × 3.5" (603 × 89 mm)	15153-821

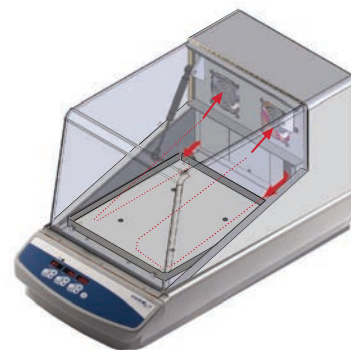


28641-001

VWR® AIR EJECTOR NICKEL-PLATED

Rapid air removal evacuates 1 L of air to (28") 711 mm of vacuum in 30 s. Works with compressed-air sources to 60 psi.

Description	Length	Cat. No.
Air ejector	5.51" (140 mm)	28641-001



OPTI-FLOW FORCED VENTILATION SYSTEM*

Fan(s) draw air from the chamber, and baffles deflect air around the sides of the chamber. This prevents the flow of air directly on samples delivering exceptional temperature uniformity and stability.

* This feature can be found on the VWR Incubating 3500 Orbital Shaker, Incubating 5000I Orbital Shaker and Incubating/Refrigerating 5000IR Orbital Shaker (see Pages 27 - 29).

Custom manufacturing and engineering

Any product you see in this catalog can be customized to meet your specific needs. Not only can we customize standard products, we can combine technologies from several products to meet your specific application.

We demonstrate excellence in all areas of the manufacturing process, including design, engineering, skilled workforce, capacity, quality assurance and post-management customer service:

- Engineering team with electronics, mechanical and graphic design experience.
- ISO 9001-registered quality system to ensure high reliability in both design and manufacturing processes.
- Experienced regulatory processes in getting dozens of products approved by UL, CSA, CE and TUV.
- Manufacturing operation is UL, CSA and TUV approved and is "surprise audited" every three months according to regulatory standards
- Turning, milling, assembly and sourcing capabilities to produce or procure components at a competitive cost.
- Calibration system is ISO/IEC 17025 compliant.
- Six highly trained staff metrologists who understand measurement technology and key attributes required to make accurate and repeatable measurements.
- State-of-the-art facility, including a modern machine shop, cellular assembly area and the world's most environmentally stable calibration laboratories.
- Management with Six Sigma certification.
- Responsiveness to customers needs.

If there is a single factor that defines our competitive advantage, it is the commitment and ability to respond to our customers' specific needs. Our sophisticated engineering and manufacturing capabilities allow us to address a broad range of product objectives: designing entire product lines, introducing new products and technologies and enhancing existing products.

Proven technologies

We have worked with industry leaders to design solutions for production and research needs across the pharmaceutical and life science industries. This experience is apparent in every product we engineer. We offer cost-effective solutions to meet your customized needs.

Personalized Project Managers will work with you throughout the entire process. All custom designed products have state-of-the-art materials and are manufactured in a CE/UL-audited facility.

Listed are proven technologies that can be modified, enhanced or incorporated as-is into custom products:

- Heating control
- Mechanical motion systems
- Digital and analog speed-control systems
- In-house knowledge as well as a vast network of suppliers who can support your design and manufacturing efforts
- Experience with a variety of materials

Custom capabilities in design, engineering and manufacturing can give you a distinct competitive advantage. Tell us your goals and objectives. Get us involved early in the process. Let us be part of the solution and accelerate your time to discovery.

For more information on VWR's custom manufacturing capabilities, call 1-800-932-5000 or contact your VWR Sales Representative.