

MACHEREY-NAGEL

Test strip reader

QUANTOFIX® Relax



Quick start guide

Quick start guide

Important information:

This separate quick start guide is delivered together with the test strip reader QUANTOFIX® Relax. The quick start guide is not intended to be a comprehensive operating instruction. Further information, including detailed operating procedures, can be found in the complete operating instruction of the device. Read them in addition to this quick start guide. Be sure to read the safety instructions in this quick start guide before operating the unit.

MACHEREY-NAGEL

The QUANTOFIX® Relax is a reflectometer for the evaluation of test strips from MACHEREY-NAGEL. Only use test strips from MACHEREY-NAGEL that are suitable for instrumental evaluation.

Please read this Quick Start Guide carefully before performing a test and follow the instructions in this guide.

Safety instructions

BE SURE TO READ THE FOLLOWING SAFETY INSTRUCTIONS CAREFULLY BEFORE USING THE DEVICE.

Failure to follow these instructions may result in serious injury to the operator, malfunction or damage of the device.

Keep this manual in a safe place for future reference.

Follow the safety notes and instructions in the operating manual and observe the stickers and notices on the device.

Do not work on internal parts of the unit. Non-compliance will invalidate any warranty claim.

Use of the hazard warnings

DANGER

Indicates an imminent or potentially hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

Indicates an imminent or potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

NOTICE

Indicates a situation which, if not avoided, may result in malfunction or damage to the device. Information that clarifies facts in the text and that requires special attention.

Explanation of symbols



This symbol indicates that there is a risk of electric shock.



This symbol indicates that the designated area can become hot and should not be touched without suitable protective measures.



This symbol indicates that the chemicals used have a corrosive effect. Observe the safety measures in the laboratory and wear the prescribed protective equipment. Observe the instructions in the current safety data sheets (SDS) of the products used.



This symbol indicates that there may be a danger by using flammable substances.



Explanations to the text. Tips and tricks for better handling.



USB interface

I/O

On / Off



LAN-interface

RS232

COM-Interface



Direct current



Keep dry



Temperature limits



Consult instructions for use or consult electronic instructions for use



Do not dispose of the device in common household waste



Manufacturer



Catalogue number



Serial number



Date of Manufacture



CE-Mark. The CE symbol indicates fulfillment of the applicable harmonization legislation of the European Community.

Technical data

Specification	Description
Size	7.5 cm × 16 cm × 20 cm (H × W × D)
Weight	710 g (without batteries and power pack)
Power supply	External power pack 100–240 V, Output 9 V, 1.5 A Alternative: battery operation with 6 mignon batteries 1.5 V (AA)
Operating conditions:	10 °C – 40 °C; 20 % – 80 % rel. humidity (non-condensing), up to 3000 m
Pollution degree:	2
Protection Class:	Device: III Power supply: I
Overvoltage category	Device: II Power supply: I
Transport condition	-10 °C – 45 °C, max. 80 % humidity (non-condensing)
Storage condition	10 °C – 40 °C, max. 80 % humidity (non-condensing)

Initial operation

Step 1: Switch on device

CAUTION

Multiple hazards: Only qualified personnel should carry out instructions described in this step.

WARNING



Risk of electric shock: Make sure that the power cord is not damaged. Check the suitability of the power source for the equipment.

CAUTION

Risk of injury due to the danger of tipping over due to slipping. Place the device on a flat surface. Do not stack the device.

WARNING



Fire hazard: Take care not to overload the mains socket. There is a risk of overload and fire.

Make sure that the power cord is not damaged. Check that the power source used is suitable for the equipment.

WARNING

Risk of injury: Familiarize yourself with the device before working with it and read this document carefully. Do not use the device unless you have received instruction in its use.

NOTICE

Defects of the power supply and housing can lead to malfunction of the device. If the device shows an apparent breakage of the housing or a damaged power supply, it must be taken out of operation.



Insert the hollow plug of the power supply unit into the charging socket of the device. Attach the adapter corresponding to your power connection to the supplied power supply unit. Connect it to a power source.

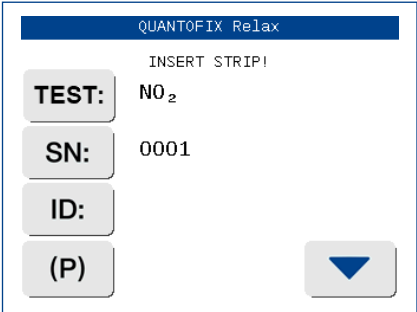
- ① Power supply socket
- ② USB A interfaces
- ③ USB B interface
- ④ LAN connection
- ⑤ RS232 interface
- ⑥ On/Off switch

Switch on the device using the on/off switch ⑥ at the back of the device. After the automatic self test, the start screen appears in the display.

NOTICE

Only the associated power supply (REF 930995) may be used.

Step 2: Select test

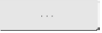


By confirming **SN:** you can enter a sequence number.

By confirming **ID:** you can enter a sample ID.

Confirming  takes you to the menu for further settings.

By confirming **(P)** you enter the standby mode.

The start screen shows the currently activated test strip. Make sure that the test strip to be measured matches the activated test. Press **TEST:** to select another test for measurement. If you want to select a test that is not present in the favorite setting, press .

NOTICE

The device remembers the last test used and saves it as the first option in the start screen.

Step 3: Perform test

WARNING



Possible dangers of contact with chemical and biological substances. Working with samples, reagents and corresponding accessories is associated with dangers. Wear suitable protective equipment when working with test kits. Observe the safety data sheet (SDS) of the test kit used.



Perform the test as described in the package leaflet of the respective test strip. Read them carefully to obtain accurate and reliable results.

NOTICE

Always shake off excess liquid from the test strip as described in the package leaflet for optimal test results.

Step 4: Perform measurement



Place the test strip on the strip holder with the test field facing upwards. The test strip must be flush with the recess of the strip holder at the front. To do this, the inserted test strip can be pushed forward with your finger.

The device recognizes the test strip and starts the measurement automatically.

A time bar appears showing the remaining reaction time.

NOTICE

Do not touch the test fields with your fingers!

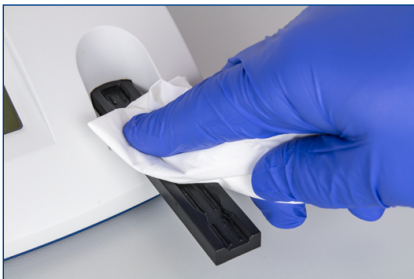
Step 5: Display result

RESULT		NO ₃ /NO ₂	
Seq. No:	0002		
ID:	2022-12-08 17:15		
NO ₃	<10 mg/L	+/- 20%	
NO ₂	<0.5 mg/L	+/- 20%	
			

After the reaction time has elapsed, the measured test strip is moved out of the device again.

The result of the measurement is shown in the display and printed automatically.

Step 6: Finish measurement



Dispose of the used test strip according to your disposal guidelines. Wipe off sample residues from the strip holder.

Cleaning

NOTICE



For all cleaning work, the unit must be switched off and disconnected from the power supply.



WARNING



Fire hazard. Do not use flammable detergents or organic solvents to clean the unit.

NOTICE

Do not clean the device with acetone or similar products.



1. Wipe the outside of the device with a damp cloth, if necessary with a mild cleaner, and then dry the device with a soft cloth. Make sure that no moisture enters the device or the printer. Clean the touchscreen with a lint-free cloth.
2. Switch off the device and pull out the strip holder to remove it from the device.



3. Rinse the strip holder with clear water. Alcohol-based disinfectants can be used for disinfection.
4. Press the strip holder completely onto the metal strip with appropriate force.
5. Push the strip holder back into the unit.

For details on cleaning and maintenance, refer to the complete manual.

Quality control

Each facility must implement its own QC policy.

To check the performance of the test strips and the instrument, we recommend measuring several standard solutions with known concentration within the measuring range.

For additional assurance of your results, you can also use special control strips for the instrument's test mode (see operating instructions for more information).

Changing the printer paper



1. Press the button next to the printer paper slot to open the paper tray. Remove the old roll.



2. Insert the new roll of printer paper as shown. The roll must unroll from the bottom.
3. Unroll about 10 cm of paper.
4. Close the printer cover.

Maintenance

NOTICE

Malfunction or damage of the device due to incorrect maintenance. Maintenance of the device may only be carried out by qualified personnel.

For further maintenance information, follow the instructions in the complete operating instructions of the device or contact MACHEREY-NAGEL.

Accessories and spare parts

NOTICE

Only use accessories and spare parts approved by the manufacturer. If parts not approved by the manufacturer are used, the operator is responsible for the conformity of the device and the warranty will become void.

For information on accessories and spare parts, refer to the complete operating instruction of the device or contact MACHEREY-NAGEL.

Errors, Sources and Solutions

The instrument differentiates between different types of error messages. Advisory error messages are of less importance and are displayed on the screen during handling the instrument (e.g. Please remove strip). When the corrective action has been performed, the analyzer removes the message from the screen.

If an error message occurs during testing it will be displayed on the screen or in the result view instead of the result. Messages are displayed in plaintext and are self-explanatory.

Error	Source	Solution
"Wrong Position"	The strip hasn't been pushed into the strip retainer far enough	New measurement, place strip in right position
"Printer out of paper"	Paper roll empty or printer flap open	Replace paper and close printer flap
"Battery Low"	Batteries are low	Exchange batteries or use power pack
Instrument doesn't start	Power supply not installed or defect	Check whether all connections are plugged in and whether the power socket is functioning
"Mech. error"	Hardware error	Please check the correct positioning of the strip holder. Please contact your local distributor of MACHEREY-NAGEL directly.
"Measurement error"	An error during the measurement occurred.	Please repeat the measurement.

In case an error cannot be solved by the aid of the instructions above, please contact your local distributor or the MACHEREY-NAGEL Service.

Electromagnetic Compatibility

Target environment of device use: Application in the commercial laboratory environment.

- This device has been developed and tested in accordance with CISPR 11 Class A. It can cause radio interference in a domestic environment. In this case, you may need to take action to correct the interference.
- Use of this equipment in a dry environment, especially if synthetic materials (synthetic fiber clothing, carpets, etc.) are present, can cause destructive static discharges that can cause erroneous results.
- Do not use this device near sources of strong electromagnetic radiation, as they may interfere with proper operation.
- This device is in accordance with the applicable parts of the requirements for emission and immunity described in the IEC 61326 series of standards.
- Before use, the electromagnetic environment must be assessed.

EMC Class A according CISPR 11:

The device can be used in all institutions excluding residential areas and areas which are directly connected to the public power supply, if the public power supply supplies buildings for residential purpose.

Disposal

NOTICE



Disposal via public disposal systems is not permitted. Contact your local MACHEREY-NAGEL representative.



Disposal according to EU Directive 2012/19/EU. In accordance with the EU Directive 2012/19/EU MACHEREY-NAGEL takes back the old device and disposes it free of charge.

Manufacturer



MACHEREY-NAGEL GmbH & Co. KG

If you still have questions or need technical assistance after reading the manual, contact:

MACHEREY NAGEL GmbH & Co. KG

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A073592 / 0250.25

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MACHEREY-NAGEL



Management
System
EN ISO 13485:2016
ISO 9001:2015



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