

## Customer information

Version 3

# Device maintenance

As a manufacturer of analytical measuring instruments, quality control is a very important issue for us. The areas of quality control and analytics are closely connected. When determining measured values, quality assurance of the measuring instruments plays an essential role in addition to securing the analytical procedure. MACHEREY NAGEL enables you as a user to perform an independent quality control of your instrument.

With this customer information we would like to create transparency on the subject of maintenance for you as a user. In the following we will show you the possibilities of maintenance on your own, by our sales representative directly at your site or by our service technicians in Düren. In addition, we provide information on frequently asked questions on the subject of maintenance.

If you have any questions, please do not hesitate to contact us!

Technical customer service: + 49 24 21 969-333  
e-mail: [support@mn-net.com](mailto:support@mn-net.com)

## What does maintenance mean from the manufacturer's point of view?

As a manufacturer of highly sensitive measuring instruments and devices used for sample preparation, MACHEREY NAGEL provides you with a qualitative and reliable system for your everyday analyses. The instruments are subjected to a 100% inspection by our quality control before shipping. For each delivered instrument we provide you with an individual certificate of analysis.

To ensure that you receive reliable results over the entire operating life of the equipment, MACHEREY NAGEL believes it is important that the equipment is checked periodically. Within the scope of an inspection or maintenance, besides cleaning, functional tests and standard measurements should be carried out.

## Why should a device be maintained?

Due to regular use, various environmental influences and the natural aging of the device it is necessary to check the functionality periodically. By taking these measures you can secure your analysis and prove the reliability of your instruments both internally and to authorities or end customers.

## Who can carry out the maintenance?

Depending on the requirements, maintenance can be carried out in different ways. MACHEREY-NAGEL offers you as a user extensive possibilities and products to check your instrument:

- You can carry out the inspection of your device on your own. It is a precondition that you have the necessary test equipment for your device at your disposal. In addition, the person who carries out the maintenance should have the necessary basic knowledge.
- The maintenance is carried out by our field service directly at your site by appointment. The field service uses the test equipment available from MACHEREY-NAGEL for inspection.
- The maintenance is carried out by our service technicians in Düren. In this case it is necessary to send in your device. In addition to the test equipment available from MACHEREY-NAGEL, the service technicians use further certified reference materials to check the device.

### Which test equipment can be used for maintenance on my own?

MACHEREY-NAGEL offers a wide range of test equipment to support you in checking the functionality of your equipment on your own. Please refer to the corresponding notes in the manual of the device.

In the following you will find information about test equipment, available from MACHEREY-NAGEL. When selecting the test equipment, please make sure that it is compatible with the device to be tested. Further information can be found in the manual of the device, in the corresponding leaflet or in our price list.

#### Photometer

The test solution NANOCONTROL NANOCHECK 2.0 (REF 925703) can be used to check the photometric accuracy and the test solution NANOCONTROL NANOTURB (REF 925702) to check the nephelometric turbidity unit. In addition, we provide you with various NANOCONTROL standard solutions for our NANOCOLOR® tests. In the case of the spectrophotometers, there are further possibilities for checking the test equipment, e.g. carrying out a lamp check or a wavelength accuracy test. For a more detailed description, please refer to the equipment manual.

#### Heating blocks

For electronic temperature control and calibration of heating blocks you can use our NANOCOLOR® USB T-Set (REF 919921).

#### Reflection photometer

Control strips (REF 930988) are available for testing the QUANTOFIX® Relax.

### How often should devices be serviced?

MACHEREY-NAGEL recommends that you determine your own maintenance intervals depending on the intensity of use and according to your own internal quality standards. In addition, there are authorities, institutions or end customers, who demand a regularly recurring maintenance interval. One of these institutions is the German Association for Water Management, Wastewater and Waste (DWA). Please refer to the following table to find out how you can meet the requirements of Worksheet DWA-A704:

Quality assurance measure	Benefit	Products for quality assurance	Minimum frequency / quality objective
IQK-card 9 Heater / Heating block (checking temperature)	Securing of the reaction temperature	NANOCOLOR® USB T-Set as well as T-Set adapter for Inspection of heating blocks	1 x per year; deviation ≤ 3 °C
IQK-card 9 Measuring instruments (e.g. photometer)	Securing of the correctness	NANOCONTROL NANOCHECK Inspection of the photometric accuracy NANOCONTROL NANOTURB Inspection of the nephelometric turbidity unit	2 x per year, corresponding to the manufacturer's specifications; device-dependent

## What are the requirements for maintenance?

The requirements for maintenance are different, as they are usually prescribed by higher authorities. Enclosed is a list of possible influencers:

Customer	Potential influencer
Sewage treatment plant	German Association for Water, Wastewater and Waste (DWA)
Industrial	End customer
Accredited laboratory	German Accreditation Body (DAkkS)

Before carrying out maintenance, please clarify which requirements are to be met by the maintenance and communicate these when placing the order. This gives MACHEREY-NAGEL the possibility to respond individually to your request for special requirements.

## What are the costs for maintenance by MACHEREY-NAGEL?

Maintenance can be ordered from MACHEREY-NAGEL via REF 919820.2 or REF 919820.1. If you decide that the maintenance of your unit should be done by MACHEREY-NAGEL service, you will find a price overview below:

Maintenance model	Price in €*	
REF 919820.2		
NANOCOLOR® system testing/test equipment control for one measuring station (consisting of NANOCOLOR® photometer and NANOCOLOR® heating block plus any spare parts that may be required by the field service at your site)	400 €	for one measuring station
Date by arrangement		
Maintenance of each additional device at extra charge**	50 €	for each additional device
REF 919820.1		
NANOCOLOR® system testing/test equipment control for one device by a service technician in Düren, flexibly scheduled, incl. provision of a bridging device if required (Please observe separate pricing for NANOCOLOR® T-Set below.)	250 €	per device
Testing/test equipment control for NANOCOLOR® T-Set or USB T-Set against accredited reference material by a service technician in Düren, flexibly scheduled	150 €	per device
Testing/test equipment control for NANOCOLOR® T-Set or USB T-Set in a DAkkS certified reference laboratory, flexibly scheduled	250 €	per device

\* Price in € valid from 01.01.2025 to 31.12.2025. All prices are exclusive of VAT.

\*\* Applies to up to two additional devices. For a higher quantity of devices, the measuring station flat rate is charged again.

## How does maintenance by MACHEREY-NAGEL work?

### Maintenance by the field service at your site (REF 919820.2)

With this maintenance model, first of all a date is arranged with the sales representative responsible for your area to carry out the maintenance. On the agreed date, the responsible sales representative employee carries out the maintenance on your equipment. The sales representative provides the required test equipment. The results of the maintenance are then made available to quality control in Düren. After the maintenance has been carried out, the test reports are automatically made available to you by e-mail (usually within two weeks). A calculation is made after successful completion of the maintenance.

#### Maintenance by a service technician in Düren (REF 919820.1)

With this maintenance model, the technical customer service should first be contacted by telephone or e-mail. Please provide us with the following details about the maintenance:

- Serial number of the instrument (This can be found on the type plate on the back / bottom of the instrument marked SN).
- Declaration of decontamination (Download from MN website: <https://www.mn-net.com/de/device-service>)
- Customer, invoice recipient and goods recipient
- Do you need a bridging device for the duration of the maintenance?
- A list of a maximum of three tests / parameters of MACHEREY-NAGEL, which should be checked during maintenance.

Afterwards you will receive a return note from our company, which you should print out and enclose with the shipment of your device. If you use a bridging device, you can wait with the shipment of your device until you have received the bridging device. After successful maintenance you will receive your device back together with the test certificate. A charge will be made after successful maintenance.