



## Standards and addition solutions

### Internal Quality Control – a cornerstone for accepted results

As a manufacturer of analytical measuring devices and test kits for chemical analyses, quality control is a topic of highest importance for us. Hereby, the areas of quality control and analytics are closely linked. The quality assurance of the measuring instruments plays an essential role in addition to securing the analysis procedure. Only the combination of equipment inspection and quality control of the analytical system ensures officially accepted results. MACHEREY-NAGEL allows the user to perform an independent quality control of his whole *NANOCOLOR*<sup>®</sup> analysis system.

### Standards and addition solutions

#### Quality control of the complete analytical system

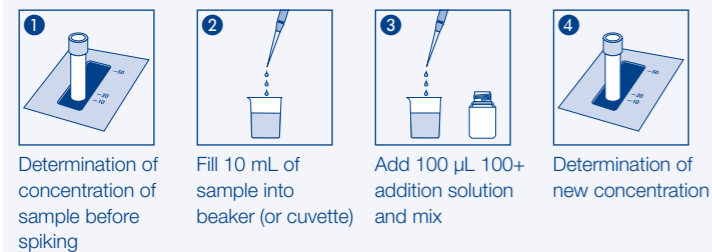
Standard measurements are the basis of a good Internal Quality Control. A standard measurement does not only control the correctness of the test kit, but also the device, user and accessories. *NANOCONTROL* standards contain reference substances in a defined concentration. They are applied instead of a water sample. The result is then compared to expected values and confidence intervals. Most standards also contain a *NANOCONTROL* 100+ addition solution. It can be used to identify matrix interferences of a certain water sample.



- Single standards for most important parameters
- Multistandards combine all important parameters for certain fields of application
- 100+ addition solutions are already included in most standards

#### How it's done

##### Procedure for *NANOCONTROL* 100+ addition



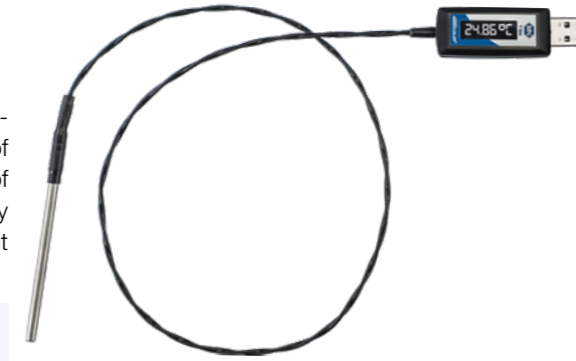
The difference in concentration should equal the theoretical value of the 100+ addition solution.

## Device inspection tools

### *NANOCOLOR*<sup>®</sup> USB T-Set

#### Independent self-control for heating blocks

The unique inspection equipment *NANOCOLOR*<sup>®</sup> USB T-Set is an electronic temperature sensor, which is suitable for the temperature control and automatic calibration of the latest *NANOCOLOR*<sup>®</sup> heating blocks. The user can check the correct function of his heating blocks independently with the *NANOCOLOR*<sup>®</sup> USB T-Set for Internal Quality Control purposes. For this reason the *NANOCOLOR*<sup>®</sup> USB T-Set is an important building block for a comprehensive analytical quality assurance.



- Free of charge PC-software for forgery-proof documentation
- Comprehensive test protocol for internal documentation
- LED display to control the measured temperature

### *NANOCONTROL* NANOCHECK 2.0

#### Inspection of photometric accuracy and linearity

*NANOCONTROL* NANOCHECK 2.0 is used as secondary standard for the control of photometric accuracy and linearity. It is a very important tool for the inspection of spectrophotometers and filter photometers, to assure the device performance apart from the measurement of standards and addition solutions. The two color solutions are each provided in three different concentrations. They are controlled using a reference spectrophotometer and documented in a comprehensive certificate, which provides the values for these NIST-traceable control solutions.

- Extremely broad measuring range from 340–800 nm  
Check all important wavelengths of *NANOCOLOR*<sup>®</sup> test kits.
- 2D Barcode for comfortable programming  
Automatic import of LOT-specific data in *NANOCOLOR*<sup>®</sup> VIS II and *UV/VIS* II
- Comprehensive documents  
CoA with references, absorbance and device independent target values
- Unique photometric linearity check  
Automatic approval in *NANOCOLOR*<sup>®</sup> VIS II and *UV/VIS* II
- Electronic inspection report  
Validation of device inspection by export from *NANOCOLOR*<sup>®</sup> VIS II and *UV/VIS* II

#### Good to know

##### Evaluation sheet



An editable electronic evaluation sheet is available for each photometer on our website. The *NANOCONTROL* NANOCHECK 2.0 evaluation sheet fulfills requirements for quality assurance and serves as validation against authorities and supervisors.

[www.mn-net.com/NANOCHECK](http://www.mn-net.com/NANOCHECK)



# User friendly DIY Internal Quality Control

## Spectrophotometers with IQC menu

Our latest spectrophotometers are equipped with extensive quality control features. Besides the integrated f.o.c. inspection equipment monitoring tools, the devices offer a variety of quality control functions e.g. standard measurements, multiple determinations and dilution series. Therefore, our spectrophotometers *NANOCOLOR® VIS II* and *UV/VIS II* make your Internal Quality Control easy and efficient as never before.



**Photometric accuracy:** Checking the photometric accuracy and linearity with *NANOCONTROL NANOCHECK 2.0*



**Wavelength accuracy:** Integrated Holmium oxide filter to check the wavelength accuracy of the spectrophotometer



**Standard measurements:** User friendly menu for fast and simple measurement of standards



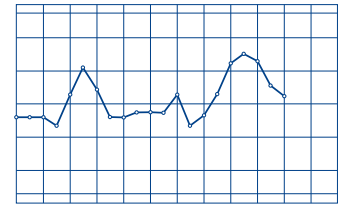
**Spiking measurements:** Step by step menu for measurements with standard addition solution



**Quality control chart:** Clear IQC charts for each measured standard are available in the device or for export and printing

### Good to know

IQC cards are generated directly in the device and can be printed or exported for documentation purposes.



## The next audit will be a breeze

- Measurement of single- and multi standards to safeguard operating procedures and the complete analysis system
- Plausibility checks with *NANOCONTROL* 100+ addition solutions to prevent matrix related interferences
- Check the photometric accuracy and wavelength correctness accompanied by comprehensive documentation to assure device performance
- Control the temperature of your heating blocks with the external inspection tool *NANOCOLOR®* USB T-Set to ensure correct digestion conditions



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KATEN100220 NANOCOLOR® Quality control IQC IQK en3a

[www.mn-net.com](http://www.mn-net.com)

# MACHEREY-NAGEL



Management System  
EN ISO 13485:2016  
ISO 9001:2015



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