

MACHEREY-NAGEL

Spectrophotometer

NANOCOLOR<sup>®</sup> Advance

Water Analysis



The future is spectral

- Universal – Large spectrum of evaluable test kits
- Intuitive – Icon-based menu navigation
- Save – Automatic detection of interfering turbidity
- Robust – Certified outdoor usability

**MACHEREY-NAGEL**

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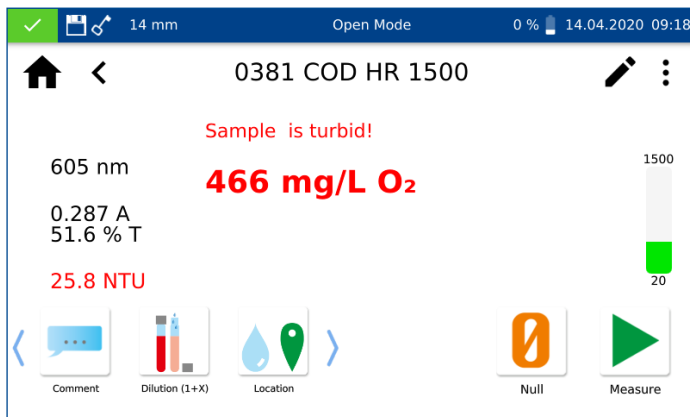
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## Smart into the future

The spectrophotometer **NANOCOLOR® Advance** combines the most important features of our portable compact photometer **PF-12<sup>Plus</sup>** and our high-precision spectrophotometer **NANOCOLOR® VIS II**. It provides precise and reliable measurement results in the daily laboratory routine and can also be used mobile due to its rechargeable battery. With its wavelength spectrum of 340–800 nm it allows the measurement of all photometrically evaluable test kits from MACHEREY-NAGEL. The **NANOCOLOR® Advance** can therefore be used universally in the entire spectrum of water and wastewater analysis.

## Leave nothing to chance

The **NANOCOLOR® Advance** offers the user an automatic detection of interfering turbidity (NTU-Check). With an additional 860 nm LED, the device determines the nephelometric turbidity during each measurement of a tube test and warns the user of incorrect results. This option helps to avoid measuring errors and sets the basis for reliable measuring results.



## Fast measurements – NANOCOLOR® Barcode Technology

- Simple and reliable routine analysis by fully automatic cuvette recognition via the integrated 2D barcode scanner
- The fast selection of the test method and the correct wavelength allows almost contactless operation

## Easy user guidance – without extensive trainings

- The icon-based menu navigation based on smartphone and tablet ensures fun working with the device
- The intuitive handling avoids errors and ensures fast and reliable results
- The capacitive touch screen allows comfortable working and reliable operation even with gloves



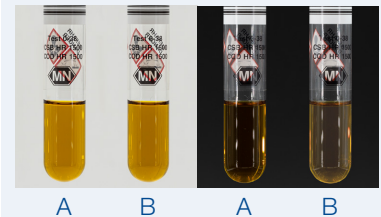
## Good to know



The **NANOCOLOR® Advance** has passed the vibration test according to Military Standard 810H only 514.8 CAT 4 and fulfills the requirements of protection class IP67. This underlines the robustness of the device and confirms its suitability for mobile analysis.

## Turbidity – A source of error

Turbidity in the cuvette is often underestimated because it is not always visible. With the automatic turbidity control (NTU-Check), the turbidity is determined for each measurement and the user is warned in case of an interference.



2 cuvettes (A | B) with the same COD concentration. The turbidity in cuvette B influences the result by up to 30%.

# NANOCOLOR® Advance

## Experience flexibility

The NANOCOLOR® Advance is the first photometer from MACHEREY-NAGEL with a 24 mm cuvette slot and thus extends the options for all areas of water analysis.

Besides the NANOCOLOR® tube tests and standard tests, the test kits from our VISOCOLOR® ECO and VISOCOLOR® Powder Pillow range can also be evaluated. The comprehensive and easy-to-understand menu for creating customer-specific methods makes the device an all-rounder in laboratory analysis and measurements on the road.

## Concentrated scope of services – Versatile in use

- Evaluation of NANOCOLOR® tube tests, standard tests, VISOCOLOR® ECO test kits and VISOCOLOR® Powder Pillows
- Comfortable creation of customer-specific special methods
- Selection of the correct method in seconds via barcode, test number or intelligent search
- The robust design and the built-in battery allow full mobility without sacrificing precision and comfort
- The data export takes place directly via the integrated interfaces - prepared for future requirements

## Comprehensive IQC options – Easy documentation and monitoring

- Versatile options for internal quality control allow monitoring of the device and the entire measuring system
- The test can be performed and documented by the user in a time-saving manner
- The integrated user administration enables complete documentation and individual adaptation to the user

## Good to know

### Universal cuvette slot

10, 20, 50 mm standard tests as well as 16 and 24 mm tube tests can be used with only two adapters.

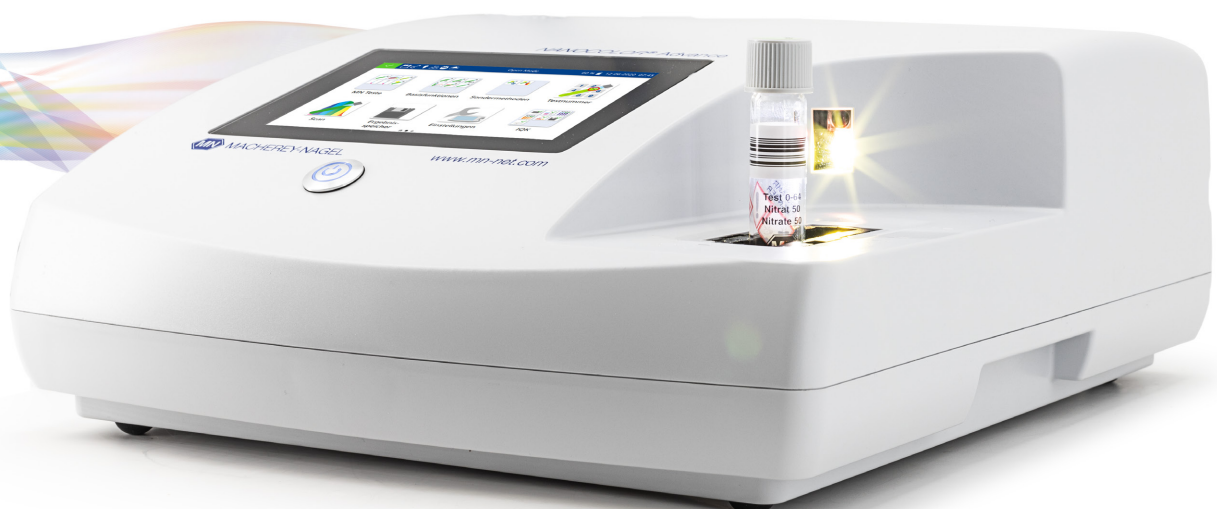


Stable and with a large opening, the new 24 mm tube tests are ideally suited for the evaluation of our VISOCOLOR® Powder Pillows.

## Good to know



All interfaces are located on the side and are therefore easily accessible. Switching on and off is conveniently done by a button below the display.



## Order information

| Description   | REF    |
|---|--------|
| Spectrophotometer <i>NANOCOLOR</i> ® Advance<br>incl. manual (quick start guide), protective cover, power supply unit with country specific adapters, USB stick, calibration cuvette, certificate and cleaning cloth in cardboard box | 919750 |
| Transport case for spectrophotometer <i>NANOCOLOR</i> ® Advance   | 919757 |
| <i>NANOCONTROL</i> <i>NANOCHECK</i> 2.0<br>Test solutions for checking photometric accuracy and linearity   | 925703 |
| Colored reference standards to confirm device response (0–4 mg/L Cl <sub>2</sub> )<br>Contains four solutions that simulate test color at different concentrations, a certificate and instructions, in a rugged case                  | 914820 |

## Technical data

| Specification               | Description  |
|-----------------------------|--|
| Type:                       | Spectrophotometer with Reference Detector Technology (RDT)   |
| Light source:               | Halogen lamp   |
| Optical system:             | Single beam photometer with grating monochromator  |
| Wavelength range:           | 340 nm–800 nm  |
| Wavelength accuracy:        | ± 2 nm   |
| Wavelength resolution:      | 1 nm   |
| Wavelength calibration:     | Automatically  |
| Wavelength selection:       | Automatically, Barcode, manually   |
| Scan speed:                 | 1 complete Scan < 3 min  |
| Wavelength reproducibility: | +/- 0.1 nm   |
| Spectral bandwidth:         | < 4 nm   |
| Photometric range:          | +/- 3.0 A in the range 340–800 nm  |
| Photometric accuracy:       | 0.003 A at 0.0–0.5 A; 1 % at 0.5–2.0 A   |
| Photometric linearity:      | < 0.5 % at 0.5–2.0 A; ≤ 1 % at > 2 A with neutral glass filters at 546 nm  |
| Scattered light:            | < 0.5 %  |
| Measurement modes:          | Over 200 pre-programmed tests and special methods; 99 fully programmable methods; absorbance; transmission; factor; kinetics; 2-point calibration; scan; nephelometric turbidity measurement |
| Turbidity measurement:      | Nephelometric turbidity measurement (16 mm and 24 mm)<br>1–1000 NTU  |
| Cuvette slot:               | Tube test 16 mm and 24 mm OD;<br>Standard test 10 mm, 20 mm, 40 mm and 50 mm   |
| Data memory:                | 1000 Measured values/spectra; GLP-conform  |
| Display:                    | Backlit display  |
| Operation:                  | Barcode technology; icon-based display menu navigation; capacitive touch screen  |
| Languages:                  | DE / EN / FR / ES / PT / PL / NL   |
| External light:             | Insensitive; open cuvette slot   |
| Interfaces:                 | LAN (CAT 6; only use shielded cables with a maximum length of 20 m)<br>2 x USB (Host), 1 x USB (Function)  |
| Protection class:           | IP 67  |
| Update:                     | Via USB stick  |
| Dimensions:                 | 325 x 280 x 130 mm (L x W x H)   |

