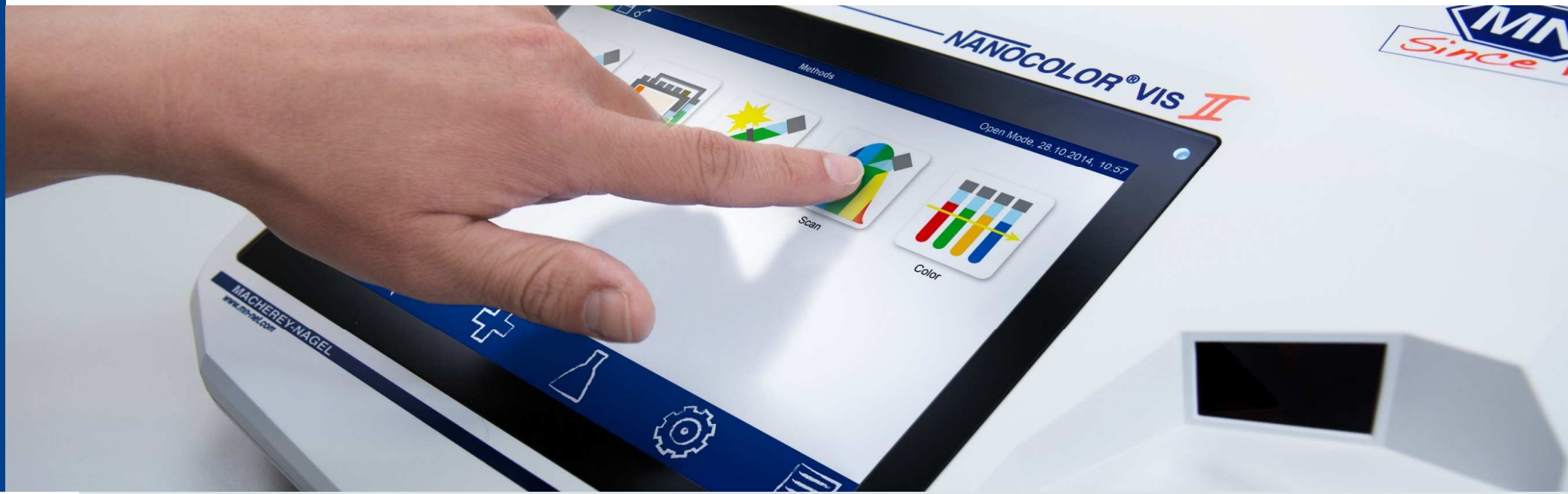
MACHEREY-NAGEL

# *NANOCOLOR®* – Devices




Innovative and future proof

Rafael Krause, Dr. Florian Ritter, 25.10.2023

# Agenda



***NANOCOLOR®* Photometer**



***NANOCOLOR®* Advance**



**Success in sales**



***NANOCOLOR®* heating blocks**

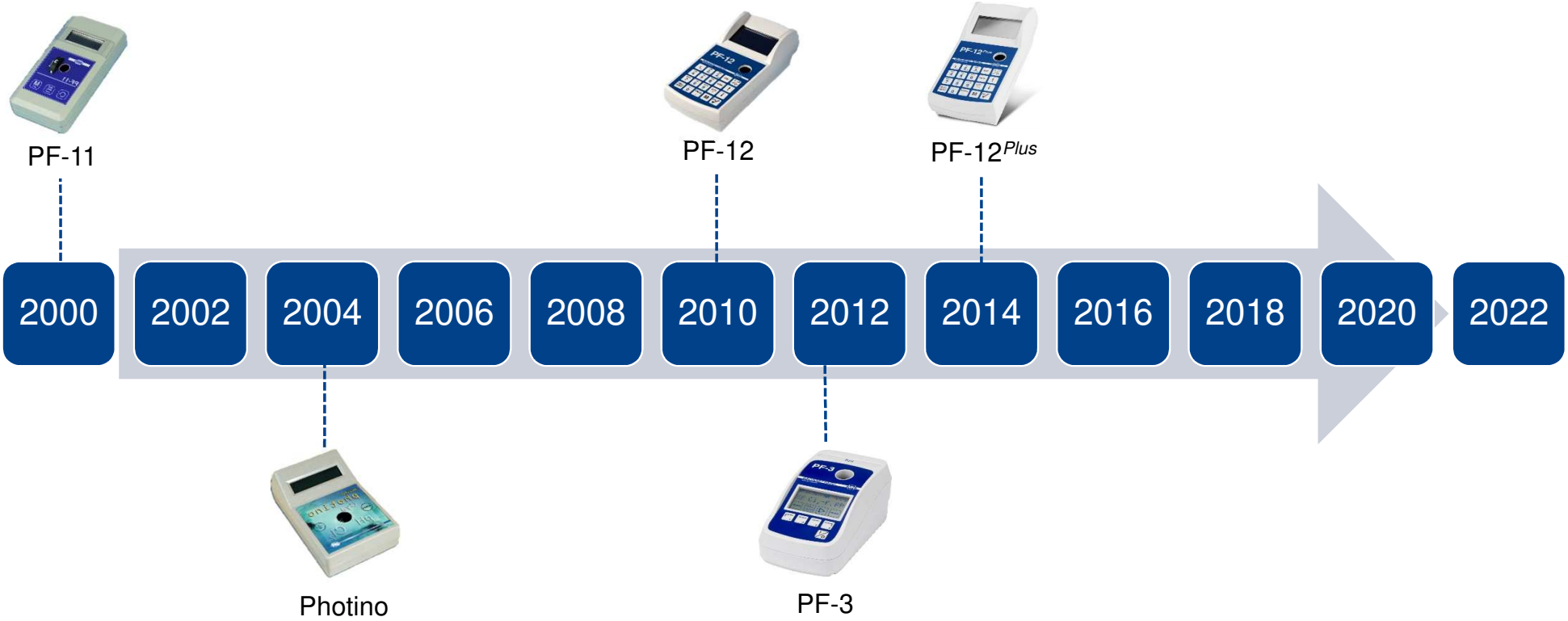


# *NANOCOLOR®* Photometer

# *NANOCOLOR®* Photometer



## Innovation leader devices



# *NANOCOLOR®* Photometer



## Innovation leader devices



Linus



UV/VIS



VIS



UV/VIS II



VIS II

2000 2002 2004 2006 2008 2010 2012 2014 2016 2018 2020 2022



400D



500D



Advance

# *NANOCOLOR®* Photometer



## HACH – Product launches compact photometers



DR300

2000 | 2002 | 2004 | 2006 | 2008 | 2010 | 2012 | 2014 | 2016 | 2018 | 2020 | 2022



DR900

# *NANOCOLOR®* Photometer



## HACH – Product launches spectrophotometers



# *NANOCOLOR®* – Photometer



## The ideal solution for all needs









| Characteristic | PF-12*Plus* | *NANOCOLOR®* Advance | *NANOCOLOR® VIS* II | *NANOCOLOR®* $^{UV}/_{VIS}$ II |
|---|---|---|---|---|
| Mobility | ★★★★★ | ★★★★ | ★★ | ★ |
| Robustness | ★★★★★ | ★★★★ | ★★ | ★★ |
| Data export | ★★ | ★★★★ | ★★★★★ | ★★★★★ |
| Preprogrammed methods | ★★★ | ★★★★★ | ★★★★ | ★★★★★ |
| Accuracy | ★★★ | ★★★★★ | ★★★★★ | ★★★★★ |

# *NANOCOLOR*® Photometer



## PF-12*Plus* – Unique selling points in the low price segment

- Tailor-made for mobile water analysis
- Easy handling for precise results
- Attractive for all customers with a low throughput
- Evaluation of all *NANOCOLOR*® tube tests
- Detection of interfering turbidity (NTU check)
- Easy data transfer via PC software




**Unbeatable price-performance ratio**

# *NANOCOLOR*® Photometer



## *NANOCOLOR*® *VIS* II – Reach your target smart

- Icon-based menu guidance for intuitive operation
- 10 inch capacitive touch screen for easy usability
- Active warning in case of interfering turbidities (NTU-Check)
- Integrated test equipment monitoring
- Applicable in all areas of water and waste water analysis
- Excellent price performance ration

Smart photometry




**Designed to convince your key accounts**

# *NANOCOLOR*® Photometer



## *NANOCOLOR*® *VIS* II vs. HACH DR3900

- Less intuitive menu navigation
- 7 inch resistive touch display
- Analysis by rotating the cuvette
- Turbidity warning only for two COD tests



# *NANOCOLOR®* Photometer



## *NANOCOLOR®* $^{UV}/_{VIS}$ II – Simple and precise

- Precise measurements in the UV range
- High quality optics with reference detector
- Color measurements, turbidity measurements and scans
- Special application brewery analytics pre-installed
- Future-proof data connectivity options
- Excellent price performance ration

Smart photometry




**For universities and huge accounts**



# *NANOCOLOR®* Advance

# *NANOCOLOR*® Advance



## Smart photometry

Intuitive user guidance

2D barcode reader

Robust, mobile, water proof

16 and 24 mm cuvette slot

NTU-Check



# *NANOCOLOR*® Advance



## Icon-based user interface



# *NANOCOLOR*® Advance



## 2D barcode reader

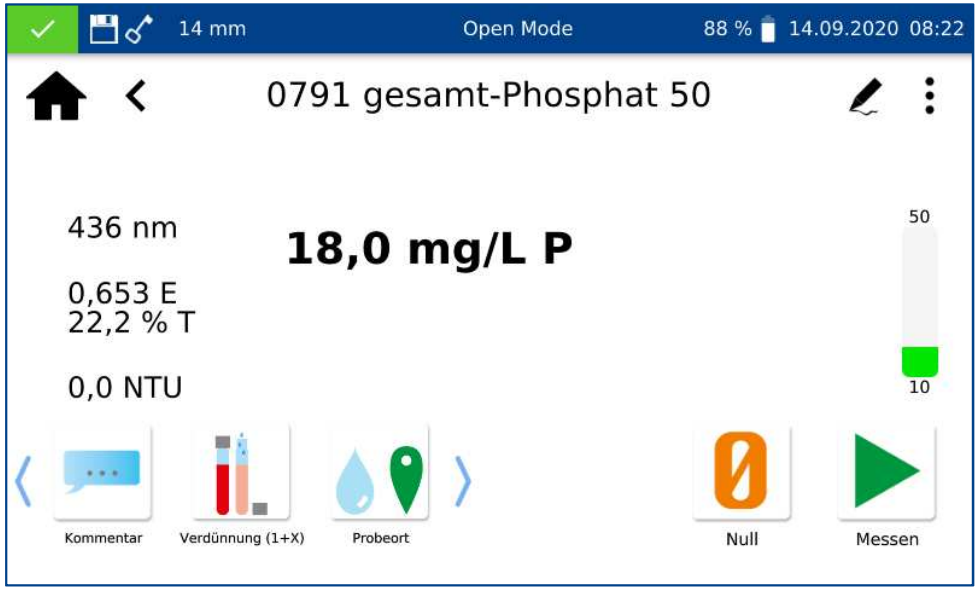
- Avoidance of user errors
- Quick call of round cell tests
- Contactless operation
- 2D barcode reader for future applications

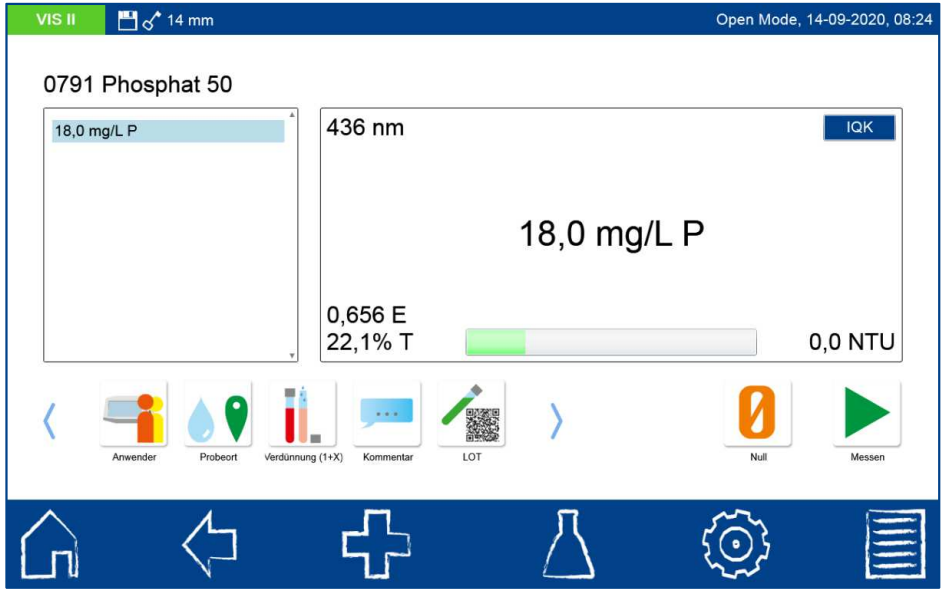


# *NANOCOLOR*® Advance



## Robust, but still super accurate




## Stable, comparable and accurate results



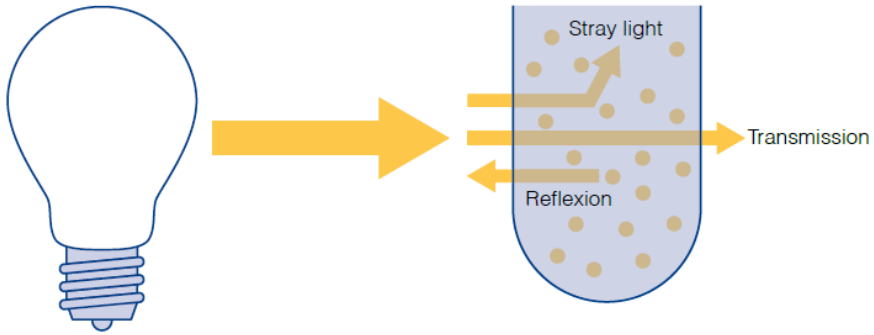

# NTU-Check – Detection of interfering turbidities

# *NANOCOLOR*® Advance



## NTU-Check – Detection of interfering turbidities

- Nephelometric turbidity measurement besides transmitted light measurement
- 90° NTU measurement
- Active warning function
- Documentation of the interference



# *NANOCOLOR*® Advance



## NTU-Check – Detection of interfering turbidities




A B




A B

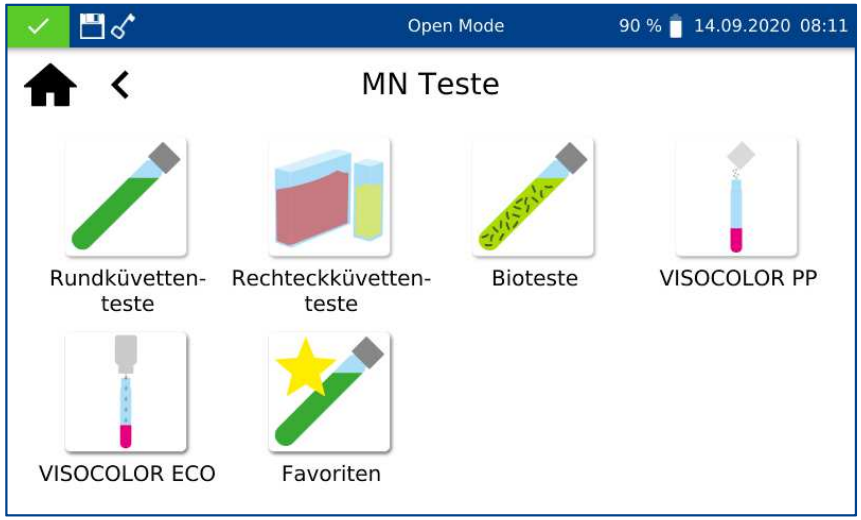
**Turbidity leads to increased absorption and thus to incorrect results**

# *NANOCOLOR*® Advance



## Wide range of pre-programmed methods

- *NANOCOLOR*® tube tests
- *NANOCOLOR*® standard tests
- *VISOCOLOR*® Powder pillows
- *VISOCOLOR*® *ECO*
- Nephelometric turbidity measurement
- FAU turbidity measurement
- Color measurement according to ISO7887 and Hazen




**Universally applicable in all areas of water and wastewater analysis**

# *NANOCOLOR*® Advance



## New cuvette size

- 24 mm round tube
- Flat bottom
- Wide opening
- 5 ml and 10 ml ring mark
- Mark for alignment in cuvette slot



# *NANOCOLOR*® Advance



## Internal quality control (IQC)






**Quality control – easier than ever before**

# *NANOCOLOR*® Advance



## Comprehensive interfaces



- Power supply for laboratory operation
- Data export and update via USB A
- LAN interface for data transfer to network drives
- Connection to LIMS
- Interfaces under waterproof cover

# *NANOCOLOR*® Advance



## Powerful battery

- Integrated lithium iron phosphate battery
- Over 1000 measurements with one charge
- Over one week run time with normal daily use
- Loading time:
  - switched off: 4–5 h
  - switched on: 8–9 h



**Mobile use without limitations**

# *NANOCOLOR*® Advance



## Robust, water- and dust proof

- Vibration test according to MIL-STD 810H
- Water proof according to IPX7
- Dust proof according to IP6X
- Only tight with cuvette slot and interface cover






## Advance – Progress, leadership

# Competitor comparison



## Advantages of *NANOCOLOR*® Advance vs. HACH DR 1900

- Barcode reader
- Icon-based menu navigation
- Detection of interfering turbidity (NTU-Check)
- Scans in the range of 340 - 800 nm
- Color 5" display with capacitive touch screen
- Personalization of the instrument
- Update via USB stick
- Better price performance ration



# Competitor comparison



## Advantages of *NANOCOLOR*® Advance vs. HACH DR 3900

- Icon-based menu navigation
- Detection of interfering turbidity (NTU check)
- Capacitive touch screen
- Water- and dust proof
- Mobile use due to battery operation
- Integrated holmium oxide filter
- User-friendly quality control
- Robust according to MIL-STD 810H
- Better price performance ration



# Competitor comparison



## Advantages of *NANOCOLOR*® Advance vs. HACH DR 2800

- Icon-based menu navigation
- Detection of interfering turbidity (NTU check)
- Capacitive touch screen
- Water- and dust proof
- Mobile use due to battery operation
- Integrated holmium oxide filter
- User-friendly quality control
- Robust according to MIL-STD 810H




Perfect product review
NANOCOLOR® Advanced
0381 COD HR 1500
460 mg/L O2
www.mn-net.com
MACHEREY-NAGEL



# *NANOCOLOR®* Heating blocks

# *NANOCOLOR®* Heating blocks



## Innovation leader heating blocks



# *NANOCOLOR®* Heating blocks



## HACH – Product launches heating blocks



LT200



HT200S

1995 | 1998 | 2001 | 2004 | 2007 | 2010 | 2013 | 2016 | 2019 | 2022



LT200

# *NANOCOLOR*® Heating blocks



## *NANOCOLOR*® VARIO Mini

- High quality heating block at a low price
- Flexible power supply for mobile sample preparation
- Simultaneous digestion of up to 6 samples
- Checking and calibration with *NANOCOLOR*® USB T-Set




**Unique sales option in its own market segment**

# *NANOCOLOR®* Heating blocks



## *NANOCOLOR®* VARIO C2

- Intuitive icon-based operation via touchscreen
- C2M for metal analysis (large digestion volume)
- Simultaneous digestion of up to 12 (10) samples






**Extremely small footprint in lab**

# *NANOCOLOR®* Heating blocks



## Advantages VARIO C2 vs. HACH LT200

- Intuitive operation without extensive training
- Graphical display of the heating curve
- Checking and calibration via USB T-Set
- Easy opening and closing with only one hand
- Compact size




**Compact design for each space**

# *NANOCOLOR®* Heating blocks



## *NANOCOLOR®* VARIO 4

- Intuitive icon-based operation via touchscreen
- Simultaneous digestion of up to 24 samples
- Real-time display of heating curve
- Verification and calibration via USB T-Set
- Compact size




**Reliable sample digestions**

# *NANOCOLOR®* Heating blocks



## Advantages VARIO 4 vs. HACH LT200

- Intuitive operation without extensive training
- Graphical display of the heating curve
- Checking and calibration via USB T-Set
- Easy opening and closing with only one hand




**User friendly operation**

# *NANOCOLOR®* Heating blocks



## *NANOCOLOR®* VARIO HC

- Intuitive icon-based operation via touchscreen
- Active cooling after the heating phase
- Checking and calibration via USB T-Set
- Opening and closing with only one hand




**For rapid digestions**

# *NANOCOLOR®* Heating blocks



## Advantages VARIO HC vs. HT200S

- Intuitive operation without extensive training
- Lightweight and space-saving
- Real time display of the heating curve
- Checking and calibration with USB T-Set



**Cooling in smallest space**

# *NANOCOLOR®* Heating blocks



## *NANOCOLOR®* Heating blocks with new optics

- **Better** – Adaptation of the locking mechanism to the state of the art
- **Safer** – Protective hood closed all around for even better user protection
- **Easier** – Opening and closing with just one hand, easier than the competitor



**New design and optimized features!**

# *NANOCOLOR®* Heating blocks



## *NANOCOLOR®* Heating blocks with new optics

- New standard on VARIO 4, VARIO C2 and VARIO C2M
- Easy to retrofit for existing blocks on customer request
- Rear ventilation slots for optimum temperature management
- Compatible with *NANOCOLOR®* USB T-Set





**Be ready for future requirements!**

MACHEREY-NAGEL

# Strong devices for strong customers!

Dr. Christos Evangelakakis

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