

MACHEREY-NAGEL

# NANOCOLOR<sup>®</sup> robot tests

10  
different  
parameters

Water Analysis



Increase your efficiency

- Automated sample preparation, digestion and measurement
- Save time by automating all analysis steps
- Customer-specific configuration for high flexibility
- Analysis of all important wastewater parameters

**MACHEREY-NAGEL**

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



## MACHEREY-NAGEL and Skalar



- Global company for chemical and biomolecular analysis from Düren (Germany), founded in 1911
- Family-run in the 4<sup>th</sup> generation
- Worldwide sales of over 25,000 products
- More than 700 employees in branches in Germany, Switzerland, France and USA
- Continuous development and innovation of our products
- Reliable partner with delivery stability and security of supply

Innovative and reliable products for your analysis

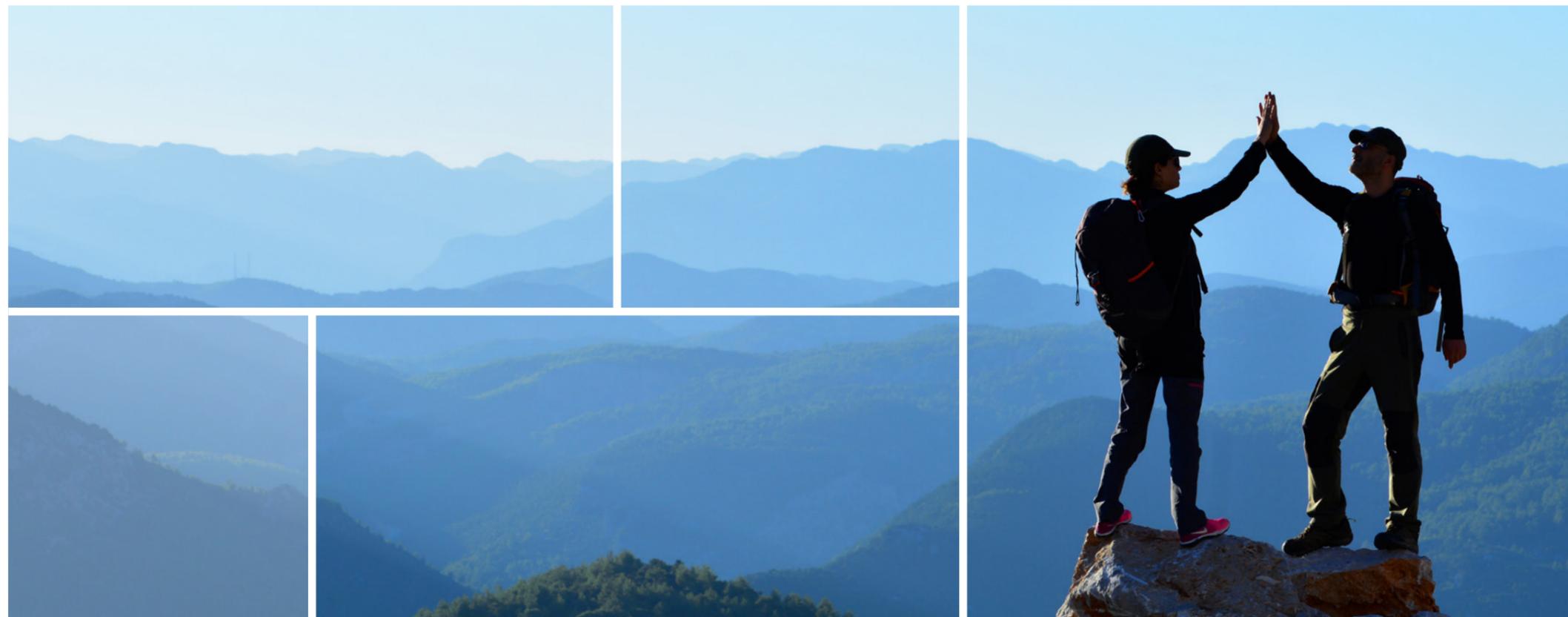


## A partnership with tradition and future

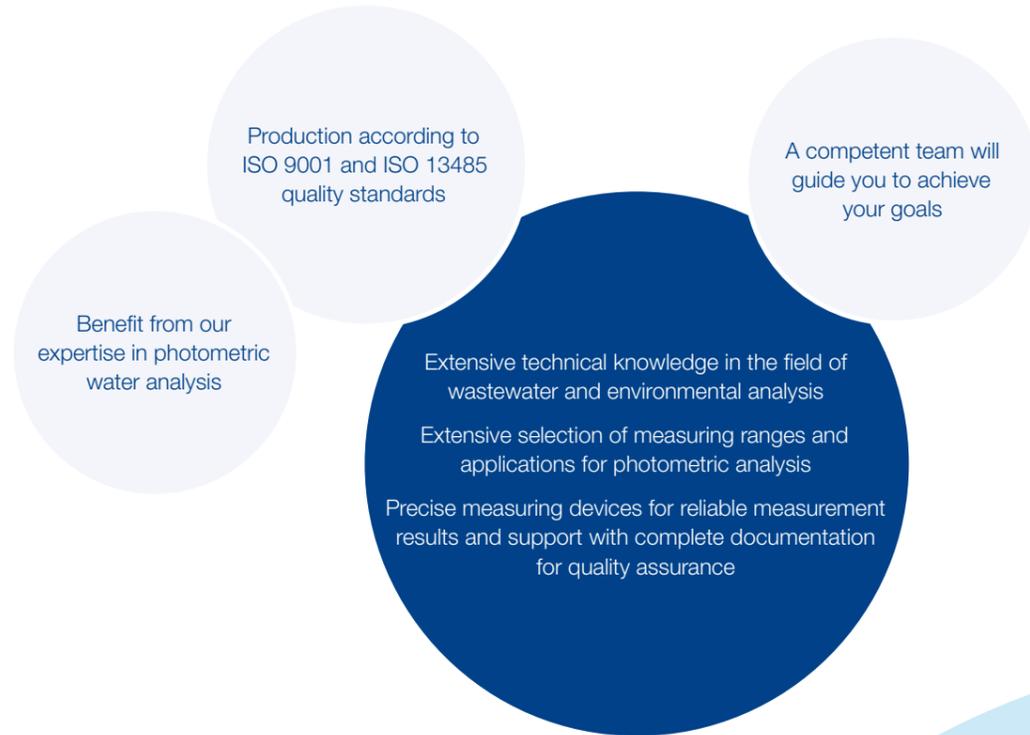


- Global manufacturer of chemical analyzers for laboratory automation and process industry from Breda (Netherlands), founded in 1965
- 8 branches worldwide and over 80 international representations
- In-house research and development department with over 40 years of experience in the field of laboratory automation
- Reliable specialist for automation with the highest quality standards

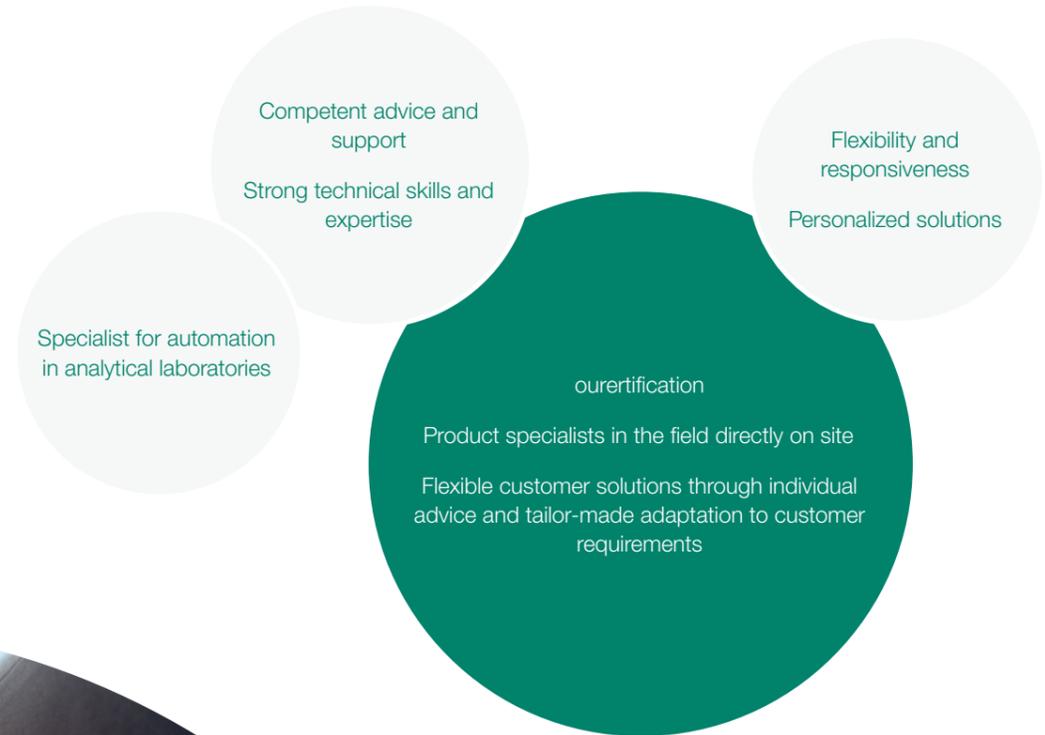
Your partner in chemistry automation



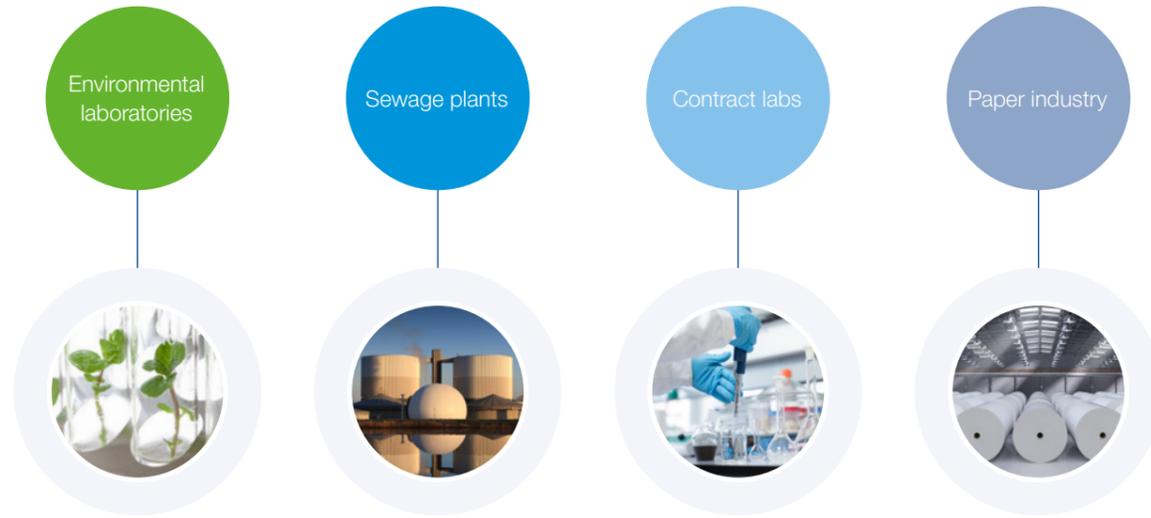
## MACHEREY-NAGEL and Skalar



## Trust our joint expertise



## MACHEREY-NAGEL and Skalar



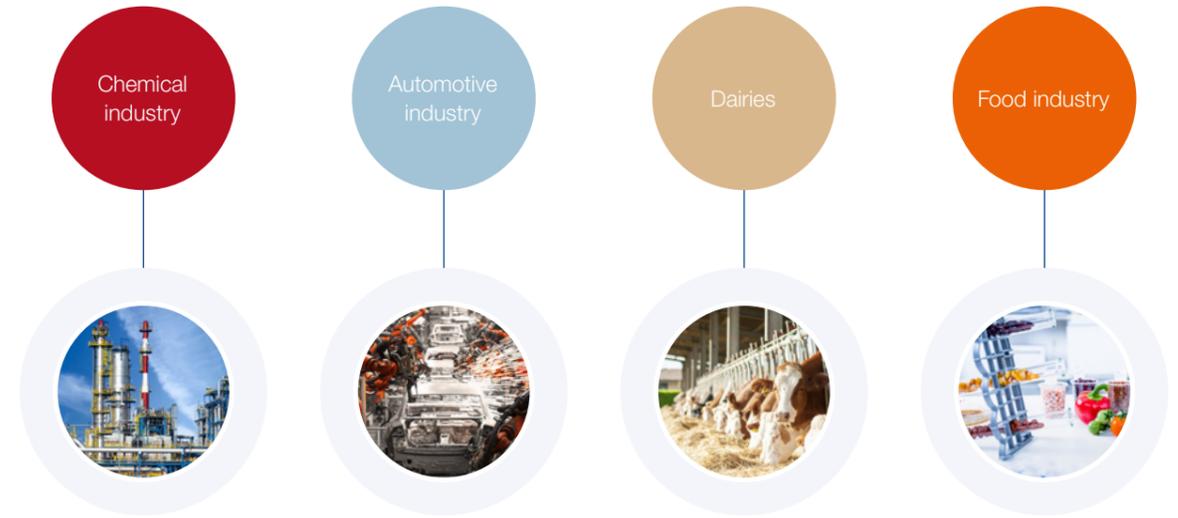
### Your benefits

- Time and cost savings
- Increased productivity and flexibility
- Increased precision and accuracy
- Less user errors
- Parallelization of processes
- Complete documentation

### NANOCOLOR® robot tests

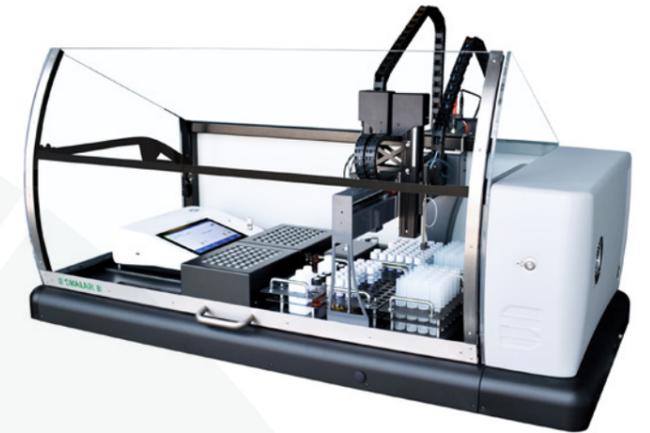
- Precisely pre-dosed reagents for reliable results
- Method validation data and lot specific certificates
- Consistently high quality from batch to batch
- Reaction bases conform to internationally recognized standards
- No direct contact with hazardous chemicals
- No reagent blanks required \*

## A solution for every application



### Skalar SP2000

- Complete automation
- Simultaneous processing of different samples and methods
- ST-COD analysis analogous to ISO 15705 and EPA 410.4
- Enormous sample capacity from 48 – 192 cuvettes
- Removal of the sample and reagent racks for easy loading
- Automatic sample dilution
- Extensive software package including quality control functions and data export options
- Optional combination with pH and conductivity measurement



### Service

- Specialist advice from initial contact to installation
- Analysis protocols tailored to your application
- Technical support for questions of any kind
- Operating procedures for manual execution for quality assurance and matrix comparison
- 2 year guarantee



Order information NANOCOLOR® robot tests

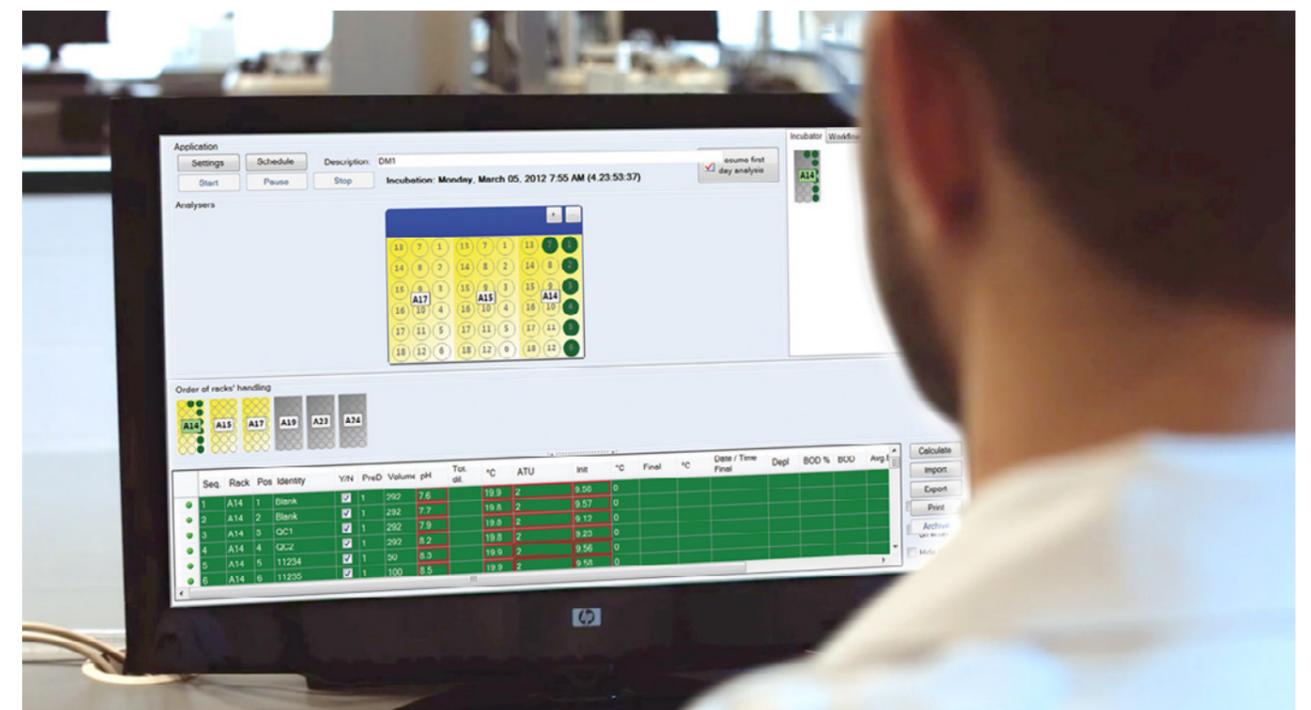
Test	REF	Measuring range NANOCOLOR® VIS II 1)	Shelf life	Methode
Ammonium 3	985603	0.04–2.30 mg/L NH <sub>4</sub> -N 0.05–3.00 mg/L NH <sub>4</sub> <sup>+</sup>	1 year	Indophenol
Ammonium 50	985605	1–40 mg/L NH <sub>4</sub> -N 1–50 mg/L NH <sub>4</sub> <sup>+</sup>	1 year	Indophenol
Chloride 50	985621	0.5–50.0 mg/L Cl <sup>-</sup>	1 year	Mercury(II)-thiocyanate / Iron(III)-nitrate
Chloride 200	985619	5–200 mg/L Cl <sup>-</sup>	1 year	Mercury(II)-thiocyanate / Iron(III)-nitrate
COD 60	<b>ISO 15705</b> 985622	5–60 mg/L O <sub>2</sub>	1 year (2–8 °C)	Potassium dichromate
COD 160	<b>ISO 15705</b> 985626	10–160 mg/L O <sub>2</sub>	1 year	Potassium dichromate
COD 600	<b>ISO 15705</b> 985630	50–600 mg/L O <sub>2</sub>	1 year	Potassium dichromate
COD 1500	<b>ISO 15705</b> 985629	100–1500 mg/L O <sub>2</sub>	1 year	Potassium dichromate
COD LR 150	<b>ISO 15705</b> 985636	3–150 mg/L O <sub>2</sub>	1 year	Potassium dichromate
COD HR 1500	<b>ISO 15705</b> 985638	20–1500 mg/L O <sub>2</sub>	1 year	Potassium dichromate
COD 15000	<b>ISO 15705</b> 985628	1.0–15.0 g/L O <sub>2</sub>	1 year	Potassium dichromate
Nitrate 8	985665	0.30–8.00 mg/L NO <sub>3</sub> -N 1.3–35.0 mg/L NO <sub>3</sub> <sup>-</sup>	2 years	2.6-Dimethylphenol
Nitrate 50	985664	0.3–22.0 mg/L NO <sub>3</sub> -N 2–100 mg/L NO <sub>3</sub> <sup>-</sup>	2 years	2.6-Dimethylphenol
Nitrite 2	985668	0.003–0.460 mg/L NO <sub>2</sub> -N 0.02–1.50 mg/L NO <sub>2</sub> <sup>-</sup>	1 year	Sulfanilic acid / 1-Naphththylamine
Nitrite 4	985669	0.1–4.0 mg/L NO <sub>2</sub> -N 0.3–13.0 mg/L NO <sub>2</sub> <sup>-</sup>	1.5 years	Sulfanilic acid / 1-Naphththylamine
Phenol-Index 5	985674	0.2–5.0 mg/L Phenol	1.5 years	4-Aminoantipyrine
total phosphate 1	985676	0.05–1.50 mg/L P 0.2–5.0 mg/L PO <sub>4</sub> <sup>3-</sup>	1 year	Phosphomolybdenum blue
total phosphate 5	985681	0.20–5.00 mg/L P 0.5–15.0 mg/L PO <sub>4</sub> <sup>3-</sup>	1 year	Phosphomolybdenum blue
total phosphate 15	985680	0.30–15.00 mg/L P 1.0–45.0 mg/L PO <sub>4</sub> <sup>3-</sup>	1 year	Phosphomolybdenum blue
ortho-phosphate 1	985607	0.05–1.50 mg/L P 0.2–5.0 mg/L PO <sub>4</sub> <sup>3-</sup>	1 year	Phosphomolybdenum blue
ortho-phosphate 15	985657	0.30–15.00 mg/L P 1.0–45.0 mg/L PO <sub>4</sub> <sup>3-</sup>	1 year	Phosphomolybdenum blue
Organic acids 3000	985650	30–3000 mg/L CH <sub>3</sub> COOH 0.5–50.0 mmol/L CH <sub>3</sub> COOH	1.5 years	Ethylenglycole / Iron(III)-Ions
total nitrogen TN <sub>b</sub> 22	985683	0.5–22.0 mg/L N	1 year	2.6-Dimethylphenol
total nitrogen TN <sub>b</sub> 220	985688	5–220 mg/L N	1 year	2.6-Dimethylphenol
Sulfide 3	985673	0.05–3.00 mg/L S <sup>2-</sup>	3 years	Methylene blue

GHS: Globally Harmonized System. This product contains hazardous substances that must be labeled. For detailed information please refer to the safety data sheet.



Technical data SP2000

Hardware	
Sample capacity	Up to 192 test tubes
Sample throughput	96 samples in 7 hours 96 samples in 4 hours (with second robotic arm)
Movement mechanism	XYZ axis with safety protection
Configuration	Up to 2 robotic arms, each with 4 independently moving manipulators
Modular parts	<ul style="list-style-type: none"> <li>Removable sample rack</li> <li>Removable reagent rack</li> <li>Customized racks possible</li> </ul>
Temperature adjustable heating reactor	Adjustable to 20–160 °C
Mixing mechanism	Horizontal shaking
Safety	Interlocked front and side protection covers complying with CE regulations
Dimensions	(H x T x B): 75 x 70 x 146 cm
Power supply	220–240 V, 50 Hz or 110–120 V, 60 Hz.
Software	
Safety	Definable access levels and password protection
Operation	Drag and drop setup of the sample list, editing during the analysis possible
Data export	Transfer to LIMS and spreadsheet programs even during analysis
Automatic functions	<ul style="list-style-type: none"> <li>GLP-compliant backup of raw data and calculation of measurement data</li> <li>“Out-of-range” results flagging</li> <li>Dilution if the measuring range is exceeded</li> <li>Averaging of the measurement results</li> <li>Start and stop using the analysis planner</li> </ul>



## Curious about MACHERY-NAGEL?

If you are interested in testing a manual MACHERY-NAGEL measuring system including reagents, please do not hesitate to contact us or your local distributor.

Contact us via:

Phone: +49 24 21 969-333

E-Mail: [support@mn-net.com](mailto:support@mn-net.com)

Or contact your local distributor.



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

# MACHERY-NAGEL



MACHERY-NAGEL GmbH & Co. KG  
Valenciener Str. 11  
52355 Düren · Germany

DE	Tel.: +49 24 21 969-0	<a href="mailto:info@mn-net.com">info@mn-net.com</a>
CH	Tel.: +41 62 388 55 00	<a href="mailto:sales-ch@mn-net.com">sales-ch@mn-net.com</a>
FR	Tel.: +33 388 68 22 68	<a href="mailto:sales-fr@mn-net.com">sales-fr@mn-net.com</a>
US	Tel.: +1 888 321 62 24	<a href="mailto:sales-us@mn-net.com">sales-us@mn-net.com</a>

