

# MACHEREY-NAGEL

## Dip & Read Tests for more than 40 substances

Rapid Tests



Accurate · Rapid · Easy

- pH indicators
- Semi-quantitative tests
- Qualitative tests

**MACHEREY-NAGEL**

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



# MACHEREY-NAGEL

## Welcome

MACHEREY-NAGEL is a privately owned company that was founded in 1911. We follow long term strategies to supply our customers with the best solutions for special analytics. Our distributors and their customers can be sure, that our current products will remain available and that we will add additional value in the future.

We commit ourselves to the outstanding quality of our products. To ensure this, all our rapid tests are developed and produced in Düren, Germany. Since more than 10 years we are certified according to EN ISO 9001 and 13485. This is not only an expression of our commitment to quality but also the basis for manufacturing and distribution of rapid tests for in-vitro diagnostic and other medical applications. Users in the field realize that their results will have the same quality whenever they test.

For optimal support of our customers, a team of professionals in analytical chemistry serves all areas, from R&D to Production and Sales & Marketing. Distributors and their customers appreciate our competence and flexibility.



## Test papers and test strips

Our test papers and test strips allow the identification or semi-quantitative determination of more than 40 different substances. Professional analysts as well as chemical laymen appreciate these tests because they are

**Easy.** For the user, most of the tests are simply “Dip & Read” although they use complicated chemical systems.

**Rapid.** Whenever immediate results are asked for, test papers or test strips are the ideal choice. These tests are especially useful for on-site analysis.

**Accurate.** High quality color charts on the semi-quantitative tests ensure optimal results.



## OEM, private label and special presentations

The majority of the test papers and test strips that leave our production carry a brand other than MACHEREY-NAGEL.

Private label presentations are appreciated by our partners because they increase the awareness for their businesses. Our professional in-house design group creates private label artwork that meets and often exceeds the highest expectations. This ensures the consistent high quality of the finished goods and makes creating your own brand as easy as 1-2-3.

Special presentations are mainly used for promotional purposes. Individually sealed test strips are the ideal choice for mailings, journals or as giveaways to support product promotions. Almost all test strips and pH-indicators can be provided single sealed.

OEM products are manufactured for many different markets. Our partners have detailed knowledge about the demands for their specific markets. They know what products can be successful. Based on a close cooperation we convert their ideas with our underlying technology and capability into optimal products. Together, we develop innovative products, that often find a “non-compete” market. Thus, OEM-products developed and manufactured by MACHEREY-NAGEL are highly successful.



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# pH-Fix

## Unmatched pH test strips

For many years untrained users as well as analytical professionals appreciate the experience of easy pH testing with pH-Fix. In contrast to common indicator papers, the indicator dyes in pH-Fix test strips are chemically bound to the test pads. This patented technology prevents bleeding of the dyes and therefore a contamination of the sample, even in highly alkaline solutions. The fixation enables the strips to remain in solution over extended periods of time allowing a safe pH determination even in weakly buffered solutions.

### Good to know

Many customers receive our pH-Fix test strips as an OEM product.

### How it's done

#### Using pH-Fix test strips



## Optimized packages

In the classic packaging, the smart corner of the box safely prevents jamming of test strips. By simply tilting the box the strips fall easily into the smart corner allowing the closing with maximal comfort.

### How it's done

#### The smart corner



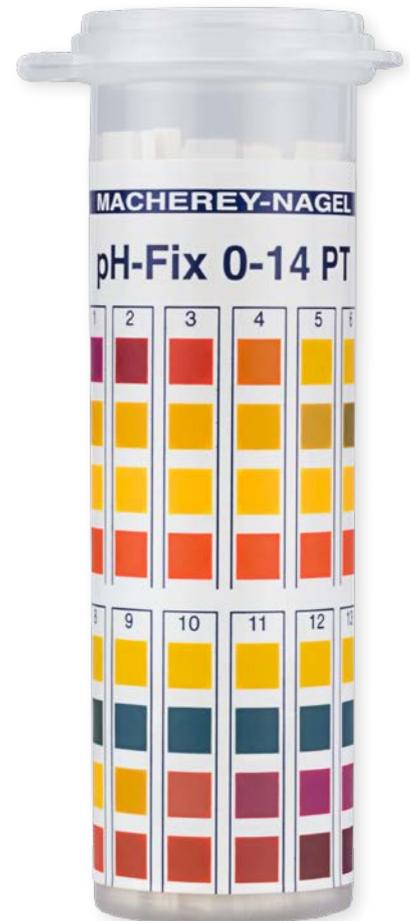
Especially users in the medical sector appreciate the robust PlopTop tube. The tube is higher than the length of the strips and can be easily opened and closed with the thumb of the holding hand. There is no risk of jamming the strip. The tube is virtually unbreakable and stands firmly on any flat surface.

## CE-mark for medical applications

pH-Fix 4.5–10.0 PT (REF 92121) is tested and approved for the medical application in gastric juice and is CE-certified according to IVDR 2017/746 for professional use. It meets the special demands of health care professionals and ensure safe results for medical pH testing.

## Automatic evaluation with the QUANTOFIX® Relax

The strip reader QUANTOFIX® Relax (see page 24) allows the easy and reliable documentation of pH testing. The system provides objective and quantitative results. It allows printing and storing of test data including time and sample ID. Test strips covering the complete pH range can be evaluated using the QUANTOFIX® Relax (for details please see table on page 6).



# pH-Fix

## Rapid

- Dip & Read
- Results in seconds
- Always ready for use

## Easy

- No calibration
- No maintenance
- No accessories

## Reliable

- Long handle for sufficient hand-sample-distance
- Brilliant color chart for precise readings
- Automatic evaluation with QUANTOFIX® Relax for safe documentation

## Good to know

Many pH-Fix test strips can be also evaluated on the strip reader QUANTOFIX® Realx (see page 24)



## Ordering information

Test	REF	Measuring range (visual)	Measuring range (instrumental) <sup>1)</sup>
■ 0-14	92110	0 · 1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10 · 11 · 12 · 13 · 14	1-13
■ 0.0-6.0	92115	0 · 0.5 · 1.0 · 1.5 · 2.0 · 2.5 · 3.0 · 3.5 · 4.0 · 4.5 · 5.0 · 5.5 · 6.0	0.5-6.0
■ 2.0-9.0	92118	2.0 · 2.5 · 3.0 · 3.5 · 4.0 · 4.5 · 5.0 · 5.5 · 6.0 · 6.5 · 7.0 · 7.5 · 8.0 · 8.5 · 9.0	2.0-9.0
■ 4.5-10.0	92120	4.5 · 5.0 · 5.5 · 6.0 · 6.5 · 7.0 · 7.5 · 8.0 · 8.5 · 9.0 · 9.5 · 10.0	4.5-10.0
■ 6.0-10.0	92122	6.0 · 6.4 · 6.7 · 7.0 · 7.3 · 7.6 · 7.9 · 8.2 · 8.4 · 8.6 · 8.8 · 9.1 · 9.5 · 10.0	6.0-10.0
■ 7.0-14.0	92125	7.0 · 7.5 · 8.0 · 8.5 · 9.0 · 9.5 · 10.0 · 10.5 · 11.0 · 11.5 · 12.0 · 12.5 · 13.0 · 13.5 · 14.0	7.0-13.5
■ 0.3-2.3	92180	0.3 · 0.7 · 1.0 · 1.3 · 1.6 · 1.9 · 2.3	-
■ 1.7-3.8	92190	1.7 · 2.0 · 2.3 · 2.6 · 2.9 · 3.2 · 3.5 · 3.8	-
■ 3.1-8.3	92135	3.1 · 3.5 · 3.9 · 4.3 · 4.7 · 5.1 · 5.5 · 5.9 · 6.3 · 6.7 · 7.1 · 7.5 · 7.9 · 8.3	-
■ 3.6-6.1	92130	3.6 · 4.1 · 4.4 · 4.7 · 5.0 · 5.3 · 5.6 · 6.1	3.6-6.1
■ 4.0-7.0	92137	4.0 · 4.4 · 4.7 · 5.0 · 5.3 · 5.5 · 5.8 · 6.1 · 6.5 · 7.0	-
■ 5.1-7.2	92140	5.1 · 5.4 · 5.7 · 6.0 · 6.3 · 6.6 · 6.9 · 7.2	-
■ 6.0-7.7	92150	6.0 · 6.4 · 6.7 · 7.0 · 7.3 · 7.7	6.0-7.7
■ 7.5-9.5	92160	7.5 · 7.9 · 8.2 · 8.4 · 8.6 · 8.8 · 9.1 · 9.5	-
■ 7.9-9.8	92170	7.9 · 8.3 · 8.6 · 8.9 · 9.1 · 9.4 · 9.8	-
■ 0-14 PT	92111	0 · 1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10 · 11 · 12 · 13 · 14	1-13
■ 4.5-10.0 PT <sup>2)</sup>	92121	4.5 · 5.0 · 5.5 · 6.0 · 6.5 · 7.0 · 7.5 · 8.0 · 8.5 · 9.0 · 9.5 · 10.0	4.5-10.0

<sup>1)</sup> Together with QUANTOFIX® Relax, the test strips may not be used for any medical application.

<sup>2)</sup> CE-certified according to IVDR 2017/746, for professional use.



Number of tests	Shelf life				Test
		QUANTOFIX® Relax	Classic flat box	PlopTop tube	
100	4 years	■	■		0-14
100	4 years	■	■		0.0-6.0
100	4 years	■	■		2.0-9.0
100	4 years	■	■		4.5-10.0
100	4 years	■	■		6.0-10.0
100	4 years	■	■		7.0-14.0
100	4 years		■		0.3-2.3
100	4 years		■		1.7-3.8
100	4 years		■		3.1-8.3
100	4 years	■	■		3.6-6.1
100	4 years		■		4.0-7.0
100	4 years		■		5.1-7.2
100	4 years	■	■		6.0-7.7
100	4 years		■		7.5-9.5
100	4 years		■		7.9-9.8
100	4 years	■		■	0-14 PT
100	4 years	■		■	4.5-10.0 PT

## QUANTOFIX® Relax

Reflectometer for evaluation of test strips





### Perfect optic – Exact results

- Intuitive operation
- Highest precision
- Reproducible results independently from the user
- Printout of the results for optimal documentation



# PEHANON®

## pH determination in colored samples

PEHANON® test strips unify pH indicator and reference color chart on one strip. Any sample color has the same effect on both, the reference colors and the reactive pad, allowing unadulterated pH reading even in colored solutions.

### Safe testing of hazardous samples

An invisible hydrophobic barrier just above the top color field prevents migration of the sample. The handle remains dry and clean and the user is safely protected from contamination due to capillary rise.

### No separate color chart needed

PEHANON® test strips can be read without a separate color chart. Workers in production can use single strips instead of complete packs making the product very economical.



## Ordering information

Test	REF	Measuring range	Number of Tests	Shelf life
■ pH 1–12	90401	1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10 · 11 · 12	200	3 years
■ pH 0–1.8	90411	0 · 0.3 · 0.6 · 0.8 · 1.0 · 1.2 · 1.5 · 1.8	200	3 years
■ pH 1.0–2.8	90412	1.0 · 1.3 · 1.6 · 1.8 · 2.0 · 2.2 · 2.5 · 2.8	200	3 years
■ pH 1.8–3.8	90413	1.8 · 2.1 · 2.4 · 2.7 · 3.0 · 3.2 · 3.5 · 3.8	200	3 years
■ pH 2.8–4.6	90414	2.8 · 3.1 · 3.4 · 3.6 · 3.8 · 4.0 · 4.3 · 4.6	200	3 years
■ pH 3.8–5.5	90415	3.8 · 4.0 · 4.2 · 4.4 · 4.6 · 4.9 · 5.2 · 5.5	200	3 years
■ pH 4.0–9.0	90424	4.0 · 4.5 · 5.0 · 5.5 · 6.0 · 6.5 · 7.0 · 7.5 · 8.0 · 8.5 · 9.0	200	3 years
■ pH 5.2–6.8	90416	5.2 · 5.5 · 5.7 · 5.9 · 6.1 · 6.3 · 6.5 · 6.8	200	3 years
■ pH 6.0–8.1	90417	6.0 · 6.3 · 6.6 · 6.9 · 7.2 · 7.5 · 7.8 · 8.1	200	3 years
■ pH 7.2–8.8	90419	7.2 · 7.4 · 7.6 · 7.8 · 8.0 · 8.2 · 8.5 · 8.8	200	3 years
■ pH 8.0–9.7	90420	8.0 · 8.2 · 8.4 · 8.6 · 8.8 · 9.1 · 9.4 · 9.7	200	3 years
■ pH 9.5–12.0	90421	9.5 · 10.0 · 10.5 · 11.0 · 11.5 · 12.0	200	3 years
■ pH 10.5–13.0	90422	10.5 · 11.0 · 11.5 · 12.0 · 12.5 · 13.0	200	3 years
■ pH 12.0–14.0	90423	12.0 · 12.5 · 13.0 · 13.5 · 14.0	200	3 years



# Universal- and indicator papers

## pH indicator papers - standard for many applications

pH indicator papers have been available for decades and are the standard for many applications. For each pH value these papers show a single color which can be matched with the color scale at intervals of 0.2–1 pH units. The indicator papers come in plastic reels that ensure long-term stability and protection against many external influences. They will be always ready-to-use when needed.

MACHEREY-NAGEL also controls the production of the raw papers which ensures – in combination with our ISO 9001 QC system – the high quality of the indicator papers.

The colors of the scales are specially mixed to perfectly match the reaction color of the indicator papers. This makes the reading of results easy and accurate.

### Good to know

We produce pH indicator booklets for pharmaceutical industries with a CE-marking for urine diagnostics.



## Ordering information

Test	REF	REF refill	Measuring range	Presentation	Shelf life
■ pH 1–11	90201	90202	1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10 · 11	Reel of 5 m length and 7 mm width	3 years
■ pH 1–11	90203	–	1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10 · 11	Booklet with 100 strips 10 x 70 mm	3 years
■ pH 1–14	90204	90224	1 · 2 · 3 · 5 · 6 · 7 · 8 · 9 · 10 · 12 · 14	Reel of 5 m length and 7 mm width	3 years
■ pH 0.5–5.5	90205	90225	0.5 · 1.0 · 1.5 · 2.0 · 2.5 · 3.0 · 3.5 · 4.0 · 4.5 · 5.0 · 5.5	Reel of 5 m length and 7 mm width	3 years
■ pH 3.8–5.8	90206	90226	< 3.8 · 3.8 · 4.1 · 4.3 · 4.5 · 4.7 · 4.9 · 5.2 · 5.5 · 5.8 · > 5.8	Reel of 5 m length and 7 mm width	3 years
■ pH 4.0–7.0	90207	90227	4.0 · 4.3 · 4.6 · 4.9 · 5.2 · 5.5 · 5.8 · 6.1 · 6.4 · 6.7 · 7.0	Reel of 5 m length and 7 mm width	3 years
■ pH 5.4–7.0	90208	90228	< 5.4 · 5.4 · 5.7 · 6.0 · 6.2 · 6.4 · 6.7 · 7.0 · > 7.0	Reel of 5 m length and 7 mm width	3 years
■ pH 5.5–9.0	90209	90229	5.5 · 6.0 · 6.5 · 7.0 · 7.5 · 8.0 · 8.5 · 9.0	Reel of 5 m length and 7 mm width	3 years
■ pH 6.4–8.0	90210	90230	< 6.4 · 6.4 · 6.6 · 6.8 · 7.0 · 7.2 · 7.4 · 7.6 · 7.8 · 8.0 · > 8.0	Reel of 5 m length and 7 mm width	3 years
■ pH 7.2–9.7	90211	90231	< 7.2 · 7.2 · 7.5 · 7.8 · 8.1 · 8.4 · 8.7 · 9.0 · 9.3 · 9.7 · > 9.7	Reel of 5 m length and 7 mm width	3 years
■ pH 8.0–10.0	90212	90232	8.0 · 8.2 · 8.4 · 8.7 · 9.0 · 9.2 · 9.6 · 10.0	Reel of 5 m length and 7 mm width	3 years
■ pH 9.0–13.0	90213	90233	9.0 · 9.5 · 10.0 · 10.5 · 11.0 · 11.5 · 12.0 · 12.5 · 13.0	Reel of 5 m length and 7 mm width	3 years
■ pH 12.0–14.0	90214	90234	12.0 · 12.5 · 13.0 · 13.5 · 14.0	Reel of 5 m length and 7 mm width	3 years

refill: Refill pack



# Duotest and Tritest

## pH papers with multiple indicator zones

By the combination of several indicators on one test paper, a better recognition between different pH values is achieved. This makes the correct pH reading easier.

### Duotest – two indicator zones for higher accuracy

Duotest indicator papers combine two different indicator zones on a single strip. The zones are separated by a hydrophobic barrier, which effectively prevents mixing of the reaction colors and increases the mechanical stability.

### Tritest – three indicator zones for highest precision

Tritest indicator paper has three different indicator zones on a single paper. The three zones guarantee optimal color differences and safe determination of in-between values. Tritest indicator paper is available for a pH range from 1–11 and feature 1 pH unit increments.

In Tritest L indicator paper, two hydrophobic barriers separate the indicator zones. Even in strongly alkaline solutions, the colors of the zones do not mix.



## Ordering information

### Duotest

Test	REF	REF refill	Measuring range	Presentation	Shelf life
■ pH 1–12	90301	90311	1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10 · 11 · 12	Reel of 5 m length and 10 mm width	3 years
■ pH 1.0–4.3	90302	90312	1.0 · 1.3 · 1.6 · 1.9 · 2.2 · 2.5 · 2.8 · 3.1 · 3.4 · 3.7 · 4.0 · 4.3	Reel of 5 m length and 10 mm width	3 years
■ pH 3.5–6.8	90303	90313	3.5 · 3.8 · 4.1 · 4.4 · 4.7 · 5.0 · 5.3 · 5.6 · 5.9 · 6.2 · 6.5 · 6.8	Reel of 5 m length and 10 mm width	3 years
■ pH 5.0–8.0	90304	90314	5.0 · 5.3 · 5.6 · 5.9 · 6.2 · 6.5 · 6.8 · 7.1 · 7.4 · 7.7 · 8.0	Reel of 5 m length and 10 mm width	3 years
■ pH 7.0–10.0	90305	90315	7.0 · 7.3 · 7.6 · 7.9 · 8.2 · 8.5 · 8.8 · 9.1 · 9.4 · 9.7 · 10.0	Reel of 5 m length and 10 mm width	3 years
■ pH 9.5–14.0	90306	90316	9.5 · 10.0 · 10.5 · 11.0 · 11.5 · 12.0 · 12.5 · 13.0 · 13.5 · 14.0	Reel of 5 m length and 10 mm width	3 years
■ pH-Set D10	90319	–	–	Box with 10 reels of Duotest	3 years

refill: Refill pack

### Tritest

Test	REF	REF refill	Measuring range	Presentation	Shelf life
■ pH 1–11	90501	90502	1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10 · 11	Reel of 5 m length and 10 mm width	3 years
■ L pH 1–11	90510	90511	1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10 · 11	Reel of 6 m length and 14 mm width	3 years

refill: Refill pack

# Other pH indicators

## pH papers without color chart and indicator solutions

For some specific analytical questions, qualitative pH papers or indicator solutions are used.

### Simplest acid/base determination

Qualitative pH papers without color chart are simple, completely impregnated indicator papers. They indicate if the pH of a solution is above or below the transition point (color change) and are useful to distinguish between acids and bases.

### pH determinations in weakly buffered solutions

UNISOL indicator solutions are used for pH determination in pure water, in surface waters and in very dilute acids or bases. An indicator solution is added to the sample and the reaction color is compared with a color scale. Therefore, they allow the easy and reliable pH determination in weakly buffered solutions.



## Ordering information

### pH papers without color scale

Test	REF	REF refill	Color change / pH	Presentation	Shelf life	GHS
■ Brilliant yellow paper	90701	–	yellow → red / 6.7–7.9	Box of 200 strips 20 x 70 mm	3 years	
■ Congo paper MN 260 HE	90705	–	red → blue / 5.0–3.0	Box of 200 strips 20 x 70 mm	3 years	■
■ Litmus paper blue	91106	91116	blue → red / 8.0–5.0	Reel of 5 m length and 7 mm width	3 years	
■ Litmus paper blue	91126	–	blue → red / 8.0–5.0	Booklet of 100 strips 10 x 70 mm	3 years	
■ Litmus paper neutral	91107	91117	red → violet-blue / 5.0–8.0	Reel of 5 m length and 7 mm width	3 years	
■ Litmus paper neutral	91127	–	red → violet-blue / 5.0–8.0	Booklet of 100 strips 10 x 70 mm	3 years	
■ Litmus paper red	91108	91118	red → blue / 5.0–8.0	Reel of 5 m length and 7 mm width	3 years	
■ Litmus paper red	91128	–	red → blue / 5.0–8.0	Booklet of 100 strips 10 x 70 mm	3 years	
■ Nitrazine yellow paper	90711	–	yellow → blue-violet / 6.0–7.0	Box of 200 strips 20 x 70 mm	3 years	
■ Phenolphthalein paper	90712	90713	white → red / 8.3–10.0	Reel of 5 m length and 7 mm width	3 years	

refill: Refill pack

GHS: Globally harmonized system: This product contains harmful substances which must be specially labeled as hazardous. For detailed information please see the SDS.

## UNISOL

Test	REF	Measuring range	Presentation	Shelf life	GHS
■ 410, pH 4–10	91002	4.0 · 4.5 · 5.0 · 5.5 · 6.0 · 6.5 · 7.0 · 7.5 · 8.0 · 8.5 · 9.0 · 9.5 · 10.0	1 bottle of 100 mL, color chart + cuvette	3 years	■
■ 113, pH 1–13	91031	1 · 2 · 3 · 4 · 5 · 6 · 7 · 8 · 9 · 10 · 11 · 12 · 13	1 bottle of 100 mL, color chart + cuvette	3 years	■
■ Plastic cuvettes MN 13/72	91039	–	Pack of 5 rectangular cuvettes	–	

GHS: Globally harmonized system: This product contains harmful substances which must be specially labeled as hazardous. For detailed information please see the SDS.

# QUANTOFIX®

## Semi-quantitative test strips

QUANTOFIX® test strips meet all requirements of a modern rapid test. The color of the reactive pad changes depending on the concentration of an analyte in the sample. The evaluation is usually carried out visually by a comparison of the reaction color with a multi-stage color scale.

### Easy analysis directly at the point of interest

Analytical professionals as well as occasional testers appreciate QUANTOFIX® test strips for the fast and easy analysis directly at the point of interest. Often, these tests are used to quickly check whether important parameters are in the desired range. They deliver an immediate result and thus enable a fast response.

### Complete mini-lab

QUANTOFIX® tests are immediately ready-to-use. They do not require additional accessories. The test strips are intended for single use, maintenance or calibration are not required.

### Quantitative, documented results with QUANTOFIX® Relax

The strip reader QUANTOFIX® Relax (see page 24) provides objective and quantitative results for many important parameters (see page 14). Measurement data including time, date and sample ID are printed and stored and can be transmitted to an information system. This allows the rapid and reliable documentation of test results, which proved to be especially useful for QC departments.

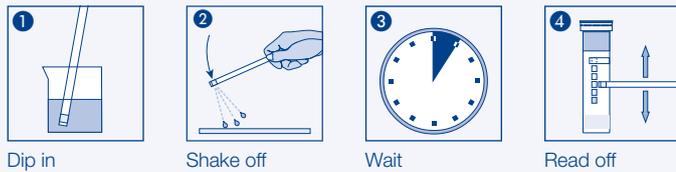
### Good to know

Many customers receive our QUANTOFIX® test strips as OEM product.



### How it's done

Application of QUANTOFIX® test strips



## Rapid

- Just Dip & Read
- Results within seconds
- Always ready for use

## Easy

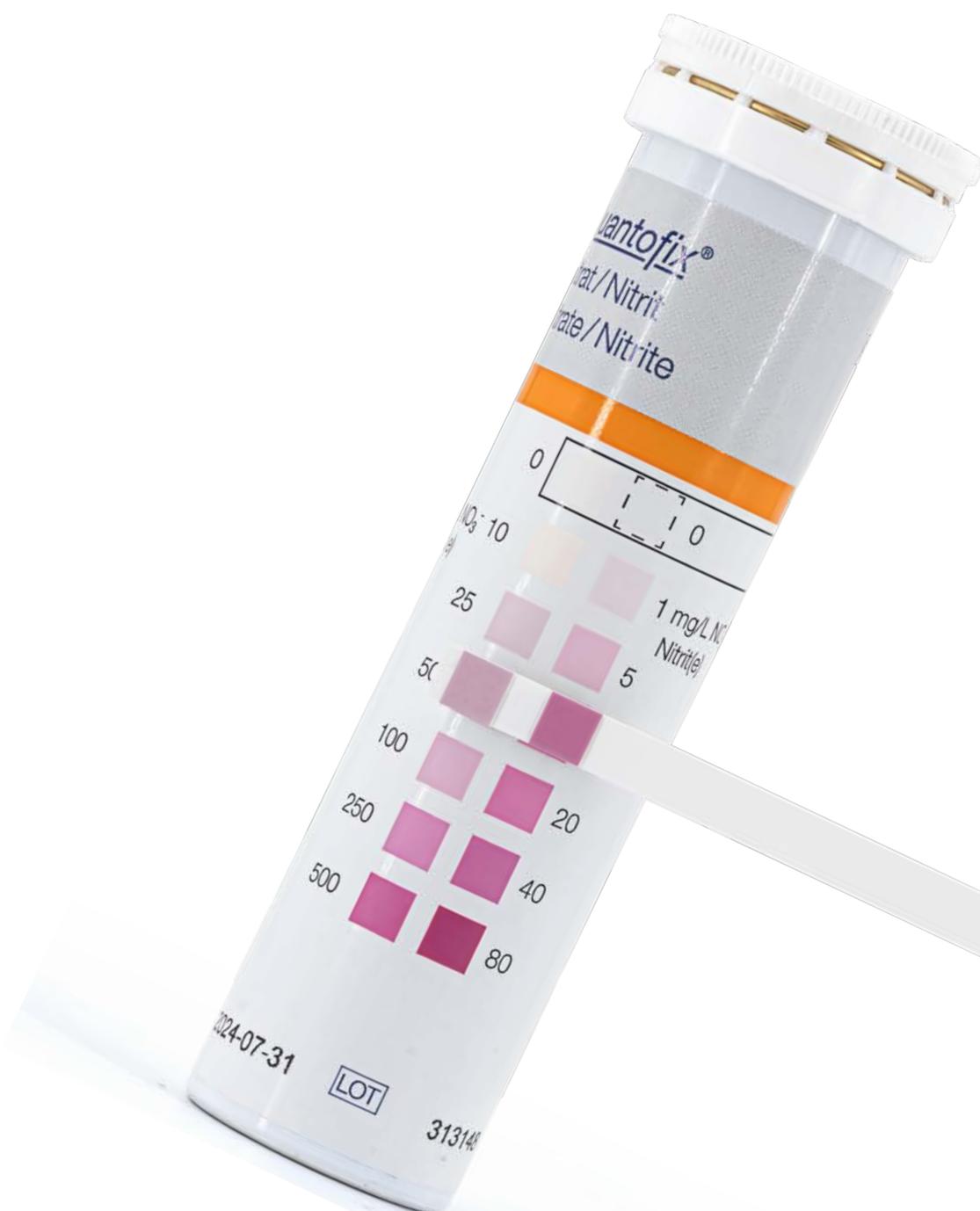
- No calibration
- No maintenance
- No accessories

## Reliable

- Desiccant in the stopper for optimal protection of the strips against humidity
- Color chart confirmed with traceable standards
- Automatic evaluation with QUANTOFIX® Relax for safe documentation

## Good to know

Many QUANTOFIX® test strips can be also evaluated on the strip reader QUANTOFIX® Relax (see page 24)



## Ordering information

Test	REF	Measuring range (visual)	Measuring range (instrumental)	Number of tests
■ Active Oxygen	91349	0 · 4 · 8 · 15 · 25 mg/L KMPS	–	100
■ Aluminum	91307	0 · 5 · 20 · 50 · 200 · 500 mg/L Al <sup>3+</sup>	–	100
■ Ammonium	91315	0 · 10 · 25 · 50 · 100 · 200 · 400 mg/L NH <sub>4</sub> <sup>+</sup>	10–350 mg/L NH <sub>4</sub> <sup>+</sup>	100
■ Arsenic 10	91334	0 · 0.01 · 0.025 · 0.05 · 0.1 · 0.5 mg/L As <sup>3+/5+</sup>	–	100
■ Arsenic 50	91332	0 · 0.05 · 0.1 · 0.5 · 1.0 · 1.7 · 3.0 mg/L As <sup>3+/5+</sup>	–	100
■ Arsenic Sensitive	91345	0 · 0.005 · 0.01 · 0.025 · 0.05 · 0.1 · 0.25 · 0.5 mg/L As <sup>3+/5+</sup>	–	100
■ Ascorbic Acid	91314	0 · 50 · 100 · 200 · 300 · 500 · 700 · 1000 · 2000 mg/L vitamin C	25–1000 mg/L vitamin C	100
■ Calcium	91324	0 · 10 · 25 · 50 · 100 mg/L Ca <sup>2+</sup>	–	60
■ Carbonate Hardness	91323	0 · 3.8 · 7.5 · 12.5 · 18.8 · 25.0 °e	–	100
■ Chloride	91321	0 · 500 · 1000 · 1500 · 2000 · ≥ 3000 mg/L Cl <sup>-</sup>	–	100
■ Chlorine	91317	0 · 1 · 3 · 10 · 30 · 100 mg/L Cl <sub>2</sub>	–	100
■ Chlorine Sensitive	91339	0 · 0.1 · 0.5 · 1 · 3 · 10 mg/L Cl <sub>2</sub>	0.1–10 mg/L Cl <sub>2</sub>	100
■ Chlorine Sensitive 1	91360	0 · 0.05 · 0.1 · 0.2 · 0.4 · 0.8 · 1.2 mg/L Cl <sub>2</sub>	–	50
■ Total Chlorine Sensitive 1	91361	0 · 0.01 · 0.05 · 0.1 · 0.2 · 0.4 · 0.8 mg/L Cl <sub>2</sub>	–	50
■ Chlorine Dioxide Sensitive 1	91363	0 · 0.05 · 0.1 · 0.2 · 0.4 · 0.8 · 1.2 mg/L ClO <sub>2</sub>	–	25
■ Chromate	91301	0 · 3 · 10 · 30 · 100 mg/L CrO <sub>4</sub> <sup>2-</sup>	3–100 mg/L CrO <sub>4</sub> <sup>2-</sup>	100
■ Cobalt	91303	0 · 10 · 25 · 50 · 100 · 250 · 500 · 1000 mg/L Co <sup>2+</sup>	–	100
■ Copper	91304	0 · 10 · 30 · 100 · 300 mg/L Cu <sup>+2+</sup>	10–300 mg/L Cu	100
■ Copper Sensitive 5	91358	0 · 0.1 · 0.5 · 1.0 · 2.0 · 5.0 mg/L Cu <sup>+2+</sup>	–	25
■ Cyanide	91318	0 · 1 · 3 · 10 · 30 mg/L CN <sup>-</sup>	–	100
■ EDTA	91335	0 · 100 · 200 · 300 · 400 mg/L EDTA	–	100
■ Formaldehyde	91328	0 · 10 · 20 · 40 · 60 · 100 · 200 mg/L HCHO	10–200 mg/L HCHO	100
■ Free Fatty Acids	91365	0 · 0.25 · 0.5 · 1 · 2 · 3 %	–	50
■ Glucose	91348	0 · 50 · 100 · 250 · 500 · 1000 · 2000 mg/L glucose	50–2000 mg/L glucose	100
■ Glutaraldehyde	91343	0 · 0.5 · 1.0 · 1.5 · 2.0 · 2.5 % glutaraldehyde	–	100
■ Iron Sensitive 1	91359	0 · 0.05 · 0.1 · 0.2 · 0.5 · 1.0 mg/L Fe <sup>2+/3+</sup>	–	25
■ Total Iron 100	91344	0 · 2 · 5 · 10 · 25 · 50 · 100 mg/L Fe <sup>2+/3+</sup>	–	100
■ Total Iron 1000	91330	0 · 5 · 20 · 50 · 100 · 250 · 500 · 1000 mg/L Fe <sup>2+/3+</sup>	5–500 mg/L Fe	100
■ LubriCheck	91336	0 · 15 · 50 · 75 · 130 · 200 mmol/L KOH	–	100
■ Molybdenum	91325	0 · 5 · 20 · 50 · 100 · 250 mg/L Mo <sup>6+</sup>	–	100
■ Nickel	91305	0 · 10 · 25 · 50 · 100 · 250 · 500 · 1000 mg/L Ni <sup>2+</sup>	5–100 mg/L Ni <sup>2+</sup>	100
■ Nitrate 100	91351	Nitrate: 0 · 5 · 10 · 25 · 50 · 75 · 100 mg/L NO <sub>3</sub> <sup>-</sup> Nitrite: 0 · 0.5 · 2 · 5 · 10 · 25 · 50 mg/L NO <sub>2</sub> <sup>-</sup>	Nitrate: 3–100 mg/L NO <sub>3</sub> <sup>-</sup> Nitrite: 0.5–50 mg/L NO <sub>2</sub> <sup>-</sup>	100
■ Nitrate / Nitrite	91313	Nitrate: 0 · 10 · 25 · 50 · 100 · 250 · 500 mg/L NO <sub>3</sub> <sup>-</sup> Nitrite: 0 · 1 · 5 · 10 · 20 · 40 · 80 mg/L NO <sub>2</sub> <sup>-</sup>	Nitrate: 10–500 mg/L NO <sub>3</sub> <sup>-</sup> Nitrite: 0.5–80 mg/L NO <sub>2</sub> <sup>-</sup>	100
■ Nitrite	91311	0 · 1 · 5 · 10 · 20 · 40 · 80 mg/L NO <sub>2</sub> <sup>-</sup>	0.5–80 mg/L NO <sub>2</sub> <sup>-</sup>	100
■ Nitrite 3000	91322	0 · 0.1 · 0.3 · 0.6 · 1 · 2 · 3 g/L NO <sub>2</sub> <sup>-</sup>	–	100
■ Nitrite / pH	91338	Nitrite: 0 · 1 · 5 · 10 · 20 · 40 · 80 mg/L NO <sub>2</sub> <sup>-</sup> pH: 6.0 · 6.4 · 6.7 · 7.0 · 7.3 · 7.6 · 7.9 · 8.2 · 8.4 · 8.6 · 8.8 · 9.0 · 9.3 · 9.6	–	100
■ Nitrite / pH 2	91364	Nitrite: 0 · 1 · 5 · 10 · 20 · 40 · 80 · 100 mg/L NO <sub>2</sub> <sup>-</sup> pH: 8.0 · 8.2 · 8.4 · 8.6 · 8.8 · 9.0 · 9.2 · 9.4 · 9.6 · 9.8 · 10.0	–	100

GHS: Globally harmonized system: This product contains harmful substances which must be specially labeled as hazardous. For detailed information please see the SDS.

Shelf life	Method	Color change					
			QUANTOFIX® Relax	Additional reagent	CE / disinfection	GHS	Test
2.5 years	Redox reaction	yellow → green					Active Oxygen
2.5 years	Aurin tricarboxylic acid	pink → red		■		■	Aluminum
2.5 years	Nessler	bright yellow → orange	■	■		■	Ammonium
2.5 years	Modified Gutzeit test	white → yellow-brown		■		■	Arsenic 10
2.5 years	Modified Gutzeit test	white → yellow-brown		■		■	Arsenic 50
2.5 years	Modified Gutzeit test	white → yellow-brown		■		■	Arsenic Sensitive
2.5 years	Phosphomolybdenum blue	yellow → green-blue	■				Ascorbic Acid
2.5 years	Glyoxal-bis(2-hydroxyaniline)	yellow → red		■		■	Calcium
2.5 years	Mixed indicator	bright green → blue					Carbonate Hardness
2.5 years	Silver chromate	brown → yellow					Chloride
2.5 years	Redox reaction	white → red-violet		■		■	Chlorine
2.5 years	Redox reaction	yellow → violet	■		■		Chlorine Sensitive
2.5 years	Redox reaction	white → blue-green					Chlorine Sensitive 1
2.5 years	Redox reaction	white → blue-green					Total Chlorine Sensitive 1
2.5 years	Redox reaction	white → blue-green					Chlorine Dioxide Sensitive 1
2 years	Carbazide	white → violet	■	■		■	Chromate
2.5 years	Rhodanid	white → green-blue					Cobalt
2.5 years	Biquinoline	white → red-violet	■				Copper
2.5 years	Organic complexing agent	white → red-violet					Copper Sensitive 5
2.5 years	Barbituric acid derivative	white → violet		■		■	Cyanide
2.5 years	Bismut-xylenolorange	red → yellow					EDTA
2.5 years	Triazol	beige → blue-violet	■	■		■	Formaldehyde
2 years	Color reaction with pH indicator	blue → yellow					Free Fatty Acids
2.5 years	Enzymatic	yellow → blue-green	■				Glucose
2.5 years	Mixed indicator	bright orange → magenta			■		Glutaraldehyde
2.5 years	Organic complexation	white → blue					Iron Sensitive 1
2.5 years	Triazine	white → blue-violet					Total Iron 100
2.5 years	2,2'-bipyridine	white → dark red	■				Total Iron 1000
2.5 years	Mixed indicator	yellow → blue					LubriCheck
2.5 years	Dithiol	white → green		■		■	Molybdenum
2.5 years	Dimethylglyoxim	white → bright-red	■				Nickel
2.5 years	Nitrate: modified Griess reaction Nitrite: Griess reaction	yellow → red-violet yellow → red-violet	■				Nitrate 100
2.5 years	Nitrate: modified Griess reaction Nitrite: Griess reaction	Nitrate: white → red-violet Nitrite: white → red-violet	■				Nitrate / Nitrite
2.5 years	Griess reaction	white → red-violet	■				Nitrite
2.5 years	Griess reaction	yellow → red					Nitrite 3000
2.5 years	Nitrite: Griess reaction pH: mixed indicator	Nitrite: white → red-violet pH: yellow-orange → violet-red					Nitrite / pH
2.5 years	Nitrite: Griess reaction pH: mixed indicator	Nitrite: white → red-violet pH: yellow-orange → violet-red					Nitrite / pH 2

Test	REF	Measuring range (visual)	Measuring range (instrumental)	Number of tests
■ Peracetic Acid 50	91340	0 · 5 · 10 · 20 · 30 · 50 mg/L peracetic acid	5–50 mg/L peracetic acid	100
■ Peracetic Acid 500	91341	0 · 50 · 100 · 200 · 300 · 400 · 500 mg/L peracetic acid	50–500 mg/L peracetic acid	100
■ Peracetic Acid 2000	91342	0 · 500 · 1000 · 1500 · 2000 mg/L peracetic acid	500–2000 mg/L peracetic acid	100
■ Peroxide 25	91319	0 · 0.5 · 2 · 5 · 10 · 25 mg/L H <sub>2</sub> O <sub>2</sub>	0.5–25 mg/L H <sub>2</sub> O <sub>2</sub>	100
■ Peroxide 100	91312	0 · 1 · 3 · 10 · 30 · 100 mg/L H <sub>2</sub> O <sub>2</sub>	1–100 mg/L H <sub>2</sub> O <sub>2</sub>	100
■ Peroxide 1000	91333	0 · 50 · 150 · 300 · 500 · 800 · 1000 mg/L H <sub>2</sub> O <sub>2</sub>	50–1000 mg/L H <sub>2</sub> O <sub>2</sub>	100
■ Phosphate	91320	0 · 3 · 10 · 25 · 50 · 100 mg/L PO <sub>4</sub> <sup>3-</sup>	3–80 mg/L PO <sub>4</sub> <sup>3-</sup>	100
■ Potassium	91316	0 · 200 · 400 · 700 · 1000 · 1500 mg/L K <sup>+</sup>	–	100
■ QUAT	91337	0 · 10 · 25 · 50 · 100 · 250 · 500 · 1000 mg/L benzalkonium chloride	–	100
■ Silver	91350	0 · 1 · 2 · 3 · 5 · 7 · 10 g/L Ag <sup>+</sup>	–	100
■ Sulfate	91329	< 200 · > 400 · > 800 · > 1200 · > 1600 mg/L SO <sub>4</sub> <sup>2-</sup>	–	100
■ Sulfite	91306	0 · 10 · 25 · 50 · 100 · 250 · 500 · 1000 mg/L SO <sub>3</sub> <sup>2-</sup>	10–500 mg/L SO <sub>3</sub> <sup>2-</sup>	100
■ Tin	91309	0 · 10 · 25 · 50 · 100 · 250 · 500 mg/L Sn <sup>2+</sup>	–	100
■ Total acid	91353	0 · 2 · 2.5 · 3.0 · 3.5 · 4.0 · 4.5 · 5.0 g/L citric acid	2–5 g/L citric acid	100
■ Total Sugar	91352	0 · 55 · 100 · 250 · 400 · 600 · 800 mg/L fructose / glucose	55–700 mg/L fructose / glucose	100
■ Zinc	91310	0 · 2 · 5 · 10 · 25 · 50 · 100 mg/L Zn <sup>2+</sup>	5–40 mg/L Zn <sup>2+</sup>	100
■ Nitrate test sets	913918	0 · 10 · 25 · 50 · 100 · 250 · 500 mg/L NO <sub>3</sub> <sup>-</sup> without nitrite chart, but with nitrite test field	–	150 <sup>2)</sup>
■ Multistick for aquarium owners	91326 91327	Total hardness: 0 · 6.3 · 12.5 · 18.8 · 25.0 · 31.3 °e Carbonate hardness: 0 · 3.8 · 7.5 · 12.5 · 18.8 · 25.0 °e pH: 6.4 · 6.8 · 7.2 · 7.6 · 8.0 · 8.4	–	100 25

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Shelf life	Method	Color change					
			QUANTOFIX® Relax	Additional reagent	CE / disinfection	GHS	Test
2.5 years	Redox reaction	white → blue	■		■		Peracetic Acid 50
2.5 years	Redox reaction	yellow → green	■		■		Peracetic Acid 500
2.5 years	Redox reaction	bright yellow → red	■		■		Peracetic Acid 2000
2.5 years	Redox reaction	white → blue	■				Peroxide 25
2.5 years	Redox reaction	white → blue	■		■		Peroxide 100
2.5 years	Redox reaction	white → brown	■				Peroxide 1000
2.5 years	Phosphomolybdenum blue	white → blue-green	■	■		■	Phosphate
2.5 years	Dipikrylamine	yellow → orange		■			Potassium
2.5 years	Mixed indicator	yellow → blue-green					QUAT
2.5 years	Silver sulfide	yellow → brown					Silver
2.5 years	Ba-thorine-complex	red → yellow					Sulfate
2.5 years	Nitroprussid / Zn-hexacyanoferrate	white → salmon	■				Sulfite
2.5 years	Phosphomolybdic acid	white → dark blue	■				Tin
2.5 years	Mixed indicator	pink → yellow	■				Total acid
1 year at 2-8 °C	Enzymatic	yellow → ocher	■	■		■	Total Sugar
2.5 years	Dithizone	orange → red	■	■		■	Zinc
2.5 years	Nitrate: modified Griess reaction Nitrite: Griess reaction	white → red-violet					Nitrate test sets
2.5 years	Total hardness: EDTA Carbonate hardness: mixed indicator pH: mixed indicator	Total hardness: green → red Carbonate hardness: bright green → blue pH: yellow → red					Multistick for aquarium owners



## QUANTOFIX® EZ Arsenic REF 91345.1

### Range

0 · 0.005 · 0.01 · 0.025 · 0.05 · 0.1 · 0.25 · 0.5 mg/L As<sup>3+/5+</sup>

### Test Tolerance

Up to 200 mg/L iron.

### Content

The test kit contains two compact, transparent, durable and easy to carry PET reaction vessels. The vessel is closed during the reaction process to prevent the arsine gas release to the environment.

### Information

The test strips contain mercuric bromide and all other required reagents (zinc powder and sulfamic acid) for testing arsenic are included. Production of health hazardous gases during testing time is minimized by special equipment and procedure. All reagents are easy to dose and packed safely.

# AQUADUR® and other test strips

## Tests for special applications

A range of tests was developed for specific applications and questions. They provide solutions for particular requirements.

### AQUADUR® – easy determination of water hardness

AQUADUR® test strips are made for the easy determination of water hardness allowing to optimize the dosing of water softeners.

### AQUADUR® Sensitive – highly sensitive determination of water hardness

Feed water for reversed osmosis units needs to have a very low water hardness. AQUADUR® Sensitive is used, for example, in dialysis practices to test the quality of the water after the first softening.

### Moisture indicators without cobalt chloride

Commonly used moisture indicators often contain cobalt chloride which has been found to be carcinogenic and toxic. Contact to these types of indicators may present a health and safety risk to staff. The patented non-toxic moisture indicators eliminate these risks and increase safety. They have a very clear color change from red to yellow.

### Good to know

< 50 ppm CaCO<sub>3</sub> – very soft water  
 50–120 ppm CaCO<sub>3</sub> – soft water  
 120–240 ppm CaCO<sub>3</sub> – medium hard water  
 240–360 ppm CaCO<sub>3</sub> – hard water  
 Above 360 ppm CaCO<sub>3</sub> – very hard water

## Ordering information

Test	REF	Measuring range	Presentation
■ Ag-Fix for silver in fixing baths	90741	0·0.5·1·2·3·5·7·10 g/L Ag <sup>+</sup> pH 4·5·6·7·8	Box of 100 test strips 6 x 95 mm
■ Ammonia test	90714	0·0.5·1·3·6 mg/L NH <sub>4</sub> <sup>+</sup>	Box of 25 test strips 7 x 60 mm
■ AQUADUR® 4–14, box	91239	< 54 · > 72 · > 151.2 · > 252 ppm CaCO <sub>3</sub>	Box of 100 test strips 6 x 95 mm
■ AQUADUR® 4–21, box	91220	< 54 · > 72 · > 126 · > 252 · > 378 ppm CaCO <sub>3</sub>	Box of 100 test strips 6 x 95 mm
■ AQUADUR® 4–21, bulk	91222	< 54 · > 72 · > 126 · > 252 · > 378 ppm CaCO <sub>3</sub>	Pack of 5000 test strips without scale
■ AQUADUR® 4–21, individually sealed	91224	< 54 · > 72 · > 126 · > 252 · > 378 ppm CaCO <sub>3</sub>	1000 test strips, individually sealed with scale
■ AQUADUR® 4–21, individually sealed	91240	< 54 · > 72 · > 151.2 · > 252 · > 378 ppm CaCO <sub>3</sub>	1000 test strips, individually sealed with scale
■ AQUADUR® 5–25, box	91201	< 54 · > 90 · > 180 · > 270 · > 360 · > 450 ppm CaCO <sub>3</sub>	Box of 100 test strips 6 x 95 mm
■ AQUADUR® 5–25, bulk	91221	< 54 · > 90 · > 180 · > 270 · > 360 · > 450 ppm CaCO <sub>3</sub>	Pack of 5000 test strips without scale
■ AQUADUR® 5–25, individually sealed	91223	< 54 · > 90 · > 180 · > 270 · > 360 · > 450 ppm CaCO <sub>3</sub>	1000 test strips, individually sealed with scale
■ AQUADUR® 5–25, test sets	912902	< 54 · > 90 · > 180 · > 270 · > 360 · > 450 ppm CaCO <sub>3</sub>	Sets of 3 individually sealed test strips, pack of 50 sets
■ AQUADUR® Sensitive, box	91243	0·5.4·10.8·18.8 ppm CaCO <sub>3</sub>	Box of 50 test strips 6 x 95 mm
■ AQUADUR® TH 400, box	91202	0·25·50·120·250·425 ppm CaCO <sub>3</sub>	Box of 50 test strips 6 x 95 mm
■ Chlorine test	90709	10·50·100·200 mg/L Cl <sub>2</sub>	Reel of 5 m length and 10 mm width
■ Cyanuric acid test (swimming pools)	90710	0·50·100·150·300 mg/L Cya	Box of 25 test strips 6 x 95 mm
■ Fluoride test	90734	0·2·5·10·20·50·100 mg/L F <sup>-</sup>	Box of 30 test discs with reagents
■ Indiquat (QUATs)	–	According to customer request	Reel of 5 m length and 10 mm width
■ Moisture indicator	90801	20·30·40·50·60·70·80 % rel. humidity	Pack of 12 adhesive labels 50 x 100 mm
■ Moisture indicator	908901	8 % rel. humidity	Pack of 1000 pcs 60 x 35 mm
■ Non-toxic moisture indicator without cobalt chloride	908903	8 % rel. humidity	Pack of 1000 pcs 60 x 35 mm
■ Ozone test (air)	90736	< 90·90–150·150–210 · > 210 µg/m <sup>3</sup> O <sub>3</sub>	Box of 12 test strips 10 x 95 mm
■ Saltesmo (halide ions)	90608	0·0.25·0.5·1·2·3·4·5 g/L NaCl	Box of 30 test discs
■ Swimming pool test 3 in 1	90752	Free Chlorine: 0·0.5·1·3·5·10 mg/L Cl <sub>2</sub> Alkalinity: 0·80·120·180·240 mg/L CaCO <sub>3</sub> pH: 6.4·6.8·7.2·7.6·8.4	Box of 50 test strips 6 x 95 mm
■ Swimming pool test 5 in 1	90759	like 90752, in addition: total chlorine: 0·1·3·5·10 mg/L Cl <sub>2</sub> total hardness: 0·100·250·500·1000 mg/L CaCO <sub>3</sub>	Box of 50 test strips 6 x 95 mm

GHS: Globally harmonized system: This product contains harmful substances which must be specially labeled as hazardous. For detailed information please see the SDS.

# AQUADUR® and other test strips

Shelf life	GHS	Test
2.5 years		Ag-Fix for silver in fixing baths
2.5 years		Ammonia test
2 years		AQUADUR® 4-14, box
2 years		AQUADUR® 4-21, box
15 months		AQUADUR® 4-21, bulk
1 year		AQUADUR® 4-21, individually sealed
1 year		AQUADUR® 4-21, individually sealed
2 years		AQUADUR® 5-25, box
15 months		AQUADUR® 5-25, bulk
1 year		AQUADUR® 5-25, individually sealed
1 year		AQUADUR® 5-25, test sets
2 years		AQUADUR® Sensitive, box
2 years		AQUADUR® TH 400, box
2 years		Chlorine test
2.5 years		Cyanuric acid test (swimming pools)
2 years		Fluoride test
2 years		Indiquat (QUATs)
2 years	■	Moisture indicator
1 year	■	Moisture indicator
1 year		Moisture indicator without cobalt chloride
1.5 years		Ozon test (air)
1.5 years		Saltesmo (halide ions)
2 years		Swimming pool test 3 in 1
2 years		Swimming pool test 5 in 1



# Test papers without color chart

## Simple test papers for qualitative determinations

These test papers come without a color scale. With little effort, the presence of ions and other substances can be detected. The test papers change color when the concentration is above the specified limit of detection.

### Test papers for criminal investigations

Peroxtesmo KM is sensitive to peroxidase and detects blood traces.

Sperm traces can be detected using Phosphatesmo KM which is specific for acidic phosphatase. Both test papers are used in the investigation of crime scenes.

### Test papers for milk analysis

The test paper Peroxtesmo MI allows the easy distinction between raw milk and high temperature milk. It is sensitive for the enzyme lactoperoxidase. In contrast to liquid indicators based on guaiacol, Peroxtesmo MI does not smell and comes without hazardous reagents which is convenient and safe for the user.

Phosphatesmo MI detects alkaline phosphatase in milk and is a rapid and easy indicator for the successful pasteurization of milk.

### Test papers for oil and oil tanks

Oil test paper is recommended for the rapid determination of oil contaminations in water and soil. On contact with oil the paper turns dark blue.

AQUATEC allows the easy and reliable detection of water at the bottom of petrol and fuel oil tanks. It is also suitable to measure the thickness of water layers in oil separators.



## Ordering information

Test	REF	Determination of	Presentation
■ Aluminum test paper	90721	Aluminum ions ( $Al^{3+}$ )	Box of 100 strips 20 x 70 mm
■ Ammonium test paper	90722	Ammonia, ammonium ions ( $NH_3$ , $NH_4^+$ )	Box of 200 strips 20 x 70 mm
■ Antimony test paper	90723	Antimony ions ( $Sb^{3+}$ )	Box of 200 strips 20 x 70 mm
■ AQUATEC test strips	90742	Water on the bottom of fuel tanks	Box of 100 strips 10 x 200 mm
■ Arsenic test paper	90762	Arsenic, arsine ( $As$ , $AsH_3$ )	Box of 200 strips 20 x 70 mm
■ Bismuth test paper	90733	Bismuth ions ( $Bi^{3+}$ )	Box of 200 strips 20 x 70 mm
■ Chlortesmo	90603	Chlorine, free halogens	Box of 200 strips 20 x 70 mm
■ Chromium test paper	90724	Chromium, chromate ( $Cr(VI)$ $CrO_4^{2-}$ )	Box of 200 strips 20 x 70 mm
■ Cobalt test paper	90728	Cobalt ions ( $Co^{2+}$ )	Box of 200 strips 20 x 70 mm
■ Copper test paper	90729	Copper(II) ions ( $Cu^{2+}$ )	Box of 200 strips 20 x 70 mm
■ Cuprotesmo	90601	Copper ions ( $Cu$ , $Cu^+$ , $Cu^{2+}$ )	Box of 40 sheets 40 x 25 mm
■ Cyantesmo	90604	Cyanide, hydrocyanic acid ( $CN^-$ , $HCN$ )	Reel of 5 m length and 10 mm width
■ Dipyrityl paper	90725	Iron(II) ions ( $Fe^{2+}$ )	Box of 200 strips 20 x 70 mm
■ Fluoride test paper	90750	Fluoride, hydrofluoric acid ( $F^-$ , $HF$ )	Box of 200 strips 20 x 70 mm
■ Indanthrene yellow paper	90751	Vat dyes, end-point of conversion	Box of 200 strips 20 x 70 mm
■ Indipro	90765	Protein residues	Box of 60 test strips 10 x 95 mm and additional reagents
■ Iron test paper	90726	Iron ions ( $Fe^{2+}$ , $Fe^{3+}$ )	Box of 100 strips 20 x 70 mm
■ Lead acetate paper	90744	Hydrogen sulfide, sulfide ions ( $H_2S$ , $S^{2-}$ )	Reel of 5 m length and 7 mm width
■ Lead acetate paper	90745	Hydrogen sulfide, sulfide ions ( $H_2S$ , $S^{2-}$ )	Refill pack with 3 reels
■ Lead acetate paper	90746	Hydrogen sulfide, sulfide ions ( $H_2S$ , $S^{2-}$ )	Booklet of 100 strips 10 x 70 mm
■ Mercury bromide paper	90762	Arsenic, arsine ( $As$ , $AsH_3$ )	Box of 200 strips 20 x 70 mm
■ Nickel test paper	90730	Nickel(II) ions ( $Ni^{2+}$ )	Box of 200 strips 20 x 70 mm
■ Nitratesmo	90611	Nitrate and nitrite ( $NO_3^-$ , $NO_2^-$ )	Reel of 5 m length and 10 mm width

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# Test papers without color chart

## Test papers and test strips

Perfect analysis for dairy industry





### Simply safe

- Fast results
- Easy to use
- Determination of pH, peroxide, peracetic acid, phosphatase and peroxidase



Detection limit	Shelf life	GHS	Test
10 mg/L Al <sup>3+</sup>	2 years		Aluminum test paper
10 mg/L NH <sub>4</sub> <sup>+</sup>	2 years	■	Ammonium test paper
5 mg/L Sb <sup>3+</sup>	2 years		Antimony test paper
1–2 mm water layer	2 years		AQUATEC test strips
0.5 µg arsenic	2 years	■	Arsenic test paper
60 mg/L Bi <sup>3+</sup>	2 years		Bismuth test paper
1 mg/L Cl <sub>2</sub>	2 years		Chlortesmo
2 mg/L Cr <sup>3+</sup> / 5 mg/L CrO <sub>4</sub> <sup>2-</sup>	2 years		Chromium test paper
25 mg/L Co <sup>2+</sup>	2 years		Cobalt test paper
20 mg/L Cu <sup>2+</sup>	2 years		Copper test paper
0.05 µg Cu on surfaces	2 years		Cuprotesmo
0.2 mg/L HCN	2 years	■	Cyantesmo
2 mg/L Fe <sup>2+</sup>	2 years		Dipyridyl paper
20 mg/L F <sup>-</sup>	2 years		Fluoride test paper
Alkaline sodium dithionite traces	2 years		Indanthrene yellow paper
50 µg BSA (bovine serum albumin)	2 years	■	Indipro
10 mg/L Fe <sup>2+</sup> or Fe <sup>3+</sup>	2 years		Iron test paper
5 mg/L S <sup>2-</sup>	2 years	■	Lead acetate paper
5 mg/L S <sup>2-</sup>	2 years	■	Lead acetate paper
5 mg/L S <sup>2-</sup>	2 years	■	Lead acetate paper
0.5 µg arsenic	2 years	■	Mercury bromide paper
10 mg/L Ni <sup>2+</sup>	2 years		Nickel test paper
10 mg/L NO <sub>3</sub> <sup>-</sup> / 5 mg/L NO <sub>2</sub> <sup>-</sup>	2 years		Nitratesmo

# Test papers without color chart

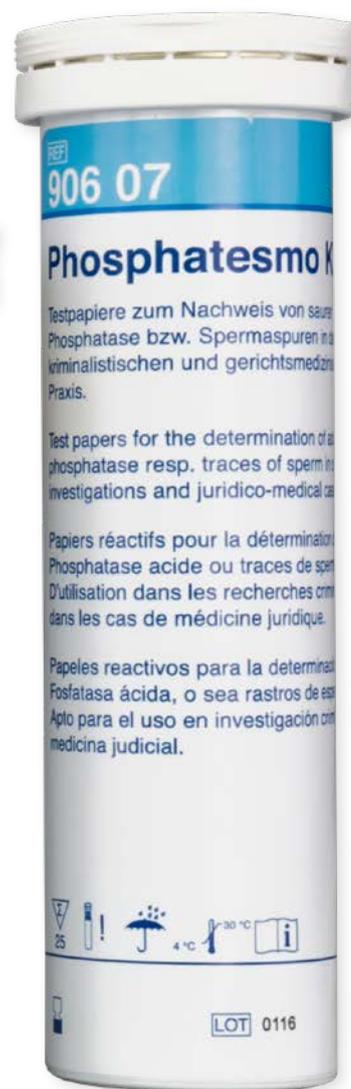
Test	REF	Determination of	Presentation
Oil test paper	90760	Oil in water and soil	Box of 100 strips 20 x 70 mm
Peroxtesmo KM	90605	Blood traces (peroxidase)	Box of 25 test papers 15 x 30 mm
Peroxtesmo KO	90606	Peroxidase in food	Box of 100 test papers 15 x 15 mm
Peroxtesmo MI	90627	Peroxidase in milk	Box of 100 test papers 15 x 15 mm
Phosphatesmo KM	90607	Sperm, acid phosphatase	Box of 25 test papers 15 x 30 mm
Phosphatesmo MI	90612	Alkaline phosphatase in milk	Box of 50 test strips 10 x 95 mm
Plumbtesmo	90602	Lead, lead ions (Pb, Pb <sup>2+</sup> )	Box of 40 sheets 40 x 25 mm
Potassium iodate starch paper	90753	Nitrous acid, sulfur dioxide	Reel of 5 m length and 7 mm width
Potassium iodide starch paper	90754	Nitrite ions, nitrous acid, ozone, chlorine (NO <sub>2</sub> <sup>-</sup> , HNO <sub>2</sub> , O <sub>3</sub> , Cl <sub>2</sub> )	Reel of 5 m length and 7 mm width
Potassium iodide starch paper	90755	Nitrite ions, nitrous acid, ozone, chlorine (NO <sub>2</sub> <sup>-</sup> , HNO <sub>2</sub> , O <sub>3</sub> , Cl <sub>2</sub> )	Refill pack with 3 reels
Potassium iodide starch paper	90756	Nitrite ions, nitrous acid, ozone, chlorine (NO <sub>2</sub> <sup>-</sup> , HNO <sub>2</sub> , O <sub>3</sub> , Cl <sub>2</sub> )	Booklet of 100 strips 10 x 70 mm
Potassium iodide starch paper	90758	Nitrite ions, nitrous acid, ozone, chlorine (NO <sub>2</sub> <sup>-</sup> , HNO <sub>2</sub> , O <sub>3</sub> , Cl <sub>2</sub> )	Box of 200 strips 20 x 70 mm
Potassium test paper	90727	Potassium ions (K <sup>+</sup> )	Box of 200 strips 20 x 70 mm
Silver test paper	90732	Silver ions (Ag <sup>+</sup> )	Box of 200 strips 20 x 70 mm
Sulfide test paper	90761	Hydrogen sulfide, sulfide ions (H <sub>2</sub> S, S <sup>2-</sup> )	Reel of 5 m length and 7 mm width
Sulfite test paper	90763	Hydrogen sulfide, sulfite ions (SO <sub>2</sub> , SO <sub>3</sub> <sup>2-</sup> )	Box of 100 strips 20 x 70 mm
Tumeric paper	90747	Boric acid, borates (H <sub>3</sub> BO <sub>3</sub> , BO <sub>3</sub> <sup>3-</sup> )	Box of 200 strips 20 x 70 mm
Udder test paper	90748	Mastitis	20 sheets 90 x 140 mm in PE bag
Waterfinder test paper	90630	Water in organic solutions	Reel of 7 m length and 14 mm width
Watesmo	90609	Water in organic solutions	Reel of 5 m length and 10 mm width
Water	90610	Water distribution in butter	Box of 50 sheets 78 x 40 mm
Zirconium test paper	90721	Zirconium ions (Zr <sup>4+</sup> )	Box of 100 strips 20 x 70 mm

GHS: Globally harmonized system: This product contains harmful substances which must be specially labeled as hazardous. For detailed information please see the SDS.



# Test papers without color chart

Detection limit	Shelf life	GHS	Test
250 mg/L petroleum ether / 10 mg/L gasoline (high octane) / 5 mg/L fuel oil / 1 mg/L lubricating oil	3 years		Oil test paper
Blood traces	1.5 years		Peroxtesmo KM
Peroxidase traces	2.5 years	■	Peroxtesmo KO
3 % raw milk in UHT milk	1 year		Peroxtesmo MI
Sperm traces	1.5 years		Phosphatesmo KM
0.5 % raw milk in pasteurized milk / 300 U/L alkaline phosphatase in UHT milk	1 year		Phosphatesmo MI
5 mg/L Pb <sup>2+</sup>	15 months		Plumbtesmo
5 mg/L SO <sub>2</sub>	2 years		Potassium iodate starch paper
1 mg/L NO <sub>2</sub> <sup>-</sup> / 1 mg/L Cl <sub>2</sub>	2 years		Potassium iodide starch paper
1 mg/L NO <sub>2</sub> <sup>-</sup> / 1 mg/L Cl <sub>2</sub>	2 years		Potassium iodide starch paper
1 mg/L NO <sub>2</sub> <sup>-</sup> / 1 mg/L Cl <sub>2</sub>	2 years		Potassium iodide starch paper
1 mg/L NO <sub>2</sub> <sup>-</sup> / 1 mg/L Cl <sub>2</sub>	2 years		Potassium iodide starch paper
250 mg/L K <sup>+</sup>	2 years		Potassium test paper
20 mg/L Ag <sup>+</sup>	2 years		Silver test paper
5 mg/L S <sup>2-</sup>	2 years		Sulfide test paper
10 mg/L Na <sub>2</sub> SO <sub>3</sub>	2 years		Sulfite test paper
20 mg/L B / 100 mg/L H <sub>3</sub> BO <sub>3</sub>	2 years		Tumeric paper
Mastitis traces	2 years		Udder test paper
Traces of water	2 years		Waterfinder test paper
Traces of water	2 years		Watesmo
Traces of water	2 years		Water
20 mg/L Zr <sup>4+</sup>	2 years		Zirconium test paper



# QUANTOFIX® Relax

## Reflectometer for evaluation of test strips

The QUANTOFIX® Relax is the ideal device for the objective evaluation of our QUANTOFIX® test strips. It combines the simplicity of test strips with the safety of instrumental analysis and thus the best out of these two worlds. The QUANTOFIX® Relax does not require any special strips, but evaluates the normal pH-Fix and QUANTOFIX® test strips. Therefore entrance into instrumental analysis is very simple; the same strip can be used for visual and instrumental evaluation.

### Excellent usability

All functions of the device can be selected with the touch screen display. Therefore, the operation is simple and intuitive, without the need for extensive training. The auto-start function initiates the measurement as soon as the test strip is placed on the strip holder. Therefore, it is not necessary to touch the device for performing a measurement. Contaminations are reliably avoided. Frequently used parameters can be stored as favorites. Simple tapping can quickly access these favorites during operation.

### Quantitative results

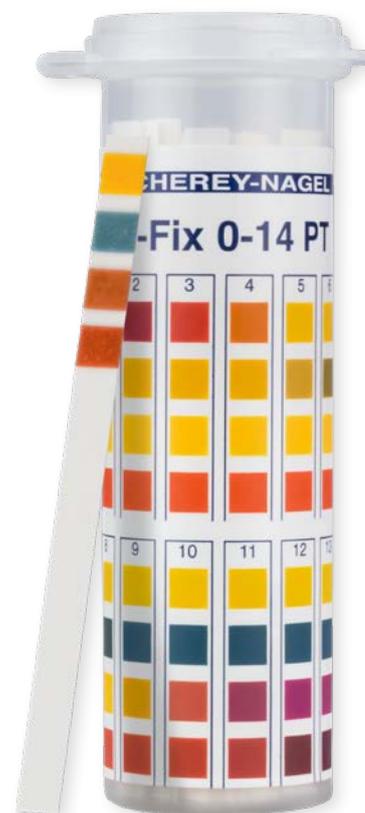
The optics of the QUANTOFIX® Relax has been proven for years in medical technology and supplies secure and standardized values. Thereby an accuracy of  $\leq 10\%$  is achieved for many parameters; a hardly achieved level in the analysis of test strips, yet. The evaluation with the QUANTOFIX® Relax is not interfered by external factors and is therefore absolutely objective and precise. The estimation of measured values between the gradations of the scale is omitted.

### Documentation and data transfer

The QUANTOFIX® Relax allows the assured documentation of analytics with test strips. Results are printed immediately after the measurement. The printout can be e.g. appended to a production protocol or kept for later quality controls. The transmission to an information system can be realized easily. In addition, the data are stored in the device and can be simply read out or printed again later on.

### Good to know

For an overview of all the parameters and pH-Fix test strips available on the QUANTOFIX® Relax, please refer to page 6 and 14.



## How it's done

Objective evaluation with the QUANTOFIX® Relax



## Ordering information

Description	REF
■ Reflectometer QUANTOFIX® Relax for evaluation of QUANTOFIX® test strips incl. power supply, adapter, manual, 1 roll of printer paper and certificate	91346

## Accessories

Description	REF	Content
■ Transport case for reflectometer QUANTOFIX® Relax for individual combination with 1 QUANTOFIX® Relax, 3 rolls of printer paper, 6 QUANTOFIX® tubes, 6 batteries, power supply, manual and accessories	930889	1 piece
■ Printer paper for QUANTOFIX® Relax	93065	5 pieces
■ Barcode scanner for QUANTOFIX® Relax	93074	1 piece
■ Power supply for QUANTOFIX® Relax	930995	1 piece

## Objective

- High-quality optics
- Independent from external light and subjective color perception
- Standardized reaction times

## Easy

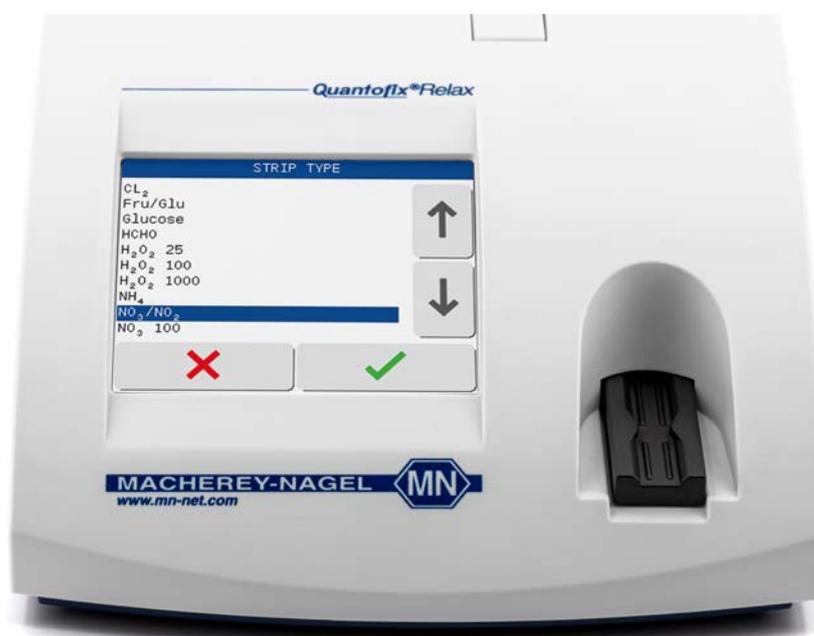
- Intuitive use via touch screen
- Contactless measurement due to auto-start function
- Favorites list for the most important parameters

## Safe

- Reproducible results independent of the user
- Printout of results for optimized documentation
- Accuracy for many parameters  $\leq 10\%$

## Technical data

QUANTOFIX® Relax	
Type	Reflectometer with microprocessor control, self-test and auto-calibration
Calibration	Automatic, self calibrating
Capacity	50 strips per hour
Data storage	200 results
Display	LCD display with touch screen
Operation	alphanumeric input via touch screen
Interface	RS232, USB B (Host), PS/2 for connection of a keyboard or barcode scanner
Languages	DE / EN / FR / ES / IT / PT / PL / TR / HU
Update	Free via Internet / PC
Operating range	10 °C–40 °C, max. 80 % relative humidity (non-condensing)
Power supply	100 V–240 V~, optional with 6 AA batteries
Dimensions	200 mm x 160 mm x 75 mm
Weight	710 g (without batteries and power supply)
Warranty	2 years



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