

**Gebrüder Heyl**  
Analysentechnik  
GmbH & Co. KG

# PRODUCT CATALOG 2025



**Analysis Instruments, Indicators, Analysis Kits and Test Kits**

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To make it easy for you to find our products quickly, we've marked off our product sectors with different colors. This shows you at a glance what product area you're in.

#### Selection help

Since our selection of Testomat devices has gotten quite large, we offer you our selection help table on page 46 as a special overview which will tell you what device is especially appropriate for what application

Gebrüder Heyl process photometers and titration instruments have been putting their reliability and practicality to the test since 1958.

With improved accuracy and resolution, in combination with analysis functions that have undergone consistent further development, the current generation of instruments helps water treatment system operators reduce costs and guarantee optimal water quality.

**Improve your water treatment process with online analysis instruments**

Plant operators and plant technicians can increase the efficiency of the water softening process with constant water quality monitoring.

This enables operators to recognize whether the regeneration process is running correctly, the resin quality is still sufficient, and sufficient regeneration conditioning agents are present in the right consistency.

The use of an online analysis device such as **Testomat 2000®**, **Testomat® EVO TH** or **Testomat® 808** leads to less waste water, low conditioning agents use, and cost savings thanks to low energy requirements.

**Which companies can benefit from online analytical devices?**

Every company that has to monitor its process water cycle. We offer analytical devices for 14 different parameters including water and carbonate hardness, phosphate, sulphite, chromium VI, chlorine and chlorine dioxide.

Each of these parameters can be monitored continuously with one device. The data is then stored to provide documented evidence of the monitoring.

- bakeries
- meat processing plants
- steam generation sterilization
- laundry companies
- food and beverage industry

- (breweries, dairies)
- pulp and paper industry
- chemical industry
- pharmaceutical industry
- construction materials industry

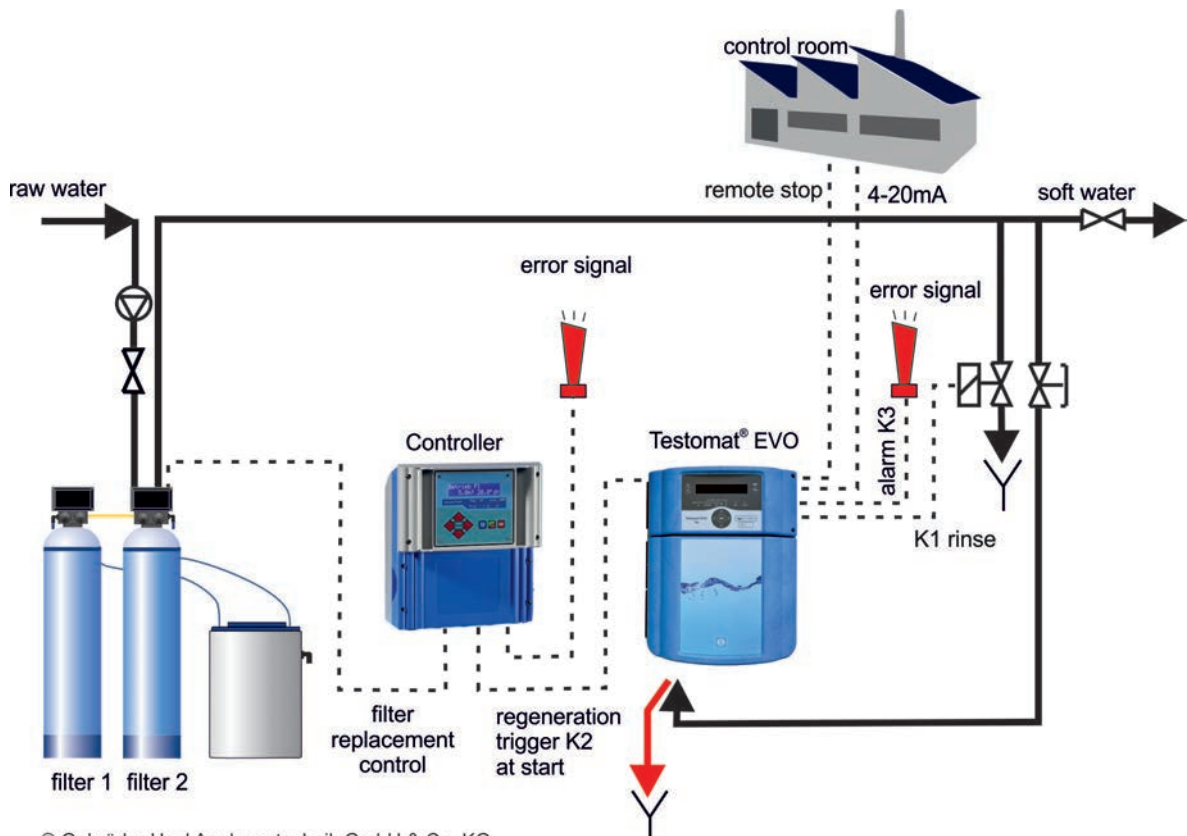
For plant operators who want to comply with increasingly stringent process and effluent limit values, continuous online monitoring of their water treatment process is the safest solution.

**Technical information:  
Energy cost reduction through on-line water quality monitoring**

This technical information concerns the effect of calcium and other deposits in steam boiler plants and cooling towers. Problems are that arise from deposits and possible solutions are highlighted.

The complete technical information can be found under Applications on our homepage, [www.heylanalysis.de](http://www.heylanalysis.de).

**Online monitoring of water quality with Gebrüder Heyl instruments**



**When is it necessary to measure phosphate levels?**

The measurement of the phosphate content in the wastewater of industrial processes becomes more and more important, because the phosphate values must be lower than the legally permitted values if the wastewater is discharged into the sewer system.

In accordance with § 11 of the German drinking water ordinance of 2001, the limits are 2,2 mg / l phosphorus (6.75 mg / l PO<sub>4</sub>) for phosphates added to the drinking water.

**Where do phosphates come from?**

Phosphates are mainly found in fertilizers and detergents. They are released into the groundwater by agricultural fertilizers in the soil or by domestic wastewater with phosphate detergents. In industrial plants, orthophosphates (PO<sub>4</sub>) are directly fed into the processing water to prevent corrosion in their piping systems.

Industrial and agricultural discharges in rivers and lakes lead to a nutrient

surplus in the waters. This results in undesirable algae growth and a falling oxygen content in the water. The ecological balance suffers sustained damage.

Through the water cycle, high amounts of phosphates and nitrates also enter the ground water.

In order to prevent this environmental hazard, policies for the concentration of phosphates and nitrates in water have been established.

**Phosphates in Sewage Treatment Plants**

In waste water treatment plants, phosphate concentration must be measured in order to ensure effective wastewater treatment. Phosphates are removed either by chemical precipitation or biological elimination from wastewater.

By feeding in dissolved iron salts (ferrous chloride), most of the phosphorus from wastewater is precipitated and deposited along with the contaminants from the primary settlement tank to the bottom of the basin.

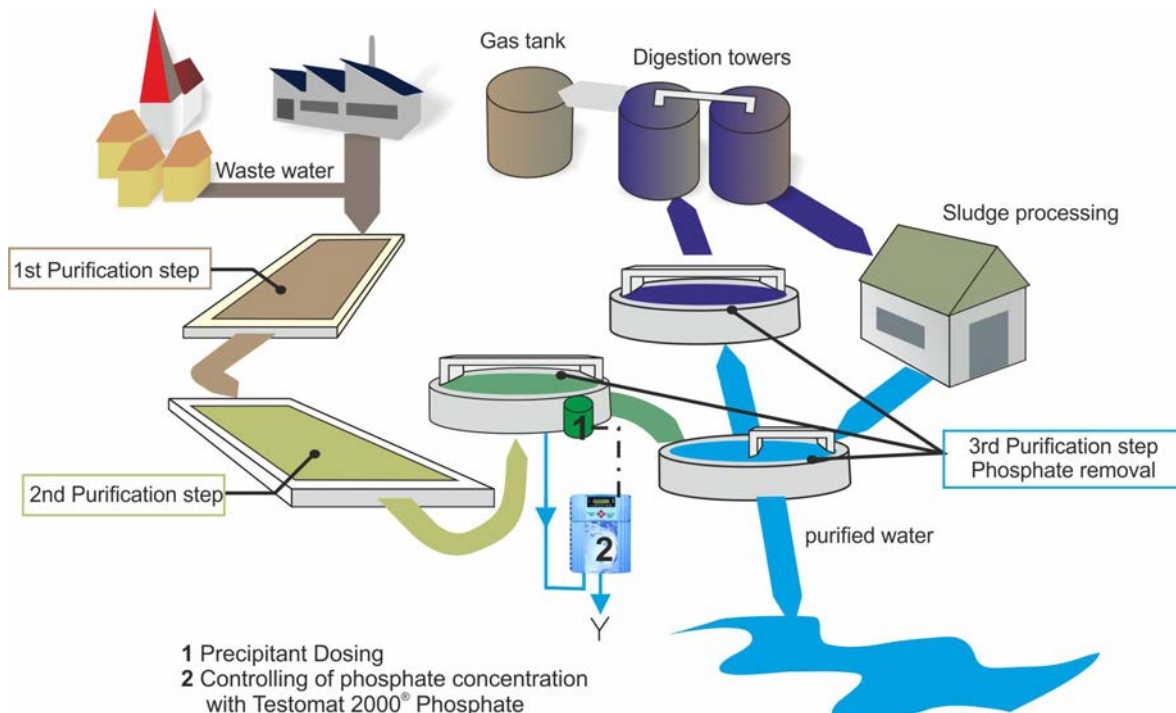
Increasingly important in wastewater treatment plants is the phosphate recovery from wastewater and sludge, since phosphorus is an important and finite raw material.

All these processes require an inspection of the phosphate content, which must be either conducted manually or continuously.

The **Testomat 2000® PO4** was developed for the online analysis of orthophosphate and operates within a measuring range of 0 - 10 mg/l PO<sub>4</sub>.

Find the complete technical information on phosphate measurement with the **Testomat 2000® PO4** in the download section of our website [www.heylyanalysis.de](http://www.heylyanalysis.de).

**Phosphate measurement at the water treatment plant with the Gebr. Heyl phosphate measuring instrument**



During galvanic processes such as copper plating, chromium plating or nickel plating or during surface treatment before painting (phosphating), large amounts of rinsing water are required after each process step.

Since the disposal of these process waters is very expensive, it makes sense for a company to process and reuse the process waters. The amount of waste water and fresh water can thus be limited.

Heavy metals and toxic constituents are removed during the on-site treatment.

In many cases, a chemical-physical process is used, e.g. ion exchangers. Regeneration of ion exchangers produces solutions with a high concentration of heavy metal salts, from which the metals are either deposited electrolytically or, in some cases, recycled directly to the galvanising baths.

The process water is neutralised with the help of acid or lye. Auxiliary substances and additional reaction steps eliminate any existing critical constituents such as cyanides or chromic acid.



Afterwards, sludge is produced with a flocculant, which removes oils, fats and heavy metals from the water.

The resulting clear phase can then be discharged into the sewer in consideration of the legal limit values.

**Limit values for chromium**

The Drinking Water Ordinance (TrinkwV 2001/amendment November

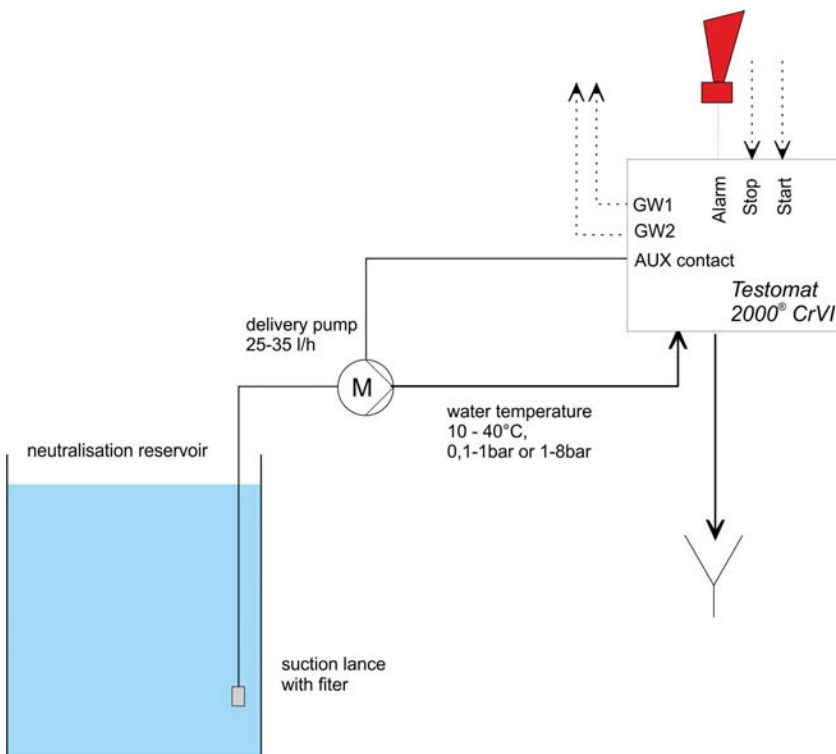
2011) prescribes a limit value of 0.05 mg/l chromium in drinking water.

The Waste Water Ordinance (AbwV) sets a limit of 0.05 mg/l chromium in the waste water of chemical industrial companies and a limit value of 0.25 g/t chromium for the iron, steel and malleable-iron foundry.

With a measuring range of 0.0-2.0 mg/l (chromate) and 0-1.0 mg/l (chromium VI), the **Testomat 2000® CrVI** is ideally suited for the required monitoring of these limit values.

Since the monitoring of limit values by the Testomat device takes place automatically online, the level of supervision required by personnel is low and the legal requirements are reliably and demonstrably adhered to and documented through data storage via SD card data loggers.

The analytical result is displayed after a reaction time of approx. 2 minutes. The **Testomat 2000® CrVI 0-5 ppm** can also be used for a broader monitoring range. The measuring range is 0.0-5.0 ppm (chromium VI) and 0.0-11.15 ppm (chromate).



© Kurita Europe GmbH, Viersen, Germanland



Mobile monitoring system for cooling towers with integrated Testomat 2000® Polymer for monitoring the conditioning agent.

**Control and monitoring of recooling plants**

Today, cooling water controlling and monitoring are indispensable components of advanced energetic and hygiene-compliant operation of cooling towers according to VDI 2047-2 and VDI 3803-3.4.

A wide variety of recooling plants exists worldwide:

- Closed cooling systems
- Semi-open cooling systems
- Continuous flow cooling systems

More than 100,000 recooling plants of the above categories are installed in Germany.

**What is the responsibility of the plant operator according to the new VDI 2047-2 directive?**

Recooling plants and cooling towers are required in the industry and with large buildings to allow for the quick dissipation of excess heat in production processes or buildings.

Although measures have been employed over the past few years to operate these systems more economically and more safely in terms of hygiene, malfunctions and downtime still often occur due to deposits, corrosion or even

legionella. Because of the design, they consequently spread quickly.

Operators of evaporative cooling systems must therefore still act promptly to avoid mineral-based, corrosive and biological accumulations (such as legionella and pseudomonads).

The legislator has therefore issued a new hygiene directive, VDI 2047 Sheet 2 "Recooling plants - Ensuring the hygiene-compliant operation of evaporative cooling plants". This directive is also referred to as the VDI cooling tower rule.

The duties of the operating company for the prevention of legionella are specifically regulated by this directive.

All plant operators are advised familiarise themselves with the new VDI 2047-2 directive and take the required measures – disregarding the operator's duties may be punishable by law.

To be able to continually ensure the economic, troublefree and – according to the new VDI 2047-2 directive – hygiene-compliant operation of a cooling tower, system conditioning and continuous monitoring of the water are absolutely essential.

**What are the main focuses of monitoring?**

Part of the cooling water regularly evaporates in open, semi-open and

also closed cooling systems. As a result, the salt concentration in the circulating water rises constantly.

However, the increased salt and mineral content in the circulating water causes limescale buildup, corrosion and mineral deposits in the cooling tower and circulating water system. Drip collectors, trickling filters and distribution channels as well as the heat exchangers in the system are especially affected by this.

This is compounded by biological problems, such as from the formation of algae and biofilms introduced from the supply water and the ambient air.

VDI 3803 stipulates in section 3.4 for evaporative recooling plants that the water condition of the circulating water must be adapted to the building materials of the cooling circuit.

This means that the cooling water should be conditioned without fail to prevent corrosion, inorganic deposits (calcium and magnesium carbonates) as well as organic deposits (algae and bacteria strains) – also called biofilms – from causing major damage in the cooling circuits.

Biofilms, however, can not only cause blockages of fittings and pumps but also constitute the germ cell for legionella or pseudomonas bacteria, which

are very dangerous for humans.

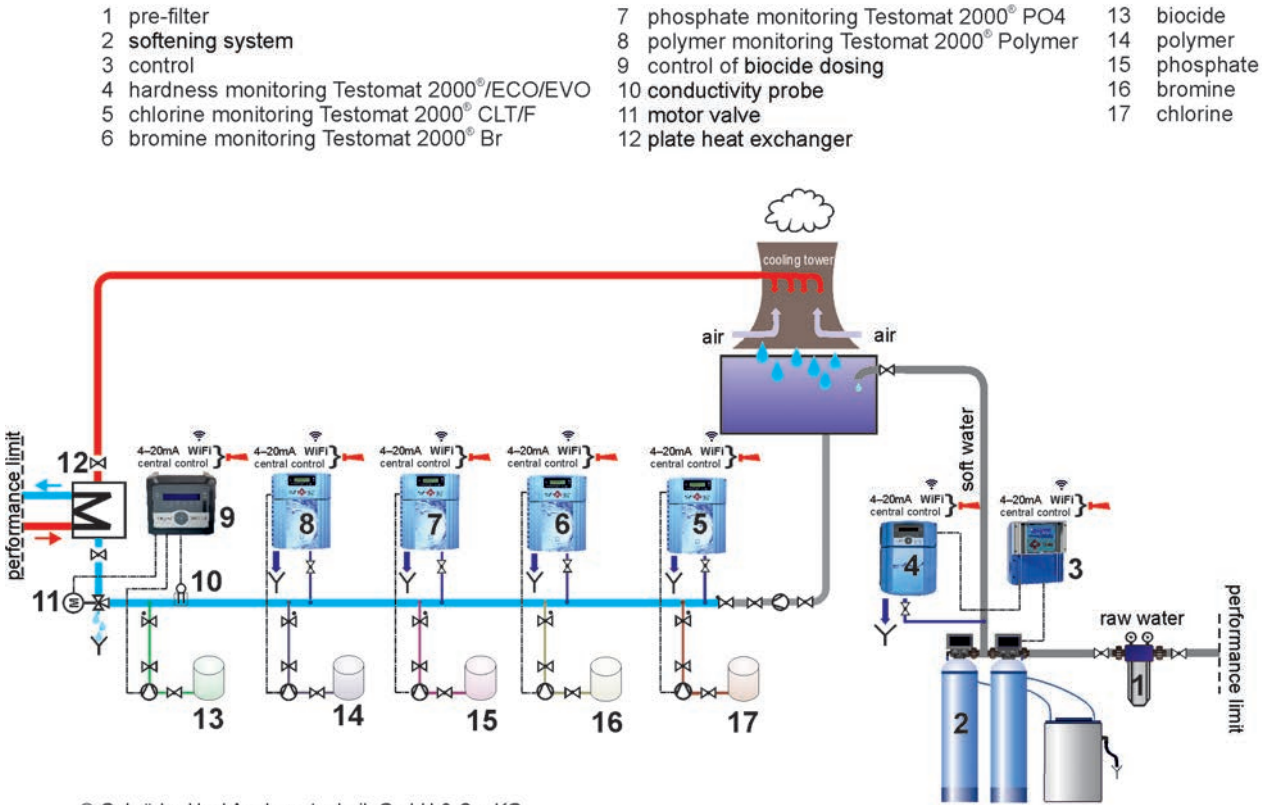
Biofilms are also energetically equivalent to mineral deposits such as calcium or silicate deposits. A layer of only 1 mm thickness can cause a loss of efficiency up to 30% with both types of deposits. This, in turn, results in additional energy costs of up to 12%.

**Conclusion:**  
**A controlled cooling tower system monitored online works in a hygienically compliant manner (according to VDI 2047-2), economically and without malfunctions (according to VDI 3803).**



**A cooling circuit concept, featuring Heyl analyzers and control devices**

Many parameters can be measured in the cooling circuit. Our example shows some of them that you can measure with our measuring instruments. It depends on the application and the parameters to be monitored.



The sterilisation of surgical instruments now plays a central role when it comes to quality assurance in hospitals.

The treatment process is subject to the requirements of the standard DIN EN 285 for steam sterilisation, among others. The steam or water used must not exceed the specified limit values, otherwise deposits and corrosion can occur on the metal surfaces of the instruments.

Demineralised water is therefore generally used for the sterilisation process. This process water (demineralised water) is produced in a water treatment system in the hospital.

DIN EN 285 stipulates the following limit values for contamination in the condensate of a steam supply for sterilisers:

|   |               |
|---|---------------|
| Silicate (SiO <sub>2</sub> ):                   | ≤ 0.1 mg/l    |
| Iron  | ≤ 0,1 mg/l    |
| Cadmium   | ≤ 0,005 mg/l  |
| Lead  | ≤ 0,05 mg/l   |
| Heavy metal residues except iron, cadmium, lead | ≤ 0,1 mg/l    |
| Chloride:                                       | ≤ 0,1 mg/l    |
| Phosphate:                                      | ≤ 0,1 mg/l    |
| Conductivity:                                   | < 3 µS/cm     |
| pH-value:                                       | 5 – 7         |
| Total hardness:                                 | < 0,02 mmol/l |

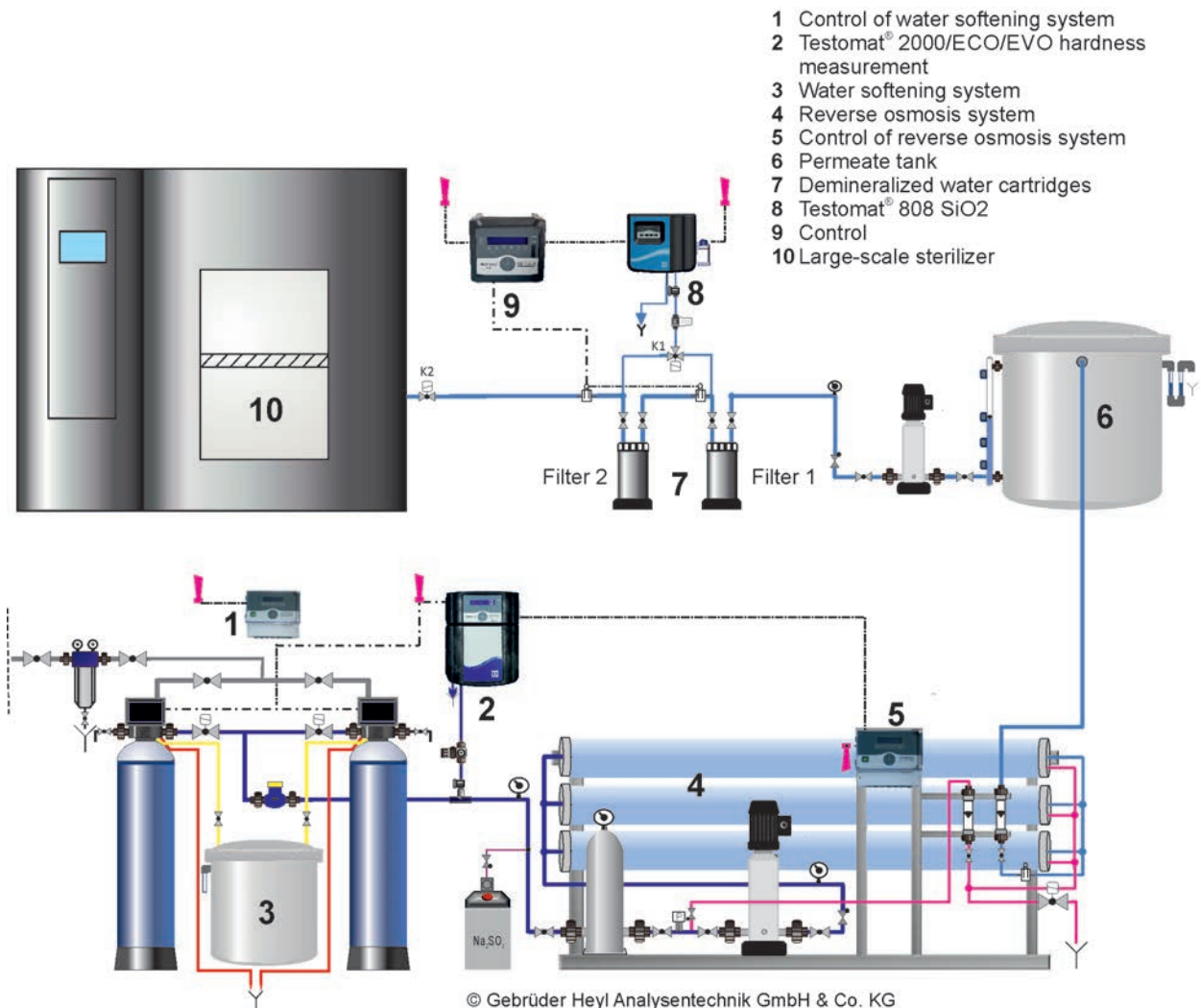
To meet the need of hospitals for a simple, reliable silicate measuring de-

vice, Gebr. Heyl Analysentechnik has developed the **Testomat® 808 SiO<sub>2</sub>**.

This limit value measuring device can determine silicates in the measurement range from 0.3 to 1.2 ppm and thus corresponds to the specifications of the DIN standard EN 285 for a silicate monitoring device.

Find the complete technical information on **water treatment in hospitals** in the download section of our website [www.heylandalysis.de](http://www.heylandalysis.de).

Water treatment for the central sterilization with Gebr. Heyl measuring and control devices





The effect of a too low acid capacity on the water treatment facility and water quality is often underestimated.

Low acid capacity makes it difficult for the pH value in the swimming pool water to stabilize. The pH value in turn affects the filtration effect and therefore the disinfecting potential.

Acid capacity also strongly influences the occurrence of corrosion in parts of the facility that are in contact with water. The water is more aggressive the lower the acid capacity is.

This leads to corrosion on metal components such as pump drives and fiber backstops, untreated concrete water tanks and on gaps between tiles.

DIN 19643 recommends a weekly inspection of acid capacity in order to be able to permanently control the water quality and the state of the surfaces that are in contact with water.

It also recommends a maximum lower limit value of 0.3 mmol for the acid

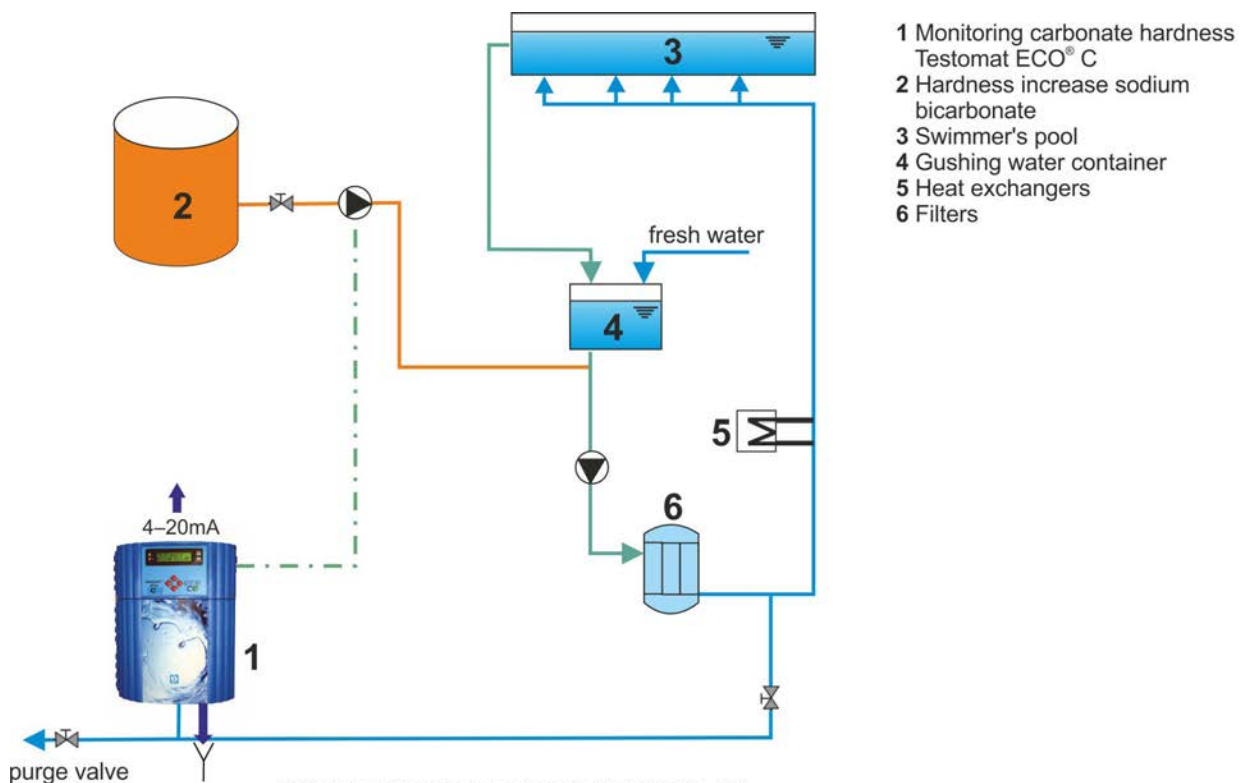


capacity in Jacuzzis and 0.7 mmol in swimmer's pools.

Through online analysis with the **Testomat ECO® C** the acid capacity can be stabilized automatically

Regular inspection also helps to reduce consumables such as disinfectants and stabilizers and thus helps to save costs.

Monitoring carbonate hardness in a swimming pool's water cycle with Gebr. Heyl measuring devices



© Gebrüder Heyl Analystechnik GmbH & Co. KG

Groundwater is the most important form of water used for drinking, irrigation and industrial purposes.

As groundwater often seeps through ferrous soils and rocks, iron is dissolved in the water.

As a result, the iron concentration is often above the maximum permitted level (0.2 mg/l).

Groundwater contains:

- metallic iron (Fe),
- iron(II) ions ( $Fe^{2+}$ ) and
- iron(III) oxide-hydroxide ( $Fe^{3+}$ ).

Iron II is generally soluble in an anoxic (oxygen-free) environment and is colourless. If groundwater is pumped to the surface, iron II forms iron III with oxygen, which is insoluble and has a rusty colour.

**Areas of application**

Deferrisation systems are generally used for well water, as it often has a high iron and manganese content.

Both substances lead to deposits in pipework and industrial systems, which can significantly impair the water quality and service life of the systems.

In addition, larger amounts of iron in the water cause an unpleasant odour and taste, which is undesirable in food production.

Some bacteria also need iron in order to grow. They then form a rusty, gelatinous sludge with the iron, which can block water pipes.



Image by wirestock on Freepik

The presence of iron in process water can also lead to contamination of equipment, sanitary facilities and laundries.

**Advantages of deferrisation**

Using a deferrisation system and monitoring the iron content in the water helps to extend the service life of industrial plant and machinery and reduce maintenance costs.

Monitoring of the iron content of drinking water is mandatory (see Legal limits for iron).

**Legal limits for iron**

In accordance with legal regulations, drinking water may contain only very small quantities of iron, if any at all. Limit values for drinking water (WHO guidelines):

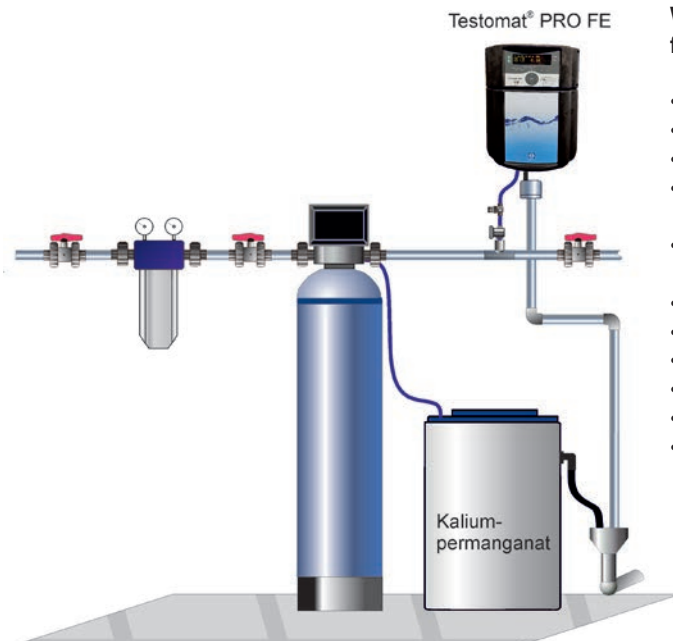
- Iron 0,2 mg/l

For drinking water in Germany, the legal requirements of the German Drinking Water Ordinance (DIN 2000) must be met. These correspond to the limits specified by the WHO.

In addition to drinking water, process water is also usually treated before use so that it does not have high levels of iron.

The limit values for boilers are between 0.02 and 0.03 mg/l.

**Testomat® PRO Fe monitors the deferrisation system**



**Which industrial sectors benefit from deferrisation systems?**

- Laundries
- Mineral water industry
- Breweries
- Generation of steam using the electrode evaporation principle
- Hot water generation for bathrooms and hotels
- Swimming pool water
- Car washes
- Laser cutting machines
- Catering dishwashers
- Catering coffee machines
- Bottle washers

Around 96% of all global water is the salt water in the oceans. In an age of increasing scarcity of fresh water, utilisation of seawater is becoming ever more important.

With the use of suitable treatment methods such as desalination technologies, the water can be used as drinking water and process water, e.g. in the food or manufacturing industries, and in steam generation.

Desalination of seawater by reverse osmosis (RO) through membrane filtration is generally associated with a number of familiar problems.

One of these problems is scale formation, which is caused by the alkalinity (calcium hardness) of the seawater. The deposits mostly consist of insoluble calcium salts such as calcium sulphate ( $\text{CaSO}_4$ ) and calcium carbonate ( $\text{CaCO}_3$ ).

These can

- reduce the flow rate of the feed water through pipes,
- reduce the heat transfer efficiency of heat exchangers and
- reduce the productivity of membranes and thermal processes.

Currently, the three most important commercially available desalination technologies for large-scale applications are multi-stage flash distillation (MSF), multiple-effect distillation (MED) and reverse osmosis (RO).

However, these desalination technologies generally only offer a water recovery rate of 40-55%, mainly due to the problems with scale formation mentioned above.

In order to make this process as efficient as possible, precise monitoring and reduction of the calcium hardness (alkalinity) is crucial. The **Testomat® Pro Ca self clean** is the ideal monitoring device for this purpose.

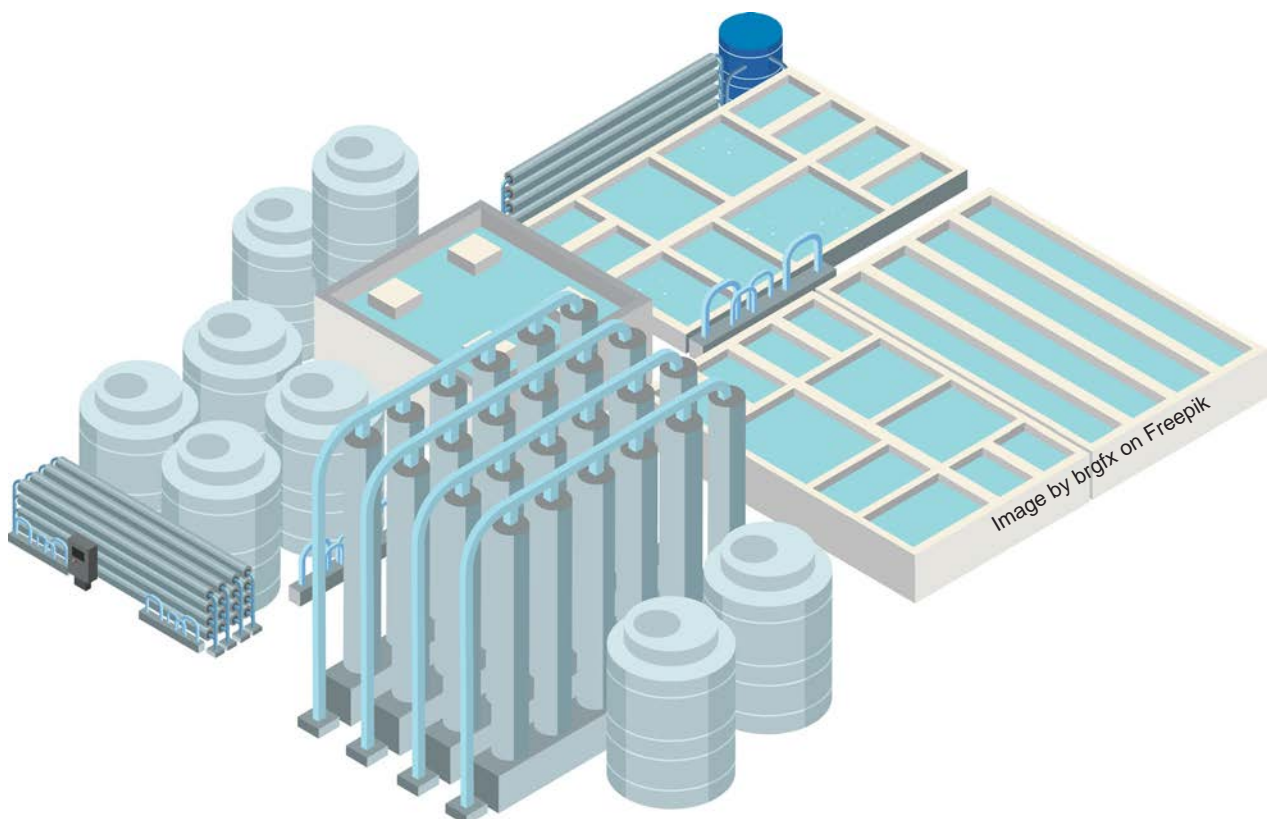
**Calcium hardness of seawater**

The overall alkalinity of seawater varies between 100 and 130 mg/l of  $\text{CaCO}_3$ , with an average of 116 mg/l.

Calcium hardness as  $\text{CaCO}_3$  (mg/l)

- Soft: 0-20
- Moderately soft: 20-40
- Moderately hard: 40-80
- Hard: 80-120
- Very hard: >120

Diagram of a seawater desalination plant





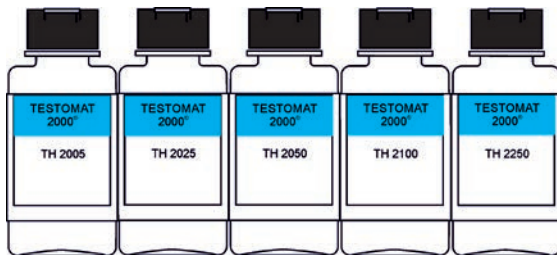
Coming soon

**Testomat® Limit** is a new generation limit value measuring device.

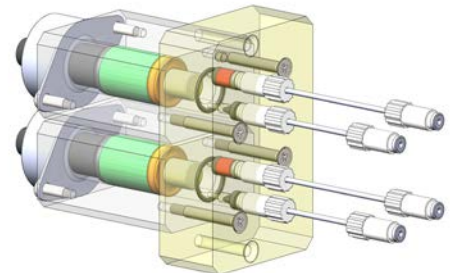
The device was originally designed as an improvement on the Testomat® 808 for hardness measurement.

However, it has become a completely new device with innovative technologies and advanced measurement technology that has far surpassed its predecessor.

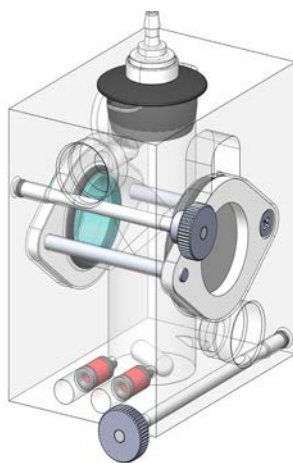
- 24V device
- New TFT panel (touchscreen) with USB interface for updating the panel firmware
- Built-in loudspeaker for acknowledging touchscreen inputs
- RS232 interface
- External start/stop
- 4-20mA
- Cleaning function
- Easy to service thanks to quick coupling system
- Use of all hardness indicators from the proven Testomat 2000® series
- Limit values for residual hardness from 0.05 - 25.0°dH can be determined by selecting indicators
- Long operating times thanks to 500 ml indicator supply (>1000 measurements)
- SD card for measurement data logging and for updating the device firmware
- Serial RS232 interface for transferring measurement data and messages/alarms
- Analysis triggering:
  - Automatic interval operation (Interval pause adjustable from 0 - 60 minutes)
  - External control
  - Manual start



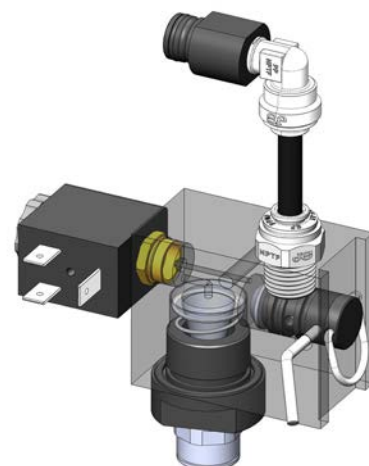
Uses the hardness indicators from the proven Testomat 2000® series



Newly developed precision pump



Newly developed measuring chamber with mirror technology



Newly developed inlet system with integrated pressure regulator and filter

The newly developed platform Testomat® PRO will replace our proven Testomat 2000® family in the coming years. The first devices with the parameters iron and carbonate hardness are now ready for use and other parameters such as chlorine and THCL will follow.



**PRO series advantages**

- Simplified menu-driven operation and programming via OLED
- Free selection of hardness units in ppm and mg/l
- Analysis trigger:
  - Automatic interval operation
  - Depending on quantity
  - External analysis stop and analysis start
- Firmware update via SD card
- Built-in self-test with ongoing monitoring
- Monitoring of 1 or 2 measuring points
- Logging on SD card for measurement data and notifications/alerts
- Ethernet – network connection with web server for graphic display of measured values and messages/alerts
- Notification by e-mail of new measured values, alarms/messages and limit value violations



**Testomat® PRO FE**

**Testomat® PRO CA  
self clean**



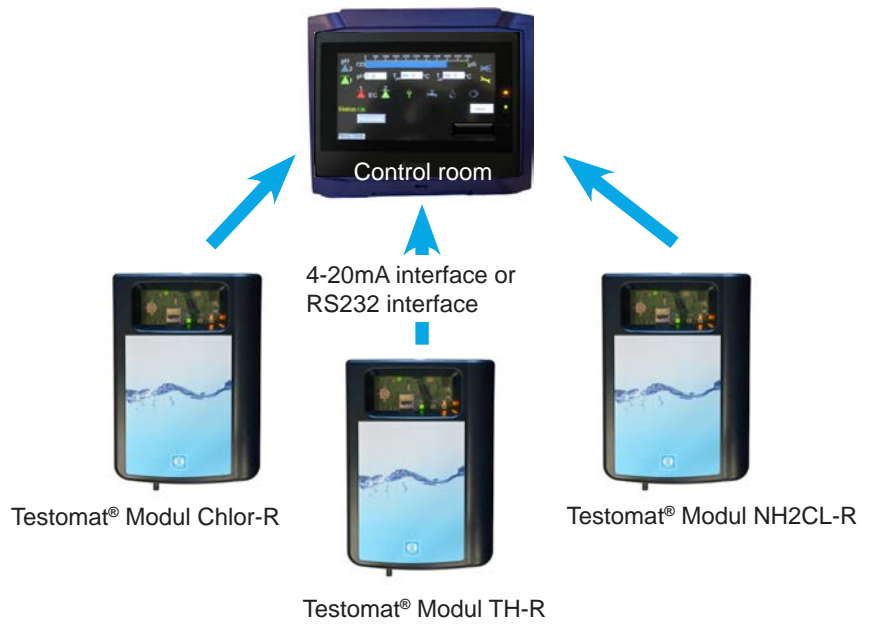
New



New

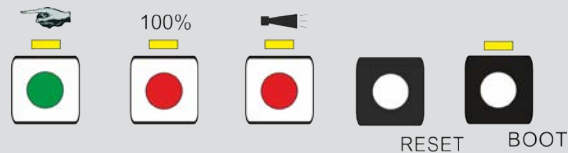
|   |   |   |                    |              |                    |
|---|---|---|--------------------|--------------|--------------------|
| <b>Description</b>                                | automatic online analysis units for determining iron content  | automatic online analysis units for determining calcium hardness  |                    |              |                    |
| <b>Parameters</b>                                 | Iron (Fe ( II ), Fe ( III ))  | CaCO <sub>3</sub>   |                    |              |                    |
| <b>Monitoring range</b>                           | 0 to 1,0 ppm  | 0 - 33 °dH or 0-60 °f   |                    |              |                    |
| <b>Indicators</b><br>Limit values on page 48      | FE 2005 A, FE 2005 B  | Testomat Calcium reagent A, B, C<br>cleaning solution   |                    |              |                    |
| <b>Performance profile</b>                        | <ul style="list-style-type: none"> <li>The same advantages as the Testomat® PRO series (page 13)</li> </ul> Optional: <ul style="list-style-type: none"> <li>Automatic programming of self-cleaning of the measuring chamber</li> </ul> | <ul style="list-style-type: none"> <li>The same advantages as the Testomat® PRO series (page 13)</li> </ul> Additionally: <ul style="list-style-type: none"> <li>Automatic programming of self-cleaning of the measuring chamber as standard</li> </ul> |                    |              |                    |
| <b>Application</b>                                | <ul style="list-style-type: none"> <li>Monitoring of deferrisation systems</li> <li>Control of operating and drinking water flows</li> </ul>  | <ul style="list-style-type: none"> <li>Blending of drinking water from multiple sources</li> <li>Cooling tower monitoring</li> <li>Boiler houses</li> <li>Food industry</li> </ul>  |                    |              |                    |
| <b>Protection type/class</b>                      | IP44 / I  | IP44 / I  |                    |              |                    |
| <b>Supply voltage</b>                             | 100 – 240 VAC ± 10%, 50/60 Hz   | 100 – 240 VAC ± 10%, 50/60 Hz   |                    |              |                    |
| <b>Power consumption</b><br>without external load | max. 230 V (100-240 V)/4 A,<br>230 V (100-240 V)/1 A  | max. 230 V (100-240 V)/4 A,<br>230 V (100-240 V)/1 A  |                    |              |                    |
| <b>Dimensions</b>                                 | approx. 380 x 480 x 280 mm<br>W x H x D   | approx. 480 x 480 x 280 mm<br>W x H x D   |                    |              |                    |
| <b>Weight</b>                                     | approx. 9,5 kg  | approx. 12,0 kg   |                    |              |                    |
| <b>Operating pressure</b>                         | 1 to 8 bar / 1x10 <sup>5</sup> to 8x10 <sup>5</sup> Pa<br>or<br>0,3 to 1 bar / 0,3x10 <sup>5</sup> to 1x10 <sup>5</sup> Pa  | 1 to 8 bar / 1x10 <sup>5</sup> to 8x10 <sup>5</sup> Pa<br>or<br>0,3 to 1 bar / 0,3x10 <sup>5</sup> to 1x10 <sup>5</sup> Pa  |                    |              |                    |
| <b>Menu languages</b>                             | German, English, French, Dutch<br>(more upon request)   | German, English, French, Dutch<br>(more upon request)   |                    |              |                    |
| <b>Order numbers</b>                              |   | <b>24V</b>  | <b>100-240 VAC</b> | <b>24V</b>   | <b>100-240 VAC</b> |
|   | housing black   | upon request  | 100755             | upon request | 100750             |
|   | housing blue  | upon request  | 100756             | upon request | 100751             |
|   |   |   |                    |              |                    |

The equipment of the Testomat® Modul series has been developed to jointly monitor various parameters such as chlorine, water hardness or monochloramine in a networked system and to forward the measurement results to a control room.



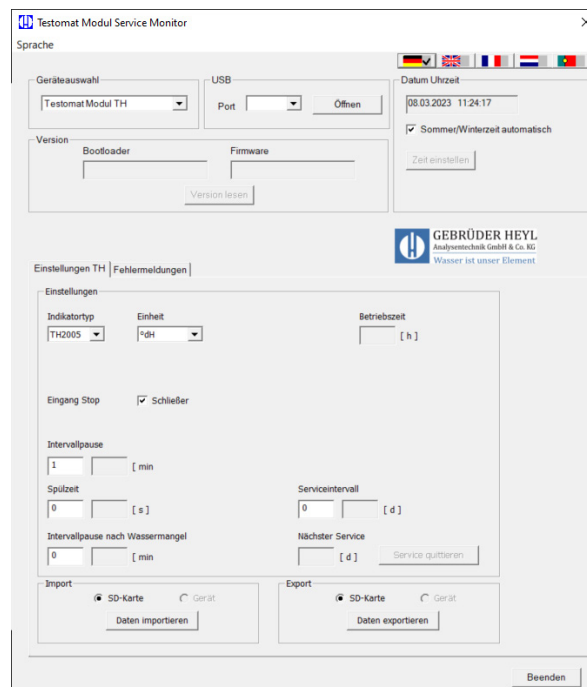
### Operation via function keys

Using the function keys on the equipment, basic functions such as alarm acknowledgement, reset and standby operation can be carried out.





### Parameterization via PC program



The transducer settings can be displayed and changed using the Service Monitor program (for operating systems starting with Windows 7). The program is part of the scope of delivery.







Example of the Service Monitor software for the Testomat® Modul TH



| Product                                      | Testomat® Modul TH  | Testomat® Modul TH-R   |        |   |        |        |
|--|---|--|--------|---|--------|--------|
|  |    |   |        |   |        |        |
| <b>Description</b>                           | measuring converter for residual total hardness   | measuring converter for residual total hardness  |        |   |        |        |
| <b>Parameters</b>                            | water hardness  | water hardness   |        |   |        |        |
| <b>Measuring range</b>                       | 0,05-25 °dH   | 0,05-25 °dH  |        |   |        |        |
| <b>Indicators</b><br>Limit values on page 47 | TH 2005, TH 2025, TH 2050, TH 2100, TH 2250   | TH 2005, TH 2025, TH 2050, TH 2100, TH 2250  |        |   |        |        |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>• device can be connected to an overriding control system</li> <li>• operation via function keys, which also serve as display elements</li> <li>• parameterisation with the Service Monitor program</li> <li>• output of measurement values via a 4-20 mA interface and a RS232 interface</li> <li>• 3 types of analysis triggers</li> <li>• shared output for the alarm</li> <li>• logging of error and maintenance messages with the SD card</li> <li>• firmware update with the SD card</li> <li>• USB connection for service purposes</li> </ul> | <ul style="list-style-type: none"> <li>• Offering all the benefits of the Testomat® Modul TH</li> <li>• The RS232 interface can also be used to set the parameters of the device. It receives defined commands from a higher-level control system for this purpose.</li> </ul> <p>Please note that it is not possible subsequently to change a Testomat® Modul TH into a Testomat® Modul TH-R.</p> |        |   |        |        |
| <b>Application</b>                           | Monitoring and checking of water quality e.g.: <ul style="list-style-type: none"> <li>• water treatment facilities</li> <li>• industrial boilers</li> <li>• process water monitoring</li> </ul>   | Monitoring and checking of water quality e.g.: <ul style="list-style-type: none"> <li>• water treatment facilities</li> <li>• industrial boilers</li> <li>• process water monitoring</li> </ul>  |        |   |        |        |
| <b>Protection type/class</b>                 | IP43/40 (with/without cover) / I  | IP43/40 (with/without cover) / I   |        |   |        |        |
| <b>Supply voltage</b>                        | 24 VDC  | 24 VDC   |        |   |        |        |
| <b>Power consumption</b>                     | max. 1 A  | max. 1 A   |        |   |        |        |
| <b>Dimensions</b>                            | approx. 10.6" x 13.8" x 5.8"<br>270 x 350 x 147 mm W x H x D  | approx. 10.6" x 13.8" x 5.8"<br>270 x 350 x 147 mm W x H x D   |        |   |        |        |
| <b>Weight</b>                                | approx. 11.7 lbs (5.3 kg)   | approx. 11.7 lbs (5.3 kg)  |        |   |        |        |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar) or 4.4 to 14.5 psi (0.3 to 1 bar)  | 14.5 to 116 psi (1 to 8 bar) or 4.4 to 14.5 psi (0.3 to 1 bar)   |        |   |        |        |
| <b>Relay contact load</b>                    | max. 35 VAC / 60 VDC; max. 4 A  | max. 35 VAC / 60 VDC; max. 4 A   |        |   |        |        |
| <b>Order numbers</b>                         | <div style="text-align: center;"> <b>24 V</b><br/> <table border="1" style="margin: auto;"> <tr><td>116101</td></tr> <tr><td>116102</td></tr> </table> </div>   | 116101   | 116102 | <div style="text-align: center;"> <b>24 V</b><br/> <table border="1" style="margin: auto;"> <tr><td>116111</td></tr> <tr><td>116112</td></tr> </table> </div> | 116111 | 116112 |
| 116101                                       |   |  |        |   |        |        |
| 116102                                       |   |  |        |   |        |        |
| 116111                                       |   |  |        |   |        |        |
| 116112                                       |   |  |        |   |        |        |
|  | with cover<br>without cover   |  |        |   |        |        |



| Product                                      | Testomat® Modul NH2CL  | Testomat® Modul CL  |        |   |        |        |
|--|--|---|--------|---|--------|--------|
|  |   |                    |        |   |        |        |
| <b>Description</b>                           | measuring converter for monochloramine   | measuring converter for total chlorine  |        |   |        |        |
| <b>Parameters</b>                            | monochloramine   | total chlorine or free chlorine   |        |   |        |        |
| <b>Measuring range</b>                       | 0 - 5 ppm (resolution 0,1)   | 0 - 5 ppm (resolution 0,1)  |        |   |        |        |
| <b>Indicators</b><br>Limit values on page 48 | Testomat Chlorine Reagent Kit M (Monochloramine)   | Chlorine reagent set F (free) or Chlorine reagent set T (total)                                       |        |   |        |        |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat® Modul TH</li> </ul>  | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat® Modul TH</li> </ul> |        |   |        |        |
| <b>Application</b>                           | Monitoring the decay behaviour in cooling towers after shock chlorination  | Monitoring the decay behaviour in cooling towers after shock chlorination                             |        |   |        |        |
| <b>Protection type/class</b>                 | IP43/40 (with/without cover) / I   | IP43/40 (with/without cover) / I  |        |   |        |        |
| <b>Supply voltage</b>                        | 24 VDC   | 24 VDC  |        |   |        |        |
| <b>Power consumption</b>                     | max. 1 A   | max. 1 A  |        |   |        |        |
| <b>Dimensions</b>                            | approx. 10.6" x 13.8" x 5.8"<br>270 x 350 x 147 mm W x H x D   | approx. 10.6" x 13.8" x 5.8"<br>270 x 350 x 147 mm W x H x D  |        |   |        |        |
| <b>Weight</b>                                | approx. 11.7 lbs (5.3 kg)  | approx. 11.7 lbs (5.3 kg)   |        |   |        |        |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar) or 4.4 to 14.5 psi (0.3 to 1 bar)   | 14.5 to 116 psi (1 to 8 bar) or 4.4 to 14.5 psi (0.3 to 1 bar)  |        |   |        |        |
| <b>Relay contact load</b>                    | max. 35 VAC / 60 VDC; max. 4 A   | max. 35 VAC / 60 VDC; max. 4 A  |        |   |        |        |
| <b>Order numbers</b>                         | <p style="text-align: center;"><b>24 V</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td style="padding: 2px;">116108</td></tr> <tr><td style="padding: 2px;">116109</td></tr> </table> <p style="text-align: right; margin-right: 20px;">with cover<br/>without cover</p> | 116108  | 116109 | <p style="text-align: center;"><b>24 V</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td style="padding: 2px;">116105</td></tr> <tr><td style="padding: 2px;">116106</td></tr> </table> | 116105 | 116106 |
| 116108                                       |  |   |        |   |        |        |
| 116109                                       |  |   |        |   |        |        |
| 116105                                       |  |   |        |   |        |        |
| 116106                                       |  |   |        |   |        |        |

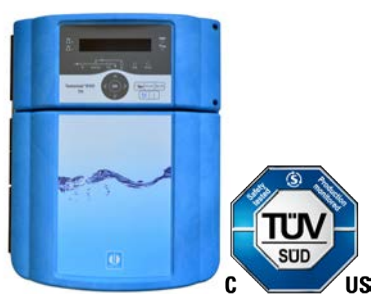
| Product                                      | Testomat® Modul NH2CL-R   | Testomat® Modul CL-R   |        |               |        |  |            |        |               |        |
|--|---|--|--------|---------------|--------|--|------------|--------|---------------|--------|
|  |    |   |        |               |        |  |            |        |               |        |
| <b>Description</b>                           | measuring converter for monochloramine  | measuring converter for total chlorine   |        |               |        |  |            |        |               |        |
| <b>Parameters</b>                            | monochloramine  | total chlorine or free chlorine  |        |               |        |  |            |        |               |        |
| <b>Measuring range</b>                       | 0 - 5 ppm (resolution 0,1)  | 0 - 5 ppm (resolution 0,1)   |        |               |        |  |            |        |               |        |
| <b>Indicators</b><br>Limit values on page 48 | Testomat Chlorine Reagent Kit M (Monochloramine)  | Chlorine reagent set F (free) or Chlorine reagent set T (total)  |        |               |        |  |            |        |               |        |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>• Offering all the benefits of the Testomat® Modul NH2CL</li> <li>• The RS232 interface can also be used to set the parameters of the device. It receives defined commands from a higher-level control system for this purpose.</li> </ul> <p>Please note that it is not possible subsequently to change a Testomat® Modul NH2CL into a Testomat® Modul NH2CL-R.</p> | <ul style="list-style-type: none"> <li>• Offering all the benefits of the Testomat® Modul CL</li> <li>• The RS232 interface can also be used to set the parameters of the device. It receives defined commands from a higher-level control system for this purpose.</li> </ul> <p>Please note that it is not possible subsequently to change a Testomat® Modul CL into a Testomat® Modul CL-R.</p> |        |               |        |  |            |        |               |        |
| <b>Application</b>                           | Monitoring the decay behaviour in cooling towers after shock chlorination   | Monitoring the decay behaviour in cooling towers after shock chlorination  |        |               |        |  |            |        |               |        |
| <b>Protection type/class</b>                 | IP43/40 (with/without cover) / I  | IP43/40 (with/without cover) / I   |        |               |        |  |            |        |               |        |
| <b>Supply voltage</b>                        | 24 VDC  | 24 VDC   |        |               |        |  |            |        |               |        |
| <b>Power consumption</b>                     | max. 1 A  | max. 1 A   |        |               |        |  |            |        |               |        |
| <b>Dimensions</b>                            | approx. 10.6" x 13.8" x 5.8"<br>270 x 350 x 147 mm W x H x D  | approx. 10.6" x 13.8" x 5.8"<br>270 x 350 x 147 mm W x H x D   |        |               |        |  |            |        |               |        |
| <b>Weight</b>                                | approx. 11.7 lbs (5.3 kg)   | approx. 11.7 lbs (5.3 kg)  |        |               |        |  |            |        |               |        |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)  |        |               |        |  |            |        |               |        |
| <b>Relay contact load</b>                    | max. 35 VAC / 60 VDC; max. 4 A  | max. 35 VAC / 60 VDC; max. 4 A   |        |               |        |  |            |        |               |        |
| <b>Order numbers</b>                         | <p><b>24 V</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>with cover</td><td>116118</td></tr> <tr><td>without cover</td><td>116119</td></tr> </table>  | with cover   | 116118 | without cover | 116119 | <p><b>24 V</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>with cover</td><td>116115</td></tr> <tr><td>without cover</td><td>116116</td></tr> </table> | with cover | 116115 | without cover | 116116 |
| with cover                                   | 116118  |  |        |               |        |  |            |        |               |        |
| without cover                                | 116119  |  |        |               |        |  |            |        |               |        |
| with cover                                   | 116115  |  |        |               |        |  |            |        |               |        |
| without cover                                | 116116  |  |        |               |        |  |            |        |               |        |

|  |  |   |              |            |              |              |
|--|--|---|--------------|------------|--------------|--------------|
|  |   |    |              |            |              |              |
| <b>Description</b>                           | limit value monitoring instrument for water hardness   | limit value monitoring instrument for silica  |              |            |              |              |
| <b>Parameters</b>                            | water hardness   | silica SiO <sub>2</sub>   |              |            |              |              |
| <b>Monitoring range</b>                      | 0,02-5 °dH (0,4...89 ppm CaCO <sub>3</sub> )   | 0,3-1,2 ppm   |              |            |              |              |
| <b>Indicators</b><br>Limit values on page 49 | Type 300, 300 S, 301, 302, 303, 305, 310, 320, 330, 350  | Type A + B for Testomat® 808 SiO <sub>2</sub>   |              |            |              |              |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>• low water consumption</li> <li>• state-of-the-art electronics</li> <li>• modern indicator pump system</li> <li>• error display</li> <li>• indicator quantity display</li> <li>• external rinsing valve control</li> <li>• limit value evaluation/external control</li> <li>• alarm processing</li> <li>• internal and external rinsing via manual control</li> <li>• 72 hours without supervision possible (in BOB mode)</li> <li>• selector switch for pause interval; selector switch for adjusting the behavior of the relay when the limit value is exceeded</li> </ul> | <ul style="list-style-type: none"> <li>• Offering all the benefits of the Testomat® 808 - 2019</li> </ul> <p>in addition:</p> <ul style="list-style-type: none"> <li>• 2 selector switches for measuring intervals and evaluating limit values</li> </ul> |              |            |              |              |
| <b>Application</b>                           | <p>applications of continuous residual hardness monitoring, e.g.:</p> <ul style="list-style-type: none"> <li>• reverse osmosis plants</li> <li>• soft water for commercial purposes</li> <li>• pure water production plants</li> <li>• galvanization</li> </ul>  | <ul style="list-style-type: none"> <li>• Water treatment of sterilizations in hospitals</li> <li>• Monitoring of silicate content in industrial waters</li> </ul> <p>Application example on page 12</p>   |              |            |              |              |
| <b>Protection type/class</b>                 | IP44 / I   | IP44 / I  |              |            |              |              |
| <b>Supply voltage</b>                        | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz  | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz   |              |            |              |              |
| <b>Power consumption</b>                     | max. 16 VA   | max. 16 VA  |              |            |              |              |
| <b>Dimensions</b>                            | approx. 14.3" x 12.4" x 5.4" (W x H x D)<br>364 x 314 x 138 mm   | approx. 14.3" x 12.4" x 5.4" (W x H x D)<br>364 x 314 x 138 mm<br>with side pocket: 17.4" x 12.4" x 5.4"<br>442 x 314 x 138 mm  |              |            |              |              |
| <b>Weight</b>                                | approx. 9.6 lbs (4.35 kg)  | approx. 9.6 lbs (4.35 kg)   |              |            |              |              |
| <b>Operating pressure</b>                    | 14.5 to 58 psi (1 to 4 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   | 14.5 to 58 psi (1 to 4 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)  |              |            |              |              |
| <b>Menu languages</b>                        | —  | —   |              |            |              |              |
| <b>Order numbers</b>                         |  |   |              |            |              |              |
|  | <b>24V</b>   | <b>115 V</b>  | <b>230 V</b> | <b>24V</b> | <b>115 V</b> | <b>230 V</b> |
| 1-4 bar                                      | 100652   | 100651  | 100650       | 100662     | 100661       | 100660       |
| 0,3-1 bar                                    | 100655   | 100654  | 100653       | 100665     | 100664       | 100663       |

| Product                                      | Testomat ECO®  | Testomat ECO® C  |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
|--|--|--|--------|-------|-------|--|--------|--------|--------|-----------------------|--------|--------|--------|---|--|-----|-------|-------|--|--------|--------|--------|
|  |   |   |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Description</b>                           | automatic online analysis units for water hardness   | automatic online analysis units for carbonate hardness   |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Parameters</b>                            | Water hardness   | Carbonate hardness<br>Acid capacity  |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Measuring range</b>                       | 0,05-25 °dH  | 0,18-3,58 mmol/l / 0,36-7,16 mmol/l<br>0,5-10,0 °dH / 1,0-20,0°dH  |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Indicators</b><br>Limit values on page 47 | TH 2005, TH 2025, TH 2100,<br>TH 2250  | TC 2050, TC 2100   |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>• freely selectable hardness unit: °dH, °f, ppm CaCO<sub>3</sub> or mmol/l</li> <li>• high measurement accuracy thanks to precise piston dosing pump</li> <li>• two independent limit values (choice of 1, 2, or 3 bad analyses before the limit value relay switches) and adjustable switching functions</li> <li>• reliable, low-maintenance operation</li> <li>• very simple menu-driven operation and programming via plain-text display</li> <li>• two neutral changeover contacts</li> <li>• error message output (neutral changeover)</li> <li>• current output 0/4–20 mA</li> <li>• BOB function</li> </ul> | <ul style="list-style-type: none"> <li>• Offering all the benefits of the Testomat ECO®</li> </ul> <p>deviating from this:</p> <ul style="list-style-type: none"> <li>• determinable measuring of carbonate hardness/acid capacity in mmol/l via indicator selection</li> <li>• no BOB function</li> </ul> |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Application</b>                           | monitoring and control of water quality, e.g.: <ul style="list-style-type: none"> <li>• water treatment plants</li> <li>• drinking water plants</li> </ul>   | monitoring and control of water quality, e.g.: <ul style="list-style-type: none"> <li>• water treatment plants</li> <li>• drinking water plants</li> <li>• Swimming pool water automatic hardness increase of swimming pool water via online analysis (application page 9)</li> </ul>                      |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Protection type/class</b>                 | IP65 / I   | IP65 / I   |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Supply voltage</b>                        | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz  | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz  |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Power consumption</b>                     | max. 30 VA   | max. 30 VA   |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Dimensions</b>                            | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)  | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)  |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Weight</b>                                | approx. 19.8 lbs (9.0 kg)  | approx. 20.9 lbs (9.5 kg)  |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)  | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)  |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Menu languages</b>                        | German, English, French, Italian,<br>Polish, Dutch, Spanish  | German, English, French,<br>Dutch  |        |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| <b>Order numbers</b>                         | <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td></td> <td>100112</td> <td>100117</td> <td>100122</td> </tr> <tr> <td>without front sticker</td> <td>100430</td> <td>100431</td> <td>100432</td> </tr> </tbody> </table>  |  | 24V    | 115 V | 230 V |  | 100112 | 100117 | 100122 | without front sticker | 100430 | 100431 | 100432 | <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td></td> <td>100115</td> <td>100116</td> <td>100121</td> </tr> </tbody> </table> |  | 24V | 115 V | 230 V |  | 100115 | 100116 | 100121 |
|  | 24V  | 115 V  | 230 V  |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
|  | 100112   | 100117   | 100122 |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
| without front sticker                        | 100430   | 100431   | 100432 |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
|  | 24V  | 115 V  | 230 V  |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |
|  | 100115   | 100116   | 100121 |       |       |  |        |        |        |                       |        |        |        |   |  |     |       |       |  |        |        |        |

Testomat® EVO TH

Testomat® EVO TH CAL




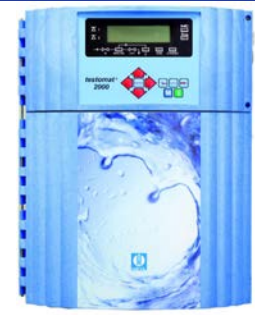
| <b>Description</b>                           | automatic online analysis units for water hardness  | Online-Analysenautomat für Wasserhärte mit Kalibrierfunktion  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
|--|---|---|-----|-------------|---------------|--------|--------|--------------|--------|--------|--|--|-----|-------------|--|--------|--------|--|--------|--------|
| <b>Parameters</b>                            | Water hardness  | Water hardness  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Measuring range</b>                       | 0,05-25 °dH   | 0,05-25 °dH   |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Indicators</b><br>Limit values on page 47 | TH 2005, TH 2025, TH 2100, TH 2250  | TH 2005, TH 2025, TH 2100, TH 2250  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>• Offering all the benefits of the Testomat ECO®</li> </ul> in addition: <ul style="list-style-type: none"> <li>• built-in SD card for                             <ul style="list-style-type: none"> <li>– recording data, alarm, errors</li> <li>– firmware updates</li> <li>– importing and exporting settings</li> </ul> </li> <li>• transfer of measurement data and status via the RS232 port</li> <li>• there is also scope to connect a field bus converter or a converter for telecommunication networks</li> <li>• Operation &lt;0.3 bar with MepuClip®</li> </ul> | <ul style="list-style-type: none"> <li>• Offering all the benefits of the Testomat® EVO TH</li> </ul> in addition: <ul style="list-style-type: none"> <li>• with calibration function</li> </ul>                                  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Application</b>                           | Monitoring and checking of water quality e.g.: <ul style="list-style-type: none"> <li>• water treatment facilities</li> <li>• industrial boilers</li> <li>• process water monitoring</li> <li>• drinking water systems</li> </ul>   | Monitoring and checking of water quality e.g.: <ul style="list-style-type: none"> <li>• water treatment facilities</li> <li>• industrial boilers</li> <li>• process water monitoring</li> <li>• drinking water systems</li> </ul> |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Protection type/class</b>                 | IP44 / I  | IP44 / I  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Supply voltage</b>                        | 100-240 VAC/ 100-353 VDC<br>24 VAC  | 100-240 VAC/ 100-353 VDC<br>24 VAC  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Power consumption</b>                     | max. 30 VA  | max. 30 VA  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Dimensions</b>                            | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Weight</b>                                | approx. 19.8 lbs (9,0 kg)   | approx. 19.8 lbs (9,0 kg)   |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Menu languages</b>                        | German, English, French, Dutch, Spanish, Czech, Polish, Russian, Mandarin, Portuguese (more upon request)   | German, English, French, Dutch, Spanish, Polish, Russian, Mandarin, Portuguese (more upon request)  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| <b>Order numbers</b>                         | <table border="1"> <thead> <tr> <th></th> <th>24V</th> <th>100-240 VAC</th> </tr> </thead> <tbody> <tr> <td>housing black</td> <td>100705</td> <td>100701</td> </tr> <tr> <td>housing blue</td> <td>100706</td> <td>100704</td> </tr> </tbody> </table>   |   | 24V | 100-240 VAC | housing black | 100705 | 100701 | housing blue | 100706 | 100704 | <table border="1"> <thead> <tr> <th></th> <th>24V</th> <th>100-240 VAC</th> </tr> </thead> <tbody> <tr> <td></td> <td>100713</td> <td>100715</td> </tr> <tr> <td></td> <td>100714</td> <td>100712</td> </tr> </tbody> </table> |  | 24V | 100-240 VAC |  | 100713 | 100715 |  | 100714 | 100712 |
|  | 24V   | 100-240 VAC   |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| housing black                                | 100705  | 100701  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
| housing blue                                 | 100706  | 100704  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
|  | 24V   | 100-240 VAC   |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
|  | 100713  | 100715  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |
|  | 100714  | 100712  |     |             |               |        |        |              |        |        |  |  |     |             |  |        |        |  |        |        |





|  |  |                    |              |              |
|--|--|--------------------|--------------|--------------|
| <b>Description</b>                           | automatic online analysis units for water hardness   |                    |              |              |
| <b>Parameters</b>                            | water hardness, carbonate hardness, p-value, minus m-value   |                    |              |              |
| <b>Measuring range</b>                       | 0,05-25 °dH  | water hardness     |              |              |
|  | 0,5-20 °dH   | carbonate hardness |              |              |
|  | 1-15 mmol/l  | p-value            |              |              |
|  | 0,05-0,5 mmol/l  | minus m-value      |              |              |
| <b>Indicators</b><br>Limit values on page 47 | TH 2005, TH 2025, TH 2100, TH 2250<br>TC 2050, TC 2100, TM 2005, TP 2100   |                    |              |              |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>freely selectable hardness unit: °dH, °f, ppm CaCO<sub>3</sub>, or mmol/l</li> <li>high measurement accuracy thanks to precise piston dosing pump</li> <li>monitoring of two measuring points (switching via external magnet valves)</li> <li>reliable, low-maintenance operation</li> <li>very simple menu-driven operation and programming via plain-text display</li> </ul> <ul style="list-style-type: none"> <li>BOB function</li> <li>two independently programmable limit value contacts for monitoring and control tasks</li> <li>recording of analysis results with optional plug-in card (SK910 current interface) for a point or line recorder (0/4–20 mA), SD card, or printer</li> </ul> |                    |              |              |
| <b>Application</b>                           | <ul style="list-style-type: none"> <li>water treatment plants</li> <li>water blending plants</li> <li>drinking water plants</li> <li>water softening plants</li> <li>decarbonization plants</li> <li>desalination plants</li> <li>boiler houses</li> <li>cooling towers</li> </ul>   |                    |              |              |
| <b>Protection type/class</b>                 | IP65 / I   |                    |              |              |
| <b>Supply voltage</b>                        | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz  |                    |              |              |
| <b>Power consumption</b>                     | max. 30 VA   |                    |              |              |
| <b>Dimensions</b>                            | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)  |                    |              |              |
| <b>Weight</b>                                | approx. 20.9 lbs (9.5 kg)  |                    |              |              |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar)<br>or<br>4.4 to 14.5 psi (0.3 to 1 bar)   |                    |              |              |
| <b>Menu languages</b>                        | German, English, French, Italian, Polish, Dutch  |                    |              |              |
| <b>Order numbers</b>                         |  | <b>24V</b>         | <b>115 V</b> | <b>230 V</b> |
|  | German   | 100090             | 100100       | 100095       |
|  | German without front sticker   | 100420             | 100421       | 100422       |
|  | English  | 100091             | 100101       | 100096       |
|  | French   | 100092             | 100102       | 100097       |
|  | Italian  | 100093             | 100103       | 100098       |
|  | Polish   | 100094             | 100104       | 100099       |
|  | Dutch  | 100011             | 100012       | 100013       |
|  | Spanish  | 100014             | 100015       | 100016       |

Testomat 2000® Antox

Testomat 2000® CAL

|  |    |   |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
|--|---|--|--------|-------|-------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--|--|--|---------|--|--|--|-------|--|--|--|---|--|-----|-------|-------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|-------|--------|--------|--------|
| <b>Description</b>                           | automatic online analysis units for hardness of water with elevated chlorine or H <sub>2</sub> O <sub>2</sub> content   | automatic online analysis unit for water hardness with additional calibration function   |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Parameters</b>                            | water hardness, carbonate hardness, p-value, minus m-value  | water hardness, carbonate hardness, p-value, minus m-value   |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Measuring range</b>                       | 0,05-25 °dH      water hardness<br>0,5-20 °dH      carbonate hardness<br>1-15 mmol/l      p-value<br>0,05-0,5 mmol/l      minus m-value   | 0,05-25 °dH      water hardness<br>0,5-20 °dH      carbonate hardness<br>1-15 mmol/l      p-value<br>0,05-0,5 mmol/l      minus m-value                                  |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Indicators</b><br>Limit values on page 47 | TH 2005, TH 2025, TH 2100,<br>TH 2250, TC 2050, TC 2100,<br>TM 2005, TP 2100  | TH 2005, TH 2025, TH 2100,<br>TH 2250, TC 2050, TC 2100,<br>TM 2005, TP 2100   |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000® in addition:</li> <li>pump for dosing a reducing agent<br/>By adding the Antox solution before determining the hardness, the interference by oxidising agents (for example chlorine) is reliably eliminated up to a concentration of 10 mg/l (Antox solution, see page 45).</li> </ul>   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000® in addition:</li> <li>with calibration function</li> </ul>                        |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Application</b>                           | <ul style="list-style-type: none"> <li>control of water quality in areas where measurement errors can arise due to oxidizing agents</li> </ul>  | control of water quality for which calibration of the measuring instrument is important, e.g.: <ul style="list-style-type: none"> <li>pharmaceutical industry</li> </ul> |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Protection type/class</b>                 | IP65 / I  | IP65 / I   |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Supply voltage</b>                        | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz   | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz  |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Power consumption</b>                     | max. 30 VA  | max. 30 VA   |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Dimensions</b>                            | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)  |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Weight</b>                                | approx. 20.9 lbs (9.5 kg)   | approx. 20.9 lbs (9.5 kg)  |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar)<br>or<br>4.4 to 14.5 psi (0.3 to 1 bar)  | 14.5 to 116 psi (1 to 8 bar)<br>or<br>4.4 to 14.5 psi (0.3 to 1 bar)   |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Menu languages</b>                        | German, English   | German, English, French, Italian, Dutch  |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| <b>Order numbers</b>                         | <table border="1"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td>German</td> <td>100440</td> <td>100450</td> <td>100460</td> </tr> <tr> <td>English</td> <td>100441</td> <td>100451</td> <td>100461</td> </tr> <tr> <td>French</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Italian</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Dutch</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> |  | 24V    | 115 V | 230 V | German | 100440 | 100450 | 100460 | English | 100441 | 100451 | 100461 | French |  |  |  | Italian |  |  |  | Dutch |  |  |  | <table border="1"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td>German</td> <td>100210</td> <td>100215</td> <td>100220</td> </tr> <tr> <td>English</td> <td>100211</td> <td>100216</td> <td>100221</td> </tr> <tr> <td>French</td> <td>100212</td> <td>100217</td> <td>100222</td> </tr> <tr> <td>Italian</td> <td>100213</td> <td>100218</td> <td>100223</td> </tr> <tr> <td>Dutch</td> <td>100214</td> <td>100219</td> <td>100224</td> </tr> </tbody> </table> |  | 24V | 115 V | 230 V | German | 100210 | 100215 | 100220 | English | 100211 | 100216 | 100221 | French | 100212 | 100217 | 100222 | Italian | 100213 | 100218 | 100223 | Dutch | 100214 | 100219 | 100224 |
|  | 24V   | 115 V  | 230 V  |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| German                                       | 100440  | 100450   | 100460 |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| English                                      | 100441  | 100451   | 100461 |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| French                                       |   |  |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| Italian                                      |   |  |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| Dutch  |   |  |        |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
|  | 24V   | 115 V  | 230 V  |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| German                                       | 100210  | 100215   | 100220 |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| English                                      | 100211  | 100216   | 100221 |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| French                                       | 100212  | 100217   | 100222 |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| Italian                                      | 100213  | 100218   | 100223 |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |
| Dutch  | 100214  | 100219   | 100224 |       |       |        |        |        |        |         |        |        |        |        |  |  |  |         |  |  |  |       |  |  |  |   |  |     |       |       |        |        |        |        |         |        |        |        |        |        |        |        |         |        |        |        |       |        |        |        |

| Product                                      | Testomat 2000® self clean   | Testomat 2000® V   |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
|--|---|--|--------|-------|-------|--------|--------|--------|--------|------------------------------|---|---|--------|---------|--------|--------|--------|--------|--------|--------|--------|---------|--|--|--|--|--|-----|-------|-------|--------|--------|--------|--------|------------------------------|---|---|---|---------|--------|--------|--------|--------|--------|--------|--------|---------|--------|--------|--------|
|  |    |   |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Description</b>                           | automatic online analysis units for water hardness with cleaning function for difficult water   | automatic online analysis unit for water hardness for regulating blending water  |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Parameters</b>                            | water hardness, carbonate hardness, p-value, minus m-value  | Water hardness, Carbonate hardness   |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Measuring range</b>                       | 0,05-25 °dH      water hardness<br>0,5-20 °dH      carbonate hardness<br>1-15 mmol/l      p-value<br>0,05-0,5 mmol/l      minus m-value   | 1,0–25,0 °dH      water hardness<br>1,0–20,0 °dH      carbonate hardness   |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Indicators</b><br>Limit values on page 47 | TH 2005, TH 2025, TH 2100,<br>TH 2250, TC 2050, TC 2100,<br>TM 2005, TP 2100  | TH 2005, TH 2025, TH 2100,<br>TH 2250, TC 2050, TC 2100,   |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000®</li> </ul> <p>in addition:</p> <ul style="list-style-type: none"> <li>with dosing pump for dosing our cleaning agent for cleaning the measuring chamber after analysis<br/>For the cleaning solution see page 40</li> </ul>  | <p>Offering all the benefits of the Testomat 2000®</p> <p>in addition:</p> <ul style="list-style-type: none"> <li>suitable in connection with a 3/2-way motor valve with 0/4–20 mA interface as a control system for water hardness and carbonate hardness of blending water</li> <li>the selection of the reagent determines the working range of the controller (= measuring range)</li> </ul> |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Application</b>                           | <ul style="list-style-type: none"> <li>use for difficult water, e.g. calcium, biofims, various other deposits</li> <li>extending service life</li> <li>reducing contamination in the measuring chamber</li> </ul>   | <ul style="list-style-type: none"> <li>regulation of water blending systems (cooling circuits, process water)</li> </ul>   |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Protection type/class</b>                 | IP65 / I  | IP65 / I   |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Supply voltage</b>                        | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz   | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz  |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Power consumption</b>                     | max. 30 VA  | max. 30 VA   |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Dimensions</b>                            | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)  |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Weight</b>                                | approx. 20.9 lbs (9.5 kg)   | approx. 20.9 lbs (9.5 kg)  |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)  |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Menu languages</b>                        | German, English, French   | German, English, French,<br>Italian  |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| <b>Order numbers</b>                         | <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td>German</td> <td>100380</td> <td>100390</td> <td>100370</td> </tr> <tr> <td>German without front sticker</td> <td>—</td> <td>—</td> <td>100365</td> </tr> <tr> <td>English</td> <td>100381</td> <td>100391</td> <td>100371</td> </tr> <tr> <td>French</td> <td>100382</td> <td>100392</td> <td>100372</td> </tr> <tr> <td>Italian</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> |  | 24V    | 115 V | 230 V | German | 100380 | 100390 | 100370 | German without front sticker | — | — | 100365 | English | 100381 | 100391 | 100371 | French | 100382 | 100392 | 100372 | Italian |  |  |  | <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td>German</td> <td>100170</td> <td>100175</td> <td>100180</td> </tr> <tr> <td>German without front sticker</td> <td>—</td> <td>—</td> <td>—</td> </tr> <tr> <td>English</td> <td>100171</td> <td>100176</td> <td>100181</td> </tr> <tr> <td>French</td> <td>100172</td> <td>100177</td> <td>100182</td> </tr> <tr> <td>Italian</td> <td>100173</td> <td>100178</td> <td>100183</td> </tr> </tbody> </table> |  | 24V | 115 V | 230 V | German | 100170 | 100175 | 100180 | German without front sticker | — | — | — | English | 100171 | 100176 | 100181 | French | 100172 | 100177 | 100182 | Italian | 100173 | 100178 | 100183 |
|  | 24V   | 115 V  | 230 V  |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| German                                       | 100380  | 100390   | 100370 |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| German without front sticker                 | —   | —  | 100365 |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| English                                      | 100381  | 100391   | 100371 |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| French                                       | 100382  | 100392   | 100372 |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| Italian                                      |   |  |        |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
|  | 24V   | 115 V  | 230 V  |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| German                                       | 100170  | 100175   | 100180 |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| German without front sticker                 | —   | —  | —      |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| English                                      | 100171  | 100176   | 100181 |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| French                                       | 100172  | 100177   | 100182 |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |
| Italian                                      | 100173  | 100178   | 100183 |       |       |        |        |        |        |                              |   |   |        |         |        |        |        |        |        |        |        |         |  |  |  |  |  |     |       |       |        |        |        |        |                              |   |   |   |         |        |        |        |        |        |        |        |         |        |        |        |



**Testomat 2000® DUO**

**Testomat 2000® DUO CN**

**Testomat 2000® CN**



automatic online analysis units for water hardness for monitoring two measuring points

automatic online analysis units for water hardness for monitoring two measuring points for the Chinese market

automatic online analysis unit for water hardness for the Chinese market, with Chinese menu navigation

water hardness, carbonate hardness, p-value, minus m-value

water hardness, carbonate hardness, p-value, minus m-value

water hardness, carbonate hardness, p-value, minus m-value

0,05-25 °dH      water hardness  
0,5-20 °dH      carbonate hardness  
1-15 mmol/l      p-value  
0,05-0,5 mmol/l      minus m-value

0,05-25 °dH      water hardness  
0,5-20 °dH      carbonate hardness  
1-15 mmol/l      p-value  
0,05-0,5 mmol/l      minus m-value

0,05-25 °dH      water hardness  
0,5-20 °dH      carbonate hardness  
1-15 mmol/l      p-value  
0,05-0,5 mmol/l      minus m-value

TH 2005, TH 2025, TH 2100,  
TH 2250, TC 2050, TC 2100,  
TM 2005, TP 2100

TH 2005, TH 2025, TH 2100,  
TH 2250, TC 2050, TC 2100,  
TM 2005, TP 2100

TH 2005, TH 2025, TH 2100,  
TH 2250, TC 2050, TC 2100,  
TM 2005, TP 2100

- Offering all the benefits of the Testomat 2000® in addition:
- monitoring of two different measuring points with different indicator types, e.g. water hardness with different measurement ranges or water hardness and carbonate hardness
- automatic switching between measuring points
- one input available for limiting measuring point 1

- Offering all the benefits of the Testomat 2000® DUO in addition:
- Chinese menu navigation for the Asian market

- Offering all the benefits of the Testomat 2000® in addition:
- Chinese menu navigation for the Asian market

- use in two circuits with different hardnesses
- measurement of inlet and outlet hardness

- use in two circuits with different hardnesses
- measurement of inlet and outlet hardness

- the same areas of application such as Testomat 2000®

IP65 / I

IP65 / I

IP65 / I

230–240 VAC, 115 VAC, 24 VAC  
all 50–60Hz

230–240 VAC, 115 VAC, 24 VAC  
all 50–60Hz

230–240 VAC, 115 VAC, 24 VAC  
all 50–60Hz

max. 30 VA

max. 30 VA

max. 30 VA

approx. 15" x 18.9" x 11"  
380 x 480 x 280 mm (W x H x D)

approx. 15" x 18.9" x 11"  
380 x 480 x 280 mm (W x H x D)

approx. 15" x 18.9" x 11"  
380 x 480 x 280 mm (W x H x D)

approx. 20.9 lbs (9.5 kg)

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14.5 to 116 psi (1 to 8 bar) or  
4.4 to 14.5 psi (0.3 to 1 bar)

14.5 to 116 psi (1 to 8 bar) or  
4.4 to 14.5 psi (0.3 to 1 bar)

14.5 to 116 psi (1 to 8 bar) or  
4.4 to 14.5 psi (0.3 to 1 bar)

German, English, French,  
Italian, Polish



Mandarin and English

Mandarin and English

|         | 24V    | 115 V  | 230 V  |
|---------|--------|--------|--------|
| German  | 100290 | 100295 | 100300 |
| English | 100291 | 100296 | 100301 |
| French  | 100292 | 100297 | 100302 |
| Italian | 100293 | 100298 | 100303 |
| Polish  | 100294 | 100299 | 100304 |

|          | 24V    | 115 V  | 230 V  |
|----------|--------|--------|--------|
| Mandarin | 110219 | 110220 | 110221 |

|                                      | 230 V  |
|--------------------------------------|--------|
| Mandarin incl. SD card data logger   | 110212 |
| Mandarin without SD card data logger | 110215 |

| Product                                      | Testomat 2000® THCL  | Testomat 2000® CLO2   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
|--|--|---|--------|-------|-------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|---|--|-----|-------|-------|--|--------|--------|--------|--|--------|--------|--------|--|--------|--------|--------|
|  |   |    |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Description</b>                           | automatic online analysis unit for determining total chlorine and water hardness   | automatic online analysis unit for determining chlorine dioxide content   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Parameters</b>                            | total chlorine<br>water hardness   | chlorine dioxide ClO <sub>2</sub>   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Measuring range (resolution)</b>          | 0,00-0,99 mg/l (0,01)<br>1,0-2,5 mg/l (0,1)<br>0,25-2,5°dH (0,05) } total chlorine<br>water hardness   | 0,00-1,88 mg/l (0,02)<br>1,9-4,7 mg/l (0,2)   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Indicators</b><br>Limit values on page 48 | TH 2025,<br>CL 2250 A, CL 2250 B, CL 2250 C  | CLO2 reagent set A and B  |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000®</li> <li>in addition:</li> <li>combination of total chlorine and hardness measuring instrument</li> </ul>   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000®</li> <li>in addition:</li> <li>the analysis result is displayed after a reaction time of approx. one minute</li> </ul> |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Application</b>                           | <ul style="list-style-type: none"> <li>medical technology (dialysis)</li> <li>corrosion protection</li> <li>protection for reverse osmosis membranes</li> <li>monitoring of softener and chlorination systems for drinking water or swimming pools</li> </ul>  | <ul style="list-style-type: none"> <li>disinfectant monitoring for drinking water and process water</li> </ul>  |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Protection type/class</b>                 | IP65 / I   | IP65 / I  |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Supply voltage</b>                        | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz  | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Power consumption</b>                     | max. 30 VA   | max. 30 VA  |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Dimensions</b>                            | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)  | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Weight</b>                                | approx. 20.9 lbs (9.5 kg)  | approx. 20.9 lbs (9.5 kg)   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)  | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Menu languages</b>                        | German, English, French  | German, English, French   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Order numbers</b>                         | <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td>German</td> <td>100270</td> <td>100275</td> <td>100280</td> </tr> <tr> <td>English</td> <td>100271</td> <td>100276</td> <td>100281</td> </tr> <tr> <td>French</td> <td>100272</td> <td>100277</td> <td>100282</td> </tr> </tbody> </table> |   | 24V    | 115 V | 230 V | German | 100270 | 100275 | 100280 | English | 100271 | 100276 | 100281 | French | 100272 | 100277 | 100282 | <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td></td> <td>100500</td> <td>100505</td> <td>100510</td> </tr> <tr> <td></td> <td>100501</td> <td>100506</td> <td>100511</td> </tr> <tr> <td></td> <td>100502</td> <td>100507</td> <td>100512</td> </tr> </tbody> </table> |  | 24V | 115 V | 230 V |  | 100500 | 100505 | 100510 |  | 100501 | 100506 | 100511 |  | 100502 | 100507 | 100512 |
|  | 24V  | 115 V   | 230 V  |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| German                                       | 100270   | 100275  | 100280 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| English                                      | 100271   | 100276  | 100281 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| French                                       | 100272   | 100277  | 100282 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
|  | 24V  | 115 V   | 230 V  |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
|  | 100500   | 100505  | 100510 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
|  | 100501   | 100506  | 100511 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
|  | 100502   | 100507  | 100512 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |   |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |

**Testomat 2000® CLF**

**Testomat 2000® CLT**

**Testomat 2000® CLT  
self clean**



automatic online analysis unit for determining chlorine content

automatic online analysis unit for determining chlorine content

automatic online analysis unit for determining chlorine content with cleaning function for difficult water

free chlorine

total chlorine or free chlorine

total chlorine

0,00-0,99 mg/l (0,01)  
1,0-2,5 mg/l (0,1)

total chlorine or free chlorine  
0,00-0,99 mg/l 0,00-0,99 mg/l  
1,0-2,5 mg/l 1,0-2,5 mg/l

0,00-0,99 mg/l (0,01)  
1,0-2,5 mg/l (0,1)

CL 2250 A, CL 2250 B

CL 2250 A, CL 2250 B, CL 2250 C

CL 2250 A, CL 2250 B, CL 2250 C

- Offering all the benefits of the Testomat 2000®
- in addition:
- the analysis result is displayed after a reaction time of approx. one minute

- Offering all the benefits of the Testomat 2000®
- in addition:
- the analysis result is displayed after a reaction time of approx. one minute
- can be converted for CLF (free chlorine)

- Offering all the benefits of the Testomat 2000®
- in addition:
- the analysis result is displayed after a reaction time of approx. one minute
- with dosing pump for dosing our cleaning agent for cleaning the measuring chamber after analysis (see page 39)

- monitoring of chlorination systems for drinking water/swimming pool water
- protection for reverse osmosis membranes
- monitoring of biocides and conditioning agents containing chlorine

- monitoring of chlorination systems for drinking water/swimming pool water
- protection for reverse osmosis membranes
- monitoring of biocides and conditioning agents containing chlorine

- disinfectant monitoring for drinking water and process water
- medical technology (dialysis)

IP65 / I

IP65 / I

IP65 / I

230–240 VAC, 115 VAC, 24 VAC  
all 50–60Hz

230–240 VAC, 115 VAC, 24 VAC  
all 50–60Hz

230–240 VAC, 115 VAC, 24 VAC  
all 50–60Hz

max. 30 VA

max. 30 VA

max. 30 VA

approx. 15" x 18.9" x 11"  
380 x 480 x 280 mm (W x H x D)

approx. 15" x 18.9" x 11"  
380 x 480 x 280 mm (W x H x D)

approx. 15" x 18.9" x 11"  
380 x 480 x 280 mm (W x H x D)

approx. 20.9 lbs (9.5 kg)

approx. 20.9 lbs (9.5 kg)

approx. 20.9 lbs (9.5 kg)

14.5 to 116 psi (1 to 8 bar) or  
4.4 to 14.5 psi (0.3 to 1 bar)

14.5 to 116 psi (1 to 8 bar) or  
4.4 to 14.5 psi (0.3 to 1 bar)



14.5 to 116 psi (1 to 8 bar) or  
4.4 to 14.5 psi (0.3 to 1 bar)

German, English, French,

German, English, French,

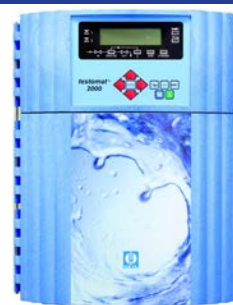
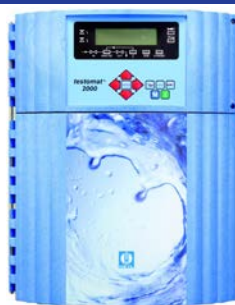
German, English, French

|         | 24V    | 115 V  | 230 V  | 24V    | 115 V  | 230 V  | 24V          | 115 V        | 230 V  |
|---------|--------|--------|--------|--------|--------|--------|--------------|--------------|--------|
| German  | 100230 | 100235 | 100240 | 100130 | 100135 | 100140 | upon request | upon request | 100245 |
| English | 100231 | 100236 | 100241 | 100131 | 100136 | 100141 | upon request | 100256       | 100246 |
| French  | 100232 | 100237 | 100242 | 100132 | 100137 | 100142 | upon request | upon request | 100247 |

| Product                                      | Testomat 2000® Br   | Testomat 2000® CrVI<br>Testomat 2000® CrVI 0-5ppm  |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
|--|---|--|-------------|----------|----------|--------|--------|------------------------|-------------|-------------|----------------|--------------|------------------------|-------------|--------|--------|--------|---|------|-----|-------|-------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|----------------|---------|---------|--------|---------|---------|--------|---------|---------|---------|
|  |    |   |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Description</b>                           | automatic online analysis unit for determining bromine content  | automatic online analysis unit for determining chromate or chromium VI content   |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Parameters</b>                            | bromine Br <sub>2</sub>   | chromate (CrO <sub>4</sub> <sup>2-</sup> ) or chromium VI (CrVI)   |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Measuring range (resolution)</b>          | 0,00-2.23 mg/l and 2.3-5.6 mg/l   | <table border="1"> <thead> <tr> <th>Type</th> <th>Chromate</th> <th>Chromium</th> <th>resol.</th> </tr> </thead> <tbody> <tr> <td>CrVI</td> <td>0,00 - 0,99<br/>1,0-2,0</td> <td>0,00 - 0,99</td> <td>0,01<br/>0,1</td> </tr> <tr> <td>CrVI<br/>0-5ppm</td> <td>0,00 - 11,15</td> <td>0,0-4,0<br/>4,00 - 5,00</td> <td>0,1<br/>0,25</td> </tr> </tbody> </table> | Type        | Chromate | Chromium | resol. | CrVI   | 0,00 - 0,99<br>1,0-2,0 | 0,00 - 0,99 | 0,01<br>0,1 | CrVI<br>0-5ppm | 0,00 - 11,15 | 0,0-4,0<br>4,00 - 5,00 | 0,1<br>0,25 |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| Type   | Chromate  | Chromium   | resol.      |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| CrVI   | 0,00 - 0,99<br>1,0-2,0  | 0,00 - 0,99  | 0,01<br>0,1 |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| CrVI<br>0-5ppm                               | 0,00 - 11,15  | 0,0-4,0<br>4,00 - 5,00   | 0,1<br>0,25 |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Indicators</b><br>Limit values on page 48 | bromine reagent set   | CrVI 2100 A, CrVI 2100 B   |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000®</li> <li>in addition:</li> <li>the analysis result is displayed after a reaction time of approx. one minute</li> </ul>   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000®</li> <li>in addition:</li> <li>the analysis result is displayed after a reaction time of approx. 2 to 3 minutes</li> </ul>  |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Application</b>                           | <ul style="list-style-type: none"> <li>monitoring the dosing of disinfectant</li> </ul>   | <ul style="list-style-type: none"> <li>monitoring of chromate content waste water in galvanization plants</li> <li>control of waste water in the metalworking industry</li> </ul> <p>Application example on page 11</p>  |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Protection type/class</b>                 | IP65 / I  | IP65 / I   |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Supply voltage</b>                        | 230–240 VAC, 115 VAC, 24 VAC all 50–60Hz  | 230–240 VAC, 115 VAC, 24 VAC all 50–60Hz   |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Power consumption</b>                     | max. 30 VA  | max. 30 VA   |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Dimensions</b>                            | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)  |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Weight</b>                                | approx. 20.9 lbs (9.5 kg)   | approx. 20.9 lbs (9.5 kg)  |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar) or 4.4 to 14.5 psi (0.3 to 1 bar)  | 14.5 to 116 psi (1 to 8 bar) or 4.4 to 14.5 psi (0.3 to 1 bar)   |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Menu languages</b>                        | German, English, French   | German, English, French,   |             |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| <b>Order numbers</b>                         | <table border="1"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td>German</td> <td>100520</td> <td>100525</td> <td>100530</td> </tr> <tr> <td>English</td> <td>100521</td> <td>100526</td> <td>100531</td> </tr> <tr> <td>French</td> <td>100522</td> <td>100527</td> <td>100532</td> </tr> </tbody> </table> |  | 24V         | 115 V    | 230 V    | German | 100520 | 100525                 | 100530      | English     | 100521         | 100526       | 100531                 | French      | 100522 | 100527 | 100532 | <table border="1"> <thead> <tr> <th>Type</th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td rowspan="3">CrVI</td> <td>100310</td> <td>100315</td> <td>100320</td> </tr> <tr> <td>100311</td> <td>100316</td> <td>100321</td> </tr> <tr> <td>100312</td> <td>100317</td> <td>100322</td> </tr> <tr> <td rowspan="3">CrVI<br/>0-5ppm</td> <td>request</td> <td>request</td> <td>100640</td> </tr> <tr> <td>request</td> <td>request</td> <td>100641</td> </tr> <tr> <td>request</td> <td>request</td> <td>request</td> </tr> </tbody> </table> | Type | 24V | 115 V | 230 V | CrVI | 100310 | 100315 | 100320 | 100311 | 100316 | 100321 | 100312 | 100317 | 100322 | CrVI<br>0-5ppm | request | request | 100640 | request | request | 100641 | request | request | request |
|  | 24V   | 115 V  | 230 V       |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| German                                       | 100520  | 100525   | 100530      |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| English                                      | 100521  | 100526   | 100531      |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| French                                       | 100522  | 100527   | 100532      |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| Type   | 24V   | 115 V  | 230 V       |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| CrVI   | 100310  | 100315   | 100320      |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
|  | 100311  | 100316   | 100321      |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
|  | 100312  | 100317   | 100322      |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
| CrVI<br>0-5ppm                               | request   | request  | 100640      |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
|  | request   | request  | 100641      |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |
|  | request   | request  | request     |          |          |        |        |                        |             |             |                |              |                        |             |        |        |        |   |      |     |       |       |      |        |        |        |        |        |        |        |        |        |                |         |         |        |         |         |        |         |         |         |

Testomat 2000® PO4

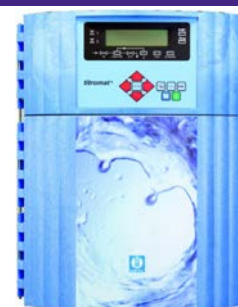
Testomat 2000® Polymer


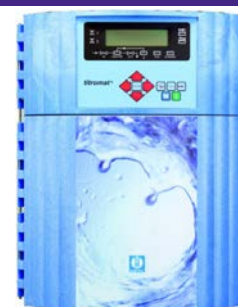


|  |   |  |              |              |              |              |              |
|--|---|--|--------------|--------------|--------------|--------------|--------------|
| <b>Description</b>                           | automatic online analysis unit for determining phosphate content  | automatic online analysis unit for determining polyacrylate content  |              |              |              |              |              |
| <b>Parameters</b>                            | phosphate PO <sub>4</sub>   | anionic polyacrylates  |              |              |              |              |              |
| <b>Measuring range (resolution)</b>          | 0,0 - 7,0 mg/l (0,1)<br>7,0 - 10,0 mg/l (0,25)  | customer-specific, e.g.<br>0,0-50,0 mg/l   |              |              |              |              |              |
| <b>Indicators</b><br>Limit values on page 48 | PO4 reagent set 2100  | It is necessary to customize the Testomat 2000® Polymer because of the large amount of polyacrylates, which can be measured with this unit. Either use your existing reagents or use our polymer reagents.   |              |              |              |              |              |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000® in addition:</li> <li>the analysis result is displayed after a reaction time of approx. 10 minutes</li> <li>choose between the 500 ml bottles or the large reagent containers (20 and 5 litre containers)</li> </ul> | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000® in addition:</li> <li>the analysis result is displayed after a reaction time of approx. 7 minutes</li> <li>scaling factor adjustable from 0.01 to 99,99 to accommodate the reagents used</li> </ul> |              |              |              |              |              |
| <b>Application</b>                           | <ul style="list-style-type: none"> <li>monitoring of process water</li> <li>conditioning of production water</li> <li>treated wastewater (sewage treatment plants, biogas plants)</li> <li>online – environmental analysis</li> </ul> <p>Application example on page 10</p>                                 | <ul style="list-style-type: none"> <li>monitoring of conditioning agents in cooling and heating circuits</li> </ul>  |              |              |              |              |              |
| <b>Protection type/class</b>                 | IP65 / I  | IP65 / I   |              |              |              |              |              |
| <b>Supply voltage</b>                        | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz   | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz  |              |              |              |              |              |
| <b>Power consumption</b>                     | max. 30 VA  | max. 30 VA   |              |              |              |              |              |
| <b>Dimensions</b>                            | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)  |              |              |              |              |              |
| <b>Weight</b>                                | approx. 20.9 lbs (9.5 kg)   | approx. 20.9 lbs (9.5 kg)  |              |              |              |              |              |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)  |              |              |              |              |              |
| <b>Menu languages</b>                        | German, English, French, Dutch, Spanish   | German, English, French  |              |              |              |              |              |
| <b>Order numbers</b>                         |   | <b>24V</b>   | <b>115 V</b> | <b>230 V</b> | <b>24V</b>   | <b>115 V</b> | <b>230 V</b> |
|  | German  | 100560   | 100565       | 100570       | upon request | upon request | 100470       |
|  | English   | 100561   | 100566       | 100571       | upon request | 100472       | 100473       |
|  | French  | 100562   | 100567       | 100572       | upon request | upon request | 100471       |
|  | Italian   | —  | —            | —            |              |              |              |
|  | Polish  | —  | —            | —            |              |              |              |
|  | Dutch.  | 100563   | upon request | 100573       |              |              |              |
| Spanish                                      | 100564  | 100568   | upon request |              |              |              |              |







**Titromat® M1**

**Titromat® M2**


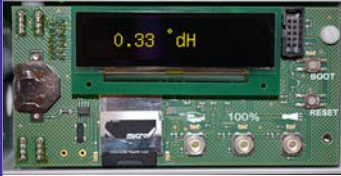




|  |         |   |            |              |   |            |              |              |
|--|---------|---|------------|--------------|---|------------|--------------|--------------|
|  |         |    |            |              |    |            |              |              |
| <b>Description</b>                           |         | automatic titration unit for determining carbonate hardness   |            |              | automatic titration unit for determining carbonate hardness   |            |              |              |
| <b>Parameters</b>                            |         | carbonate hardness (m-value)  |            |              | carbonate hardness (m-value)  |            |              |              |
| <b>Measuring range (resolution)</b>          |         | 0,05-1,00 °dH (0,025)<br>0,09-1,80 °f (0,045)   |            |              | 0,05-2,00 °dH (0,05)<br>0,09-3,60 °f (0,09)   |            |              |              |
| <b>Indicators</b><br>Limit values on page 47 |         | TC 2010 reagent A,<br>TC 2010 reagent B   |            |              | TC 2020 reagent A,<br>TC 2020 reagent B   |            |              |              |
| <b>Performance profile</b>                   |         | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000®</li> <li>special for low hardness measuring ranges</li> </ul>              |            |              | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000®</li> <li>special for low hardness measuring ranges</li> </ul>              |            |              |              |
| <b>Application</b>                           |         | <ul style="list-style-type: none"> <li>corrosion monitoring in boiler feed water,</li> <li>residual alkalinity after decarbonization (e.g., breweries)</li> </ul> |            |              | <ul style="list-style-type: none"> <li>corrosion monitoring in boiler feed water,</li> <li>residual alkalinity after decarbonization (e.g., breweries)</li> </ul> |            |              |              |
| <b>Protection type/class</b>                 |         | IP65 / I  |            |              | IP65 / I  |            |              |              |
| <b>Supply voltage</b>                        |         | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz   |            |              | 230–240 VAC, 115 VAC, 24 VAC<br>all 50–60Hz   |            |              |              |
| <b>Power consumption</b>                     |         | max. 30 VA  |            |              | max. 30 VA  |            |              |              |
| <b>Dimensions</b>                            |         | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   |            |              | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   |            |              |              |
| <b>Weight</b>                                |         | approx. 9,5 kg  |            |              | approx. 9,5 kg  |            |              |              |
| <b>Operating pressure</b>                    |         | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   |            |              | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   |            |              |              |
| <b>Menu languages</b>                        |         | German, English, French   |            |              | German, English, French   |            |              |              |
| <b>Order numbers</b>                         |         |   | <b>24V</b> | <b>115 V</b> | <b>230 V</b>  | <b>24V</b> | <b>115 V</b> | <b>230 V</b> |
|  | German  |   | 110150     | 110155       | 110160  | 110130     | 110135       | 110140       |
|  | English |   | 110151     | 110156       | 110161  | 110131     | 110136       | 110141       |
|  | French  |   | 110152     | 110157       | 110162  | 110132     | 110137       | 110142       |

| Product                                      | Titromat® TH  | Titromat® KH  |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
|--|---|---|--------|-------|-------|--------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|--------|--|--|-----|-------|-------|--|--------|--------|--------|--|--------|--------|--------|--|--------|--------|--------|
|  |    |    |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Description</b>                           | automatic titration unit for determining water hardness   | automatic titration unit for determining carbonate hardness   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Parameters</b>                            | water hardness  | carbonate hardness  |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Measuring range (resolution)</b>          | 2,5-50,0 °dH (2,5)  | 5-150 °KH (5)<br>2-60 °KH (2)   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Indicators</b><br>Limit values on page 47 | TH 2500 reagent A,<br>TH 2500 reagent B   | TC 2150 reagent A,<br>TC 2150 reagent B   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Performance profile</b>                   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000®</li> </ul>   | <ul style="list-style-type: none"> <li>Offering all the benefits of the Testomat 2000®</li> <li>special for high hardness measuring ranges</li> </ul> |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Application</b>                           | <ul style="list-style-type: none"> <li>drinking water production and supply,</li> <li>raw water monitoring</li> </ul>   | <ul style="list-style-type: none"> <li>alkalinity of open coolant circuits</li> </ul>   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Protection type/class</b>                 | IP65 / I  | IP65 / I  |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Supply voltage</b>                        | 230–240 VAC, 115 VAC, 24 VAC all 50–60Hz  | 230–240 VAC, 115 VAC, 24 VAC all 50–60Hz  |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Power consumption</b>                     | max. 30 VA  | max. 30 VA  |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Dimensions</b>                            | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   | approx. 15" x 18.9" x 11"<br>380 x 480 x 280 mm (W x H x D)   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Weight</b>                                | approx. 9,5 kg  | approx. 9,5 kg  |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Operating pressure</b>                    | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   | 14.5 to 116 psi (1 to 8 bar) or<br>4.4 to 14.5 psi (0.3 to 1 bar)   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Menu languages</b>                        | German, English, French   | German, English, French   |        |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| <b>Order numbers</b>                         | <table border="1"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td>German</td> <td>110110</td> <td>110115</td> <td>110120</td> </tr> <tr> <td>English</td> <td>110111</td> <td>110116</td> <td>110121</td> </tr> <tr> <td>French</td> <td>110112</td> <td>110117</td> <td>110122</td> </tr> </tbody> </table> |   | 24V    | 115 V | 230 V | German | 110110 | 110115 | 110120 | English | 110111 | 110116 | 110121 | French | 110112 | 110117 | 110122 | <table border="1"> <thead> <tr> <th></th> <th>24V</th> <th>115 V</th> <th>230 V</th> </tr> </thead> <tbody> <tr> <td></td> <td>110190</td> <td>110195</td> <td>110200</td> </tr> <tr> <td></td> <td>110191</td> <td>110196</td> <td>110201</td> </tr> <tr> <td></td> <td>110192</td> <td>110197</td> <td>110202</td> </tr> </tbody> </table> |  | 24V | 115 V | 230 V |  | 110190 | 110195 | 110200 |  | 110191 | 110196 | 110201 |  | 110192 | 110197 | 110202 |
|  | 24V   | 115 V   | 230 V  |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| German                                       | 110110  | 110115  | 110120 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| English                                      | 110111  | 110116  | 110121 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
| French                                       | 110112  | 110117  | 110122 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
|  | 24V   | 115 V   | 230 V  |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
|  | 110190  | 110195  | 110200 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
|  | 110191  | 110196  | 110201 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |
|  | 110192  | 110197  | 110202 |       |       |        |        |        |        |         |        |        |        |        |        |        |        |  |  |     |       |       |  |        |        |        |  |        |        |        |  |        |        |        |

| Plug-in Cards         |  | SK 910<br>current interface   | RS 910<br>interface card   | UK 910<br>voltage interface   |
|-----------------------|--|---|--|---|
|                       |  |    |    |    |
| <b>Is used</b>        |  | for Testomat 2000® devices, Titromat  | for Testomat 2000® devices, Titromat   | for Testomat 2000® devices, Titromat  |
| <b>Order number</b>   |  | 270305  | 270310   | 270315  |
| <b>Description</b>    |  | plug-in card current interface  | RS232 plug-in card (serial interface)  | plug-in card voltage interface  |
| <b>Technical data</b> |  | <ul style="list-style-type: none"> <li>• output current: 0–20mA or 4–20mA</li> <li>• maximum load: 500 Ohm</li> <li>• galvanic isolation</li> </ul>   | <ul style="list-style-type: none"> <li>• for connecting a log printer or protocol converter (field bus, Ethernet, etc.)</li> </ul> | <ul style="list-style-type: none"> <li>• output voltage: 0/2–10V</li> <li>• galvanic isolation</li> </ul>   |
|                       |  | Network logger  | Switching power supply board   | SD card data logger   |
|                       |  |    |    |    |
| <b>Is used</b>        |  | for Testomat 2000®  | for Testomat® EVO  | for Testomat 2000® devices, Titromat  |
| <b>Order number</b>   |  | 100492  | 32394  | 100490  |
| <b>Description</b>    |  | Plug-in card with a 100 MBit network connection   | Switching power supply unit for the power supply of Testomat® EVO devices  | plug-in card for storing measurement results and error messages on an SD card   |
| <b>Technical data</b> |  | <ul style="list-style-type: none"> <li>• Web server, FTP server and built-in Flash storage</li> <li>• 8 MB Flash storage for 400,000 measurement values and notifications (around 5 years)</li> <li>• Generation of measurement and alarm data on a monthly basis</li> <li>• Files saved in "CSV" format and can be subsequently processed with Office packages.</li> </ul> | <ul style="list-style-type: none"> <li>• power supply 100-240 VAC / 100-350 VDC, 47-63 Hz</li> </ul>                               | <ul style="list-style-type: none"> <li>• now available for all Testomat 2000® and Titromat devices (after software update of older units)</li> <li>• including standard SD card up to 2GB</li> <li>• the data are available in CSV format and can be further processed or analyzed easily in a spreadsheet program</li> </ul> |



|                       | USB data logger   | OLED display module   |  |
|-----------------------|---|---|--|
|                       |    |   |  |
| <b>Is used</b>        | for Testomat® 808   | for Testomat® Moduls  |  |
| <b>Order number</b>   | 100493  | 37764   |  |
| <b>Description</b>    | Data logger with USB connection   | Plug-in card with OLED display for the measurement on Testomat modules  |  |
| <b>Technical data</b> | <ul style="list-style-type: none"> <li>• The data logger stores the measurement values via the 20mA port at regular intervals. Data can be accessed by the integrated USB port</li> <li>• sufficient storage capacity for 32,768 values.</li> <li>• comes complete with driver and applications</li> <li>• Cannot be used in the Testomat® 808 SIO2!</li> </ul> | <ul style="list-style-type: none"> <li>• Permanently plugged into the control board.</li> <li>• Measurement display only, no menu for programming. The unit is always programmed via the Service Monitor programme, which is stored on an SD card in the Testomat® module.</li> </ul> |  |

| Accessories Testomat 2000® / 808 |   | small aerator R   | Candle filter |  |
|----------------------------------|---|---|---------------|--|
|                                  |    |   |               |  |
| <b>Is used</b>                   | for Testomat 2000®/Testomat ECO®, EVO, 808  | for Testomat® 808   |               |  |
| <b>Order number</b>              | 130010  | candle filter 37583<br>filter insert 37584  |               |  |
| <b>Description</b>               | small aerator to reduce CO <sub>2</sub> content   | candle filter with filter insert for filtering sample water before analysis   |               |  |
| <b>Technical data</b>            | <ul style="list-style-type: none"> <li>• max. 12 l/h of water throughput when reducing the free carbon dioxide from max. 200 mg/l to under 20 mg/l</li> <li>• dimensions (W x H x D): 150 x 500 x 100 mm<br/>5.9" x 19.7" x 3.9"</li> <li>• line voltage: 230 V/50 Hz</li> <li>• Installation 3 m above device</li> </ul> | <ul style="list-style-type: none"> <li>• max. pressure: 10 bar/145 psi</li> <li>• max. temperature: 50°C/122°F</li> <li>• filter fineness: 100 µm</li> <li>• 1/4" inlet/outlet</li> </ul> |               |  |

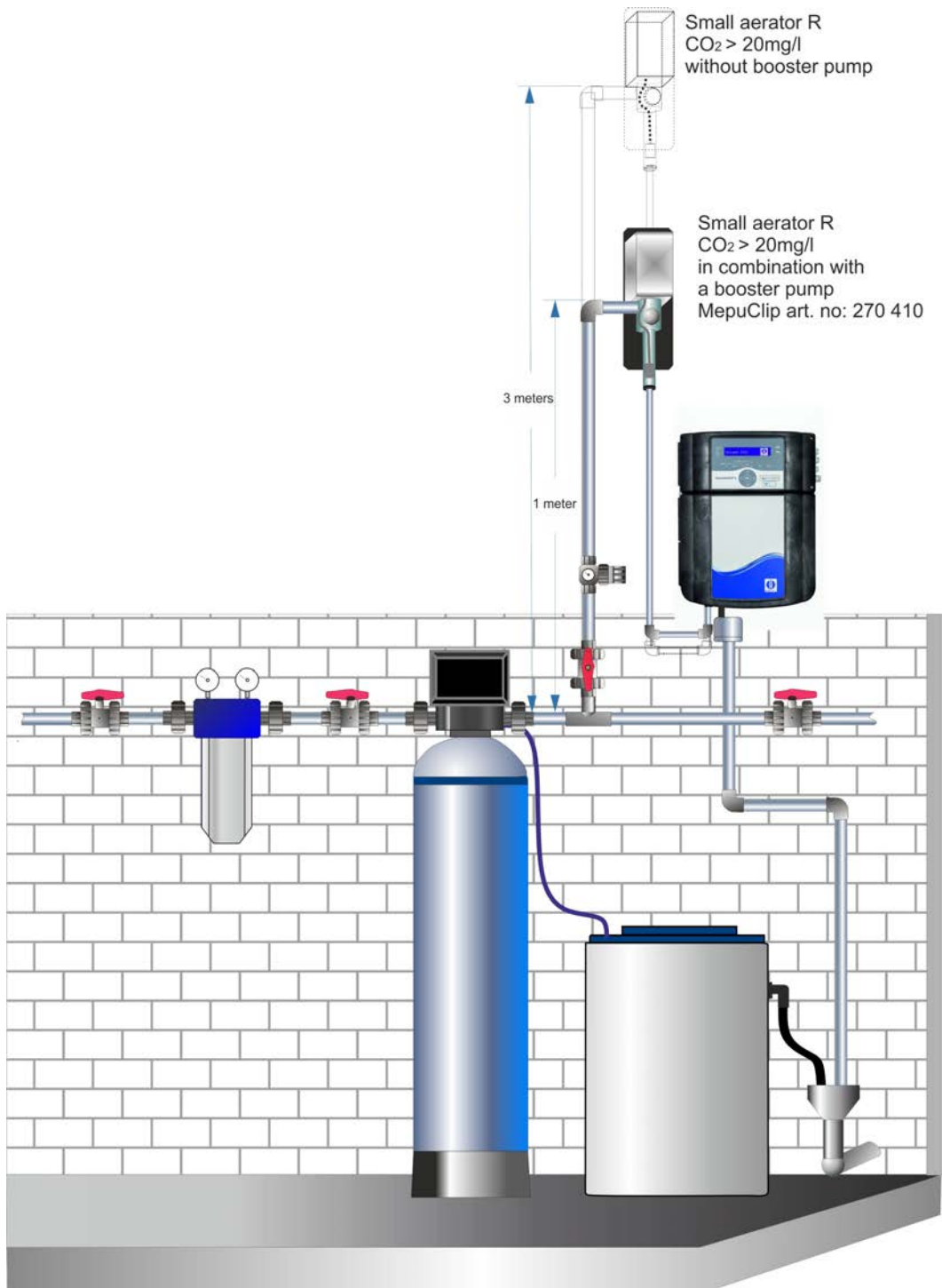
Example for assembly of aerator type R





The water intake connection of the small aerator can withstand a maximum of six bar. The water outlet from the small aerator is unpressurised. Therefore, the small aerator must be slotted in ahead of the Testomat device at least 3 m / 9,8 ft (0.3 bar / 4,35 psi) above the Testomat device.




During operation within a pressure range from 0.3 to 1 bar / 4,35 - 14,5 psi, or when supplied via a booster pump, please remove the valve body from the controller and filter housing of the Testomat device (see operating instructions for the Testomat device).

For installation heights lower than 3 m / 9,8 ft, use our booster pump MepuClip® in the Testomat 2000® or Testomat® EVO TH.

Testomat® ECO and Testomat® 808 cannot be fitted with the MepuClip® booster pump.



| Accessories<br>Testomat 808/808 SiO <sub>2</sub>                                  | Testomat 2000®<br>connection kit   | Connection set   | Conversion kit<br>for water connection   |
|---|--|--|--|
|  |    |   |   |
| <b>Is used</b>  | for Testomat 2000®, Testomat ECO®, EVO and Titromat®   | for Testomat® 808  | for Testomat® 808  |
| <b>Order number</b>   | 040187   | 37610  | 37576  |
| <b>Description</b>  | connection kit with ball valve, pipes, and reducing pieces for the water connection  | for the water connection   | conversion kit for converting the water connection from Testomat® to BOB Testomat 808®   |
| <b>Technical data</b>   | <ul style="list-style-type: none"> <li>• 5 m (16.4 ft) pipe, plastic PE 6/4x1, blue</li> <li>• 2 m (6.6 ft) drain hose, d=12 mm i</li> <li>• 1 ball valve, PPSV 011223W</li> <li>• 1 10-6 reducing connector</li> <li>• 1 3/8"-1/2" reducing nipple</li> </ul> | The kit consists of: <ul style="list-style-type: none"> <li>• plastic hose, 6/4 x 1; length 5 m / 16.4 ft</li> <li>• 10 to 6 mm reducer</li> <li>• 3/8"a to 6 mm stopcock</li> </ul> | The kit consists of: <ul style="list-style-type: none"> <li>• plug connection G1/4" DN6</li> <li>• pipe, PE, D=6; length 5 m / 16.4 ft</li> <li>• screw-in connection G1/4"-6</li> </ul> |

|   | Conversion kit pump head   | Conversion kit double pump head   | SiO <sub>2</sub> cartridge   |
|---|--|---|--|
|  |    |    |  |
| <b>Is used</b>  | for Testomat® 808 (up to device number 253060)   | for Testomat® 808 SiO <sub>2</sub>  | for Testomat® 808 SiO <sub>2</sub>   |
| <b>Order number</b>   | 040363   | 040395  | 270344   |
| <b>Description</b>  | Conversion kit for replacing the old pump head (37578) in the new version (37562)  | Conversion kit for replacing the old double pump head (37859) in the new version (37801)  | Silicate filter for calibration after changing the double pump head  |
| <b>Technical data</b>   | <ul style="list-style-type: none"> <li>• 1 x pump head Testomat 808</li> <li>• 1 x shaft extension for pump head</li> <li>• 1 x spacer plate for pump head</li> <li>• 1 x screw M3x20</li> <li>• 1 x screw M3x25</li> <li>• 1 x threaded pin M3x3</li> <li>• 1 x 1,5 mm hexagon socket wrench</li> </ul> | <ul style="list-style-type: none"> <li>• 1 x double pump head Testomat 808 SiO<sub>2</sub></li> <li>• 1 x shaft extension for pump head</li> <li>• 1 x spacer plate for pump head</li> <li>• 1 x screw M3x40</li> <li>• 1 x screw M3x50</li> <li>• 1 x threaded pin M3x3</li> <li>• 1 x 1,5 mm hexagon socket wrench</li> </ul> | <ul style="list-style-type: none"> <li>• Filled with strongly alkaline anion exchanger</li> <li>• Following initial use it can be used for calibration 10 more times within one year</li> <li>• Rinse with 10 litres of demineralised water before each use</li> <li>• Store the cartridge in the dark at temperatures from 5 to 20°C</li> </ul> |

The current testomat® 808 2019 and Testomat® 808 SiO<sub>2</sub> 2019 devices do not require the conversion kit, as they are factory equipped with the new pump head.



|                       |   |   |  |
|-----------------------|---|---|--|
| <b>Is used</b>        | for Testomat® and Titromat® devices   |   |  |
| <b>Order number</b>   | 270337  |   |  |
| <b>Description</b>    | Service case for regular maintenance of a Testomat 2000® device   |   |  |
| <b>Technical data</b> | <ul style="list-style-type: none"> <li>• 10 20x2 O-rings</li> <li>• 10 10.82x1.78 O-rings</li> <li>• 5 4.47x1.78 O-rings</li> <li>• 5 18x2 EPDM O-rings</li> <li>• 20 24x2 flat gaskets</li> <li>• 5 x filter screen for inlet, 19.5dx25</li> <li>• 5 flow regulator cores</li> <li>• 2 springs for inlet</li> <li>• 10 stoppers for measuring chamber</li> </ul> | <ul style="list-style-type: none"> <li>• 6 fuses, T 0.08A</li> <li>• 6 fuses, T 0.1 A</li> <li>• 6 fuses, T0.16 A</li> <li>• 6 fuses, T 0.2 A</li> <li>• 6 fuses, T 0.315 A</li> <li>• 6 fuses, T 1.0 A</li> <li>• 6 fuses, M4A</li> <li>• 20 30x3 sight glasses</li> <li>• 3 screw caps with T2000 insert</li> <li>• 4 M3x40 screws</li> </ul> | <ul style="list-style-type: none"> <li>• 1 suction hose</li> <li>• 1 pressure hose</li> <li>• 6 different pipes</li> <li>• 1 cleaning brush set</li> <li>• 2 push-in angle joints</li> <li>• 2 magnetic stirring bars</li> </ul> |

Repair and service case



|                       |  |  |   |
|-----------------------|--|--|---|
| <b>Is used for</b>    | Testomat® 808  | Testomat® 808 SiO2   |   |
| <b>Order number</b>   | 270342   | 270343   |   |
| <b>Description</b>    | Case for regular maintenance of a Testomat® 808 / 808 SiO2 and on-site service   |  |   |
| <b>Technical data</b> | <ul style="list-style-type: none"> <li>• 8 3.68x1.78 O-rings</li> <li>• 8 1.78x1.78 O-rings</li> <li>• 8 4.5x1.5 O-rings</li> <li>• 8 24x2 flat gaskets</li> <li>• 1 pump head</li> <li>• 4 500ml inserts with screw cap</li> <li>• 1 100ml insert with screw cap</li> <li>• 1 cleaning brush set</li> <li>• 4 angle screw connectors</li> <li>• 6 fuses, T 0.1 A</li> </ul> | <ul style="list-style-type: none"> <li>• 6 fuses, T 0.2 A</li> <li>• 6 fuses, T 1.0 A</li> <li>• 6 fuses, T4A</li> <li>• 6 30x3 sight glasses</li> <li>• 2 pipes, l = 53 mm</li> <li>• 2 pipes, l = 140 mm</li> <li>• 1 SUB-D null modem cable</li> <li>• 1 USB serial adapter</li> <li>• 2 dosing needles</li> <li>• 4 hose adapters</li> <li>• 2 magnetic stirring bars</li> </ul> | <ul style="list-style-type: none"> <li>• 8 M3x12 screws</li> <li>• 4 M3x40 screws</li> <li>• 1 magnetic valve</li> <li>• documentation/software (1)</li> </ul> <p>Testomat® 808 SiO2 differing:</p> <ul style="list-style-type: none"> <li>• 1 double pump head</li> <li>• 6 fuses T0.315A</li> <li>• 8 fuses T4A</li> <li>• 2 100ml insert with screw cap</li> </ul> |

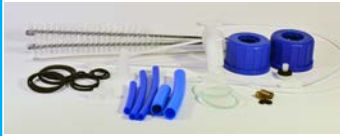


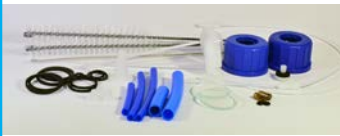

No longer included:  
Optics board + LED holder  
The optic set can be found on page 42.




T2000 service case  
Variant 2






|                       |  |   |  |
|-----------------------|--|---|--|
| <b>Is used</b>        | for Testomat® and Titromat® devices  |   |  |
| <b>Order number</b>   | 270338   |   |  |
| <b>Description</b>    | Service case for regular maintenance of a Testomat 2000® device  |   |  |
| <b>Technical data</b> | <ul style="list-style-type: none"> <li>• 4 20x2 O-rings</li> <li>• 4 10.82x1.78 O-rings</li> <li>• 2 4.47x1.78 O-rings</li> <li>• 2 18x2 EPDM O-rings</li> <li>• 4 24x2 flat gaskets</li> <li>• 2 x filter screen for inlet, 19.5dx25</li> <li>• 2 flow regulator cores</li> <li>• 2 springs for inlet</li> <li>• 6 stoppers for measuring chamber</li> <li>• 1x push-in connector for the drain hose</li> </ul> | <ul style="list-style-type: none"> <li>• 2 fuses, T 0.08A</li> <li>• 2 fuses, T 0.1 A</li> <li>• 2 fuses, T0.16 A</li> <li>• 2 fuses, T 0.2 A</li> <li>• 2 fuses, T 0.315 A</li> <li>• 2 fuses, T 1.0 A</li> <li>• 2 fuses, M4A</li> <li>• 4 30x3 sight glasses</li> <li>• 3 screw caps with T2000 insert</li> <li>• 2 M3x40 screws</li> <li>• 2 suction hose</li> <li>• 2 pressure hose</li> </ul> | <ul style="list-style-type: none"> <li>• 6 different pipes</li> <li>• 1 cleaning brush set</li> <li>• 2 push-in angle joints</li> <li>• 2 magnetic stirring bars</li> <li>• 2x valve set for dosing pump</li> <li>• 1x inlet connection</li> <li>• 1x screw-in connector G1/4"-6</li> <li>• Angled plug-in connector G 1/8"</li> </ul> |



|                       | Service set   | Service set   | 1-Year service set   |
|-----------------------|---|---|--|
|                       |   |   |  |
| <b>Is used</b>        | for Testomat® 808/808 SiO2  | for Testomat 2000®, Testomat ECO®, EVO and Titromat®  | for Testomat 2000®, Testomat ECO®, EVO, Modul TH and Titromat®   |
| <b>Order number</b>   | 270351  | 270352  | 270360   |
| <b>Description</b>    | Set for regular maintenance   | spare part kit for maintenance  | small spare part kit for maintenance   |
| <b>Technical data</b> | <ul style="list-style-type: none"> <li>• 15 24x2 flat gaskets</li> <li>• 6 sight glasses</li> <li>• 6 4.2x1.9 O-rings</li> <li>• 6 4.5x1.5 O-rings</li> <li>• 6 1.78x1.78 O-rings</li> <li>• 1 pipe, l = 53 mm / 2"</li> <li>• 1 pipe, l = 140 mm / 5.5"</li> <li>• 1 cleaning brush set</li> </ul> | <ul style="list-style-type: none"> <li>• 1 T2000 gasket kit</li> <li>• 2 30x3 sight glass</li> <li>• 1 flow regulator cores</li> <li>• 3 stoppers for measuring chamber</li> <li>• 1 valve kit for injection pump</li> <li>• 1 filter screen for intake 19.5 d x 25</li> <li>• 3 different pipes</li> <li>• 1 cleaning brush set</li> </ul> | <ul style="list-style-type: none"> <li>• 1 T2000 gasket kit</li> <li>• 2 30x3 sight glass</li> <li>• 1 flow regulator cores</li> <li>• 3 stoppers for measuring chamber</li> <li>• 1 valve kit for injection pump</li> <li>• 1 filter screen for intake 19.5 d x 25</li> </ul> |

| Accessories<br>Testomat® / Titromat® | Service set<br>Testomat® Modul TH   | Service set<br>Testomat 2000® Polymer  | Service set<br>Testomat 2000® PO4  |
|--------------------------------------|---|--|--|
|                                      |    |    |   |
| <b>Is used</b>                       | for Testomat® Modul TH/TH-R   | for Testomat 2000® Polymer   | for Testomat® PO4  |
| <b>Order number</b>                  | 270357  | 270353   | 270354   |
| <b>Description</b>                   | spare part kit for maintenance of Testomat® Modul TH  | spare part kit for maintenance of Polymer device and PeriClip pump   | spare part kit for maintenance of PO4 device and PeriClip pump   |
| <b>Technical data</b>                | <ul style="list-style-type: none"> <li>• 1 T2000 gasket kit</li> <li>• 2 30x3 sight glass</li> <li>• 1 flow regulator cores</li> <li>• 3 stoppers for measuring chamber</li> <li>• 2 x screw cap with insert for 500 ml bottle</li> <li>• 1 filter screen for intake 19.5 d x 25</li> <li>• 5 different pipes</li> <li>• 1 cleaning brush set</li> <li>• 1 valve set for pump</li> <li>• 1 suction hose</li> <li>• 1 pressure hose</li> </ul>   | <ul style="list-style-type: none"> <li>• 1 T2000 gasket kit</li> <li>• 2 30x3 sight glass</li> <li>• 1 flow regulator cores</li> <li>• 3 stoppers for m . chamber</li> <li>• 2 x pump head</li> <li>• 1 filter screen for intake</li> <li>• 3 different pipes</li> <li>• 1 cleaning brush set</li> <li>• 2 x tube connection</li> <li>• 2 x seal for tube connection</li> <li>• 2 x screw cap with insert</li> </ul> | <ul style="list-style-type: none"> <li>• 1 T2000 gasket kit</li> <li>• 2 30x3 sight glass</li> <li>• 1 flow regulator cores</li> <li>• 3 stoppers for m . chamber</li> <li>• 2 x pump head</li> <li>• 1 filter screen for intake</li> <li>• 3 different pipes</li> <li>• 1 cleaning brush set</li> <li>• 2 x tube connection</li> <li>• 2 x seal for tube connection</li> <li>• 2 x screw cap with insert</li> </ul> |
| Service set<br>Testomat® Modul CL    |   | Service set<br>Testomat® EVO   |  |
|                                      |    |    |  |
| <b>Is used</b>                       | for Testomat® Modul CL and NH2CL  | for Testomat® EVO TH and EVO TH CAL  |  |
| <b>Order number</b>                  | 270356  | 270358   |  |
| <b>Description</b>                   | spare part kit for maintenance of Testomat® Modul CL and NH2CL  | spare part kit for maintenance of Testomat® EVO TH and EVO TH CAL  |  |
| <b>Technical data</b>                | <ul style="list-style-type: none"> <li>• 1 T2000 gasket kit</li> <li>• 2 30x3 sight glass</li> <li>• 1 flow regulator cores</li> <li>• 3 stoppers for measuring chamber</li> <li>• 2 x screw cap with insert for 500 ml bottle</li> <li>• 1 filter screen for intake 19.5 d x 25</li> <li>• 5 different pipes</li> <li>• 1 cleaning brush set</li> <li>• 1 pump head</li> <li>• 2 hose connection</li> <li>• 2 seal for hose adapter</li> </ul> | <ul style="list-style-type: none"> <li>• 1 T2000 gasket kit</li> <li>• 2 30x3 sight glass</li> <li>• 1 flow regulator cores</li> <li>• 3 stoppers for measuring chamber</li> <li>• 1 valve kit for injection pump</li> <li>• 1 filter screen for intake 19.5 d x 25</li> <li>• 4 different pipes</li> <li>• 1 cleaning brush set</li> </ul>  |  |

| Accessories<br>Testomat® / Titromat® | Conversion kit<br>for water inlet   | Conversion kit for<br>water connection USA   | Conversion kit for<br>100ml-bottle   |
|--------------------------------------|---|--|--|
|                                      |    |      |   |
| <b>Is used</b>                       | for Testomat 2000®, Testomat ECO®, EVO and Titromat®  | for Testomat 2000®   | for Testomat 2000®, Testomat ECO®, EVO and Titromat®   |
| <b>Order number</b>                  | 040123  | 40345  | 040143   |
| <b>Description</b>                   | conversion kit for the water inlet for connecting a fabric hose   | Conversion kit for converting water connections from 6 mm to 1/4"                      | for using 100 ml / 3.4 oz bottles instead of the 500 ml / 16.9 oz bottles included in the delivery   |
| <b>Technical data</b>                | <ul style="list-style-type: none"> <li>• 1/4" quick-connect plug</li> <li>• 1/4" quick-connect coupling to hose with d = 6 mm i</li> <li>• lock on the hose side</li> </ul> | <ul style="list-style-type: none"> <li>• Reducing adaptor from 6 mm to 1/4"</li> </ul> | <ul style="list-style-type: none"> <li>• 100 ml / 3.4 oz bottle</li> <li>• used for screw cap with suction tube for 100 ml / 3.4 oz bottle</li> <li>• screw cap GL32 hole</li> </ul> |

|                       | Tool kit   | Pressure regulator   | Suction lance PO4  |
|-----------------------|--|--|--|
|                       |   |    |   |
| <b>Is used</b>        | for all Testomat and Titromat devices  | for Testomat® 808  | for Testomat 2000®   |
| <b>Order number</b>   | 040138   | 37602  | suction lance (20 l container) 40535<br>suction lance (5 l container) 40536  |
| <b>Description</b>    | tool kit for maintenance work on Testomat 2000®  | the pressure regulator is used for pressures over 4 bar / 58 psi   | long suction lances for large reagent containers   |
| <b>Technical data</b> | <ul style="list-style-type: none"> <li>• 1 Torx TX20 20x100 screwdriver</li> <li>• 1 Torx TX10 10x80 screwdriver</li> <li>• 1 Torx TX8 8x60 screwdriver</li> </ul> | <ul style="list-style-type: none"> <li>• max. inlet pressure 8 bar/116 psi</li> <li>• ambient temp. 0–50°C / 32–122°F</li> <li>• manometer connection, G1/8 on both sides</li> <li>• non-reversible</li> <li>• Particularly suitable for permeate and deionised water</li> </ul> | <ul style="list-style-type: none"> <li>• suction lances with different lengths for 20-litre containers and 5-litre containers</li> </ul> |

| Spare parts<br>Testomat® | Bottle connection/<br>suction device   | Device spare parts  |  |
|--------------------------|--|---|--|
|                          |   |   |   |
| <b>Is used</b>           | for Testomat 2000®, Testomat ECO®, EVO and Titromat®   | for Testomat 2000® /Testomat ECO® and Titromat®   |  |
| <b>Order number</b>      | screw cap with T2000 insert for 500 ml bottle      040131<br><br>consists of:<br>GL32 screw cap — hole      040130<br><br>insert for screw cap with suction pipe      040135 | cable feedthrough, 5-7      040190<br>cable feedthrough, 7-10      040191<br>T2000 mains switch cover for mains      040197<br>switch      040198<br>ribbon cable, 10-pole, with ferrite ribbon cable,      031713<br>26-pole, with ferrite ribbon cable,      040096<br>loom 2V, complete (for valves)      040060 | loom 2P, complete (for max two dosing pumps)      040062<br>loom for main switch complete      040200<br>fuse T 0.08 A      031596<br>fuse T 0.315 A      031585<br>fuse T 0.1 A      031595<br>fuse T 0.16 A      031622<br>fuse T 1.0 A      031592<br>fuse M4 A      031582<br><br>drain funnel T2000      040315 |

|                     | PMMA sight glasses  | Sight glasses for shortened measurement section   |  |
|---------------------|---|---|--|
|                     |    |                   |  |
| <b>Is used</b>      | for Testomat® 808   | for Testomat 2000® Cr VI 0-5ppm, Testomat 2000® PO4, Testomat® Modul CL/NH2CL                         |  |
| <b>Order number</b> | 37653   | 40244   |  |
| <b>Description</b>  | PMMA sight glasses are used when the silicate content in the measuring water exceeds 15 mg/l and prevent silicates clogging up the sight glasses.<br><br>The kit consists of:<br>• 2 24x2 flat gaskets<br>• 2 sight glasses | The sight glasses are designed for use in the measuring chamber with a shortened measurement section. |  |


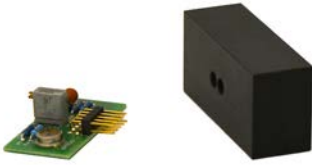














Article no. of the measuring chamber holder

|                               | DUO<br>40370 | DUO<br>40371 | Trio<br>40372 | Quad<br>40373 | DUO<br>40375 | DUO<br>40379 | DUO<br>40407 | 40377 | DUO<br>37856 | Quadro<br>40451 |
|-------------------------------|--------------|--------------|---------------|---------------|--------------|--------------|--------------|-------|--------------|-----------------|
| Testomat 2000® Antox          | X            |              |               |               |              |              |              |       |              |                 |
| Testomat 2000® Br             |              | X            |               |               |              |              |              |       |              |                 |
| Testomat 2000® CLF            |              | X            |               |               |              |              |              |       |              |                 |
| Testomat 2000® CLT            |              |              | X             |               |              |              |              |       |              |                 |
| Testomat 2000® CLT self clean |              |              |               | X             |              |              |              |       |              |                 |
| Testomat 2000® CLO2           |              | X            |               |               |              |              |              |       |              |                 |
| Testomat 2000® CN DUO         | X            |              |               |               |              |              |              |       |              |                 |
| Testomat 2000® Cr VI          |              | X            |               |               |              |              |              |       |              |                 |
| Testomat 2000® Cr VI 0-5ppm   |              |              |               |               |              | X            |              |       |              |                 |
| Testomat 2000® DUO            | X            |              |               |               |              |              |              |       |              |                 |
| Testomat 2000® Polymer        |              | X            |               |               |              |              |              |       |              |                 |
| Testomat 2000® PO4            |              |              |               |               |              |              | X            |       |              |                 |
| Testomat 2000® self clean     | X            |              |               |               |              |              |              |       |              |                 |
| Testomat 2000® SO3            |              |              |               |               | X            |              |              |       |              |                 |
| Testomat 2000 THCl®           |              |              |               | X             |              |              |              |       |              |                 |
| Testomat® ECO-C*              |              |              |               |               |              |              |              | X     |              |                 |
| Testomat® Modul CL            |              |              |               |               |              |              |              |       | X            |                 |
| Testomat® Modul NH2CL         |              |              |               |               |              |              |              |       | X            |                 |
| Testomat® PRO Fe              |              |              |               |               |              |              |              |       |              | X               |
| Testomat® PRO CA self clean   |              |              |               |               |              |              |              |       |              | X               |
| Titromat M1                   | X            |              |               |               |              |              |              |       |              |                 |
| Titromat M2                   | X            |              |               |               |              |              |              |       |              |                 |
| Titromat KH                   | X            |              |               |               |              |              |              |       |              |                 |
| Titromat TH                   | X            |              |               |               |              |              |              |       |              |                 |

\*Specially for Testomat® ECO-C for the measurement of carbonate hardness.

| Spare parts<br>Testomat® 808/808 SiO2   |  | Devices spare parts<br>Testomat® 808 SiO2   |       | Set optical board +<br>LED socket   |       | Measuring chamber<br>Testomat® 808 SiO2  |       |                              |
|---|--|---|-------|---|-------|--|-------|------------------------------|
|   |  |    |       |   |       |                       |       |                              |
| <b>Is used</b>  |  | for Testomat® 808 SiO2  |       | for Testomat® 808 / 808 SiO2  |       | for Testomat® 808 / 808 SiO2   |       |                              |
| <b>Order number</b>   |  | magnet valve  | 37570 | Testomat® 808 - 2019:<br>Full set with optics<br>board and LED holder, 40393<br>synchronized by the factory                           |       | 24x2 flat gasket   | 33777 |                              |
| <p>*New pump heads for the Testomat® 808-2019 and Testomat® 808 SiO2-2019 device generation. For older devices up to serial number 253060, the conversion kit on page 35 must also be used.</p> |  | double pump head*   | 37859 | Testomat® 808 SiO2 - 2019<br>Full set with optics<br>board and LED holder, 40394<br>synchronized by the factory                       |       | 30x3 sight glass pane  | 40170 |                              |
|   |  | fuse, T1,0A   | 31592 | <u>For older instruments:</u><br>Testomat® 808:<br>Full set with optics<br>board and LED holder, 40364<br>synchronized by the factory |       | sight glass holde  | 40176 |                              |
|   |  | fuse, T0,315A   | 31585 |   |       | T808 SiO2 measuring chamber, complete (1-4 bar/14.5-58 psi)  | 37784 |                              |
|   |  | fuse, T0,2A   | 31584 | cable ducting M16 x 1,5   | 37734 | T808 SiO2 measuring chamber, complete (0.3-1 bar/4.4-14.5 psi) 37785                                     |       |                              |
|   |  | fuse, T0,1A   | 31595 | Nut for cable ducting M16 x 1.5   | 37735 | magnetic rod   |       | 40050                        |
|   |  | fuse,GS-T, 5x20, T A4   | 31666 | Blanking plug for cable ducting   | 37736 | Testomat® 808 SiO2<br>Full set with optics<br>board and LED holder, 40365<br>synchronized by the factory |       | G1/8"-6 screw-in angle joint |
|   |  | Devices spare parts<br>Testomat® 808  |       | Measuring chamber   |       | Bottle connection/<br>suction device   |       |                              |
|   |  |  |       |   |       |                     |       |                              |
| <b>Is used</b>  |  | for Testomat® 808   |       | for Testomat® 808   |       | for Testomat® 808 / 808 SiO2   |       |                              |
| <b>Order number</b>   |  | magnet valve  | 37570 | 24x2 flat gasket  | 33777 | Testomat® 808:<br>bottle insert with screw cap<br>and suction tube,<br>tube connection ø 2.4 mm          |       |                              |
|   |  | pump head*  | 37562 | 30x3 sight glass pane   | 40170 | 500 ml bottle  | 37579 |                              |
|   |  | fuse, T1.0A   | 31592 | sight glass holder  | 40176 | 100 ml bottle  | 37580 |                              |
|   |  | fuse, T0.8A   | 31593 | M3x40 screw, A2,<br>DIN 965   | 33253 | hose adapter<br>ø 2.4 mm   | 37538 |                              |
|   |  | fuse, T0.2A   | 31594 | T808 measuring chamber, complete (1-4 bar/14.5-58 psi)  | 37615 | Testomat® 808 SiO2:<br>bottle insert with screw cap<br>and suction tube,<br>tube connection ø 3.5 mm     |       |                              |
|   |  | fuse, T0.1A   | 31595 | T808 measuring chamber, complete (0.3-1 bar/4.4-14.5 psi)   | 37616 | 500 ml bottle  | 37644 |                              |
|   |  | fuse, GS-T, 5x20, T A4  | 31666 | magnetic rod,   | 40050 | 100 ml bottle  | 37645 |                              |
|   |  | cable ducting M16 x 1,5   | 37734 | processed   | 40050 | hose adapter<br>ø 3.5 mm   | 37643 |                              |
|   |  | Nut for cable ducting M16 x 1.5   | 37735 | G1/8"-6 screw-in angle joint  | 40157 |  |       |                              |
|   |  | Blanking plug for cable ducting   | 37736 |   |       |  |       |                              |

| Spare parts<br>Testomat® / Titromat® | Pressure regulator  | Measuring chamber  | Measuring chamber holder  |
|--------------------------------------|---|--|---|
|                                      |    |    |    |
| <b>Is used</b>                       | for Testomat 2000®, Testomat ECO®, EVO, Modul, Titromat®  | for Testomat 2000®, ECO®, EVO, Modul TH, Titromat®   | for Testomat 2000®, Testomat ECO®, EVO, Modul TH, Titromat®   |
| <b>Order number</b>                  | regulator/filter holder, complete 040125<br><br>consists of:<br><br>regulator/filter holder 040120<br>regulator stopper T2000, complete 040129<br>flow regulator core (1–8 bar/14.5-87 psi) 011225<br>holding pin for regulator stopper 011230<br>filter screen for inlet 011217<br>spring for inlet 011218<br>inlet connector 040121<br>G ¼" - 6 screw-in connector 040153 | measuring chamber, complete 040022<br><br>consists of:<br><br>30x3 sight glass pane with gasket 040173<br>30x3 sight glass pane 040170<br>sight glass holder 040176<br>M 3x40 screw 033253<br>TL 800-7-1 040032<br>tenterhook plate stopper 24x2 011210<br>flat gasket 033777<br>sight glass holder set with 2 screws 040510<br>(2 sight glass holders and 2 M3x40 screws) | measuring chamber holder, complete (without valves) 040029<br><br>and accessories:<br>magnetic rod 040050<br>plug connection for drain hose 040186<br>magnet valve, 2/2-ways 040018<br>pin for chamber holder, 5x60 mm 040181<br><br><i>For further article numbers for measuring chamber holders DUO, TRIO, and QUAD as well as for carbonate hardness measurement see page 41</i> |
|                                      | <b>Measuring chamber with double glazing</b>  | <b>Measuring chamber with shortened measurement section</b>  | <b>Gear motor</b>   |
|                                      |    |    |    |
| <b>Is used</b>                       | for Testomat 2000® and Testomat® 808  | for Testomat 2000® Cr VI 0-5ppm, Testomat 2000® PO4, Testomat® Modul CL/NH2CL  | for Testomat® 808 / 808 SiO2  |
| <b>Order number</b>                  | Measuring chamber for Testomat 2000® 40559<br>Measuring chamber for Testomat® 808 37863<br><br>for both:<br>sight-glass window 30x1,6 37833<br>sight-glass window holder 37806<br>seal 37808  | 40378  | gear motor 12 V DC for the dosing pump of Testomat® 808 with installation guide 100494<br><br>for Testomat 2000®<br>gear motor 12 V DC for the dosing pump PeriClip 39906   |
| <b>Description</b>                   | The measuring chamber with double glazing can be used in the event of strong temperature differences between air and test water. Problems caused by steaming up in a humid environment are thus prevented in many applications.   | Special measuring chamber for some Testomat devices. Cannot be used in all Testomat® devices   |   |

Spare parts  
Testomat®

Device spare parts  
Testomat® EVO

Bottle connection/  
suction device






| Is used             | for Testomat® EVO TH                               |       |                                  | for Testomat 2000® Polymer/<br>Testomat 2000® PO4 |
|---------------------|--|-------|----------------------------------|---|
| <b>Order number</b> | Cable ducting<br>M16x1,5                           | 37734 | fuse<br>GS-M 5x20E 4A MT         | 31582   |
|                     | Nut for cable ducting<br>M16x1,5                   | 37735 | fuse T0,315 A                    | 31585   |
|                     | Blanking plug for<br>cable ducting                 | 37736 | fuse T0,16 A                     | 31622   |
|                     | ribbon cable, 10-pole,<br>with ferrite             | 31713 | fuse T1,6 A                      | 12140   |
|                     | loom 2V, complete<br>(for valves)                  | 40060 | fuse T2,0 A                      | 31655   |
|                     | loom 2P, complete<br>(for max two dosing<br>pumps) | 40062 | standard SD card<br>2 GB         | 37320   |
|                     |  |       | Lithium backup battery<br>CR2032 | 31999   |
|                     |  |       | drain funnel                     | 32187   |
|                     |  |       |                                  | screw cap with insert<br>for 500 ml bottle        |
|                     |  |       |                                  | 37644   |
|                     |  |       |                                  | screw cap with insert<br>for 100 ml bottle        |
|                     |  |       |                                  | 37645   |



Device spare parts  
Testomat® Moduls



| Is used             | for Testomat® Moduls TH/CL/NH2CL                   |       |                                  |       |
|---------------------|--|-------|----------------------------------|-------|
| <b>Order number</b> | Cable ducting<br>M16x1,5                           | 37734 | Pump head<br>PeriClip SP         | 40362 |
|                     | Nut for cable ducting<br>M16x1,5                   | 37735 | fuse<br>GS-M 5x20E 2A MT         | 10843 |
|                     | Blanking plug for<br>cable ducting                 | 37736 | standard SD card<br>2 GB         | 37320 |
|                     | Ribbon cable<br>2 x 7 pole                         | 37832 | Lithium backup battery<br>CR2032 | 31999 |
|                     | loom 2V, complete<br>(for valves)                  | 40060 | Cover                            | 37798 |
|                     | loom 2P, complete<br>(for max two dosing<br>pumps) | 40062 |                                  |       |


Spare parts for the Testomat® BOB can only be supplied to a limited extent. Please contact your distributor if you need spare parts.

| Dosing pumps<br>Testomat® / Titromat® | DOSIClip®  | MEPUClip®  | FLOWClip®  |
|---------------------------------------|--|--|--|
|                                       |   |   |   |
| <b>Is used as</b>                     | dosing pump for Testomat devices   | booster pump for Testomat 2000®/Titromat®  | dosing pump for Testomat 2000® self clean  |
| <b>Order number</b>                   | 270470<br>as spare part 40001  | 270410   | 270440   |
| <b>Description</b>                    | electromagnetically driven piston dosing pump for dosing aqueous media that are free of suspended matter   | installation of the membrane pump is necessary for water inlet pressure under 0.3 bar  | membrane pump for dosing cleaning agent into the measuring chamber also possible for other reagents  |
| <b>Technical data</b>                 | <ul style="list-style-type: none"> <li>• pump volume: 30 µl/stroke</li> <li>• max. suction height: approx. 0.5 m with water and 0.8 mm hose ID</li> <li>• max. pump pressure: approx. 1 bar /4.5 psi with water and 0.8 mm hose ID (max. 0.5 m length)</li> <li>• ambient temperature: 10–45°C / 50-113°F</li> <li>• mounting: on 35 mm / 1.4" DIN top-hat rail</li> </ul> | <ul style="list-style-type: none"> <li>• Flow rate at atmospheric pressure : 0.6 l/min</li> <li>• Maximum suction head: 3m H<sub>2</sub>O self-priming</li> <li>• ambient temperature: 10–45°C / 50-113°F</li> <li>• mounting: on 35 mm / 1.4" DIN top-hat rail</li> </ul> <p>When a „Testomat® with pump“ is ordered, installation occurs at the factory.</p> | <ul style="list-style-type: none"> <li>• Flow rate at atmospheric pressure : 0.1 l/min</li> <li>• Maximum suction head: 3m H<sub>2</sub>O self-priming</li> <li>• ambient temperature: 10–45°C / 50-113°F</li> <li>• mounting: on 35 mm / 1.4" DIN top-hat rail</li> </ul> |

|                       | PERIClip®   | DOSIClip® Vi   |  |
|-----------------------|---|--|--|
|                       |    |                                 |  |
|                       | dosing pump for Testomat 2000® Polymer / PO4 / Modul CL/NH2CL   | dosing pump for Titromat® and Testomat devices that measure carbonate hardness                                     |  |
| <b>Order number</b>   | 270430  | 270471   |  |
| <b>Description</b>    | hose pump for aqueous media   | electromagnetically driven piston dosing pump for dosing aqueous media that are free of suspended matter           |  |
| <b>Technical data</b> | <ul style="list-style-type: none"> <li>• pump volume: 400–500 µl/min</li> <li>• ambient temperature: 10–45°C / 50-113°F</li> <li>• mounting: on 35 mm / 1.4" DIN top-hat rail</li> <li>• dimensions: 75 x 45 x 110 mm (HxWxD) 3" x 1,8" x 4.3"</li> </ul> | <ul style="list-style-type: none"> <li>• as with DosiClip</li> <li>• for use with strongly acidic media</li> </ul> |  |

Selection help

Our Testomat devices have many uses in water analysis. This table will help you find the Testomat device suited to your needs.



|                               | chlorination systems | decarbonization systems | iron removal systems | water softening systems | galvanization | boiler feed water | sewage treatment plants | cooling towers | medical technology | with dosing of antioxidants | with calibration function | with self-cleaning measuring chamber | osmosis systems | swimming pool | sterilisation/hospitals | drinking water supply | monitoring disinfectant dosing | monitoring chromate content | monitoring conditioning agents | monitoring two measuring points | water treatment | water blending |
|-------------------------------|----------------------|-------------------------|----------------------|-------------------------|---------------|-------------------|-------------------------|----------------|--------------------|-----------------------------|---------------------------|--------------------------------------|-----------------|---------------|-------------------------|-----------------------|--------------------------------|-----------------------------|--------------------------------|---------------------------------|-----------------|----------------|
| Testomat® 808                 | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat® 808 SiO2            | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat ECO®                 | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat® EVO TH              | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat® EVO TH CAL          | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat ECO® C               | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000®                | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® Antox          | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® BR             | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® CAL            | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® CLO2           | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® CLF            | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® CLT            | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000 CLT self clean® | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® CN             | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® CrVI           | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® DUO            | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® DUO CN         | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® PO4            | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® Polymer        | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® self clean     | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® THCL           | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat 2000® V              | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat® Modul TH            | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat® Modul CL/ NH2CL     | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat® PRO Fe              | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |
| Testomat® PRO Ca self clean   | 👉                    | 👉                       | 👉                    | 👉                       | 👉             | 👉                 | 👉                       | 👉              | 👉                  | 👉                           | 👉                         | 👉                                    | 👉               | 👉             | 👉                       | 👉                     | 👉                              | 👉                           | 👉                              | 👉                               | 👉               | 👉              |

👉 especially appropriate

👉 appropriate

👉 not appropriate

Indicators/reagents  
Testomat 2000® indicators (500 ml bottle)



| Indicator type | Unit °dH<br>(resolution) | °f<br>(resolution) | ppm CaCO <sub>3</sub><br>(resolution) | mmol/l<br>(resolution) | Order number |
|----------------|--------------------------|--------------------|---------------------------------------|------------------------|--------------|
| TH 2005        | 0,05-0,50 (0,01)         | 0,09-0,89 (0,02)   | 0,89-8,93 (0,2)                       | 0,01-0,09 (0,01)       | 152005       |
| TH 2025        | 0,25-2,50 (0,05)         | 0,45-4,48 (0,10)   | 4,48-44,8 (0,9)                       | 0,04-0,45 (0,01)       | 152025       |
| TH 2050*       | 0,50-5,00 (0,10)         | 0,89-8,90 (0,10)   | 8,90-89,0 (0,1)                       | 0,09-0,89 (0,10)       | 152050       |
| TH 2100        | 1,00-10,00 (0,20)        | 1,79-17,9 (0,40)   | 17,9-179 (3,8)                        | 0,18-1,79 (0,04)       | 152100       |
| TH 2250        | 2,50-25,00 (0,50)        | 4,48-44,8 (1,00)   | 44,8-448 (10)                         | 0,45-4,48 (0,10)       | 152250       |
| TC 2050        | 0,50-5,00 (0,50)         | 0,90-8,96 (0,90)   | 8,9-89,5 (8,9)                        | 0,18-1,79 (0,18)       | 153050       |
| TC 2100        | 1,00-20,00 (1,00)        | 1,79-35,8 (1,79)   | 18-358 (18)                           | 0,36-7,14 (0,36)       | 153100       |
| TM 2005        |                          |                    |                                       | 0,05-0,50 (0,05)       | 154005       |
| TP 2100        |                          |                    |                                       | 1-15,0 (1,00)          | 155100       |

\*Only for Testomat® EVO TH and Testomat® Modul TH/TH-R

Testomat 2000® indicators (100 ml bottle)

| Indicator type       | Unit °dH<br>(resolution) | °f<br>(resolution) | ppm CaCO <sub>3</sub><br>(resolution) | mmol/l<br>(resolution) | Order number |
|----------------------|--------------------------|--------------------|---------------------------------------|------------------------|--------------|
| TH 2005 (2 x 100 ml) | 0,05-0,50 (0,01)         | 0,09-0,89 (0,02)   | 0,89-8,93 (0,2)                       | 0,01-0,09 (0,01)       | 151005       |
| TH 2025              | 0,25-2,50 (0,05)         | 0,45-4,48 (0,10)   | 4,48-44,8 (0,9)                       | 0,04-0,45 (0,01)       | 151025       |
| TH 2050*             | 0,50-5,00 (0,10)         | 0,89-8,90 (0,10)   | 8,90-89,0 (0,1)                       | 0,09-0,89 (0,10)       | 152050       |
| TH 2100              | 1,00-10,00 (0,20)        | 1,79-17,9 (0,40)   | 17,9-179 (3,8)                        | 0,18-1,79 (0,04)       | 151100       |
| TH 2250              | 2,50-25,00 (0,50)        | 4,48-44,8 (1,00)   | 44,8-448 (10)                         | 0,45-4,48 (0,10)       | 152250       |

\*Only for Testomat® EVO TH and Testomat® Modul TH/TH-R

Please note that a different bottle insert is required for the 100 ml from the insert included in the delivery.  
(T2000 conversion kit, art. no. 40143)

Titromat® reagents (500 ml bottle)

| Reagent type      | for | Parameters         | Measuring range | Resolution | Order number |
|-------------------|-----|--------------------|-----------------|------------|--------------|
| TH 2500 reagent A | TH  | Water hardness     | 2,5-50 °dH      | 2,5 °dH    | 155160       |
| TH 2500 reagent B | TH  | Water hardness     | 2,5-50 °dH      | 2,5 °dH    | 155161       |
| TC 2010 reagent A | M1  | Carbonate hardness | 0,05-1 °dH      | 0,025 °dH  | 155172       |
| TC 2010 reagent B | M1  | Carbonate hardness | 0,05-1 °dH      | 0,025 °dH  | 155173       |
| TC 2020 reagent A | M2  | Carbonate hardness | 0,05-2 °dH      | 0,05 °dH   | 155170       |
| TC 2020 reagent B | M2  | Carbonate hardness | 0,05-2 °dH      | 0,05 °dH   | 155171       |
| TC 2060 reagent A | KH  | Carbonate hardness | 2-60 °dH        | 2 °dH      | 155176       |
| TC 2060 reagent B | KH  | Carbonate hardness | 2-60 °dH        | 2 °dH      | 155177       |
| TC 2150 reagent A | KH  | Carbonate hardness | 5-150 °dH       | 5 °dH      | 155178       |
| TC 2150 reagent B | KH  | Carbonate hardness | 5-150 °dH       | 5 °dH      | 155179       |



| Reagent type                               | Parameters   | for device                    | Measuring range          | Order number |
|--|--|-------------------------------|--------------------------|--------------|
| Calcium reagent A                          | Calcium carbonate CaCO <sub>3</sub>                    | PRO Ca                        | 0 - 33°dH                | 158123       |
| Calcium reagent B                          | Calcium carbonate CaCO <sub>3</sub>                    | PRO Ca                        | 0 - 33°dH                | 158124       |
| Calcium reagent C                          | Calcium carbonate CaCO <sub>3</sub>                    | PRO Ca                        | 0 - 33°dH                | 158125       |
| CL 2250 A**                                | total chlorine + free chlorine                         | CL T + CL F                   | 0-2,5 mg/l               | 156230       |
| CL 2250 B**                                | total chlorine + free chlorine                         | CL T + CL F                   | 0-2,5 mg/l               | 156231       |
| CL 2250 C**                                | total chlorine   | CL T                          | 0-2,5 mg/l               | 156232       |
| Chlorine reagent set T*                    | total chlorine + free chlorine                         | CL T + CL F                   | 0-2,5 mg/l               | 156235       |
| Chlorine reagent set T 50%*                | total chlorine + free chlorine                         | CL T + CL F                   | 0-2,5 mg/l               | 156237       |
| Chlorine reagent set F*                    | free chlorine  | CL F                          | 0-2,5 mg/l               | 156233       |
| Chlorine reagent set F 50%*                | free chlorine  | CL F                          | 0-2,5 mg/l               | 156236       |
| Chlorine reagent set T                     | total chlorine   | Modul CL                      | 0-5 mg/l                 | 158239       |
| Chlorine reagent set F                     | free chlorine  | Modul CL                      | 0-5 mg/l                 | 158234       |
| Chlorine reagent set M                     | monochloramine   | Modul NH <sub>2</sub> CL      | 0-5 mg/l                 | 158238       |
| CLO <sub>2</sub> reagent set A u. B*       | chlorine dioxide                                       | ClO <sub>2</sub>              | 0-4,7 mg/l               | 156265       |
| CrVI 2100 A                                | chromate CrO <sub>4</sub> <sup>2-</sup> or chromium VI | CrVI                          | 0-5,0 mg/l<br>0-1,0 mg/l | 156220       |
| CrVI 2100 B                                | chromate CrO <sub>4</sub> <sup>2-</sup> or chromium VI | CrVI                          | 0-5,0 mg/l<br>0-1,0 mg/l | 156221       |
| FE 2005 A                                  | iron dissolved ( II ) u. ( III )                       | Fe                            | 0-1,0 mg/l               | 156250       |
| FE 2005 B                                  | iron dissolved ( II ) u. ( III )                       | Fe                            | 0-1,0 mg/l               | 156251       |
| Sulfite reagent A                          | sulfite  | SO <sub>3</sub> <sup>2-</sup> | 0-50 mg/l                | 156240       |
| Sulfite reagent B                          | sulfite  | SO <sub>3</sub> <sup>2-</sup> | 0-50 mg/l                | 156241       |
| Brom reagent set*                          | bromine  | Br                            | 0-5,6 mg/l               | 156295       |
| Polymer reagent A                          | polymer  | Polymer                       | 0-50 mg/l                | 156271       |
| Polymer reagent B                          | polymer  | Polymer                       | 0-50 mg/l                | 156272       |
| PO <sub>4</sub> reagent set 2100           | phosphate  | PO <sub>4</sub>               | 0-10 mg/l                | 156264       |
| PO <sub>4</sub> reagent 2100 A (20 litres) | phosphate  | PO <sub>4</sub>               | 0-10 mg/l                | 156281       |
| PO <sub>4</sub> reagent 2100 B (5 litres)  | phosphate  | PO <sub>4</sub>               | 0-10 mg/l                | 156282       |

\*The reagent sets are designed for the uniform consumption of reagents; the capacities of the individual reagent bottles are therefore not identical.

\*\* Only reagents CL 2250 A and B are required for measuring free chlorine. All three reagents CL 2250 A, B and C are required for measuring total chlorine.

### Testomat® special solutions

| Reagent type  | Device                      | Order number |
|---|-----------------------------|--------------|
| Self clean cleaning solution (500 ml)                                   | T 2000 self clean           | 151105       |
| Calcium cleaning solution (500 ml)                                      | Testomat® Pro Ca self clean | 158126       |
| Antox solution (2 x 100 ml) for eliminating oxidant-related disruptions | T 2000 Antox                | 151107       |








|           | Type            | Limit value                | Bottle | Order number | Packaging unit |
|-----------|-----------------|----------------------------|--------|--------------|----------------|
| 808/F-BOB | 300             | 0,02 °dH residual hardness | 100 ml | 140001       | 2 x 100 ml     |
|           | 300S            | 0,05 °dH residual hardness | 100 ml | 140002       | 2 x 100 ml     |
|           | 301             | 0,1 °dH residual hardness  | 100 ml | 140003       | 2 x 100 ml     |
|           | 302             | 0,2 °dH residual hardness  | 100 ml | 140004       | 2 x 100 ml     |
|           | 303             | 0,3 °dH residual hardness  | 100 ml | 140005       | 2 x 100 ml     |
|           | 305             | 0,5 °dH residual hardness  | 100 ml | 140006       | 2 x 100 ml     |
|           | 310             | 1 °dH residual hardness    | 100 ml | 140007       | 2 x 100 ml     |
|           | 320             | 2 °dH residual hardness    | 100 ml | 140008       | 2 x 100 ml     |
|           | 330             | 3 °dH residual hardness    | 100 ml | 140009       | 2 x 100 ml     |
|           | 350             | 5 °dH residual hardness    | 100 ml | 140010       | 2 x 100 ml     |
| C-BOB     | C 5             | 0,5 °dH carbonate hardness | 100 ml | 140020       | 2 x 100 ml     |
|           | C 10            | 1 °dH carbonate hardness   | 100 ml | 140021       | 2 x 100 ml     |
|           | C 15            | 1,5 °dH carbonate hardness | 100 ml | 140022       | 2 x 100 ml     |
|           | C 20            | 2 °dH carbonate hardness   | 100 ml | 140023       | 2 x 100 ml     |
|           | C 30            | 3 °dH carbonate hardness   | 100 ml | 140024       | 2 x 100 ml     |
|           | C 40            | 4 °dH carbonate hardness   | 100 ml | 140025       | 2 x 100 ml     |
| M-BOB     | M 1             | 0,1 mmol/l minus m-value   | 100 ml | 140040       | 2 x 100 ml     |
|           | M 3             | 0,3 mmol/l minus m-value   | 100 ml | 140041       | 2 x 100 ml     |
|           | M 5             | 0,5 mmol/l minus m-value   | 100 ml | 140042       | 2 x 100 ml     |
| 808/F-BOB | 300             | 0,02 °dH residual hardness | 500 ml | 141001       | 500 ml         |
|           | 300 S           | 0,05 °dH residual hardness | 500 ml | 141002       | 500 ml         |
|           | 301             | 0,1 °dH residual hardness  | 500 ml | 141003       | 500 ml         |
|           | 302             | 0,2 °dH residual hardness  | 500 ml | 141004       | 500 ml         |
|           | 303             | 0,3 °dH residual hardness  | 500 ml | 141005       | 500 ml         |
|           | 305             | 0,5 °dH residual hardness  | 500 ml | 141006       | 500 ml         |
|           | 310             | 1 °dH residual hardness    | 500 ml | 141007       | 500 ml         |
|           | 320             | 2 °dH residual hardness    | 500 ml | 141008       | 500 ml         |
|           | 330             | 3 °dH residual hardness    | 500 ml | 141009       | 500 ml         |
|           | 350             | 5 °dH residual hardness    | 500 ml | 141010       | 500 ml         |
| C-BOB     | C 5             | 0,5 °dH carbonate hardness | 500 ml | 141020       | 500 ml         |
|           | C 10            | 1 °dH carbonate hardness   | 500 ml | 141021       | 500 ml         |
|           | C 15            | 1,5 °dH carbonate hardness | 500 ml | 141022       | 500 ml         |
|           | C 20            | 2 °dH carbonate hardness   | 500 ml | 141023       | 500 ml         |
|           | C 30            | 3 °dH carbonate hardness   | 500 ml | 141024       | 500 ml         |
|           | C 40            | 4 °dH carbonate hardness   | 500 ml | 141025       | 500 ml         |
| M-BOB     | M 1             | 0,1 mmol/l minus m-value   | 500 ml | 141040       | 500 ml         |
|           | M 3             | 0,3 mmol/l minus m-value   | 500 ml | 141041       | 500 ml         |
|           | M 5             | 0,5 mmol/l minus m-value   | 500 ml | 141042       | 500 ml         |
| 808 SiO2  | A               | 0,3 - 1,2 ppm SiO2         | 500 ml | 141808       | 500 ml         |
|           | B               | 0,3 - 1,2 ppm SiO2         | 500 ml | 141809       | 500 ml         |
|           | reagent set A+B | 0,3 - 1,2 ppm SiO2         | 100 ml | 140808       | 100 ml         |

Limit value kits

DUROGNOST® I



DUROGNOST® SR 0

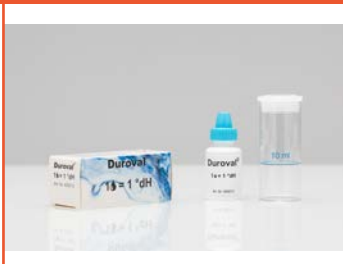

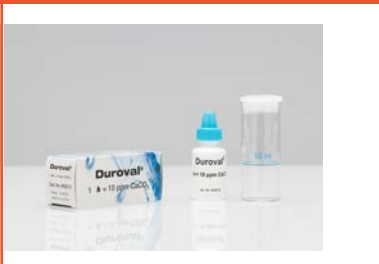
DUROGNOST® SR



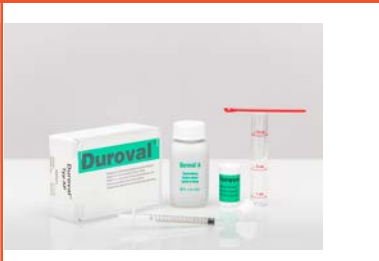
|                     |   |   |  |
|---------------------|---|---|--|
|                     |    |   |   |
| <b>Is used als</b>  | quick colorimetric determination of residual hardness   | limit value test for quick determination of residual hardness   | limit value test for quick determination of residual hardness  |
| <b>Order number</b> | 400050  | 400056  | 400055   |
| <b>Description</b>  | special indicator in powder form for quick colorimetric determination of minimum hardness traces in the range of 0–0.1°dH or 0–2 ppm CaCO <sub>3</sub> or 0,2 °f (French hardness)<br>complete with measuring tube and spoon<br>analyses: approx. 700<br>measuring time: approx. ½ minute | special liquid indicator in a dropper bottle for monitoring the residual hardness of softened water, adapted for limit values of 0.1 and 0.05 °dH.<br>complete with measuring tube and stopper<br>analyses: approx. 250<br>measuring time: approx. ½ minute | equipped like DUROGNOST® SR 0, but adapted for limit values of 0.5 and 0.25 °dH<br><br>analyses: approx. 250<br>measuring time: approx. ½ minute |







DUROGNOST® SR 1




DUROGNOST®  
special buffer solution




|                     |   |   |  |
|---------------------|---|---|--|
|                     |    |   | A company logo on the supplement is free with purchase of more than 100 Duroval® or Durognost® articles. |
| <b>Is used als</b>  | limit value test for quick determination of residual hardness   | buffer solution for alkaline water samples  |  |
| <b>Order number</b> | 400054  | 400016  |  |
| <b>Description</b>  | equipped like DUROGNOST® SR0, but adapted to limit values of 1 and 0.5 °dH<br><br>analyses: approx. 250<br>measuring time: approx. ½ minute | for buffering strongly alkaline water samples (pH over 10) for determining total and residual hardness with DUROGNOST® and DUROVAL® kits (8 ml dropper bottle)<br><br>analyses: approx. 200 |  |

| Titration quick test kits | DUROVAL®<br>1 drop = 1 °dH  | DUROVAL®<br>1 drop = 1 °f   | DUROVAL® 1 Tr.<br>= 10 ppm CaCO <sub>3</sub>  |
|---------------------------|---|---|---|
|                           |    |   |    |
| <b>Is used as</b>         | titration kit for determining water hardness via complexometric titration   | titration kit for determining water hardness via complexometric titration   | titration kit for determining water hardness via complexometric titration   |
| <b>Order number</b>       | 1 piece            400010<br>50 pieces        400110<br>neutral inlays without folding box<br>50 piece kit     400112<br>neutral inlays without folding box<br>50 pieces        400118<br>neutral inlays with folding box | 1 piece            400011<br>50 pieces        400111<br>neutral inlays without folding box<br>50 piece kit     400113<br>neutral inlays without folding box<br>50 pieces        400119<br>neutral inlays with folding box | 400012  |
| <b>Description</b>        | 1 drop corresponds to 1 degree of German hardness<br><br>analyses: approx. 30 (with an average hardness of 10 °dH).   | 1 drop corresponds to 1 degree of French hardness<br><br>analyses: approx. 30 (with an average hardness of 10 °f)   | 1 drop corresponds to 10 ppm CaCO <sub>3</sub><br>analyses: approx. 30 (with an average hardness of 10 °f)<br>approx. 30 (with an average hardness of 100 ppm CaCO <sub>3</sub> ) |

|                     | DUROVAL®<br>1 drop = 1 °KH   | DUROVAL®<br>1 drop = 0,1 °dH   | DUROVAL® AP   |
|---------------------|--|--|---|
|                     |                                     |                                  |    |
| <b>Is used as</b>   | titration kit for determining carbonate hardness via acidimetric titration   | titration kit for determining water hardness via complexometric titration  | titration kit for determining water hardness via complexometric titration   |
| <b>Order number</b> | 1 piece            400015<br>50 pieces        400120   | 400007   | 400021  |
| <b>Description</b>  | 1 drop corresponds to 1 degree of carbonate hardness<br><br>analyses: approx. 30 (with an average hardness of 10 °dH). | 1 drop corresponds to 0.1 degree of German hardness<br><br>analyses: approx. 30 (with an average hardness of 1 °dH). | <ul style="list-style-type: none"> <li>• measuring tube</li> <li>• powder indicator</li> <li>• dosing pipette calibrated 0–30 °dH</li> <li>• 50 ml titration solution</li> </ul> analyses: approx. 100 (with an average carbonate hardness of 15 °dH)<br>measuring time: approx. 2 minutes<br>measurement accuracy: 0.5 °dH |

|                     | DUROVAL® A   | DUROVAL® A<br>with pipette 0-60°F   | DUROVAL AF  |
|---------------------|--|---|---|
|                     |   |   |    |
| <b>Is used as</b>   | titration kit for determining water hardness via complexometric titration  | titration kit for determining water hardness via complexometric titration   | titration kit for determining water hardness via complexometric titration   |
| <b>Order number</b> | 400020   | 400018  | 400022  |
| <b>Description</b>  | <ul style="list-style-type: none"> <li>• measuring tube</li> <li>• liquid indicator</li> <li>• dosing pipette calibrated 0–30 °dH</li> <li>• 50 ml titration solution</li> </ul> <p>analyses: approx. 100 (with an average carbonate hardness of 15 °dH)<br/>measuring time: approx. 2 minutes<br/>measurement accuracy: 0.5 °dH</p> | <ul style="list-style-type: none"> <li>• measuring tube</li> <li>• powder indicator</li> <li>• dosing pipette calibrated 0–60 °f (French hardness)</li> <li>• 50 ml titration solution</li> </ul> <p>analyses: approx. 100 (with an average carbonate hardness of 26.7 °f)<br/>measuring time: approx. 2 minutes<br/>measurement accuracy: 1 °f</p> | <ul style="list-style-type: none"> <li>• measuring tube</li> <li>• powder indicator</li> <li>• dosing pipette calibrated 0–30 °dH</li> <li>• 50 ml titration solution</li> </ul> <p>analyses: approx. 100 (with an average carbonate hardness of 15 °dH)<br/>measuring time: approx. 2 minutes<br/>measurement accuracy: 0.5 °dH</p>            |
|                     | DUROVAL® B   | DUROVAL® BP   | DUROVAL® BF   |
|                     |   |   |    |
| <b>Is used as</b>   | titration kit for determining water hardness via complexometric titration  | titration kit for determining water hardness via complexometric titration   | titration kit for determining water hardness via complexometric titration   |
| <b>Order number</b> | 400030   | 400031  | 400032  |
| <b>Description</b>  | <ul style="list-style-type: none"> <li>• measuring tube</li> <li>• liquid indicator</li> <li>• dosing pipette calibrated 0–2 °dH</li> <li>• 50 ml titration solution</li> </ul> <p>analyses: approx. 100 (with an average hardness of 1 °dH)<br/>measuring time: approx 2 minutes<br/>measurement accuracy: 0.05 °dH</p>             | <ul style="list-style-type: none"> <li>• with measuring tube</li> <li>• powder indicator</li> <li>• dosing pipette calibrated 0–2 °dH</li> <li>• 50 ml titration solution</li> </ul> <p>analyses: approx. 100 (with an average hardness of 1 °dH)<br/>measuring time: approx 2 minutes<br/>measurement accuracy: 0.05 °dH</p>                       | <ul style="list-style-type: none"> <li>• with measuring tube</li> <li>• powder indicator</li> <li>• dosing pipette calibrated 0–60 °f (French hardness)</li> <li>• 50 ml titration solution</li> </ul> <p>analyses: approx. 100 (with an average hardness of 1.78 °f)<br/>measuring time: approx 2 minutes<br/>measurement accuracy: 0.1 °f</p> |

| Titration quick test kits | Water hardness DUO  | DUROVAL® C  | DUROVAL® CPM   |
|---------------------------|---|---|--|
|                           |    |   |   |
| <b>Is used as</b>         | titration kit for determining water hardness  | titration kit for determining carbonate hardness/m-value  | kit for determining the carbonate hardness (m-value) and p-value   |
| <b>Order number</b>       | 400005  | 400060  | 400065   |
| <b>Description</b>        | determining the hardness of raw water (0–30 °dH) and water after treatment (0–2 °dH)<br>measuring range: 0–30 °dH<br>resolution: 0,5 °dH<br>measuring range: 0–2 °dH<br>resolution: 0,025 °dH<br>complete with all reagents and accessories | acid capacity up to pH 4,3;<br>$K_{S4,3}$<br>analyses: approx. 100 (with an average carbonate hardness of 10 °dH)<br>measuring time: approx. 2 minutes<br>measurement accuracy: 0.5 °dH/0.25 mmol/l<br>complete with measuring tube, dosing pipette with calibration 0–20 °dH and 0–7 mmol/l, special connection stopper, indicator, and 50 ml titration solution | equipped like Duroval® C above, but with an additional p-value indicator<br>m-value: acid capacity up to pH 4,3; $K_{S4,3}$<br>p-value: acid capacity up to pH 8,2; $K_{S8,2}$<br>measuring time: approx. 2 minutes<br>measurement accuracy: 0.5 °dH/0.25 mmol/l |

|                     | DUROVAL® Chlorid   | DUROVAL® CO <sub>2</sub>  | DUROVAL® $K_{S4,3}$  |
|---------------------|--|---|--|
|                     |   |   |   |
| <b>Is used as</b>   | kit for determining the chloride content of water  | test kit for the determination of free carbon dioxide in water via drop titration   | titration kit for determining acid capacity up to pH 4.3   |
| <b>Order number</b> | 400090   | 400070  | 400067   |
| <b>Description</b>  | complete with all reagents and accessories<br>analyses: approx 200<br>measuring time: approx. 2 minutes<br>titration pipette: calibrated 0–300 mg/l Cl <sup>-</sup><br>measurement accuracy: 10 mg/l Cl <sup>-</sup> | complete with measuring tube, stopper. and three reagents<br>analyses: approx. 200 (with an average concentration of 100 mg/l CO <sub>2</sub> ) | Acid capacity up to pH 4,3;<br>$K_{S4,3}$<br>analyses: approx. 100 (with an average acid capacity of 1 mmol/l)<br>measuring time: approx. 2 minutes<br>resolution : 0.05 mmol/l<br>complete with measuring tube, dosing pipette with calibration 0–2 mmol/l, special connection stopper, indicator, and 50 ml titration solution |

**DUROVAL® K<sub>B8,2</sub>**

**DUROVAL® Sulfate**

**DUROVAL® TF**



**Is used as**

titration kit for determining base capacity up to pH 8.2

kit for determining the sulfate content of water

industrial kit for water treatment plants

**Order number**

400077

400080

400042

**Description**

base capacity up to pH 8,2;  
K<sub>B8,2</sub>  
analyses: approx. 100 (with an average base capacity of 1 mmol/l)  
measuring time: approx. 2 minutes  
resolution : 0.05 mmol/l  
complete with measuring tube, dosing pipette with calibration 0–2 mmol/l, special connection stopper, indicator, and 50 ml titration solution

complete with all reagents and accessories

analyses: approx 30  
titration pipette: calibrated 0–300 mg/l SO<sub>4</sub><sup>2-</sup>  
measurement accuracy: 10 mg/l SO<sub>4</sub><sup>2-</sup>

- measuring tube
  - powder indicator
  - dosing pipette calibrated 0–60 °f (French hardness)
  - 30 ml titration solution
- analyses: approx. 60 (with an average carbonate hardness of 26.7 °f )

**DUROVAL® TI**

**DUROVAL® TI with pipette 0–60 °f**

**DUROVAL® TP**



**Is used as**

industrial kit for water treatment plants

industrial kit for water treatment plants

industrial kit for water treatment plants

**Order number**

400040

400038

400041

**Description**

- measuring tube
- liquid indicator
- dosing pipette calibrated 0–30 °dH
- 30 ml titration solution



analyses: approx. 60 (with an average carbonate hardness of 15 °dH)




- measuring tube
- liquid indicator
- dosing pipette calibrated 0–60 °f (French hardness)
- 30 ml titration solution

analyses: approx. 60 (with an average carbonate hardness of 26.7 °f )

- measuring tube
- powder indicator
- dosing pipette calibrated 0–30 °dH
- 30 ml titration solution

analyses: approx. 60 (with an average carbonate hardness of 15 °dH)

| Titration quick test kits | KSS titration kit   | Polyamine test kit   |  |
|---------------------------|---|--|--|
|                           |                    |    |  |
| <b>Is used as</b>         | measuring kit for simple monitoring of cooling lubricant content                                    | test kit for determining the polyamine concentration of circulating water  |  |
| <b>Order number</b>       | 400280  | polyamine CCOH 400165<br>polyamine V 15/30 400166<br>polyamine K 26 400167<br>polyamine B42/C71 400168<br>polyamine A-853R 400169  |  |
| <b>Description</b>        | complete with all reagents and accessories<br>concentration range and accuracy are customerspecific | product-specific adaptation of the titration solution, complete with all reagents and accessories<br><br>analyses: approx. 100 (with an average concentration of 30 mg/l)<br>measuring time: approx. 3 minutes<br>resolution: 1 mg/l |  |

|                     | Polyamine reagents   | Polyamine titration solution   | Polyamine NI / NT refill pack  |
|---------------------|--|--|--|
|                     |   |    |   |
| <b>Is used as</b>   | reorder polyamine reagents   | reorder polyamine titration liquid   | polyamine NT refill package (reagents C and titration solution)  |
| <b>Order number</b> | reagentien A 400185<br>(10 bottles with 8 ml)<br>reagentien B 400186<br>(10 bottles with 8 ml)<br>reagentien C 400187<br>(10 bottles with 50 ml) | Polyamine CCOH 400188<br>(10 bottles with 50 ml)<br>Polyamine V 15/30 400189<br>(10 bottles with 50 ml)<br>Polyamine K 26 400190<br>(10 bottles with 50 ml)<br>Polyamine B42/C71 400191<br>(10 bottles with 50 ml)<br>Polyamine A-853R 400192<br>(10 bottles with 50 ml) | Polyamine CCOH 400175<br>Polyamine V 15/30 400176<br>Polyamine K 26 400177<br>Polyamine B42/C71 400178<br>Polyamine A-853R 400179<br><br>polyamine NI refill pack<br>reagents A+B 400170<br>can be used universally for all polyamine products |

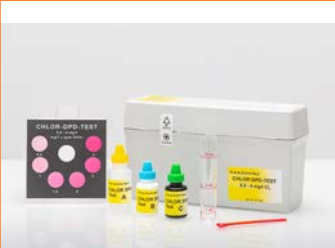





**DUROVAL® refill pack**







|   | <b>Hardness grade</b> | <b>Quantity</b>                            | <b>Order number</b> |
|---|-----------------------|--|---------------------|
| DUROVAL® A titration solution                 | 0–30 °dH (0–60 °f)    | bottle with 50 ml<br>50 bottles with 50 ml | 400023<br>400123    |
| DUROVAL® B titration solution                 | 0–2 °dH (0–4 °f)      | bottle with 50 ml                          | 400033              |
| DUROVAL® TI titration solution                | 0–30 °dH (0–60 °f)    | bottle with 25 ml                          | 400043              |
| DUROVAL® indicator fluid, 8 ml                |                       | liquid, 8 ml                               | 400024              |
| DUROVAL® indicator, 3 g (powder)              |                       | powder, 3 g                                | 400025              |
| DUROVAL® C titration solution                 |                       | bottle with 50 ml                          | 400061              |
| DUROVAL® C indicator, 8 ml                    |                       | bottle with 8 ml                           | 400062              |
| DUROVAL® P indicator, 8 ml                    |                       | bottle with 8 ml                           | 400066              |
| DUROVAL® SO <sub>4</sub> ion exchanger        |                       |  | 400081              |
| DUROVAL® SO <sub>4</sub> reagent A            |                       | 2 bottles with 50 ml each                  | 400082              |
| DUROVAL® SO <sub>4</sub> reagent B            |                       | bottle with 8 ml                           | 400083              |
| DUROVAL® SO <sub>4</sub> titration solution C |                       | bottle with 50 ml                          | 400084              |
| DUROVAL® chloride reagent A + B               |                       | 2 bottles with 17 ml each                  | 400091              |
| DUROVAL® chloride titration solution          |                       | 2 bottles with 50 ml each                  | 400092              |
| DUROVAL® KS 4,3 indicator,                    |                       | bottle with 8 ml                           | 400068              |
| DUROVAL® KS 4,3 titration solution            |                       | bottle with 50 ml                          | 400069              |
| DUROVAL® KB 8,2 indicator,                    |                       | bottle with 8 ml                           | 400078              |
| DUROVAL® KB 8,2 titration solution            |                       | bottle with 50 ml                          | 400079              |




**Colorimetric test kits**
**Testoval® ammonium**
**Testoval® aluminum**
**Testoval® chlorine DPD method 0,1-1 mg/l**


|                     |   |   |  |
|---------------------|---|---|--|
| <b>Is used as</b>   | color comparison kit for the concentration range 0–10 mg/l NH <sub>4</sub> <sup>+</sup>   | color comparison kit for the concentration range 0–1,5 mg/l Al  | color comparison kit for concentration range 0.1–1 mg/l of free and total chlorine   |
| <b>Order number</b> | 410680  | 410650  | 410520   |
| <b>Description</b>  | individual values: 0.1–0.5–1–2.5–5–10 mg/l, complete with 3 reagents<br>analyses: approx. 70<br>measuring time: approx. 4 minutes | individual values: 0–0,1–0,2–0,5–1–1,5 mg/l, by diluting the water sample 1:10 the measuring range can be extended to 10-times concentrations; complete with 2 reagents<br>analyses: approx. 130<br>measuring time: approx. 6 minutes | individual values: 0,1–0,2–0,3–0,5–0,75–1 mg/l, complete with 3 reagents<br>analyses: approx. 70<br>measuring time: approx. 1 minute |




| Colorimetric test kits | Testoval® chlorine DPD method 0,5-4 mg/l   | Testoval® chloride   | Testoval® chromate CrVI  |
|------------------------|--|--|--|
|                        |   |    |   |
| <b>Is used as</b>      | color comparison kit for concentration range 0.5–4 mg/l of free and total chlorine   | color comparison kit for concentration range 0–100 mg/l Cl <sup>-</sup>  | color comparison kit for concentration range 0–5 mg/l Cr   |
| <b>Order number</b>    | 411520   | 410526   | 410532   |
| <b>Description</b>     | individual values: 0,5–1–1,5–2–3–4 mg/l, complete with 3 reagents<br>analyses: approx. 70<br>measuring time: approx. 1 minute  | individual values: 1–5–10–25–50–100 mg/l, complete with 2 reagents<br>analyses: approx. 40<br>measuring time: approx. 3 minutes    | individual values: 0,1–0,25–0,5–1–2,5–5 mg/l, complete with 2 reagents<br>analyses: approx. 180<br>measuring time: approx. 3 minutes |
|                        |  |  |  |
|                        | Testoval® iron (II) + (III) dissolved, 0-1 mg/l  | Testoval® iron (II) + (III) dissolved, 0-10 mg/l   | Testoval® hydrazine  |
|                        |   |    |   |
| <b>Is used as</b>      | color comparison kit for concentration range 0–1 mg/l of Fe  | color comparison kit for concentration range 0–10 mg/l of Fe   | color comparison kit for concentration range 0–1 mg/l N <sub>2</sub> H <sub>4</sub>  |
| <b>Order number</b>    | 410547   | 410544   | 410556   |
| <b>Description</b>     | individual values: 0,05–0,1–0,25–0,5–0,75–1 mg/l, by diluting the water sample 1:10 the measuring range can be extended to 10-times concentrations; complete with 2 reagents<br>analyses: approx. 100<br>measuring time: approx. 7 minutes | individual values: 0,25–0,5–1–2,5–5–10 mg/l, complete with 3 reagents<br>analyses: approx. 60<br>measuring time: approx. 7 minutes | individual values: 0–0,05–0,1–0,25–0,5–1 mg/l, complete with reagent<br>analyses: approx. 100<br>measuring time approx. 2 minutes    |

| Colorimetric test kits | Testoval® copper  | Testoval® manganese 0-0,5 mg/l   | Testoval® manganese 0-20 mg/l  |
|------------------------|---|--|--|
|                        |    |    |   |
| <b>Is used as</b>      | color comparison kit for the concentration range 0–2 mg/l Cu  | color comparison kit for the concentration range 0–0,5 mg/l Mn   | color comparison kit for the concentration range 0–20 mg/l Mn  |
| <b>Order number</b>    | 410562  | 410660   | 410568   |
| <b>Description</b>     | individual values: 0,1–0,25–0,5–1,0–1,5–2 mg/l, complete with reagent<br>analyses: approx. 100<br>measuring time: approx. 2 minutes   | individual values: 0,05–0,1–0,2–0,3–0,4–0,5 mg/l, complete with 3 reagents<br>analyses: approx. 70<br>measuring time: approx. 17 minutes   | individual values: 0,5–1–2,5–5–10–20 mg/l, complete with 2 reagents<br>analyses: approx. 100<br>measuring time: approx. 1 minute                     |
|                        | Testoval® nitrite   | Testoval® Phosphate® (orthophosphate)  | Testoval® pH chlorine DPD  |
|                        |    |    |   |
| <b>Is used as</b>      | color comparison kit for the concentration range 0–1 mg/l NO <sub>2</sub> <sup>-</sup>  | color comparison kit for the concentration range 0–10 mg/l P <sub>2</sub> O <sub>5</sub>   | monitoring pH value and chlorine content in swimming pools   |
| <b>Order number</b>    | 410690  | 410592   | 410601   |
| <b>Description</b>     | individual values: 0,05–0,1–0,2–0,3–0,5–1 mg/l, by diluting the water sample 1:10 the measuring range can be extended to 10-times concentrations; complete with reagent.<br>analyses: approx. 100<br>measuring time: approx. 15 minutes | individual values: 0,25–0,5–1–2,5–5–10 mg/l, by diluting the water sample 1:10 the measuring range can be extended to 10-times concentrations; complete with 3 reagents.<br>analyses: approx. 180<br>measuring time: approx. 5 minutes | individual values: pH 6,8–7, 4–8, Chlor 0,1–0,5–1 mg/l, complete with a set of reagents<br>analyses: approx. 70<br>measuring time: approx. 3 minutes |




|                     | Testoval®<br>pH value 5,5-8   | Testoval®<br>pH value 8-12   | Testoval®<br>dissolved silicate   |
|---------------------|---|--|---|
|                     |    |    |    |
| <b>Is used as</b>   | color comparison kit for pH range 5,5–8   | color comparison kit for pH range 8–12   | color comparison kit for the concentration range 0–10 mg/l SiO <sub>2</sub>   |
| <b>Order number</b> | 410610  | 410616   | 410622  |
| <b>Description</b>  | individual values:<br>5,5–6–6,5–7–7,5–8,<br>complete with reagent<br>analyses: approx. 250<br>measuring time:<br>approx. 1 minute | individual values:<br>8–8,5–9–10–11–12,<br>complete with reagent<br>analyses: approx. 250<br>measuring time:<br>approx. 1 minute | individual values:<br>0,25–0,5–1,0–2,5–5–10 mg/l;<br>by diluting the water sample<br>1:10 the measuring range can<br>be extended to 10-times<br>concentrations; complete with<br>4 reagents<br>analyses: approx. 100<br>measuring time: approx. 19<br>minutes |



**Testoval®  
sulfite**

|                     |  |  |  |
|---------------------|--|--|--|
|                     |   |  |  |
| <b>Is used as</b>   | color comparison kit for the concentration range 0–20 mg/l SO <sub>3</sub> <sup>2-</sup>   |  |  |
| <b>Order number</b> | 410634   |  |  |
| <b>Description</b>  | individual values:<br>0,5–1–2,5–5–10–20 mg/l,<br>complete with 2 reagents<br>analyses: approx. 150<br>measuring time: approx. 3<br>minutes |  |  |



|                                       | Product  | Order number |
|---------------------------------------|--|--------------|
| aluminum                              | 1 set of reagents for approx. 130 analyses                         | 410651       |
|                                       | replacement color comparison device aluminum                       | 410652       |
| ammonium                              | 1 set of reagents for approx. 70 analyses                          | 410681       |
|                                       | replacement color comparison device ammonium                       | 410682       |
| chlorine DPD method 0.1–1 mg/l        | 1 set of reagents for approx. 70 analyses                          | 410521       |
|                                       | replacement color comparison device chlorine DPD method 0.1–1 mg/l | 410522       |
| chlorine DPD method 0,5-4 mg/l        | 1 set of reagents for approx. 70 analyses                          | 410521       |
|                                       | replacement color comparison device chlorine DPD method 0,5-4 mg/l | 410523       |
| chloride                              | 1 set of reagents for approx. 40 analyses                          | 410527       |
|                                       | replacement color comparison device chloride                       | 410528       |
| chromate CrVI                         | 1 set of reagents for approx. 70 analyses                          | 410533       |
|                                       | replacement color comparison device chromate CrVI                  | 410534       |
| dissolved iron (II) + (III) 0-1 mg/l  | 1 set of reagents for approx. 100 analyses                         | 410548       |
|                                       | replacement color comparison device iron (II) + (III) 0-1 mg/l     | 410549       |
| dissolved iron (II) + (III) 0-10 mg/l | 1 set of reagents for approx. 70 analyses                          | 410545       |
|                                       | replacement color comparison device, iron (II) + (III) 0-10 mg/l   | 410546       |
| hydrazine                             | 1 set of reagents for approx. 100 analyses                         | 410557       |
|                                       | replacement color comparison device hydrazine                      | 410558       |
| copper                                | 1 set of reagents for approx. 100 analyses                         | 410563       |
|                                       | replacement color comparison device copper                         | 410564       |
| manganese 0-0,5 mg/l                  | 1 set of reagents for approx. 70 analyses                          | 410661       |
|                                       | replacement color comparison device manganese 0-0,5 mg/l           | 410662       |
| manganese 0-20 mg/l                   | 1 set of reagents for approx. 100 analyses                         | 410569       |
|                                       | replacement color comparison device manganese 0-20 mg/l            | 410570       |
| nitrite                               | 1 set of reagents for approx. 100 analyses                         | 410691       |
|                                       | replacement color comparison device nitrite                        | 410692       |
| Phosphatest®                          | 1 set of reagents for approx. 180 analyses                         | 410593       |
|                                       | replacement color comparison device Phosphatest®                   | 410594       |
| pH-chlorine DPD                       | 1 set of reagents for approx. 70 analyses                          | 410602       |
|                                       | replacement color comparison device pH-chlorine DPD                | 410603       |
| pH value 5,5-8                        | 1 set of reagents for approx. 250 analyses                         | 410611       |
|                                       | replacement color comparison device pH value 5,5-8                 | 410612       |
| pH value 8-12                         | 1 set of reagents for approx. 250 analyses                         | 410617       |
|                                       | replacement color comparison device pH value 8-12                  | 410618       |
| dissolved silicate                    | 1 set of reagents for approx. 100 analyses                         | 410623       |
|                                       | replacement color comparison device silicate                       | 410624       |
| sulfite                               | 1 set of reagents for approx. 150 analyses                         | 410635       |
|                                       | replacement color comparison device sulfite                        | 410636       |
| cuvettes                              | replacement cuvette for color comparison devices                   | 410001       |
|                                       | replacement cuvette for chloride color comparison device           | 410529       |

| Analysis kits       | Standard analysis cabinet H   | Standard analysis cabinet S   | Analysis cabinet special version   |
|---------------------|---|---|--|
|                     |    |   |   |
| <b>Is used</b>      | for water analysis  | for water analysis  | for water analysis   |
| <b>Order number</b> | 410300  | 410305  | 410310   |
| <b>Description</b>  | <ul style="list-style-type: none"> <li>• titration kits: 1 Duroval® A, 1 Duroval® B, 1 Duroval® CPM</li> <li>• Testoval® color comparison kits: 1 hydrazine, 1 phosphate, 1 pH value 8–12</li> <li>• 1 aerometer, 1 100 ml measuring cylinder, 1 500 ml sampling container, 1 100 ml measuring cup, 1 funnel, 50 folding filters</li> </ul> | <ul style="list-style-type: none"> <li>• titration kits: 1 Duroval® A, 1 Duroval® B, 1 Duroval® CPM</li> <li>• Testoval® color comparison kits: 1 sulfite, 1 Phosphatest, 1 pH value 8–12</li> <li>• 1 aerometer, 1 100 ml measuring cylinder, 1 500 ml sampling container, 1 100 ml measuring cup, 1 funnel, 50 folding filters</li> </ul> | <p><b>Custom versions available upon request!</b></p> <p>example:</p> <ul style="list-style-type: none"> <li>• titration kits: 1 Duroval® A, 1 Duroval® B, 1 Duroval® CPM</li> <li>• Testoval® color comparison kits: 1 sulfite, 1 Phosphatest</li> <li>• 1 Durognost® special buffer solution</li> <li>• 1 DIST 4 conductivity tester</li> <li>• 1 pHep+ pH tester</li> <li>• 1 100 ml measuring cylinder, 1 500 ml sampling container, 1 100 ml measuring cup, 1 funnel, 50 folding filters</li> </ul> |

|                     | Boiler house analysis case   | Analysis case special version   |  |
|---------------------|--|---|--|
|                     |   |   |  |
| <b>Is used</b>      | for water analysis in boiler houses  | for water analysis in boiler houses   | Other combinations of analysis cases and cabinets are possible upon request. |
| <b>Order number</b> | 410320   | 410360  |  |
| <b>Description</b>  | <ul style="list-style-type: none"> <li>• titration kits: 1 Duroval® A, 1 Duroval® B, 1 Duroval® CPM</li> <li>• Testoval® color comparison kits: 1 sulfite, 1 Phosphatest</li> <li>• 1 pHep + pH tester, 1 pH 7,01 buffer solution in pouch, 1 pH 10,01 buffer solution in pouch</li> <li>• 1 DiST 4 conductivity tester, 1 5000 µS/cm conductivity solution</li> </ul> | <p><b>Custom versions available upon request!</b></p> <p>example:</p> <ul style="list-style-type: none"> <li>• titration kits: 1 Duroval® A, 1 Duroval® B, 1 Duroval® CPM</li> <li>• Testoval® color comparison kits: 1 sulfite, 1 Phosphatest</li> </ul> |  |

Accessories  
Chemie

| Product  | Order number |
|--|--------------|
| measuring tube 1+ 5 + 10 ml                      | 051010       |
| connecting plug, white                           | 051013       |
| pipette, 0-60 polyamine                          | 051101       |
| pipette, 0-4,0 °f                                | 051106       |
| pipette, 0-30 Duroval chloride and sulphate      | 051109       |
| pipette, 0-30 °dH                                | 051110       |
| pipette, 0-2 °dH                                 | 051112       |
| pipette, 0-20 °dH 0-7 mmol/l                     | 051114       |
| pipette, 0-60 °f                                 | 051116       |
| replacement cuvette for color comparison devices | 410001       |
| analysis cabinet, empty                          | 410301       |
| aerometer  | 410302       |
| folding filters (pack of 50)                     | 410303       |
| 100 ml measuring cylinder                        | 410304       |
| 500 ml sampling container                        | 410306       |
| funnel   | 410307       |
| 100 ml measuring cup                             | 410308       |



We handle the development, production, bottling and shipment of our reagents and analysis kits in house.

## Spare parts for controllers

Spare parts for all **Softmaster® MMP** and **ROE** series control units and the **MultiControl** control unit can only be supplied to a limited extent.  
Please contact your distributor if you require spare parts.





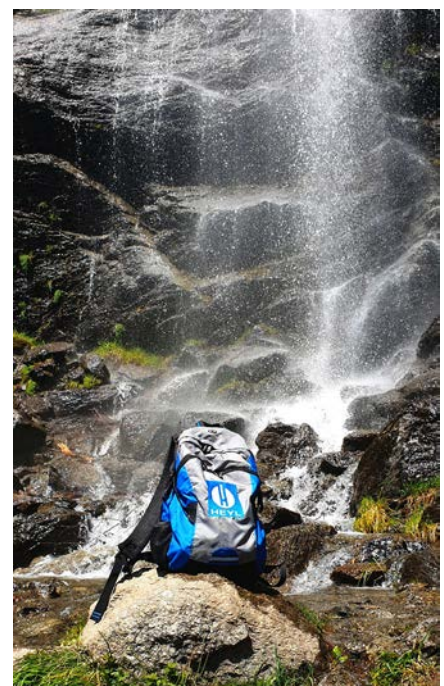
All our newly developed devices undergo thorough testing in the climatic chamber and test space. Upon customers request, we can also produce OEM devices featuring individual front foils.

## Water is our element

Our environmental policy specifies the principles of conduct for environmental protection that we follow at Gebr. Heyl Analysetechnik GmbH & Co. KG. It is determined by the management and generally applicable.

As a commercial enterprise, we are part of a society and also part of the environment and the ecosystem. Consciousness of our responsibility to society, the environment, and the ecosystem is necessary for our children to be able to experience a happy, prosperous future.

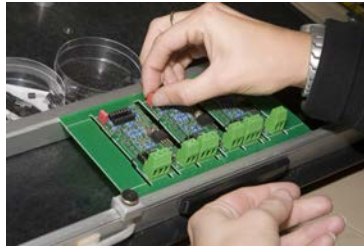
As a commercial enterprise, we accept our special responsibility to preserve our natural world. We're convinced that it is necessary to ensure that the free resources of water, air, and earth, as well as flora and fauna, be handled sparingly.





We develop innovative, customized designs ourselves. But that's not all: We provide an appropriate housing design, prepare technical documentation, and obtain the necessary sales permissions and certificates. And if you would like, we also handle series production.

You choose between our two options:



**1. From a „flash of inspiration“ to the prototype – we develop the product you want according to your specifications**

- We plan your product together and look for the best solution for you
- We develop the product according to your specifications
- We create prototypes
- We organize certificates (CE-marking, TÜV inspection, etc.)



**2. Whether Softmaster®, MultiControl®, or Testomat 2000® – we're happy to adapt our designs to your needs!**

- We select the basic instrument corresponding to your needs together with you
- We design additional modules corresponding to your needs
- We develop software according to your specifications
- We create prototypes
- We organize certificates (CE-marking, TÜV inspection, etc.)

Brief overview of our contract development services

- Hardware and software development (analysis instruments, control and measuring devices, dosing pumps)
- Indicator and reagent development (e.g. water analysis)
- Test kit development
- Mechanics construction
- Material logistics
- Layout design
- Prototype fabrication
- Model series production
- Preparing operating instructions, instruction manuals, and safety data sheets
- Organizing desired or required certificates (e.g., CE-marking, TÜV inspection, etc.)
- Product maintenance
- Training



Development of new indicators in our chemical laboratory





**We implement your idea!  
We produce your product!**

High quality, quick delivery times, customer orientation, and cooperative partnership are the foundations of our company, which operates in many countries. These maxims result in the continuous enhancement of our products and services and the continuous skill enhancement of our employees.



We attach great value to the reliability and durability of our products and have adapted the supply of spare parts to the long service lives of our instruments. In addition, we attach great value to multi-level 100% testing, only possible on the basis of small batch production. We test all assemblies separately before they are installed in our instruments and then subjected to a multi-day quality check in the instrument. Last but not least, we



develop and produce our own products in order to satisfy our own extremely high quality demands. Our mission includes consistently catering to our customers' needs and developing the best solution together with them!

Brief overview of our contract manufacturing services

We produce your product – in small batches too!

- Producing chemical formulations
- Filling into containers of any size
- Packaging
- Circuit board assembly
- Soldering
- Assembly
- Testing

We implement your idea!

You receive a final product from a single source:

- We optimize your product together and look for the best solution for you
- We look for the lowest-priced supplier
- We take care of purchasing all individual parts needed

- We coordinate cooperation with your partners
- We manufacture your product
- We subject the final product to extensive final checks
- We ship your finished product to the desired address in your name



All our newly developed devices undergo thorough testing in the climatic chamber and test space. Upon customer request, we can also produce OEM devices featuring individual front foils.

**§ 1 Validity of the conditions**

Our deliveries and services shall occur exclusively under these terms and conditions. At the same time, they are valid for all future business relations, even if they are not agreed expressly again. Customer's terms and conditions differing from them are not valid.

**§ 2 Conclusion of a contract**

- (1) Our offers are non-binding. Technical changes as well as changes in shape, color, and/or weight within the scope of what is reasonable are reserved.
- (2) Orders placed with us are binding offers which we can choose to accept within two weeks. Acceptance is declared either in writing or by delivery of goods to our customers.
- (3) If customers place an order electronically, we shall immediately confirm receipt of the order. Receipt confirmation does not constitute a binding acceptance of the order, but can be combined with the declaration of acceptance. We shall store the contractual text and send it to the customer via e-mail together with these terms and conditions if requested.
- (4) Conclusion of a contract occurs under reserve of the correct and timely delivery through our supplier, unless we are liable in the case of non-delivery, e.g. if a congruent hedging transaction has not been agreed with our supplier. We shall immediately inform the customer of any possible unavailability of the service and refund any service in return already received.

**§ 3 Prices**

- (1) Our quotation prices are valid for 30 days after the quotation date, unless otherwise stated. In case of doubt, the prices specified in our confirmation of order are decisive.
- (2) Our prices are valid, unless otherwise agreed, as net prices without cash discounts or any other allowances ex stock in Hildesheim, Germany, excluding packaging and shipping costs and plus the respective statutory VAT.
- (3) If there is any change in labor costs, material costs, purchase conditions, etc. between the date of contract conclusion and the agreed and/or actual delivery date, we shall be entitled to adjust our prices accordingly and, if an agreement cannot be reached, to withdraw from the contract. This only applies for non-trade operators if the time between the date of contract conclusion and the delivery is more than four months.
- (4) Our invoices are payable within 30 days of the delivery date with no deductions. In the event of default on payment, we are entitled, irrespective of the proof of greater damage caused by delay, to charge a higher default penalty interest at 8% points above the respective base rate.
- (5) The off-setting of any counter-claims by the purchaser is permissible only if such counterclaims are undisputed or established in law. Purchasers can only exercise their right of retention if it is based on claims contained in this contract.

**§ 4 Delivery**

- (1) Delivery and service delays due to instances of force majeure or circumstances which make delivery difficult or impossible – e.g. strike, lock-out, administrative regulations, natural disasters, business disruptions, power failure, etc. irrespective of whether we or our suppliers are affected by such circumstances – will exempt us from our contractual deadlines and obligations. We then have the right to postpone the delivery or the service for the period of the hindrance. If the delivery or service becomes impossible or unreasonable and this is not due to our fault, we shall be entitled to terminate the contract. In this case the customer has no right to make claims for damages.
- (2) We shall be entitled to carry out partial deliveries and partial services.

**§ 5 Transfer of risk**

- (1) The risk of accidental loss and accidental deterioration of the goods passes to the customer as soon as the consignment has been transferred to the freight carrier in the case of mail order purchase or other parties designated by the customer to carry out delivery. This applies irrespective of which party bears the transport costs.
- (2) Goods will still be delivered even if the customer is delayed in accepting the delivery.
- (3) We shall only take out transport insurance at the customer's request and expense.

**§ 6 Warranty against defect**

- (1) We provide warranty for two years at our own discretion via fault rectification or replacement delivery. If the fault cannot be eliminated within an acceptable time period or if rectification or replacement delivery is to be considered as failed due to other reasons, customers can, according to their choice, demand a reduction or terminate the contract. Failure can only be assumed if sufficient opportunity has been provided to us to rectify the fault or to deliver a replacement without the desired aim being achieved, if fault rectification or replacement delivery is impossible, if we refuse to rectify the fault of deliver a replacement or unacceptably delay fault rectification or replacement delivery, if there is justified doubt regarding the prospect of success, or if they are considered unacceptable due to other reasons. Cancellation is impermissible on the grounds of minor faults. Wear parts (e.g. seals, moving parts, etc.) are only guaranteed for one year. For such parts, deterioration due to proper use does not constitute a fault, We assume no liability for faults that arise due to improper use, nor for faults arising because the original HEYL Testomat® indicator is not used exclusively.
- (2) For a commercial transaction our customer must check that the goods conform to the contract immediately upon their receipt, immediately notify us in writing of any visible damages upon receipt of the goods, and notify us of any other defects immediately after their identification (§ 377 HGB); otherwise the goods are considered as accepted. Other business requires written notification of visible damage within two weeks upon receipt of the goods. The burden of proof of the fault, the time of its identification, and the timely receipt of the complaint rests with the customer.
- (3) Contrary to the aforesaid rules of warranty, we only sell used items, except in the case of fraudulent intent, with the exclusion of any form of warranty. This does not affect warranty commitments.

(4) If customers decide to terminate the contract due to a fault after an unsuccessful rectification of faults, they are not entitled to an additional claim for damages due to this fault; the customer is obliged to return the goods. If customers make a claim for damages after an unsuccessful rectification of faults, the goods remain with the customers if this is reasonable for them. The claim for damages is then limited to the difference between the purchase price and the value of the faulty item. This is not valid if we have fraudulently attempted to violate the contract.

**§ 7 Liability**

- (1) Our liability and the liability of our vicarious agents are hereby excluded for slight negligent breach of duty, provided that no contractual duties, damages to life, limb, or health, or agreed guarantees or claims in accordance with the German Product Liability Act are affected. In the case of violation of contractual duties our liability shall be limited to typical contractual losses which could have been reasonably foreseen.
- (2) The period of limitation of one year applies for claims for damages against us which are not based on willful conduct attributable to us. This does not include suppliers' claims for recourse in accordance with section 478 of the BGB.

**§ 8 Retention of title**

- (1) We retain the title to the goods until complete settlement of all claims against the customer that we are entitled to now or in the future.
- (2) Our customers shall be entitled to process and resell the conditional goods in the ordinary course of business, provided that they are not in default. The pledging of goods or security transfers of ownership is not permissible. Claims resulting with respect to the conditional goods (including all balance claims from the current account) resulting from the resale or any other cause in law (insurance, unlawful act) shall now be assigned by the customer to us as security up to the amount of our claim. We hereby accept the transfer and authorize the customers to collect the claims assigned to us for their account in their own name. This authorization can only be revoked if our customers do not fulfill their payment obligations.
- (3) Any adaptation and processing of the conditional goods by the customers shall always be carried out in our name and on our behalf. If processing occurs with goods which do not belong to us, we shall acquire co-ownership of the new goods in proportion to the value of the goods supplied by us to other processed goods. The same shall apply if the conditional goods are intermingled with other goods which do not belong to us.
- (4) The customers shall keep our retention of title free of charge. They are obliged to take out insurance in a reasonable and usual scope. In the case of an intervention or seizure of the conditional goods by a third party – in particular by a marshal – our customers are obliged to indicate our ownership and to notify us without delay.

**§ 9 Installation and maintenance**

- (1) If our customer asks us to carry out installation and maintenance work, which we do not carry out within the framework of our liability for defects, a separate contract for work and services comes into being. If not stated otherwise hereinafter these terms and conditions also apply for this contract for work and services. Payment takes place according to the respective valid prices for maintenance rates.
- (2) A written estimate is required if our customer desires a binding quote. We are bound to this estimate for one complete month after submission.
- (3) Customer rights due to defects of installation and maintenance work expire one year from acceptance of the repair item of work. This time limit does not apply if we acted with intent or gross negligence or if we are responsible for damages to life, limb, or health or for claims in accordance with the German Product Liability Act. In the case of contractors, we do not accept liability even for slight negligent breach of marginal contractual obligations.

**§ 10 Miscellaneous**

- (1) The exclusive place of jurisdiction for all disputes is Hildesheim, Germany, if our customer is a trader, a legal person governed by public law, or special public law funds. This shall also apply if our customers do not have a general place of jurisdiction in the Federal Republic of Germany or if their normal place or residence when legal action is brought is unknown.
- (2) Changes or additions to this contract have to be in writing. This also applies to the written form clause.
- (3) Our customers consent to storage of their personal data for the purpose of contract conclusion.
- (4) In the event that a provision of this contract or these terms and conditions is or becomes invalid or unenforceable, this shall not affect the validity of the remaining provisions.
- (5) Only the relevant laws of the Federal Republic of Germany shall apply; the UN Convention on the International Sale of Goods is hereby excluded, even if our customer's registered seat is abroad.



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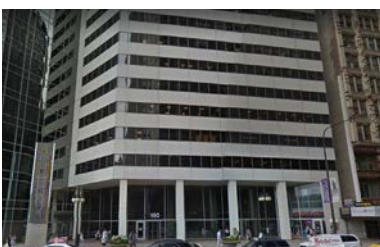
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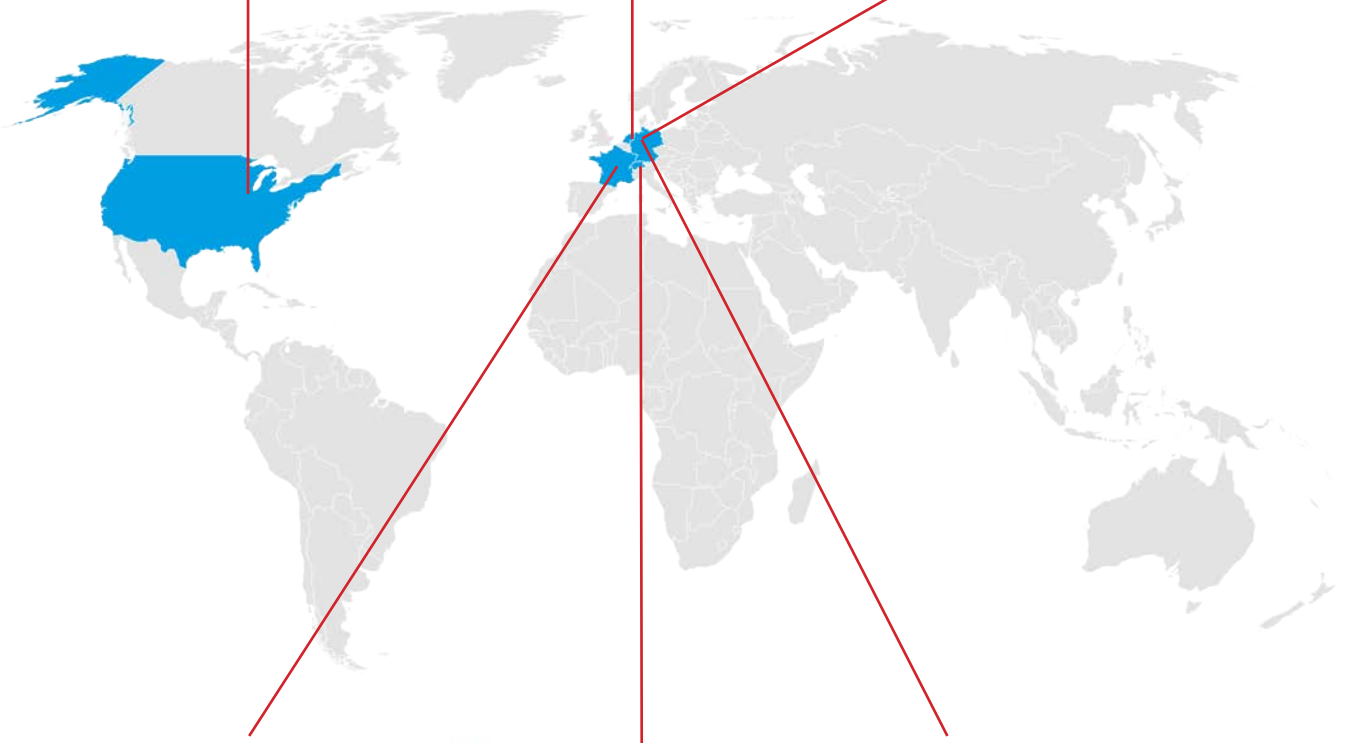
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 **HEYL BROTHERS**  
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Water is our Element

**prowater**  
METEN REGELEN DOSEREN

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Analysentechnik GmbH & Co. KG  
Wasser ist unser Element



**HEYL ANALYSIS TECHNOLOGIES**  
L'eau est notre élément / Water is our element

 **BWT**  
BEST WATER TECHNOLOGY

 **NEOMERIS**

**figawa**  
Finanzen im Gas- und Wasserfach

Member of  
 **German Water Partnership**

Wir fördern das  
**Deutschland STIPENDIUM**

**AMA**  
Verband für Sensorik + Messtechnik  
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