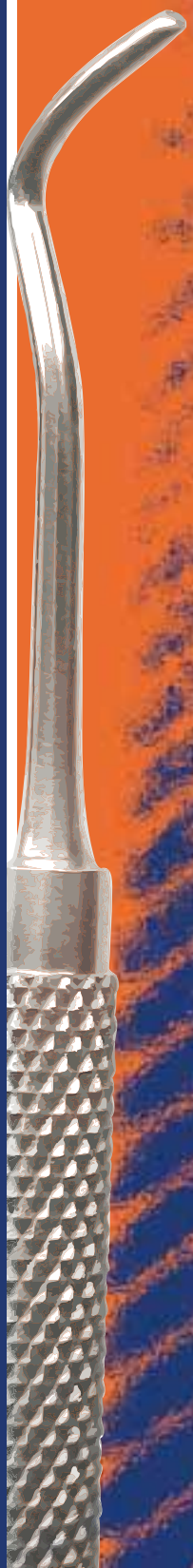
NEOMERIS
CLINICAL SOLUTIONS



OPTIMUM WATER QUALITY FOR YOUR MEDICAL PRODUCTS

For medical care centres, doctors performing outpatient surgery and specialist practices

Contents

From component suppliers to water experts in 15 years

Since I started as Managing Director in 2008, I have had the vision of being a professional and highly competent partner for all process water issues. Today, we are shaping entire market sectors with our in-depth expertise.
Having started out as a component supplier over 15 years ago, we now offer a very extensive product portfolio for measurement technology, complete multi-parameter measurement solutions and system technology.

These primarily include disinfection systems such as chlorine dioxide systems, ozone generators or deionised water systems for medical care centres and operating medical practices.
We analyse the existing requirements for water treatment in production or hospitals and ensure the implementation of a sustainable process water concept.
Our system design takes individual factors into account: it can be configured either on a demand-orientated or modular basis.
We work with the latest knowledge and take into account occupational health and safety and risk assessments as well as relevant guidelines and drinking water regulations.
Last but not least, we also enable 'pay per use' rental models (e.g. for doctors performing outpatient surgery) and can often point to reductions in operating costs.
Our team is passionate about water and works on an interdisciplinary basis.

Gebrüder Heyl Vertriebsgesellschaft
für innovative Wasseraufbereitung mbH

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Please feel free to visit our online shop and find out more about our product portfolio.

http://www.wasseraufbereitung-ambulante-kliniken.de

The customised solution for your demineralised

What we want to achieve – for you:

Reliable water supply in accordance with current DGSV recommendations, even with a small number of operations.

Highest demineralised water quality, even for small treatment capacities.

Drinking water analysis

UV filter

Pyrogen filter

Optimal demineralised water treatment does not require magic, but experience, commitment and know-how.

The use of the best technology – at the cutting edge of knowledge and technology – ensures high-quality sterile processing.

The result of good demineralised water treatment is good instruments and good equipment technology.

water requirements.

Our water treatment complies with the following limit values of the DGSV guidelines:

- Residual hardness downstream of the water softener (sum of alkaline earth ions): < 0,02 mmol/l
- Conductivity in the permeate of the reverse osmosis: < 20 µS/cm
- Conductivity downstream of the EDI: < 0,1 µS/cm
- Silicate downstream of the EDI (recommended): < 0,4 mg/l
- Silicate behind the first mixed bed filter: <0.4 hm/l

Testomat SiO_2

Conductivity measurement

Cabinet system

Under-counter system

With this preparation process, you virtually 'buy' the legal certainty that is required in outpatient clinics, medical care centres and specialist practices.

The result of our ideas and development can be found in either a cabinet system or an under-counter system.

Of course, we also provide professional installation, commissioning, service and maintenance.

WATER TREATMENT SYSTEMS FOR DEMINERALISED WATER

CLINICAL SOLUTIONS

NEOMERIS

Modular water treatment for demineralised water - cabinet system

Width: 0.80 m
Depth: 0.60 m
Height: 1.90 m

The footprint for both cabinets is a maximum of 1.60 m by 1 m.
The maximum treatment capacity for demineralised water is 90 litres in the basic version.

Rittal enclosure (cupboard) systems

Avoidance of standstill contamination through permanent recirculation

HeylNeomeris as a system supplier also for under-counter systems in laboratories and medical practices

The system components of the modular processing system are installed in two Rittal enclosures (cupboards).

Rittal is a leading manufacturer of enclosure systems and offers a wide range of solutions for the secure storage and protection of electronic components and devices. Rittal enclosure systems are available in various sizes, designs and configurations and are suitable for different application areas such as IT infrastructure, industrial automation, power distribution and telecommunications.

The enclosure systems from Rittal are characterised by high quality, functionality and flexibility. They are made of sturdy sheet steel modules and have a high-quality surface coating. As Rittal enclosures are made from high-quality materials, their robust construction ensures reliable protection for the equipment inside.

They are protected against dust, dirt, moisture, vibrations and other environmental influences. Rittal enclosure systems have a modular design, which means that they can be customised to suit specific requirements and the available space. They offer a variety of options for mounting accessories such as shelves, cable management, air conditioning units and power distribution units.

These cabinet systems also offer various security features such as lockable doors, security locks and access control systems to prevent unauthorised access to the devices and ensure data security.

A minimum footprint of just 1.60 m x 1 m is required to install the modular water treatment system from HeylNeomeris. It consists of 2 cupboards, each 80 cm wide and 60 cm deep. It is possible to work with double doors; this results in a room depth of 1 m due to the depth of 60 cm plus a double door with a dimension of 40 cm.

As a water treatment company, we specialise in disinfection and ultrapure water technology. Our latest solution is particularly suitable for demineralised water requirements in laboratories and operating theatres to ensure that equipment and instruments are available at all times.

With a demineralised water requirement of up to 50 litres/hour, our new system concept perfectly complies with the required limit values in accordance with guidelines 17 and 18 of the DGSV's Hygiene, Construction and Technology Committee in the smallest of spaces.

You could easily fit the under-counter appliance into a kitchen unit because it looks like a normal household appliance – visually rather small, in terms of cleanliness a real giant.

Hygiene and disinfection are important core objectives for every surgeon. The measurement of silicates and conductivity are components of our smart solution. We support you in determining your demineralised water requirements and in smooth integration as a system supplier. Trouble-free operation and the sustainable condition of the equipment and instruments are essential for efficient processes.

By combining proven processes in a compact design, the under-counter version enables the production of up to 50 litres of demineralised water per hour, while at the same time minimising space requirements.

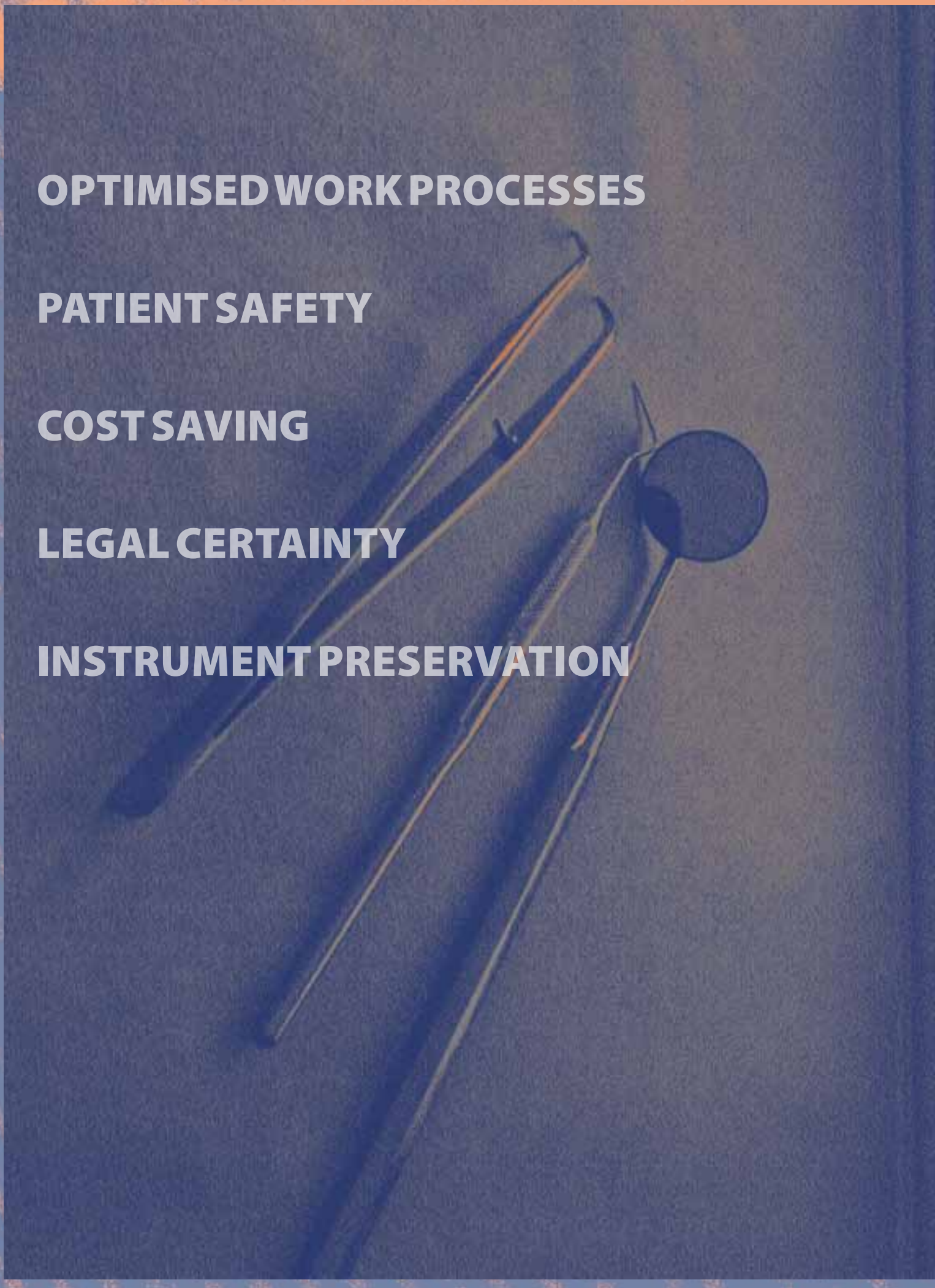
The continuous monitoring of the demineralised water produced with regard to the currently recommended limit values of the DGSV for conductivity and silicates helps to maintain the value of the equipment technology and instruments used. Integrated rinsing connections allow the system to be used as required in buildings with low operational capacity utilisation.

Our under-sink system is also always sold including Testomat 808 SiO_2. The silicate analyser is not installed in the system, but mounted separately on the wall. The illustration on the left shows the complete system together with Testomat 808 SiO_2 as a standard basic package.

Dimensions of the system:

Width	55 cm
Depth	40 cm
Height	60 cm

Item number	Article description
900601	System + Testomat
851096	Optional: System + NeoTecMaster
896957	Pyrogen filter
896450	UV system
896455	UV lamp as spare part for 1-year maintenance
100660	Testomat SiO_2: Measuring range 0.3–1.2 mg/l (limit value monitoring set ex works to limit value: < 0.4 mg/l [fulfilment of DGSV recommendation])
270344	Silicate filter cartridge
141808, 141809, 140808	Reagents
851075	Conductivity measurement: Measuring range 0–5 µs/cm (limit value monitoring set ex works to limit value 1: 0.8 µs/cm and limit value 2: 1 µs/cm)
890612, 890611	Set 1, Set 2 for the service


OPTIMISED WORK PROCESSES
PATIENT SAFETY
COST SAVING
LEGAL CERTAINTY
INSTRUMENT PRESERVATION

A system for the production of demineralised water, which is used as process water in treatment, is a combination of several components*.

In order to **optimise** these **work processes**, specialist guidelines recommend stricter limit values**. Many hospital managers and those responsible for the reprocessing unit for medical devices are already adapting their process water production to these new requirements. This has several advantages.

In addition to legal security, this also results in direct **cost savings**. There is less damage to medical devices: Limescale deposits, corrosion and silicate deposits are visible signs of poor process water quality at medical instruments, cleaning devices, disinfectors and sterilisers.

The hygienic risk of germ contamination and soiling, which jeopardise successful sterilisation and therefore **patient safety**, is reduced. Presumably every medical institution puts the well-being of patients first, far ahead of economic considerations, which of course can hardly be avoided. Everyone who bears legal responsibility for patient safety and processes has a duty here***.

Legal certainty in treatment is only possible with up-to-date water treatment in accordance with the latest state of knowledge.

Anyone who also takes into account the reduction in staff workload when making these considerations will come to the conclusion that optimised work processes and the associated reduction in stress will increase **employee satisfaction** - a classic win-win situation.

* (DGSV Expert Committee, Recommendation No. 17)

** Stricter guideline values recommended by the Instrument Reprocessing Working Group (AKI) were adopted by the DGSV in 2022 in order to update the standards for water quality.

*** According to the Medical Devices Operator Ordinance (MPBetreibV), the operator of the facility is liable for proper reprocessing.

Report from the field: Project report 'Eye Clinic at the AEGI'.

Market innovation for the demineralised water supply of outpatient medical practices and MVZs
Reference project 'Augenärzte am Aegi', Hanover, successfully in continuous operation

The growing number of outpatient surgical procedures and staff shortages in the practices concerned are leading to an increase in peak loads in the area of AEMP, i.e. in sterile supply and technology.

In terms of technology, it is now described both in the 'Red Book of the AKI (Working Group of Instrument Manufacturers)' and in two guidelines of the DGSV e.V. that an AEMP for the media supply for steam generation must work with significantly lower limit values in order to keep the devices and instruments in the operational process free of damage. This usually results in a considerable reduction in operating costs.

Taking all influencing factors into account, we have designed a new system technology for water treatment in outpatient clinics, which has been used as an innovative market novelty ('outpatient clinical solutions') in a surgical centre for eye operations since March 2023.

In ophthalmology, a high media quality of the water used for cleaning and disinfection devices and sterilisers is relevant.

Under the management of Dr Stefan Nikolic, 'Augenarzte am Aegi', MVZ GmbH, Hanover, agreed to be the first operator of our media processing technology in the practice.

Dr Nikolic explains: 'We are a medical care centre and an eye clinic consisting of diagnostics, conservative therapy and a surgical centre for outpatient operations. We employ several operating doctors in our centre. We usually carry out up to 35 operations a day and therefore have a large volume of surgical instruments to clean. We have two washer-disinfectors (WDs) and two sterilisers for this purpose. These must be supplied with so-called demineralised water. Protecting the instruments and equipment is important to us. Our previous system for producing demineralised water was maintenance-intensive and had frequent downtimes, especially during peak loads. This is unacceptable during ongoing surgery operations, because the standstill of the media supply (deionised water supply) means that we cannot maintain surgery operations. The offer from Gebr. Heyl Vertriebsgesellschaft für innovative Wasseraufbereitung mbH, Hildesheim, to be available as a reference customer for this new innovative system technology came at the right time.'

The innovative modular water treatment system was commissioned as a reference system during ongoing operating theatre operations at the end of April 2023. Before installation and commissioning were carried out, the incoming water quality and the quantity of demineralised water required were checked and defined.

For the supply, it was necessary to install a pressure booster system in the building on the advice of the Heyl experts in order to ensure the appropriate water pressure for system and device operation under load. The actual installation and commissioning time for the 'c|inic solution' is normally 6 to 8 hours. During this time, the media supply is ensured by a bridging concept.

The modularity of the system concept means that the technology can fulfil any requirement. With its nine-stage safety concept, the system in our building offers maximum protection against particles, hardness, silicates, chlorine, standstill contamination, leakage and pyrogen contamination. The equipment technology and instruments are also protected. This results in a reduction in costs for equipment operators, instrument management and instrument replacement, as well as minimising the risk to patients. The deionised water system has a small footprint of 1.6 square metres. It was easy to integrate into our premises.

The system components are located in two lockable cabinets and are therefore optimally protected against dust, dirt and moisture.

Dr Nikolic reports with satisfaction: 'We are already experiencing that we no longer have any unexpected maintenance work and that this reduces the workload on our employees. We no longer have downtimes. The most important aspects for us are that the system offers maximum safety and works as autonomously as possible.'

The system is designed in accordance with the current state of technology and knowledge. The new limit values for water constituents published by the German Society for Sterile Supply in October 2022 have been fully taken into account.

'We would like to thank Gebr. Heyl Vertriebsgesellschaft für innovative Wasseraufbereitung rnbH, Hildesheim, for the opportunity to use the 'ambulant clinical solutions' as the first outpatient surgery centre in Germany and can recommend the product without hesitation. We are not only optimising our processes and reducing costs, but also increasing the safety of our patients and our efforts to achieve the best surgical results,' comments Dr Nikolic confidently.

Dr Stephan Nikolic, 'Augenärzte am Aegi', Hanover

Standard equipment of the systems:

Testomat® 808 SiO_2 silicate measuring device

A Testomat® 808 SiO_2 silicate is used for permanent silicate monitoring. The Testomat® 808 SiO_2 is a measuring device that is used to determine the silicate content in water. The measuring principle of the Testomat® 808 SiO_2 is based on the so-called molybdenum blue method. The silicate in the water reacts with a reagent solution containing molybdenum. This reaction produces a blue colour, the intensity of which is proportional to the silicate content.

The measuring device records the colour intensity using an optical sensor and converts it into a measured value that represents the silicate content of the water. The Testomat® 808 SiO_2 is housed in a compact casing that contains a user interface, display and control elements as well as connections for water samples and drainage.

Item number ***100660, 100663***

The use of Testomat® 808 SiO_2 ensures reliable compliance with the limit value for SiO_2 of 0.4 mg/l recommended by the DGSV and AKI.

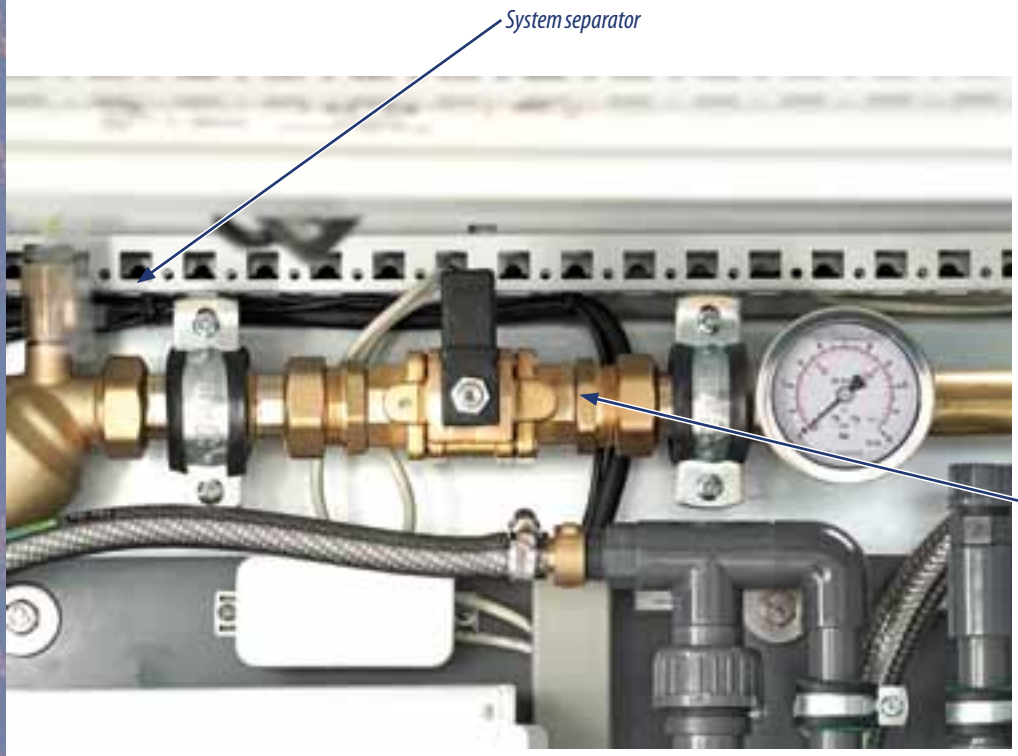
If a limit value is exceeded, this can be transmitted to the optionally available NeoTec-Master® or an optical warning element can be activated directly.

Continuous monitoring of the silicate content is necessary in order to effectively prevent any deposits and subsequent damage to equipment and instruments.

By using the Testomat® 808 SiO_2, companies can continuously monitor the silicate content and, if necessary, take appropriate measures to prevent deposits.

For technical data, see page 24.

Shut-off via system separator



The installation of a system separator is mandatory in order to protect the drinking water network from contamination by treated water or changes to the natural composition of the drinking water fed in due to its technical treatment.

The system has an integrated system separator (type BA), which is located directly behind the Aqua-Stop of the water connection.

Aqua-Stop (solenoid valve shut-off)

An Aqua-Stop is a safety mechanism used in water supply systems to stop or limit the flow of water if a fault or leak occurs. It is usually an automatic closing mechanism that closes the water supply valve to prevent major water damage.

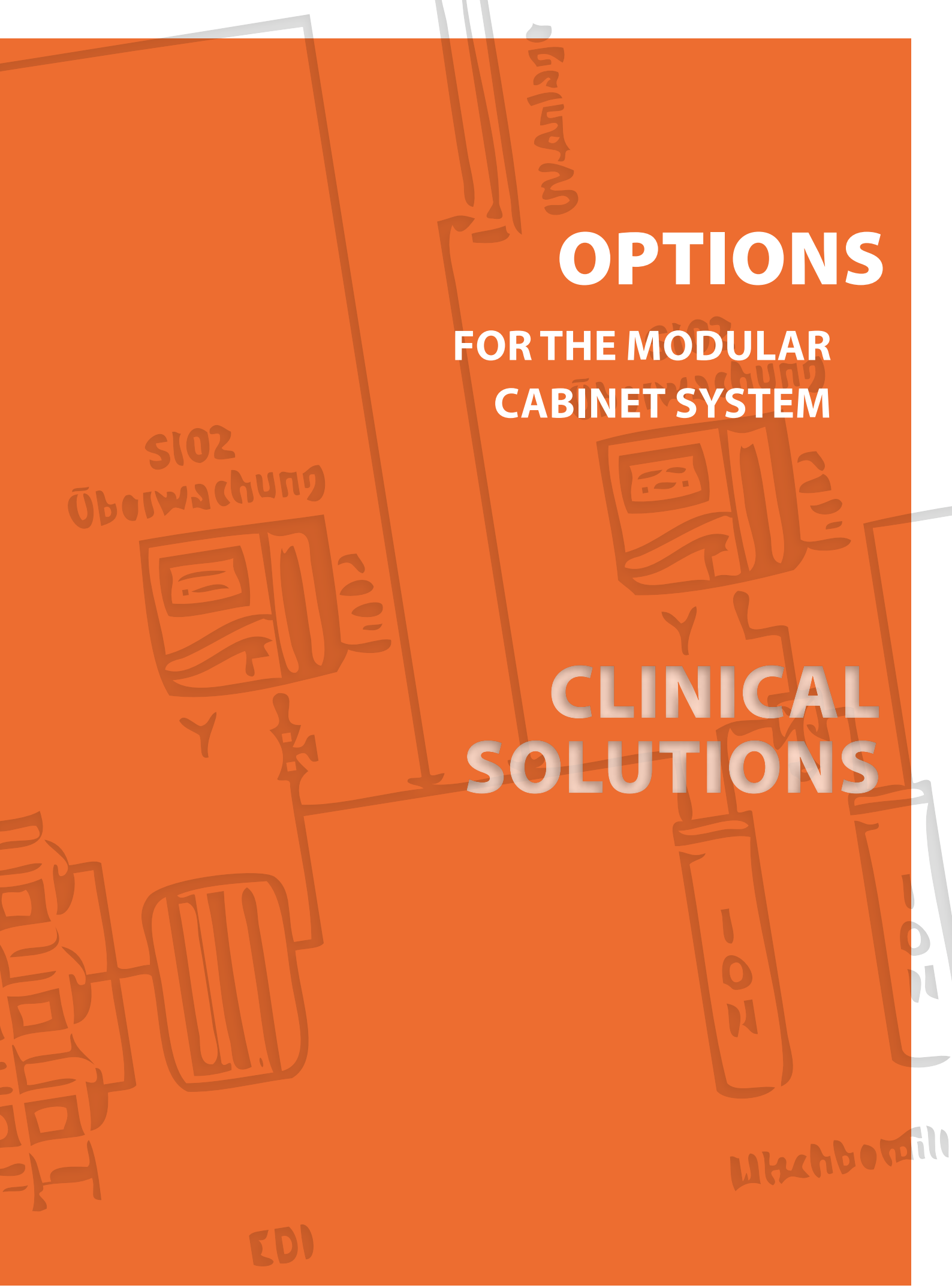
A solenoid valve is a type of shut-off valve that is controlled by the use of an electromagnetic field. In water treatment, a solenoid valve is used to shut off or control the flow of water. The solenoid valve consists of an electromagnetic coil system and a valve mechanism. By applying an electrical voltage to the coil, a magnetic field is generated which influences the valve mechanism. Depending on the application, the solenoid valve can be opened or closed to allow or block the flow of water. In combination, additional safety and control over the water flow can be guaranteed.

The Aqua-Stop is located directly behind the main water connection of the system as the first element. The associated solenoid valve is coupled with two sensors, one of which continuously monitors the floor trays of the two cabinet systems. The floor trays are an integral part of the cabinet systems.

OPTIONS

FOR THE MODULAR CABINET SYSTEM

CLINICAL SOLUTIONS



UV disinfection Mini

UV disinfection is used in water treatment to inactivate any microorganisms such as bacteria, viruses and protozoa. UV stands for ultraviolet radiation, which is generated by special UV lamps. The principle of UV disinfection is based on the inactivation of the microorganisms' DNA or RNA, which prevents them from multiplying and causing disease. UV disinfection is relevant because UV radiation is effective against a wide range of microorganisms, including bacteria, viruses and protozoa such as Giardia and Cryptosporidium. A high inactivation rate can be achieved and most pathogenic organisms in the water can be killed.

Unlike other disinfection methods such as chlorination or ozonisation, UV disinfection does not require the addition of chemicals to the water.

It does not produce any unwanted by-products and does not change the taste or odour of the water. UV disinfection is a reliable method of killing microorganisms. As long as the UV lamp is properly maintained, the effectiveness of the disinfection remains constant. As no chemicals are used in UV disinfection, there are no harmful residues in the water or the environment. It is an environmentally friendly disinfection method that reduces the ecological footprint of water treatment. It is important to note that while UV disinfection is an effective method of killing microorganisms, it does not remove pollutants, particles or chemical contaminants in the water.

The optional UV system is integrated into the system's continuously operating recirculation system.

The optional ultraviolet radiation system is integrated into the plant's continuously operating recirculation system

Item number ***896450***

Pyrogen filter

A pyrogen filter is a special type of filter used in water treatment to remove pyrogens from the water.
Pyrogens are substances that can cause an immunological reaction in the body, in particular an increase in body temperature.

These are usually endotoxins that are released by bacteria such as Escherichia coli (E. coli). The pyrogen filter consists of a filter element with a very fine pore size, typically in the range of 0.1 to 0.2 micrometres. This enables the filter to effectively retain particles and microorganisms, including pyrogenic bacteria that may be present in the water. In the modular water treatment system, the pyrogen filter is used after other pretreatment stages such as filtration and disinfection. After the water has been cleaned of particles and microorganisms, it is passed through the pyrogen filter to remove any pyrogens. Pyrogen filters are particularly important in industries where the absence of pyrogens in the water is crucial, for example in the ambulatory care sector to ensure the optimum quality of instruments for operations.

Overall, pyrogen filters play an important role in water treatment to ensure the quality and purity of water and to minimise potential exposure to pyrogenic substances.

The optimum pyrogen filter is located directly downstream of the UV system and can therefore also be integrated into the system's continuous recirculation system.

Item number ***896957***

Conductivity measurement on mixed bed

The conductivity meter is used to measure the electrical conductivity of aqueous solutions in the lower range using an integrated two-electrode screw-in measuring cell, ¾ inch without temperature compensation.

Application examples:

- Softener cartridges
- Demineralisation
- Reverse osmosis
- Mixed bed cartridges

Added value:

- Operation on 9 V DC via supplied plug-in power supply unit
- 1 potential-free relay with switchable relay control mode
- Limit value display optically by means of LEDs

The conductivity measurement is installed on the second mixed-bed cartridge and continuously monitors whether the conductivity falls below the recommended limit value of 1 µS/cm.

Technical data

Measuring range	0–5 µS/cm
Measuring accuracy	2.5 % of full scale value
Resolution	2 decimal places
Limit value displays	ptical via LEDs, limit values adjustable between 0 and 100 % of the measuring range
Limit value 1	reset to 1 µS/cm (relay contact)
Limit value 2	preset to 0.5 µS/cm
1 potential-free relay contact	max. 2 A / 250 V AC, 60 W / 62,5 VA
Power consumption	approx. 1 W
Protection class	IP 65
Housing	Polycarbonate housing, 82 x 60 x 57 mm
Connections	Side connection for plug-in power supply unit and 1 x relay output
Measuring cell	¾ inch, PP, PN 6, Maximum temperature 60 °C

Item number	*Article description*
N-LF5R, 0-5 µS conductivity measuring instrument with integrated 3/4" screw-in measuring cell	*851075*

Lifting system / Lifting unit

The lifting unit is used to reliably discharge the wastewater volumes from the individual process steps. The main volume flows here are the wastewater from the regeneration of the softening system and the concentrate from the reverse osmosis.

The intermittent wastewater flows from the silicate analyser, the system separator and the rinsing water produced when changing the inlet filters (especially activated carbon filters) are also collected in the lifting unit.

The use of a lifting unit is recommended if the wastewater pipes cannot be connected to a wastewater connection at ground level.

Technical data

Pump type:	Sealless submersible pump made of Valox plastic (pump housing, impeller and cover) or motor shaft made of stainless steel AISI 316; 2-pole induction motor 50 Hz (2800 rpm), voltage 230 V, to EN 60034, protection class IP55, insulation class F
Materials:	Housing, cover and impeller made of PBT
Container contents:	13 litre tank capacity
Connections:	Regeneration: 8 mm (optionally 10 mm and 12 mm as accessories in the scope of delivery) via free inlet (system separation) Overflow: 13 mm (optionally 20 mm as accessories in the scope of delivery) Pressure connection: ¾ inch (20 mm)
Maximum delivery height:	5 metres water column
Maximum delivery rate:	70 litres/minute
Motor power:	0.09 kW (P2)
Operating voltage:	230 V, 50 Hz
Rated current:	0.7 A
Level control:	Membrane switch with time relay
Connection cable:	Length 3 metres with earthing contact plug
Pressure connection:	¾ inch hose nozzle including non-return valve
Conveying medium:	brine + cold water, salt content approx. 27 %
Maximum grain size:	Solids up to 4 mm
Maximum temperature:	40 °C
Dimensions:	450 x 540 x 230 mm (height depth width)
Total weight:	approx. 5 kg

NeoTecMaster® 5 inch with housing

NeoTecMaster® - 5 inch in IP66 housing as a 4-channel system, preconfigured to accept up to 8 incoming 4-20 mA signals, one R232 signal and Modbus signal, can be optionally enabled for 8 channels

Data acquisition, visualisation and processing are just some of the relevant topics in the field of modern water treatment. The networking of different measuring systems and their integration into process automation is an elementary component here.

The NeoTecMaster® was specially developed for this task and is a manufacturer-independent multi-parameter system.

Contents:

- NeoTecMaster® 5 inch - 4 channel system
- NeoTec Slave 4 - 20 mA module (inputs: 8 x 20 mA)
- NeoTecMaster® IP66 housing for 5 inch display, light grey with front foil
- USB stick for NeoTecMaster® 8G
- Installation of NeoTecMaster® in housing including parameterisation and cabling of the NeoTecMaster®
- Universal power supply 24V/6A DC (100 - 240 V AC) (144 Watt)

Data recording and visualisation using NeoTecMaster®

This multicontroller is visualised using trend graphs. All set parameters can be selected and deselected. All recorded data is saved on a USB stick and can also be accessed online within the company network. You can monitor and visualise up to 8 parameters using the toggle button.

The NeoTecMaster® is available with a 5-inch screen and an additional IP 66 protection class housing.

The NeoTecMaster® Multicontroller concept is a basic component for every water treatment system, including systems in outpatient clinics.

Article description	*Article number*
NeoTecMaster® 5 inch 4 channel	*851096*

Inspection window / Viewing window

Viewing windows can be installed in Rittal enclosures to provide an overview of the measurement technology. The use of inspection windows in Rittal enclosure systems has several advantages. They enable a visual inspection of the devices in the enclosure without having to open the enclosure. This facilitates the monitoring, maintenance and troubleshooting of components without compromising the integrity of the enclosure. The viewing windows are usually made of a transparent material such as glass.

Technical data

Material:	Extruded aluminium profile with die-cast zinc corner pieces and toughened safety glass
Base frame surface:	Powder-coated RAL 7035 Hinge and lock profile: anodised, natural
Advantage of disc:	Made of toughened safety glass: high resistance to solvents and scratches, antistatic, reduced risk of injury in the event of breakage. Standard double-bit lock insert, replaceable with lock inserts 27 mm hinge with 180° opening angle, easy to hang in
Advantage frame:	Easy to screw onto the door thanks to adapted dimensions (tubular door frame can be used as a drilling template). Easily adjustable in height. Stabilizes the door cut-out. Conceals the cut edge. There is no dirt on the seal, the pane is secured against being levered out, no dirt falls off when opening and no liquid runs behind it. Window frame profile in height 30mm or 60mm
Protection class:	IP54
Dimensions:	700mm x 470mm x 47mm (height depth width)
Visible surface:	563mm x 398mm
Weight:	5.75 kg
Copper content:	0

Notes:
Viewing windows in Rittal enclosures are only available for single-leaf doors.
When selecting this option, please note that the required minimum room depth increases from 100 cm to 140 cm.

Lighting

Furthermore, interior lighting with RGB colors is optionally available for this design variant. These can be positioned independently depending on the configuration of the enclosure systems. Please note that this option is only available for cabinets with a viewing window.

Drip tray

The floor trays are an integral part of the enclosure systems.

Neomeris PPM 150 Portable Photometer with USB interface

The PPM 150 multiparameter hand-held photometer for the determination of chemical water constituents is equipped with 9 LEDs in the wavelength range from 380 to 810 nm. The device has the following performance profile:

- Flexible for many reagents from different manufacturers
- Software for documentation and for creating calibration curves
- Internal method memory for a maximum of 150 calibration curves
- Storage of up to 1,000 data records in the internal data memory; each data record is documented: Date, time, wavelength, reagent used, measurement result, measurement number
- Wired data transfer via integrated USB interface between photometer and PC / laptop
- Pre-parameterized with the measurement curves of all parameters listed below

In addition to the parameters named for the respective industry solution, the reagents listed below are available for photometric determination using the PPM 150.

The corresponding data is available for a large number of other reagents from various manufacturers and can be compiled individually for the photometer on request.

Parameters	*Measuring range (mg/l)*	*Order No.*
Ammonium	0.01 - 2.0	410681
Chlorine (free)	0 - 1.5	410521
Chlorine (total)	0 - 1.5	410521
Chlorine (bound)	0 - 1.5	410521
Chlordioxide	0 - 2.8	410525
Chloride	0 - 70	410527
Chromate	0 - 2.5	410533
Iron Low	0 - 1.5	410548
Iron High	0 - 10.0	410545
Hydrazine	0 - 1.0	410557
Copper	0 - 4.0	410563
Nitrite	0 - 1.0	410691
Phosphate	0 - 20.0	410593
Silikate	0 - 10.0	410623
Sulphite	0 - 20.0	410635
Hydrogen peroxide	0 - 20.0	410643

Basic version as a set in a plastic case:

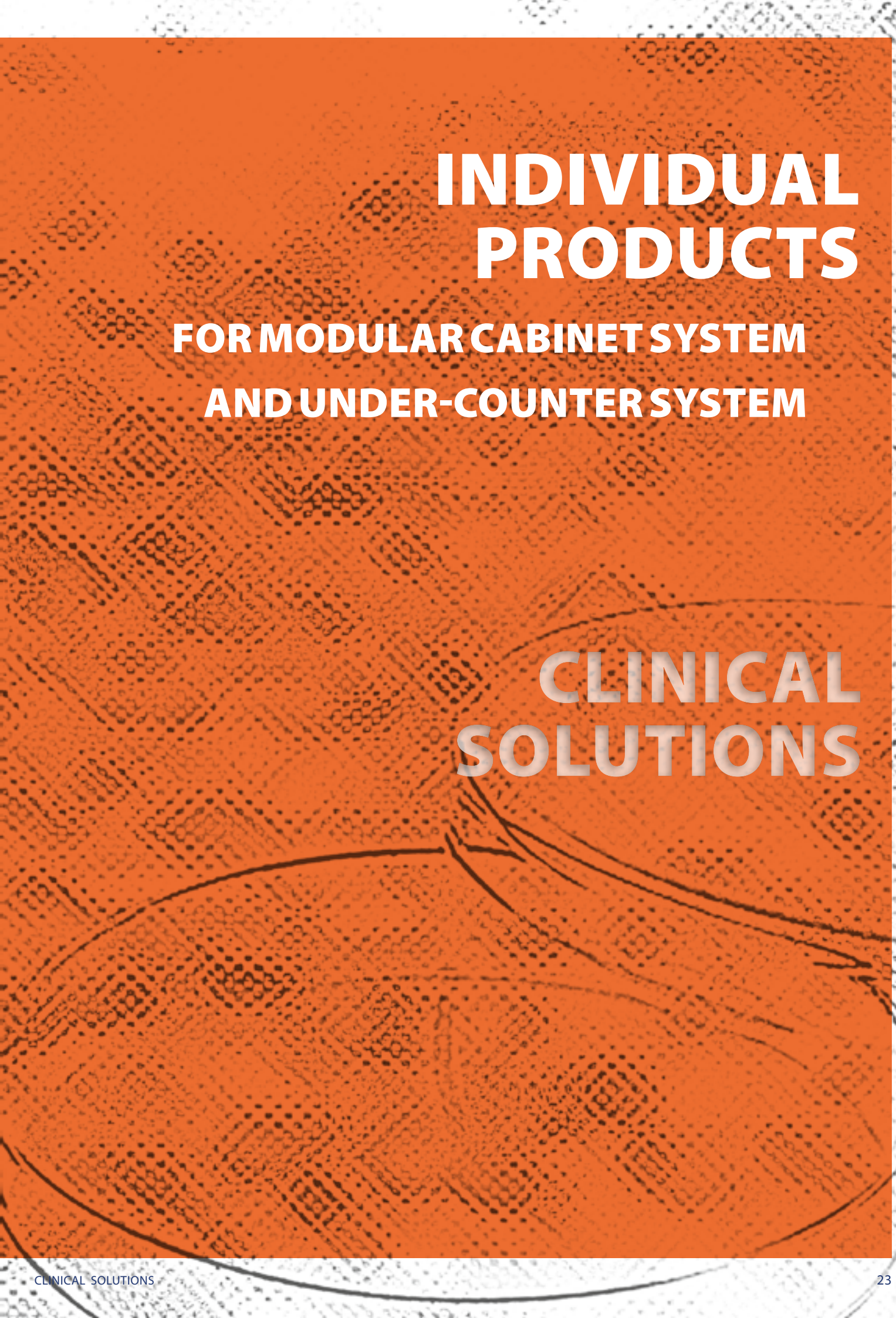
- Multiparameter hand-held photometer PPM 150
- Light well to prevent extraneous light from entering
- 5 cuvettes
- Plastic case with foam insert
- Mini-USB to USB cable
- Mini-USB interface
- Software package

Item number: ***880850***

INDIVIDUAL PRODUCTS

FOR MODULAR CABINET SYSTEM AND UNDER-COUNTER SYSTEM

CLINICAL SOLUTIONS



Testomat® 808 SiO_2 silicate measuring device

The Testomat® 808 Silicate enables the silicate content in the water to be monitored in the long term.

Monitoring the limit values in accordance with DIN EN 285 or the limit values recommended by the Instrument Reprocessing Working Group and the DGSV for feed water and condensate is of key importance within water treatment for supplying pure steam generators, washer-disinfectors, container washers (CWA), sterilizers and rinsing stations with the ultrapure water produced.

Only qualified monitoring of the silicate limit value ensures the required ultrapure water quality at all times.

If the limit values are exceeded, discoloration, deposits and corrosion can lead to permanent damage to surgical instruments and the equipment and feed technology used.

Technical data

Measuring range:	silicon dioxide SiO_2: 0.3 -1.2 ppm
Mains connection:	depending on device version 24V / 115V / 230V, 50 – 60 Hz
Device protection:	230 – 240 V: T0,1 A; 115 V: T0,2 A; 24 V: T0,8 A
Mains fuse protection for consumers:	maximum 4 A (N , L)
Power consumption:	maximum 16 VA, without external load
Protection class:	I
Protection class:	IP54
Conformity:	EN 61000-6-2, EN 61000-6-4, EN 61010-1
Ambient temperature:	10 – 40 °C
Current interface:	Output of defined values (5, 8, 11, 14, 17, 20 mA) for the output of status and error messages, maximum load 500 Ohm
Relay contact load:	230V / 4A AC resistive load
Weight:	4350 g
Application area:	ultrapure water monitoring for AEMPs and outpatient centres

Article description		*Item number*
Testomat® 808 SiO_2	*Operating pressure: 0,3-1 bar | Performance: 230V/50-50HZ*	*100663*
Testomat® 808 SiO_2	*Operating pressure:: 1-4 bar | Performance: 230V/50-50HZ*	*100660*

Accessories for Testomat® 808 SiO_2 silicate meter:

Consumables

The Testomat® 808 SiO_2 reagents are chemical reagents that have been specially developed for measuring the silicate content in water samples. They are used in combination with the Testomat® 808 silicate limit value meter to determine the silicate content in water quickly and accurately.

The Testomat® 808 SiO_2 reagents are important for measuring the silicate content in many applications, especially in the clinical environment for analyzing silicates in process water for sterile processing.

It is important to use the Testomat® 808 SiO_2 reagents according to the instructions and to store them carefully in order to obtain accurate and reliable results.

Calibration of the meter is only necessary when changing the dosing pumps. This requires the use of silicate-free water.

To ensure this at every connection point in the simplest possible way, a compact filter cartridge is available for this purpose, which is integrated into the water inlet of the device for calibration.

Pre-assembled service kits are available for this device for carrying out service and maintenance work.

Silicate filter cartridge

Silicate reagent kit
(must be ordered separately, see below)

Service-Set 1

Service-Set 2

Article description		*Item number*
Testomat® 808 SiO_2	*Reagenz A*	*141808*
Testomat® 808 SiO_2	*Reagenz B*	*141809*
Set 2, Professional annual service set Testomat® 808 SiO_2		*890611*
Set 1, Professional service set for 2-year maintenance Testomat® 808 SiO_2		*890612*
Silicate filter cartridge Testomat® 808 SiO_2 for changing the double pump head		*270344*

Consumables for UV system

Miniature UV system

UV disinfection is an effective process for ensuring high purity requirements against the background of any micro-biological contamination. This system can optionally be integrated into the recirculation line.

The UV-C rays produced are considerably more intense than sunlight and are therefore used to sterilize water. This technology is recognized in the field of disinfection for the removal of legionella, microbes, bacteria, viruses and protozoa.

Advantages:

- Simple and quick integration into the system concept
- Completely physical sterilization through UV irradiation
- Chemical-free process
- No unpleasant taste or odor
- No toxic by-products
- Low maintenance requirements

Version:

- UV system with 40W lamp
  at 250J/m2 maximum flow rate 35 liters/minute
  at 400J/m2 maximum flow rate 21 liters/minute
- UV system with 25W lamp (system-specific design)

Article description		*Item number*
CINTROPUR UV2100	*3/4" + 1"*	*896450*
CINTROPUR UV4100	*3/4" + 1"*	*896451*

The lamp only works when it is properly installed in the filter head of the sterilizer.

UV lamp 25W: This is suitable for use in the UV 2100, DUO-UV and TRIO UV 25W systems.

UV lamp 40W: This is suitable for use in the UV 4100 and TRIO UV systems.

Article description		*Item number*
CINTROPUR UV-Lamp	*25W*	*896455*
CINTROPUR UV-Lamp	*40W*	*896456*

HYGIENE AND DISINFECTION

CLINICAL SOLUTIONS

HyMo-Box sterilization check

Our HyMo-Box "Sterilization Check" enables you to carry out microbiological validation and routine checks of your steam sterilization devices in accordance with the DIN EN ISO 17665 standard and the European Pharmacopoeia*.

With the help of the bioindicators from the HyMo-Box, you are able to check the proper functioning or sterilization performance of your steam sterilizers and thus ensure the hygienic safety of the tools you use.

You can use the bioindicators for appliances of all makes, for example for vertical stand-up autoclaves, horizontal table-top autoclaves and stand-up autoclaves or pass-through autoclaves.

The RODAC plates supplied also allow you to check the environment, such as work surfaces, for low levels of germs using the swab method. Other surfaces such as shelves or the hands of your employees can also be checked in this way to identify weak points and adapt your cleaning and disinfection plans. In this way, you can ensure a permanently low-germ environment.

Scope of delivery HyMo-Box Sterilization Check:

- 20 RODAC plates for the examination of surfaces
- 2 bioindicators with spores of the test germ Geobacillus stearothermophilus
- 1 transport control of the bioindicator
- 1 waterproof pen
- 1 bottle of hand sanitizer
- 1 cooling element

Article description	*Item number*
HyMo-Box Surface Check	*896000*
HyMo-Box Sterilisation Check	*896006*
Option - Quantitative evaluation HyMo-Box	*896013*
Option - Quantitative evaluation HyMo-Box XL	*896014*

Note: individual composition is also possible

* European Pharmacopoeia, 10th edition, basic edition 2020, Deutscher Apotheker Verlag

Bioindicators for self-monitoring with regard to the effectiveness of the process in sterilizers / autoclaves

The inspection and associated validation of autoclaves in healthcare facilities are regulated in various standards:

EN ISO 17665 - 1: 2006-11
DIN EN 554
DIN 58946-7: 2014 - 01
DIN EN 285: 2016 - 05
EN ISO 15883

The bioindicators are added to the autoclaves or the autoclaving process. This is intended to provide proof that the test germ "Geobacillus stearothermophilus" has been successfully killed. The sterilization process is thus biologically verified using the HyMo-Box.

After sterilization, the bioindicators are removed and sent to the accredited Hohenstein laboratory for evaluation. Here the bioindicators are examined in the laboratory. If a growth of the test germ "Geobacillus stearothermophilus" is recorded, the sterilization process is not valid and further considerations of the sterilization process must be checked with the operator after the evaluation with regard to the settings (e.g. temperature, programs, dosage ...) and the functioning of the sterilizer.

Proof of successful germ destruction of the test germ in the laboratory, on the other hand, indicates a safe sterilization process.

The use of bioindicators for sterilization should help to ensure the biological safety of the devices. The bioindicators, as well as the sterilization box (HyMo-Box), which is optionally available as a complete set, can be used in smaller facilities such as outpatient clinics and doctors' surgeries as well as in hospitals and clinics.

Article description	*Item number*
Bioindicators for self-monitoring of sterilizers / autoclaves up to 250 liters for one device for testing	*9900023*
Bioindicators for self-monitoring of sterilizers / autoclaves larger than 250 liters for two devices for testing	*9900058*
Bioindicators for self-monitoring of sterilizers / autoclaves larger than 250 liters for three devices for testing	*9900021*

CONSULTING

CLINICAL SOLUTIONS

Advice and support with expertise: Our A-Level Consulting

Those who opt for consulting have knowledge and can therefore clearly recognize when it is time to seek competent help.

We have been working in the field of process water for decades, focusing on the constituents of water and their effects. We deal with well water, drinking water and tap water as well as the representation of ultrapure water.

Originally, Gebrüder Heyl Vetriebsgesellschaft came from the component sector of measurement technology, control technology and control engineering (MSR) for all process water issues. We have therefore long been involved in both disinfection technology (ozone, UV, chlorine dioxide) and plant technology - systems that ensure water quality. It is hardly surprising that we have now gained solid practical experience in addition to profound theoretical knowledge. With this know-how as a basis, we can offer what is necessary for you to achieve the desired result of your (investment) measures.

Together with your expertise in your sector, we want to ensure that you take the right path on the "water side".

Our spectrum can be described quite simply. We ...

- … analyze,
- … evaluate,
- … document,
- … argue (also from a business perspective),
- … develop effective solutions,
- … provide recommendations for action,
- … accompany your tender,
- … check the technical accuracy of offers,
- … conduct and accompany the technical discussions.

And last but not least:
We validate your process!

You can find out what this means in detail on the following page.

Consulting is not a product like any other: Only neutral advice creates trust.

Our consulting products at a glance

Article description		*Price*	*Item number*
Quickcheck	Record your data on equipment technology and process water treatment in our online matrix and receive prompt, qualified technical feedback from our team of experts regarding the current status and compliance with applicable standards and recommendations. All results are summarised in a report including initial recommendations for action for you and your team.	*298€*	*9900113*
Basic check	We accompany you and your team as part of a basic analysis on site. All relevant data on equipment technology and process water treatment is collected together. Furthermore, the equipment technology and feeding technology used as well as the instruments used are randomly inspected by an expert with regard to surface abnormalities. In addition, water samples are taken at representative sampling points and wipe samples are taken from the equipment in consultation with you. Some of the samples taken are analysed on site by means of photometric measurements and also sent to an accredited laboratory. Once a report has been compiled, the results are presented as part of an online event.	*1440€ Daily rate (1 man-day of 8 hours)*	*9900011*
Process analysis	The process analysis represents a comprehensive consideration of all relevant preparation steps and essentially includes: • A detailed analysis of the water treatment and the associated utilisation of the water qualities produced • Evaluation of the equipment technology used against the background of potential surface changes • Qualified sampling across the entire process for water, steam and equipment technology • Carrying out sieve inspections including detailed microscopic analysis • Observation in the operating theatre (after consultation, if possible) • Assessment of the clean & unclean side workflows in the reprocessing unit for medical devices • Consideration of all processes relevant to logistics and thus to provision and reprocessing • Preparation of a comprehensive report structured according to the individual focal points, including the formulation of recommendations for action in the form of an action plan • Realisation of the presentation of results on site • The process analysis enables all those involved in the reprocessing process (in particular: AEMP management, head of building services, hygiene officer, ...) to take a high-quality view of the overall process with a focus on optimised work processes, instrument preservation, patient safety, cost savings and legal certainty.	*1440€ Daily rate (5 man-day of 8 hours) = 7200€*	*9900001*
Consultancy	Whether you are planning a new project or expanding an existing reprocessing facility for medical devices, our experts will guide and support you in project planning and implementation. The qualified consideration of all relevant project topics, the moderation between the parties involved and the joint development of requirements catalogues are the focus of our neutral consulting activities. Together with your specialist team and your external service providers, we develop future-proof concepts and support you in the implementation and sustainable documentation of the progress achieved.	*1440€ Daily rate (1 man-day of 8 hours)*	*9900012*
Validation	The regular validation of the entire reprocessing process and its repeated implementation in the event of interventions or changes within the reprocessing process is an essential instrument for demonstrating process reliability. In the course of our work as technical experts, we verify the overall process, assist you with sustainable documentation, continuously monitor the effectiveness of the measures introduced, coordinate the involvement of all process participants and make recommendations for the involvement of authorised external accredited bodies and specialist companies.	*1440€ Daily rate (2 man-day of 8 hours) = 2880€*	*9900014*

SEMINARS / WORKSHOPS

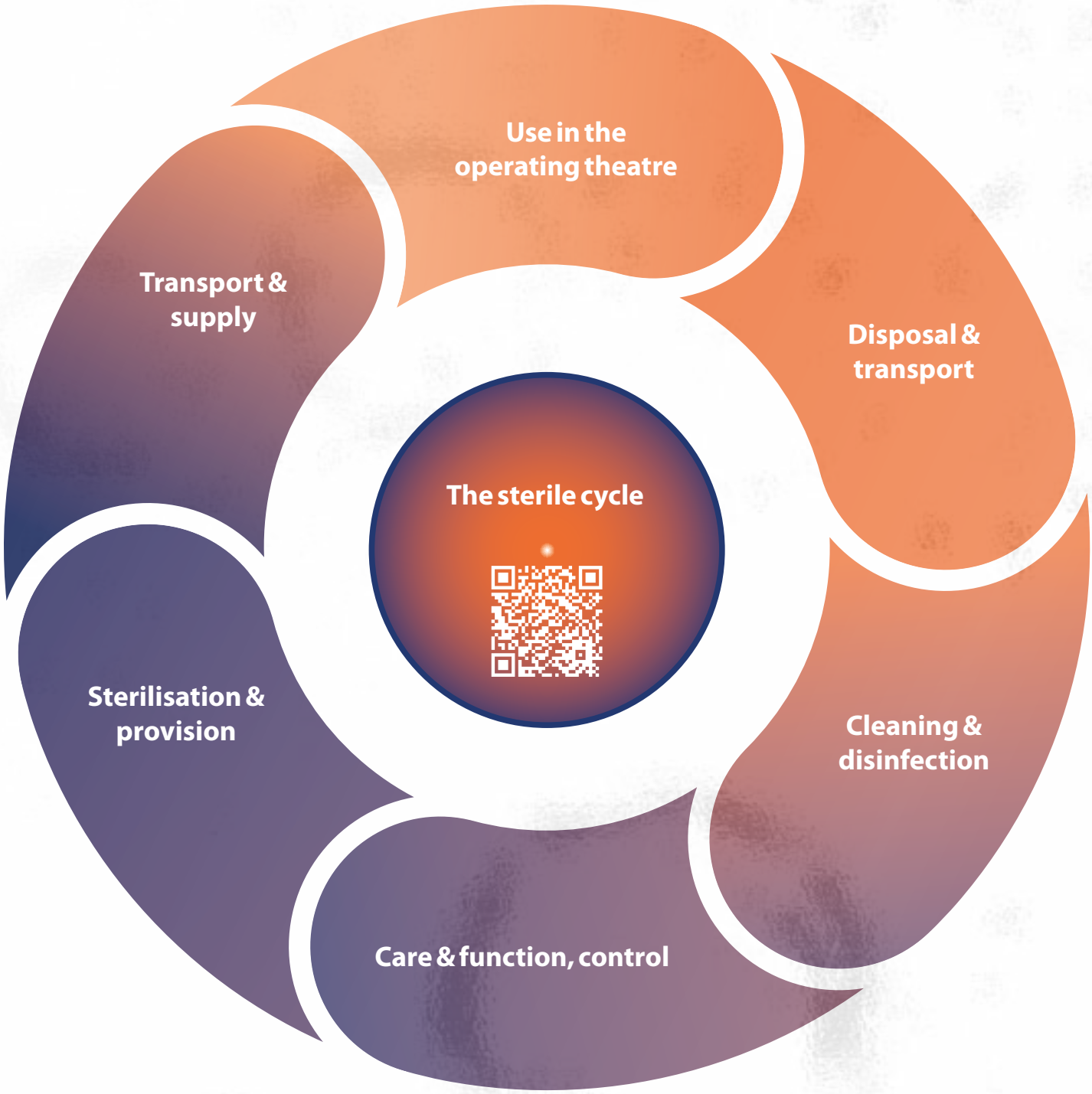
CLINICAL SOLUTIONS

Seminar series on sterile processing

Seminars should cover the entire process chain; HeylNeomeris supports you with profound expertise for the entire sterile processing.

In our series of seminars on sterile processing, we offer you various thematic blocks for a holistic view of the sterile processing process:

- Process water treatment
- Device technology, components and accessories
- Instrument science
- Surface changes – recognising causes and prevention
- Sterile goods – instrument logistics



Process water treatment

Target group: Management, technical management, purchasing management and employees from the reprocessing unit for medical devices, central sterile supply department and building services

Seminar goal: Establishment of 100% media safety in process water treatment to optimally minimise the process risk for the treatment of medical devices.

The requirements for the hygiene of medical products have been gaining in importance for years. Closely related to this is the process of water treatment for sterile processing, which is already standardised in DIN EN 285 for feed water and condensate.

Many years of practical experience have shown that the limit values for feed water and condensate laid down in the current standard continue to result in premature wear of the system technology, sterile items and instruments and therefore do not fulfil the hygiene requirements for a stress-free, sterile medical device and the protection of patients and investments.

In this seminar block 1, the current status of the standard versus the state of the art and knowledge will be presented in entertaining lectures. A safety concept for medical supply for safe process water treatment will be presented in joint group work and using practical examples.

Article description	*Item number*
Seminar on sterile processing - Block 1 - Process water treatment	*9900077*

Device technology

Target group: Employees and managers from the reprocessing unit for medical devices, central sterile supply department and building services.

Seminar objective: Avoidance and prevention of costs for the refurbishment or new acquisition of equipment and system technology, through to the replacement of complete supply systems. Risk indicators, components and elements in the media supply protect sterile processing and minimise risks in the treatment and reprocessing of medical devices. Steam sterilisation is a very sensitive and demanding part of medical device reprocessing. Process water and steam within the sterilisers (autoclaves) directly transfer negative influences to the instruments and represent a latent high and cost-driving process risk in terms of hygiene, which actually results in high risks for patient safety.

Daily practice shows that the limit values for feed water and condensate in the current DIN EN 285 standard lead to premature quality defects in the device technology, the components and the overall system for sterile processing.

In this seminar block, the influence of process water quality on the technology used in sterile processing and the overall process will be demonstrated, taking into account the current state of knowledge and the state of the art. Using practical examples and in joint group work, potentials for avoiding follow-up costs for refurbishment and new acquisitions will be developed in a holistic approach to the sterile processing process and convincing facts will be conveyed to make the participants‘ daily tasks easier.

Article description	*Item number*
Seminar Sterile Processing - Block 2 - Device Technology	*9900079*

Instrumentology

Target group: Employees and managers from the central sterile supply department and reprocessing unit for medical devices

Seminar objective: Ensuring the best possible patient safety by introducing quality elements and quality systems in the procurement, care and maintenance of surgical instruments.
DIN standards 100 and 58 299 define essential requirements in instrument manufacture. This results in the derivation of suitable measures for maintaining the quality of the instrument stock. The sustainable preparation, handling, care and maintenance of the instruments (medical devices) are decisive for the entire product life cycle and the maintenance costs. Optimised procedures for maintaining the so-called 'surgical steel' and preserving its value significantly reduce operating costs.

Our speaker Ralf Kurzrock is a recognised expert in instrument technology. Using the relevant standards, he will work with you to develop quality requirements for the various instrument groups that will ensure long-term instrument utilisation and sustainable patient safety. Using practical examples, quality assurance elements will be defined, recommendations for the best possible utilisation of resources will be given and options for integration into a quality management system will be explained.

Article description	*Item number*
Seminar Sterile Processing - Block 3 - Instrumentology	*9900083*

Surface changes
– Recognising causes and prevention

Target group: Employees and managers from the reprocessing unit for medical devices, central sterile supply department, building services and hygiene officers

Seminar objective: This part of the seminar focuses on avoiding daily risks and cost drivers as well as ensuring patient protection by recognising surface changes, their causes and integrating suitable preventive measures.

Medical devices are subject to countless external influences during their life cycle, from procurement to replacement, which inevitably have negative effects. These range from 'visually unattractive' to the uselessness of the medical device.

In practice, it has been proven that only a holistic approach and analysis of the sterile processing chain can provide the necessary solutions to eliminate destructive influences on medical devices.

In this seminar block 4, our speaker Ralf Kurzrock will provide you with detailed information on the exact causes of surface changes on medical devices. Working together in groups, you will identify changes and develop possible solutions that lead to increased patient and user safety.

Article description	*Item number*
Seminar Sterile goods spreading - Block 4 - Surface changes	*9900085*

Note: Benefit from the cost-optimised training package and book the blocks that are right for you.

Sterile instrument logistics

Target group: Employees and managers from the central sterile supply department, the reprocessing unit for medical devices and the operating department

Seminar objective: To ensure and increase patient safety by highlighting the special challenges that supply logistics and disposal logistics pose for the organisation of supply routes and the intermediate storage of instruments and sterile goods.

The quality of sterile processing is demonstrably influenced by surgical instrument logistics. The correct provision of surgical instruments, pre-cleaning, storage locations as well as arrival and departure flows play a central role in maintaining the value of existing or newly procured surgical instruments. A holistic view of the instrument logistics process, from surgical preparation to surgical follow-up, leads to investment security, cost savings and the maintenance or even improvement of patient safety. In this part of the seminar, we will work with you to develop basic rules for logistics flows, quality standards for optimising downtimes and specific tips for potential savings in surgical preparation.

Article description	*Item number*
Seminar Sterile Supply Spreading - Block 5 - Sterile Supply Instrument Logistics	*9900089*

HeylNeomeris is a supporting member of the **DGSV** (German Society for Sterile Supply registered association).

Our seminars on sterile processing can now be submitted to Registrierung® beruflich Pflegender for further training points. Training points are awarded for both individual seminars and seminar blocks. 8 FBP are awarded per individual seminar, 10 FBP for blocks of 2 seminars.

Registrierung® beruflich Pflegender

Terms and Conditions of Sale

Applicable to business transactions with consumers, consumers, tradesmen, freelancers, legal entities under public law and special funds under public law.

1. General

1.1. All of our deliveries, services and offers are made exclusively based on these General Terms and Conditions of Delivery. They are an integral part of all contracts that we conclude with our contractual partners regarding the deliveries or services that we offer. They also apply to all future deliveries, services or offers to our customers, even if they are not separately agreed again.

1.2. Our Terms and Conditions of Sale apply exclusively. We acknowledge general terms and conditions of business of our customers that contradict or deviate from our Terms and Conditions of Sale only to the extent that we have expressly agreed to - at least in text form in accordance with § 126b of the German Civil Code *(Bürgerliches Gesetzbuch, "BGB")*. Our provision of services in knowledge of the general terms and conditions of business of our customer (for example, as the delivery of goods) does not signify any consent.

1.3. The sale, resale, and scheduling of deliveries and services and any related technology or documentation may be subject to German, EU, and US export control laws, and possibly export control laws of other countries. Any resale of goods to embargoed countries or to denied persons or to persons that use or may use the goods for military purposes, ABC weapons, or nuclear technology is subject to approval. With its order, the customer declares compliance with such laws and regulations, and that the deliveries and services are not supplied directly or indirectly to countries that prohibit or restrict the import of such goods. The customer declares that it has obtained all approvals necessary for export or import.

1.4. The presentation of the products in our online shops do not constitute legally binding offers, they are non-binding online catalogues.

2. Conclusion of and amendments to contracts, form

2.1. Any orders, transactions or delivery requests of our customer, along with any amendments or supplements, must be in text form acc. § 126b BGB.

2.2. Legally relevant declarations and notifications of the customer with regard to the contract (for example, the setting of a deadline, notification of defects, withdrawal or reduction) must be made in writing; i.e. in written or text form (for example, letter, e-mail, fax). This shall not affect formal statutory requirements and further evidence, in particular in cases of doubt as to the authority of the declarant.

2.3. Individual agreements made with the customer in individual cases (including ancillary agreements, supplements and amendments) shall, in any case, take precedence over these General Terms and Conditions of Sale. Subject to evidence to the contrary, a written contract or our written confirmation in text form (§ 126 b BGB) shall approve the content of such agreements.

2.4. The customer's ordering of goods shall be regarded as a binding contractual offer. Unless otherwise stated in the order, we shall be entitled to accept this contractual offer within two weeks after we received it. Acceptance can be declared either in writing (for example, through order confirmation) or through the delivery of the goods to the customer.

2.5. By clicking on the button "submit order" in the online shop, you submit a binding offer of contract (§ 126b BGB). After receipt of your contract offer in our company, you will receive a message automatically generated by the online shop that we have received your order via the shop system (order confirmation). This order confirmation does not constitute our legally binding acceptance of your contractual offer. After receipt of your online shop order in our company, the order data, the legally required information on distance contracts and the terms and conditions of sale will be sent to you by e-mail. We can accept your online shop contract offer within 2 weeks of receipt at our company. Acceptance by us can be confirmed to you as the purchaser either in writing (e.g. by order confirmation) or by delivery of the goods directly.

2.6. Information provided by the seller regarding the subject matter of the delivery or service (for example, weights, dimensions, utility values, load-bearing capacity, tolerances and technical data) and our representations of the same (for example, drawings and illustrations) are only approximately applicable, unless usability for the contractually intended purpose requires exact conformity. They do not comprise guaranteed characteristics, but descriptions or markings of the delivery or service. Deviations customary in the trade and deviations that occur due to legal regulations or that represent technical improvements, along with the replacement of components by equivalent parts, are permissible provided that they do not impair usability for the contractually intended purpose.

2.7. Should there be any typing, printing, graphic or calculation errors or other discrepancies in the online shop, we are entitled to withdraw from the contract at any time.

3. Prices

3.1. Our offers are non-binding unless otherwise expressly stated.

3.2. The prices set forth in our order confirmations shall be solely controlling. Additional services are invoiced separately.

3.3. All prices are net prices and exclude sales tax. which our customer must must also pay in its respective statutory amount. If the customer is a consumer, the net prices, as well as any freight and transport costs incurred, are exclusive of the applicable statutory value added tax.

3.4. Unless expressly agreed otherwise, our prices apply ex works, which is also the place of performance for the delivery and any subsequent performance. At the customer's request and expense, the goods shall be shipped to a different destination (sales shipment). Our customer must bear additional freight and/or transport costs, packaging costs exceeding those customary in the trade, public charges (including withholding tax) and customs duties.

4. Delivery

4.1. Deviations from our contracts and order confirmations are only permitted with our prior consent in text form acc. § 126b BGB.

4.2. Unless expressly agreed otherwise, we deliver ex works (INCOTERMS 2010: EXW). Risk shall pass to the customer upon leaving the supplier's factory or warehouse. Delivery shall be deemed to have taken place upon delivery within the meaning of the applicable Incoterms 2010 clause. Delivery periods shall only be deemed agreed after express confirmation in text form in accordance with § 126b BGB. Delivery periods shall commence on the date of our order confirmation, but not before all details of the order have been unambiguously clarified and any necessary certificates have been provided. They shall be deemed to have been complied with upon timely notification of readiness for dispatch if the goods cannot be dispatched on a timely basis without our culpability.

4.3. For periods and deadlines that are not expressly designated as fixed in the order confirmation, two weeks after their expiration, our customer may set for us a reasonable period for the delivery / service. Only after the expiration of this grace period will we be in delay.

4.4. Without prejudice to our rights arising from the default of the customer, periods and deadlines shall be extended by the period of time in which the customer does not satisfy its obligations towards us. In the event of a breach of a duty on our part, we shall be liable for damages only in accordance with Section 9 of these terms and conditions.

4.5. We are entitled to engage in partial deliveries if they are reasonably acceptable for our customer.

4.6. Our customer shall be entitled to withdraw from the contract after two unsuccessful grace periods, unless the hindrance is merely temporary and the postponement of the delivery date is reasonably acceptable for our customer.

4.7. If our customer is entitled to a contractual or statutory right of withdrawal and we set a reasonable period for our customer for its exercise of such right, the right of withdrawal shall expire if the withdrawal is not declared prior to the expiration of such period.

4.8. If we do not adhere to the agreed deadlines, the statutory provisions shall apply. If we foresee difficulties regarding advance delivery, the adherence with delivery deadlines or similar circumstances, which could prevent us from making a timely delivery or a delivery in the agreed quality, we shall notify our customer without delay.

5. Force majeure

5.1. An event of force majeure, an operational disturbance for which we are not responsible, an event of unrest, administrative measures, and other unavoidable events shall release us from the obligation to make a timely delivery / provide timely service for the duration of the existence of such *force majeure*.

5.2. The provisions of Section 5.1 shall also apply in the event of a labor dispute.

6. Shipping and passage of risk

6.1. Unless otherwise expressly agreed, shipping and transport takes place at the risk of the customer. The risk shall pass to the customer as soon as the shipment has been delivered to the person performing the transport.

6.2. If the dispatch of the delivery is delayed for reasons for which our customer is responsible, the risk of accidental deterioration and accidental loss shall pass to our customer with the notification of the readiness for shipment. Upon such an event, our customer shall bear the storage costs after the passage of risk. Claims going beyond this shall remain unaffected.

6.3. If the goods cannot be delivered at the place of delivery specified by you and are returned to our company, additional freight costs for the return and new shipment will be incurred, which must be borne by the ordering party. We will charge an additional fee of €7.50 net plus VAT for the additional administrative costs incurred as a result.

6.4. If our customer is in default with its acceptance, we shall be entitled to demand compensation for any expenses that arise from this; upon the occurrence of acceptance default, the risk of accidental deterioration and accidental loss shall pass to our customer.

6.5. To the extent that an acceptance must take place, the purchased item shall be deemed to have been accepted, if

- delivery and, if we also owe installation, the installation has been completed,
- we have informed the customer of this concerning the notional acceptance in accordance with this number 6.4 and have requested him to accept,
- twelve working days have elapsed since delivery or installation, or the customer has begun to use the purchased item (for example, the delivered system has been put into operation) and in such a case six working days have elapsed since delivery or installation and the customer has refrained from acceptance within this period for reasons other than a defect, notified to the seller, that makes the use of the purchased item impossible or substantially impairs it

7. Payment terms

7.1. Payments shall be made in advance or on invoice. We reserve the right, without giving reasons, not to comply with the request for payment on invoice. Payments by invoice must be made within 7 days of the invoice date. The receipt of the payment on our bank account is decisive for the timeliness of the payment.

7.2. Our customer shall only be permitted to withhold payments that are due or engage in an offset with counterclaims if such counterclaims are undisputed or have been legally established.

7.3. If the event of a payment default or a cessation of payments by our customer, all of our claims shall be immediately due. In all of such specified cases, we shall also be entitled to make any outstanding deliveries only against advance payment or the provision of security, and, if the advance payment or provision of security is not made within two weeks, withdraw from the contract without setting a new deadline. Claims going beyond this shall remain unaffected.

8. Retention of title

8.1. All delivered goods shall remain our property (goods subject to retention of title) up to the fulfillment of all claims, regardless of the legal grounds, arising from the legal relationship underlying the delivery.

8.2. Upon the processing, combining and mixing of the goods subject to retention of title with other goods by the customer, we shall be entitled to co-ownership in the new products in the proportion of the invoice value of the goods subject to retention of title to the value of the other goods involved. If our ownership is extinguished through processing, combining, or mixing, the customer herein assigns to us the ownership rights to which it is entitled in the new items or products to the extent of the value of the goods subject to retention of title, and shall hold them in custody on our behalf at no charge. The co-ownership rights that arise from this shall be deemed to be goods subject to retention of title within the meaning of Section 8.1.

8.3. Our customer is entitled to further process the goods subject to retention of title, combine or mix them with other products or resell them only in the ordinary course of business and as long as it is not in delay. Any other disposal of the goods subject to retention of title is not permitted. We must be notified without delay of any attachments or any other access to the goods subject to retention of title undertaken by any third party. All intervention costs shall be borne by our customer, to the extent that they cannot be recovered from the third party. If our customer grants its buyer additional time for the payment of the purchase price, in respect of such party, it must reserve ownership in the goods subject to retention of title at the same terms under which we have reserved ownership upon the delivery of the goods subject to retention of title. Otherwise, our customer shall not be authorized to resell the goods subject to retention of title.

8.4. Any claims of our customer arising from the resale of the goods subject to retention of title are hereby assigned to us. They serve as security to the same extent as the goods subject to retention of title. Our customer shall only be entitled and authorized to resell the goods subject to retention of title if it is certain that the claims to which it is entitled from them will be transferred to us.

8.5. If the goods subject to retention of title are sold by our customer, together with other goods that we have not delivered, at one overall price, the assignment of the claim arising from the sale shall take place in the amount of the invoice value of our goods subject to retention of title that are sold.

8.6. If the assigned claim is included in a current account, our customer hereby assigns to us that part of the balance that is equivalent to the amount of such claim, including the final balance arising from the current account.

8.7. Until our revocation, our customer is authorized to collect the claims assigned to us. We shall be entitled to a revocation if our customer does not properly comply with the payment obligations arising under the business relationship with us. If the conditions for the exercise of the right of revocation are present, our customer must, at our request, promptly disclose to us the assigned claims and their obligors, provide all information necessary for the collection of the claims, deliver to us the associated documents and notify the obligors of the assignment. We shall also be entitled to notify the obligors of the assignment.

8.8. If the value of the items of collateral existing for us exceeds, as a whole, the secured claims by more than fifty (50) percent, at the request of our customer, we shall be obligated to release items of collateral at our discretion.

8.9. If we assert the retention of title, this shall only apply as a withdrawal from the contract if we expressly state this. The right of our customer to possess the goods subject to retention of title shall lapse if it does not fulfill its obligations arising under this contract.

9. Claims for defects and recourse

9.1. The customer's rights in the event of material defects and defects of title (including incorrect and shortfall deliveries along with improper assembly or defective assembly instructions) shall be governed by the statutory provisions unless otherwise specified below. In all cases, this shall not affect the special statutory provisions in the case of final delivery of unprocessed goods to a consumer, even if the consumer has further processed them (supplier recourse pursuant to § 478 et seq. BGB). Claims arising from supplier recourse shall be barred if the defective goods have been further processed by the customer or another company, for example through installation in another product.

9.2. The basis of our liability for defects is, above all, the agreement reached regarding the condition of the goods. If the condition has not been agreed, whether or not a defect exists is to be assessed according to the statutory provision (§ 434 (1)(2) and (3) BGB). However, we do not accept any liability for public statements made by the manufacturer or other third parties (for example, advertising statements) that the customer has not pointed out to us as decisive for its purchase.

9.3. The customer's claims based on defects presuppose that it has fulfilled its statutory duties to inspect and give notice of defects (§ 377, 381 et seq. of the German Commercial Code (*Handelsgesetzbuch*)). In the case of building materials and other goods intended for installation or other further processing, an inspection must always be carried out immediately before processing. If a defect becomes apparent upon delivery, inspection or at any later point in time, we must be notified of it in writing without delay. In any case, obvious defects must be reported in writing within five working days of delivery, and defects not recognisable during inspection must be reported within the same period from their discovery. If the customer fails to engage in proper inspection and/or to give notice of defects, our liability for any defect not reported or not reported promptly or not properly shall be barred in accordance with the statutory provisions.

9.4. If the delivered item is defective, we can initially choose whether we shall provide subsequent performance by remedying the defect (subsequent improvement) or by delivering a defect-free item (replacement delivery). This shall not affect our right to refuse subsequent performance under the statutory conditions.

9.5. We shall be entitled to make the subsequent performance that is owed dependent on the customer paying the purchase price that is due. However, the customer shall be entitled to retain a reasonable part of the purchase price in proportion to the defect.

9.6. The customer must give us the time and opportunity required for the subsequent performance that is owed; in particular, it must hand over the goods subject to inspection for inspection purposes. In the event of a replacement delivery, the customer shall return the defective item to us in accordance with the statutory provisions. Subsequent performance does not include the removal of the defective item or its reinstallation if we were not originally obligated to install it.

9.7. If a defect actually exists, we shall bear or provide reimbursement for the expenses necessary for inspection and subsequent performance, in particular transport, travel, labour and material costs along with any dismantling and installation costs, in accordance with the statutory provisions. Otherwise, we may demand that the customer reimburse us for the costs incurred as a result of the unjustified request to remedy the defect (in particular, testing and transport costs).

9.8. If the subsequent performance has failed, or a reasonable period to be set by the customer for the subsequent performance has expired unsuccessfully or is unnecessary according to the statutory provisions, the customer may withdraw from the purchase contract or reduce the purchase price. However, in the case of an insignificant defect, there shall be no right of withdrawal.

9.9. Claims of the customer for compensation or the reimbursement of futile expenses shall only exist in accordance with number 11, even in the case of defects, and otherwise shall be barred.

9.10. If our operating or maintenance instructions are not followed, changes to the deliveries or services are undertaken, parts are replaced or consumable materials that do not meet the original specifications are used, any warranty shall be rendered inapplicable, unless our customer can prove that the defect is not based on any of such actions.

9.11. The period of limitations for claims for defects shall be 12 months. This does not apply to claims for damages of our customer based on compensation for damages to body or health caused by a defect for which we are responsible, or based on intentional, or grossly negligent culpability.

10. Product liability

Prior to any recall action that is due, in whole or in part, to a defect in the contractual object that we have delivered, we shall inform our customer in order to give it the possibility of cooperating with us in carrying out the exchange in a sufficient manner, unless our notification or participation is not possible because of the particular urgency. To the extent that a recall action is due to a defect in the contractual object that we have delivered, we shall bear the necessary costs of the recall action.

11. Compensation of damages

11.1. Our liability for damages, for whatever legal grounds, in particular, impossibility, delay, defective or incorrect delivery, breach of contract, breach of duties in contract negotiations or tortious action shall be limited in accordance with this number 11 to the extent that this depends on culpability.

11.2. We shall be liable for the compensation of damages – regardless of the legal grounds – within the scope of fault-based liability in cases of intent and gross negligence. In the event of ordinary negligence, we shall be liable, subject to statutory limitations of liability (for example, diligence in our matters; insignificant breach of duty), only

a) for damages arising from any injury to life, body or health,

b) for damages arising from the breach of an essential contractual duty (obligation, the fulfilment of which is essential for the proper performance of the contract and the observance on which the contractual partner regularly relies and may rely); upon such an event, however, our liability shall be limited to compensation for foreseeable damages that typically occurs.

11.3. The liability limitations arising from 11.2 shall also apply to breaches of duty by or for the benefit of persons for whose culpability we are responsible in accordance with statutory provisions. They shall not apply if we have wilfully concealed a defect or assumed a guarantee for the condition of the goods and claims of the purchaser under the Product Liability Act *(Produkthaftungsgesetz)*.

11.4. For any breach of duty that does not consist of a defect, the purchaser may withdraw from the contract or terminate the contract only if we are responsible for the breach of duty. An unrestricted right of termination on the part of the purchaser (in particular in accordance with § 650, 648 et seq. BGB) is barred. In all other respects, statutory requirements and legal consequences shall apply.

12. Period of Limitations

12.1. Notwithstanding § 438 (1)(3) BGB, the general period of limitations for claims arising from material defects and defects of title shall be one year from delivery. If acceptance has been agreed, the period of limitations shall commence upon acceptance.

12.2. To the extent that we carry out installation, repair or maintenance work on behalf of the customer, the general period of limitations for claims arising from faulty contractor services shall be six months from the acceptance of the repair work, notwithstanding § 634 a (1) (1), (3) BGB.

12.3. The preceding limitation periods of the purchase right also apply to contractual and non-contractual claims for damages on the part of the purchaser, which are based on a defect of the goods, unless the application of the regular statutory period of limitations (§ 195, § 199 BGB) would lead in individual cases to a shorter period of limitations.

12.4. Claims for the compensation of damages of the purchaser according to § 11.2 for intentional conduct, gross negligence, injury to life, body or health or according to the Product Liability Act *(Produkthaftungsgesetz)* shall be timebarred exclusively according to the statutory period of limitations.

13. Rights of withdrawal and termination

13.1. Beyond the statutory rights of withdrawal, we shall also be entitled to withdraw from or terminate the contract with immediate effect if
- our customer becomes unable to pay or over-indebted or
- our customer has discontinued its payments.

13.2. We shall also be entitled to withdraw from or terminate the contract if our customer requests the opening of insolvency proceedings over its assets or comparable proceedings for the settlement of debts.

13.3. If, based on the preceding contractual rights of withdrawal or termination, we withdraw from or terminate the contract, the customer must provide compensation to us for any damages that arise from this, unless it is not responsible for the emergence of rights of withdrawal or termination.

13.4. Statutory rights and claims are not limited by the provisions contained in this Section 11.

14. Consumer right of cancellation

14.1. Consumers have the right to cancel the concluded contract within fourteen days without giving reasons. The cancellation period is fourteen days from the day on which you or a third party named by you, who is not the carrier, has taken possession of the last goods. In order to exercise your right of withdrawal, you must inform us (Gebrüder Heyl Vertriebsgesellschaft mbH, Max-Planck-Str. 16, 31135 Hildesheim, Germany, vertrieb@heylneomeris.de, Fax: +49 (0) 51217609-44) by means of a clear declaration (e.g. a letter sent by post, fax or e-mail) of your decision to withdraw from this contract. You can use the enclosed model withdrawal form for this purpose, but this is not mandatory. In order to comply with the withdrawal period, it is sufficient that you send the notification of the exercise of the right of withdrawal before the expiry of the withdrawal period.

14.2. **Consequences of cancellation**

For consumers who cancel the concluded contract, we must refund all payments received, including delivery costs, without delay and at the latest within fourteen days of the day on which we received notification of your cancellation of the concluded contract (with the exception of the additional costs resulting from the fact that you have chosen a type of delivery other than the cheapest standard delivery offered by us). For this repayment, we will use the same means of payment that you used for the original transaction, unless we have expressly confirmed otherwise. In no case will there be any costs due to the repayment. This repayment will only take place after receipt of the goods demonstrably delivered to us; the customer must provide proof of this.

You must return or hand over the goods to us without delay and in any case no later than fourteen days from the day on which you notify us of the cancellation of the concluded contract. The deadline is met if you send the goods before the expiry of the period of fourteen days. You shall bear the direct costs of returning the goods. In the case of goods which, due to their nature, cannot be returned by standard parcel (bulky goods/freight forwarding goods), the customer must bear the costs, which amount to 99 euros for such goods.

You only have to pay for any loss in value of the goods if this loss in value is due to handling of the goods that is not necessary for checking the condition, properties and functioning of the goods.

The right of withdrawal does not apply to the following contracts:

Contracts for the delivery of goods that can spoil quickly or whose expiry date would be quickly exceeded.

Contracts for the delivery of sealed goods which are not suitable for return for reasons of health protection or hygiene if their seal has been removed after delivery.

Contracts for the delivery of goods if these have been inseparably mixed with other goods after delivery due to their nature.

There is no right of withdrawal for contracts with companies, commercial buyers, freelancers, authorities, municipal institutions, associations, public institutions and trade.

15. Environmental protection and disposal

Gebrüder Heyl Vertriebsgesellschaft mbH is obliged to comply with the law on the sale, return and environmentally friendly disposal of batteries and accumulators (Battery Act - BattG). We are obliged to take back batteries and accumulators purchased from us free of charge.

Batteries or accumulators that contain harmful substances are marked with the symbol of a crossed-out waste bin.

Near the dustbin symbol is the chemical name of the pollutant.

Pb: Battery contains lead
Cd: Battery contains cadmium
Hg: Battery contains mercury

Batteries and rechargeable batteries must not be disposed of in household waste. You can return used batteries and rechargeable batteries to us or dispose of them at the collection points set up for this purpose. In case of return to Gebrüder Heyl Vertriebsgesellschaft mbH, the shipment must be sufficiently stamped.

16. Documents and confidentiality

16.1. All of the business or technical information that we have made available (including features that can be inferred from objects, documents or software that have been delivered, and any other knowledge or experience), as long as and to the extent that they are not verifiably known to the public, must be kept secret from third parties, and, within the customer's own operations, may be made available only to those persons who necessarily must be involved for their use for the purpose of the delivery and are likewise bound to confidentiality; they remain our exclusive property. Without our prior written consent, such information may not be reproduced or used commercially. At our request, all of the information originating from us (including copies or records, if applicable) and any objects provided on loan must be fully returned to us or destroyed without delay.

16.2. We reserve all rights to such information (including copyrights and the right to register industrial property rights, such as patents, utility models, semiconductor protection, etc.). To the extent, such information has been provided by third parties, such reservation of rights shall also apply for the benefit of such third parties.

17. Copyright

All recognisable brands / trademarks are for illustration purposes only. The brands shown are protected by copyright of the respective owner. All mentioned or otherwise recognisable trademarks, registered trademarks or service marks are the property of their respective owners. All data, information and material on this website, images, illustrations, audio and video clips are protected by copyrights, trademarks and other intellectual property rights held or controlled by Gebrüder Heyl Vertriebsgesellschaft mbH or other parties and for which Gebrüder Heyl Vertriebsgesellschaft mbH has been granted permission.

18. Consumer arbitration board

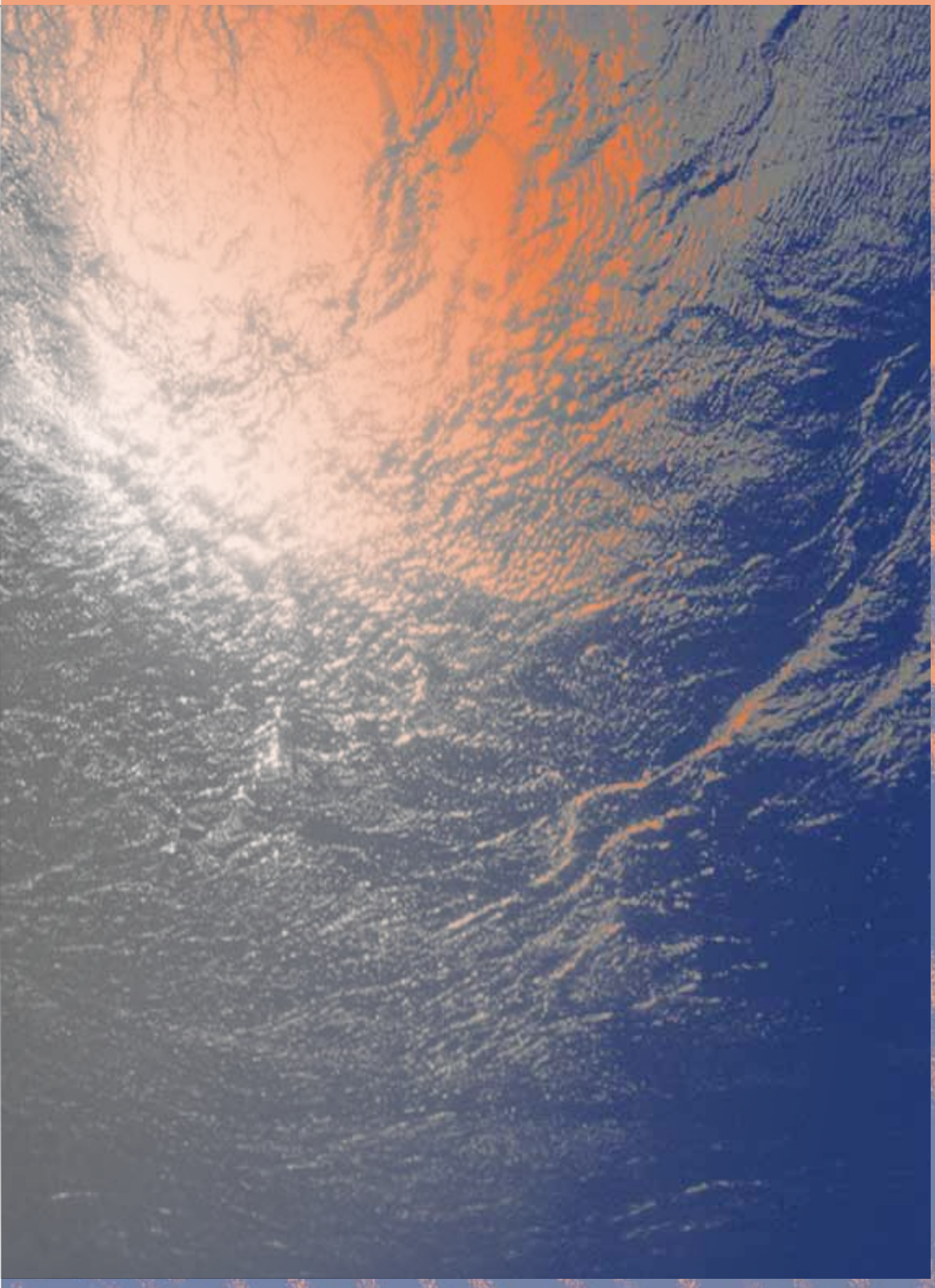
The European Commission provides a platform for online dispute resolution (ODR), which you can find here:
http://ec.europa.eu/consumers/odr/
We are willing to participate in an out-of-court arbitration procedure before a consumer arbitration board.

19. General provisions

19.1. If any provision of these terms and conditions and the additional agreements that have been made are invalid or unenforceable, this shall not affect the validity of the remaining provisions. The contracting parties shall be obligated to replace the invalid provision with a provision that comes as close as possible to it in its economic effect.

19.2. The laws of the Federal Republic of Germany, to the exclusion of uniform international law, in particular U.N. sales law, shall apply to these terms and conditions and all legal relationships between our customer and us. In the case of consumers, this choice of law shall only apply to the extent that the protection granted by mandatory provisions of the law of the state of the consumer's habitual residence is not withdrawn as a result (favourability principle).

19.3. Legal venue for all disputes that directly or indirectly arise from contractual relationships based on these terms and conditions of purchase shall be Hildesheim.



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