



EDM



be clean.
stay green

www.easymetal.com

easymetal

EDM



„Innovation is not just a question of ideas but an important step in the implementation process.

For this purpose, it is essential to have a team that consistently covers new ground with a lot of dedication and heart.

We stand for innovation, for change and still preserve our values such as reliability, fairness and transparency.

With the trust of our customers, we grow and thus accept the challenge of the future.“

EDM



„Technology leader“

We shape the future.

Since our foundation, we have been investing in promising research & development work to thus secure our lead.

In the foreground are tailor-made industry technologies, which often are developed in close cooperation with our customers. Many years of experience of our customers as well as economic aspects of each industry are the basis of these Technologies.

The company easymetal is represented on an international platform about more than 50 partners in 26 states. Leading companies from the fields of medical, aerospace, automotive and electronics / electricians have chosen us as a partner.

Thus, the question of location has been answered for us as an Austrian company.

Quality management.

For us, quality management means quality of products, quality of internal and external processes, quality of service and quality in environmental issues.

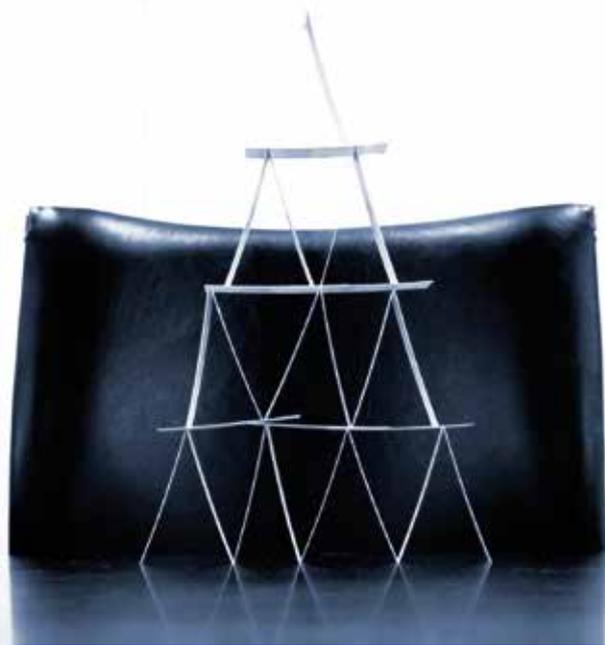
We operate with the knowledge that our products must work safely and efficiently for many years. Therefore, all our new developments undergo a rigorous testing process.

Industry 4.0

In the new age of Industry 4.0, we also focus on networking machines and products and place great emphasis on obtaining all relevant information from the treatment process in real time.

Our environmental balance sheet is your advantage.

Environmentally responsible action for us means a consistent and economical use of energy and raw materials as well as the prevention and reduction of waste. And this not only in our own production processes but also those of the customer.



„Years of experience“

You have an objective,
we have the solution.

Technical water requirements are highly individual and often more complex in nature.

To find the optimal water treatment requires a careful analysis of the raw water and a comprehensive solution competency.

Your competent partner.

Together with you, we develop all points of the task, calculate the required capacity and build a water treatment system according to your needs.

While doing so, we keep your investment and operating costs as well as the required reliability of your machines and systems in mind.

With our many years of experience, we assist and support you in all areas of water treatment products and Services.

Benefit from our expertise.



Water Analysis



Planning



Commissioning



Training



Repair &
Service

Fast. Reliable. Competent.

EDM



EASYRO® 600

10 High performance membranes

Hydraulic output (24hr)
up to 9600 liters

EASYRO® 300

5 High performance membranes

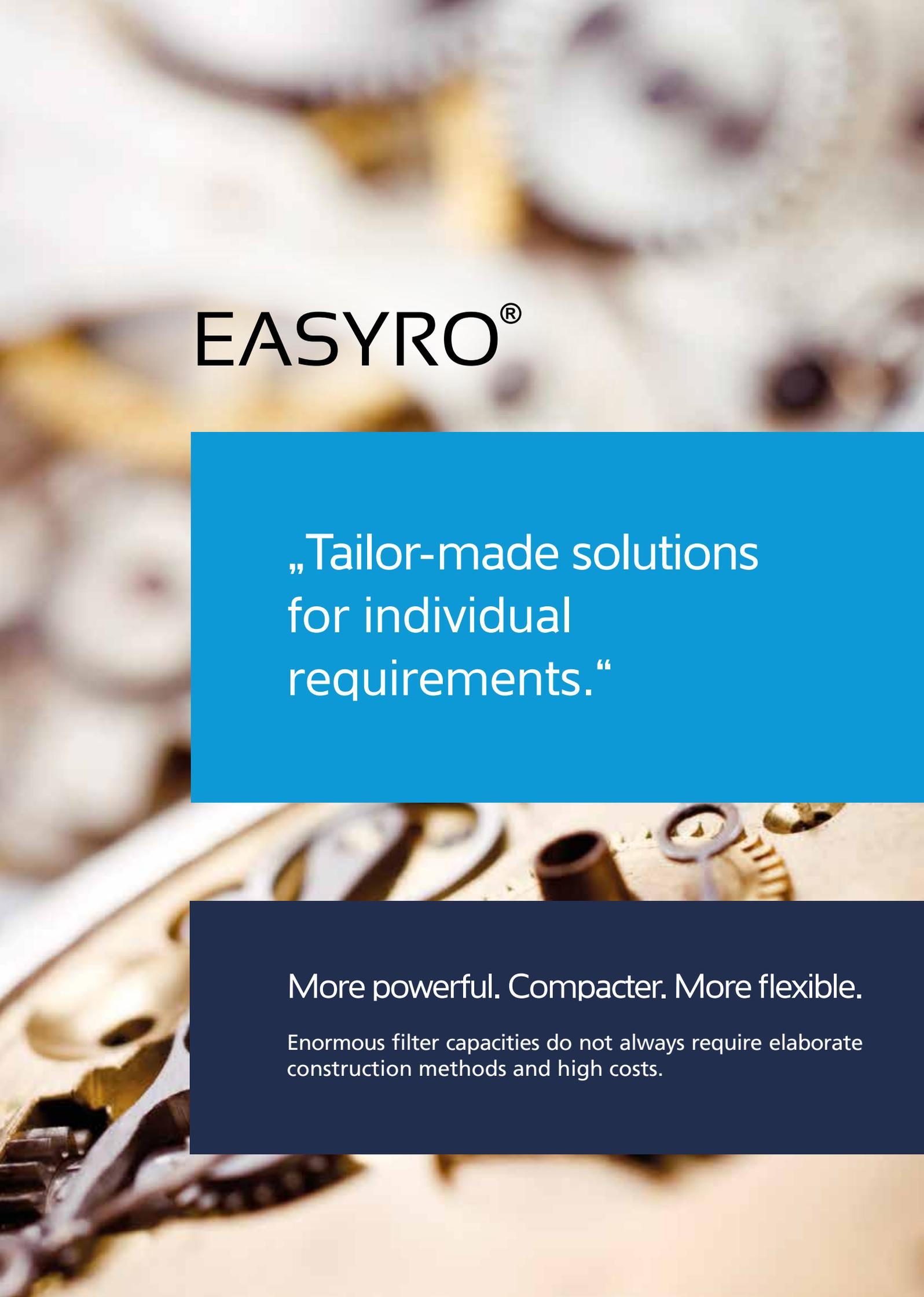
Hydraulic output (24hr)
up to 4800 liters

EASYRO® 150

2 High performance membranes

Hydraulic output (24hr)
up to 2400 liters



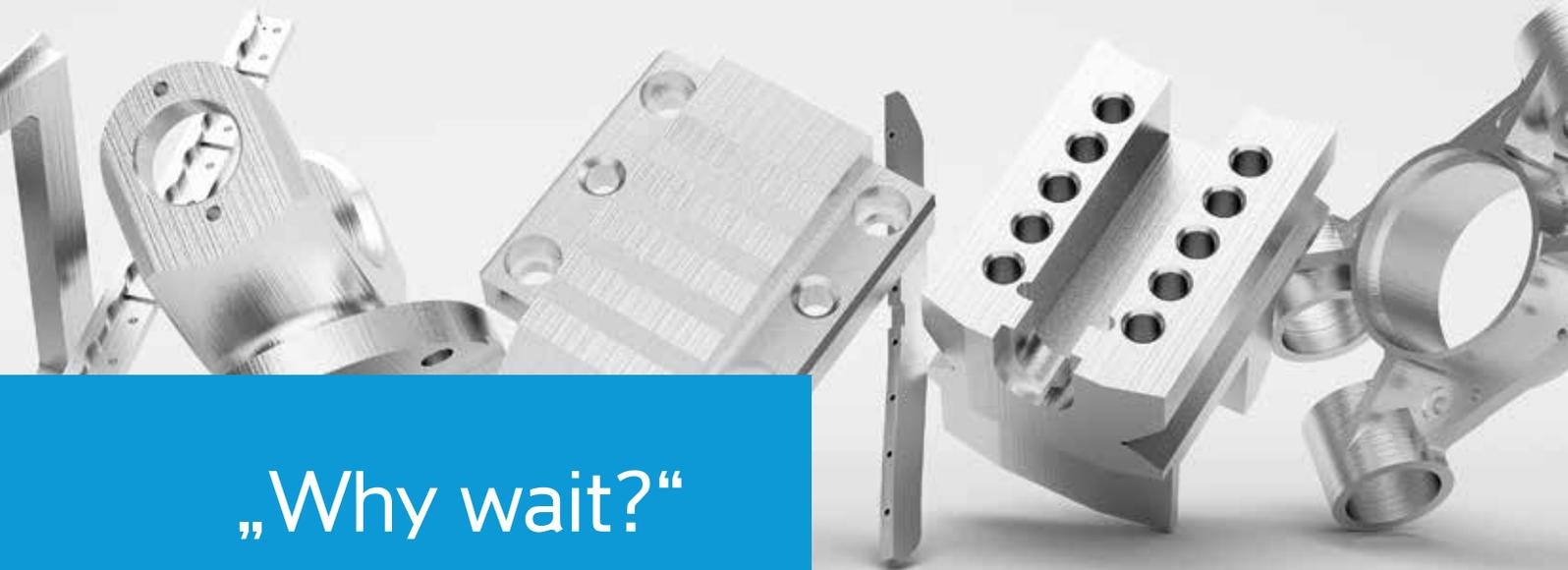


EASYRO[®]

„Tailor-made solutions
for individual
requirements.“

More powerful. Compacter. More flexible.

Enormous filter capacities do not always require elaborate construction methods and high costs.



„Why wait?“

Preparation is everything.



EASYRO® represents refilling with optimally treated water.

If your EDM machine also features fully automatic refilling, the EASYRO® can be connected directly to the machine and your time can be spent on more important matters.

This reduces not only costs but also saves time.

Maximum machine utilization.

A constant and optimum water quality prevents the change of the conductance value during the refilling process.

This results in a run-time boost of the internal de-ionizing.



Economical and preventative at the same time.

- No calcification of the valves
- Reduction of wire breakage
- Long run-times without annoying interruptions



„Some like it hot“

Say goodbye to hardness minerals.



The requirements for the deionate quality determine the necessary treatment of the raw water. The reduction of the value of the DOC value, an optimally lower conductance value, as well as a stable pH-value are the objectives.

Our EASYRO® reverse osmosis system provides a filtration efficiency of 95-99% of all residues in the raw water due to its energy-efficient membrane technology and lowers the conductance value to 10-50 $\mu\text{s}/\text{cm}^1$ depending on the intake water.

Economical and fail-safe.

As redundant systems, EASYRO® devices produce in a fail-safe manner and increase your operating reliability.

The space-saving small footprint means the reverse osmosis systems can be installed without great modifications even during operation. The EASYRO® pendulum system ensures permanent system reliability and availability.



Permanent control.

The EASYRO® systems are equipped with the latest Siemens control elements and allow real-time communication via Ethernet.

Information about the water quality, alarms or warnings are displayed as plain text or can be transferred to an appropriate mobile device via Wi-Fi if desired.



„Perfectly pure“

Residue free? Free of residues!



The optimization of a part cleaning procedure is more complex, depending on how complex the finished workpieces are.

For a reproducible, perfect cleaning, result, a reliable overall solution in terms of water treatment is needed.
Our EASYRO® reverse osmosis system with subsequent polishing provides the best water quality, free of residues.

Best rinsing efficiency.

An increased or changing lime content in the rinsing water has a major impact on the success of the production process. The purer the rinsing water, the better the cleaning result.

Depending on the incoming water, the EASYRO® reverse osmosis system lowers the conductance value to 10-50 $\mu\text{s}/\text{cm}^1$.

With the E.KO IONISER® 1503 as subsequent polishing, we guarantee a conductance value of up to 0.01 $\mu\text{s}/\text{cm}^1$ (TREF25).



Reducing costs easy as pie.

Reviews of many of our customers have shown that the more efficient cleaning power of treated water means the amount of cleaning agents can be reduced.



„Reliably pure“

Optimal water quality for reproducible results.



Ultrapure Type 1 water is essential for accurate reproducible analytical results. Our EASYRO® reverse osmosis system provides the required optimally treated water.

Space-saving for small water requirements as a base cabinet variant or as a central water treatment in connection with large storage tanks, supply all your high-quality analyzers with pure water.

Water - the most frequently used solvent.

For the production of analytically pure water, reverse osmosis can be combined with subsequent polishing.

The combined ultrapure water system provides you with a constant water quality. We guarantee a conductance value of up to $0.01 \mu\text{s}/\text{cm}^1$, accordingly $18.2 \text{ M}\Omega$ (at 25°C), and a TOC value of $<1 \text{ ppb}$.



Reliable and low maintenance.

Our water treatment systems are based on state of the art technology. They are your loyal partner for many years to come.

With their energy-efficient membrane technology, they require little maintenance with a low demand for consumable materials.



„Perfect formulation“

Ultrapure water as a basis for cooling lubricant emulsion preparations.



The range of water-miscible cooling lubricants currently on the market leaves nothing to be desired.

However, the quality of fresh water for the preparation often turns out to be problematic. Metal salts or other residues in fresh water affect the work processes.

In terms of more efficient processes, as well as a qualitative result, a fresh preparation with treated water proved to be advantageous many times.

Leaving nothing to be desired.

Ultrapure water as a preparation medium extends not only the life of the emulsion, it also lowers the total process costs through increased operating reliability.

Whether osmosis water or fully demineralized water, we offer an optimal total solution according to your Needs.



Individually pure.

- Optimal, stable pH value
- Filtration efficiency 95-99%
(salts and other possible residues)
- Adjustable conductance value
2-400 $\mu\text{s}/\text{cm}^1$
- Conductance value after polishing
up to 0.01 $\mu\text{s}/\text{cm}^1$ possible (TREF25)



„Individually optimized“

Water - one of the most important raw materials.



Whether as an ingredient, for processing processes, or for cleaning and hygiene, the purest water plays an important role in food production. The water quality often affects the quality of the product, not only as an ingredient. Minerals dissolved in the water and residues affect the processing process and cause deposits and corrosion on all water-carrying parts.

Optimally treated water ensures trouble-free operation and increases reliability.

Economical and fail-safe.

The EASYRO® reverse osmosis system makes it possible to produce pure water in a space-saving and cost-effective manner for all your applications.

Depending on the incoming water, the EASYRO® system lowers the conductance value to 10-50 $\mu\text{s}/\text{cm}^1$. Its energy-efficient membrane technology guarantees a filtration efficiency of 95-99% for all residues in the water.



Well combined.

You need process water with the highest degree of purity?

With the EASYRO® reverse osmosis system in conjunction with the E.KO IONISER® 1503 as subsequent polishing, we guarantee a conductance value of up to 0.01 $\mu\text{s}/\text{cm}^1$ (TREF25).



„True greatness
is in the details“

EASYRO® 150



EASYRO® 300



Aluminium housing

Closed aluminum
anodized housing

Modular design

Flexible sizes depending
on the needed water quantities.
Due to the practical modular
design, EASYRO® easily can
be expanded at any time.

High pressure pump

Quiet,
thermally decoupled pump



Industry 4.0

Siemens LOGO! 8

EASYRO® 600



- Fully automatic monitoring and control of the system
- Display of operating status, alerts, alarms, messages
- Clear text display
- Data logging function

Low-pressure high performance membrane

- State of the art energy efficient membrane technology
- Permanent usable high-performance membrane
- Automatically controlled backwashing and rinsing cycles
- Filtration efficiency 95-99 %





Water outlet 1 with mixture

- Mixture for desired conductivity, adjustable from 2-400 $\mu\text{s}/\text{cm}^1$ but no discarding
- Conductivity measurement temp. compensated measuring range 2-400 $\mu\text{s}/\text{cm}^1$

Pure water outlet 2 with rejection

- Max. permissible output conductance adjustable from 2-400 $\mu\text{s}/\text{cm}^1$

Discarding:

If the actually produced conductivity of the permeate is above the preset value, discarding is carried out until the desired preset conductivity is achieved again.

- Drain valve made of stainless steel
- Conductivity measurement temp. compensated measuring range 2-400 $\mu\text{s}/\text{cm}^1$



EASYNET / EASYBUS

EASYNET

- Standard Ethernet Connector
- Webservice

EASYBUS

- Master/Slave Connector (Redundant system)
- Optional webservice

Water inlet

Inlet 3/4" OT inlet valve with dirt trap

Level control* connection

Connection for Level probe



* only for level-controlled systems in conjunction with a storage tank

Waste water outlet

Outlet JG 10/DN 20

Mixture adjustment screw

To set the desired conductivity for water outlet 1

230 V AC/50 Hz





„Industry 4.0“

Networked and mobile communication in real-time.

Simple handling and real-time communication via Ethernet characterize the Siemens LOGO! 8.

The integrated Web Server enables the monitoring and control via Wi-Fi* and via Internet. Of course, this is password protected and compatible with all popular browsers. The LOGO! 8 can be operated via PC, smartphone or tablet. SMS communication** for alerting and remote control via mobile phone.

* Wi-Fi module required, ** GSM module required

Intelligent management.

Password-protected programming of operating procedures and operational parameters. Operator function via password on different levels, limit value for LF error and LF pre-warning, exceeding limit value threshold, permeate conductivity. All sensors and valves are operated with 24 VDC.



Well informed.

Warnings and information such as discarding mode, filter replacement, diaphragm check, etc. are indicated with orange backlight.

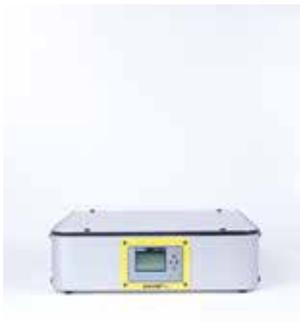


Respond as soon as possible.

The optical alarm messages highlighted in red allow for an immediate response to errors in the process flow. This includes lack of pressure, motor temperature, level probe check, leaks, etc.



Performance data



EASYRO[®] 150

2 High performance membranes

Hydraulic output (24hr)
up to 2400 liters



EASYRO[®] 300

5 High performance membranes

Hydraulic output (24hr)
up to 4800 liters



EASYRO[®] 600

10 High performance membranes

Hydraulic output (24hr)
up to 9600 liters

EASYRO® 150 EASYRO® 300 EASYRO® 600

			
Elektrical connection			
Power consumption	250 W	250 W	600 W
Voltage	230V AC/50 Hz	230V AC/50 Hz	230V AC/50 Hz
Noise level	> 60 dB(A)	> 60 dB(A)	> 60 dB(A)
Fusing	10 A	12 A	16 A

Water connection			
Minimum flow	10 l/min	15 l/min	20 l/min
Input pressure	2-6 bar	2-6 bar	2-6 bar
Device connection	¾" OT	¾" OT	¾" OT
Wastewater connection	JG 10/DN 20	JG 10/DN 20	JG 10/DN 20
Pump outlet	1" OT	1" OT	1" OT

Hydraulic performance			
Output (24 hr)*	2400 l	4800 l	9600 l
Pump capacity**	3400 l/h	3400 l/h	3400 l/h
Pump outlet pressure**	4 bar	4 bar	4 bar
Monitoring min./max.	incl.	incl.	incl.

* Depending on raw water quality and temperature

** Technical data, see data sheet of pump



EASYRO® 150

EASYRO® 300

EASYRO® 600

System data			
Desalination rate min.	95 %	95 %	95 %
Desalination rate max. in combination with polisher***	99,99 %	99,99 %	99,99 %
Wastewater**** min.	35 %	35 %	35 %
Outlets	2 x JG 10	2 x JG 10	2 x JG 10
Outlet 1	Pure water fix		
Outlet 2	Adjustable 0-400 µs/cm ¹		
Weight, empty	approx. 18 kg	approx. 25 kg	approx. 50 kg
Dimensions (L/W/H)	450/490/147	450/490/284	450/490/558

*** up to 0,01 µs/cm¹

**** Depending on raw water quality and membrane service life

Filtration efficiency of the EASYRO® reverse osmosis system

The following table shows what percentage of substances and pollutants possibly present in the water are removed by the high-tech filter membranes of the EASYRO® system.

Micro organisms	%
Heterotrophic bacteria	> 99
Coliform bacteria/E.Coli	> 99

Organic substances	%
Hydrogen compounds	
Heptane/octane/decane, etc.	> 98
Benzene/toluene/xylene/ethylbenzene, etc.	> 99
Diesel oil	> 99
Poly-aromatic hydrocarbons	
PAH (polycyclic aromatic hydrocarbons)	> 99
Chlorinated hydrogens	
Residues arising from the chlorination of water	> 99
Trihalomethanes (THM)	
Trichloromethane	> 60
Bromodichloromethane	> 99
Di-/Tribromomethane	> 99
Pesticides & decomposition products	
PCB (polychlorinated diphenyle)	> 99

Inorganic substances	%
Turbidity	> 99
Color number	> 99
Cations/metals	
Sodium	> 96
Potassium	> 97
Calcium (hardness)	> 99
Aluminium	> 99
Iron	> 99
Manganese	> 99
Heavy metals	
Copper	> 99
Lead	> 99
Zinc	> 99
Mercury	> 99
Cadmium	> 99
Chrome	> 98
Nickel	> 99
Anions	
Fluoride	> 99
Chloride	> 98
Nitrate	> 97
Sulphate	> 97



„Twice the performance“

High availability through redundancy.

The redundancy principle is the most common procedure to prevent the failure of important components.

These additional resources provide for:

- Increased failure prevention = reliability and reduction of failure probability of components critical for production.
- The increase of operating reliability by ensuring uninterrupted operation.

Master and Slave

The system consists of 2 working systems (master + slave). One system is the designated master and takes over the main control.

Alternately, only one system at a time is active.

Fig. 1

The master (system A) is working. The slave (system B) is in „Stand by“ mode waiting for its signal.

Fig. 2

The master passes the signal to the slave. The slave (system B) starts to work. While the slave works (system A), the master is now in the „Stand by“ mode.

EASYBUS (master/slave connector) in the rear of the system is used to connect the two pendulum systems with one another.

Bonus Feature.

To cover any dispensing peaks, the pendulum system provides an optimal Feature.

While in dual mode, both units (A + B) work simultaneously as one unit. This means twice the power is available to you.

Fig. 1

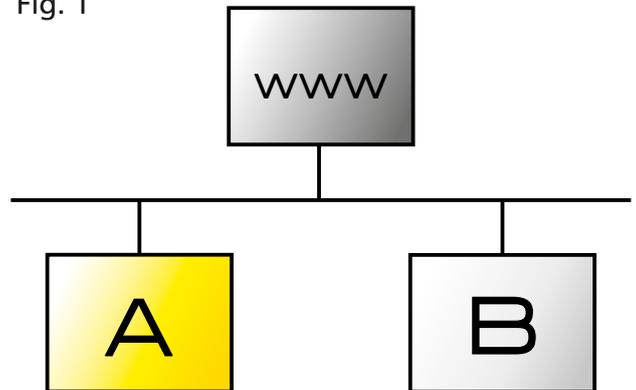
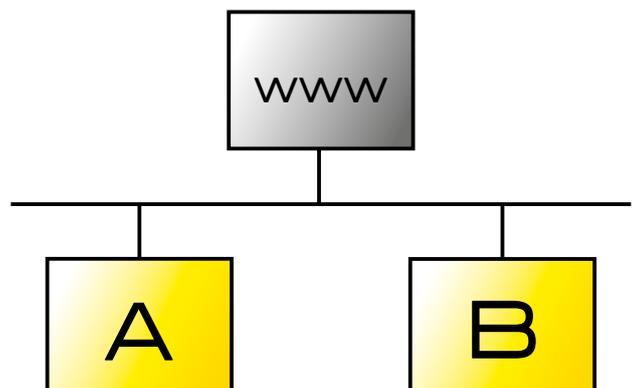
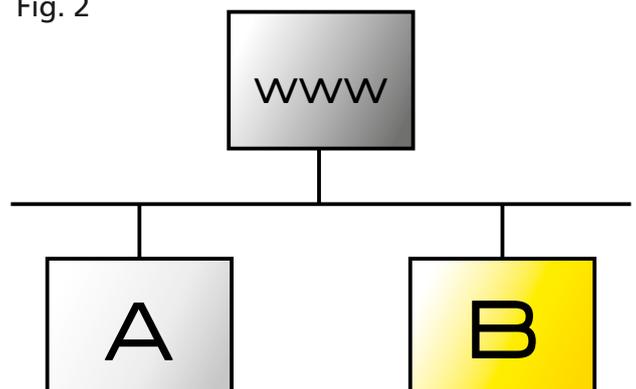


Fig. 2





„Tank systems“

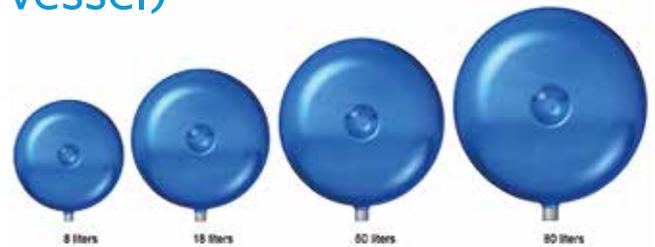
Tank systems

Depending on whether you want a pressure-controlled water treatment system in combination with a diaphragm boiler or rather a pressureless system with a reservoir -

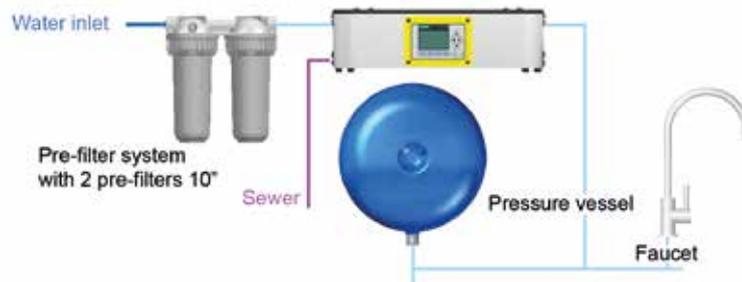
we deliver the optimal solution for your needs.

Diaphragm tank (Pressure vessel)

For small and very small amounts of treated water, we recommend one of our diaphragm boilers with a nominal volume of 8 to 80 liters.

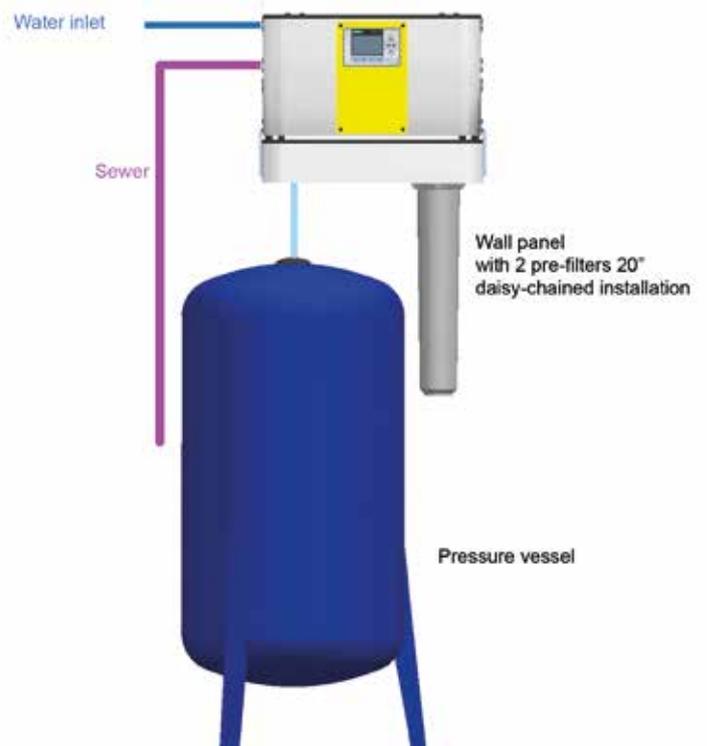


These pressure tanks are especially suitable for use in laboratories to supply dishwashers. They are compact enough to be mounted to the wall in a base cupboard.



Pressure tank with pads

As a pressure tank with pads, the diaphragm boilers with a nominal volume of 200 or 300 liters provide a larger volume of water.

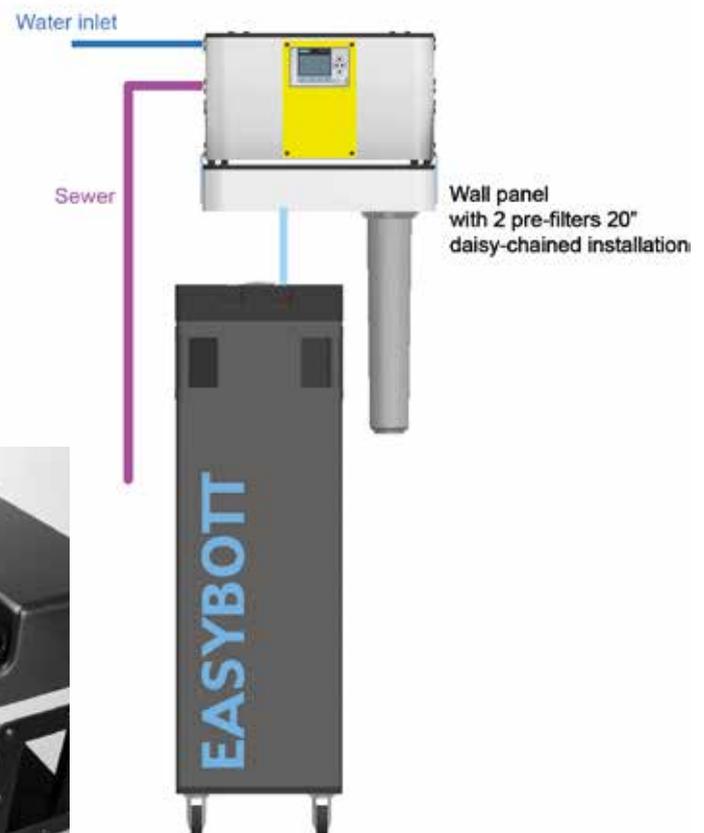




EASYBOTT refill cart with pressure Expansion vessel

As a mobile water dispenser, the EASYBOTT offers the optimal complement to the EASYRO® water treatment system. The pressure tank with integrated pressure indicator fills the tank of your machine without pump or costly power supply.

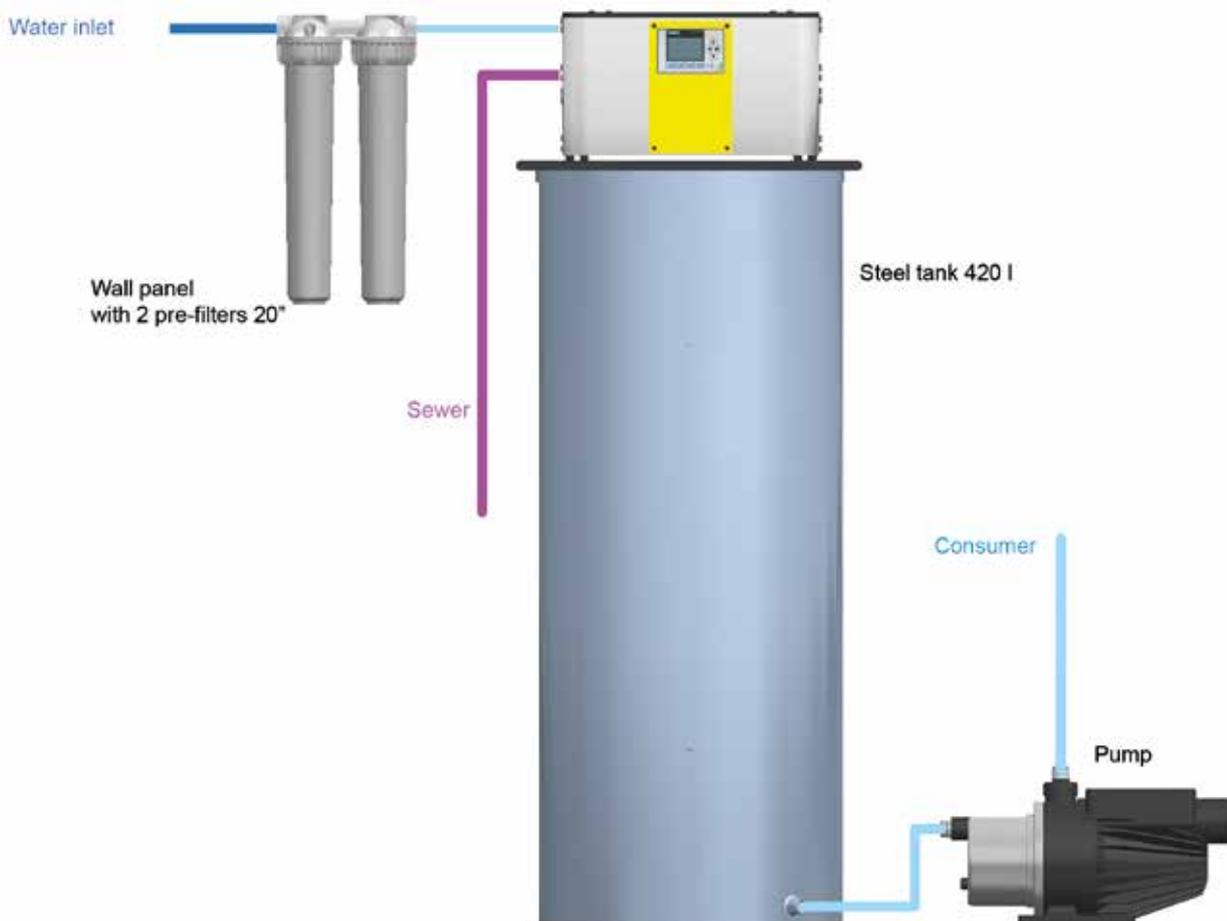
Nominal volume: 80 liters, Airproof butyl bag according to EN 13831
Pressure indicator for fill level
Outlets: 2 x CPC couplings 1/2"
4 rubber castors (2 braked)



Pressureless stainless steel tank

The pressureless 420 liter stainless steel tank is considered the base tank in drinking water treatment. All metallic parts in contact with water are made from stainless steel.

With a diameter of 600 mm and a height of 1515 mm, it can be placed in even the smallest corner and offers a shelf for placing an EASYRO® system on top.



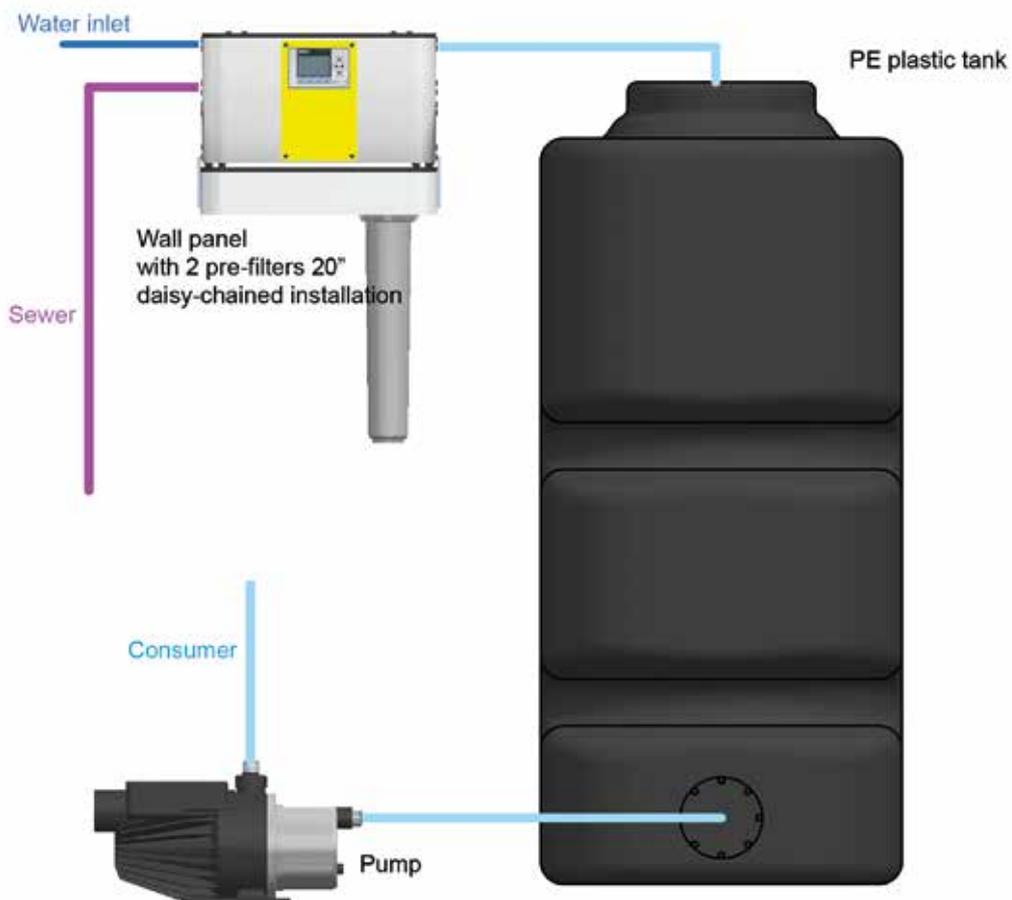


Plastic tank HD-PE

Supply tank with larger volumes are needed in industry and gastronomy. The pressureless and foodgrade plastic tanks are available with volumes of 1000, 2000 or 3000 liters.

They can be used as base tanks as well as supplementary tanks and can be linked with one another. This saves costs when requiring large volumes of water.

All HD-PE plastic tanks have a manhole cover and as base tanks feature a fill level indicator as well.





„Grundfos pumps“

GRUNDFOS 

Pump systems

We only offer pump systems of our partner Grundfos due to the high demands for topnotch quality in the various application areas.

Grundfos pumps represent operational reliability, quiet cycles, and a long service life. They guarantee low-maintenance operation. Depending on your needs and requirements, standard central water systems or vario pumps for constant pressure are configured.



Pre-filter & Co

We gladly assist you in configuring your optimal water treatment system.

We also try to help when it comes to selecting the right accessories that are not part of our product range.

Wall mounting systems

The practical wall mounting panel was designed as the optimal installation option for our EASYRO® water treatment system. The pre-filters can be attached directly onto the underside of the wall panel to save space.

Dimensions (L/W/H) 450/500/15 mm



Pre-filter systems

We offer a broad range of pre-filters and filter accessories.

Our product range includes wraparound filters in various fineness grades, hardness stabilizers, activated charcoal filters, various polisher granulates, etc..

Depending on the quality of the raw water and the treated water specifications, the necessary components are configured to achieve an optimal result. The filter housings and the various filter inserts are 10" or 20" in size depending on the EASYRO® system dimension or the raw water quality.

UVC immersion lamp system

The UVC immersion lamp system is used to disinfect drinking water. It reduces pathogens and pathogenic germs by 99 percent. The UV bactericidal process is purely physical, leaves no odor or taste behind, and runs trouble-free without residues. No chemicals are added.

UVC disinfection inside of the tank is recommended in conjunction with a pressureless tank system.



EDM



„Fully demineralized water“

E.KO
IONISER®

Better. More reliable. Quicker.



That is how deionized water with low conductivity and an optimal ph is generated today.

The E.KO IONISER® series 1501, 1502 und 1503, are designed for EDM, industrial and production processes.

We will gladly advise you and put together an optimal water treatment system according to your needs and requirements.

easymetal

EDM



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