



# Softening plants

**EUROWATER**  
PURE WATER TREATMENT

# Reliable softeners

EUROWATER has more than 70 years of experience in development of reliable water treatment plants with a long life and minimum maintenance. The secret of this is a combination of choice of materials, technical know-how, and competent staff.

## Why water softening?

Softening of water is advantageous prior to a number of production, wash and rinse processes. Softening prevents calcium deposits in e.g. piping, steam boilers, district heating installations, hot-water units, heat exchangers, and cooling towers.

Softened water results in improved washing and rinsing and also minimizes the use of detergents and fabric softeners. Traditional use of chemicals for calcium binding can be avoided. In other words, softening can optimize energy use in



Photo: FORCE Technology

boilers and hotwater units, minimize chemical usage, and prolong the life of technical plants and installations including pipe and valve systems.

## Individual solutions

The product range comprises a number of standard series with flow rates up to 150 m<sup>3</sup>/h. This comprehensiveness makes individual solutions feasible and thus match investments to individual needs for softened water.

## Softening process

Hardness = calcium (Ca<sup>++</sup>) and magnesium (Mg<sup>++</sup>)

The contents of calcium and magnesium salts in the water determine the water hardness. A softening plant is a cation exchanger in which calcium and magnesium are exchanged for sodium through ion exchange.

## Water quality

Water hardness is stated in German degrees of hardness (°GH). The below values are guideline values only.

Softened water < 0.5 °GH

Soft water < 10 °GH

Moderately hard water 10-20 °GH

Hard water >20 °GH

## Regeneration

When the resin is saturated with calcium and magnesium, the resin must be regenerated with a sodium chloride solution. The solution expels the collected calcium and magnesium salts that are discharged to drain. At the same time, the resin is recharged with sodium ions.

# The optimum solution

The choice of plant depends on application, water quality, and water consumption. The combined know-how of our EUROWATER staff is at your disposal to ensure the right choice of solution.

## Discontinuous water consumption

A softening plant with one tank is an economical solution when intermissions in operation are acceptable. At the same time, the plant saves space.

## Continuous water consumption

All plant series are available as two-tank plants for continuous water consumption with at least one tank in operation.

Furthermore, three-tank plants (triplex plants) are offered as special design with minimum two tanks in operation.

Each tank is mounted with individual valve to ensure reliable operation.



Brine tank



SM/SG  
Flow up to 3.6 m<sup>3</sup>/h



SF/SFG  
Flow up to 9 m<sup>3</sup>/h



SMH/SML  
Flow up to 26 m<sup>3</sup>/h

### Plug & Play

As standard, several of the two-tank plants are supplied as an entity with integral tanks, pipe system, and control.

Frame-mounted plants are factory-tested as a whole. We call the concept Plug & Play since frame mounting makes a secure and quick installation.

### Convenient control

Each plant comes with a customized PLC control. Our controls are purpose-made and individually programmed by our own engineers who continuously develop our controls.

The simple user interface facilitates check of configuration parameters and control of operation and regeneration. See separate leaflet.



SE10 and SE20 control panels.

### Irregular water consumption

The advantage of a volume-controlled plant is that it fully utilizes its capacity. It might be a good and economical solution for an irregular water consumption since the number of regenerations is adapted to the current pattern of consumption. The control enables precise programming of plant capacity according to water hardness.

### Hot-water plants

Several of our plant series can treat hot water up to 85°C. Filter tank, distributor system, and five-cycle valve are designed especially with a view to this. Besides, the plant construction is suited for sanitary installations.

### Regular water consumption

Calendar control is often applied with regular water consumption. It enables regeneration at predetermined days and hours when there is no production, e.g. in the night.

## Product range

	SM	SG	SF	SFG	SMH	SML	SFH	SFHG	STFA
<b>Flow rate</b>	<3.6 m <sup>3</sup> /h	<3.6 m <sup>3</sup> /h	<3-9 m <sup>3</sup> /h	<3-9 m <sup>3</sup> /h	5-15 m <sup>3</sup> /h	5-26 m <sup>3</sup> /h	13-32 m <sup>3</sup> /h	13-32 m <sup>3</sup> /h	15-150 m <sup>3</sup> /h
Hot water		•		•				•	
Cold water	•		•		•	•	•		•
Galvanized pipe system	•	•	•	•			•	•	
PVC pipe system	•				•	•			•
One-tank plant	•	•	•	•	•	•	•	•	•
Two-tank plant	•	•	•	•	•	•	•	•	•
Frame-mounted, two-tank plant	•	•			•	•			
Calendar control	•	•	•	•	•	•	•	•	•
Volume control	•	•	•	•	•	•	•	•	•
Five-cycle valve	•	•	•	•	•	•	•	•	
Brine maker			•	•	•	•	•	•	•
Brine tank	•	•	•	•	•	•	•	•	

Please contact us for further information on flow rate, capacity, dimensions, and pressure loss.



**SFH/SFHG**  
Flow up to 32 m<sup>3</sup>/h

**STFA**  
Flow up to 150 m<sup>3</sup>/h

# Robust plants

Softening plants are a long-time investment and EUROWATER uses the best materials available. Our time horizon is often 25 years.

## Non-corroding filter tanks

The filter tanks are of steel and therefore less susceptible to changes of pressure. The tanks are coated with polyethylene. Thus, the filter tanks combine the strength of steel with the strong anticorrosion property of synthetic material.

## Fail-safe valve

Our patented five-cycle valve is made of high-quality synthetic material and has few movable parts. Taken together, this endows the valve with a long life and minimum maintenance.

The valve is specially constructed for EUROWATER plants and ensures effective and careful treatment of the ion exchanger. This results in improved plant utilization and a prolonged life of the resin. Our experience is that the ion exchanger typically lasts for the life of the plant.

## Pipe system

As standard, the pipe system is supplied as PVC or galvanized steel piping. Steel is a robust material that endures very high temperatures. PVC does not endure such high temperatures but it is, however, corrosion-proof and resistant to chemicals.

The pipe system is available in other materials including stainless steel.

## Brine tank – brine maker

The brine tanks are of unbreakable polyethylene. They are easy to fill and clean.

It is possible to choose a brine maker for several of the plant series. A brine maker is an automatic system for production of large quantities of brine. Typically, fewer salt fillings are needed. At the same time, an inexpensive salt type can be used.

In standard design, STFA plants are supplied with brine maker.

## Options

### Reduction of rinse water

Certain plants are supplied with conductivity meters that continuously measure the actual conductivity in the water. When the ion exchanger is clean, the regeneration stops, thereby minimizing rinse water consumption.

### Quality monitoring

The quality of the softened water can be monitored by a Testomat unit analyzing the residual hardness in the water. The Testomat unit is set to an actual hardness limit. Exceeding this limit will release an alarm.

### Counter-current regeneration

Most softeners are co-currently regenerated: the brine is injected in the same direction as the service flow (from top of the bed down). Under certain conditions, counter-current regeneration can be advantageous. We offer both options and assist you in the right choice.



# After sales service

EUROWATER has an international sales and service organisation. Our service cars are equipped with a broad range of spare parts, often enabling us to solve problems at site and in this way ensuring reliable operation of your softening plant.

In order to find your local sales and service office, please visit our international website.

## Pure water treatment since 1936

EUROWATER is an international group with subsidiary companies in 14 countries servicing our customers through 21 local offices. Moreover, the company is represented in most of the other European countries through dealers that all are water treatment specialists.



Salt rocks



Salt tablets

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