

# AMBERSOFT<sup>®</sup>

## PACKED BED

## WATER SOFTENERS

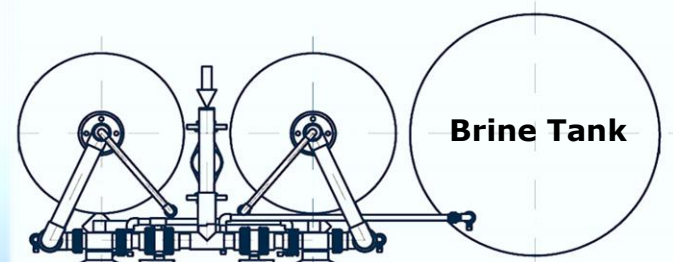
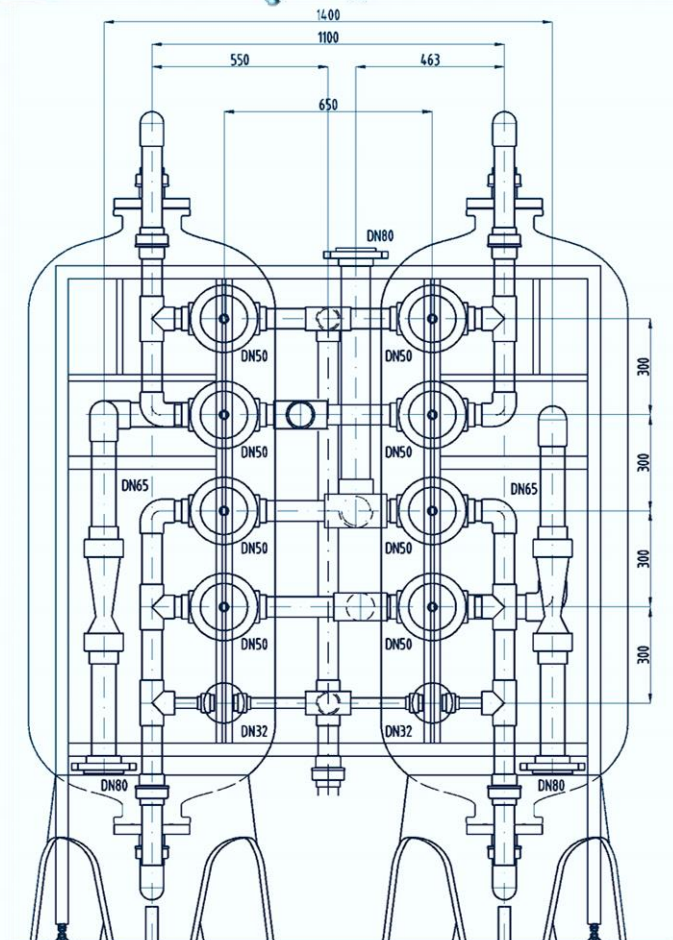
### AMBERSOFT<sup>®</sup> Specialty

- Packed bed units
- Low operating costs
- High exchange capacity
- State-of-the-art treated water quality
- Efficient and simple backwash capability

**AMBERSOFT<sup>®</sup>** Systems are based on Packed Bed Technology. In a packed bed softener, the vessel is almost completely filled with strong acid cation uniform resin. During the brine suction and regeneration cycle, packed bed system works in the opposite direction (Down-Flow) and the service of Packed Bed is in Up-Flow direction.

**WATCH WATER<sup>®</sup> AMBERSOFT<sup>®</sup>** Systems are very inexpensive because they are compact.

**AMBERSOFT<sup>®</sup>** is based on **PACKED BED** Technology which is most efficient, as the service is counter flow which gives the highest exchange capacity!



### General Information and Highlights

**Watch Water**<sup>®</sup> **AMBERSOFT**<sup>®</sup> uses Packed Bed Design. When the water enters the bed during the service cycle, it progressively comes into contact with more highly regenerated resin, which ensures production of a high quality softened water, minimizes chances of ionic leakage and maximizes resin bed operation capacity. Regeneration can be performed faster and more efficiently, with reduced chemical consumption, less rinse water, reduced waste disposal requirements, and lower overall expense.

### **Watch Water**<sup>®</sup> **AMBERSOFT**<sup>®</sup> **PACKED BED Systems**

Calcium and magnesium build ups can cause disturbances in many industrial and domestic processes. In the household calcium is deposited in pipes, boilers, washing machines, water heaters, dish washing machines as well as on sanitary surfaces and facilities. A coating of only 1mm can increase energy consumption by 13%. In many industrial applications, softened water is needed, for instance steam boiler plants cannot operate without treated water. Also, in laundries and dye houses soft water is necessary.

#### **Benefits:**

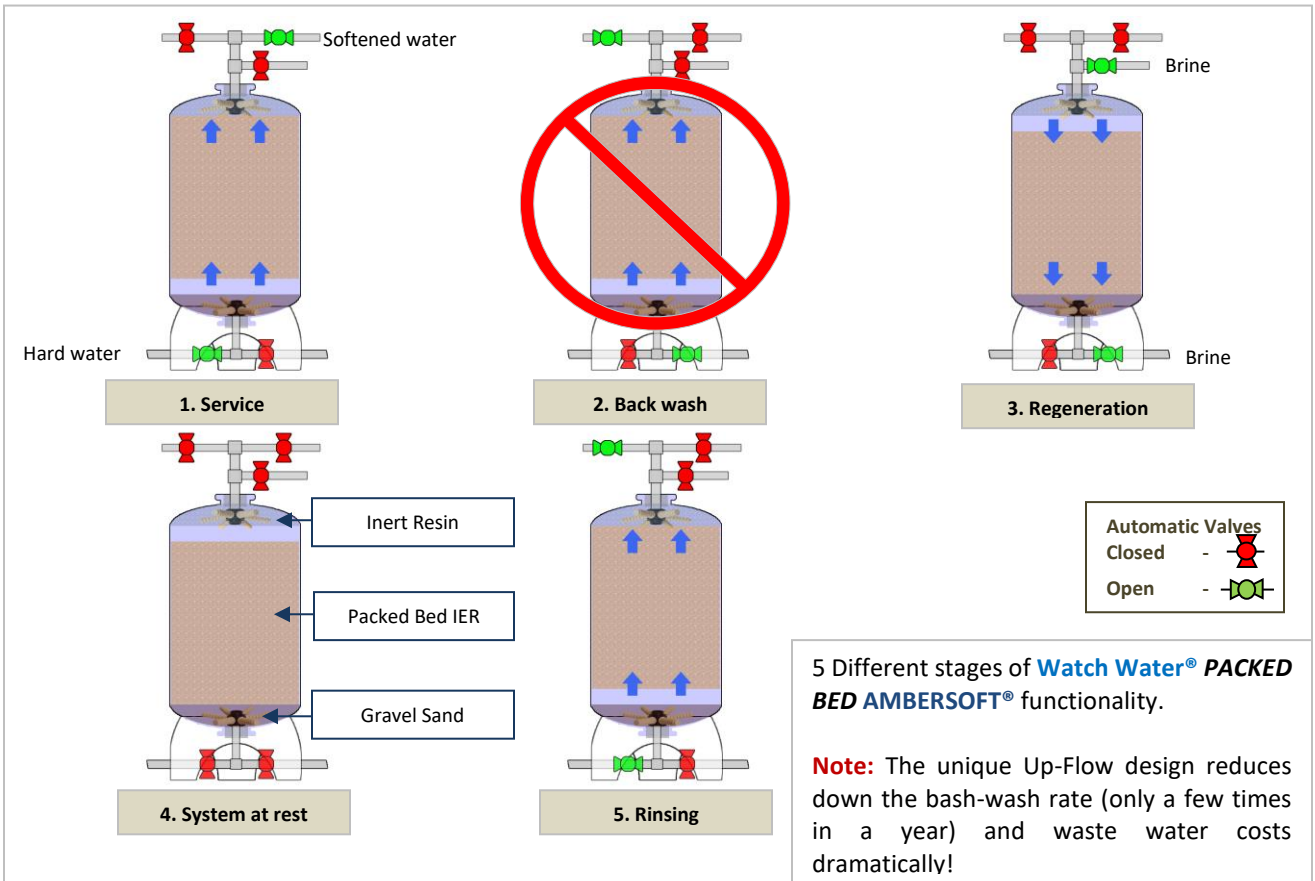
The benefits realized by the simple change from down-flow to up flow will have significant impact on the industrial softening industry, especially in terms of the overall value of products offered, with vast operational improvements over previous designs. When evaluating designs, we find that simply implementing a up-flow strategy will cover the additional associated capital costs within the first year. With higher volumes of water processed per day, or higher levels of inlet hardness, the payback becomes even more significant.

The cost savings are only part of the overall up-flow design. In addition to the system performing more efficiently and saving money over each year of operation, the following benefits are also realized simply by design:



### **AMBERSOFT**<sup>®</sup> **benefit highlights:**

1. Improved effluent hardness quality based on the bleed concentration of hardness from the softener. This is due to the bottom of the resin tank being cleaner in the up-flow design than typical down-flow systems.
2. Improved effluent iron quality for systems operating on high levels of ferrous iron. The same benefits of improved hardness removal also enhance the system's ability to remove elevated levels of iron.
3. Reduced salt consumption since units operate more efficiently. The overall salt consumption of a **AMBERSOFT**<sup>®</sup> system can be **up to 50%** less than in a similar down-flow system.
4. Reduced water consumption per regeneration cycle.
5. Environmental benefits are also addressed, as counter current systems are inherently more efficient and less wasteful than down-flow designs. **AMBERSOFT**<sup>®</sup> technology can be deemed the **greenest** softener design.



### Pretreatment

Pretreatment requirement depends on the raw water analysis. If the Iron and Manganese contaminant exceeds control limits, pretreatment is mandatory to provide better Resin lifetime. These elements reduce the ion exchange capacity of the resin. \*

### Post treatment

In cases where the pure water quality is not high enough for special applications, quality can be improved by using post treatments such as reverse osmosis, dosing or UV-disinfection. \*\*

\*Please consult us for detail.

\*\* **Watch Water®** has the best Dosing Solutions that comes in **INSTANT Powder**

### Technical Data

(varies depending upon design and operating conditions)

flow rate:	0.5 ... 120 m <sup>3</sup> /h
raw water pre-pressure:	2 ... 10 bar
raw water temperature	8 ... 50 °C up to 120 °C for special applications
raw water quality:	pre-filtrated well or surface water town water permeate condensate
service life:	6 ... 24 h
regeneration agent:	common salt (NaCl)
soft water quality:	total alkaline earths < 0.01 ... 0.1 mmol/l ≈ total hardness < 0.05 ... 0.5 °dH
vessel material:	glass-reinforced plastic (grp) steel (coated) stainless steel
pipng material:	PVC PP stainless steel
ion exchange medium:	ion exchange resin, strongly acidic

## AMBERSOFT<sup>®</sup> Water Softening Systems from WATCH WATER<sup>®</sup> GmbH

The **advantage** of the **AMBERSOFT<sup>®</sup> (AS)** Systems:

Using an innovative process and a special ion exchange resin, the **AMBERSOFT<sup>®</sup>** units are using **up to 50% less** salt and water for re-generation in comparison with usual water softeners.

AMBERSOFT <sup>®</sup> MODEL ▶		AS 500/32	AS 700/40	AS 1200/50	AS 1700/50	AS 2700/65	AS 3900/80	AS 5200/100	AS 5600/100	AS 7000/100	AS 8000/125	AS 12800/150
Flow (max.)	m <sup>3</sup> /h	5	7	12	16	26	38	52	56	70	80	120
Capacity	m <sup>3</sup> x °dH	500	700	1200	1700	2700	3900	5200	5600	7000	8000	12800
Resin volume	Liter	125	175	300	425	675	975	1300	1400	1750	2000	3200
Salt consumption	kg/Reg.	12.5	17.5	30	42.5	67.5	97.5	130	140	175.0	200	320
Rinse water	m <sup>3</sup> /Reg.	0.9	1.25	2.1	3.0	4.7	6.8	9.1	9.8	12.2	14	25
Water in/out		DN32	DN40	DN50	DN50	DN65	DN80	DN100	DN100	DN100	DN125	DN150
Compressed air		6/4 mm (6bar)	6/4 mm (6bar)	6/4 mm (6bar)	6/4 mm (6bar)	6/4 mm (6bar)	6/4 mm (6bar)	6/4 mm (6bar)	6/4 mm (6bar)	6/4 mm (6bar)	6/4 mm (6bar)	6/4 mm (6bar)
Electricity		24V/50Hz	24V/50Hz	24V/50Hz	24V/50Hz	24V/50Hz	24V/50Hz	24V/50Hz	24V/50Hz	24V/50Hz	24V/50Hz	24V/50Hz
Service pressure	bar	3 – 6	3 – 6	3 – 6	3 – 6	3 – 6	3 – 6	3 – 6	3 – 6	3 – 6	3 – 6	3 – 6
Service temperature	°C	5 – 40	5 – 40	5 – 40	5 – 40	5 – 40	5 – 40	5 – 40	5 – 40	5 – 40	5 – 40	5 – 40
Brine tank	Liter	600	600	1000	1200	1600	2000	3000	3000	4000	4000	6000
Space required	m	2 x 2.5 x 0.6	2 x 2.5 x 0.6	2.1 x 3.6 x 0.8	2.3 x 3.8 x 0.8	2.5 x 4.3 x 1.0	2.6 x 4.9 x 1.1	2.7 x 5.1 x 1.2	2.7 x 5.1 x 1.2	3.0 x 6.0 x 1.5	3.0 x 6.0 x 1.5	4.0 x 7.0 x 2.0

- **Optional Hardness control with Testomat is also available.**