

Commandomatic Ezysoft WATER SOFTENER SYSTEM

Manual



WARNING

This equipment must be installed and serviced by a qualified technician. Improper installation can create electrical hazards which could result in property damage, serious injury or death. Improper installation will void the warranty.



Notice to Installer

This manual contains important information about the installation, operation and safe use of this product. Once the product has been installed **this manual must be given to the owner / operator of this equipment.**

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WARNING & SAFETY INSTRUCTIONS

- Before you begin the installation of the water softener, we advise you read and carefully follow the instructions contained in this manual. It contains important information about safety, installation, use and maintenance of the product. The actual system that you have received may differ from the pictures/illustrations in this Technical Manual.
- Failure to follow the instructions could cause personal injury or damage to the appliance or property. Only when installed, commissioned and serviced correctly, the water softener will offer you many years of trouble-free operation.
- The water softener is intended to 'soften' the water, meaning it will remove hardness minerals; it will not necessarily remove other contaminants present in the water. The water softener will not purify polluted water or make it safe to drink!
- Installation of the water softener should only be undertaken by a competent person, aware of the local codes in force. All plumbing and electrical connections must be done in accordance with local codes.
- Before setting up the water softener, make sure to check it for any externally visible damage; do not install or use when damaged.
- Use a hand truck to transport the water softener. To prevent accident or injury, do not hoist the water softener over your shoulder. Do not lay the water softener on its side.
- Keep this Technical Manual in a safe place and ensure that new users are familiar with the content.
- The water softener is designed and manufactured in accordance with current safety requirements and regulations. Incorrect repairs can result in unforeseen danger for the user, for which the manufacturer cannot be held responsible. Therefore repairs should only be undertaken by a competent technician, familiar and trained for this product.
- In respect of the environment, this water softener should be disposed of accordingly. Please refer to national/local laws and codes for correct recycling of this water softener.

For future reference, fill in the following data

INSTALLATION RECORD

Serial Number	:	
Model	:	
Water Hardness inlet	:	
Water Hardness outlet	:	
Water Pressure inlet	:	
Date of Installation	:	
Company Name	:	
Installer Name	:	
Phone Number	:	
REGEN. FREQUENCY	:	_____ days
LENGTH OF REGEN.	:	_____ minutes

INTRODUCTION

This booklet is designed to cover the Waterco Ezysoft semi automatic domestic water softeners.

1. GENERAL INFORMATION

1.2. WATER SOFTENERS

Hard water contains dissolved minerals in the form of Calcium (Ca), Magnesium (Mg), and Iron (Fe). Removal of these mineral is accomplished by softening the water through an ion exchange process. As the water flows through the mineral tank, the dissolved minerals become attached to the resin, creating soft water. Over a period of time the resin will become exhausted, and the softener will be regenerated using a brine solution produced from the salt in the brine compartment.

1.3. ADVANTAGES OF USING EZYSOFT

Extended appliance and equipment life

The minerals found in hard water can build up on the insides of appliances such as washing machines, dishwashers and water heaters, reducing their working life and decreasing efficiency. Ezysoft not only extends their lifespan but also benefits the environment by reducing waste and conserving the raw materials and energy used in manufacturing.

Faster water heating

Hot water heaters can heat softened water more quickly than hard water, improving efficiency by roughly 22 per cent for electric water heaters and 29 per cent for gas-powered units. Improving efficiency with Ezysoft reduces energy consumption, resulting in significantly lower energy bills.

Cleaner plumbing system

Hard water leaves scaly deposits in plumbing fixtures and pipes, which can corrode and shorten the life of your home's plumbing system as they build up over time. Reducing mineral deposits with Ezysoft helps eliminate the adverse effects of clogs and corrosion, extending the life of the plumbing system and helping appliances and equipment operate more effectively.

1.4. KEY FEATURES

Environmentally friendly

Discharges to the environment are minimal – the regeneration is performance using a low ratio salt/resin when compare with the standard resins. The quantity of salt used in Ezysoft per regeneration is up to 50% less than the standard water softener without sacrificing the capacity.

Easy to use

The regeneration of the softener starts by just a twist. Ezysoft is also more efficient because it uses a resin with beads of uniform size that increases its operating capacity when compare with the standard resins. Also, Ezysoft does not require electricity.

2. OPERATING CONDITIONS AND REQUIREMENTS

- **OPERATING PRESSURE: min. 140 / max. 830 kPa**

- This system is configured to perform optimally at an operating pressure of 300 kPa (± 50 kPa); in case of a lower or higher operating pressure the performance may be affected negatively.
- Check water pressure regularly.
- Take into account that night time water pressure may be considerably higher than day time water pressure.
- Install a pressure reducer ahead of the water softener if necessary.

- **OPERATING TEMPERATURE: min. 2°C / max. 48 °C**

- Do not install the water softener in an environment where high ambient temperatures (e.g. unvented boiler house) or freezing temperatures can occur.
- The water softener cannot be exposed to outdoor elements, such as direct sunlight or atmospheric precipitation.
- Do not install the water softener too close to a water heater; keep at least 3 meters of piping between the outlet of the water softener and the inlet of the water heater; water heaters can sometimes transmit heat back down the cold pipe into the control valve; always install a check valve at the outlet of the water softener.

3. HOW THE SYSTEM WORKS

The Commandomatic Ezysoft is a semi-automatic water softener. When the drain paddle is opened, the valve is automatically transferred to the regeneration position; with its few moving parts, this simple and reliable system guarantees years of trouble-free service.

The semi-automatic twist timer must be manually initiated by simply turning the knob to the desired brine/slow rinse cycle time; the regeneration will take place and afterwards the valve will automatically return to the service position. The valve is designed for hard water bypass during regeneration.

The regeneration sequence is followed:

I. SERVICE:

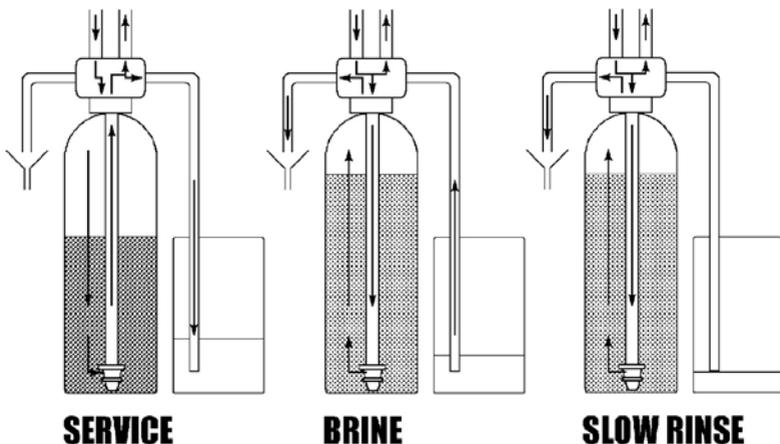
Untreated water flows down through the resin bed and up through the riser tube; the water is conditioned when passing through the resin.

II. BRINE:

Salt brine, drawn from the brine tank by the injector, flows down through the riser tube and slowly up through the resin bed to drain; the resin is being regenerated when the salt brine passes through. The brine cycle is terminated when the air check is shut.

III. SLOW RINSE:

Slow rinse continues for the remainder of the brine cycle; the injector's motive water flows down through the riser tube and slowly up through the resin bed to drain, slowly washing the brine from the resin tank.



4. INSTALLATION

To facilitate the installation process, remove the salt lid and main cover from the water softener.

4.2. CONNECTING INLET & OUTLET

- I. Screw the factory bypass onto the elbow connections of the water softener (2&3); make sure to install the gasket seals. Tighten the nuts firmly by hand.
- II. Screw the connection kit with nuts onto the factory bypass (1&4); make sure to install the gasket seals. Tighten the nuts firmly by hand.
- III. Connect the mains water supply to the nipple on the inlet port of the factory bypass (1).
- IV. Connect the house/application to the nipple on the outlet port of the factory bypass (4).



- 1 = mains water supply (untreated water)
- 2 = inlet of water softener (untreated water)
- 3 = outlet of water softener (treated water)
- 4 = house/application (treated water)

Figure 1 Factory Bypass

In multiple installations, filters are always installed upstream of softeners.

- *It is recommended the use of flexible hoses to connect the water softener to the water distribution system; use hoses with a large diameter in order to limit the pressure loss.*
- *If the water softener is not equipped with the factory bypass, it is recommended to install a 3-valve bypass system (not included with this product!) to isolate the water softener from the water distribution system in case of repairs. It allows turning off the water to the water softener, while maintaining (untreated) water supply to the user.*

4.3. THE DRAIN

- I. Connect a 13 mm hose to the drain of the control valve (1); secure it by means of a clamp.
- II. Run the drain hose to the sewerage system and connect it to the stand pipe assuring sufficient air gap. This drain line operates under pressure, so it may be installed higher than the water softener.
- III. Connect a 13 mm hose to the overflow elbow, located at the back side of the water softener; secure it by means of a clamp.
- IV. Run the drain hose to the sewerage system and connect it to the stand pipe assuring sufficient air gap. This drain line does NOT operate under pressure, so it may NOT be installed higher than the water softener.



Figure 2 Connecting the Drain

Notes:

- *It is recommended the use of a stand pipe with air trap.*
- *To prevent backflow from the sewerage system into the water softener, always make sure to have an air gap between the end of the drain hose and the sewerage system itself; as a rule of thumb, the air gap should be minimum 2x the diameter of the drain hose.*
- *Always use separate drain hoses for the control valve (evacuation of rinse water) and the softener cabinet's overflow.*
- *Lay-out the drain hoses in such a way that pressure loss is minimized; avoid kinks and unnecessary elevations.*
- *Make sure that the sewerage system is suitable for the rinse water flow rate of the water softener.*

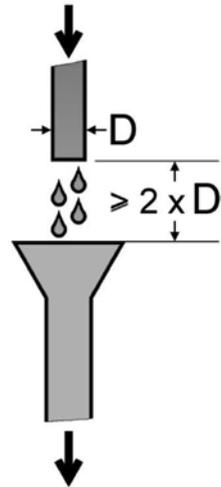


Figure 3 Drain Hose Installation

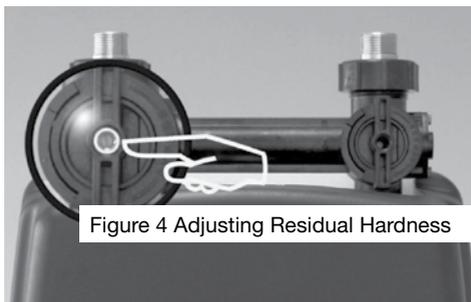
5. START UP

When installation has been completed, the unit is ready to be placed into service. Proceed as follows, while checking the unit for any leakages:

- I. Place unit in bypass and turn on main water supply; open a cold water tap nearby and allow water to run for a few minutes until all foreign material that may have resulted from the installation is washed out; close the tap.
- II. Slowly shift the bypass valve to the service position and secure it; allow water to completely fill the resin tank.
- III. Carefully open a cold water tap and allow water to run for at least 2 minutes to set the resin bed and purge air from the system; close the tap.
- IV. Fill the brine tank with water, higher than the air-check level.
- V. Turn the timer knob clockwise past 30 min, to open the drain paddle; the valve is now transferred to the brine/slow rinse position.
- VI. Allow the valve to draw water from the brine tank until the air check closes.
- VII. Place unit in bypass.
- VIII. Add the appropriate amount of water to the brine tank.
- IX. Add salt to the brine tank.
- X. Shift bypass valve back to the service position.
- XI. Turn the timer knob back counter clockwise to the OFF position, to close the drain paddle; the valve is now transferred back to the service position.

5.1. ADJUSTING RESIDUAL HARDNESS WITH FACTORY BYPASS

- I. Adjust the residual hardness of the water that leaves the softener, by means of the adjusting screw, incorporated in the 'outlet' valve of the factory bypass:



- To raise the residual hardness: turn the screw counter clockwise; usually 1 turn corresponds to a residual hardness of $\pm 40\text{mg/L}$, 2 turns to $\pm 80\text{mg/L}$.
- To reduce the residual hardness: turn the screw clockwise.

6. INITIATE A REGENERATION

The semi-automatic timer must be manually initiated; by turning the timer knob clockwise past 30 min, the drain paddle is opened and the valve is transferred to the brine/slow rinse position; the length of this cycle can then be set between 0 and 120 min. At any time the regeneration can be cancelled by turning the timer knob back counter clockwise to the OFF position.

The regeneration time required by the Ezysoft is 115 minutes

Notes:

- **If the pressure is low the unit may take longer than the recommended regeneration time.**
- **The salt used for regeneration passes through the resin bed and out to the drain. It is not strong enough to harm a septic tank and will not affect the bacterial action, which takes place.**
- **These units are not designed for the removal of micro organisms and may result in the accumulation of micro organisms. It is therefore important that filters are used on microbiologically safe water and that flushing and maintenance protocols are strictly adhered to.**

7. WHEN TO REGENERATE

It is advisable to regenerate your water softener on a regular basis. The frequency of regeneration will vary according to the amount of water being used and its hardness. Find out the approximate hardness of the water supply in question, this can usually be obtained from the local Water Authority.

The following chart details the capacity of each unit based on the harness of the water. To find the frequency of regeneration, divide the capacity of the unit by the calculated daily usage rate.

HARDNESS mg/L CaCO ₃	CAPACITY (Litres)
10	122400
25	49000
50	24500
75	16000
100	12000
125	9800
140	8600
150	8200
175	7000
225	5400
275	4500
375	3300
500	2400

Table1.

**UNIT CAPACITY CHART
FOR COMMANDOMATIC
EZYSOFT MODEL**

Calculate the total Hardness.

Usually chemical analyses report Calcium (Ca) and Magnesium in terms of parts per million (ppm) as Calcium Carbonate (CaCO₃). However, in some cases, the analysis is reported in terms of the elements themselves. If this is the case, proceed as follow:

$$\text{Calcium (as Ca)} _____ \times 2.50 = _____ \text{ ppm Ca as CaCO}_3 \quad \text{(A)}$$

$$\text{Magnesium (as Mg)} _____ \times 4.10 = _____ \text{ ppm Mg as CaCO}_3 \quad \text{(B)}$$

$$\text{(A)} _____ + \text{(B)} _____ = _____ \text{ Total Hardness ppm as CaCO}_3$$

$$\text{Days to Regeneration} = \frac{\text{Capacity (hardness)}}{\text{Daily Usage}}$$

A calculation can be made to estimate usage, to enable a regeneration schedule to be prepared. Each person will use approximately 125 litres of water per day. An automatic washing machine and/or dishwasher each counts as an additional user.

Example:

Calculate the days between regeneration for a family of 5 members. The family owns a washing machine and a dishwasher. Hardness of supply line is 140 mg/L CaCO₃.

Family members: 5

Dishwasher

Washing Machine

Total family member for calculation: 5 + Washing Machine + Dishwasher = 7

Total Estimated Water Usage (Daily) = 7 x 125 litres /day = 875 litres/day

$$\text{Days to Regeneration} = \frac{8600L}{875L / \text{Day}} = 9.8 \text{ Days}$$

The regeneration should be done every 10 days.

8. MAINTENANCE

8.2. BYPASSING THE WATER SOFTENER

Occasionally it may be necessary to put the unit hydraulically in bypass, i.e. to isolate it from the water distribution system; e.g.:

- in case of an urgent technical problem;
- when it needs to be removed for maintenance;
- When it is not necessary to supply treated water to the house/application (refill swimming pool, irrigation, etc).

BYPASS POSITION

1 = inlet valve to water softener is CLOSED

2 = outlet valve from water softener is CLOSED

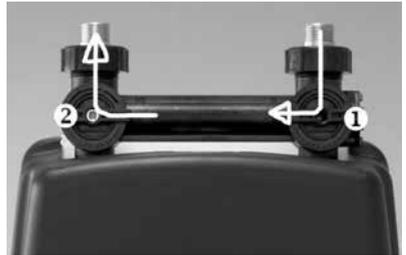


Figure 5 Bypassing the Ezysoft

SERVICE POSITION

1 = inlet valve to water softener is OPEN

2 = outlet valve from water softener is OPEN

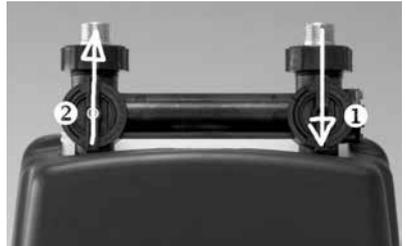


Figure 6 Service Position

MAINTENANCE POSITION

1 = inlet valve to water softener is OPEN

2 = outlet valve from water softener is CLOSED

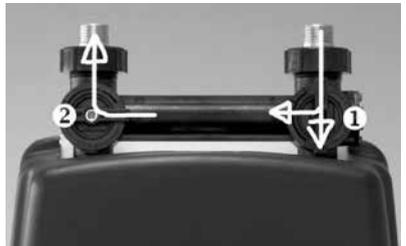


Figure 7 Maintenance Position

8.3. ADDING SALT

Be sure to use Commandomatic salt (approximately 1/4" pellets), as it is specially selected large granule salt, graded for maximum efficiency and packed in 25kg moisture proof bags. This will prevent "bridging", as would occur if fine salt were used. Your brine tank holds 50kg – or 2 bags of salt. When salt level drops to approx. half the depth of the brine tank, add another bag of salt.

The water softener needs 'brine' for its periodic regenerations. This brine solution is made from water that is automatically dosed in the brine cabinet by the control valve, and water conditioner salt.

The user should make sure that the brine cabinet is always kept full of water conditioner salt. Therefore he should periodically check the salt level inside the brine cabinet and refill it if necessary. To open the salt lid, simply take it by the handle and lift it. The salt lid can be removed completely to facilitate refilling.



Figure 8 Adding Salt

Ideally the level of water conditioner salt inside the brine cabinet is kept between 1/3 and 2/3. A lower level of water conditioner salt can cause insufficient brine saturation, resulting in a loss of softening capacity. A higher level of water conditioner salt can cause salt bridging (hard crust or salt bridges in the brine cabinet). When you suspect salt bridging:

- I. Carefully pound on the outside of the brine cabinet to break loose the salt bridges;
- II. Using a broom (or like blunt tool) carefully push the salt to break it apart;
- III. Pour warm water over the top of the salt to dissolve it.

8.4. BRINE CABINET

To retain the appearance of the water softener, simply wipe it with a damp cloth or clean it with a mild soap solution; never use abrasive cleaners, ammonia or solvents.

9. PARTS REPLACEMENT

!!! BEFORE SERVICING:

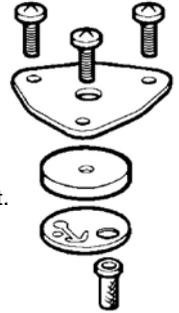
- **Make Sure The Control Valve Is In Service Position**
- **Bypass Or Disconnect The Water Supply**
- **Relief The Water Pressure**

9.1. TIMER HEAD ASSEMBLY

- I. Remove the drain hose from the drain line fitting.
- II. Remove the 4 timer head screws and pull away the timer head assembly.
- III. Reverse the procedure for reassembly; make sure the drain port O-ring is securely installed in the valve body groove.

9.2. INJECTOR

- I. Remove the 3 screws holding the injector cover plate in place.
- II. Lift off the injector cover plate.
- III. Remove the injector and injector gasket.
- IV. Remove the injector filter and check for dirt or clogging.
- V. Install the injector filter.
- VI. Install a new injector gasket; mind the alignment over the alignment post.
- VII. Install the injector; mind the alignment over the alignment post.
- VIII. Install the injector cover plate.
- IX. Install the 3 injector cover plate screws and tighten them evenly.



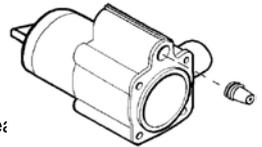
9.3. BRINE DRAW RESTRICTOR

For injectors 8 and 9, an additional 'restrictor' is used that is located in the brine elbow. The restrictor is tightly pressed in, to ensure a leakage free seal. Do NOT remove the restrictor to prevent damage of restrictor and/or seal.

- I. To access the restrictor for cleaning purposes:
- II. Remove the brine line from the brine elbow.
- III. Remove the clip that secures the brine elbow.
- IV. Check restrictor for dirt or clogging; clean if necessary by blowing air through restrictor.
- V. Install the brine elbow and secure it with the clip.
- VI. Install the brine line to the brine elbow.

9.4. INCORPORATED DRAIN FLOW CONTROL (optional)

- I. Remove the drain hose from the drain line fitting.
- II. Remove the 4 timer head screws and pull away the timer head assembly.
- III. Locate the drain flow control in the drain channel of the timer head.
- IV. Pull out the drain flow control.
- V. Reverse the procedure for reassembly; make sure the drain port O-ring is securely installed in the valve body groove.

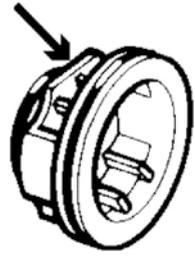


9.5. MAIN DIAPHRAGM

- I. Remove the drain hose from the drain line fitting.
- II. Remove the 4 timer head screws and pull away the timer head assembly.
- III. Remove the screw and washer from the centre of the main diaphragm.
- IV. Remove the main diaphragm from the body stem assembly.
- V. Reverse the procedure for reassembly; make sure the drain port O-ring is securely installed in the valve body groove.

9.6. BODY STEM ASSEMBLY

- I. Remove the drain hose from the drain line fitting.
- II. Remove the 4 timer head screws and pull away the timer head assembly.
- III. Pull forward the main diaphragm; put 2 fingers behind the membrane and pull out the body stem assembly.
- IV. Inspect the centre check disc rubber seal for wear; clean or replace if necessary.
- V. Lubricate the O-rings of the seat insert.
- VI. Install the body stem assembly.
- VII. Install the seat insert with 1 of the 2 flats facing towards the top of the valve body.
- VIII. Reverse the procedure for reassembly; make sure the drain port O-ring is securely installed in the valve body groove.



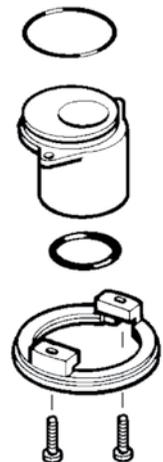
9.7. CHECK DISC

- I. Remove the 4 screws from the back cap.
- II. Place a hand under the back cap and remove the back cap; the check disk spring might fall into Your hand.
- III. Remove the check disc from the body stem assembly.
- IV. Inspect the check disc rubber seal for wear; clean or replace if necessary.
- V. Install the check disc on the body stem assembly and the check disc spring onto the centre post of the check disc.
- VI. Make sure the back cap gasket is securely installed in the back cap grooves.
- VII. Align the mark on top of the back cap with the mark on the valve body and install the back cap with the open end of the check disk spring onto the centre post of the back cap.
- VIII. Install the 4 screws and tighten them.



9.8. RISER INSERT

- I. Remove the inlet and outlet from the control valve.
- II. Remove the drain hose from the drain line fitting and the brine line from the brine line fitting.
- III. Remove the control valve from the resin tank.
- IV. Unscrew the upper distributor from the control valve.
- V. Remove the 2 screws holding the adapter ring and riser insert in place.
- VI. Lift away the adapter ring.
- VII. Pull the riser insert out of the valve body.
- VIII. Check the O-ring on the riser insert; clean or replace if necessary; lubricate lightly.
- IX. Install the riser insert; press it in firmly.
- X. Install the adapter ring and tighten the 2 screws.
- XI. Make sure the O-ring in the riser insert of the control valve is in the correct position; screw the upper distributor onto the control valve.



- XII. Lubricate the threads, the top of the riser tube and the tank O-ring of the control valve.
- XIII. Lower the control valve straight down onto the riser tube and screw it onto the tank.
- XIV. Install the drain hose to the drain line fitting and the brine line to the brine line fitting.
- XV. Install the inlet and outlet to the control valve.

9.9. ANNUAL MAINTENANCE

To assure the correct functioning of the control valve, the following items must be checked annually:

- I. Clean out injector and injector filter.
- II. Verify correct execution of setting (refer to “Fast functioning check” on Troubleshooting section).
- III. Measure the residual hardness; adjust mixing valve if necessary.
- IV. Verify min. and max. water pressure; install pressure reducer if necessary.

9.10. Regulars Check Up

Regularly the user should perform a basic check to verify if the water softener is functioning correctly, on the basis of the following control points:

- I. Measure water hardness before/after water softener.
- II. Check drain line from control valve; there shouldn't be any water flow (unless water softener is in regeneration).
- III. Check drain line from cabinet overflow; there shouldn't be any water flow.
- IV. Check water softener and surrounding area; there shouldn't be any water leakages.

10. TROUBLESHOOTING

HARD (UNTREATED) WATER TO SERVICE

Cause	Solution
1. Open or defective bypass	1. Close or verify bypass
2. Excessive water usage	2. Regenerate unit now
3. Valve in regeneration	3. /
4. Loss of resin	4. Refer to problem “Loss of resin”
5. Mixing valve open	5. Reduce mixing valve opening
6. Change in raw water hardness	6. Regenerate unit more frequently
7. Unit fails to regenerate	7. Refer to problem “Unit fails to regenerate”
8. Valve fails to draw brine	8. Refer to problem “Valve fails to draw brine”
9. Decreasing exchange capacity of resin	9. Clean or replace resin bed
10. No salt in brine tank	10. Add salt
11. Leak at riser tube	11. Verify that riser tube is seated correctly and is not cracked

UNIT FAILS TO REGENERATE

Cause	Solution
1. Drain paddle does not go open	1. Turn timer knob to at least 30 min Replace timer head assembly
2. Body stem assembly switches continuously	2. Check minimum operating pressure; refer to Installation “Drain flow adjuster”

VALVE FAILS TO DRAW BRINE

Cause	Solution
1. Low operating pressure	1. Verify operating pressure; must exceed 140kPa
2. Drain flow adjuster too much closed	2. Open drain flow adjuster slowly until unit draws brine
3. Plugged injector	3. Clean injector
4. Plugged injector filter	4. Clean injector filter
5. Restricted drain line	5. Verify drain line for kinks or restrictions
6. Restricted brine line	6. Verify brine line for kinks or restrictions
7. Leak in brine line	7. Verify brine line and connections for air leakage
8. Not enough water in brine tank	8. Verify functioning and float setting of brine valve

EXCESSIVE WATER IN BRINE TANK

Cause	Solution
1. Improper setting of float	1. Verify float setting of brine valve
2. Defective brine valve	2. Verify or replace brine valve

UNIT USES TOO MUCH SALT

Cause	Solution
1. Excessive water in brine tank	1. Refer to problem "Excessive water in brine tank"
2. Unit regenerates too frequently	2. Adjust regeneration frequency

SALT WATER TO SERVICE

Cause	Solution
1. Excessive water in brine tank	1. Refer to problem "Excessive water in brine tank"
2. Injector undersized	2. Verify injector selection
3. Improper brine/slow rinse time setting	3. Verify that brine/slow rinse time corresponds to the proper salt level and amount of resin

LOSS OF RESIN

Cause	Solution
1. Lower and/or upper distributor damaged	1. Replace distributor(s)
2. Leak between riser tube and upper distributor	2. Verify that riser tube is seated correctly and is not cracked

LOSS OF WATER PRESSURE

Cause	Solution
1. Mineral or iron build-up in resin tank	1. Clean resin bed and control valve; increase regeneration frequency
2. Plugged lower and/or upper distributor	2. Verify that distributors are free of debris
3. Crushed lower and/or upper distributor	3. Replace distributor(s)

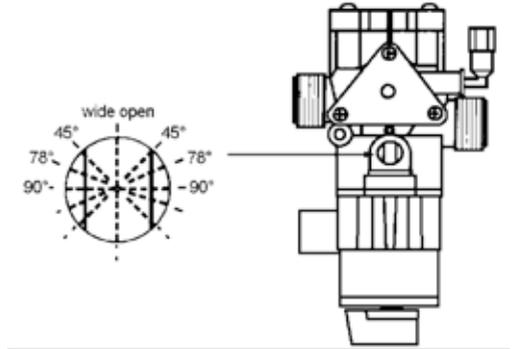
DRAIN FLOWS CONTINUOUSLY

Cause	Solution
1. Defective timer head	1. Replace timer head assembly

DRAIN FLOW ADJUSTER

!!! ATTENTION

When the valve is equipped with an incorporated drain flow control (optional), the drain flow adjuster is assembled and locked in the wide open position! By releasing the locking screw of the locking plate, the drain flow adjuster can still be used, but note that the maximum flow to drain is limited by the incorporated drain flow control (optional).



With the drain flow adjuster it is possible to adjust the water flow to drain during regeneration. The so created counter pressure helps to keep the piston of the valve in the regeneration position when the operating pressure is extremely low (< 1,5 bar). To adjust:

1. Place the unit in brine/slow rinse position.
2. Turn the drain flow adjuster either to the right or to the left until the piston remains stable in the regeneration position.

Do note that closing the drain flow adjuster too much, will result in bad suction of the injector.

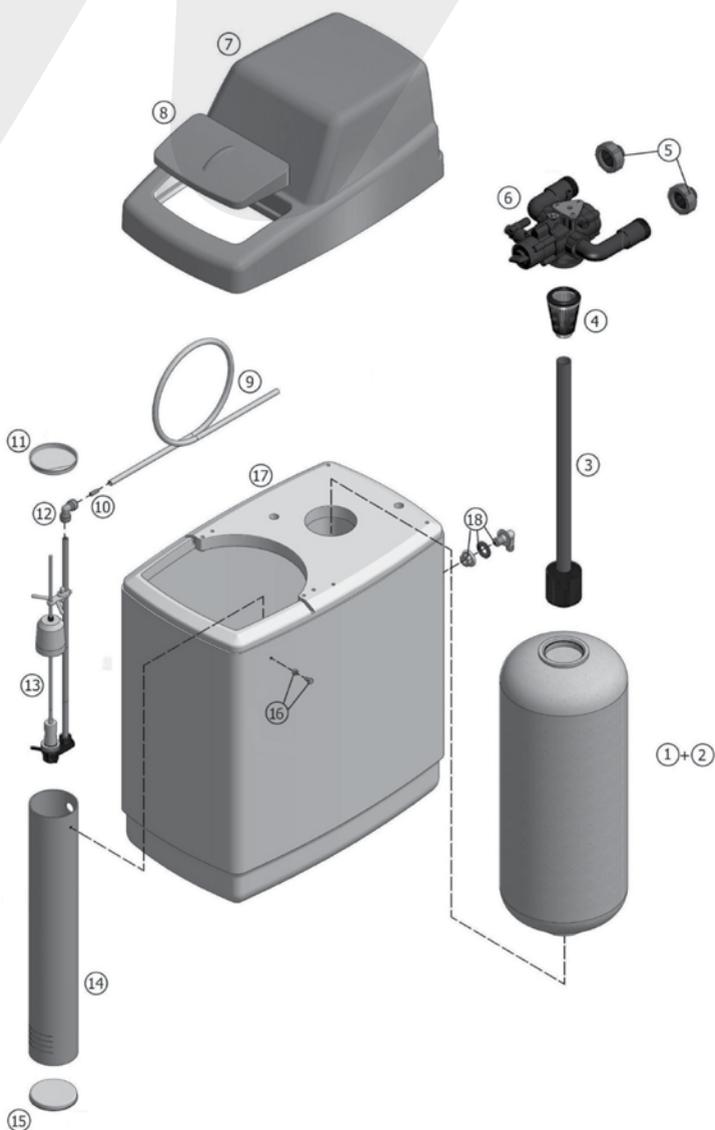
FAST FUNCTIONING CHECK

When You want to check if the system is operating correctly, proceed as follows:

1. Open water supply to valve.
2. Turn the timer knob clockwise past 30 min, to open the drain paddle; the valve is now transferred to the brine/slow rinse position.
3. Check brine draw by listening or feeling for suction.
4. Turn the timer knob back counter clockwise to the OFF position, to close the drain paddle; the valve is now transferred back to the service position.

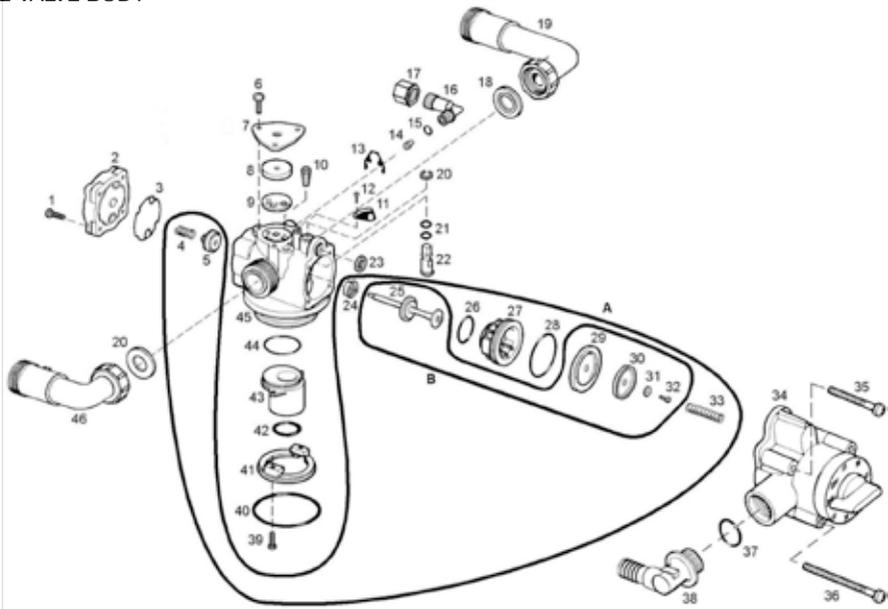
11. EXPLODED DIAGRAMS

11.2. SYSTEM EXPLODE DIAGRAM (Include Components of Fully Automatic Units)



Parts List (System)

ITEM	PART NUMBER	DESCRIPTION
1	72515760	Pressure tank, 9x35
2		Softening resin
3	72515771	Riser tube assembly with deflector
4	72515767	Top distributor
5	72515770	Connection kit ¼" male
6	377872640	Control valve assembly
7	72515761	Cover assembly
8	72515762	Salt lid
9		Brine line polytube
10	72515777	Brine line filter
11		Brine well cap, top
12	72515773	Quick-fit elbow 3/8"
13	72515763	Brine valve assembly 464
14		Brine well
15		Brine well cap, bottom
16		Screw rivet, brine well
17		Cabinet body, maxi (incl. overflow assembly)
18		Overflow assembly

12.2 VALVE BODY

Parts List (System)

ITEM	PART NUMBER	DESCRIPTION
1		Screw, back cap (4x)
2		Back cap
3		Gasket, back cap
4		Spring, check disc
5		Check disc
6		Screw, cover plate (3x)
7		Cover plate, injector
8	72515774	Injector disc #5
9	72515775	Gasket, injector
10	72515776	Filter, injector
11		Locking plate, drain flow adjuster
12		Screw, locking plate
13		Spring clip
14		Brine draw restrictor 1,0 mm (black)
15		O-ring, brine elbow
16		Brine elbow
17		Nut, brine elbow
18	72515778	Union gasket (2x)
19	72515768	Elbow, inlet
20		Clip, drain flow adjuster
21		O-ring, drain flow adjuster (2x)
22		Drain flow adjuster
23		O-ring, drain port
24		Seal, body stem
25	72515766	Body stem
26		O-ring, seat insert (small)
27		Seat insert
28		O-ring, seat insert (large)
29	72515779	Main diaphragm
30		Retainer, main diaphragm
31		Washer, main diaphragm
32		Screw, main diaphragm
33		Spring, main diaphragm
34	72515764	Twist timer head assembly
35		Screw (short), twist timer head assembly (2x)
36		Screw (short), twist timer head assembly (2x)
37	72591115	O-ring, drain elbow
38	72515772	Drain elbow
39		Screw, adapter ring (2x)
40	72515780	O-ring, tank
41		Adapter ring
42		O-ring, riser tube
43		Riser insert 1,050"
44		O-ring, riser insert
45		Valve body (incl. 467/216)
46	72515769	Elbow, outlet
A	72515765	Repair kit body stem and seat

12. TECHNICAL SPECIFICATIONS

Operating pressure min/max (kPa)	140/830
Operating temperature min/max (°C)	2/48
Electrical connection (V/Hz)	None
Maximum power consumption (VA)	None
Hydraulic connection inlet/outlet	¾" BSP Male

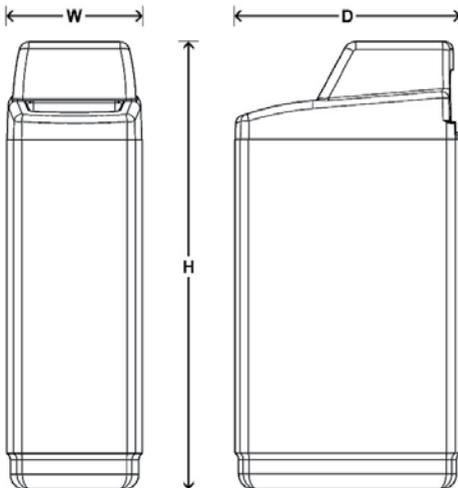
PERFORMANCES @ 3 BAR OPERATING PRESSURE AND BRINING OF 125GR/LTR OF RESIN(2):

Resin Capacity (Litres)	24
Nominal exchange capacity (mg/L CaCo ₃)	1,224,000
Salt usage per regeneration (kg) ⁽³⁾	3.0
Recommended maximum service flow (m ³ /hr)	2.4 (Peak)
Regeneration Time (min)	115
Rinse water usage per regeneration (L) ⁽³⁾	140

(3) at ±300 kPa inlet pressure

DIMENSIONS AND WEIGHTS:

Width (mm) (W)	345
Height (mm) (H)	1005
Depth (mm) (D)	573
Weight (kg)	35
Maximum salt storage capacity (kg)	150



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