

Technical Manual
WATER SOFTENER

iQ soft

TABLE OF CONTENT

Table of content.....	Page 2
Warning & Safety instructions.....	Page 3
Operating conditions & Requirements	Page 4
Installation.....	Page 5
Start-up.....	Page 6
Electronic control panel	Page 7
Maintenance.....	Page 12
Hydraulic flow diagrams.....	Page 13
Troubleshooting.....	Page 14
Electrical wiring diagram	Page 16
Default parameter settings	Page 17
Exploded view - System.....	Page 18
Exploded view - Cover assembly	Page 20
Exploded view - Valve body assembly	Page 22
Technical data.....	Page 25

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/descriptions 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 in accordance with Waste Electrical and Electronic Equipment requirements. Refer to national/local laws and codes for correct recycling of this water softener.

OPERATING CONDITIONS & REQUIREMENTS

- **OPERATING PRESSURE: min. 1,4 / max. 8,3 bar**
 - this system is configured to perform optimally at an operating pressure of 3 bar ($\pm\frac{1}{2}$ bar); 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 / 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 m 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.

- **ELECTRICAL CONNECTION: 230V-50Hz**
 - this water softener only works on 24VAC; it is equipped with a 230/24V-50Hz transformer; always use it in combination with the supplied transformer.
 - make sure to plug the transformer into a power outlet, which is installed in a dry location, with the proper rating and over-current protection.

INSTALLATION

Picture 1&10

To facilitate the installation, you may want to remove the salt lid and main cover from the water softener.

1. Remove the salt lid.
2. Unscrew the screw rivets at the front of the main cover.
3. Carefully lift the main cover from the water softener.

INLET & OUTLET

- Check the water pressure at the place of installation of the water softener; it should never exceed 8,3 bar.
- In case of high concentration of impurities in the inlet water, we recommend the installation of a sediment filter, ahead of the water softener.
- We strongly recommend 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 (optional), we strongly recommend 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 to turn off the water to the water softener, while maintaining (untreated) water supply to the user.

WITH FACTORY BYPASS (optional)

Picture 2

- 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)
1. 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.
 2. 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.
 3. Connect the mains water supply to the adaptor on the inlet port of the factory bypass (①).
 4. Connect the house/application to the adaptor on the outlet port of the factory bypass (④).

WITH 3-VALVE BYPASS SYSTEM (not included)

Picture 3

- 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)
1. Install the 3-valve bypass system.
 2. Screw the connection kit with nuts onto the elbow connections of the water softener (②&③); make sure to install the gasket seals. Tighten the nuts firmly by hand.
 3. Connect the 3-valve bypass system to the adaptors on the in (②) and out (③) elbow connections.
 4. Connect the mains water supply to the inlet of the 3-valve bypass system (①).

5. Connect the house/application to the outlet of the 3-valve bypass system (④).

DRAIN

- We recommend the use of a stand pipe with air trap.
- To prevent backflow from the sewerage system into the water softener, always install and use the included air gap with double hose barb, to connect the drain hoses to the sewerage system.
- 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.

Picture 4

1. Install the air gap to the sewerage system; it fits over a 32 mm pipe or inside a 40 mm pipe adaptor. Ensure a permanent and watertight connection.
2. Connect a 13 mm hose to the drain solenoid of the control valve (①); secure it by means of a clamp.
3. Run the drain hose to the air gap and connect it to one of the hose barbs; secure it by means of a clamp. This drain line operates under pressure, so it may be installed higher than the water softener.
4. Connect a 13 mm hose to the cabinet overflow elbow, located at the back side of the water softener; secure it by means of a clamp.
5. Run the drain hose to the air gap and connect it to the other hose barb. This drain line does NOT operate under pressure, so it may NOT be installed higher than the water softener.

ELECTRICAL

Picture 5

1. Plug the transformers output lead into the socket on the water softeners power cord; secure it by means of the TwistLock clamp.
2. Plug the transformer into an electrical outlet.

START-UP

PRESSURIZING

1. Make sure the bypass system is in 'bypass' position.
2. Make sure the electronic controller of the water softener is in service mode.
3. Open the mains water supply.
4. Open a cold treated water faucet nearby the water softener and let the water run for a few minutes until all air is purged and all foreign material that may have resulted from the installation is washed out; close the tap.
5. Gently pressurize the water softener, by putting it into service:
 - *factory bypass:*
 1. open the 'outlet' valve;
 2. slowly open the 'inlet' valve.
 - *3-valve bypass:*
 1. close the 'bypass' valve;
 2. open the 'outlet' valve;
 3. slowly open the 'inlet' valve.
6. After 2-3 minutes, open a cold treated water faucet nearby the water softener and let the water run for a few minutes until all air is purged from the installation and the resin bed is rinsed (it is normal for the rinse water to show some discoloration!); close the tap.
7. Check the water softener and all hydraulic connections for leaks.

After the first regenerations of the water softener, some slight discoloration of the treated water might occur. This is totally harmless and will disappear rapidly!

BRINE CABINET

8. Add water conditioner salt to the brine cabinet.

ELECTRONIC CONTROL PANEL

9. Program the electronic controller.

ADJUSTMENT RESIDUAL HARDNESS WITH FACTORY BYPASS (optional)

Picture 6

10. 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 ± 4 °f (± 2 °d), 2 turns to ± 8 °f (± 4 °d).
 - to reduce the residual hardness: turn the screw clockwise.

PERFORM REGENERATION

11. Manually initiate a regeneration, by pressing the **scroll**  button repeatedly until the display shows:

Regen in 10 sec

12. Leave the water softener in this position; the countdown timer will countdown to 0 sec and start a regeneration.

ELECTRONIC CONTROL PANEL

Picture 7

symbol	button	function
	SCROLL	to advance to the next parameter
	UP	to increase the value of the parameter
	DOWN	to decrease the value of the parameter

POWER-UP

After power-up the display will show the installed software version, f.e.:

EZ2L5b EZ2LPBr11

After 5 seconds, it will automatically revert back to the service mode.

POWER FAILURE

In the event of a power failure, the program will remain stored in the NOVRAM® during an undefined period, while an incorporated SuperCap (capacitor) will maintain the correct time of day during a period of several hours; consequently, in case of prolonged power failure, the time of day might not be maintained; if this happens, the time of day will be reset to 8:00 when the power supply is re-established, while the indication will *flash*, indicating that the time of day needs to be set.

**8:00 1000L -
TotVol: 1234567L**

When the power failure occurs during the execution of an automatic regeneration, the control valve will immediately return to the service mode; when the power supply is re-established, the control valve will stay in the service mode for 60 sec. and restart a complete regeneration from the beginning.

TIMER FAILURE

In the event of a timer failure, the display will show the message:

Service Required

If powering off/on the water softener doesn't solve this problem, professional service is required.

SERVICE MODE

In **service mode** the display shows:

- on the 1st line: the time of day and the remaining capacity;
- on the 2nd line: the total volume of water used since start-up.

**20:51 1000L -
TotVol: 1234567L**

REGENERATION MODE

In **regeneration mode** the display shows the actual regeneration cycle and, where relevant, the total remaining regeneration time and remaining cycle time:

BRINE FILL

REGEN PENDING

Rgn:XXX CycY:ZZZ

*The control valve can be **reset to service mode** at any time by pressing the **scroll**  button, as such manually advancing it through the regeneration cycles.*

CHECKING THE FLOW METER

In case of water usage, the remaining capacity counter in the service display will count back per unit, i.e. per litre. This way the correct functioning of the water meter can be verified.

MANUAL REGENERATION

It is possible to manually initiate a regeneration.

1. Press the **scroll**  button repeatedly until the display shows:

Regen in 10 sec

- If the control valve is left in this position, the countdown timer will countdown to 0 sec and *start a regeneration*.
 - To cancel this mode, press the **scroll**  button before the countdown timer has reached 0 sec; the control valve will return to the service mode.
2. Press the **scroll**  button again if you want to manually advance the control valve to the next regeneration cycle.

ELECTRONIC CONTROL PANEL

SALT LEVEL ALARM

The electronic control panel is equipped with a salt level alarm, that will periodically remind the user to check the salt level inside the brine cabinet and to refill it with water conditioner salt if necessary.

When the salt level alarm is activated, the following will happen:

1. the backlight of the display will flash on/off, to attract the users attention;
2. the display will show:

**Check salt level
To reset push ▼**

After refilling the brine cabinet, simply push the **down ▼** button to reset the salt level alarm. If any other button is pushed, the salt level alarm will be cancelled, but not reset, meaning it will be activated again after the next regeneration!

If the brine cabinet is refilled by the user with water conditioner salt, before the salt level alarm is activated, it is possible to reset the salt level alarm.

1. Press the **scroll ⌂** button repeatedly until the display shows:

**Salt Added?
To reset push ▼**

2. Push the **down ▼** button to reset the salt level alarm.

PROGRAMMING INSTRUCTIONS - INSTALLER

Before entering the programming mode, make sure that the control valve is in the service mode.

1. Press the **scroll ⌂** button; the display will show:

Language: English

- Press the **up ▲** or **down ▼** button to set the language.

2. Press the **scroll ⌂** button again; the display will show:

Set time: 20:51

- Press the **up ▲** or **down ▼** button to set the time of day.

3. Press the **scroll ⌂** button twice; the display will show:

Set hardn.: XX°F

- Press the **up ▲** or **down ▼** button to set the hardness of the incoming untreated water.

ELECTRONIC CONTROL PANEL

PROGRAMMING INSTRUCTIONS - PARAMETER SET LEVEL

☑ All configuration parameters on this water softener have been pre-programmed in the factory, to offer optimal performance in a wide range of applications and situations. See table at the end of this manual for default factory parameter settings. Nevertheless it may be necessary or desirable to change any of these parameters, to further optimize the water softeners performance or to adapt it to the specific requirements of the installation.

☑ Before entering the programming mode, make sure that the control valve is in the service mode.

1. Press the **scroll** ⏪ button and hold it for 5 sec until the display shows:

System Check

2. Within 10 sec, press the **up** ⬆ button; the display will show:

HardUnit: °F

- Press the **up** ⬆ or **down** ⬇ button to set the *hardness unit*. **Make sure to also adjust/convert the exchange capacity!**

3. Press the **scroll** ⏪ button again; the display will show:

ExCap: 5.1 °F M3/L

- Press the **up** ⬆ or **down** ⬇ button to set the *exchange capacity per litre of resin*.

4. Press the **scroll** ⏪ button again; the display will show:

Resin: XXX liters

- Press the **up** ⬆ or **down** ⬇ button to set the *volume of resin*.

5. Press the **scroll** ⏪ button again; the display will show:

Override: 7 days

- Press the **up** ⬆ or **down** ⬇ button to set the *number of days between regenerations*.

6. Press the **scroll** ⏪ button again; the display will show:

Cycle 1: XXX sec

- Press the **up** ⬆ or **down** ⬇ button to set the *length of the regeneration cycle*.

- Press the **scroll** ⏪ button again to advance to the next regeneration cycle.

	Eco
Refill	Cycle 1
Brine preparation	Cycle 2
Brine draw/slow rinse	Cycle 3

7. Press the **scroll** ⏪ button again; the display will show:

MTR: SNAP SENSOR

- Press the **up** ⬆ or **down** ⬇ button to set the *type of water meter sensor*.

8. Press the **scroll** ⏪ button again; the display will show:

Regen: Dlyd / Immd

- Press the **up** ⬆ or **down** ⬇ button to set the *regeneration mode*:

- **Dlyd/Immd**: when the remaining capacity equals the reserve capacity, a *delayed regeneration* is started at the programmed time of regeneration; however when the remaining capacity equals 0 before the programmed time of regeneration is reached, an *immediate regeneration* is started.
- **Immediate**: when the remaining capacity equals 0, an *immediate regeneration* is started.
- **Delayed**: when the remaining capacity equals the reserve capacity, a *delayed regeneration* is started.

9. Press the **scroll** ⏪ button again; the display will show (only when the regeneration mode was set to 'Delayed' or 'Dlyd/Immd'):

Regen @ 2:00

- Press the **up** ⬆ or **down** ⬇ button to set the *time of regeneration*.

10. Press the **scroll** ⏪ button again; the display will show:

Salt alarm: ON

- Press the **up** ⬆ or **down** ⬇ button to set *activate or deactivate the salt level alarm feature*.

11. Press the **scroll** ⏪ button again; the display will show:

**Alarm interval:
9 Regens**

- Press the **up** ⬆ or **down** ⬇ button to set the *salt level alarm interval (= number of regens after which the salt level alarm is activated)*.

12. Press the **scroll**  button again; the display will show (only when the regeneration mode was set to 'Dlyd' or 'Dlyd/Immd'):

Rsrv *Variable*

- Press the **up**  or **down**  button to set *the reserve capacity*:
 - **Variable**: the reserve capacity is calculated automatically, based on the registered daily water usage.
 - **Fxd**: press the **scroll**  button again and press the **up**  or **down**  button to set *the reserve capacity to a fixed amount*.
13. Press the **scroll**  button again; the display will show:

Exit

- Press the **up**  or **down**  button to save the program into the NOVRAM® and exit the programming level.

ELECTRONIC CONTROL PANEL

DIAGNOSTICS LEVEL

Besides of all programming parameters, a series of operating parameters can be consulted in the diagnostics level; particularly during a service intervention, these parameters can be helpful to identify the cause of a problem or malfunction

Before entering the programming mode, make sure that the control valve is in the service mode.

Accessing the Diagnostics level

1. Press the **scroll**  button and hold it for 5 sec until the display shows:

System Check

2. Within 10 sec, press the **down**  button; the display will show:

Regen XXdays ago

- You are now in the Diagnostics level.
- Press the **scroll**  button to advance to the next diagnostics parameter.

Available diagnostics parameters

- **Regen X days ago:** display shows number of days since last regeneration of the system.
- **In Srvc:** display shows total number of days that the system is in service.
- **# of Regens:** display shows the total number of regenerations that have taken place since installation.
- **TotVol:** display shows the total water usage through the system since installation.
- **LastRgn@:** display shows the water usage at the moment of the last regeneration.
- **InstFlow:** display shows the instantaneous flow rate.
- **AvgVol:** display shows the average daily water usage.
- **Capacity:** display shows the calculated volume of softened water between regenerations.
- **Hardness:** display shows the setting of the water hardness.
- **Rsrv:** display shows the setting of the reserve capacity.
- **Regen @:** display shows the setting of the time of regeneration.
- **Override:** display shows the setting of the number of days between regenerations.
- **Cycle X:** display shows the setting of the length of the corresponding regeneration cycle.
- **Units:** display shows that control is programmed for Metric units.
- **MTR:** display shows the setting of the water meter.
- **Capacity:** display shows that control is programmed for hardness setting.
- **Regen:** display shows the setting of the regeneration mode.
- **Valve Type:** display shows the valve type setting.

- **MP Resets:** display shows the number of resets of the microprocessor (*for factory purpose only*).
- **Memory Reset:** display shows the number of corrupt memory start-ups (*for factory purpose only*).
- **EZ2L5r EZ2LPBr01:** display shows the software version (*for factory purpose only*).
- **CapToUse:** display shows the remaining capacity.
- **Fill:** display shows the refill time used for the previous regeneration.
- **Alarm count:** display shows the number of regenerations since the salt level alarm was reset.
- **Reserve:** display shows the calculated reserve capacity.

Exiting the Diagnostics level

1. If no button is pressed within 5 minutes, the microprocessor will exit the diagnostics level end return to the service mode.
2. Press the **scroll**  button repeatedly until the display shows:

Exit

- Press the **up**  or **down**  button to exit the diagnostics level.

MAINTENANCE

ROUTINE CHECKS

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:

1. Check settings of electronic control panel.
2. Measure water hardness before/after water softener.
3. Check drain line from control valve; there shouldn't be any water flow (unless water softener is in regeneration).
4. Check drain line from cabinet overflow; there shouldn't be any water flow.
5. Check water softener and surrounding area; there shouldn't be any water leakages.

BYPASSING THE WATER SOFTENER

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

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

WITH FACTORY BYPASS (optional)

Picture 8.a

SERVICE POSITION

- ❶ = inlet valve to water softener is OPEN
- ❷ = outlet valve from water softener is OPEN

Picture 8.b

BYPASS POSITION

- ❶ = inlet valve to water softener is CLOSED
- ❷ = outlet valve from water softener is CLOSED

Picture 8.c

MAINTENANCE POSITION

- ❶ = inlet valve to water softener is OPEN
- ❷ = outlet valve from water softener is CLOSED

WITH 3-VALVE BYPASS SYSTEM (not included)

Picture 9.a

SERVICE POSITION

- ❶ = bypass valve is CLOSED
- ❷ = inlet valve to water softener is OPEN
- ❸ = outlet valve from water softener is OPEN

Picture 9.b

BYPASS POSITION

- ❶ = bypass valve is OPEN
- ❷ = inlet valve to water softener is CLOSED
- ❸ = outlet valve from water softener is CLOSED

Picture 9.c

MAINTENANCE POSITION

- ❶ = bypass valve is OPEN
- ❷ = inlet valve to water softener is OPEN
- ❸ = outlet valve from water softener is CLOSED

WATER CONDITIONER SALT

Picture 10

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; the salt level alarm will remind him of this on a regular basis. The salt lid can be removed completely to facilitate refilling.

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:

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

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.

RESIN CLEANER

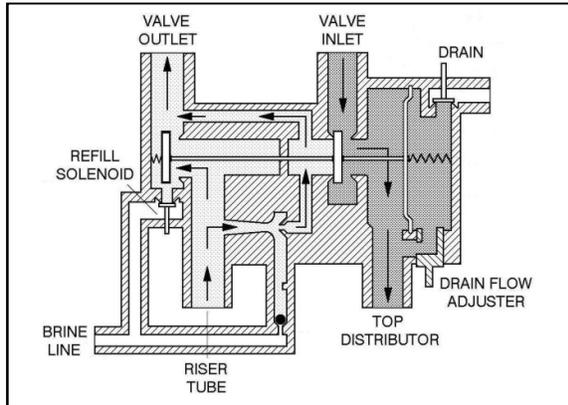
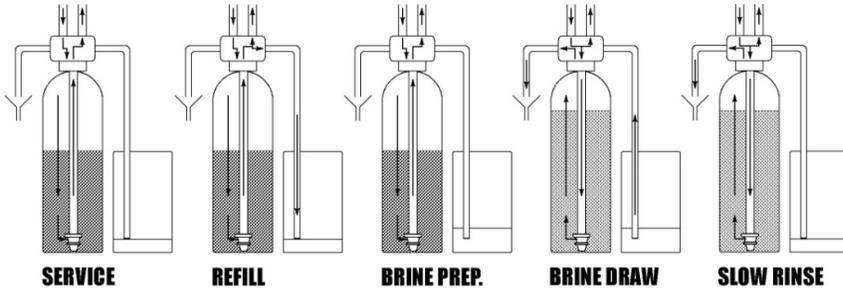
Other contaminants (f.e. iron) present in the feed water can cause the resin bed to foul up, resulting in a loss of softening capacity. An approved resin cleaner can be used periodically to thoroughly clean the resin bed.

SANITIZING THE WATER SOFTENER

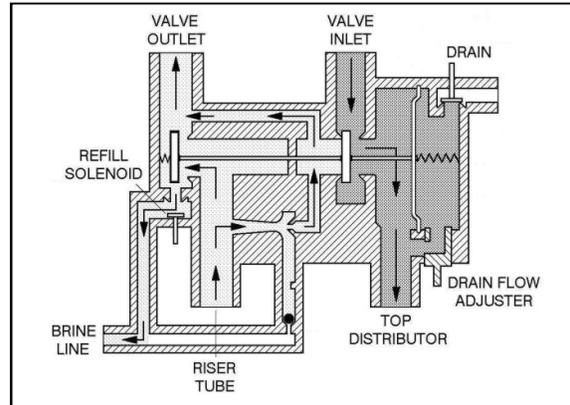
This water softener is manufactured from premium quality material and assembled in safe conditions to assure it is clean and sanitary. If installed and serviced correctly, this water softener will not infect or contaminate your water supply. However, as in any 'device' plumbed-in in your water distribution system, a proliferation of bacteria is possible, especially in case of 'stagnant water'. Therefore this water softener is equipped with a 'days override' feature, that will automatically rinse the resin bed periodically, even in case of low or absence of water usage.

If the power supply to the water softener is disconnected for a longer period of time, we recommend, when the power supply is re-established, to manually initiate a complete regeneration.

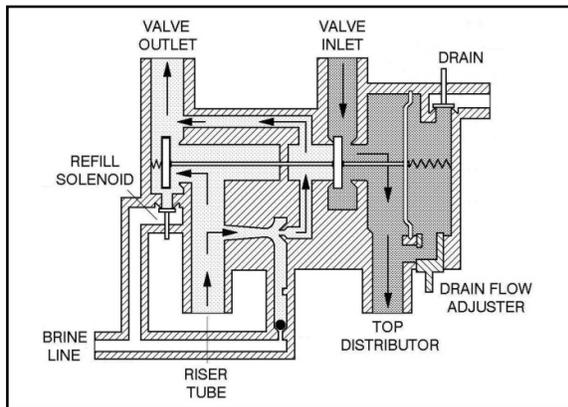
HYDRAULIC FLOW DIAGRAMS



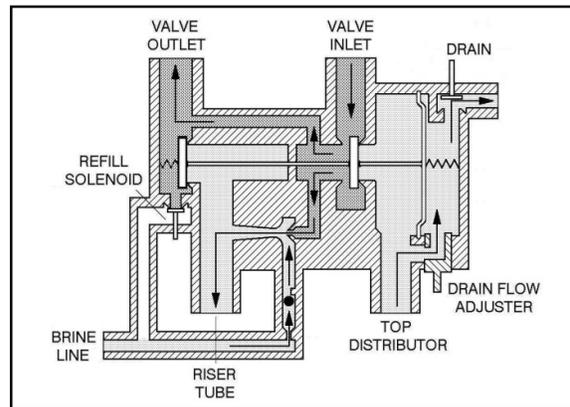
SERVICE



REFILL



BRINE PREPARATION



BRINE DRAW / SLOW RINSE



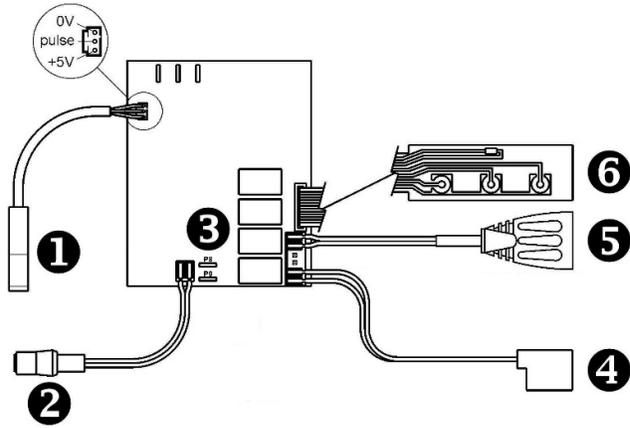
TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Hard (untreated) water to service	Open or defective bypass	Close or replace bypass
	Water softener in regeneration	Wait until regeneration finishes or manually advance regeneration to end
	No salt in brine cabinet	Add salt and initiate regeneration manually
	Salt bridging	Break salt bridge(s) and initiate regeneration manually
	Change in raw water hardness	Measure the hardness of the incoming untreated water and adjust programming accordingly
	Water softener fails to start a regeneration	Refer to problem "Water softener fails to start a regeneration"
	Control valve fails to draw brine	Refer to problem "Valve fails to draw brine"
	Decreasing exchange capacity of resin	Clean or replace resin bed
	Loss of resin	Refer to problem "Loss of resin"
Leak at riser tube	Verify that riser tube is seated correctly and is not cracked	
Residual hardness in treated water	Bypass not completely closed	Close bypass
Water softener fails to start a regeneration	Faulty electrical supply	Verify electrical service (fuse, transformer,...)
	Defective flow meter	Clean and/or replace flow meter
	Defective PCB	Replace PCB
	Defective drain solenoid	Replace drain solenoid
	Body stem assembly switches continuously	Check operating pressure; must be higher than 1,4 bar
Water softener uses too much salt	Excessive water in brine cabinet	Refer to problem "Excessive water in brine cabinet"
	System regenerates too frequently	Verify program
Excessive water in brine cabinet	Control valve fails to draw brine	Refer to problem "Control valve fails to draw brine"
	Improper refill time setting	Verify that refill time corresponds to the proper salt level and amount of resin
	Missing refill flow control	Verify that refill flow control is installed and properly sized
	Leak from control valve to brine cabinet	Clean or replace plunger and solenoid diaphragm of refill solenoid
Salt taste in treated water	Excessive water in brine tank	Refer to problem "Excessive water in brine tank"
	Injector undersized	Verify injector selection
	Improper brine/slow rinse time setting	Verify that brine/slow rinse time corresponds to the proper salt level and amount of resin
Loss of water pressure	Mineral or iron build-up in resin tank	Clean resin bed and control valve; increase regeneration frequency
	Plugged lower and/or upper distributor	Verify that distributors are free of debris
	Crushed lower and/or upper distributor	Replace distributor(s)
Drain line from control valve flows continuously	Water softener in regeneration	Wait until regeneration finishes or manually advance regeneration to end
	Drain solenoid stuck in open position	Clean drain solenoid
	Defective PCB	Replace PCB
Drain line from brine cabinet overflow flows continuously	Excessive water in brine cabinet	Refer to problem "Excessive water in brine cabinet"
	Leak between control valve and pressure tank	Verify seal between control valve and pressure tank
Control valve fails to refill brine tank	Improper refill time setting	Verify that refill time corresponds to salt level and amount of resin
	Plugged refill flow control	Clean refill flow control
Loss of resin	Lower and/or upper distributor damaged	Replace distributor(s)
	Leak between riser tube and upper distributor	Verify that riser tube is seated correctly and is not cracked

TROUBLESHOOTING

PROBLEM	CAUSE	SOLUTION
Control valve fails to draw brine	Low operating pressure	Check operating pressure; must be higher than 1,4 bar
	Drain flow adjuster closed too much	Open drain flow adjuster slowly until unit draws brine
	Plugged injector and/or brine restrictor	Clean injector and/or brine restrictor
	Plugged injector filter	Clean injector filter
	Restricted drain line	Verify drain line for kinks or restrictions
	Restricted brine line	Verify brine line for kinks or restrictions
	Leak in brine line	Verify brine line and connections for air leakage
	No water in brine tank	Refer to problem "Control valve fails to refill brine tank"

ELECTRICAL WIRING DIAGRAM



- ① = flow meter
- ② = power lead
- ③ = 24VAC auxiliary contact, closed during regeneration (max. 500mA)
- ④ = refill solenoid (white)
- ⑤ = drain solenoid
- ⑥ = key pad

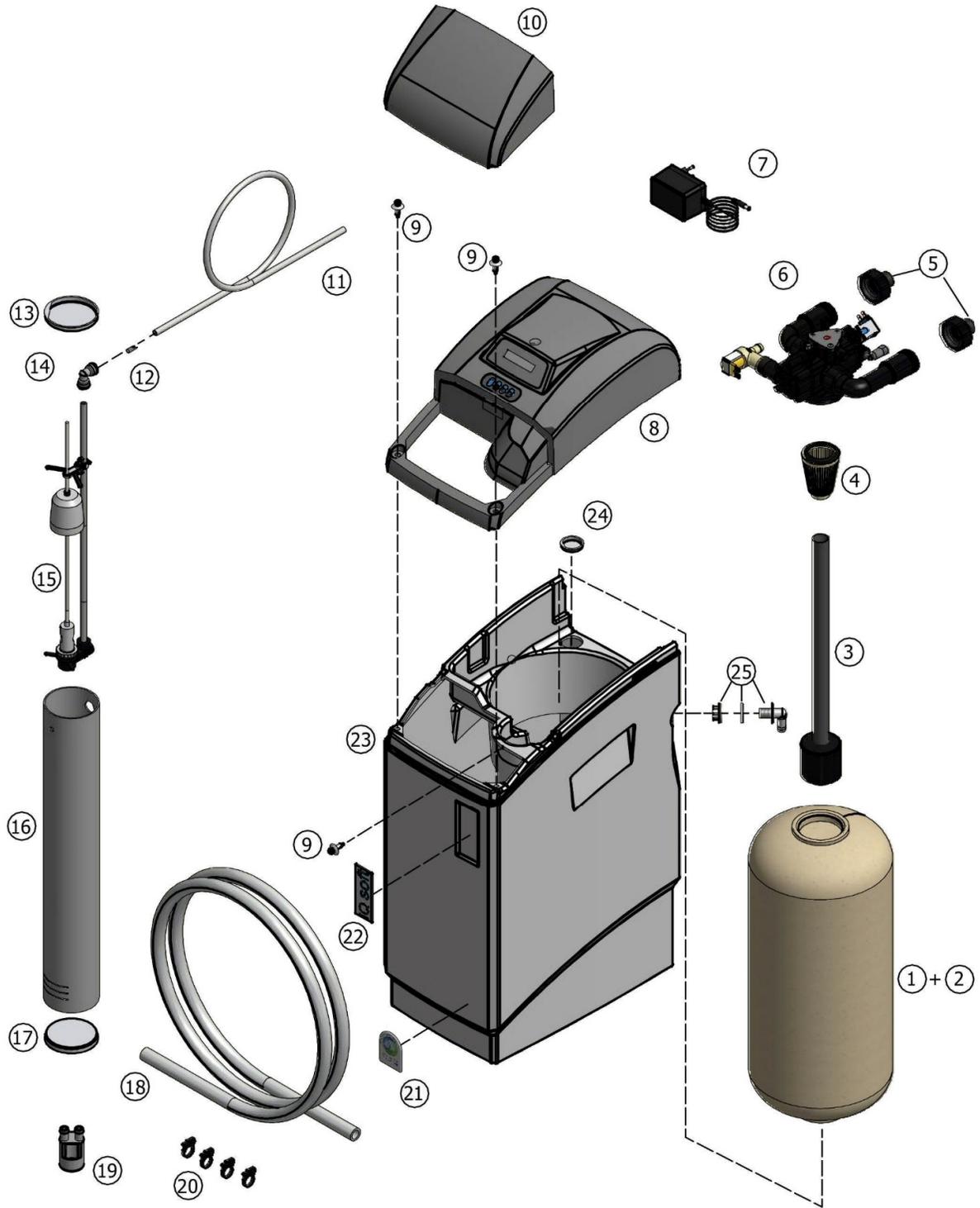
DEFAULT PARAMETER SETTINGS

Model	IQsoft			
	9	12	18	26
Resin	°f	°f	°f	°f
Hardness unit ⁽¹⁾	°f	°f	°f	°f
Exchange capacity per liter resin (°f M ³ /L) ^{(1) (2)}	3,5	4,5	5,1	5,1
Resin (liters)	9	12	18	26
Override (days)	7	7	7	7
Cycle 1: REFILL (sec) ⁽²⁾	198	264	396	572
Cycle 2: BRINE PREPARATION (min)	15	15	15	15
Cycle 3: BRINE DRAW/SLOW RINSE (min)	43	50	73	110
MTR	SNAP	SNAP	SNAP	SNAP
Regen	Dlyd/Immd	Dlyd/Immd	Dlyd/Immd	Dlyd/Immd
Regen @	2:00	2:00	2:00	2:00
Salt alarm	ON	ON	ON	ON
Alarm interval	8	8	7	9
Rsrv	Variable	Variable	Variable	Variable

(1) When the Hardness unit is changed, the Exchange capacity per liter resin needs to be adjusted accordingly; to convert from °f to °d, multiply x 0,56.

(2) When the Exchange capacity per liter resin is changed, the refill cycle time needs to be adjusted accordingly.

EXPLODED VIEW - SYSTEM

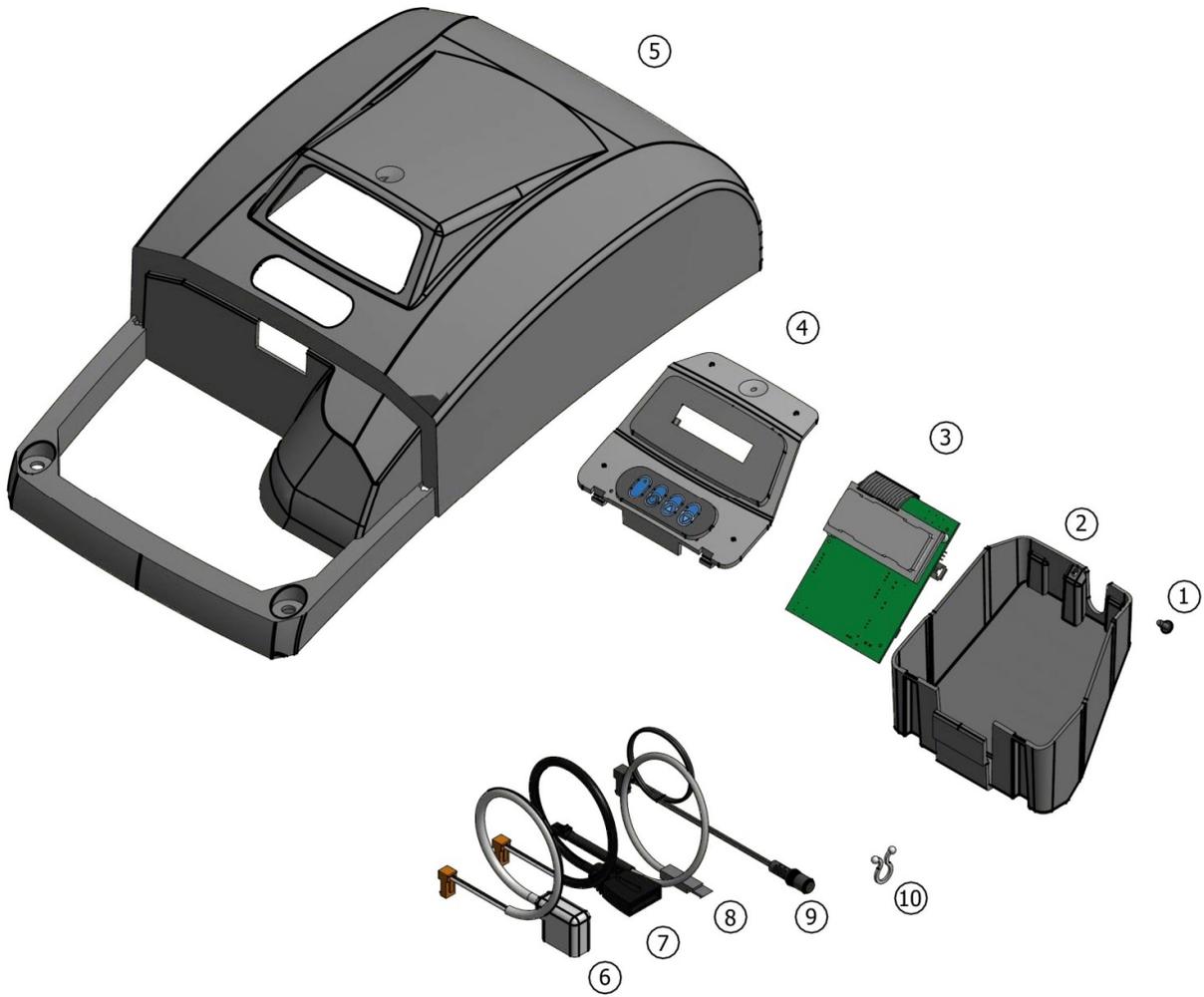


EXPLODED VIEW - SYSTEM

Item	PN	Description	Remark	(*)
1	PT/0913/CP	Pressure tank 9x13	9L	✓
	PT/0916/CP	Pressure tank 9x16	12L	✓
	PT/0922/CP	Pressure tank 9x22	18L	✓
	PT/0932/CP	Pressure tank 10x32	26L	✓
2	E8000	Softening resin		✓
3	38528	Riser tube assembly with deflector	to be cut to length	✓
4	287/166	Top distributor		✓
5	568/303/6	Connection kit ¾" male		✓
6	541NCX9B/J80	Valve body assembly		✓
7	28/298/11	Transformer 230/24V - 50 Hz, 24VA, EuroT plug		✓
8		Cover assembly		
9	38536	Screw rivet (3x)		✓
10	39001	Salt lid		✓
11	H1015/2	Brine line polytube	to be ordered per meter	✓
12	38519	Brine line filter		✓
13	H1016/2	Brine well cap, top		
14	DM/A6EU6	Quick-fit elbow 3/8"		✓
15	38530	Brine valve assembly 464	to be cut to length	✓
16	BW3.5/0352	Brine well	9L	
	BW3.5/043	Brine well	11L	
	BW3.5/0583	Brine well	18L	
	BW3.5/0837	Brine well	26L	
17	H1016/4	Brine well cap, bottom		
18	38522	Drain hose	to be ordered per meter	
19	74163	Air gap with double hose barb		
20	38521	Clamp, drain hose (4x)		
21	39004	Dome label 'erie water treatment'		
22	39013	Dome label 'IQsoft'		
23	39009	Cabinet body, micro		
	39010	Cabinet body, mini		
	39011	Cabinet body, midi		
	39012	Cabinet body, maxi		
24	38559	Cap		
25	38532	Overflow assembly		

(*) Recommended Spare Part

EXPLODED VIEW - COVER ASSEMBLY

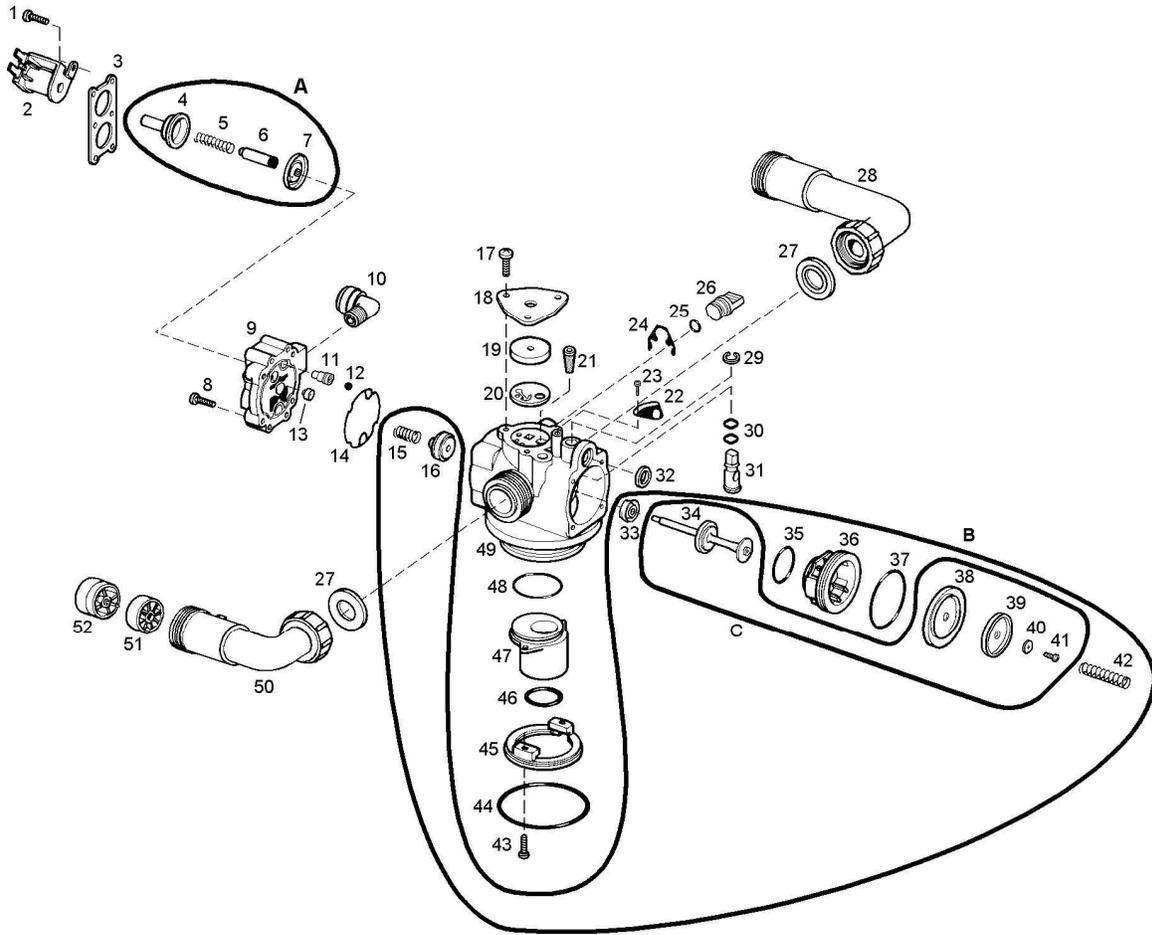


EXPLODED VIEW - COVER ASSEMBLY

Item	PN	Description	Remark	(*)
1	71502	Screw, PCB housing		
2	39003	PCB housing back		
3	72738	Printed Circuit Board		✓
4	39020	PCB housing front assembly		
5	39000	Main cover		
6	72686	Refill solenoid cable (white)		✓
7	72761	Drain solenoid cable		✓
8	72760	Flow meter cable		✓
9	70971	Power cord		✓
10	72263	Twist lock clamp, power cord		

(*) Recommended Spare Part

EXPLODED VIEW - VALVE BODY ASSEMBLY

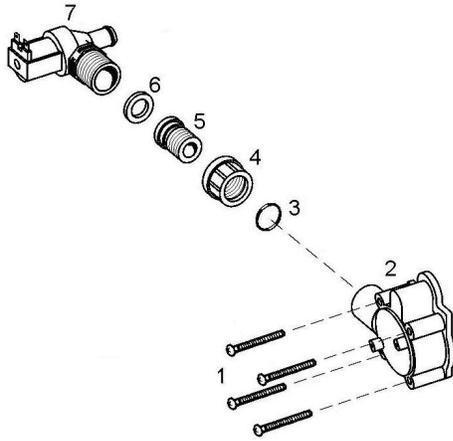


EXPLODED VIEW - VALVE BODY ASSEMBLY

Item	PN	Description	Remark	(*)
1	15/90	Screw, solenoid retainer (4x)		
2	413/134/24	Solenoid		✓
3	541/229	Retainer, solenoid		
4	413/58	Guide, solenoid		
5	413/62	Spring, solenoid plunger		✓
6	74099	Plunger, solenoid		✓
7	74098	Diaphragm, solenoid		✓
8	15/222	Screw, back cap (4x)		
9	541/286/2/E	Back cap		
10	DM/A6ME4	Brine elbow		
11	74022	Brine draw restrictor 1,0 mm (black)		
12	541/275	Check ball		✓
13	568/385/2/A	Refill flow control 0,25 gpm		
14	541/206	Gasket, back cap		
15	541/239	Spring, check disc		
16	541/246	Check disc		
17	15/89	Screw, cover plate (3x)		
18	541/221	Cover plate, injector		
19	428/5	Injector disc #5		✓
20	541/325	Gasket, injector		✓
21	72604	Filter, injector		✓
22	72609	Locking plate, drain flow adjuster		
23	15/76	Screw, locking plate		
24	541/254	Spring clip		
25	186/118	O-ring, brine plug		
26	541/273	Brine plug		
27	72467	Union gasket (2x)		✓
28	72542	Elbow, inlet		✓
29	19/19	Clip, drain flow adjuster		
30	186/134	O-ring, drain flow adjuster (2x)		
31	541/238	Drain flow adjuster		
32	529/244	O-ring, drain port		
33	467/216	Seal, body stem		
34	72605	Body stem		✓
35	185/024/1	O-ring, seat insert (small)		
36	541/204	Seat insert		
37	185/029/1	O-ring, seat insert (large)		
38	72602	Main diaphragm		✓
39	72507	Retainer, main diaphragm		
40	72245	Washer, main diaphragm		
41	72552	Screw, main diaphragm		
42	516/221	Spring, main diaphragm		
43	15/90	Screw, adapter ring (2x)		
44	185/67/4	O-ring, tank		✓
45	541/232	Adapter ring		
46	185/214/1	O-ring, riser tube		
47	541/218	Riser insert 1,050"		
48	185/029/1	O-ring, riser insert		
49	541/257/1	Valve body (incl. 467/216)		
50	72543	Elbow, outlet		✓
51	72544	Impeller		✓
52	72545	Hub, Impeller		
A	RK/413	Repair kit solenoid diaphragm		✓
B	RK/541/244	Repair kit body stem and seat		✓
C	72611	Repair kit body stem		

(*) Recommended Spare Part

EXPLODED VIEW - VALVE BODY ASSEMBLY



Item	PN	Description	Remark	(*)
1	15/87	Screw, valve head		
2	72216	Valve head		
3	185/115/1	O-ring, drain line adaptor		
4	74018	Nut, drain solenoid		
5	74016	Drain line adaptor		
6	74019	Gasket, drain solenoid		
7	74023	Drain solenoid		✓

(*) Recommended Spare Part

TECHNICAL DATA

Technical specifications:

Model	IQsoft			
Resin (Ltr)	9	12	18	26
Operating pressure min/max (bar)	1,4/8,3			
Operating temperature min/max (°C)	2/48			
Electrical connection (V/Hz)	230/50 ⁽¹⁾			
Maximum power consumption (VA)	17			
Hydraulic connection inlet/outlet	¾" BSP Male			

(1) Supplied with 24V transformer

Performances @ 3 bar operating pressure ⁽²⁾:

Model	IQsoft			
Resin (Ltr)	9	12	18	26
Nominal exchange capacity (m ³ x°f)	32	54	92	133
Nominal exchange capacity (m ³ x°d)	18	30	52	74
Salt usage per regeneration (kg) ⁽³⁾	1,1	1,5	2,3	3,3
Exchange capacity per kg salt (m ³ x°f)	28	36	41	41
Exchange capacity per kg salt (m ³ x°d)	16	20	23	23
Service flow rate @ 1 bar pressure drop (m ³ /hr)	2,4	2,2	2,1	1,8
Recommended maximum service flow rate (m ³ /hr) ⁽⁴⁾	0,9	1,2	1,8	2,6
Rinse water usage per regeneration (Ltr) ⁽³⁾	47	54	80	120

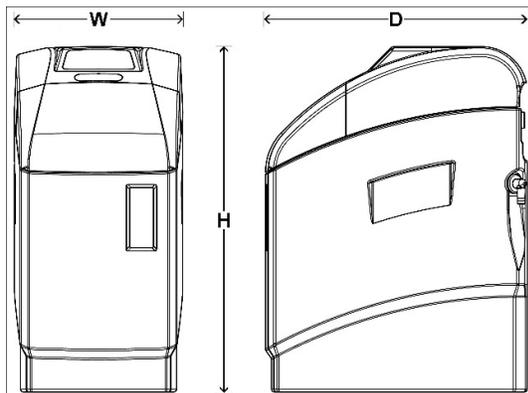
(2) Indicative numbers, performances depending on operating conditions and water quality

(3) Maximum salt/water usage as brining is proportional (minimum of 60%)

(4) Flow rate at which softening process is still executed adequately

Dimensions & weights:

Model	IQsoft			
Resin (Ltr)	9	12	18	26
Width (mm) (W)	280			
Height (mm) (H)	497	575	728	982
Depth (mm) (D)	438			
Depth, including bypass (mm)	540			
Height inlet/outlet (mm)	375	453	606	860
Height inlet/outlet, including bypass (mm)	381	459	612	866
Weight (kg)	15,5	20,0	26,5	36,0
Weight, including bypass (kg)	16,0	20,5	27,0	36,5
Maximum salt storage capacity (kg)	13	17	23	35









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