Cappers
Pollet Water Group

Join our Mission.
Make Water Count.

Service Manual
Residential Valves
SCA19 & Ino20

CAPPERS SAS – 1 rue Edouard Michelin – 63300 THIERS -France
www.cappers.fr RCS Clermont-Ferrand 498 739 333 Siret : 498 739 333 00033

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-1- DESCRIPTION & EQUIPMENT ADJUSTMENTS

Commissioning date

Installation number ☐ Nominal Cap ☐ m³°tH

Valve serial number ☐ Inlet water hardness ☐ °tH

Tank size ☐ Treated water volume ☐ liters

Resin type ☐ Outlet water hardness ☐ °tH

Resin volume ☐ liters Salt quantity ☐ kg

Regeneration mode **Adjustment**

Time clock ☐ ..... ☐ days

Metered immediate ☐ ..... ☐ m³

Metered delayed ☐ ..... ☐ m³

Other ☐ ..... ☐ m³

Cycles times

Down flow brining ☐ Up flow brining ☐

1) Backwash ☐ min 1) Brining & rinse ☐ min

2) Brining & rinse ☐ min 2) Backwash ☐ min

3) Rapide rinse ☐ min 3) Rapide rinse ☐ min

4) Brine tank refill ☐ min 4) Brine tank refill ☐ min

Hydraulic adjustment Injector number ☐

Electrical Supply

☐ 2 LR20 alkaline batteries 1,5V

☐ Low voltage transformer 5 VDC, 1 A

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-2- INSTALLATION RECOMMENDATIONS – SECURITY WARNING

-2-1. LINE PRESSURE

A pressure between 2 & 8 bars is absolutely necessary to provide a normal efficiency of the control valve and also in order to prevent troubles on all installation.

If necessary, a pressure regulator should be installed upstream to the system.

If water line is shut down, take care to prevent any depression (negative pressure), which could destroy the tank. Isolate the system with the bypass or with shut off valves on the inlet and outlet of the system.

-2-2 ELECTRICAL SUPPLY

If the valve is powered by a low voltage transformer, make sure that the power outlet cannot be switched off accidentally. Use only the power supply delivered with the valve.

Make sure that the electrical line is protected by a suitable protection.

If the electrical cable or the transformer housing is damaged, the power supply must be replaced by a qualified person.

-2-3 WATER SUPPLY

Existing water line should be clean and neat, free from lime scale and iron. It should comply with current regulations. Make the necessary changes to prevent troubles. Connection to drain should be provided with a connector and not exceed 2 meters above the valve, and total length should not exceed 5 meters.

It is strongly recommended to install a pre-filter upstream to the system, with a connector.

-2-4 BYPASS

It is strongly recommended to install a bypass on the system if the valve does not include one from manufacturing.

-2-5 TEMPERATURE

Air and water temperature should not exceed 45°C.Temperature should not fall below 3°C. Freezing can break or strongly damage the equipment and cause major water leaks.

-2-6 INSTALLATION OF THE SYSTEM

Install the system and its brine tank, shielded from the rain and from an excessive humidity on a flat, solid, horizontal and smooth floor.

Connection of equipment to water line should be done by a qualified person, according to current applicable regulations.

During installation, brasing operations should be made with no equipment in place. Excessive heat can cause several damages to the equipment.

The brine tank overflow outlet must be connected to the sewer system.

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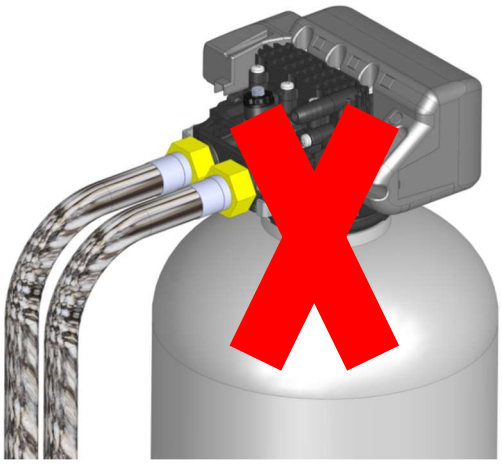
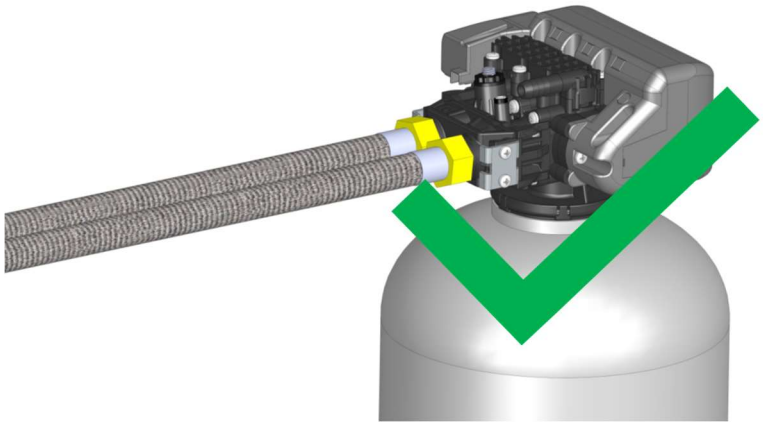
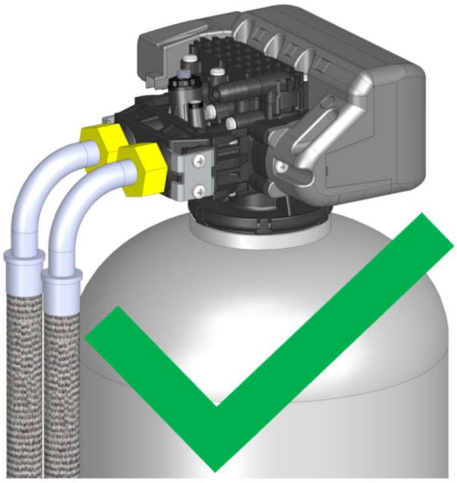
<u>The connection to the valve should be made with flexible pipes.</u> If the pipes arrive perpendicular to the valve, the use of rigid elbows is required (see diagram below).

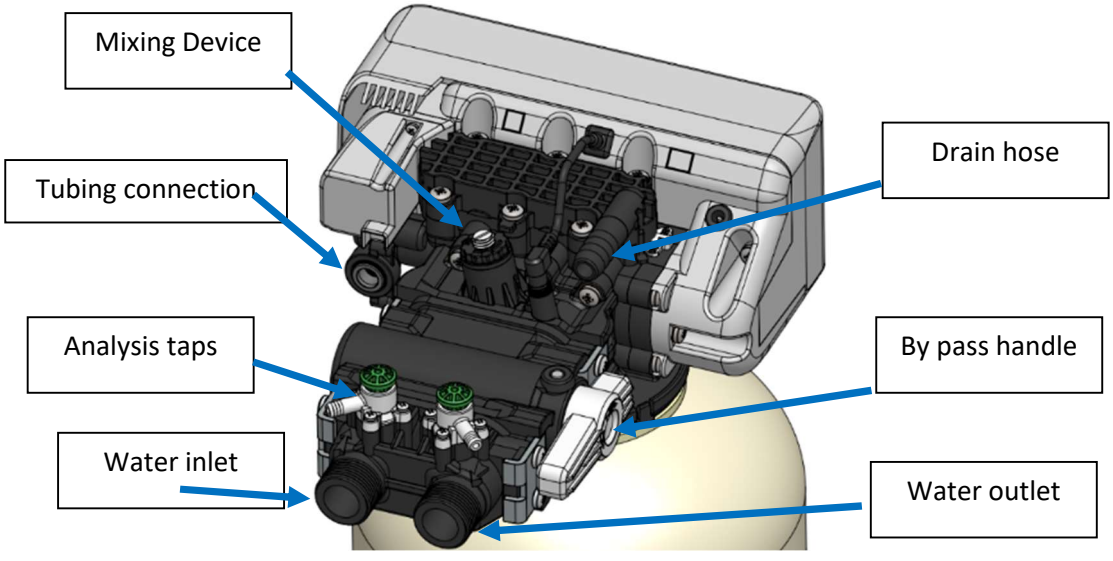






-3- COMMISSIONING

View – Access to main features



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-3-1 The distributor tube should be cut 13 mm above the top of tank (mini: 10mm, maxi: 16 mm). Chamfer the top of tube, in order to avoid damaging the O'Ring.

Lubricate the top of tube with Capper's silicon grease exclusively to facilitate the installation. Other lubricant may damage plastic parts and may not comply with potable water regulations. Spray cans of lubricant are prohibited.

-3-2 Hand tighten the valve onto the tank. Never use extra tools nor levers that apply excessive force on components. Do not apply grease on the main thread as it could result in over-torque and excessive stress on plastic components.

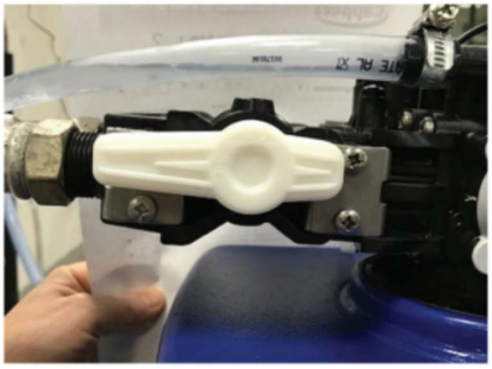
-3-3 Connect the system to the water line.

-3-4 Control that the tank is perfectly vertical on front and on side.

-3-5 Connect the drain hose barb on top of the valve to the drain with a plastic reinforced tube Ø 13 mm ID. A screw clamp can be used to secure the assembly of the tube. Tighten the clamp moderately to prevent over stress.

-3-6 Connect the brine reinforced tube to the valve. Use a Ø 9,52 (3/8'') OD tube. Assembly with the quick connection system fitted on the valve doesn't require any tool.

-3-7 - Make sure that the system is in bypass position.



- Slowly open a tap downstream to the installation and let water flow for 1 minute to evacuate foreign materials from the pipes. When water is clear, close the tap.

- Set the bypass in service position to fill the system with water. The water flows through the system. When the system is full (noise is stopped), open a cold water tap to flush the air from the system.

- When the water is perfectly clear, close the tap.

-3-8 a) Battery operated valve

Remove the tab to establish the electrical contact.

Adjust time of day: the valve is in operation.

b) Mains supply operated valve

Plug the transformer to the power line.

Adjust time of day: the valve is in operation

-3-9 Finalise installation of your complete system following the softener installation manual (brine tank fill…)

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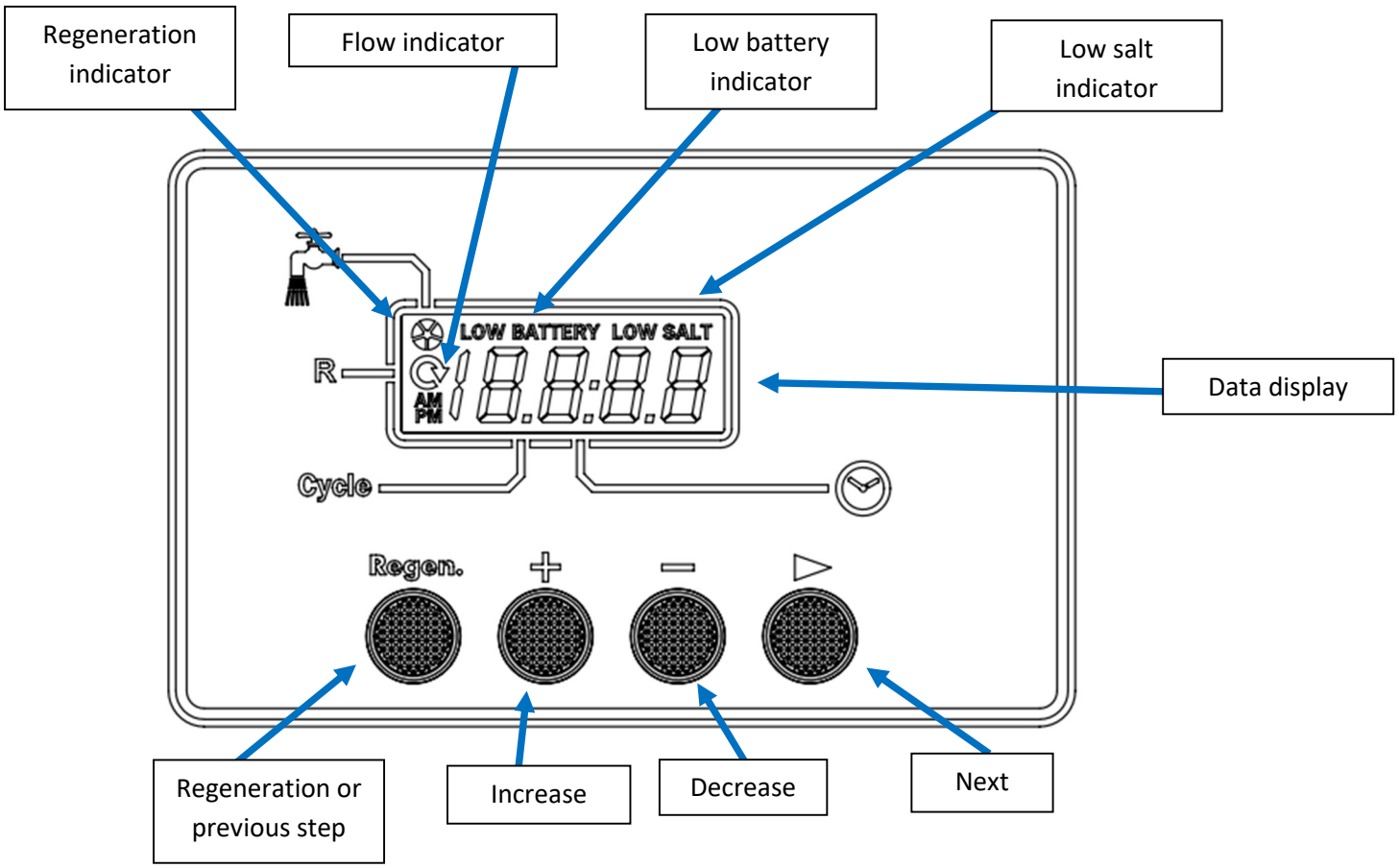
-4- USER INTERFACE (Ino20 example)



4-1 ADJUST TIME OF DAY:

- Press « Increase » or « Decrease » to adjust time of day.

- A power failure will cause the display to blink indicating the need to adjust the time of day. The blinking stops after adjustment.

4-2 DISPLAY THE REMAINING VOLUME (METERED SYSTEM ONLY):

- Press « Next step » to switch from time of day to remaining volume.

- Press again to switch back.

4-3 INITIATE A REGENERATION:

Press on the left button to program a regeneration (regeneration indicator blinks). Hold the button longer for immediate regeneration start.

4-4 POWER SAVING FOR BATTERY OPERATED VALVE :

The display turns off after 3 minutes, to maximise battery lifetime. To reactivate the display, press any button. When the display is turned off, the microprocessor remains active, in “ultra-low consumption” mode.

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-5- ADVISORY NOTE

Cappers is only a valves manufacturer; the following points are not part of its scope:

- Sizing of water treatment installations
- Media selection
- Valve configuration
- Components assembly
- Installation of the equipment

Do not use phosphoric acid or any product containing phosphoric acid, with our valves this may damage the internal parts and cause major water leaks.

The components (valve, bypass, distributor tube, SBV) being sold and delivered separately, Cappers is not liable for the final result of installations made with its material; the installation must be done by a qualified person.

-6- TROUBLESHOOTING

INCIDENTS	CAUSES	SOLUTIONS
A- The system does not regenerate	1) Wrong setting 2) Used or defective batteries 3) Power loss 4) Defective connection with meter cable 5) Other	1) Check settings 2) Replace batteries 3) Restore the power supply by a professional 4) - Verify that the volume decreases when water is used (flow indicator runs) - Verify cable connection and its state. - Clean up or replace the turbine 5) Contact your installer
B- Hard water on outlet	1) Salt needed 2) Valve in “bypass position” 3) Wrong settings 4) Lack of maintenance 5) Other	1) Add salt in the brine tank 2) Switch bypass to “service position” 3) Check settings (Electronic board or mixing device) 4) Follow maintenance recommendation page 21 5) Contact your installer
C- Brine level too high	1) Wrong settings 2) Insufficient brine draw 3) Lack of maintenance 4) Other	1) Check settings 2) Clean up the injector and verify the water tightness of brine line 3) Follow maintenance recommendation page 21 4) Contact your installer
D- Error message displays	1) Failure alarm	1) Follow indications on page 9 (error messages)
E – Salt indicator remains displayed	1)Necessary reset	1) Press and hold next button during 25 seconds
F- Other	1) Other	1) Contact your installer

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-7- ERROR MESSAGES

In all cases, to acknowledge errors, press the right-hand button for 25 seconds. To reset the valve with the same settings, remove the batteries and reinstall them, or disconnect the power supply for a moment and reconnect it.

For valves delivered from August 2023 onwards (software version 1BQ or +), the **factory reset** function reloads the valve's default settings. To do this, first press the right-hand button for 5s, then the R button simultaneously for 25s.

Once the delay has elapsed, the time returns to 00:00 and the factory settings are restored.

Display	Operation	Failure type	Possible causes	Actions needed
Er11 to Er19 without regeneration symbol.	Valve operates normally.	Valve has run through hard points (drive force too high).	Low batteries Defect in power supply.	Check batteries level. Check power supply.
			Drive force too high (foreign material, damaged part …).	Inspect valve body (drive force, state of main seals, spacers and piston, foreign material).
Er11 to Er19 + regeneration symbol or FAIL.	Valve is frozen in service position, no further regeneration possible.	Valve has run through 9 hard points over the past regeneration.	Batteries too weak Power supply faulty.	Check batteries level. Check power supply.
			Motor damaged.	Check motor operation (no short-circuit).
			Valve difficult to operate (foreign body, damaged part...).	Inspect valve body (drive force, state of main seals, spacers and piston, foreign material).
Er21 to Er29 without regeneration symbol.	Valve operates normally.	Valve could not reach targeted position in time.	Batteries too weak Power supply faulty.	Check batteries level. Check power supply.
			Valve difficult to operate (foreign object, damaged part...).	Inspect valve body (drive force, state of main seals, spacers and piston, foreign material).
Er21 to Er29 + regeneration symbol or FAIL.	The valve is frozen in position, with a risk of wasting water. Urgent action is needed.	The valve could not reach its position in less than 2 min.	Motor cable disconnected.	Check motor cable.
			Batteries too low Power supply faulty.	Check batteries level. Check power supply.
			Valve difficult to operate (foreign object, damaged part...).	Inspect valve body (drive force, state of main seals, spacers and piston, foreign material).
Er20.	The valve is not in service position.	The valve did not reach its service position at start-up.	Motor damaged.	Check motor operation (absence of short-circuit).
			Motor cable disconnected.	Check motor cable.
			Position sensor broken.	Check electronic board.

Do not hesitate to contact us for more documentation. Or ask us by mail at contact@cappers.fr to get access to the download zone in our website www.cappers.fr.

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8- NON EXHAUSTIVE LIST OF USUAL SPARE PARTS:

Name & reference	Recommendation
 Injector seals kit Ref: Kj-34-E0-515	Verification: Each year Replacement: Every 3 years
 Piston plate kit Ref: Ka-40-D0-684	Verification: Each year Replacement: Every 3 years
 Interface seal kit Ref: Kj-34-E0-519	Verification: Each year Replacement: Every 5 years
 Tank seal Ref: Kj-34-E0-520	Verification at each dismantling Replacement if damaged
 Main seals Ref: Ke-40-D0-665	Verification: Each year Replacement: Every 3 years
 O-ring tube seal Ref: Kj-34-E0-521(25mm) ou 569 (27mm)	Verification at each dismantling Replacement if damaged
 Inlet outlet seal kit Ref: Kj-34-E0-518	Verification: Each year Replacement: Every 5 years
LR20 Alkaline batteries Ref: Ba-20-D0-535	Replacement frequency: - 1 regeneration per week: 3 years* - 3 regenerations per week: 2 years* - 1 regeneration per day: 1 year*
lubricant Lu-00-L0-184	Use only Cappers silicone grease, other lubricants may damage plastic parts or may not comply with applicable regulations. The use of spray lubricant is prohibited.

These values were noticed with Cappers' supplies and can be strongly reduced on other brands.

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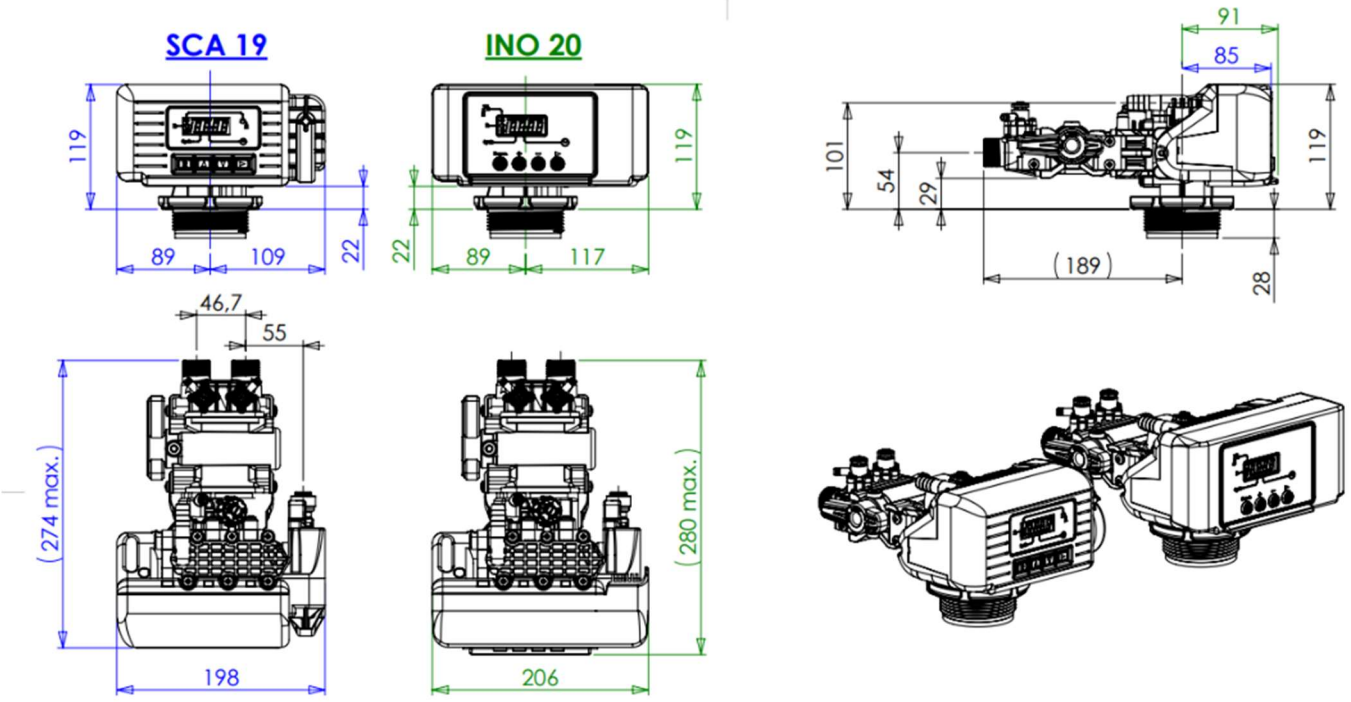
-9- DIMENSIONS & SPECIFICATIONS

Ino20 STANDARD



Hydraulics :
Nominal Section: Ø 19 mm (¾'') minimum
Inlet & outlet ports: ¾'' BSP cylindrical
Drain line tube: Ø 13 mm (1/2'')
Brine line tube: Ø 9,52 mm (3/8'')

Norms :
Valves compliant with
N° 89/336/EEC, Electromagnetic compatibility
N° 73/23/EEC, Low voltage
N° 2002/95/CE, RoHS
ACS: 19 ACC LY 307
Components KTW compliant, upon request

Physics :
Minimum pressure in service: 2 Bar
Maximum pressure in service: 8 Bar
Static maximum pressure: 14 Bar
Minimum temperature in service: 1°C
Maximum temperature in service: 45°C (except hot water valve 85°)

Electrics :
Electrical supply: 2 LR 20 alkaline batteries (1,5 volts) - « Professional quality »
Optional electrical supply: low voltage transformer 230 V / 5VDC – 1A

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