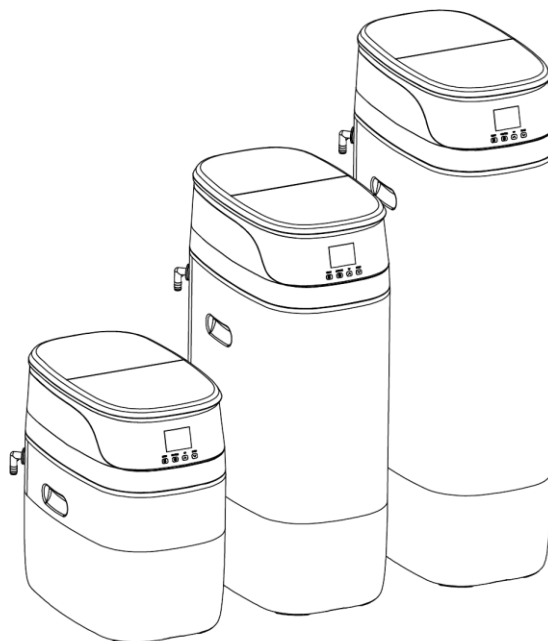


CANATURE Compact Mini / CS20H

Installation, operation and service manual

CS20H-1013 • CS20H-1026 • CS20H-1035

Owners Manual



CS20H Series Water Softener

1. Read all instructions carefully before operation.
2. Avoid pinched o-rings during installation by applying (provided with install kit) NSF certified lubricant to all seals.
3. This system is not intended for treating water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

Manufacturer source sheet 01/31 — source geometry and callouts preserved as a reference plate.

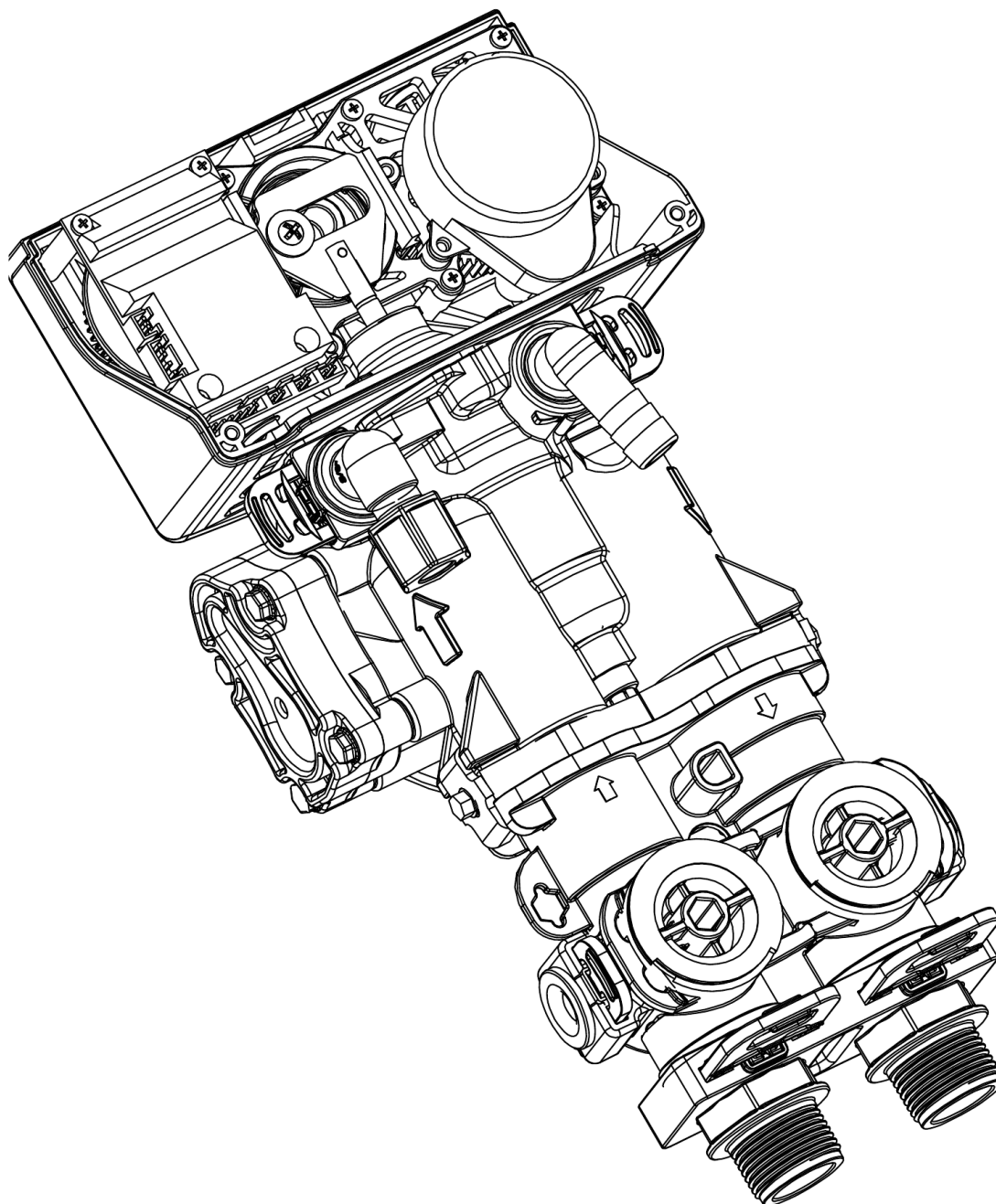
WARNING

Do not use the system for microbiologically unsafe water or water of unknown quality unless adequate disinfection is provided before or after the system.

- Read all instructions carefully before operating the unit.
- During installation, lubricate every seal with the NSF-certified lubricant supplied in the installation kit. Do not use pinched or damaged O-rings.

Water softener

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 02/31



Manufacturer source sheet 02/31 — source geometry and callouts preserved as a reference plate.

BNT85SE 2.0 up-flow control-valve assembly.

Contents

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 03/31

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3

Manufacturer source sheet 03/31 — source geometry and callouts preserved as a reference plate.

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Read before installation

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 04/31



Manufacturer source sheet 04/31 — source geometry and callouts preserved as a reference plate.

WARNING

Read and understand this manual before installation or operation. Failure to follow it can cause injury or property damage.

Installation must comply with applicable national and local plumbing and sanitation rules. If a rule conflicts with this manual, follow the applicable rule.

WARNING

Operate only at 0.20–0.86 MPa (30–125 psi). If supply pressure exceeds 0.86 MPa, install a pressure-reducing valve.

WARNING

Operate only at 4–43 °C. Do not connect to hot water, expose the unit to freezing, wet weather or direct sunlight, or use it outside this range.

WARNING

Use only the supplied power supply. Supply the appliance only with safety extra-low voltage corresponding to its marking.

WARNING

Disconnect power before removing the cover or accessing internal controls. Depressurize the unit before disassembly; otherwise electric shock or flooding can result.

Children must not play with the appliance. Children may clean or maintain it only under supervision. People with limited physical, sensory or mental capability may use it only when supervised or instructed and when they understand the hazards.

WARNING

High levels of iron, manganese, sulphur or sediment may require frequent valve cleaning and replacement of pistons, seals or spacers; damage caused by such harsh conditions is excluded from the source warranty statement.

Have the control valve inspected and serviced by a qualified service technician at least once each year.

Water-conditioning basics

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 05/31



5

Manufacturer source sheet 05/31 — source geometry and callouts preserved as a reference plate.

- Hardness is mainly caused by dissolved calcium and magnesium. Ion exchange replaces these hardness ions with sodium ions.
- A softener does not correct corrosive water and cannot remove particulate, organically bound or bacterial iron by ion exchange alone. Such water requires suitable pretreatment.
- Dissolved ferrous iron can be removed with hardness, but the resin must be regenerated more frequently and cleaned regularly. The source recommends regeneration at 50–75% of the calculated hardness-only capacity and resin cleaning at least every six months when iron is present.
- Never use water from this softener as drinking water if the source water is microbiologically unsafe or of unknown quality without adequate disinfection.

System specifications — 2020 manual values

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 06/31



Manufacturer source sheet 06/31 — source geometry and callouts preserved as a reference plate.

Parameter	CS20H-1013	CS20H-1026	CS20H-1035
Control system	BNT-850SE Control Valve	BNT-850SE Control Valve	BNT-850SE Control Valve
Regeneration type	UP Flow	UP Flow	UP Flow
Integrated meter in bypass	Yes	Yes	Yes
Hardness removal at 6 lb/ft ³ salt dose	315 g	738 g	1590 g
Media loaded	Yes	Yes	Yes
Sand quantity	/	/	5 kg
Resin quantity	9 L	20 L	30 L
Resin type	Extremely High Capacity Ion Exchange Resin	Extremely High Capacity Ion Exchange Resin	Extremely High Capacity Ion Exchange Resin
Tank size	10×13	10×26	10×35
Salt storage capacity	18 kg	38 kg	54 kg
Rated service flow	7 L/min	20 L/min	36 L/min
Backwash duration	1 min	2 min	2 min
Brine duration	25 min	61 min	90 min
Rinse duration	2 min	4 min	5 min
Refill duration	3.2 min	6.4 min	13.9 min
Salt per regeneration at 6 lb/ft ³	0.87 kg	1.73 kg	2.89 kg
Water per regeneration	48 L	92 L	118 L
Carton size (L×W×H)	554×372×635 mm	554×372×965 mm	554×372×1195 mm
Shipping weight	18 kg	35 kg	47 kg

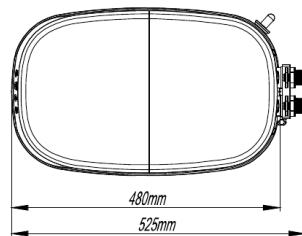
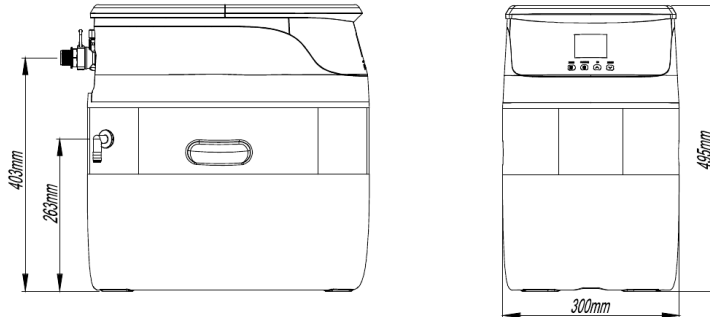
Continuous valve flow at 15 psi pressure drop	4700 L/h
Peak valve flow at 25 psi pressure drop	6100 L/h
Backwash valve flow at 25 psi pressure drop	1800 L/h
Pipe / fittings	3/4" or 1"; straight fittings included
Electrical input	110–120 / 220–240 V AC, 50/60 Hz
Electrical output	12 V AC, 650 mA
Water supply	Municipal
Water temperature	3–38 °C

- These values reproduce the 2020 manufacturer manual. They are not mixed with the later product-sheet values.
- Capacity varies with flow and raw-water conditions. Changing the factory salt setting may require a different injector. Hardness removal is based on the standard 6 lb/ft³ salt setting.
- Iron must not exceed 1 ppm; above this, use an iron-removal system. Protect from freezing. Do not use microbiologically unsafe water without adequate disinfection.
- Source clarification: this 2020 manual states 4–43 °C in its safety instructions (source sheet 4) but 3–38 °C in its specification table (source sheet 6). The current model-specific Canature CS20H product sheet checked on 10 September 2026 specifies 4–43 °C. For current product operation use 4–43 °C; if the installed unit's rating plate gives a narrower range, follow the rating plate and contact qualified service.

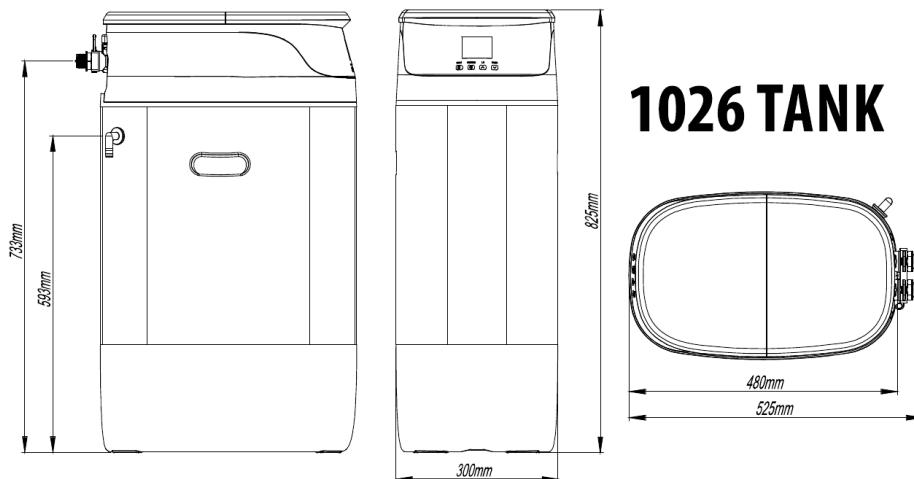
System dimensions — CS20H-1013 / 1026

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 07/31

SOFTENER SYSTEM DIMENSIONS



1013 TANK



1026 TANK

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Manufacturer source sheet 07/31 — source geometry and callouts preserved as a reference plate.

NOTE

Dimension lines and model identities are kept exactly as printed on the manufacturer drawing.

System dimensions — CS20H-1035

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 08/31



1035 TANK

8

Manufacturer source sheet 08/31 — source geometry and callouts preserved as a reference plate.

NOTE

Dimension lines and model identities are kept exactly as printed on the manufacturer drawing.

Unpack and inspect

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 09/31

UNPACK & INSPECT YOUR WATER SOFTENER

Inspect the water softener for any shipping damage. If damage is found, notify the transportation company and request a damage inspection. Damage to cartons should also be noted.

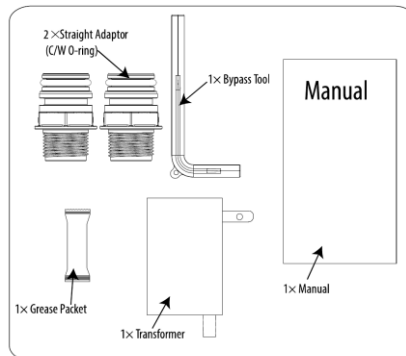
Handle the softener unit with care. Do not drop the unit or set on sharp, uneven projections on the floor. Do not turn the softener unit upside down.

NOTE

IF THERE IS A SEVERE LOSS IN WATER PRESSURE WHEN THE SOFTENER UNIT IS INITIALLY PLACED IN SERVICE, THE SOFTENER TANK MAY HAVE BEEN LAID ON ITS SIDE DURING TRANSIT. IF THIS OCCURS, BACKWASH THE SOFTENER TO "RECLASSIFY" THE MEDIA.

The manufacturer is not responsible for damages in transit. Small parts, needed to install the Softener, are in a parts box. To avoid loss of the small parts, keep them in the parts bag until you are ready to install.

ACCESSORIES CONTENTS :



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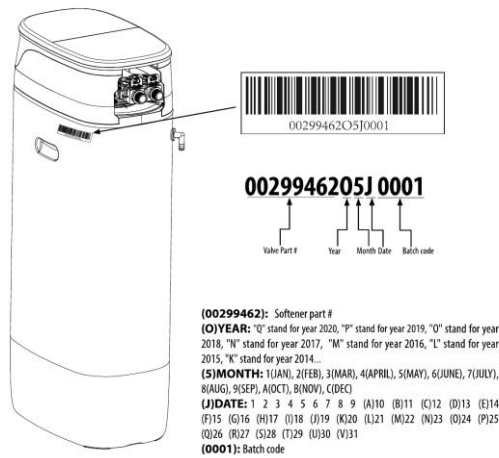
Manufacturer source sheet 09/31 — source geometry and callouts preserved as a reference plate.

- Inspect the softener and packaging for transport damage. Record damage and request inspection from the carrier. Handle the unit carefully; do not drop it, place it on sharp or uneven projections, turn it upside down or lay it on its side.
- If pressure drops severely at first start, the tank may have been transported on its side. Backwash the unit to reclassify the media.
- Accessories: two straight adaptors with O-rings; one bypass tool; one manual; one grease packet; one transformer.

Softener serial number

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 11/31

CHECK THE SOFTENER SERIAL NUMBER



11

Manufacturer source sheet 11/31 — source geometry and callouts preserved as a reference plate.

- Record the softener serial number before installation. Decode its part number, year, month, date and batch code only by the key printed on manufacturer source sheet 11.

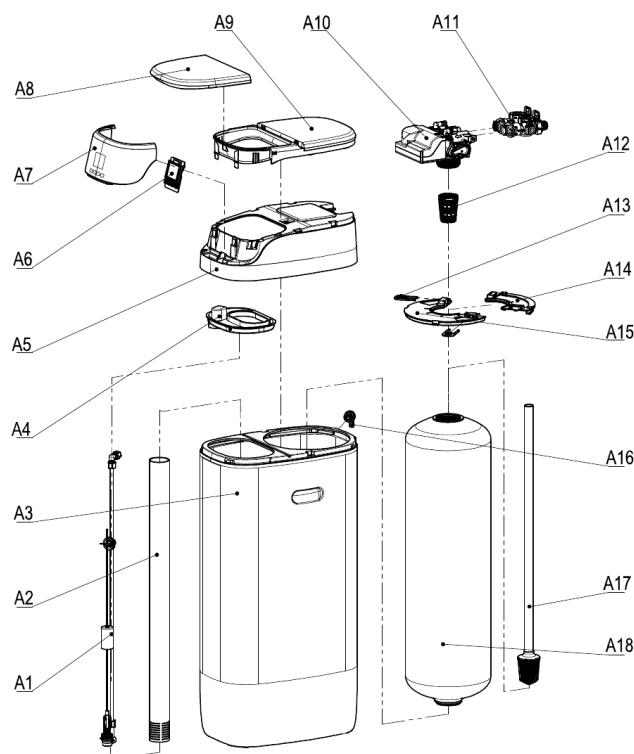
Parts breakdowns and localized parts lists — softener

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 12/31

NOTE

The complete localized legend follows the unchanged manufacturer drawing. Match every component by callout and exact part number.

PARTS BREAKDOWN SOFTENER PARTS LIST



No.	Part #	Description	Qty
A1	07010152G	Brine Valve-0215	1
	07010151G	Brine Valve-0228	1
	07010150G	Brine Valve-0240	1
A2	07030081B	Brine Well-0213	1
	07032101	Brine Well-0226	1
	07032102	Brine Well-0235	1
A3	07000263B	Softener Cabinet(1013)	1
	07000264B	Softener Cabinet(1026)	1
	07000265	Softener Cabinet(1035)	1
A4	07050110	Salt Adding Cover	1
A5	07032155	High Cover	1
A6	05030028G	Display PCB	1
A7	50030234	Front Operation Cover	1
A8	07032153	Salt Lid	1
A9	07032154	Top Cover	1
A10	22018816	Control Valve Assy	1
A11	22053014	Bypass Valve Assy	1
A12	07060077	Top Cone-III	1
A13	21709003	Secure Clip	2
A14	07050093	Snap-gauge Small	1
A15	07050092	Snap-gauge Big	1
A16	02170008M	Overflow Assy	1
A17	02030070	Distribution Assy(13")	1
	02030035	Distribution Assy(26")	1
	02030016	Distribution Assy(35")	1
A18	07501013E	1013 Pressure Tank(Blue)	1
	07501026E	1026 Pressure Tank(Blue)	1
	07591035	1035 Pressure Tank(Blue)	1

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Manufacturer source sheet 12/31 — source geometry and callouts preserved as a reference plate.

Complete localized parts list

Manufacturer source sheet 12/31

Ref.	Part number	Localized description	Qty
A1	07010152G	Brine valve 0215	1
A1	07010151G	Brine valve 0228	1
A1	07010150G	Brine valve 0240	1
A2	07030081B	Brine well 0213	1
A2	07032101	Brine well 0226	1
A2	07032102	Brine well 0235	1
A3	07000263B	Softener cabinet 1013	1
A3	07000264B	Softener cabinet 1026	1
A3	07000265	Softener cabinet 1035	1
A4	07050110	Salt-filling cover	1
A5	07032155	Upper cover	1
A6	05030028G	Display printed circuit board (PCB)	1
A7	50030234	Front operating-panel cover	1
A8	07032153	Salt lid	1
A9	07032154	Top cover	1
A10	22018816	Control-valve assembly	1
A11	22053014	Bypass-valve assembly	1
A12	07060077	Top cone III	1
A13	21709003	Retaining clip	2
A14	07050093	Small snap gauge	1
A15	07050092	Large snap gauge	1
A16	02170008M	Overflow assembly	1
A17	02030070	Distributor assembly, 13 in	1
A17	02030035	Distributor assembly, 26 in	1
A17	02030016	Distributor assembly, 35 in	1
A18	07501013E	1013 pressure tank, blue	1
A18	07501026E	1026 pressure tank, blue	1
A18	07591035	1035 pressure tank, blue	1

NOTE

Callouts and part numbers are unchanged from the manufacturer drawing. Use the exact part number when ordering; the translated description explains the component function.

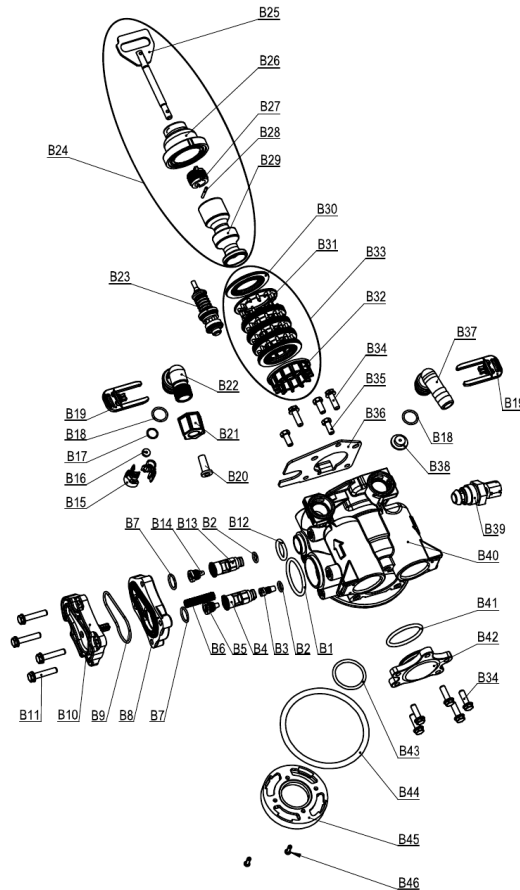
Parts breakdowns and localized parts lists — valve body

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 13/31

NOTE

The complete localized legend follows the unchanged manufacturer drawing. Match every component by callout and exact part number.

VALVE BODY PARTS LIST



No.	Part #	Description	Qty
B1	05031022	Big O-ring of Injector Cover	1
B2	05031020	Small O-ring of Injector Holder	2
B3	30040096M	#0000 Black Injector Throat(Optional)	1
B4	05031012M	Injector Holder	1
B5	30040097M	#0000 Black Injector Nozzle(Optional)	1
B6	05056103	Screen	1
B7	05031019	Big O-ring of Injector Holder	2
B8	05031003M	85HE Injector Cover	1
B9	05031018	O-ring on Injector Cover	1
B10	05031004M	85HE Injector Cover Cap	1
B11	05031027	Screws on Injector Cover Cap	4
B12	05031021	Small O-ring of Injector Cover	1

B13	05031013M	Injector Holder Plug	1
B14	05056156	Injector Nozzle Plug	1
B15	05031010M	BLFC Holder	2
B16	05056206M	BLFC(0.2GPM)(Optional)	1
B17	05031033	O-ring of BLFC Holder	1
B18	05056134	O-ring of Brine Line Elbow	2
B19	05056172N	Secure Clip-S	2
B20	30110004M	Tube Insert	1
B21	21389033M	Brine Line Elbow Nut	1
B22	30020013M	Brine Line Elbow	1
B23	05056180M	Brine Valve Injector Stem Assy	1
B24	02170101	Piston Assembly-85HE Valve(UF)	1
B25	05031032	Piston Rod-85HE Valve	1
B26	02170233	End Plug-85HE Valve	1
B27	05031014	Piston Retainer-85HE Valve	1
B28	05056097	Piston Pin	1
B29	05057002	UP Flow Piston-85HE Valve	1
B30	05056073	Seal-85HE Valve	1
B31	05056204M	Spacer-85HE Valve	8
B32	05031005	Bottom Spacer-85HE Valve	1
B33	02170102	Seals and Spacers Assembly	1
B34	05056508	Valve Body Connect Screws	7
B35	05056087	End Plug Retainer Screws	3
B36	05056047	End Plug Retainer	1
B37	05010082M	Drain Elbow	1
B38	05056186	DLFC(2.4GPM)(Optional)	1
B39	02170013M	Mixing Valve Assy	1
B40	05031002B	85HE Valve Body	1
B41	05030013	O-ring on 85HE Side Cover	1
B42	05030004	85HE Side Cover	1
B43	26010103	Distributor O-ring	1
B44	05056063	Tank Mouth O-ring	1
B45	07060007	Valve Bottom Connector	1
B46	05056084	Screw on Valve Bottom Connector	2

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Manufacturer source sheet 13/31 — source geometry and callouts preserved as a reference plate.

Complete localized parts list

Manufacturer source sheet 13/31

Ref.	Part number	Localized description	Qty
B1	05031022	Large O-ring for injector cover	1
B2	05031020	Small O-ring for injector holder	2
B3	30040096M	No. 0000 black injector throat (optional)	1
B4	05031012M	Injector holder	1
B5	30040097M	No. 0000 black injector nozzle (optional)	1
B6	05056103	Screen	1
B7	05031019	Large O-ring for injector holder	2
B8	05031003M	85HE injector cover	1
B9	05031018	O-ring on injector cover	1
B10	05031004M	85HE injector-cover cap	1
B11	05031027	Injector-cover cap screws	4
B12	05031021	Small O-ring for injector cover	1
B13	05031013M	Injector-holder plug	1
B14	05056156	Injector-nozzle plug	1
B15	05031010M	BLFC holder	2
B16	05056206M	BLFC 0.2 GPM (optional)	1
B17	05031033	O-ring for BLFC holder	1
B18	05056134	O-ring for brine-line elbow	2
B19	05056172N	Small retaining clip	2
B20	30110004M	Tube insert	1
B21	21389033M	Brine-line elbow nut	1
B22	30020013M	Brine-line elbow	1
B23	05056180M	Brine-valve injector-stem assembly	1
B24	02170101	85HE up-flow valve piston assembly	1
B25	05031032	85HE valve piston rod	1
B26	02170233	85HE valve end plug	1
B27	05031014	85HE valve piston retainer	1
B28	05056097	Piston pin	1
B29	05057002	85HE up-flow valve piston	1
B30	05056073	85HE valve seal	1
B31	05056204M	85HE valve spacer	8
B32	05031005	85HE valve bottom spacer	1
B33	02170102	Seal-and-spacer assembly	1
B34	05056508	Valve-body connecting screws	7
B35	05056087	End-plug retainer screws	3
B36	05056047	End-plug retainer	1
B37	05010082M	Drain elbow	1

Ref.	Part number	Localized description	Qty
B38	05056186	DLFC 2.4 GPM (optional)	1
B39	02170013M	Mixing-valve assembly	1
B40	05031002B	85HE valve body	1
B41	05030013	O-ring on 85HE side cover	1
B42	05030004	85HE side cover	1
B43	26010103	Distributor O-ring	1
B44	05056063	Tank-mouth O-ring	1
B45	07060007	Valve bottom connector	1
B46	05056084	Valve bottom-connector screw	2

NOTE

Callouts and part numbers are unchanged from the manufacturer drawing. Use the exact part number when ordering; the translated description explains the component function.

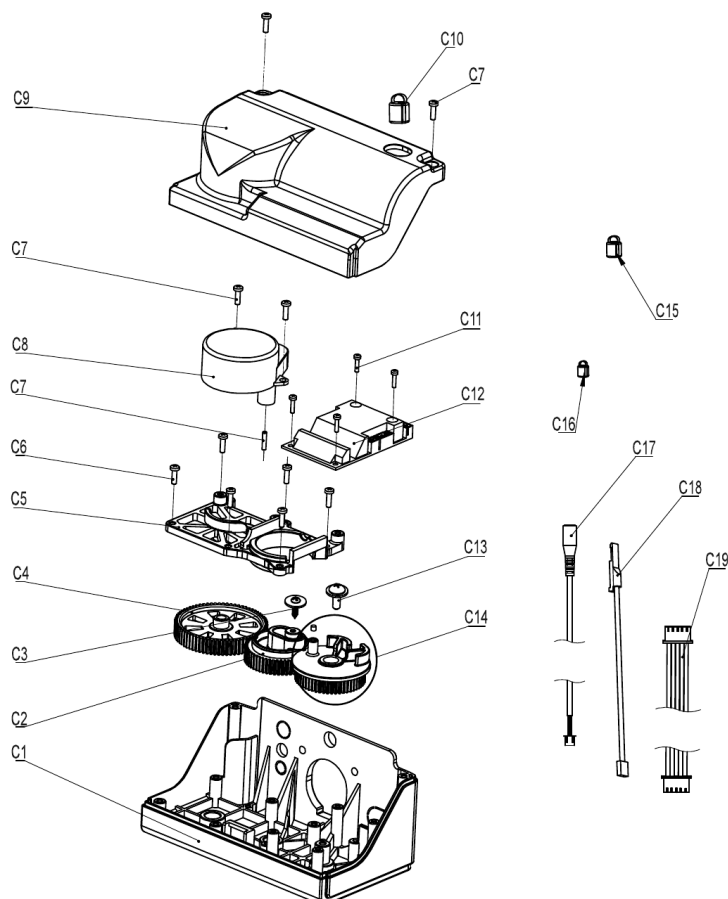
Parts breakdowns and localized parts lists — power head

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 14/31

NOTE

The complete localized legend follows the unchanged manufacturer drawing. Match every component by callout and exact part number.

POWER HEAD PARTS LIST



No.	Part #	Description	Qty
C1	05030005	Bnt85HE Base	1
C2	05031008M	85HE Main Gear	1
C3	13000463	Screw on Main Gear	1
C4	05030009M	Motor Gear	1
C5	05031006	Mounting Plate	1
C6	05056084	Screws on Mounting Plate	10
C7	05056098	Motor Pin	1
C8	05056550	Motor	1
C9	05030024	85HE Cover	1
C10	05056013	Communication Cable Clip	1
C11	05010037	Screws on PCB	4
C12	05031025	85HE-PCB(UF)	1

C13	13000462	Screw on Brine Gear	1
C14	05031009N	Brine Gear(C/W magnet)	1
C15	05010046	Meter Cable Clip	1
C16	05010035	Power Cable Clip	1
C17	05010029B	Power Cable	1
C18	05010108B	Meter Cable	1
C19	12100024	Communication Cable	1

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Manufacturer source sheet 14/31 — source geometry and callouts preserved as a reference plate.

Complete localized parts list

Manufacturer source sheet 14/31

Ref.	Part number	Localized description	Qty
C1	05030005	BNT85HE base	1
C2	05031008M	85HE main gear	1
C3	13000463	Main-gear screw	1
C4	05030009M	Motor gear	1
C5	05031006	Mounting plate	1
C6	05056084	Mounting-plate screws	10
C7	05056098	Motor pin	1
C8	05056550	Motor	1
C9	05030024	85HE cover	1
C10	05056013	Communication-cable clip	1
C11	05010037	Printed-circuit-board screws	4
C12	05031025	85HE printed circuit board, up-flow	1
C13	13000462	Brine-gear screw	1
C14	05031009N	Brine gear with magnet	1
C15	05010046	Meter-cable clip	1
C16	05010035	Power-cable clip	1
C17	05010029B	Power cable	1
C18	05010108B	Meter cable	1
C19	12100024	Communication cable	1

NOTE

Callouts and part numbers are unchanged from the manufacturer drawing. Use the exact part number when ordering; the translated description explains the component function.

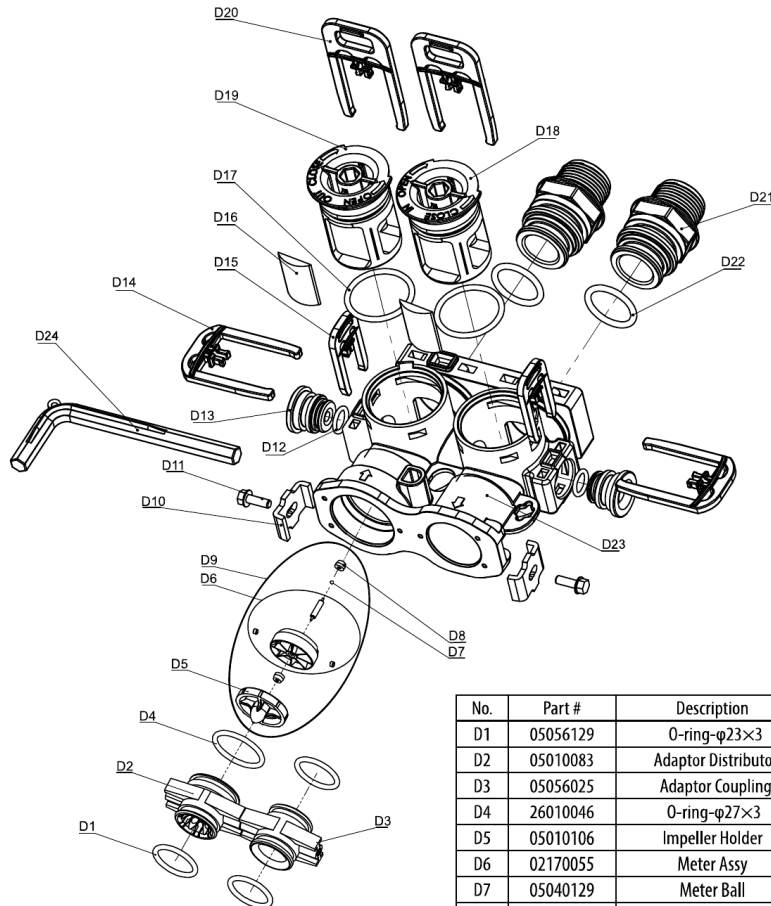
Parts breakdowns and localized parts lists — bypass

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 15/31

NOTE

The complete localized legend follows the unchanged manufacturer drawing. Match every component by callout and exact part number.

BYPASS PARTS LIST



D21	21319006	Connector 3/4" Straight	2
D22	26010143	O-ring(22.4×3.55)	2
D23	05056212	063 Bypass Body	1
D24	70020007M	Bypass Tool	1

No.	Part #	Description	Qty
D1	05056129	O-ring-φ23×3	3
D2	05010083	Adaptor Distributor	1
D3	05056025	Adaptor Coupling	1
D4	26010046	O-ring-φ27×3	1
D5	05010106	Impeller Holder	1
D6	02170055	Meter Assy	1
D7	05040129	Meter Ball	1
D8	05010019B	Bush	2
D9	02170264	Meter Spare Parts	1
D10	05056044B	SS Clip	2
D11	13000327	Screw M4×12	2
D12	05056134	O-ring(12×2)	2
D13	05056146	Bypass Plug	2
D14	21709004	Shaft Clip	2
D15	05056172N	Plug Clip	2
D16	05056149B	Shaft Seal	2
D17	05030013	O-ring(30×2.65)	2
D18	05056213	Bypass Shaft(Inlet)	1
D19	05056214	Bypass Shaft(Outlet)	1
D20	21709003	Connector Clip	2

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Manufacturer source sheet 15/31 — source geometry and callouts preserved as a reference plate.

Complete localized parts list

Manufacturer source sheet 15/31

Ref.	Part number	Localized description	Qty
D1	05056129	O-ring, Ø23×3	3
D2	05010083	Distributor adaptor	1
D3	05056025	Adaptor coupling	1
D4	26010046	O-ring, Ø27×3	1
D5	05010106	Impeller holder	1
D6	02170055	Meter assembly	1
D7	05040129	Meter ball	1
D8	05010019B	Bush	2
D9	02170264	Meter spare-parts set	1
D10	05056044B	Stainless-steel clip	2
D11	13000327	Screw M4×12	2
D12	05056134	O-ring, 12×2	2
D13	05056146	Bypass plug	2
D14	21709004	Shaft clip	2
D15	05056172N	Plug clip	2
D16	05056149B	Shaft seal	2
D17	05030013	O-ring, 30×2.65	2
D18	05056213	Bypass shaft, inlet	1
D19	05056214	Bypass shaft, outlet	1
D20	21709003	Connector clip	2
D21	21319006	Straight 3/4-in connector	2
D22	26010143	O-ring, 22.4×3.55	2
D23	05056212	063 bypass body	1
D24	70020007M	Bypass tool	1

NOTE

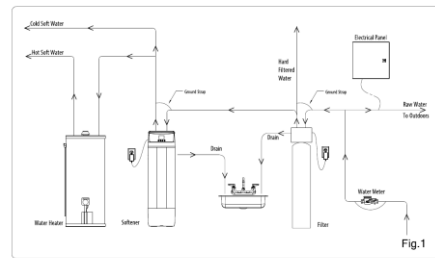
Callouts and part numbers are unchanged from the manufacturer drawing. Use the exact part number when ordering; the translated description explains the component function.

Pre-installation

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 16/31

PRE-INSTALLATION INSTRUCTIONS

Contact your local distributor to have a complete water analysis and check your water hardness on your water supplier, this will keep your conditioner in proper working.



NOTE

YOU MUST FOLLOW ALL GOVERNMENT CODES AND REGULATIONS GOVERNING THE INSTALLATION OF THESE DEVICES.

INSTALLATION INSTRUCTIONS

DETERMINE THE CORRECT LOCATION OF THE WATER CONDITIONING EQUIPMENT

Select the location of your softener with care. Review the various conditions below to determine a proper location:

1. Locate as close as possible to the water supply source.
2. Locate as close as possible to a floor or laundry tub drain.
3. Locate in correct relationship to other water conditioning equipment (See Fig. 1).
4. Softener should be located in the supply line before the water heater. Temperatures above 120°F damage softeners.
5. Do not install a softener in a location where freezing temperatures occur. Freezing may cause permanent damage to this type of equipment and will void the factory warranty.
6. Allow sufficient space around the unit for easy servicing.
7. Determine if additional plumbing is required if your water source is a community water supply, a public water supply or you wish to bypass water used for a geothermal heat pump, lawn sprinkling, out-buildings or other high demand applications, refer to Fig. 1).
8. Keep the softener out of direct sunlight. Heat build up from direct sunlight may soften and distort plastic parts.

16

Manufacturer source sheet 16/31 — source geometry and callouts preserved as a reference plate.

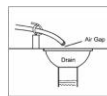
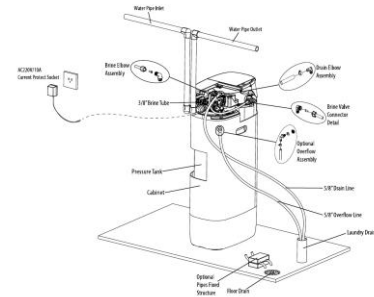
- Ask the local distributor for a complete water analysis and obtain the supply-water hardness. Follow all applicable government and local installation requirements.
- Locate the softener close to both the water-supply source and a floor or laundry drain, in the correct sequence with any other treatment equipment, and upstream of the water heater.
- Do not install where freezing can occur. Keep the unit out of direct sunlight and allow enough clear space for service.
- Plan separate bypass plumbing for outdoor taps, geothermal heat pumps, sprinklers, outbuildings or other high-demand uses when required.

Installation

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 17/31

TOOLS REQUIRED FOR INSTALLATION:

- Two adjustable wrenches.
- Additional tools may be required if modifications to home plumbing are required.
- Use copper, brass, or PEX pipe and fittings.
- Some codes may also allow PVC plastic pipe. Refer to local codes.
- Always install the included bypass valve, or 3 shut-off valves. Bypass valves let you turn off water to the softener for repairs, but still have water in the house pipes.
- 5/8" OD drain line is needed for the drain.



CAUTION
 THE WASTE CONNECTION OR DRAIN OUTLET SHALL BE DESIGNED AND CONSTRUCTED TO PROVIDE AN AIR GAP TO THE SANITARY WASTE SYSTEM OF 2 PIPE DIAMETERS OR 1 INCH (25MM), (WHICHEVER IS LARGER)

CAUTION
 NEVER INSERT THE DRAIN LINE DIRECTLY INTO A DRAIN, SEWER LINE, OR TRAP. ALWAYS ALLOW AN AIR GAP BETWEEN THE DRAIN LINE AND THE WASTE WATER. THIS WILL PREVENT THE POSSIBILITY OF SEWAGE BEING BACK-SIPHONED INTO THE CONDITIONER.

NOTE

PERFORM ALL PLUMBING ACCORDING TO LOCAL PLUMBING CODES.

17

Manufacturer source sheet 17/31 — source geometry and callouts preserved as a reference plate.

- Required tools include two adjustable wrenches and any tools needed to modify the existing pipework. Use copper, brass or PEX pipe and fittings; use PVC only where local rules allow it.
- Always install the supplied bypass valve or three shut-off valves. Use a 5/8-inch outside-diameter drain line.
- Never insert the drain line directly into a drain, sewer or trap. Provide an air gap of two pipe diameters or 25 mm, whichever is greater, to prevent back-siphoning.
- Complete all plumbing in accordance with applicable local plumbing rules.

Water bypass

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 18/31

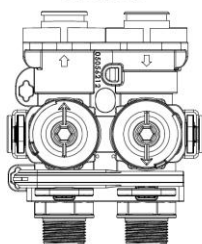
WATER BYPASS

In case of an emergency such as softener maintenance, you can isolate your water softener from the water supply using the bypass valve located at the back of the control. In normal operation the bypass is open with the ON/OFF knobs in line with the INLET and OUTLET pipes. To isolate the softener, simply rotate the knobs to the BYPASS position.

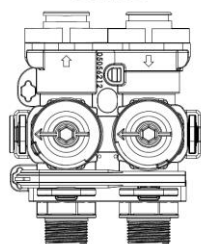
You can use your water related fixtures and appliances as the water supply is bypassing the softener. However, the water you use will be hard. To resume treated service, open the bypass valve by rotating the knobs to SERVICE position.

Please make sure bypass knobs are completely open otherwise the unsoftened water could bypass through the valve.

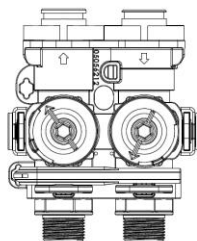
SERVICE



BYPASS



BYPASS NOT ALLOWED POSITION



NOTE

Please make sure bypass knobs are completely open otherwise the unsoftened water could bypass through the valve.

18

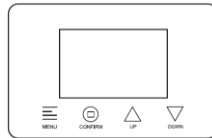
Manufacturer source sheet 18/31 — source geometry and callouts preserved as a reference plate.

- For service or an emergency, isolate the softener with the bypass valve behind the control head. In normal service, the knobs are aligned with the inlet and outlet pipes. Rotate both knobs fully to BYPASS to isolate the unit.
- Water remains available during bypass but is hard. To resume treatment, rotate both knobs fully to SERVICE. Partly open knobs can let untreated water bypass the valve.

Programming guide — 1/3

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 19/31

PROGRAMMING GUIDE FAMILIARIZE WITH KEY PAD CONFIGURATION



MENU

This function enters the basic set up information required at the time of installation.



CONFIRM

This function is to press and select one item to change and accepts the values if changed.



UP

DOWN

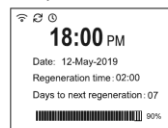
This function is to scroll up or down the programming items and increase or decrease the values of the settings while in the programming mode.

SYSTEM STANDBY DISPLAY

MI MD and MO



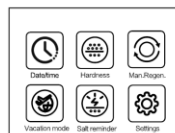
Days and Calendar



FAMILIARIZE WITH DISPLAY ICON

MAIN MENU DISPLAY

Press "MENU" to enter main menu while the screen is unlocked:



19

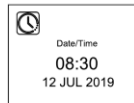
Manufacturer source sheet 19/31 — source geometry and callouts preserved as a reference plate.

- MENU opens the basic setup information required during installation. CONFIRM selects an item and accepts a changed value. UP/DOWN scroll through items and increase or decrease values.
- The standby display differs by regeneration mode. In MI, MD and MO modes it can show instantaneous flow, capacity, remaining capacity, date and time. In Days and Calendar modes it can show time, date, regeneration time and days until the next regeneration.
- With the screen unlocked, press MENU to open the main menu: date/time, hardness, manual regeneration, vacation mode, salt reminder and settings.

Programming guide — 2/3

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 20/31

1. Date/Time: press  and  to change the setting.
The following setting is the same as above.



Date/Time
08:30
12 JUL 2019

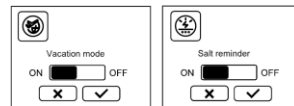
2. Hardness: the default setting of incoming is 250 PPM/015GPG (range from 1 to 700), outgoing is 0; other units: 17.5 °eH; 25.0 °fH; 14.0 °dH; range from 0.1 to 70.0.



Hardness settings
Incoming 250 PPM
Outgoing 00 PPM

3. Vacation mode: it is available only in MI and MD modes, the default setting is OFF.
When set to ON, the system will perform 3 minutes back wash and 3 minutes rinse if there is no water flow detected in 7 days. The regeneration will occur at the scheduled REGEN TIME.

4. Salt reminder: the default setting is OFF.



Vacation mode
ON OFF
X ✓

Salt reminder
ON OFF
X ✓

5. Manual Regeneration:



Manual Regeneration
NOW
TONIGHT

Tonight means a delayed regeneration that will occur tonight at the regeneration time, meanwhile the screen displays "G".
Please note "Now" is the only option in MI mode.

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Manufacturer source sheet 20/31 — source geometry and callouts preserved as a reference plate.

- Date/time: select the field with CONFIRM and change it with UP/DOWN.
- Hardness: factory incoming-water setting 250 ppm / 15 GPG; outgoing-water setting 0. Incoming range 1–700 ppm. Equivalent displayed defaults are 17.5 °eH, 25.0 °fH and 14.0 °dH; alternative-unit range 0.1–70.0.
- Vacation mode is available only in MI and MD modes and is OFF by default. When ON and no flow is detected for seven days, the unit performs a three-minute backwash and a three-minute rinse at the scheduled regeneration time.
- Salt reminder is OFF by default. Manual regeneration: NOW starts immediately; TONIGHT queues a delayed regeneration at the programmed regeneration time. MI mode offers NOW only.

Programming guide — 3/3

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 21/31

DEALER MENU DISPLAY

Put the cursor on the "Settings" icon in main menu, press "CONFIRM" to enter dealer menu. Perhaps there are some grey icons that cannot be operated in different modes.

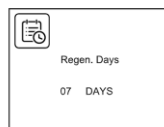


1. Regen. Time: This setting determines the time of day to perform a scheduled regeneration, the default setting is 2:00 AM.

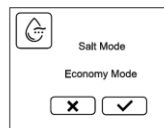
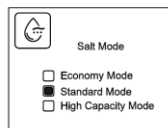


2. Regen. Days: This value is the number of days between regenerations, the default setting is 7 days, range from 1 to 99.

3. Regen. weekdays: This setting determines the day to perform a scheduled regeneration, "■" means it is chosen, the default setting is Tuesday.



4. Salt Mode: These settings will determine the salt dosage and capacity for the system, the default setting is Standard mode.



21

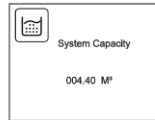
Manufacturer source sheet 21/31 — source geometry and callouts preserved as a reference plate.

- From the main menu, place the cursor on Settings and press CONFIRM to open the dealer menu. Some icons are unavailable in particular modes.
- Regeneration time: factory setting 02:00. Regeneration days: factory setting 7 days; range 1–99 days. Regeneration weekday: factory setting Tuesday.
- Salt mode determines salt dose and capacity. Standard mode is the factory setting; Economy and High Capacity modes are also shown in the source interface.

Start-up — 1/2

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 22/31

5. Capacity:
When set automatic calculation to ON, the value cannot be changed; when set to OFF, the value can be changed, range from 0.01 to 999.99 M³.



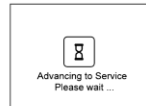
OPERATION DURING A POWER FAILURE

In the event of a power failure, the valve will keep track of the time and day. The programmed settings are stored in a non-volatile memory and will not be lost during a power failure. If power fails while the unit is in regeneration, the valve will finish regeneration from the point it is at once power is restored. If the valve misses a scheduled regeneration due to a power failure, it will queue a regeneration at the next regeneration time once power is restored.



START-UP INSTRUCTIONS

1. Add two liters of water into the cabinet at the time of installation. This is for the unit to achieve proper capacity in the first time of regeneration.
2. Plug the power transformer into an approved power source. Connect the power cord to the valve.
3. When power is supplied to the control, the screen will may display "Advancing to Service Please Wait" while it finds the service position.



22

Manufacturer source sheet 22/31 — source geometry and callouts preserved as a reference plate.

- Capacity: when automatic calculation is ON, the value cannot be edited. When it is OFF, the range is 0.01–999.99 m³.
- During a power failure, time and day tracking continues and settings remain in non-volatile memory. If regeneration is interrupted, it resumes from the same stage when power returns. If a scheduled regeneration is missed, it is queued for the next regeneration time.
- If the valve stops outside the service position during a power failure and the drain continues to flow, place the system in bypass until power is restored.
- Initial start-up: add two litres of water to the cabinet; connect the supplied transformer to an approved source and then to the valve. The display may show "Advancing to Service — Please wait" while the valve finds the service position.

Start-up — 2/2

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 23/31

4. Manually step the valve to the BACKWASH position. If screen is locked, the screen will display "Key Locked. Press and Hold 'MENU' key for 3 Seconds to Unlock". Follow the instructions below to step the valve to BACKWASH position. As the valve arrives at BACKWASH position, unplug the power and let valve stay at BACKWASH position.



5. Slowly open the inlet knob on the bypass valve with the bypass tool supplied and allow water to enter the unit. Allow all air to escape from the unit before turning the bypass fully open. Then allow water to run to drain for 3-4 minutes or until all media fines are washed out of the conditioner indicated by clear water in the drain hose. Open a cold soft water tap nearby and let water run a few minutes or until the system is free of foreign material resulting from the plumbing work. Close the water tap when water runs clear.

6. Press any button to advance to the BRINE position, when it arrives, press any key to skip the BRINE cycle. Press any button to advance to the RINSE position. Check the drain line flow. Allow the water to run for 3-4 minutes or until the water is clear.

7. Press any button to advance to the REFILL position. Check that the valve is filling water into the brine tank. Allow the valve to refill for the full amount of time as displayed on the screen to insure a proper brine solution for the next regeneration.

8. The valve will automatically advance to the SERVICE position. Open the outlet knob on the bypass with the bypass tool supplied. With the bypass open, open the nearest treated water faucet and allow the water to run until clear.

9. Add salt into the cabinet. Put 40 kg of crystal water softener salt in the 1035 softener cabinet, 30 kg of crystal water softener salt in the 1026 softener cabinet, 15 kg of crystal water softener salt in the 1013 softener cabinet. The unit will automatically fill the water to the correct level when it regenerates.

10. Program unit.



CAUTION LIQUID BRINE WILL IRRITATE EYES, SKIN AND OPEN WOUNDS. GENTLY RINSE EXPOSED AREA WITH FRESH WATER. KEEP CHILDREN AWAY FROM YOUR WATER CONDITIONER.

AUTOMATIC RAW WATER BYPASS DURING REGENERATION

The regeneration cycle can last 60 minutes after which Softened water service will be restored. During regeneration, unsoftened water is automatically bypassed for use in the household. Hot water should be used as little as possible during this time to prevent unsoftened water from filling the water heater. This is why automatic regeneration is set for sometime during the night and manual regenerations should be performed when little or no water will be used in the household.

23

Manufacturer source sheet 23/31 — source geometry and callouts preserved as a reference plate.

- 1. Step the valve manually to BACKWASH. If the display is locked, hold MENU for three seconds. When BACKWASH is reached, disconnect power and leave the valve in that position.
- 2. Open the inlet bypass knob slowly. Let air escape, then open it fully. Drain for 3–4 minutes or until the water is clear. Open a nearby cold treated-water tap until plumbing debris has been flushed, then close it.
- 3. Advance to BRINE and skip the brine cycle. Advance to RINSE and check drain flow; rinse for 3–4 minutes or until clear.
- 4. Advance to REFILL. Verify that water enters the brine compartment and let the full displayed refill time finish. The valve then returns automatically to SERVICE.
- 5. Fully open the outlet bypass knob. Run the nearest treated-water tap until clear.
- 6. Add crystal water-softener salt: 15 kg to CS20H-1013, 30 kg to CS20H-1026, or 40 kg to CS20H-1035. Do not exceed the model's salt-storage capacity, and keep the brine well unobstructed.
- 7. Program the unit. Liquid brine irritates eyes, skin and open wounds. Rinse exposed areas gently with fresh water and keep children away.
- During regeneration, untreated water is automatically bypassed to the household. Minimize hot-water use so untreated water does not fill the water heater.

Maintenance

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 24/31

MAINTENANCE INSTRUCTIONS

CHECK THE SALT LEVEL

Check the salt level monthly. Remove the lid from the cabinet or brine tank, make sure salt level is always above the brine level.

NOTE

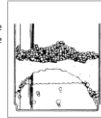
YOU SHOULD NOT BE ABLE TO SEE WATER IN THE CABINET OR BRINE TANK.

ADDING SALT

Use only clean salt labeled for water conditioner use, such as crystal, pellet, nugget, button or solar. The use of rock salt is discouraged because it contains insoluble silt and sand which build up in the brine tank and can cause problems with the system's operation. Add the salt directly to the tank, filling no higher than the top of the brine well.

BRIDGING

Humidity or the wrong type of salt may create a cavity between the water and the salt. This action, known as "bridging", prevents the brine solution from being made, leading to your water supply being hard.



If you suspect salt bridging, carefully pound on the outside of the plastic cabinet or pour some warm water over the salt to break up the bridge. This should always be followed up by allowing the unit to use up any remaining salt and then thoroughly cleaning out the cabinet. Allow four hours to produce a brine solution, then manually regenerate the softener.

Resin Cleaner

An approved resin cleaner must be used on a regular basis if your water supply contains iron. The amount of resin cleaner and frequency of use is determined by the quantity of iron in your water (consult your local representative or follow the directions on the resin cleaner package).

Care of Your Water Conditioner

To retain the attractive appearance of your new water conditioner, clean occasionally with a mild soap solution. Do not use abrasive cleaners, ammonia or solvents. Never subject your conditioner to freezing.

24

Manufacturer source sheet 24/31 — source geometry and callouts preserved as a reference plate.

- Check the salt level monthly and keep it above the brine level. Under normal operation, water should not be visible in the cabinet or brine tank.
- Use only clean salt labelled for water conditioners: crystal, pellet, nugget, button or solar salt. Rock salt is discouraged because insoluble silt and sand can accumulate and disrupt operation. Fill no higher than the top of the brine well.
- If a salt bridge forms, tap the cabinet carefully or pour warm water over the salt. Let the unit consume the remaining salt, clean the cabinet thoroughly, wait four hours for brine to form and then start a manual regeneration.
- If the water contains iron, use an approved resin cleaner at a frequency determined by the iron concentration and product instructions. Clean the cabinet with mild soap only; do not use abrasives, ammonia or solvents. Protect the unit from freezing.

Control-valve service — 1/5

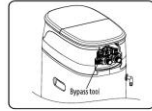
CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 25/31

SERVICE THE CONTROL VALVE



Before Servicing

1. Turn off water supply to conditioner using the bypass tool attached on the bypass.

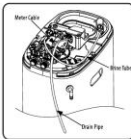


2. Relieve water pressure in the conditioner by stepping the control into the backwash position momentarily. Return the control to the In Service position.

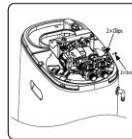
3. Unplug electrical cord from outlet.



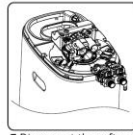
4. Remove the high cover and disconnect the communication cable.



5. Disconnect the meter cable, brine tube and drain pipe.



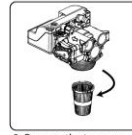
6. Remove the clips that connect control valve and bypass.



7. Disconnect the softener from the bypass.



8. Remove the valve from the softener.



9. Remove the top cone from the valve.

25

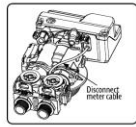
Manufacturer source sheet 25/31 — source geometry and callouts preserved as a reference plate.

- Electrical-shock hazard: unplug the unit before removing the cover or accessing internal controls. Flooding hazard: never disassemble the valve while it is pressurized.
- Before service: (1) close the inlet and outlet with the bypass tool; (2) momentarily step the control to BACKWASH to release pressure, then return it to SERVICE; (3) unplug the power cord.
- Remove the upper cover and communication cable; disconnect the meter cable, brine tube and drain pipe; remove the clips between valve and bypass; separate the softener from the bypass; lift the valve from the softener; remove the top cone.

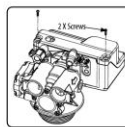
Control-valve service — 2/5

CS20H-1013 • CS20H-1026 • CS20H-1035 | Manufacturer source sheet 26/31

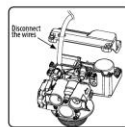
REPLACE TIMER



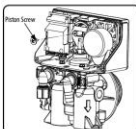
1. Disconnect the meter cable from the meter. (If meter cable is attached).



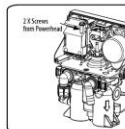
2. Remove the two screws from the valve cover.



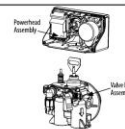
3. Remove the cover of the valve and disconnect the wires attached on PCB.



4. Remove the piston screw (with washer) from the piston rod.

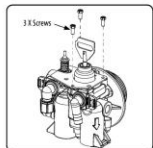


5. Remove the two screws from the powerhead as shown.

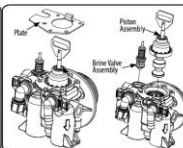


6. Lift the powerhead from the valve body assembly.
7. Replace the powerhead by reverse following the steps in this section.

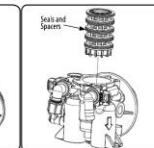
REPLACE PISTON AND/OR BRINE VALVE



1. Follow steps 1 to 6 of Timer / 3. Powerhead replacement.
2. Remove three screws from the plate on the valve body.



3. Remove the plate from the valve body and pull the Piston Assembly from the valve. The brine valve assembly can also be removed at this stage.



4. Remove the seals and spacers assembly, grease it with silicone lubricant and put back in.
5. After servicing, reverse following steps in this section.

REPLACE SEAL AND/OR SPACER

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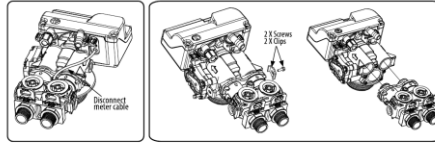
Manufacturer source sheet 26/31 — source geometry and callouts preserved as a reference plate.

- Timer/power-head removal: disconnect the meter cable, remove the two valve-cover screws, remove the cover and disconnect PCB wires, remove the piston screw and washer, remove the two power-head screws and lift the power head from the valve body. Refit in reverse order.
- Piston/brine-valve service: complete power-head steps 1–6, remove the three valve-body plate screws, remove the plate and piston assembly; the brine-valve assembly can be removed at this stage.
- Seal/spacer service: remove the seal-and-spacer stack, lubricate it with silicone lubricant and refit it. Reassemble all parts in reverse order.

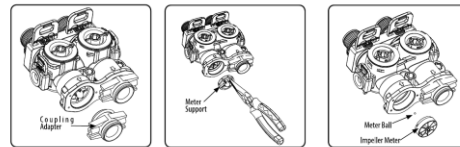
Control-valve service — 3/5

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REPLACE METER

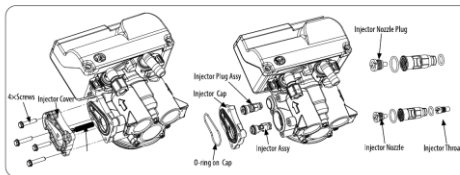


1. Disconnect the meter cable from the meter. (If flow meter cable is attached)
 2. Disconnect the bypass from valve by removing clips.



3. Remove the coupling adaptor from the bypass.
 4. Remove the meter support from the bypass.
 5. Remove the impeller and replace it. (Watch for the meter ball under the impeller ball)

CLEAN INJECTOR ASSEMBLY



1. Remove the four screws on the injector cover.
 2. Pull the injector cover out, watch for the screen and o-ring.
 3. Pull the injector cap out, pull the injector assy and injector plug assy out.
 4. Screw the injector nozzle and injector throat out, clean and replace it.
 5. After servicing, reverse following steps in this section.

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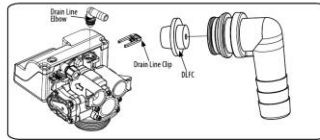
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- Meter: disconnect the meter cable; remove the clips joining bypass and valve; remove the coupling adaptor and meter support; remove and replace the impeller while retaining the meter ball beneath it.
- Injector: remove the four injector-cover screws; pull out the cover while retaining the screen and O-ring; remove the cap, injector assembly and injector-plug assembly; unscrew and clean or replace the injector nozzle and throat; reassemble in reverse order.

Control-valve service — 4/5

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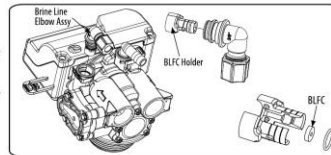
REPLACE DRAIN LINE FLOW CONTROL



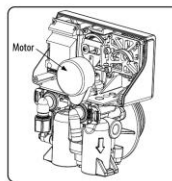
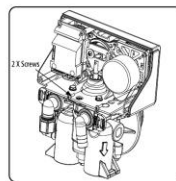
1. Pull the drain line clip and remove the drain line elbow and washer.
2. Clean/replace drain line flow control.

REPLACE BRINE LINE FLOW CONTROL

1. Pull the brine line clip and remove the brine line elbow Assy.
2. Remove the BLFC holder.
3. Take out the BLFC, clean/replace the BLFC button.



REPLACE MOTOR



1. Follow steps 1 to 3 of Timer /Powerhead replacement.
2. Remove the two screws from the motor. Remove motor(disconnect the wire attached on PCB if any), watch for the pin under the motor.
3. Replace the motor.

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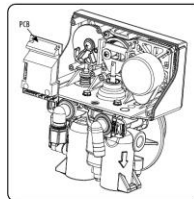
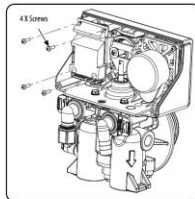
Manufacturer source sheet 28/31 — source geometry and callouts preserved as a reference plate.

- Drain-line flow control: pull the drain-line clip, remove the elbow and washer, then clean or replace the DLFC.
- Brine-line flow control: remove the brine-line clip and elbow assembly, remove the BLFC holder, then clean or replace the BLFC button.
- Motor: complete timer/power-head steps 1–3; remove the two motor screws; disconnect the PCB wire if present; retain the pin under the motor and replace the motor.

Control-valve service — 5/5

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REPLACE CIRCUIT BOARD

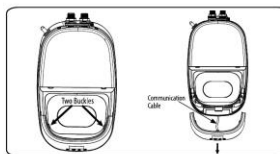


1. Follow steps 1 to 3 of timer /Powerhead replacement.
2. Remove all the connections on PCB.
3. Remove the four screws from the PCB.
4. Replace the PCB.

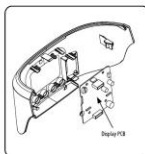
REPLACE DISPLAY



1. Remove the salt lid.



2. Press the two buckles meanwhile remove the front operation cover as the arrow direction.
3. Disconnect the communication cable.



4. Remove the display PCB.

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- Circuit board: complete timer/power-head steps 1–3, disconnect every PCB connection, remove the four PCB screws and replace the board.
- Display: remove the salt lid; press both retaining tabs and remove the front operation cover in the arrow direction; disconnect the communication cable; remove the display PCB.

Troubleshooting

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TROUBLE SHOOTING GUIDE

Problem	Possible Solutions
1. CONDITIONAL DELIVERS HARD WATER A. Reverse valve is open B. No salt in brine tank C. Injector or screen plugged D. Salt not at distributor tube E. Internal valve stuck F. Flow meter cable disconnected or not plugged into meter cap G. Injector programming	A. Close bypass valve B. Add salt to brine tank and maintain salt level above water level C. Replace injector and screen D. Make sure distributor tube is not cracked. Check O-ring and tube joint E. Replace valve and gasket and/or piston F. Reconnect meter cable to meter and meter cap G. Reprogram the control to the proper regeneration type, water hardness, capacity or flow meter size
2. CONDITIONER FAILS TO REGENERATE A. Electrical service to unit has been interrupted B. Timer not operating properly C. Distributor valve drive motor D. Injector programming	A. Restore permanent electrical service (check fuse, plug, chain or switch) B. Replace timer C. Replace drive motor D. Check programming and reset as needed
3. UNIT USES TOO MUCH SALT A. Injectors not sitting B. Injector screen too fine C. Injector programming	A. Check salt usage and salt setting B. Use #1 C. Check programming and reset as needed
4. LOSS OF WATER PRESSURE A. Not built-up line to water conditioner B. Not built-up in water conditioner C. Inlet of control plugged (due to foreign material) D. Piston leaks from piston by recent work done on plumbing system	A. Check line to water conditioner B. Check control and add resin cleaner to resin tank. Increase frequency of regeneration C. Clean line to water conditioner D. Remove debris and clean control
5. LOSS OF RESIN THROUGH DRAIN LINE A. No resin system B. Drain line flow control is too large	A. Assume that unit system has proper air elimination control. Check for dry vent condition B. Assume drain line flow control is sized
6. IRON IN CONDITIONED WATER A. Failed iron test B. Iron content exceeds recommended parameters	A. Check backwash, brine draw and brine tank fill. Increase frequency of regeneration. Reverse backwash time. B. Add iron removal filter system
7. EXCESSIVE WATER IN BRINE TANK A. Plugged drain line flow control B. Brine valve failure C. Injector programming	A. Clean flow control B. Replace brine valve C. Check programming and reset as needed
8. SALT WATER IN SERVICE LINE A. Plugged injector system B. Timer not operating properly C. Foreign material in brine valve D. Foreign material in brine line flow control E. Low water pressure F. Injector programming	A. Clean injector and replace screen B. Replace timer C. Clean or replace brine valve D. Clean brine line flow control E. Raise water pressure F. Check programming and reset as needed
9. CONDITIONER FAILS TO DRAW BRINE A. Drain line flow control is plugged B. Injector screen is plugged C. Injector screen too fine D. Injector control stuck E. Injector programming	A. Clean drain line flow control B. Clean or replace injector C. Replace screen D. Assume line pressure (line pressure must be at least 20 psi at all times) E. Check line and valve and/or piston assembly F. Check programming and reset as needed G. Replace timer
10. CONTROL CYCLES CONTINUOUSLY A. Timer not operating properly B. Faulty microswitch and/or wiring harness C. Cycle cam not operating	A. Replace timer B. Replace faulty microswitch or harness C. Replace cycle cam or reset
11. DRAIN FLOWS CONTINUOUSLY A. Foreign material in control B. Internal control leak C. Control valve jammed (materials below or above piston) D. Timer motor stopped or jammed shaft E. Timer not operating properly	A. Remove piston assembly and inspect bore. Remove foreign material and check control in various regeneration positions B. Replace piston and/or piston assembly C. Replace piston and check all gaskets for seating D. Replace timer motor and check all gears for seating E. Replace timer

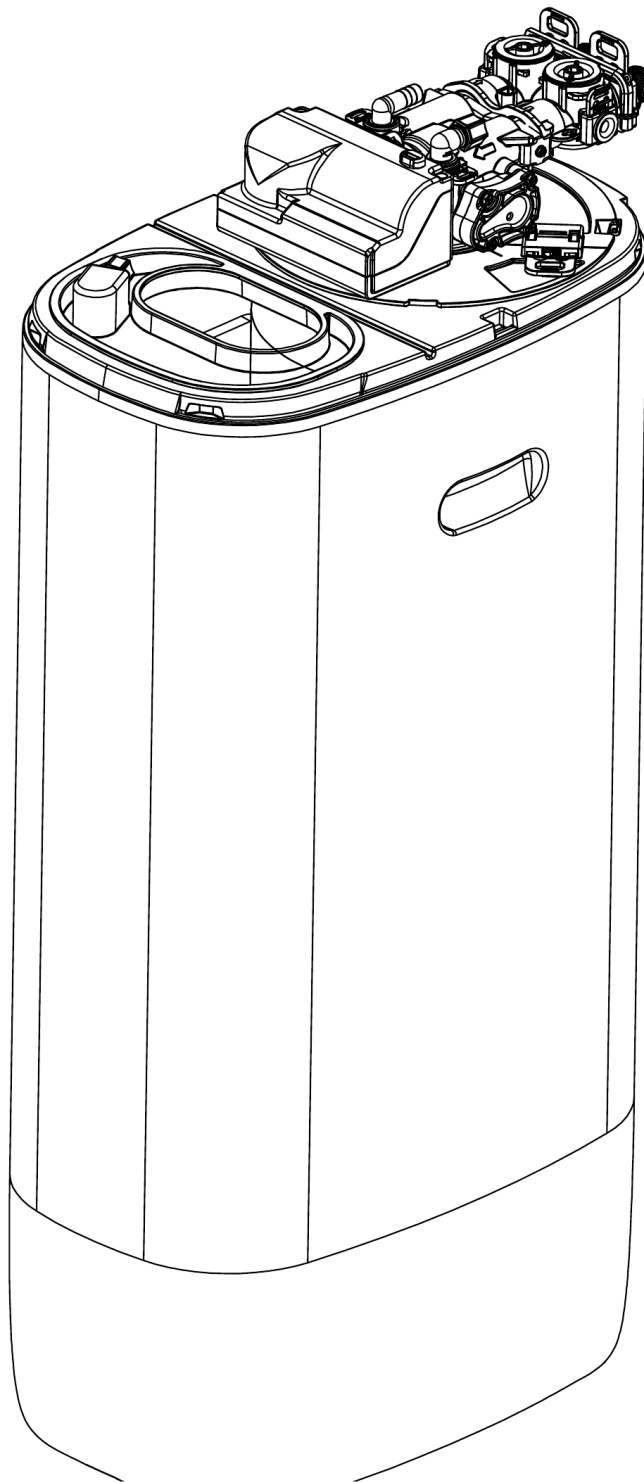
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Manufacturer source sheet 30/31 — source geometry and callouts preserved as a reference plate.

- Hard water — close an open bypass; add salt and keep it above the water; clean/replace injector and screen; check refill time and BLFC; inspect distributor tube and O-ring; replace leaking seals/spacers/piston; clear the flow meter and reconnect its cable; correct regeneration mode, hardness, capacity and meter-size settings.
- No regeneration — restore permanent electrical supply; replace a faulty timer or drive motor; correct programming.
- Excessive salt use — correct salt setting, diagnose excess brine-tank water under item 7 and correct programming.
- Pressure loss — clean iron deposits from the supply line and control, use resin cleaner, regenerate more often, and remove foreign material from the control inlet/piston bore.
- Resin loss to drain — verify that the water system has effective air elimination and is not drawing air; fit the correctly sized drain-line flow control.
- Iron in treated water — check backwash, brine draw and refill; increase regeneration frequency and backwash time; if iron exceeds the documented limit, add an iron-removal system.
- Excess water in brine tank — clean the drain-line flow control, replace the brine valve if faulty and correct programming.
- Salt water in service line — clean injector and screen; replace a faulty timer or brine valve; clean BLFC; raise low water pressure; correct programming.
- No brine draw — clean DLFC, injector and screen; maintain at least 20 psi line pressure; replace leaking seals/spacers/piston; correct programming; replace a faulty timer.
- Control cycles continuously — replace a faulty timer, microswitch or wiring harness; replace or correctly refit the cycle cam.
- Drain flows continuously — remove foreign material from the piston bore and check all regeneration positions; replace leaking seals/piston/spacers; free a stuck valve; replace a stopped motor or damaged gears; replace a faulty timer.

Water softener

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End of manual