



### BRAVOSTANDARD DUPLEX

Double body double column softener for drinking and industrial water

Rev. 1 - 06/24



#### CHARACTERISTICS

One of the crucial problems in plumbing and heating systems and hot water production is the formation of limescale encrustations. Limescale deposits on pipes, boilers and water heaters, thus clogging them, reducing their efficiency, increasing energy costs and maintenance costs. Furthermore, limescale deposits on tanks and showers, sinks and taps, thus creating annoying unsightly stains. But that's not all: hard water does not allow you to wash skin and clothing well due to the deposit of encrusting salts which, moreover, require the use of a greater quantity of detergents and soaps.

Softening represents the technology that currently offers the greatest guarantees of success in the prevention of limestone deposits.

Using a water softener means enjoying the following benefits:

- Savings on energy costs.
- Reduction of costs for repairs and maintenance.
- No limescale stains on taps, shower cubicles,walls.
- Reduction of encrustations on pipes, appliances and boilers.
- Reduction in detergent consumption

The softened water also has a healing effect on encrusted surfaces, thus eliminating, over time, the limestone concretions already present.

BravoSTANDARD DUPLEX water softeners are very versatile and are suitable for both civil and technological applications.

BravoSTANDARD DUPLEX water softeners contain ion exchange resins which selectively retain calcium and magnesium ions (responsible for the formation of scale) releasing sodium ions into the water. Once the exchange capacity is exhausted, the resins are regenerated using sodium chloride (salt). Regeneration occurs in 4 subsequent automatically controlled phases.

BravoSTANDARD DUPLEX water softeners are completely automatic and manage the work and regeneration phases independently.

BravoSTANDARD DUPLEX is a double body double column water softener (2 resin cylinders + 2 brine tanks) designed to reduce the hardness of water by safeguarding domestic plumbing and heating systems, steam generators and cooling systems, humidification systems, washing machines, laundries, process water systems.



SOFTENING

BravoSTANDARD DUPLEX guarantees the supply of softened water at any time. This is the ideal solution for industrial or process applications where there is a need to have softened water available 24 hours a day.

Regeneration is started once the softener has exhausted its exchange capacity and can be carried out immediately or at a pre-established time. Furthermore, it is always possible to set the maximum interval of days between 2 subsequent regenerations.

BravoSTANDARD DUPLEX is able to precisely calculate the exchange capacity based on the hardness removed, the volume of water flowed and the statistical consumption

Parameters to be treated	BravoSTANDARD DUPLEX
Turbidity	-
Flavors	-
Odors	-
Atrazine and the like	-
Tri+tetrachlorethylene	-
Iron	-
Manganese	-
Hardness	optimal

## TECHNICAL DATA Referred to a single column

Code		DC424100	DC424150	DC424200
Model		DC100	DC150	DC200
Fittings	R	1" ¼	1" ¼	1" ¼
Resin volume	Lt	100	150	200
Min. flow rate	m³/h	0,65	0,82	1,12
Max. flow rate	m³/h	7,7	7,7	7,7
Suggested flow rate	m³/h	3,9	4,9	6,7
Peak flow rate	m³/h	8,0	8,0	8,0
Exchange capacity	m³x°fr	600	900	1200
Maximum salt consumption	kg	18,0	27,0	36,0
Brine tank volume	Lt	200	300	300

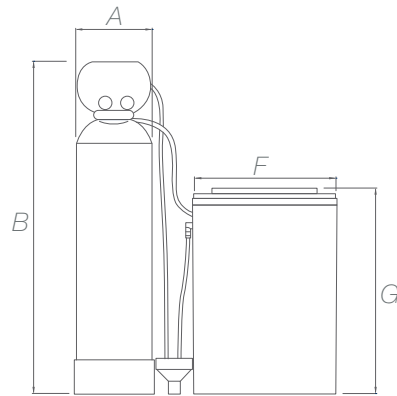
Code		DC434125	DC434150	DC434175	DC434200	DC434250	DC434300
Model		DC125	DC150	DC175	DC200	DC250	DC300
Fittings	R	1" ½	1" ½	1" ½	1" ½	1" ½	1" ½
Resin volume	Lt	125	150	175	200	250	300
Min. flow rate	m³/h	0,82	0,82	0,82	1,12	1,46	1,46
Max. flow rate	m³/h	8,2	8,2	8,2	11,2	13,6	13,6
Suggested flow rate	m³/h	4,9	4,9	4,9	6,7	8,7	8,7
Peak flow rate	m³/h	15,0	15,0	15,0	15,0	15,0	15,0
Exchange capacity	m³x°fr	750	900	1050	1200	1500	1800
Maximum salt consumption	kg	22,5	27,0	31,5	36,0	45,0	54,0
Brine tank volume	Lt	200	300	300	300	400	400

Dispensing water at peak flow rate can lead to hardness leaks.

<b>Min./max. working pressure:</b>	1,5 - 6 bar
<b>Min./max. water temperature:</b>	5 ÷ 30 °C
<b>Min./Max ambient temperature:</b>	5 ÷ 40 °C
<b>Supply voltage:</b>	230 VAC – 50 Hz



**OVERALL DIMENSIONS** Referred to a single column



SOFTENING

**BravoSTANDARD DUPLEX 1" ¼**

Code	A	B	F	G
	mm	mm	mm	mm
<b>DC424100</b>	406	1848	540×540	1010
<b>DC424150</b>	510	1970	730	1160
<b>DC424200</b>	552	1813	730	1160

**BravoSTANDARD DUPLEX 1" ½**

Code	A	B	F	G
	mm	mm	mm	mm
<b>DC434125</b>	510	1967	540×540	1010
<b>DC434150</b>	510	1967	730	1160
<b>DC434175</b>	526	1967	730	1160
<b>DC434200</b>	568	1810	730	1160
<b>DC434250</b>	626	2060	840	1010
<b>DC434300</b>	626	2060	840	1010



## EQUIPMENT AND SUPPLY SPECIFICATIONS

BravoSTANDARD DUPLEX is supplied complete with brine tank, hardness analysis kit, without filter material (to be ordered separately) and without optional accessories; instruction - maintenance manual in Italian (including declaration of conformity).

Shipping managed on one or more pallets.



## OPTIONAL ACCESSORIES

### • SUPERCHARGE VALVE CONN. 1" 1/4



The supercharging valve is used in systems that can work with significant variations in flow rate; In case of high water demand (simultaneous use) the by-pass circuit is activated ensuring the required flow rate.

The adjustment is carried out after installation, manually adjusting the compression of the internal spring of the valve, using the appropriate upper knob; In this way the intervention pressure of the valve is regulated which, in the event of overfeeding, opens the shutter allowing the passage of water; CW617N brass body - EPDM gaskets and seals -

Technical data:

IN connections: 1"1/4 F - OUT connections: 1"1/4 M - Calibration range: 1/6 bar - Max flow rate: 10 m<sup>3</sup>/h - Max operating pressure: 10 bar - Min-max temperature: 0-110 bar

**COD. 31015900**

### • HARDNESS CALIBRATION VALVE CONN. 1"1/2



The hardness calibration valve is a balancing valve that allows you to adjust the hardness level of the water leaving the softener; in the case of water intended for human consumption it is always advisable not to supply water that is totally softened but mixed at least at 10°F. The adjustment is carried out by manually acting on the valve knob which controls the movement of a shutter which regulates the passage of water. CW602N brass body - EPDM gaskets and seals

Technical data:

IN/OUT connections: 1"1/2 F - Max flow rate: 13.7 m<sup>3</sup>/h - Max working pressure: 16 bar - Max temperature: 120 bar

**COD. 31015904**

### • CHLORINE PRODUCER



In BravoSTANDARD DUPLEX water softeners the 'Chlorine producer' device can be inserted into the brine line.;

This device does NOT have the function of disinfecting the resins but guarantees their correct maintenance.

In the absence of a chlorine producer, however, it will always be necessary to set the "holiday" function in the water softener valve (max number of days between two regenerations) and insert the obligation of sanitisation, by the authorized TACs, for shutdown periods exceeding 15/ 20 days.

Power supply: 230 V – 50 Hz

**COD. 31015373 Clack chlorine producer 1" - 1" 1/4**  
**COD. 31015115 Clack chlorine producer 1" 1/2**

### • HARDNESS ANALYSIS KIT



Total water hardness analysis kit, colorimetric.

The analysis is expressed in French degrees (°F);

The kit includes a tube, indicator, titrant and instructions. You will be able to evaluate whether to install a water softener or whether the installed system is working.

**COD. 48105001**

### • SALE



Claramat is specifically designed for use in water softeners for private, condominium and industrial use.

Thanks to the very high purity (99.8%) Claramat does not dirty the cylinder and the brine tank of the water softeners, always guaranteeing the best performance without variations in the

quality of the water supplied.

Its recrystallized formulation in tablets significantly increases durability over time, while maintaining stable purification values.

Claramat water softener salt complies with EN 973 type A.

Drinking use - 25 kg bags

**COD. 48100007**

### • START-UP AND TESTING

Upon request, Water Treatment Industry can provide the start-up and testing service carried out by a specialized technician.

Contact us for information on the scheduled periodic maintenance service.

**COD. 84022102 Equipment filling service**  
**daily cost quotation**  
**for models: DC100 - DC125 - DC150 - DC175**

**COD. 84022112 Servizio primo avviamento e**  
**collaudo apparecchiatura**  
**daily cost quotation**  
**for models: DC100 - DC125 - DC150 - DC175**

**COD. 84022100 Equipment filling service**  
**daily cost quotation**  
**for models: DC200 - DC250 - DC300**

**COD. 84022112 Servizio primo avviamento e**  
**collaudo apparecchiatura**  
**daily cost quotation**  
**for models: DC200 - DC250 - DC300**

Travel expenses relating to the kilometric cost of the car according to ACI tables, as well as motorway journeys, are excluded from the services. Services referring to the national territory (excluding islands)



## REFERENCE STANDARDS

**Ministerial Decree No. 174/2004:** Regulation concerning materials and objects that can be used in fixed systems for the collection, treatment, supply and distribution of water intended for human consumption.

**Directive 2014/30/UE:** concerning the approximation of the laws of the Member States relating to electromagnetic compatibility.

**Directive 2014/35/UE:** concerning the approximation of the laws of the Member States relating to electrical equipment intended for use within certain voltage limits.

**Art. 4 Par. 3** Of Directive 2014/68/EU (PED).



## MAINTENANCE

Periodically check the correct operation of the equipment. Ordinary operation of the equipment requires periodic regeneration. Make sure that there is always a sufficient amount of salt in the brine tank (the water level in the tank must always be lower than the salt level). If there is a periodic cleaning and sanitization plan for the system, it is also necessary to include the equipment. To ensure correct management of the equipment, it is advisable to carry out at least two checks per year. Respect all the instructions given in the Use and Maintenance Manual-



## PRECAUTIONS AND WARNINGS

Attention! This equipment requires regular periodic maintenance in order to guarantee the drinkability requirements of the treated drinking water and the maintenance of the improvements as declared by the manufacturer.

Protect from frost and bad weather, thus avoiding contact with solvents and chemical products in general. See the Technical Data paragraph for the working limit values. Observe what is stated in the Instructions for Use and Maintenance Manual.

The water subjected to softening may have aggressive characteristics towards the pipes and regulating bodies made of metallic material. In the case of softening water intended for human consumption, it is therefore recommended to provide, downstream of BravoSTANDARD DUPLEX, a proportional dosing device for polyphosphates (proportional dosing station for AcquaSIL 5/10® product).

The softening process is capable of modifying the concentrations of calcium, magnesium and sodium ions regulated by

Legislative Decree No. 31/01. Since the softening process increases the concentration of sodium in the water, it is necessary not to excessively soften the water so as not to exceed the limit value of 200 mg/l of sodium established by Legislative Decree No. 31/01

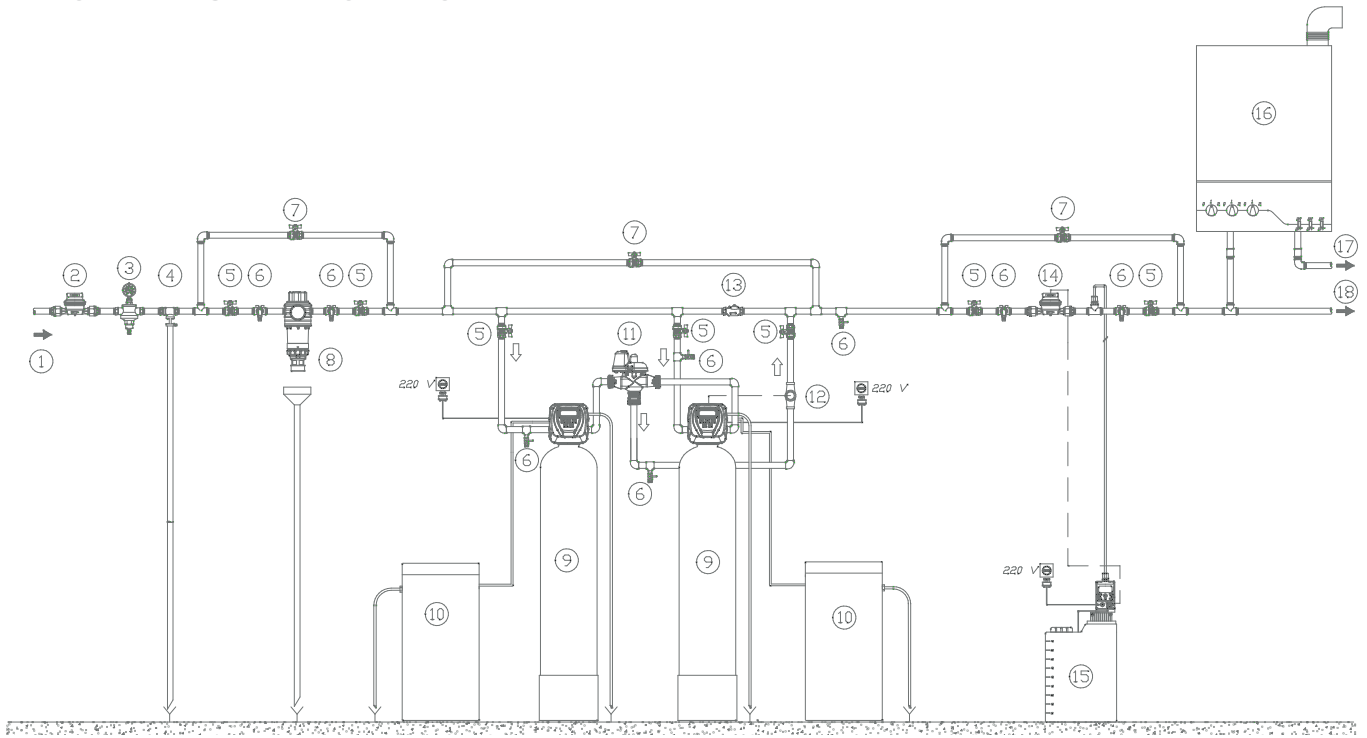


## INSTALLAZIONE

Installation must be carried out exclusively by qualified personnel and in full compliance with local regulations. The installation must be carried out in hygienically suitable places and in compliance with the provisions set out in Ministerial Decree No. 37/2008 and by Ministerial Decree No. 25/2012, including those relating to final testing and maintenance.

BravoSTANDARD DUPLEX must be installed on the cold-water pipe at the inlet of the system, immediately downstream of the general meter and in any case upstream of the system to be protected. BravoSTANDARD DUPLEX must be equipped with an adequate by-pass system that allows it to be excluded if necessary. It is also necessary to provide sampling points upstream and downstream of the equipment to be able to verify its operation. Provide an adequate system for collecting and/or disposing of brine and spent regeneration water. Check local provisions for the disposal of brine and regeneration water. Before installing, see the use and maintenance manual.

## INDICATIVE INSTALLATION DIAGRAM



1. Raw water inlet; 2. General counter; 3. Pressure reducer; 4. Disconnect; 5. Shut-off valve; 6. Sample tap; 7. By-pass valve; 8. BravoSTANDARD DUPLEX water softener; 10. Brine tank; 11. 3-way valve; 12. Pulse launcher meter; 13. Boost valve; 14. Pulse launcher meter; 15. Dosing station; 16. Water heater; 17. Hot water outlet; 18. Cold water outlet.

## *change* SPARE PARTS

Spare parts for the equipment are available on request in the dedicated price list.

## AVERAGE DELIVERY TIMES

2 weeks

## GENERAL EXCLUSIONS

- Special dedicated packaging, where required
- Filling the filter material tank\* (if present)
- Equipment start-up and final testing\*
- \* See filling and final testing price list
- Lifting and handling means
- Masonry, carpentry and foundation works
- Chemical analyses
- Structural calculations
- Anything not expressly mentioned in the offer
- Hydraulic and electrical connections to our plant and to our utilities