

Water hardness controller BAMOSOFT Control



- Fit any water softener system
- On-line control and monitoring
- Alarm set up from 0.25% to 10% of raw water hardness
- Self diagnostic of complete system
- Signal outputs for remote information

APPLICATIONS

Control and monitoring of softened water quality, by comparison of waters from softener inlet and outlet.

DESCRIPTION

BAMOSOFT Control, monitors safely the quality of softened water. It emits a light alarm as soon as the hardness of outlet water is near or above the threshold. (See the signalling table)

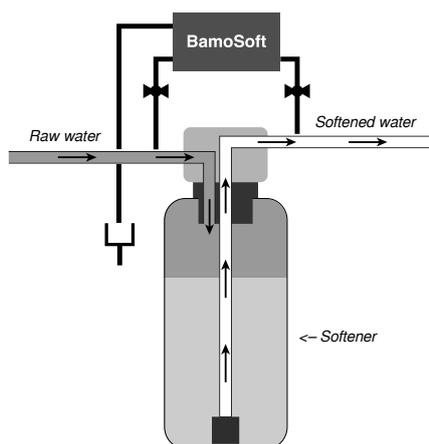
Example :

Raw water (tap water): hardness of 300 ppm CaCO_3 . Threshold is set at 0.25 %: for alarming when hardness of softened water is above 0.25 % of raw water hardness. It means that an alarm occurs when softened water hardness is over 0.75 ppm of CaCO_3 .

BAMOSOFT Control also delivers a 4-20 mA signal which represents the percentage of residual hardness in the softened water, in comparison to raw water hardness.

Example:

Raw water hardness (tap water) is 300 ppm CaCO_3 . Output signal 4-20 mA is set on the scale 0 ... 2 %. The value 20 mA will represent 2% of raw water hardness, here: 6 ppm CaCO_3 .



Operation diagram



Front

Operation:

BAMOSOFT Control comprises two solenoid valves that successively pass raw water and then softened water on a specific $\text{Ca}^{++}/\text{Mg}^{++}$ electrode. With its hardware, the analyser contemplates the ionic activities, compares data and proceed to check the system, less or more frequently. The controller delivers information: normal operation, alarm, faulty solenoid valve, brine leakage, etc. Water samples are rejected to drain (no pressure).

After start up, once measurements are stabilized, BAMOSOFT triggers a sampling routine each 15 minutes. It is possible to trigger sampling by an external signal (counter with pulse, external contact).

Signalling table of LEDs:

Depending on their meanings, they turn on "continuous or flashing. In the table below, S stands for "Threshold set".

LED	Description	
	Continuous	Flashing LED
Green	$0 < \text{Hardness} < 0.8 \times S$	Control in progress
Yellow & Green	$\text{Hardness} < 0.9 \times S$	Calibration mode
Yellow	$\text{Hardness} = S$	Standby mode
Red & yellow	$1 \times S < \text{Hardness} < 1.1 \times S$	Valve leaking
Red	$\text{Hardness} > 1.1 \times S$	Brine leakage
Red & green	-	Electrode fault

BAMO MESURES

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Water hardness controller
BAMOSOFT Control

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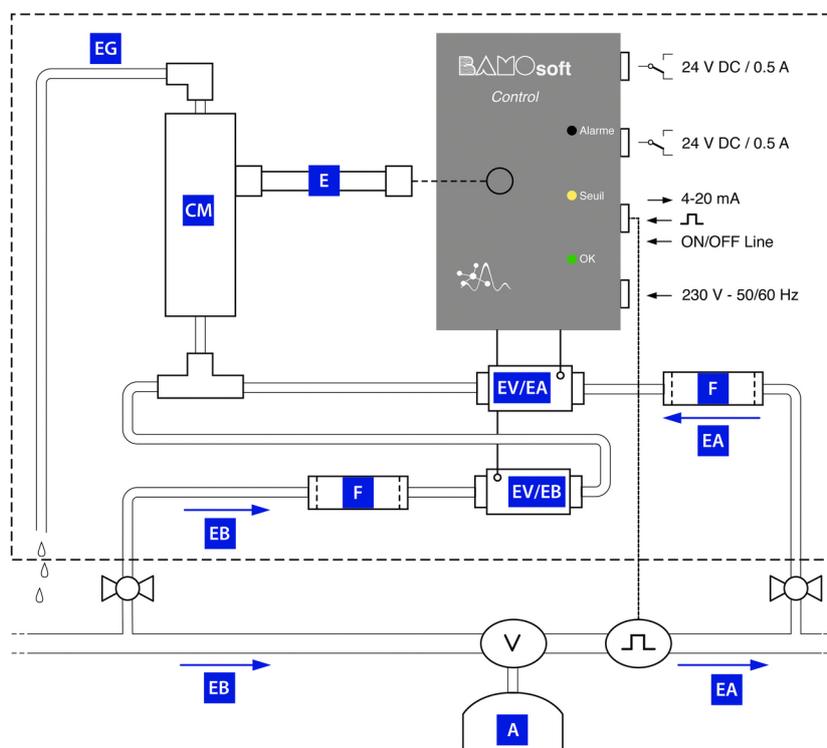
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TECHNICAL FEATURES

Water temperature	Water: 5 ... 30 °C; Ambient: 5 ... 50 °C
% R. H.	20 ... 80 % RH
Power Unit	100 ... 240 V - 50/60 Hz / 0.2 A
Output delivered voltage	15 V DC; approx. 6 W
Relay output	2 Change-over contacts; max. 24 V DC / 0.5 A Relay 1: Threshold over-passed or brine detected Relay 2: Electrode fault or Solenoid valve fault
Fittings for samples	By-pass with fittings for PA tube PA tube: O.D. 4 mm, i.d. 2 mm ; In-line filter < 0.1 mm is highly recommended
Samples pressure limits	Min. 1 bar; Max. 7 bar
Outlet to drain	PA Tube, O.D. 6 mm; No pressure
Raw water quality	Drinkable quality, free of grease, oil and brine
Restrictions	Concentration of iron and manganese less than 0.05 mg/l (More information: Contact us)
Hardness range	10 to 1000 ppm CaCO ₃
Trigger point	8 Thresholds in % of raw water hardness: 0.25 ; 0.5 ; 1 ; 2 ; 4 ; 6 ; 8 or 10 %
Analogue output signal	4-20 mA (max. 250 Ω) - Scales 0 ... 2% or 0 ... 10% of raw water hardness
Electrode check-up	Self-diagnostic with alarm for low effectiveness
External sampling signal	Pulse limit > 0.5 s
Dimensions	Wall mounting; Case: 95 x 145 x 35 mm (Overall 120 x 220 x 120 mm)

EC conformity: The instrument meets the legal requirements of the current European Directives



EG: To drain	F: Filter	EV/EB: Solenoid valve/ Raw water
CM: Measuring cell	A: Softener	EV/EA: Solenoid valve/ Softened water
E: Electrode	EB: Raw Water	EA: Softened water

CODE NUMBERS AND REFERENCES

Code	Reference	Description
376 304	BAMOSOFT Control	BAMOSOFT Control (without electrode, without filters)
376 111	Electrode Soft 650	Ion selective electrode Ca ⁺⁺ / Mg ⁺⁺ for BAMOSOFT Control
375 051	PF01	Filter unit, fittings 1/4" GF
375 052	NY50 / PF01	Cartridge, nylon, rate 50 μm
376 310	Option: Cabinet	PMMA cabinet for BAMOSOFT Control (360 x 200 x 150 mm)

BAMOMESURES

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