

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)

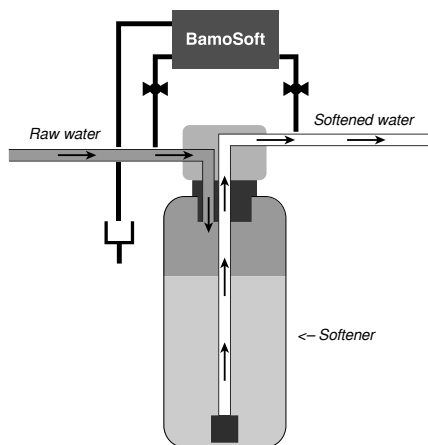
Example :

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".

| | Description | |
|----------------|---|---------------------|
| LED | 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 INTERNATIONAL

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL

Tel +33 (0)1 30 25 83 20 Web www.bamo.eu

Fax +33 (0)1 34 10 16 05 E-mail export@bamo.fr

Water hardness controller
BAMOSOFT Control

18-06-2018

D-376.01-EN-AB

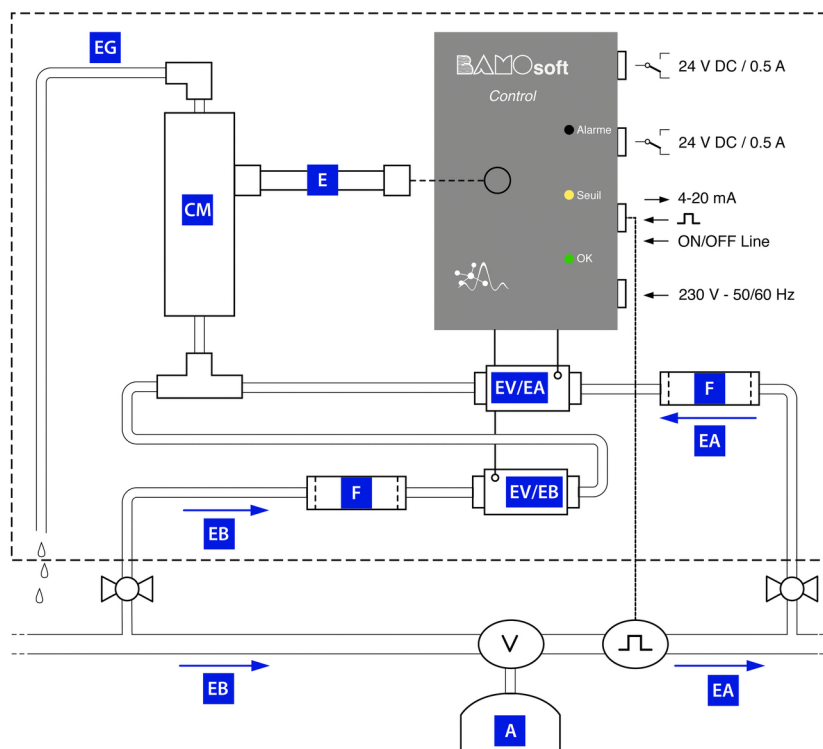
DUR

376-01 /1

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) |

BAMO INTERNATIONAL

22, Rue de la Voie des Bans · Z.I. de la gare · 95100 ARGENTEUIL
 Tel +33 (0)1 30 25 83 20 Web www.bamo.eu
 Fax +33 (0)1 34 10 16 05 E-mail export@bamo.fr

**Water hardness controller
 BAMOSOFT Control**

18-06-2018

D-376.01-EN-AB

DUR

376-01 /2