Soft & Safe II

WATER HARDNESS ANALYZER
SOFT & SAFE II

Soft & Safe is a reliable, accurate and fully automatic online colorimetric hardness analyzer, able to measure total hardness or carbonate hardness of water with the same instrument.

Colorimetric titration operating principle: a drop of indicator is added to the water sample, and the colour change (red/green) is optically monitored to detect an exceedance of the set limit value.

Easy commissioning via the built-in configuration wizard, self-calibration and self-monitoring, simplified maintenance and cleaning, multicolour and multilingual graphic display, BOB operation for up to 72 hours.

Available as a wall-mounted enclosure (IP56), with relay outputs for limit exceedance, fault, pump/indicator alarm or chiller control, and a programmable digital input.



CHARACTERISTICS

- Analysis method: colorimetric
- Measuring range: 0.2 to 200 ppm $CaCO_3$
- Accuracy: ± 10 % of the indicator's max. value
- Power supply: 230 V, 85-305 VAC, 25 VA
- Protection rating: IP43 (panel) / IP56 (enclosure)

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TECHNICAL DATA

Measuring ranges and analysis characteristics:

- Total hardness: 0.2 to 200 ppm $CaCO_3$ (0.02-10 °dH / 0.04-20 °f)
- Carbonate hardness: 20 to 60 ppm $CaCO_3$ (1-3 °dH / 2-6 °f)
- Accuracy: ± 10 % of the indicator's max. measured value
- Indicator consumption: approx. 0.1 ml/analysis (~5000 analyses/500 ml bottle)
- Water consumption: approx. 1 litre at 2 bar per analysis
- Analysis time: approx. 5 min (soft water)
- Required water quality: pH 4-10, Iron < 3 ppm, Copper < 0.2 ppm
- Analyzed water temperature: 5 to 40 °C

Indicator bottle: 500 ml (not supplied, ~5000 analyses)

ADVANTAGES

◊ Reliable, accurate and fully automatic analyzer, with continuous self-calibration and self-monitoring.
◊ Measures total hardness or carbonate hardness with one single instrument.
◊ Fast commissioning thanks to the built-in configuration wizard; multicolour and multilingual graphic display.
◊ Measurement data storage and logging on SD card; simple software updates via SD card.

OPERATING CONDITIONS

Ambient temperature: 10 to 45 °C
Storage temperature: 0 to 45 °C
Ambient humidity: 20 to 90 % (non-condensing)
Water pressure: 0.5 to 5 bar (1-2 bar recommended)
Dimensions / Weight: 280x360x113.5 mm, ~2 kg (panel) — 300x380x120 mm, ~4 kg (enclosure)

Inputs / Outputs:

4 potential-free relay outputs (250 VAC/VDC, 1 A): hardness exceedance, device fault, analysis in progress, missing indicator. 1 galvanically isolated digital input: start analysis, flow meter, alarm reset, counter. Options: CANbus, Modbus, WiFi.

Applications:

- Continuous monitoring of residual hardness at softener outlet
- Control of total or carbonate hardness of drinking or industrial water
- Alarm and protection of installations sensitive to scaling (boilers, reverse osmosis, dishwashers)
- Control of a dosing/regeneration pump or a chiller on threshold exceedance
- Easy panel integration via relay outputs and programmable digital input
- Measurement tracking and traceability via history log and SD card

SAFETY

Consult the Soft & Safe operating instructions before any installation, commissioning or servicing. Handle the indicator (reagent) with safety goggles, gloves and an apron: the product can irreversibly stain clothing and surfaces; keep out of reach of children and follow the safety data sheet (SDS). Electrical installation and wiring must be carried out by qualified personnel only.

ADH2OC INDUSTRIAL
Lieudit «La Vallée Douard»
28500 CHÉRISY - FRANCE

Tel +33 (0)2 46 83 06 09
Fax +33 (0)2 22 44 98 48
e-mail : infos@adh2oc-industrial.com
www.adh2oc-industrial.com