D U R O M A T® XX

Hardness analysis (total hardness, residual hardness) and alkalinity of the water (carbon hardness, positive m value) (with good water/not good water signal)

Colorimetric analyzer, with microprocessor for water hardness control with the following alarm set points (the set point is established by the type of reagent):

Water hardness (total hardness, residual hardness)	**Alkalinity of the water (carbon hardness, positive m value)**
French degrees: 0,04/0,1/0,2/0,4/0,6/1,0/2,0/4,0/6,0/10,0 or 20,0 °f ppm: 0,4/1,0/2,0/4,0/6,0/10/20/40/60/100 or 200 ppm mmol/l: 0,004/0,01/0,02/0,04/0,06/0,1/0,2/0,4/0,6/1,0 or 2,0 German degrees: 0,02/0,05/0,1/0,2/0,3/0,5/1,0/2,0/3,0/5,0 or 10,0 °dH	French degrees: 2,0 / 3,0 /4,0 or 6,0 °f German degrees: 1,0 / 1,5 / 2,0 or 3,0 °dH

Only the type of analysis needs to be programmed (water hardness or alkalinity), it is not necessary to program the type of reagent.
The DUROMAT® XX analyser qualitatively checks the softening system, and this allows to avoid problems or damage caused by the hardness of the water. This saves: water, time and chemicals that would be required for any anticipated regeneration of the system.

Various messages appear in the display, **which may refer to:** freshwater inlet, excessive hard water, analysis-in-progress, repetition of analysis (due a first result indicating excessive hardness), stop of analysis, pre-alarm for indicator level having reached <10%, indicator empty (exhausted to 100%), appliance malfunction.
In addition to the display, the instrument is complete with:
Outputs: three relays - water not good (maximum value exceeded), error signals, command for a cooler or sampling suction pump.
Inputs: STOP or START analysis.
Buttons: Start analysis, measurement chamber washing, alarm signal reset, manual dosing of the reagent.
SD card for analysis results and errors with date / time.
Programmable analysis interval: 5, 10, 20 or 30 minutes. Possibility of manual analysis.
Repetition of a bad analysis: (without giving an alarm signal).
Extensive operation control: reset of alarms, check of connected components, check internal operation.
Simple programming with quick choice of parameters.
Indicator consumption: 0.07 ml for each analysis.
No water consumption between analysis periods.
Steps of an analysis cycle: opening of an inlet solenoid valve - washing of the measuring chamber for a settable time - control of water transparency (zero point) - dosing of the indicator by means of a peristaltic pump - result of the measured hardness (with display of the measured hardness) - final washing of the measuring chamber - the equipment stops waiting for the next analysis (timed start, manual or with external signal).

Technical data DUROMAT® XX:

Electrical connection:	230V 50-60Hz (exactly: 85-264 Volt, 47-63 Hz) or 24V AC/DC
Power consumption:	25 VA
Protection degree on plate:	IP 43
Degree of protection with mounting box:	IP 56
Weight with mounting on plate:	1,6 Kg
Weight with mounting in box:	1,9 Kg
Dimensions on plate:	width x height x depth 280x360x113 mm
Dimensions in box:	width x height x depth 300x380x120 mm
Quantity of reagent in the bottle:	500 ml
Reagent consumption:	5000 analysis with 1 bottle (500ml)
Relay outputs:	3 outputs, maximum load 250V 4A (maximum value, alarm, analysis in force)
Inputs:	1 input, maximum load 18V 12mA (STOP or START analysis)
SD card:	analysis results and errors
Analysis interval:	5, 10, 20 or 30 minutes
Washing time:	programmable, at intervals between 0,5 to 10 min.
Water quality requirements:	
Temperature:	5° - 40° C
Optically:	transparent, without colour, without suspended substances, without air bubbles and CO2
Chemically:	pH 4 –10.5, iron <3ppm, copper <0.2ppm, aluminium <0.1ppm, manganese <0.2ppm acid capacity K S4.3 <5mmol/l
Water pressure:	0,2-6 bar (2x104 – 6x105 Pa)
Drain:	without pressure (funnel)
Inlet / drain water connection:	flexible tube 6 mm external diameter

Reagents for DUROMAT® XX						
Water hardness (total hardness, residual hardness)						
Type	°f	°dH	ppm $CaCO_3$	mmol/l	Quantity	Nr. ord
500S/500	0,04 °f	0,02 °dH	0,4 ppm	0,004	500 ml	200852
500/500	0,1 °f	0,05 °dH	1 ppm	0,01	500 ml	200855
501/500	0,2 °f	0,1 °dH	2 ppm	0,02	500 ml	200860
502/500	0,4 °f	0,2 °dH	4 ppm	0,04	500 ml	200862
503/500	0,6 °f	0,3 °dH	6 ppm	0,06	500 ml	200863
505/500	1,0 °f	0,5 °dH	10 ppm	0,10	500 ml	200865
510/500	2,0 °f	1,0 °dH	20 ppm	0,20	500 ml	200870
520/500	4,0 °f	2,0 °dH	40 ppm	0,40	500 ml	200875
530/500	6,0 °f	3,0 °dH	60 ppm	0,60	500 ml	200876
550/500	10,0 °f	5,0 °dH	100 ppm	1,00	500 ml	200878
600/500	20,0 °f	10,0 °dH	200 ppm	2,00	500 ml	200880
Alkalinity (carbon hardness, positive m value)						
C-710/500	2,0 ° f	1,0 °dH			500 ml	200887
C-715/500	3,0 °f	1,5 °dH			500 ml	200889
C-720/500	4,0 °f	2,0 °dH			500 ml	200890
C-730/500	6,0 °f	3,0 °dH			500 ml	200891

DUROMAT® XX with mounting box 0,2 - 6 ate ($2x10^4$ – $6x10^5$ Pa) (reagent not included)		**Water hardness (residual, total)** **Alkalinity (carbon hardness, positive m value)** 85-264 Volt, 47-63 Hz 200132 24 Volt, AC/DC 200134
DUROMAT® XX on mounting plate 0,2 - 6 ate ($2x10^4$ – $6x10^5$ Pa) (reagent not included)		**Water hardness (residual, total)** **Alkalinity (carbon hardness, positive m value)** 85-264 Volt, 47-63 Hz 200131 24 Volt, AC/DC 200133

Optional:		
Cleaning set	Road transport Airplane transport	200013 200013S
Pressure reducer	¼", 1-8bar	200022
Sampling pump	Self-aspirating 3 meters	200028
Coolers	For temperatures from 40 to 80°C for temperatures up to 120 °C for temperatures up to 200 °C	200030 200032 200045