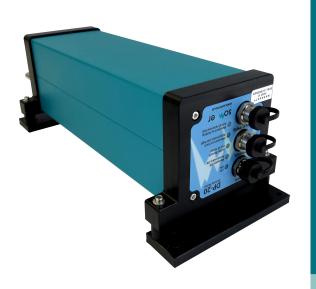
# **DP-20**

## **Density meter**



The DP-20 determines the concentration of salt solutions by measuring their densities with a highly precise oscillating Utube. With three predefined media – NaCl,  $CaCl_2$  and  $MgCl_2$ —the DP-20 is ready for continuous monitoring directly in the liquid stream or in a bypass.

With highly corrosion resistant stainless steel tubing and PE-HD housing the DP-20 can be used in highly aggressive environments. A switchboard mountable LCD-display (available as an optional accessory) provides easy visual control of salt concentration and medium density.

In the M-version the DP-20 enables direct mixing of the salt solution with an integrated PD-controller and switch outputs.

#### **Versions**

Art	Version
21861	DP-20 densitiy meter bundle for brine production
21885	DP-20MR densitiy meter bundle with mixing con-
	troller for brine production

### Scope of delivery

Qty	Art	Name
1	21399	DP-20 density meter for NaCl, $CaCl_2$ , $MgCl_2$
1	21737	MAIN cable for DP-20, 5 m, 8 pins
1	21734	CONTROL cable for DP-20, 5 m, 8 pins (DP-20MR only)
1	18349	USB-stick incl. software and manual

#### **Accessories**

Art	Accessories
21862	Display for DP-20 density meter, incl. 5-m cable
21832	Parametrization cable for DP-20, USB to RS485,
	pre-assembled

### **Specifications**

Sensor	
Principle	Oscillating U-tube
Media	NaCl, CaCl <sub>2</sub> , MgCl <sub>2</sub>
Measurement range	0.5000 2.0000 g/cm <sup>3</sup>
Resolution	0.002 g/cm <sup>3</sup>
Medium tem- perature	-20°C +50°C
Measurement lag	<1 second
Medium selection	Via digital input or setup (NaCl, $CaCl_2$ , $MgCl_2$ )
Configuration	PC or optional LCD-display

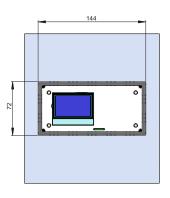
Power		
Power supply	10 30 VDC; reverse voltage protection, overvoltage protection	
Power consumption at 12 VDC	120 mA	

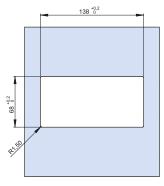
Interfaces	
Inputs	4x digital input for medium selection and external mixing control (high 6 24 VDC, low 0 5 VDC); requires surge protection
Outputs	4x open-collector (pull down) output, 0.25 A @ 24 VDC 1x analog 4 20 mA (medium temperature) 1x analog 4 20 mA, 0 20 mA or 0 10 VDC (density or concentration) 2x RS-485 Sommer bus protocol, Modbus, SDI-12



Physical and environmental		
Material oscillating U-tube	Acid-proof stainless steel 1.4539, highly corrosion-resistant (application in chemical, food and pharmaceutical industries, marine environments)	
U-tube volume	60 cm <sup>3</sup>	
Flow rate	0.3 6.0 l/min	
Max. pressure	20 bar	
Housing material	ABS (housing profile), PE-HD (housing covers)	
Process con- nection	Blank tube outer-∅10 mm, inner-∅8 mm, (other fittings on request)	
Operating temperature	-30 +60°C	
Size L x W x H	429 x 148 x 133 mm	
Weight	2580 g	







# **Dimensions**

