



Densimetry Meter for Brines DP-20

Density measurement of liquid de-icing agents

The density meter DP-20 developed by SOMMER Messtechnik detects the concentration of NaCl, CaCl₂ or MgCl₂ during brine production. It uses an oscillating U-tube and a dedicated transducer to determine the solution density. Through the unique relationship with density the salt concentration is derived. The DP-20 replaces the widely applied DP-10.

Features and advantages

- Real-time measurement
- In-line and bypass application
- Digital outputs
- Facilitates automated mixing
- Covers wide range of salt solution concentrations
- Robust construction for applications in demanding environmental conditions
- Easy installation and operation

Density measurement made easy

Liquid de-icing agents are considered to be an ideal solution to cope with icy roads for a long time. The density meter DP-20 has been especially developed for the requirements of winter road services using brine. Other than the conventional, manual density measurement using a spindle, the DP-20 measures the concentration during the mixing process continuously and in real-time. Depending on the requirements, two device versions can be selected: A standard version (DP-20) and a version with an internal mixer controller (DP-20MR). Both instruments have analogue and digital outputs for data post-processing. Additionally, both versions can be equipped with an external display to view live data and to configure a main set of parameters.

Technical details

- **Measurement principle** Oscillating U-tube
- **Measurement range** 0.500 – 2.000 g/cm³
- **Resolution** 0.002 g/cm³
- **Functions** Determination of aqueous NaCl, CaCl₂, MgCl₂ concentrations
- **Analog output**
 - Concentration, specific density (0 ... 10 V)
 - 4x Open-Collector (Pull-Down) Output, 0,25A @ 24 VDC
 - 1x 4 ... 20 mA (medium temperature)
 - 1x 4 ... 20 mA, 0 ... 20 mA or 0 ... 10VDC (density or concentration)
- **Digital output**

- 2x RS-485 (ASCII or MODBUS RTU)
- 1x SDI-12
- **Power supply** 10 ... 30 V DC/AC
- **Power consumption at 12 VDC** 120 mA
- **Operating temperature** -25 °C ... +50 °C
- **Medium temperature** -20 °C ... +30 °C
- **Housing dimensions (L x W x D)** 430 x 150 x 133 mm
- **Material oscillating U-tube** stainless steel, corrosion resistant (DIN 1.4539)
- **Medium connection pipe** Ø10 mm
- **Weight** approx. 2.5 kg
- **Protection rating** IP 65