

# VOLUME SENSOR VC0.025

DP-K-011-000003



The measuring mechanism, which consists of two high-precision gear wheels, is driven by the liquid flow according to the displacement principle. The gears run almost contactless in the measuring chamber. Low-friction ball or plain bearings serve as bearing elements. Due to the measuring principle, no settling sections are necessary at the inlet and outlet. This means that machines/plants can be designed more compactly. All moving parts are lubricated by the measuring medium. The movement of the gearwheel is scanned contactlessly by two sensors in the cover as standard. When the measuring mechanism rotates by one tooth pitch, a signal is generated per sensor which corresponds to the so-called geometric tooth volume  $V_{gz}$ . The two-channel scanning enables a higher measured value resolution as well as a directional recognition of the flow.

## TECHNICAL DATA

### Specific data

|                                 |   |
|---------------------------------|---|
| Flow measuring range            | 0,008–2 l/min   |
| Measuring unit start-up         | bei 0,001 l/min   |
| Linearised measurement accuracy | ± 0.3 % of the measured value<br>(at viscosity: min. 20 mm <sup>2</sup> /s) |
| Repeatability                   | ± 0,05 %  |
| Resolution                      | 40.000 pulses/l   |
| Max. perm. pressure             | 200 bar   |
| Operating fluid temperature     | –15–120°C   |
| Ambient temperature             | –15–80°C  |
| Max. foreign particle size      | 20 µm   |

### Electrical data

|                                 |   |
|---------------------------------|---|
| Pulse volume                    | 0.025 cm <sup>3</sup> /pulse  |
| Line connection Pipe connection | G1/8"   |
| Electronic output               | 2 square-wave signals, 90° offset                                   |
| Electrical connection           | Plastic angle plug – terminal strip<br>Standard temperature version |
| Supply voltage                  | 24 V DC ± 20 %  |

### Materials

|                         |                              |
|-------------------------|------------------------------|
| Material housing        | Ductile cast iron EN-GJS 400 |
| Material measuring unit | Steel 1.7139                 |
| Material O-rings        | FKM                          |
| Bearing                 | Ball bearing                 |