

KRACHT



Volume counter VCA 2 FC R1

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Principle of operation

The measuring unit of the KRACHT Volume counter consists of a pair of gears, driven by the liquid flow on the principle of a gear motor. The plain bearings provide both axial and radial support to the gears. The movement of the gears is sampled without contact by means of a sensor located in the cover. A special gearing geometry ensures low pressure drop and minor sound emission of the volume counters.

Typical applications

Consumption measurement
Controlling of metering processes
Monitoring of lubrication systems

Materials

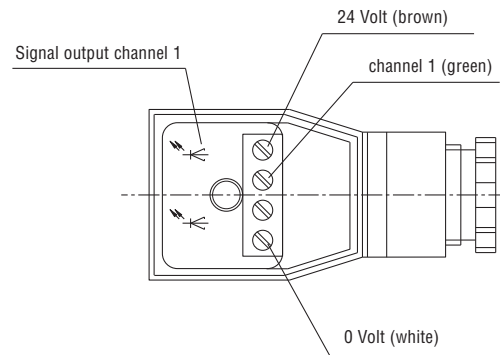
Housing: Aluminium
Gears: Steel
Bearing: Multi component plain bearing (P 10)

General characteristics

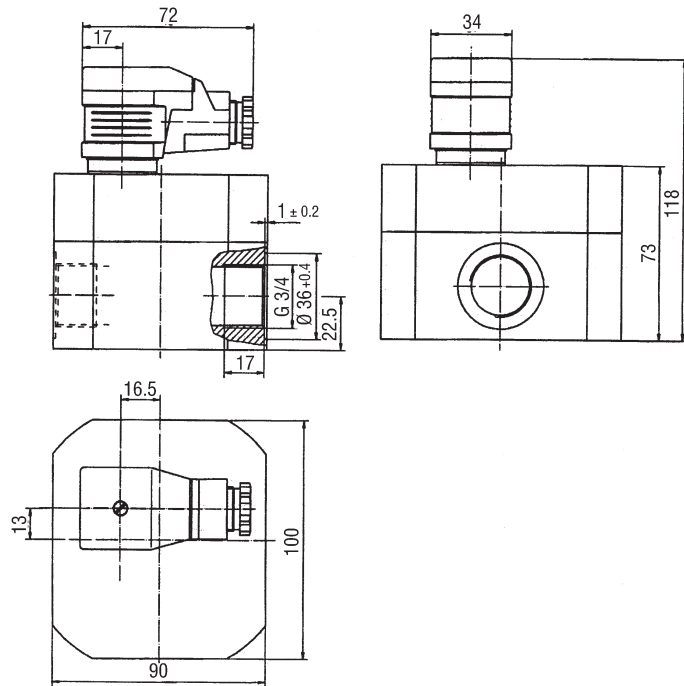
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|----------------------------|---|
| Geometric tooth volume | $V_{gZ} = 2 \text{ cm}^3$ |
| Max. operating pressure | $p_{max} = 160 \text{ bar}$ |
| Peak pressure | $\hat{p} = 200 \text{ bar}$ |
| Measuring range | $Q = 1...65 \text{ l/min}$ |
| Start of measuring unit at | $Q = 0.120 \text{ l/min}$ ($v = 34 \text{ mm}^2/\text{s}$) $Q = 0.040 \text{ l/min}$ ($v = 100 \text{ mm}^2/\text{s}$) |
| Liquid temperature | $\vartheta_m = -10 \dots +80 \text{ }^\circ\text{C}$ |
| Viscosity | $v_{min} = 20 \text{ mm}^2/\text{s}$ $v_{max} = 4000 \text{ mm}^2/\text{s}$ higher viscosities on request |
| Flow resistance | $\Delta p = \text{see flow resistance curve}$ |
| Sound pressure level | $L_A = < 60 \text{ dB (A)}$ |
| Measuring accuracy | $\pm 2.5\%$ at flow range of $Q = 1...65 \text{ l/min}$ |
| Reproducibility | $< 0.1\%$ $< 0.3\%$ ($Q < 3 \text{ l/min}$ and $v < 30 \text{ mm}^2/\text{s}$) at $Q, P, v = \text{constant}$ |
| Weight | $m = 1.9 \text{ kg}$ |

Electrical characteristics

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|--------------------------------------|--|
| Number of measuring channels | 1 |
| Operating voltage | $U_B = 12...30 \text{ V DC}$ polarized |
| Pulse amplitude | $U_A = \geq 0.8 U_B$ |
| Pulse shape with symm. output signal | square wave pulse duty factor/channel 1:1 $\pm 15\%$ |
| Power requirement | $P_{bmax} = 0.6 \text{ W}$ |
| Output power channel | $P_{amax} = 0.3 \text{ W}$ short-circuit-proof |
| Degree of protection std. | IP 65 DIN 40050 |



Dimensions



Flow resistance Parameter: Viscosity (mm²/s)

