

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

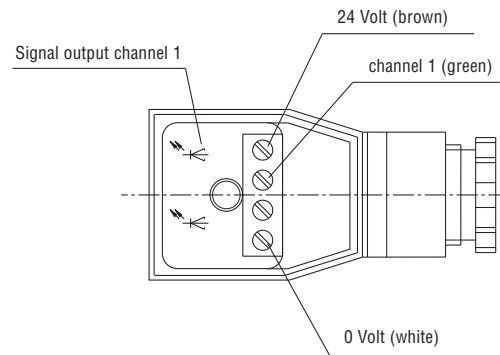
Housing: Aluminium
 Gears: Steel
 Bearing: Multi component plain bearing (P 10)

General characteristics

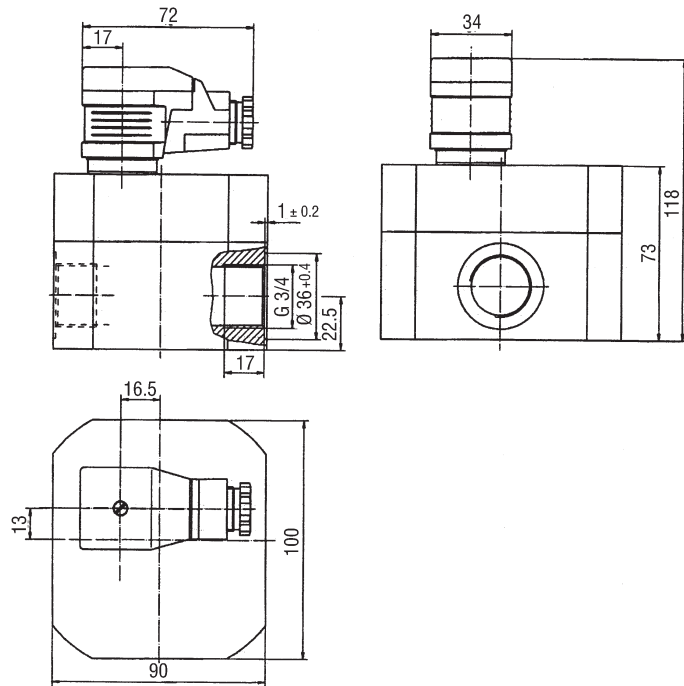
Geometric tooth volume	$V_{gZ} = 2 \text{ cm}^3$
Max. operating pressure	$p_{max} = 160 \text{ bar}$
Peak pressure	$\hat{p} = 200 \text{ bar}$
Measuring range	$Q = 1...65 \text{ l/min}$
Start of measuring unit at	$Q = 0.120 \text{ l/min}$ ($v = 34 \text{ mm}^2/\text{s}$) $Q = 0.040 \text{ l/min}$ ($v = 100 \text{ mm}^2/\text{s}$)
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

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)

