



Turbine volume flow sensor



Precise and proven measuring turbine with inside thread connection acc. to DIN ISO 228, available with digital (frequency, rectangle signal) or analog (4 ... 20 mA) output signal.

The turbines have a factory calibration for mineral oil at 30 cSt, other calibration viscosities are available. You can also order versions with flow measuring in both directions, but detection of the flow direction is not possible.

Qualities

Measuring principle	volume flow
Viscosity range	see order data
Medium temperature	max. +120 °C
Environmental temperature	-20 ... +85 °C
Storage temperature	-20 ... +85 °C
Output signal	frequency (rectangle) / 4 ... 20 mA
Supply voltage U_b	12 ... 24 VDC
Electrical measuring connector	5 pole device connector, M16 x 0.75
Protection type (EN 60529 / IEC 529)	IP 40
Tightening torque	10 Nm (± 2 Nm)
Calibration viscosity	30 mm ² /s (cSt)
Material turbine casing	Aluminium AlZnMgCu 1,5
Material turbine wheel	1.4122 (for measuring range 1.0 ... 10 l/min) 1.0718 (for all other measuring ranges)
Material sealings	FKM
Material sensor casing	1.4301
Suitable measuring cable	MK 01

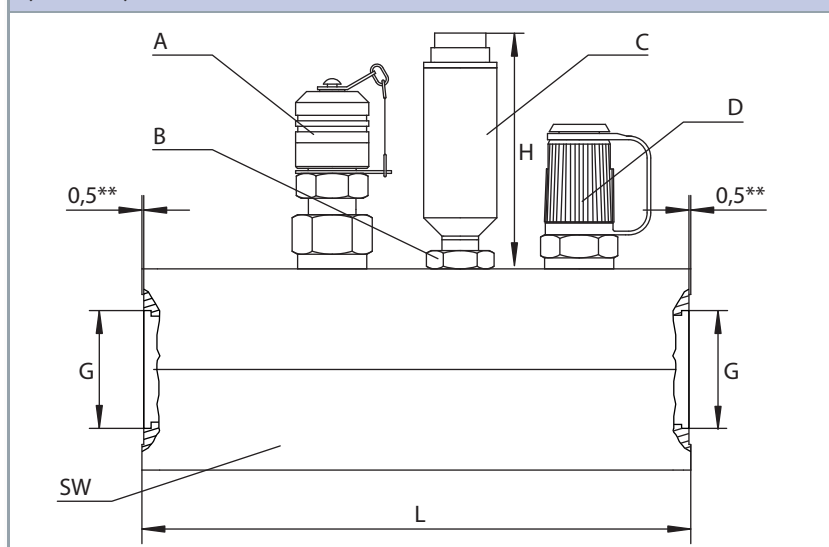
Pin assignment

	QT 100 (frequency)	QT 110 (4 ... 20 mA)
	Pin 1 = signal +	Pin 1 = signal +
	Pin 2 = - U_b / signal - / GND	Pin 2 = signal - / GND
	Pin 3 = + U_b	Pin 3 = + U_b
	Pin 4 = free	Pin 4 = free
	Pin 5 = free	Pin 5 = free

Measuring range	Allowed working pressure		Viscosity range	Error limit*	Order number / weight			
l/min	bar	MPa	mm²/s (cSt)	of current value	QT 100 (frequency)	weight (g)	QT 110 (4 ... 20 mA)	weight (g)
1.0 ... 10.0	420	42	1 ... 60	± 2.5 %	31V7-01-35.030	631	31G7-01-35.030	681
7.5 ... 75.0			1 ... 100	± 2.5 %	31V7-70-35.030	785	31G7-70-35.030	869
15 ... 300			1 ... 100	± 2.5 %	31V7-71-35.030	1,125	31G7-71-35.030	1,206
25 ... 600	350		1 ... 100	± 2.0 %	31V7-72-35.030	1,378	31G7-72-35.030	1,498

*: for QT 100 and factory calibrated viscosity;
for QT 110 additional ± 0.2 % of final value (error f/l-converter)

QT 100 / QT 110



Measuring range	L	SW	G
l/min	mm		
1.0 ... 10.0	120	41	ISO 228-G $\frac{1}{4}$
7.5 ... 75.0	130	46	ISO 228-G $\frac{3}{4}$
15 ... 300	150	55	ISO 228-G1
25 ... 600	174	60	ISO 228-G1 $\frac{1}{4}$

- A MINIMESS® p/T test point for pressure and temperature, series 1620
- B max. tightening torque $M = 10 \pm 2$ Nm
- C inductive sensor / amplifier
- D MINIMESS® test point, series 1620
- H height is appr. 58 mm (for QT 100) or appr. 108 mm (for QT 110)
- ** depth of the spot face