



HySense QT 1xx / QT 5xx

Turbine volume flow sensor



Precise and proven flow measuring turbine with female thread connection acc. to DIN ISO228, available with digital (PnP frequency square wave) or analogue (4 ... 20 mA) output signal.

The turbines have a factory calibration for mineral oil at 30 cSt, (other viscosities on request) and have working pressures up to 420 bar. Integral pressure and temperature Minimes® test points provide the ability to add pressure and temperature sensors to the flow turbine body. TE300 Temperature probes sits directly in the fluid stream for highly accurate temperature measurement.

Qualities

Measuring principle	volumetric flow
Viscosity range	see order data
Medium temperature	-20 ... +85 °C
Environmental temperature	-20 ... +85 °C
Storage temperature	-20 ... +85 °C
Output signal	frequency (square wave PnP) or 4 ... 20 mA
Supply voltage Ub	12 ... 24 VDC
Electrical measuring connector	6 pole male connector, M16 x 0.75
Protection	IP 67
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 500 (frequency)	QT 510 (4 ... 20 mA / 2 wire)
	Pin 1 = signal +	Pin 1 = signal +
	Pin 2 = - Ub / sig - / GND	Pin 2 = ISDS GND*
	Pin 3 = + Ub	Pin 3 = + Ub
	Pin 4 = free	Pin 4 = free
	Pin 5 = free	Pin 5 = free

Pin 6 = ISDS (sensor identification for use with Hydrotechnik measuring instruments)

* Ground pin of QT510 referring to ISDS communication exclusively.

Measuring range	Max working pressure		Viscosity range	Error limit*	Order number / weight			
l/min	bar	MPa	mm²/s (cSt)	of reading	QT 500 (frequency)	weight (g)	QT 510 (4...20 mA)	weight (g)
1 ... 10	420	42	5 ... 100	±0.5% (±2.5%)	31V7-01-S-35.030†	631	31G7-01-S-35.030†	681
2 (7.5) ... 75			5 ... 100	±0.5% (±2.5%)	31VH-70-35.030	785	31JH-70-35.030	885
9 (15) ... 300			5 ... 100	±0.5% (±2.5%)	31VH-71-35.030	1,125	31JH-71-35.030	1,230
15 (25) ... 600	350	35	5 ... 100	±0.5% (±2.5%)	31VH-72-35.030	1,378	31JH-72-35.030	1,520

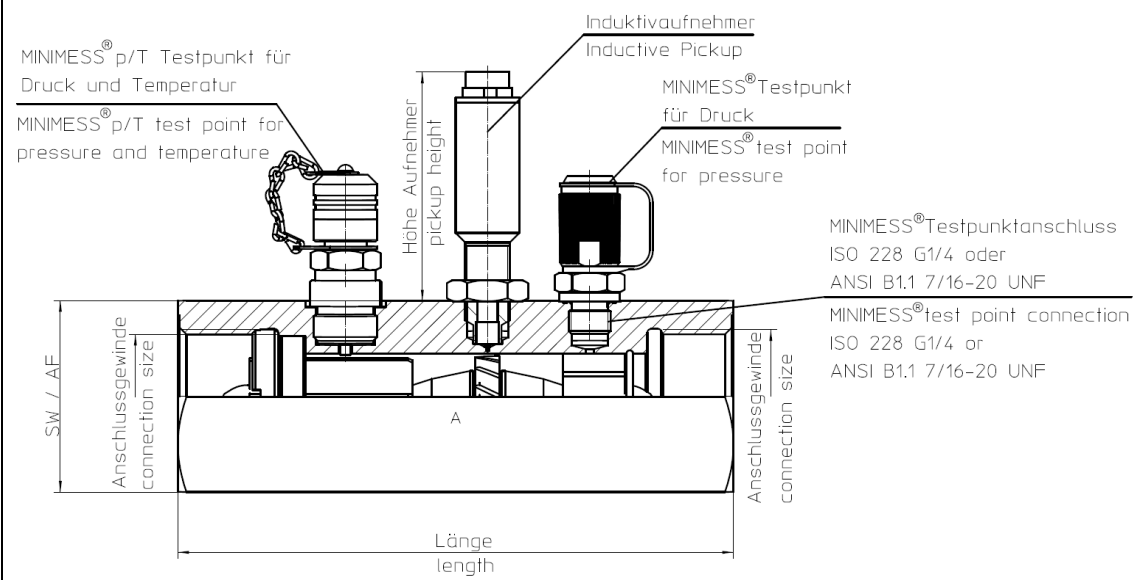
Values shown in brackets are flow ranges or accuracies without ISDS or linearisation

[†] 1 ... 10 l/min version still sold as QT100 / QT110 series.
* for QT510 additional ± 0.1 % of final value (error f/l-converter)

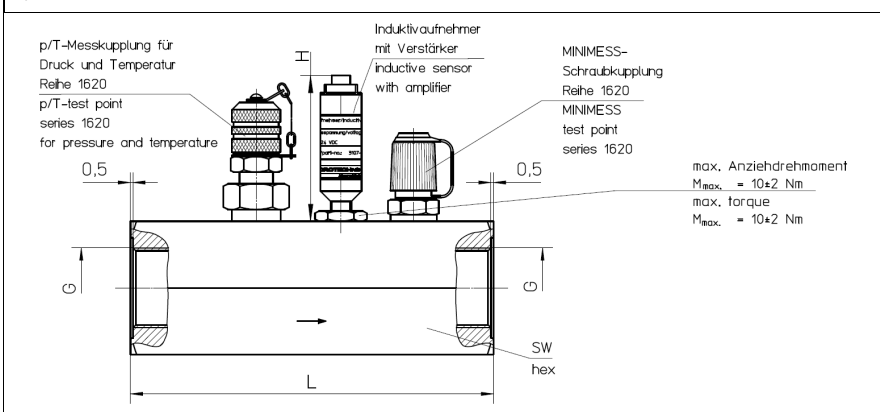


HySense QT Dimensional drawings

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Assembly drawing**QT5xx model 75l/min, 300l/min and 600l/min**

Model	Connection size	Max. pressure		SW/AF Hex	Length
		[bar]	[psi]		
QT 5xx 75 L/min	G3/4"	420	6000	46	130
QT 5xx 300 L/min	G1"	420	6000	55	150
QT 5xx 600 L/min	G1.1/4"	350	5000	60	174

Assembly drawing**QT1xx model 10l/min**

Model	Connection size	Max. pressure		SW/AF Hex	Length
		[bar]	[psi]		
QT 1xx 10 L/min	G1/4"	420	6000	41	120

HySense QT series

delta-P curves

The delta-P curves shown here are valid for the volume flow sensors of the HySense® QT flow turbine ranges, shown on the previous pages:

- QT 100
- QT 110
- QT 500
- QT 510

