

HySense QL

Turbine volume flow sensors with load valve

Volume flow measuring under load

Testing of pumps, e.g. the recording of a characteristic curve in dependency of the pressure is simplified significantly by using the HySense QL sensors, as a nonexistent load can be simulated.

Volume flow sensor (turbine), load valve and test points for pressure and temperature are combined in a single unit. The mechanical connection (inlet and outlet) are designed as inside thread 150 228-G 1¼".

The required pressure protection must be provided by the customer, e.g. by mounting a pressure limiting valve in front of the HySense QL, or with the upstream hydraulic system.

Application examples

- Hydraulic load simulations
- Hydraulic performance test and efficiency measurements
- Component tests
- Load setting of hydraulic components
- Pump tests

Special advantages of HySense QL

- measuring of pressure and temperature with separate sensors
- sensitive pressure adjustment
- all controls are easy to operate
- versions for 0 ... 300 and 0 ... 600 l/min available

Please ensure that the hydraulic system has an adequate pressure protection when using HySense QL load valves!



Turbine volume flow sensor with load valve



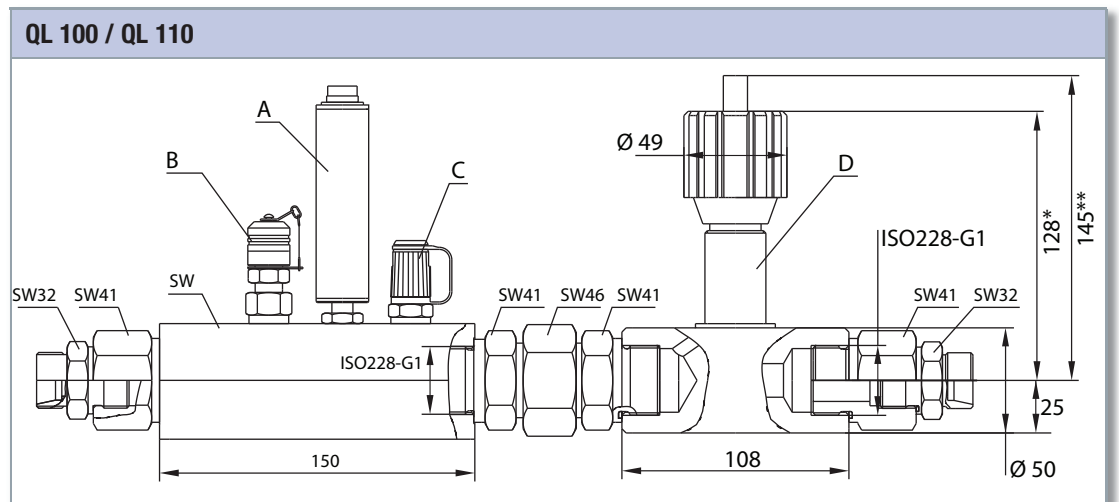
Qualities

Measuring principle	volume flow
Viscosity range	1 ... 100 mm ² /s (cSt)
Medium temperature	max. +120 °C
Environmental temperature	-20 ... +85 °C (short-term up to +100 °C)
Storage temperature	-20 ... +85 °C
Output signal	frequency (rectangular signal) / 4 ... 20 mA
Supply voltage U _b	12 ... 24 VDC
Error limit	± 2.5 % of current value
Electrical measuring connector	5 pole device connector, M16 x 0.75
Protection type (EN 60529 / IEC 529)	IP 40
Tightening torque (sensor)	10 Nm (± 2 Nm)
Calibration viscosity	30 mm ² /s (cSt)
Material turbine casing	Aluminium (AlZnMgCu 1,5)
Material turbine wheel	1.0718
Material sealings	FKM
Material sensor casing	3.1645 (QL 100) / 1.4301 (QL 110)
Suitable measuring cable	MK 01

Pin assignment

	QL 100 (frequency)	QL 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

Version	Measuring range	Max. working pressure		Weight	Order number
		bar	MPa		
QL 100	15 ... 300 l/min	350	35	4,324 g	31VB-71-35.030
QL 110	15 ... 300 l/min	350	35	4,461 g	31GB-71-35.030



Decoding „L“ and „G“ see order data

A f/l-converter 4 ... 20 mA

B MINIMESS® p/T-test point for pressure and temperature, series 1620

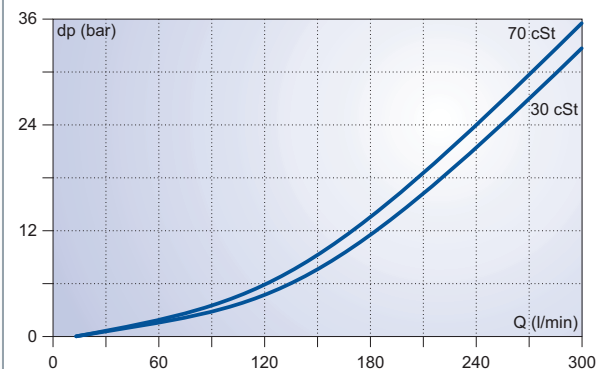
C MINIMESS® test point, series 1620

D throttle valve NG 20

* closed

** opened

Q = 15 ... 300 l/min





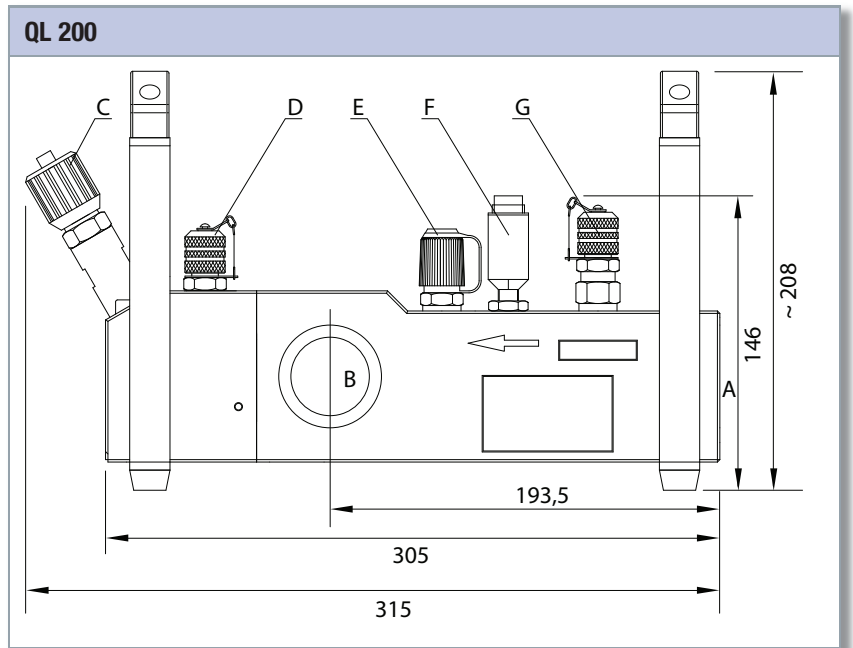
Turbine volume flow sensor with load valve



Qualities	
Measuring principle	volume flow
Viscosity range	1 ... 100 mm ² /s (cSt)
Medium temperature	max. +120 °C
Environmental temperature	-20 ... +85 °C (short-term up to +100 °C)
Storage temperature	-20 ... +85 °C
Output signal	frequency (rectangular signal)
Supply voltage U _b	6.5 ... 30 VDC
Error limit	± 2.5 % of current value
Electrical measuring connector	5 pole device connector, M16 x 0.75
Mechanical measuring connector	ISO228-G1¼
Protection type (EN 60529 / IEC 529)	IP 40
Tightening torque (sensor)	10 Nm (± 2 Nm)
Calibration viscosity	30 mm ² /s (cSt)
Material turbine casing	Aluminium (3.4365)
Material turbine wheel	1.0718
Material sealings	FKM
Material sensor casing	3.1645
Suitable measuring cable	MK 01

Pin assignment	Frequency (rectangular signal)
	Pin 1 = signal +
	Pin 2 = - U _b / signal - / GND
	Pin 3 = + U _b
	Pin 4 = free
	Pin 5 = free

Measuring range	Max. working pressure		Weight	Order number
	bar	MPa		
l/min	bar	MPa	g	
16 ... 600	420	42	6,516	31VB-72-35.030A2



- A Inlet connector
- B Outlet connector
- C Throttle valve for continuous pressure adjustment
- D MINIMESS® test point for ventilation, series 1620
- E MINIMESS® test point, series 1620
- F Inductive sensor
- G MINIMESS® p/T-test point for pressure and temperature, series 1620

Q = 12 ... 600 l/min

