LABOPLUS-VHZ

FLOW TRANSMITTER
GEAR WHEEL METER

CHARACTERISTICS

The flow transmitters of the LABOPLUS-VHZ series are suitable for liquid, viscous, lubricating media (e.g. lubricating oil). The measurement is carried out volumetrically by two interlocking gears, which rotate in opposite directions driven by the flowing medium. Due to the volumetric measuring method, the devices work almost viscosity-independent.
A sensor located outside the flow chamber detects the tooth flanks and generates a flow-proportional frequency signal. A pulse thus corresponds to a certain measuring volume. There are no magnets in the flow chamber. The devices can be operated bi-directionally. The flow direction is detected by the electronics and shown in the display (not at nominal diameter DN8!). The integrated totals counter works adding or subtracting depending on the flow direction.
The integrated electronics have an LCD display as well as an analog output and two switching outputs and are easily configurable by the user.
The bodies of the devices are made of aluminum or stainless steel.

In addition to the version presented here, other versions are available:

OMNIPLUS-VHZ	with display and two switching outputs
VHZ	direct frequency output, not adjustable

SMART TECHNOLOGY
- IO-Link-Interface

EASY TO SET UP & QUICK TO INSTALL
- Run-in and run-out sections are not necessary
- Plug-in and rotatable connections

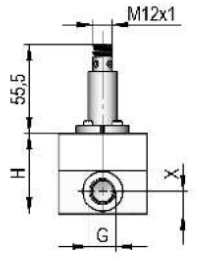
ACCURATE & RELIABLE
- Measures and monitors viscous media (oil) 1.4..1500 l/min
- High accuracy

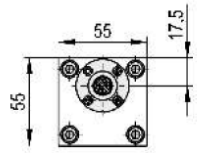
GREAT FLEXIBILITY
- Low viscosity dependence
- Can be used up to 40,000 mm²/s (cSt)
- Measurement ranges 0.02...150 l/min
- Nominal diameter DN8...DN25
- Analog output and limit switch

Specifications

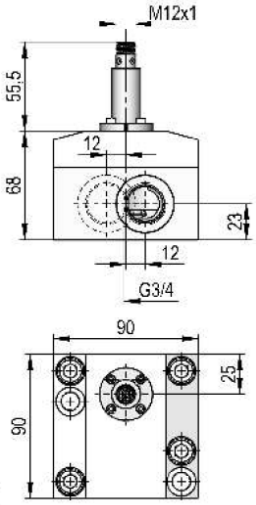
Meas. principle	Gear wheel meter	
Nominal size	DN 8...DN 25	
Connection type	Female thread G ¼...G 1	
Ranges	see table	
Measurement uncertainty	±3 % of reading at 20 mm²/s in the specified measuring range	
Compressive strength	see table	
Media	Oil or other non-aggressive, lubricating fluids	
Particle size	max. 20 µm (VHZ-008) max. 30 µm (VHZ(O)-010 / 020 / 025)	
Media temperature	-10...+80 °C	
Ambient temp.	-10...+70 °C	
Storage temperature	-30...+80 °C	
Materials wetted with media	Housing	Aluminium or stainless steel 1.4404
	Gear wheels	Stainless st. 1.4462
	Bearing	Iglidur X (LABOPLUS-VHZ-008GK: stainless st. 1.4037 / 1.4016 / PVD coated)
	Gaskets	FKM
	Sight window	Glass (VHZO-020GA only)
Supply voltage	18...30 V DC	
Current consumption	max. 200 mA	
IO-Link specification	IO-Link revision	V1.1.3
	Bit rate	COM2 (38400 bit/s)
	Minimum cycle time	20 ms
	SIO mode	yes
	Port class	A compatible
	Block parameterization	yes
	Data storage	yes
Analog output	Current:	4...20 mA 0...20 mA
	Voltage:	0...10 V 2...10 V 0...5 V 1...5 V 0.5...4.5 V
Switching outputs	Transistor outputs push-pull, parameterizable as NPN o.C. Short-circuit and reverse polarity resistant I_{out} = 100 mA max. Configurable on the device as • Limit switch • Frequency output • Pulse output • Signal output for preset counter	
Electr. connection	M12x1 circular connector, 4-pin	
Protection class	IP65 / IP67	
Conformity	CE	

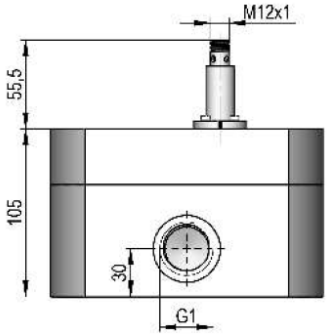
Dimensions

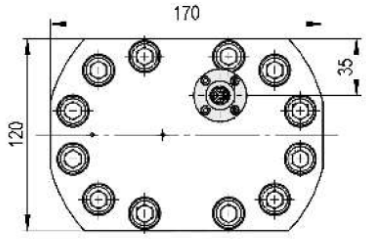




	H	G	X
VHZ-008	58	G1/4	15,5
VHZ-010	50	G3/8	14







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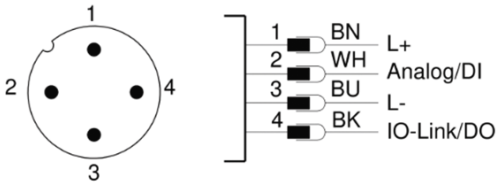
Order codes

Designation	Nominal size	Housing material	Qmax
LABOPLUS-VHZ-008GA	**DN 8**	Aluminium	**2 l/min**
LABOPLUS-VHZ-008GK	**DN 8**	Stainless steel	**2 l/min**
LABOPLUS-VHZ-010GA	**DN 10**	Aluminium	**6 l/min**
LABOPLUS-VHZ-010GK	**DN 10**	Stainless steel	**6 l/min**
LABOPLUS-VHZ-020GA	**DN 20**	Aluminium	**50 l/min**
LABOPLUS-VHZO-020GA	**DN 20**	Aluminium (with sight glass)	**50 l/min**
LABOPLUS-VHZ-025GA	**DN 25**	Aluminium	**150 l/min**

Accessories

Cable with circular connector M12x1, 4-pin (not included)

Connection diagram



connector
M12 x 1

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