

**Product information**

**OMNIPLUS-VHZ**

# Flow transmitter Gear wheel meter OMNIPLUS-VHZ



- Measures and monitors viscous media (oil)
- Measurement ranges 0.02...150 l/min
- High accuracy
- Low viscosity dependence
- Can be used up to 40,000 mm<sup>2</sup>/s (cSt)
- Nominal diameter DN8...DN25
- Analog output and two limit switches

**Characteristics**

The flow transmitters of the OMNIPLUS-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:

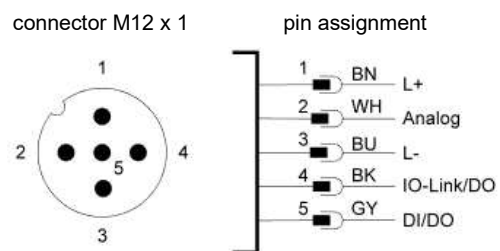
- LABOPLUS-VHZ** without display, adjustable analog and frequency output, limit switch
- VHZ** direct frequency output, not adjustable

**Specifications**

<b>Measuring principle</b>	Gear wheel meter (volumetric)
<b>Nominal size</b>	DN8...DN25
<b>Connection type</b>	Female thread G 1/4...G 1
<b>Ranges</b>	see table
<b>Measurement uncertainty</b>	±3 % of reading at 20 mm <sup>2</sup> /s in the specified measuring range
<b>Compressive strength</b>	see table
<b>Media</b>	Oil or other non-aggressive, lubricating fluids

<b>Particle size</b>	max. 20 µm (VHZ-008) max. 30 µm (VHZ(O)-010 / 020 / 025)	
<b>Media temperature</b>	-10...+80 °C	
<b>Ambient temp.</b>	-10...+70 °C	
<b>Storage temperature</b>	-30...+80 °C	
<b>Materials wetted with media</b>	Housing	Aluminium or stainless steel 1.4404
	Gear wheels	Stainless st. 1.4462
	Bearing	Iglidur X (OMNIPLUS-VHZ-008GK: stainless st. 1.4037 / 1.4016 / PVD coated)
	Gaskets	FKM
	Sight window	Glass (VHZO-020GA only)
<b>Supply voltage</b>	18...30 V DC	
<b>Current consumption</b>	< 130 mA (SIO mode, unloaded outputs)	
<b>IO-Link specification</b>	IO-Link revision	V1.1
	Bit rate	COM2 (38400 bit/s)
	Minimum cycle time	20 ms
	SIO mode	yes
	Port class	A compatible
	Block parameterization	yes
	Data storage	yes
<b>Analog output</b>	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
<b>Switching outputs</b>	2 transistor outputs push-pull, parameterizable as NPN o.C. Short-circuit and reverse polarity resistant I <sub>out</sub> = 100 mA max per output	
	Configurable on the device as <ul style="list-style-type: none"> <li>● Limit switch</li> <li>● Frequency output</li> <li>● Pulse output</li> <li>● Signal output for preset counter</li> </ul>	
<b>Display</b>	1.2" graphic LCD (transflective) 128 x 64 pixels backlight white, red on alarm message	
<b>Electr. connection</b>	M12x1 circular connector, 5-pin	
<b>Protection class</b>	IP65 / IP67	
<b>Conformity</b>	CE	

**Connection diagram**



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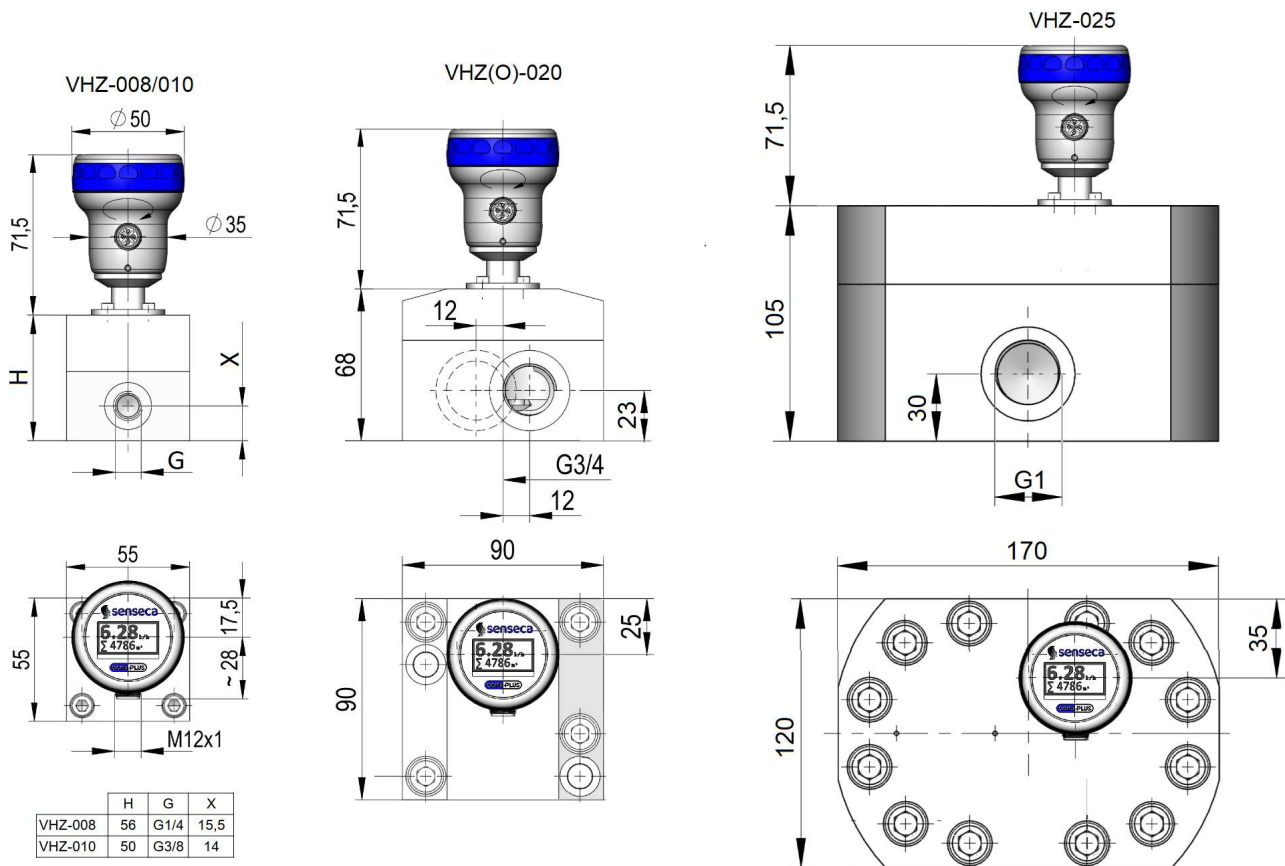
## OMNIPLUS-VHZ

### Ranges, compressive strengths and weights

OMNIPLUS-	Nominal size	Ranges $Q_{nom}$ l/min	Start-up l/min	Resolution		Compressive strength	Weight kg	Housing material	
				Volume/Pulse cm <sup>3</sup>	Pulses/Liter				
...VHZ-008GA	●	DN 8	0.02... 2	0.004	0.04	25000	PN240	0.70	aluminium
...VHZ-008GK	○	DN 8	0.02... 2	0.004	0.04	25000	PN190	1.45	stainless steel
...VHZ-010GA	●	DN 10	0.10... 6	0.01	0.20	5000	PN200	0.65	aluminium
...VHZ-010GK	○	DN 10	0.10... 6	0.01	0.20	5000	PN200	1.30	stainless steel
...VHZ-020GA	●	DN 20	0.50... 50	0.04	2.00	500	PN200	1.73	aluminium
...VHZO-020GA	○	DN 20	0.50... 50	0.04	2.00	500	PN100	1.73	aluminium
...VHZ-025GA	●	DN 25	3.00...150	0.1	5.222	191.5	PN100	6.30	aluminium

● = standard ○ = option

### Dimensions



### Order codes

Designation		Nominal size	Housing material	$Q_{max}$
OMNIPLUS-VHZ-008GA004	●	DN8	aluminium	2 l/min
OMNIPLUS-VHZ-008GK004	○	DN8	stainless steel	2 l/min
OMNIPLUS-VHZ-010GA010	●	DN10	aluminium	6 l/min
OMNIPLUS-VHZ-010GK010	○	DN10	stainless steel	6 l/min
OMNIPLUS-VHZ-020GA065	●	DN20	aluminium	50 l/min
OMNIPLUS-VHZO-020GA065	○	DN20	aluminium (with sight glass)	50 l/min
OMNIPLUS-VHZ-025GA150	●	DN25	aluminium	150 l/min

● = standard ○ = option

### Accessories

Cable with circular connector M12x1 (not included)