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LABOPLUS-VHSX

FLOW TRANSMITTER
SCREW VOLUMETER

CHARACTERISTICS

The flow transmitters of the LABOPLUS-VHSX series are suitable for liquid, viscous, lubricating media (e.g. lubricating oil). The measurement is carried out volumetrically by two intermeshing measuring screws, which rotate in opposite directions driven by the flowing medium. Due to the volumetric measuring method, the devices work almost independently of viscosity.
A sensor located outside the flow chamber detects the screw flanks and generates a frequency signal proportional to the flow rate. One pulse thus corresponds to a specific measuring volume. There are no magnets in the flow chamber. The devices can be operated bi-directionally. The direction of flow is detected by the electronics and displayed at the output if required. The integrated totaliser operates by adding or subtracting depending on the direction of flow.
The integrated electronics have an analog output and a switching output, which can alternatively be used as a frequency output. It also has an IO-Link interface that allows digital communication with the sensor for configuration and reading out measured values.
The bodies of the devices are made of aluminium and the connections are optionally made of aluminium or steel. SAE flanges, which simplify installation in the pipework, are available as accessories.

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

OMNIPLUS-VHSX	with display and two switching outputs
VHSX	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)

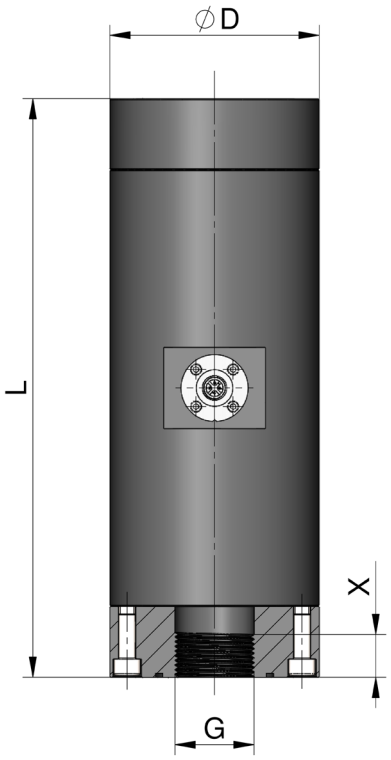
Specifications

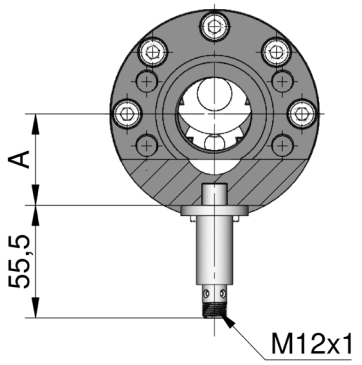
Meas. principle	Screw volumeter	
Nominal size	DN 25...DN 50	
Connection type	Female thread G 1...G 2	
Ranges	see table	
Measurement uncertainty	±1 % of reading at 20 mm²/s in the specified measuring range	
Compressive strength	with aluminium ports	PN 160
	with aluminium ports and SAE flange	PN 350
	with steel port with or without SAE flange	PN 350
Media	Oil or other non-aggressive, lubricating fluids	
Media temperature	-20...+85 °C	
Ambient temp.	-20...+70 °C	
Storage temperature	-25...+85 °C	
Materials wetted with media	Housing	aluminium
	Ports	aluminium optional steel
	Measuring screws	steel
	Gaskets	FKM
Supply voltage	18...30 V DC	
Current consumption	max. 200 mA	
IO-Link specification	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
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

LABOPLUS-VHSX-		G	L	ØD	X	A
...025...1040	●	G 1	220	88	20	39.0
...032...0350	●	G 1¼	285	103	22	45.0
...040...0550	○	G 1½	332	122	24	48.8
...040...0800	●		340	138		66.5
...050...1000	○	G 2	396	155	33	71.0
...050...1500	●		405	168		77.3

LABOPLUS-VHSX without SAE flange





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Ranges

Type	Range l/min (H_2O)	Qmax l/min (H_2O)
LABOPLUS-VHSX-025...0140	1.4... 140	200
LABOPLUS-VHSX-032...0350	3.5... 350	500
LABOPLUS-VHSX-040...0550	5.5... 550	800
LABOPLUS-VHSX-040...0800	8.0... 800	1200
LABOPLUS-VHSX-050...1000	10.0...1000	1600
LABOPLUS-VHSX-050...1500	15.0...1500	2200

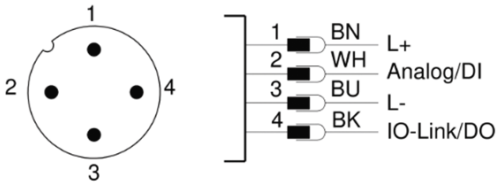
Order codes

LABOPLUS-VHSX - 1. 2. 3.

● = Standard ❍ = Option

1.	**Nominal size**						
	025		DN 25 - G 1				
	032		DN 32 - G $1^1/_4$				
	040		DN 40 - G $1^1/_2$				
	050		DN 50 - G 2				
2.	**Port material**						
	A	●	aluminium anodized				
	S	❍	steel				
3.	**Measurement range**						
	0140	●	1.4... 140 l/min				●
	0350	●	3.5... 350 l/min			●	
	0550	❍	5.5... 550 l/min		●		
	0800	●	8.0... 800 l/min		●		
	1000	❍	10.0...1000 l/min	●			
	1500	●	15.0...1500 l/min	●			

Connection diagram



connector
M12 x 1

Accessories

SAE flange

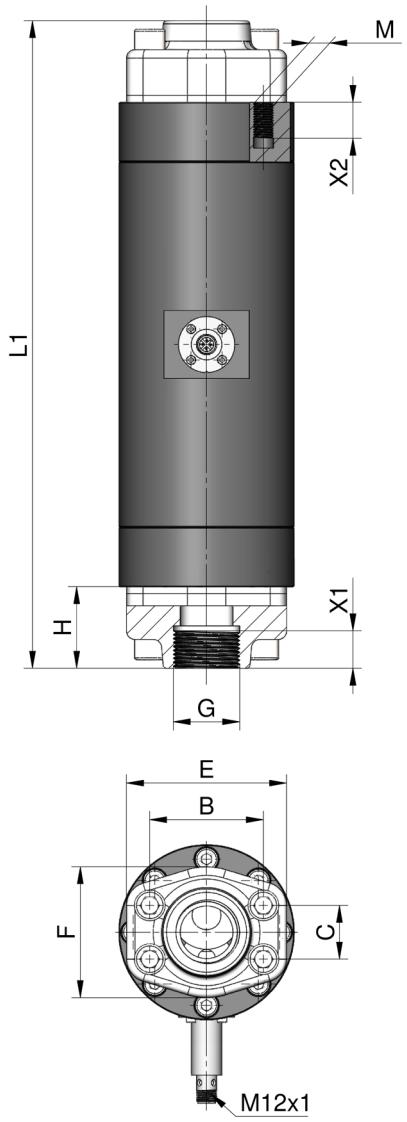
Order code		Weight (per pair)
SAE-VHSX-025	1 pair for VHSX-025	2,3 kg
SAE-VHSX-032	1 pair for VHSX-032	3,2 kg
SAE-VHSX-040	1 pair for VHSX-040	4,6 kg
SAE-VHSX-050	1 pair for VHSX-050	9,6 kg

Cable with circular connector M12x1, 4polig (not included)

Dimensions

LABOPLUS-VHSX-		G	L1	H	X1	X2	M	B	C	E	F
...025...1040	●	G 1	324	52	20	20	12	57.1	27.8	80	69
...032...0350	●	G 1¼	381	48	22	22	14	66.7	31.6	94	77
...040...0550	o	G 1½	448	58	24	24	16	79.4	36.5	106	89
...040...0800	●		456								
...050...1000	o	G 2	544	74	33	35	20	96.8	44.4	135	116
...050...1500	●		553								

LABOPLUS-VHSX with SAE flange



Senseca Germany GmbH
Tenter Weg 2-8 | 42897 Remscheid | GERMANY
www.senseca.com | info@senseca.com