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Flow transmitter LABOPLUS-HR1MV

IO-Link

- **Robust industrial-grade flowmeter**
- **To be used with water or oil (viscosity-stabilized)**
- **No inlet and outlet sections required**
- **One analog output (10V or 20 mA switchable)**
- **Two switching outputs**
- **IO-Link interface**

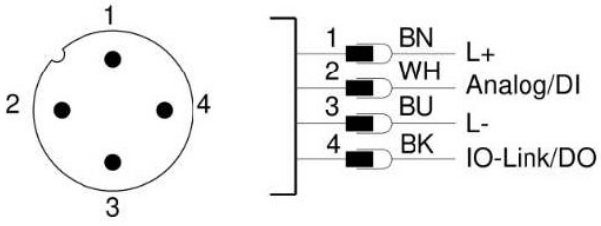
Product description

The flow transmitters of the LABOPLUS-HR1MV series work according to the principle of the spring-supported piston. A magnetically equipped piston is deflected by the flowing medium against the force of a spring. Deflection is a measure of flow rate. The position of the floating body is recorded outside the flow chamber with the help of magnetic field sensors.

The integrated electronics have an analog output and a switching output that alternatively can be used as a frequency output.
In addition, it has an IO-Link interface, which enables digital communication with the sensor for configuration and to read out measured values.

Connection diagram

Connector M12 x 1 pin assignment



Specifications

Measuring principle	Spring-supported piston	
Nominal size	DN 32 / DN 40 / DN 50	
Mechanical connection	Female thread G 1¼ … G 2 (other connections on request)	
Measurement ranges	2 ... 200 l/min (see table „Ranges“)	
Measurement uncertainty	±3 % F.S. plus viscosity variation	
Media	Water, oils or other viscous media (30 … 200 mm²/s)	
Compressive strength	PN 200	
Media temperature	-20 … +85 °C optional -20 ... +150 °C (with spacers)	
Storage temperature	-20 ... +80 °C	
Materials (wetted)	Brass version	Stainl. steel version
	CW614N nickelled	1.4571
	CW614N	1.4404
	1.4310	1.4310
	Hard ferrite	Hart ferrite (PTFE coated)
	NBR (DN 32/40)	FKM (DN 32/40)
Supply voltage	18 ... 30 V DC	
Current consumption	< 50 mA (SIO mode, unloaded outputs)	
IO-Link specification	IO-Link revision	V1.1.4
	Bit rate	COM2 (38400 bit/s)
	Minimum cycle time	20 ms
	SIO mode	yes
	Port class	A
	Block para-meterization	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 output	transistor output push-pull, parameterizable as NPN o.C. Short-circuit and reverse polarity resistant Iout = 100 mA max per output 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	

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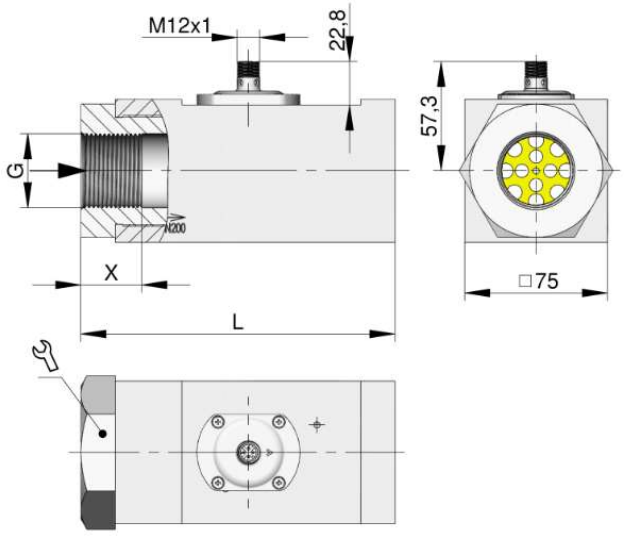
Ranges

Range l/min (oil 30 … 200 mm²/s)	Q_{max} l/min
2 … 12	50
5 … 25	60
10 … 40	100
20 … 60	150
30 … 100	200
50 … 150	230
100 … 200	250

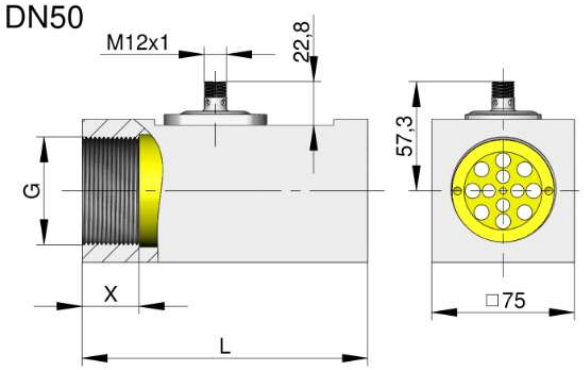
Dimensions and weights

Type LABOPLUS-	G	X mm	L mm	AF mm	Weight appr. kg
HR1MV-032	G 1 1/4	29	165	70	5.7
HR1MV-040	G 1 1/2	29	165	70	5.4
HR1MV-050	G 2	26	150	-	4.9

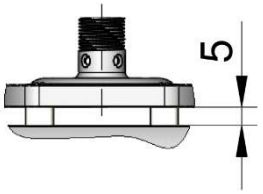
DN32-DN40



DN50



For the "Extended temperature range" option, PEEK spacers and mounting screws are used for thermal insulation of the body and electronics:



Order code

	1.	2.	3.	4.	5.
LABOPLUS-HR1MV -		**G**			

● = standard ❍ = option

1.	**Nominal size**		
	032	●	DN 32
	040	●	DN 40
	050	●	DN 50
2.	**Mechanical connection**		
	G	●	Female thread
3.	**Housing material**		
	M	●	Brass
	K	●	Stainless steel
4.	**Measurement range**		
	012	●	2 … 12 l/min
	025	●	5 … 25 l/min
	040	●	10 … 40 l/min
	060	●	20 … 60 l/min
	100	●	30 … 100 l/min
	150	●	50 … 150 l/min
	200	●	100 … 200 l/min
5.	**Option 1**		
	H	❍	Extended temperature range 150 °C (with spacers)

Accessories

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