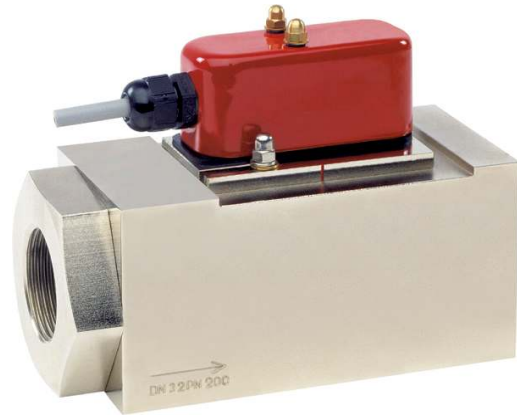


**GENERAL CHARACTERISTICS**

Mechanical Flow Switch for liquids or gaseous media, with spring-supported piston and magnetic triggering of a reed switch. Rugged construction in brass or stainless steel with additional viscosity compensation.

- \* viscosity compensation 1-200mm<sup>2</sup>/s
- \* robust metal switch head
- \* good repeatability
- \* dirt-resistance
- \* high switch capability
- \* hermetic separation of mechanical and electrical component

Female thread G1 1/4 to G2 brass/stainless steel



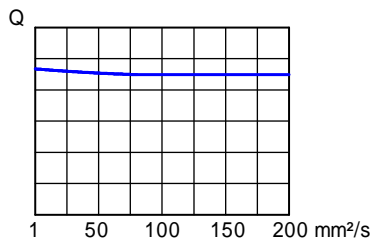
**HR1MV-032GM060**

**TECHNICAL DATA**

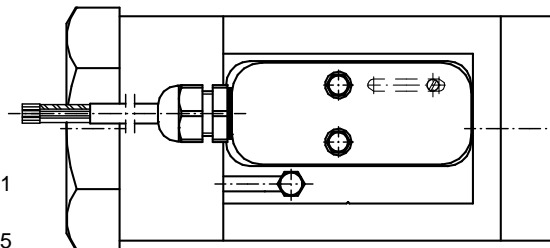
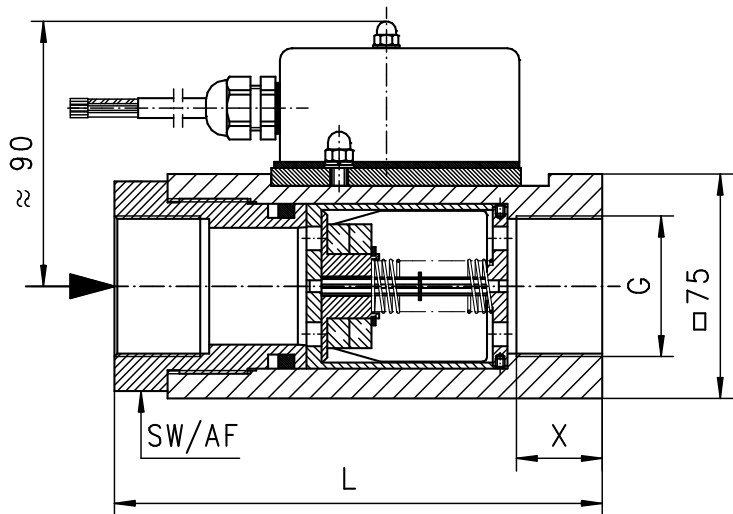
	G	Type	PN bar	Qmax. rec. l/min H <sub>2</sub> O	adjustable range l/min oil 1-200mm <sup>2</sup> /s		L mm	X mm	AF mm	weight kg
brass	G 1 1/4	HR1MV-032GM...	200	100	10 - 40	20 - 60	165	29	70	6.0
	G 1 1/2	HR1MV-040GM...	200	150	20 - 60	30 - 100	165	29	70	5.7
	G 2	HR1MV-050GM...	200	230	30 - 100	50 - 150	150	26	-	5.2
stainless steel	G 1 1/4	HR1MV-032GK...	200	100	10 - 40	20 - 60	165	29	70	6.0
	G 1 1/2	HR1MV-040GK...	200	150	20 - 60	30 - 100	165	29	70	5.7
	G 2	HR1MV-050GK...	200	230	30 - 100	50 - 150	150	26	-	5.2

Adjustable range is indicated for horizontally decreasing flow. Calibration with oil ISO VG64 - 80mm<sup>2</sup>/s.

viscosity stability ±3%  
 tolerance ±5% of full scale  
 media temperature max. 120°C  
 average pressure loss 0.5 bar at Qmax.  
 hysteresis depending on switch value  
 value minimum 2 l/min.



Within the mechanical viscosity compensation the flow velocity in the piston area is increased sharply with the effect that the viscosity impact declines and the metering results stabilise even with changing viscosity ratings.

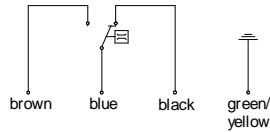


**MATERIALS**

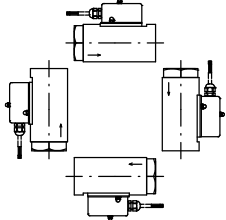
	<b>HR1MV-...GM</b>	<b>HR1MV-...GK</b>
body	brass Ms58 nickel plated	stainless steel 1.4571
metering unit	brass Ms58	stainless steel 1.4305
spring	1.4310	stainless steel 1.4310
magnet	hardferrite	hardferrite
seal	NBR (DN32-40 only)	viton (DN32-40 only)

**ELECTRICAL DATA**

reed switch - wiring 0.213 change over  
250 V AC 1.5 A 50 VA  
cable 2.5 m  
protection class IP 65

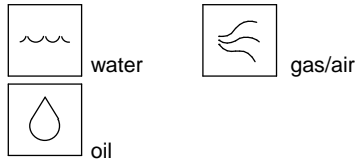


**MOUNTING POSITION**



Installation position may influence switch value.

**METERING SUBSTANCES**



**NOMENCLATURE**

For combination see table "technical data"

HR1MV	032	G	M	040			basic type
HR1MV						●	Flow Switch
H1V						○	Flow Indicator
-						●	without metering unit
O-						○	Flow Switch with lateral flow metering unit
Z-						○	Flow Switch with front flow metering unit
	032					●	nominal diameter
	040					●	
	050					●	
	065					○	
	080					○	
		G				●	
			M			●	brass
			K			●	stainless steel
				040		●	adjustable range
				060		●	
				100		●	
				150		●	
					A	○	switch ATEX (produkt information 92.1.H1-2)
					E	○	connection by local electronic (e.g. omni-HR1MV)
Programme option						○	signal lamp / diode
BASIC						○	plug DIN 43650-A
Special option						□	setting / special ranges
VARIO						□	selected hysteresis / vibration-proof
						□	rhodium contact
						□	temperature control 30 - 100 °C
						□	switch head contact for locking plug M 12x1, 4-pole
						□	Tuchel
						□	Harting
						□	two to four independent switch heads

**IMPORTANT FOR YOUR ORDER**

- Please indicate flow direction, metering substance and adjustable range with your order.
- With viscous liquids (>200mm<sup>2</sup>/s) please indicate viscosity, temperature and type of liquid (e.g. ISO VG 68! Range upon request)
- With gaseous media indicate pressure (relative or absolute), temperature and metering substance (adjustable range on request)

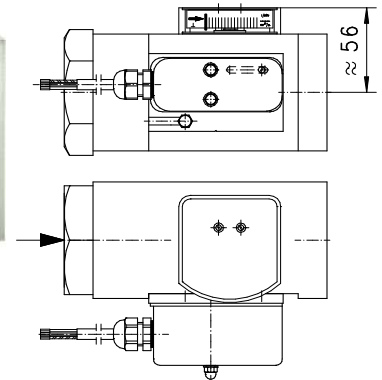
All technical changes reserved

●BASIC Standard ○BASIC Programme option □VARIO Special option ⊕ PLUS Accessories ✗ not recommendable

○ **HR1MVO-** Flow Switch with lateral flow metering unit



adjustable range l/min H <sub>2</sub> O	metering range l/min H <sub>2</sub> O
10 - 40	10 - 45
20 - 60	20 - 65
30 - 100	30 - 110
50 - 150	50 - 160

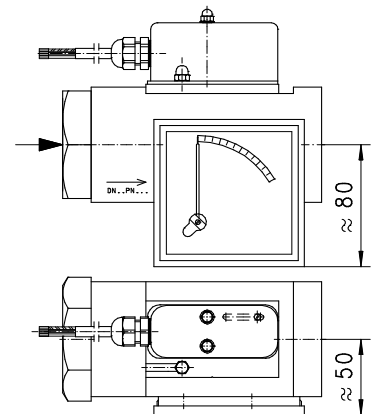


The metering range is indicated for horizontally increasing flow  
protection class IP 60  
additional weight 0.1kg

○ **HR1MVZ-** Flow Switch with front flow metering unit



adjustable range l/min H <sub>2</sub> O	metering range l/min H <sub>2</sub> O
10 - 40	10 - 45
20 - 60	20 - 65
30 - 100	30 - 110
50 - 150	50 - 160



The metering range is indicated for horizontally increasing flow  
media temperature max. 70°C  
protection class IP 40  
additional weight 0.1kg

**EXAMPLES FOR FURTHER OPTIONS**



**nominal diameter DN 65**



**switch head option  
ATEX**



**Flex-K-HR1MV**  
switch- or frequency output  
0..10V or 4..20mA  
PNP, NPN



**omni-HR1MV**  
2xNPN and PNP switch point  
4(0)..20mA output  
graphical LCD display  
with flashing LED, program ring

All technical changes reserved

IBASIC Standard ○BASIC Programme option □VARIO Special option ⊕ PLUS Accessories ✗ not recommendable