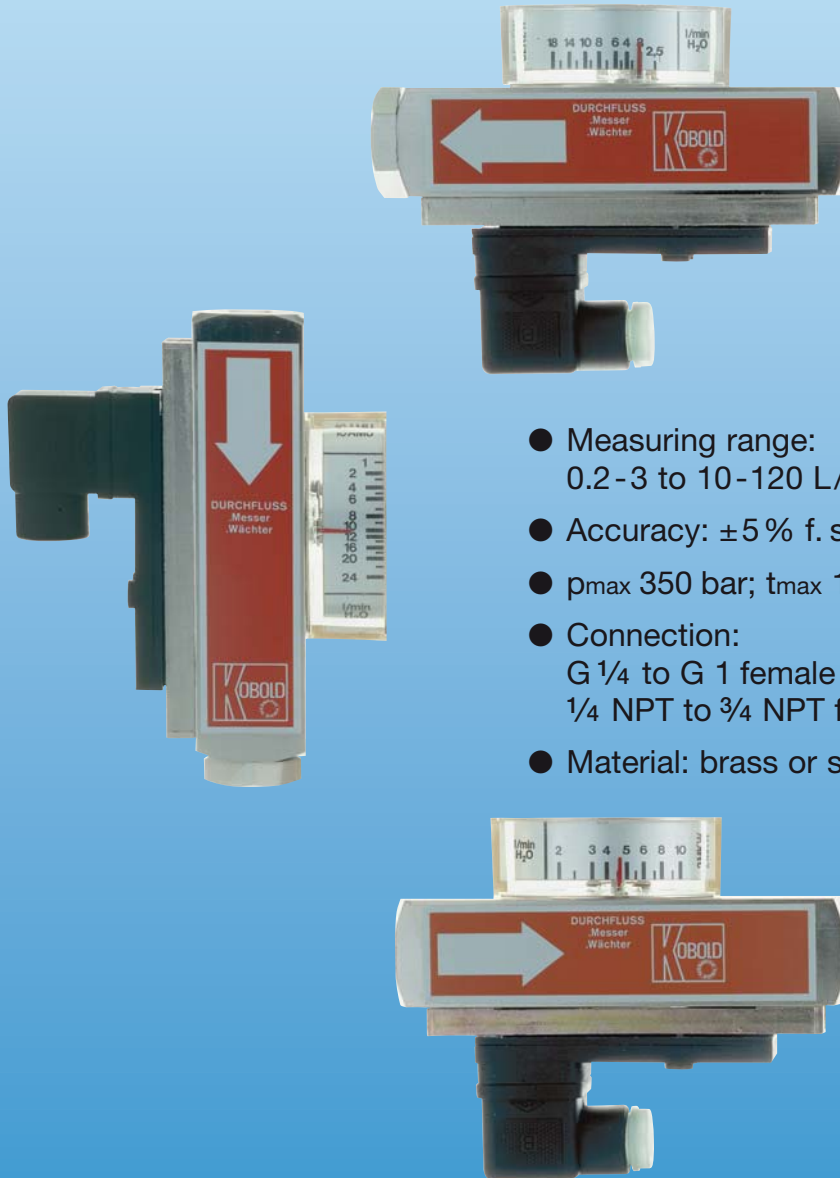


Flow Meters and Switches Flow Direction: Horizontal or from Top to Bottom



- Measuring range:
0.2-3 to 10-120 L/min water
- Accuracy: $\pm 5\%$ f. s.
- p_{max} 350 bar; t_{max} 100 °C
- Connection:
G 1/4 to G 1 female
1/4 NPT to 3/4 NPT female
- Material: brass or stainless steel

KOBOLD companies worldwide:

ARGENTINA, AUSTRIA, BELGIUM, CANADA, CHILE, CHINA, CZECHIA,
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Model:
 SMW
 SMO



Description

The KOBOLD flow meters and switches models SMW-.. and SMO-.. operate in the same way as the flow meter model SMV-... The extra advantage of universal mounting has been added, that is, the direction of flow can be horizontal (model SMW-..) as well as from top to bottom (model SMO-..). This is achieved with a return spring.

SMW and SMO versions

Six versions are available

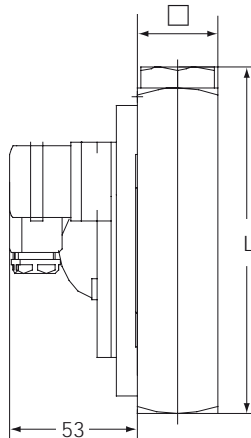
Direction of flow: horizontal

- 1. SMW-1... Flow switch
- 2. SMW-2... Flow meter
- 3. SMW-3... Flow meters and switches

Direction of flow: from top to bottom

- 4. SMO-1... Flow switch
- 5. SMO-2... Flow meter
- 6. SMO-3... Flow meters and switches

Dimensions



Model	Square [mm]	Thread G	L [mm]	Weight [kg]
SMx-...01	30 x 30	1/4 (1/2)	132 (136)	1
SMx-...03	30 x 30	1/4 (1/2)	132 (136)	1
SMx-...05	30 x 30	1/4 (1/2)	132 (136)	1
SMx-...07	30 x 30	1/4 (1/2)	132 (136)	1
SMO-...09	30 x 30	1/4 (1/2)	132 (136)	1
SMW-...09	30 x 30	1/2	150	1
SMO-...11	30 x 30	1/4 (1/2)	156 (150)	1.7
SMW-...11	40 x 40	3/4 (1)	156 (150)	1.7
SMO-...13	30 x 30	1/2	150	1
SMW-...13	40 x 40	3/4 (1)	156 (150)	1.7
SMO-...15	40 x 40	3/4 (1)	156 (150)	1.7
SMO-...17	40 x 40	3/4 (1)	156 (150)	1.7

Technical Details

- Housing: SMx-x1...: brass, Ms 58
SMx-x2...: stainless steel 1.4301
- Connections: SMx-x1...: brass, Ms 58
SMx-x2...: stainless steel 1.4301
- Float: SMx-x1...: brass, Ms 58
SMx-x2...: stainless steel 1.4301
- Slotted nozzle: SMx-x1...: brass, Ms 58
SMx-x2...: stainless steel 1.3955
- Seals: SMx-x1...: NBR
SMx-x2...: FPM
- Spring: stainless steel 1.4310
- Max. temperature: 100 °C
- Max. pressure: SMx-x1...: 250 bar
SMx-x2...: 350 bar
- Installation position: SMW: horizontal
SMO: vertical, flow from top
- Accuracy: ± 5 % f. s.
- Reproducibility: ≤ 1 %

Contacts:

For SMW-1..., SMW-3... and SMO-1..., SMO-3...

Electrical connection: 2 m cable (SMx-..FO..) for all other types: connector DIN 43 650

Electrical switching values:

- N/O contact (CSA)
max. 240 V_{AC} / 100 VA / 1.5 A
- changeover contact (CSA)
max. 240 V_{AC} / 60 VA / 1 A
- N/O contact (UL)
250 V_{AC} - 0.4 A / 200 V_{DC} - 0.25 A
50 V_{DC} - 1 A
- changeover contact (UL)
max. 250 V_{DC} / 0.136 A - 30 V_{DC} / 1 A
- N/O contact Ex II 2G EEx m II T6 / 2D IP67 T80°C
max. 250 V_{AC} / 100 VA / 1.5 A (I_K=5A)

Ex range:

ATEX zone 1 as "simple operator" or N/O contact Ex

Protection:

IP 65 (electr. contact)
IP 54 (side indicator)

Applications

- Lubrication circuits
- Paper-making machines
- Machine tools
- Glass-melting tanks
- Cooling circuits
- Welding machines
- Induction furnaces
- Pumps



Order Details

Flow switches with 1 contact, flow from top model: SMO-1...

(Example: SMO-1101H R0 R08)

Measuring range L/min water	Pressure loss Δ P [bar]	Brass	Stainless steel	Contact	Connection	
					..R08 = G 1/4 ..R15 = G 1/2	..N08 = 1/4 NPT ..N15 = 1/2 NPT
0.2...3	0.2	SMO-1101H...	SMO-1201H...	..R0.. = 1 N/O contact ..U0.. = 1 changeover contact ..F0.. = 1 Ex N/O contact ..C0.. = 1 N/O contact (UL) ..D0.. = 1 changeover contact (UL) ..RR.. = 2 N/O contact ..UU.. = 2 changeover contact ..CC.. = 2 N/O contact (UL) ..DD.. = 2 changeover contact (UL)	..R08 = G 1/4 ..R15 = G 1/2	..N08 = 1/4 NPT ..N15 = 1/2 NPT
1...4.5	0.2	SMO-1103H...	SMO-1203H...			
1...7.5	0.3	SMO-1105H...	SMO-1205H...			
1...14	0.4	SMO-1107H...	SMO-1207H...			
2...18	0.2	SMO-1109H...	SMO-1209H...			
7...25	0.4	SMO-1111H...	SMO-1211H...			
10...60	0.7	SMO-1113H...	SMO-1213H...		..R15 = G 1/2	..N15 = 1/2 NPT
10...80	0.5	SMO-1115H...	SMO-1215H...		..R20 = G 3/4	..N20 = 3/4 NPT
10...120	0.5	SMO-1117H...	SMO-1217H...		..R25 = G 1	

Flow meter, flow from top model: SMO-2...

(Example: SMO-2107H 00 R08)

Measuring range L/min water	Pressure loss Δ P [bar]	Brass	Stainless steel	Contact	Connection	
					..R08 = G 1/4 ..R15 = G 1/2	..N08 = 1/4 NPT ..N15 = 1/2 NPT
0.2...3	0.2	SMO-2101H...	SMO-2201H...	...00... = without contact	..R08 = G 1/4 ..R15 = G 1/2	..N08 = 1/4 NPT ..N15 = 1/2 NPT
1...4.5	0.2	SMO-2103H...	SMO-2203H...			
1...7.5	0.3	SMO-2105H...	SMO-2205H...			
1...14	0.4	SMO-2107H...	SMO-2207H...			
2...18	0.2	SMO-2109H...	SMO-2209H...			
7...25	0.4	SMO-2111H...	SMO-2211H...			
10...60	0.7	SMO-2113H...	SMO-2213H...		..R15 = G 1/2	..N15 = 1/2 NPT
10...80	0.5	SMO-2115H...	SMO-2215H...		..R20 = G 3/4	..N20 = 3/4 NPT
10...120	0.5	SMO-2117H...	SMO-2217H...		..R25 = G 1	

Flow meters and switches with 1 contact, flow from top model: SMO-3...

(Example: SMO-3101H R0 R08)

Measuring range L/min water	Pressure loss Δ P [bar]	Brass	Stainless steel	Contact	Connection	
					..R08 = G 1/4 ..R15 = G 1/2	..N08 = 1/4 NPT ..N15 = 1/2 NPT
0.2...3	0.2	SMO-3101H...	SMO-3201H...	..R0.. = 1 N/O contact ..U0.. = 1 changeover contact ..F0.. = 1 Ex N/O contact ..C0.. = 1 N/O contact (UL) ..D0.. = 1 changeover contact (UL) ..RR.. = 2 N/O contact ..UU.. = 2 changeover contact ..CC.. = 2 N/O contact (UL) ..DD.. = 2 changeover contact (UL)	..R08 = G 1/4 ..R15 = G 1/2	..N08 = 1/4 NPT ..N15 = 1/2 NPT
1...4.5	0.2	SMO-3103H...	SMO-3203H...			
1...7.5	0.3	SMO-3105H...	SMO-3205H...			
1...14	0.4	SMO-3107H...	SMO-3207H...			
2...18	0.2	SMO-3109H...	SMO-3209H...			
7...25	0.4	SMO-3111H...	SMO-3211H...			
10...60	0.7	SMO-3113H...	SMO-3213H...		..R15 = G 1/2	..N15 = 1/2 NPT
10...80	0.5	SMO-3115H...	SMO-3215H...		..R20 = G 3/4	..N20 = 3/4 NPT
10...120	0.5	SMO-3117H...	SMO-3217H...		..R25 = G 1	



Order Details

Flow switches with 1 contact, horizontal flow model: SMW-1...

(Example: SMW-1101H LR0 R08)

Measuring range L/min water	Pressure loss Δ P [bar]	Brass	Stainless steel	Direction of flow	Contact	Connection	
0.5...3.5	0.2	SMW-1101H...	SMW-1201H...	..L = from left ..R = from right	..R0.. = 1 N/O contact ..U0.. = 1 changeover contact ..F0.. = 1 Ex N/O contact ..C0.. = 1 N/O contact (UL) ..D0.. = 1 changeover contact (UL) ..RR.. = 2 N/O contact ..UU.. = 2 changeover contact ..CC.. = 2 N/O contact (UL) ..DD.. = 2 changeover contact (UL)	..R08 = G 1/4 ..R15 = G 1/2	..N08 = 1/4 NPT ..N15 = 1/2 NPT
2...9	0.4	SMW-1103H...	SMW-1203H...				
2.5...15	0.5	SMW-1105H...	SMW-1205H...				
3.5...24	0.3	SMW-1107H...	SMW-1207H...			..R15 = G 1/2 ..R20 = G 3/4 ..R25 = G 1	..N15 = 1/2 NPT ..N20 = 3/4 NPT
10...60	0.7	SMW-1109H...	SMW-1209H...				
5...90	0.6	SMW-1111H...	SMW-1211H...				
10...120	0.6	SMW-1113H...	SMW-1213H...				

Flow meter, horizontal flow model: SMW-2...

(Example: SMW-2101H L00 R08)

Measuring range L/min water	Pressure loss Δ P [bar]	Brass	Stainless steel	Direction of flow	Contact	Connection	
0.5...3.5	0.2	SMW-2101H...	SMW-2201H...	..L = from left ..R = from right	...00... = without contact	..R08 = G 1/4 ..R15 = G 1/2	..N08 = 1/4 NPT ..N15 = 1/2 NPT
2...9	0.4	SMW-2103H...	SMW-2203H...				
2.5...15	0.5	SMW-2105H...	SMW-2205H...				
3.5...24	0.3	SMW-2107H...	SMW-2207H...			..R15 = G 1/2 ..R20 = G 3/4 ..R25 = G 1	..N15 = 1/2 NPT ..N20 = 3/4 NPT
10...60	0.7	SMW-2109H...	SMW-2209H...				
5...90	0.6	SMW-2111H...	SMW-2211H...				
10...120	0.6	SMW-2113H...	SMW-2213H...				

Flow meters and switches with 1 contact, horizontal flow model: SMW-3...

(Example: SMW-3101H RR0 R08)

Measuring range L/min water	Pressure loss Δ P [bar]	Brass	Stainless steel	Direction of flow	Contact	Connection	
0.5...3.5	0.2	SMW-3101H...	SMW-3201H...	..L = from left ..R = from right	..R0.. = 1 N/O contact ..U0.. = 1 changeover contact ..F0.. = 1 Ex N/O contact ..C0.. = 1 N/O contact (UL) ..D0.. = 1 changeover contact (UL) ..RR.. = 2 N/O contact ..UU.. = 2 changeover contact ..CC.. = 2 N/O contact (UL) ..DD.. = 2 changeover contact (UL)	..R08 = G 1/4 ..R15 = G 1/2	..N08 = 1/4 NPT ..N15 = 1/2 NPT
2...9	0.4	SMW-3103H...	SMW-3203H...				
2.5...15	0.5	SMW-3105H...	SMW-3205H...				
3.5...24	0.3	SMW-3107H...	SMW-3207H...			..R15 = G 1/2 ..R20 = G 3/4 ..R25 = G 1	..N15 = 1/2 NPT ..N20 = 3/4 NPT
10...60	0.7	SMW-3109H...	SMW-3209H...				
5...90	0.6	SMW-3111H...	SMW-3211H...				
10...120	0.6	SMW-3113H...	SMW-3213H...				