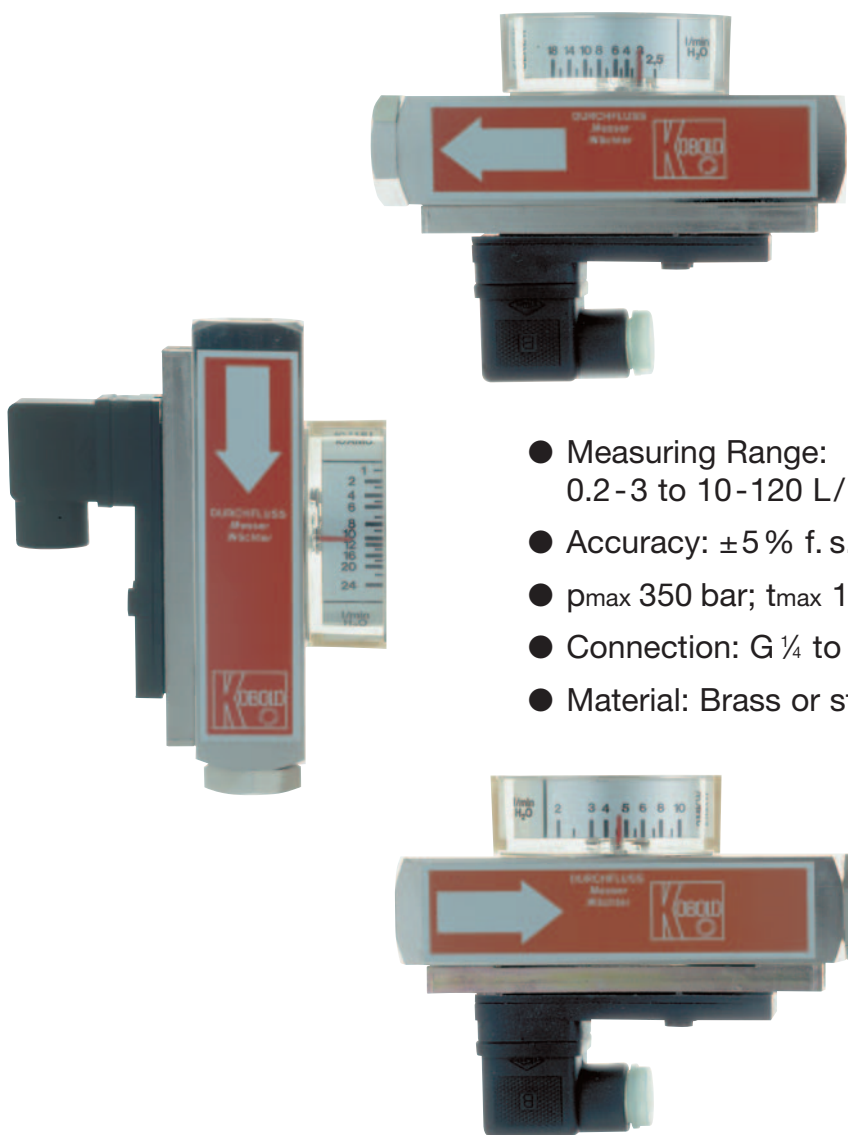




Flow Meters and Switches Flow Direction: Horizontal or from Top to Bottom



measuring
•
monitoring
•
analysing



- 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 $\frac{1}{4}$ to G 1 female
- Material: Brass or stainless steel



KOBOLD offices exist in the following countries:

ARGENTINA, AUSTRIA, BELGIUM, BRAZIL, CANADA, CHINA,
FRANCE, GERMANY, GREAT BRITAIN, ITALY, MEXICO, NETHER-
LANDS, PERU, POLAND, SWITZERLAND, USA, VENEZUELA

KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
☎ +49(0)6192 299-0
☎ +49(0)6192 23398
E-Mail: info.de@kobold.com
Internet: www.kobold.com

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

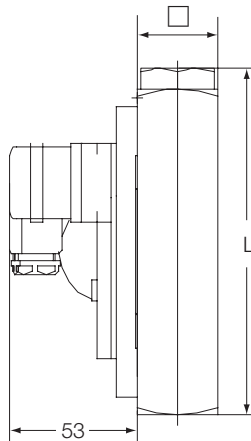
Direction of flow: horizontal

- 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-..F0..) 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	
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)	..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...		..R15 = G 1/2 ..R20 = G 3/4 ..R25 = G 1	..N15 = 1/2 NPT ..N20 = 3/4 NPT
7...25	0.4	SMO-1111H...	SMO-1211H...			
10...60	0.7	SMO-1113H...	SMO-1213H...			
10...80	0.5	SMO-1115H...	SMO-1215H...			
10...120	0.5	SMO-1117H...	SMO-1217H...			

*This instrument is also available with 2 contacts. Please specify in writing.

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	
0.2...3	0.2	SMO-2101H...	SMO-2201H...	...00... = without contact ...EX... = with ATEX approval	..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...		..R15 = G 1/2 ..R20 = G 3/4 ..R25 = G 1	..N15 = 1/2 NPT ..N20 = 3/4 NPT
7...25	0.4	SMO-2111H...	SMO-2211H...			
10...60	0.7	SMO-2113H...	SMO-2213H...			
10...80	0.5	SMO-2115H...	SMO-2215H...			
10...120	0.5	SMO-2117H...	SMO-2217H...			

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	
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)	..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...		..R15 = G 1/2 ..R20 = G 3/4 ..R25 = G 1	..N15 = 1/2 NPT ..N20 = 3/4 NPT
7...25	0.4	SMO-3111H...	SMO-3211H...			
10...60	0.7	SMO-3113H...	SMO-3213H...			
10...80	0.5	SMO-3115H...	SMO-3215H...			
10...120	0.5	SMO-3117H...	SMO-3217H...			



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	..R08 = G 1/4	..N08 = 1/4 NPT
2...9	0.4	SMW-1103H...	SMW-1203H...		...U0... = 1 Changeover c.	..R15 = G 1/2	..N15 = 1/2 NPT
2.5...15	0.5	SMW-1105H...	SMW-1205H...		...F0... = 1 Ex N/O cont.	..R15 = G 1/2	..N15 = 1/2 NPT
3.5...24	0.3	SMW-1107H...	SMW-1207H...		...C0... = 1 N/O cont. (UL)	..R20 = G 3/4	..N20 = 3/4 NPT
10...60	0.7	SMW-1109H...	SMW-1209H...		...D0... = 1 Changeover contact (UL)	..R25 = G 1	
5...90	0.6	SMW-1111H...	SMW-1211H...				
10...120	0.6	SMW-1113H...	SMW-1213H...				

*This instrument is also available with 2 contacts. Please specify in writing.

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 ...EX... = with ATEX-approval	..R08 = G 1/4	..N08 = 1/4 NPT
2...9	0.4	SMW-2103H...	SMW-2203H...			..R15 = G 1/2	..N15 = 1/2 NPT
2.5...15	0.5	SMW-2105H...	SMW-2205H...			..R15 = G 1/2	..N15 = 1/2 NPT
3.5...24	0.3	SMW-2107H...	SMW-2207H...			..R20 = G 3/4	..N20 = 3/4 NPT
10...60	0.7	SMW-2109H...	SMW-2209H...			..R25 = G 1	
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	..R08 = G 1/4	..N08 = 1/4 NPT
2...9	0.4	SMW-3103H...	SMW-3203H...		...U0... = 1 Changeover c.	..R15 = G 1/2	..N15 = 1/2 NPT
2.5...15	0.5	SMW-3105H...	SMW-3205H...		...F0... = 1 Ex N/O cont.	..R15 = G 1/2	..N15 = 1/2 NPT
3.5...24	0.3	SMW-3107H...	SMW-3207H...		...C0... = 1 N/O cont. (UL)	..R20 = G 3/4	..N20 = 3/4 NPT
10...60	0.7	SMW-3109H...	SMW-3209H...		...D0... = 1 Changeover contact (UL)	..R25 = G 1	
5...90	0.6	SMW-3111H...	SMW-3211H...				
10...120	0.6	SMW-3113H...	SMW-3213H...				