



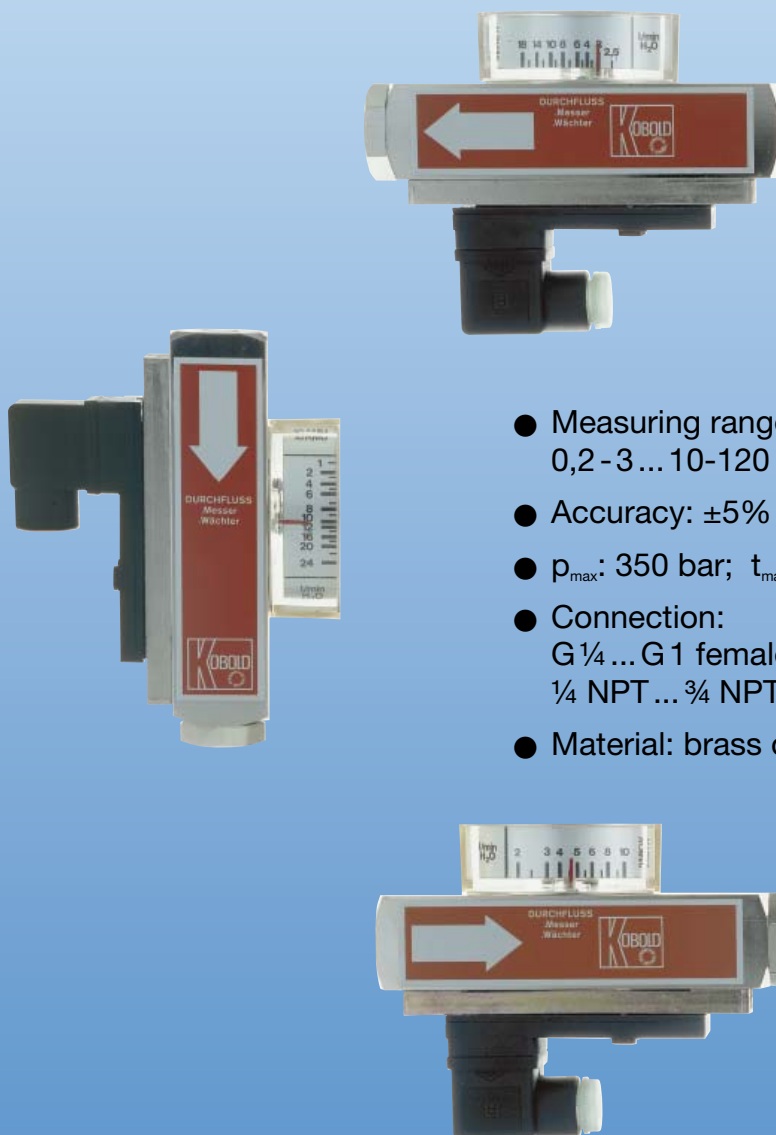
Flow Meters and Switches

Flow Direction: Horizontal
or from Top to Bottom



measuring
•
monitoring
•
analysing

SMW / SMO



- Measuring range:
0,2 - 3 ... 10-120 L/min water
- Accuracy: $\pm 5\%$ of full scale
- $p_{\max}$: 350 bar; $t_{\max}$: 100 °C
- Connection:
G 1/4 ... G 1 female
1/4 NPT ... 3/4 NPT female
- Material: brass or stainless steel



KOBOLD companies worldwide:

ARGENTINA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CHILE, CHINA, COLUMBIA, CZECHIA, DOMINICAN REPUBLIC, EGYPT, FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, INDIA, INDONESIA, ITALY, MALAYSIA, MEXICO, NETHERLANDS, PERU, POLAND, ROMANIA, SINGAPORE, SOUTH KOREA, SPAIN, SWITZERLAND, TAIWAN, THAILAND, TUNISIA, USA, VIETNAM

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

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

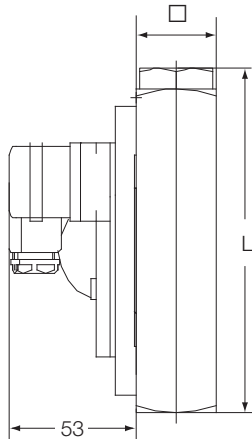
Direction of flow: horizontal

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

Durchflussrichtung von oben nach unten

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	¼ (½*)	132 (136*)	1
SMx-..03	30 x 30	¼ (½)	132 (136)	1
SMx-..05	30 x 30	¼ (½)	132 (136)	1
SMx-..07	30 x 30	¼ (½)	132 (136)	1
SMO-..09	30 x 30	¼ (½)	132 (136)	1
SMW-..09	30 x 30	½	150	1
SMO-..11	30 x 30	¼ (½)	156 (150)	1.7
SMW-..11	40 x 40	¾ (1)	156 (150)	1.7
SMO-..13	30 x 30	½	150	1
SMW-..13	40 x 40	¾ (1)	156 (150)	1.7
SMO-..15	40 x 40	¾ (1)	156 (150)	1.7
SMO-..17	40 x 40	¾ (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% of full scale
Reproducibility:	≤ 1%

Contacts for SMW-1.., SMW-3.. and SMO-1.., SMO-3..

Electrical connection: 2 m cable (SMx-...F0...)
with all other types:
connector DIN EN 175301-803

Electrical switching
values:

N/O contact
max. 250 V_{AC/DC}/1.5 A/100 W/100 VA
changeover contact
max. 250 V_{AC/DC}/1 A/30 W/60 VA
N/O contact and
changeover contact (cCSAus)
max. 230 V_{DC}/0.26 A/60 W,
60 V_{DC}/1 A/60 W,
max. 240 V_{AC}/0.42 A/100 W,
100 V_{AC}/1 A/100 W
N/O contact (EX):
II 2G Ex mb IIC T6 Gb
II 2D Ex mb IIIC T80°C Db IP67
max. 250 V_{AC}/1.5 A/100 VA

Ex-range: ATEX-zone 1 as »simple apparatus«
or with 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 ΔP (bar)	Brass	Stainless steel	Contact	Connection female thread	
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 (cCSAus) ..D0.. = 1 changeover contact (cCSAus) ..RR.. = 2 N/O contact ..UU.. = 2 changeover contact ..CC.. = 2 N/O contact (cCSAus) ..DD.. = 2 changeover contact (cCSAus)	..R08 = G ¼ ..R15 = G ½	..N08 = ¼ NPT ..N15 = ½ 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 ½ ..R20 = G ¾ ..R25 = G 1	..N15 = ½ NPT ..N20 = ¾ NPT
7...25	0.4	SMO-1111H...	SMO-1211H...			
10...60	0.7	SMO-1113H...	SMO-1213H...			
10...90	0.5	SMO-1115H...	SMO-1215H...			
10...120	0.5	SMO-1117H...	SMO-1217H...			

Flow meter, flow from top model: SMO-2... (Example: SMO-2107H 00 R08)

Measuring range L/min water	Pressure loss ΔP (bar)	Brass	Stainless steel	Contact	Connection female thread	
0.2...3	0.2	SMO-2101H...	SMO-2211H...	..00.. = without contact	..R08 = G ¼ ..R15 = G ½	..N08 = ¼ NPT ..N15 = ½ 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 ½ ..R20 = G ¾ ..R25 = G 1	..N15 = ½ NPT ..N20 = ¾ NPT
7...25	0.4	SMO-2111H...	SMO-2211H...			
10...60	0.7	SMO-2113H...	SMO-2213H...			
10...90	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 ΔP (bar)	Brass	Stainless steel	Contact	Connection female thread	
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 (cCSAus) ..D0.. = 1 changeover contact (cCSAus) ..RR.. = 2 N/O contact ..UU.. = 2 changeover contact ..CC.. = 2 N/O contact (cCSAus) ..DD.. = 2 changeover contact (cCSAus)	..R08 = G ¼ ..R15 = G ½	..N08 = ¼ NPT ..N15 = ½ 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 ½ ..R20 = G ¾ ..R25 = G 1	..N15 = ½ NPT ..N20 = ¾ NPT
7...25	0.4	SMO-3111H...	SMO-3211H...			
10...60	0.7	SMO-3113H...	SMO-3213H...			
10...90	0.5	SMO-3115H...	SMO-3215H...			
10...120	0.5	SMO-3117H...	SMO-3217H...			



Flow Meters and Switches Model SMW/SMO

Order Details

Flow switches with 1 contact, horizontal flow model: SMW-1... (Example: SMW-1101H LR0 R08)

Measuring range L/min water	Pressure loss ΔP (bar)	Brass	Stainless steel	Direction of flow	Contact	Connection female thread	
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 (cCSAus) ..D0.. = 1 changeover contact (cCSAus) ..RR.. = 2 N/O contact ..UU.. = 2 changeover contact ..CC.. = 2 N/O contact (cCSAus) ..DD.. = 2 changeover contact (cCSAus)	..R08 = G ¼	..N08 = ¼ NPT
2...9	0.4	SMW-1103H...	SMW-1203H...			..R15 = G ½	..N15 = ½ NPT
2.5...15	0.5	SMW-1105H...	SMW-1205H...			..R15 = G ½	..N15 = ½ NPT
3.5...24	0.3	SMW-1107H...	SMW-1207H...			..R15 = G ½	..N15 = ½ NPT
10...60	0.7	SMW-1109H...	SMW-1209H...			..R20 = G ¾	..N20 = ¾ NPT
5...90	0.6	SMW-1111H...	SMW-1211H...			..R25 = G 1	..N25 = 1 NPT
10...120	0.6	SMW-1113H...	SMW-1213H...			..R25 = G 1	..N25 = 1 NPT

Flow meter, horizontal flow model: SMW-2... (Example: SMW-2101H L00 R08)

Measuring range L/min water	Pressure loss ΔP (bar)	Brass	Stainless steel	Direction of flow	Contact	Connection female thread	
0.5...3.5	0.2	SMW-2101H...	SMW-2201H...	..L = from left ..R = from right	..00.. = without contact	..R08 = G ¼	..N08 = ¼ NPT
2...9	0.4	SMW-2103H...	SMW-2203H...			..R15 = G ½	..N15 = ½ NPT
2.5...15	0.5	SMW-2105H...	SMW-2205H...			..R15 = G ½	..N15 = ½ NPT
3.5...24	0.3	SMW-2107H...	SMW-2207H...			..R15 = G ½	..N15 = ½ NPT
10...60	0.7	SMW-2109H...	SMW-2209H...			..R20 = G ¾	..N20 = ¾ NPT
5...90	0.6	SMW-2111H...	SMW-2211H...			..R25 = G 1	..N25 = 1 NPT
10...120	0.6	SMW-2113H...	SMW-2213H...			..R25 = G 1	..N25 = 1 NPT

Flow meters and switches with 1 contact, horizontal flow model: SMW-3... (Example: SMW-3101H RR0 R08)

Measuring range L/min water	Pressure loss ΔP (bar)	Brass	Stainless steel	Direction of flow	Contact	Connection female thread	
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 (cCSAus) ..D0.. = 1 changeover contact (cCSAus) ..RR.. = 2 N/O contact ..UU.. = 2 changeover contact ..CC.. = 2 N/O contact (cCSAus) ..DD.. = 2 changeover contact (cCSAus)	..R08 = G ¼	..N08 = ¼ NPT
2...9	0.4	SMW-3103H...	SMW-3203H...			..R15 = G ½	..N15 = ½ NPT
2.5...15	0.5	SMW-3105H...	SMW-3205H...			..R15 = G ½	..N15 = ½ NPT
3.5...24	0.3	SMW-3107H...	SMW-3207H...			..R15 = G ½	..N15 = ½ NPT
10...60	0.7	SMW-3109H...	SMW-3209H...			..R20 = G ¾	..N20 = ¾ NPT
5...90	0.6	SMW-3111H...	SMW-3211H...			..R25 = G 1	..N25 = 1 NPT
10...120	0.6	SMW-3113H...	SMW-3213H...			..R25 = G 1	..N25 = 1 NPT