



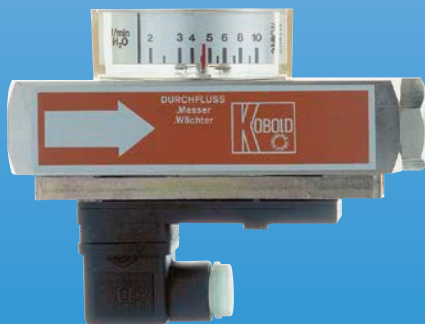
Flowmeters and Switches

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

S2



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Description

The KOBOLD flowmeters and switches models SMW-.. and SMO-.. operate in the same way as the flowmeter 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

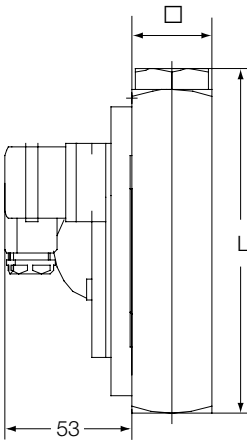
1. SMW-1... flow switch
2. SMW-2... flowmeter
3. SMW-3... flowmeters and switches

Direction of flow: from top to bottom

4. SMO-1... flow switch
5. SMO-2... flowmeter
6. SMO-3... flowmeters and switches

Dimensions [mm]

SMW / SMO



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: 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
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 female thread	
					..R08 = G ¼	..N08 = ¼" NPT
0.2...3	0.2	SMO-1101H...	SMO-1201H...	..R0.. = 1 N/O contact ..U0.. = 1 changeover 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)	..R15 = G ½	..N15 = ½" NPT
1...4.5	0.2	SMO-1103H...	SMO-1203H...		..R15 = G ½	..N15 = ½" NPT
1...7.5	0.3	SMO-1105H...	SMO-1205H...		..R15 = G ½	..N15 = ½" NPT
1...14	0.4	SMO-1107H...	SMO-1207H...		..R15 = G ½	..N15 = ½" NPT
2...18	0.2	SMO-1109H...	SMO-1209H...		..R15 = G ½	..N15 = ½" NPT
7...25	0.4	SMO-1111H...	SMO-1211H...		..R15 = G ½	..N15 = ½" NPT
10...60	0.7	SMO-1113H...	SMO-1213H...		..R15 = G ½	..N15 = ½" NPT
10...80	0.5	SMO-1115H...	SMO-1215H...		..R20 = G ¾	..N20 = ¾" NPT
10...120	0.5	SMO-1117H...	SMO-1217H...		..R25 = G 1	..N25 = 1" NPT

Flowmeter, 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 female thread	
					..R08 = G ¼	..N08 = ¼" NPT
0.2...3	0.2	SMO-2101H...	SMO-2201H...	..00.. = without contact	..R15 = G ½	..N15 = ½" NPT
1...4.5	0.2	SMO-2103H...	SMO-2203H...		..R15 = G ½	..N15 = ½" NPT
1...7.5	0.3	SMO-2105H...	SMO-2205H...		..R15 = G ½	..N15 = ½" NPT
1...14	0.4	SMO-2107H...	SMO-2207H...		..R15 = G ½	..N15 = ½" NPT
2...18	0.2	SMO-2109H...	SMO-2209H...		..R15 = G ½	..N15 = ½" NPT
7...25	0.4	SMO-2111H...	SMO-2211H...		..R15 = G ½	..N15 = ½" NPT
10...60	0.7	SMO-2113H...	SMO-2213H...		..R15 = G ½	..N15 = ½" NPT
10...80	0.5	SMO-2115H...	SMO-2215H...		..R20 = G ¾	..N20 = ¾" NPT
10...120	0.5	SMO-2117H...	SMO-2217H...		..R25 = G 1	..N25 = 1" NPT

Flowmeters 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 female thread	
					..R08 = G ¼	..N08 = ¼" NPT
0.2...3	0.2	SMO-3101H...	SMO-3201H...	..R0.. = 1 N/O contact ..U0.. = 1 changeover 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)	..R15 = G ½	..N15 = ½" NPT
1...4.5	0.2	SMO-3103H...	SMO-3203H...		..R15 = G ½	..N15 = ½" NPT
1...7.5	0.3	SMO-3105H...	SMO-3205H...		..R15 = G ½	..N15 = ½" NPT
1...14	0.4	SMO-3107H...	SMO-3207H...		..R15 = G ½	..N15 = ½" NPT
2...18	0.2	SMO-3109H...	SMO-3209H...		..R15 = G ½	..N15 = ½" NPT
7...25	0.4	SMO-3111H...	SMO-3211H...		..R15 = G ½	..N15 = ½" NPT
10...60	0.7	SMO-3113H...	SMO-3213H...		..R15 = G ½	..N15 = ½" NPT
10...80	0.5	SMO-3115H...	SMO-3215H...		..R20 = G ¾	..N20 = ¾" NPT
10...120	0.5	SMO-3117H...	SMO-3217H...		..R25 = G 1	..N25 = 1" NPT



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 ..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
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 ½ ..R20 = G ¾ ..R25 = G 1	..N15 = ½" NPT ..N20 = ¾" 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...				

Flowmeter, 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 ..R15 = G ½	..N08 = ¼" NPT ..N15 = ½" 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 ½ ..R20 = G ¾ ..R25 = G 1	..N15 = ½" NPT ..N20 = ¾" 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...				

Flowmeters 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 ..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
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 ½ ..R20 = G ¾ ..R25 = G 1	..N15 = ½" NPT ..N20 = ¾" 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...				