

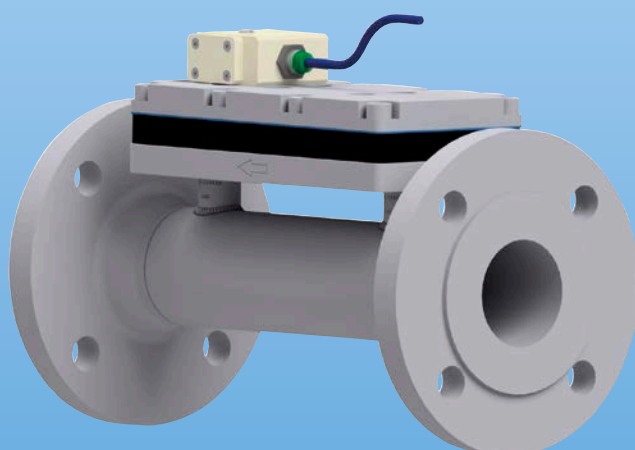


Oscillation Flowmeter for liquids



measuring
•
monitoring
•
analysing

DOG-5



DOG-5

- Measuring ranges water:
0.075-3.75 ... 19.6-980 m³/h
- p_{max}: PN 40; t_{max}: 120 °C
- Connection:
flange DIN DN25 ... DN200
ASME 1" ... 8"
- Material: stainless steel
- Accuracy:
±1 % of measured value
- Long-term stability



ZOK-



ADI-1

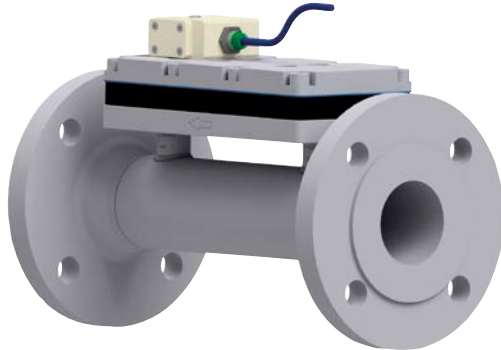


SS

KOBOLD companies worldwide:

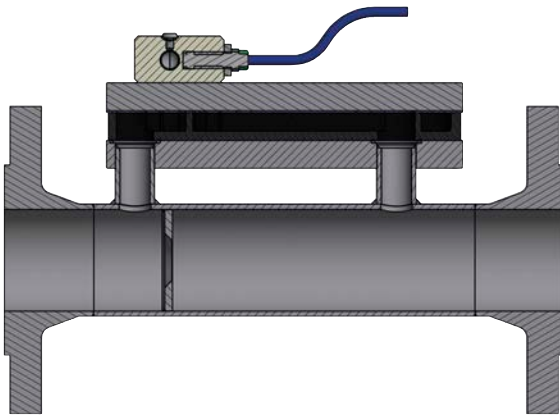
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Description

The KOBOLD flowmeter DOG-5 is used for non-contact flow measurement of low viscosity liquids. The medium flows through an orifice in a tube and side bypass bores. The dynamic pressure at the orifice causes part of the liquid to flow through the bypass. The division ratio remains constant over the whole measuring range.



The bypass channel contains the Oscillator – the measuring cell itself. When the medium flows through the measuring cell, a liquid column oscillates in a U-shaped channel mounted to the left and right. This oscillation frequency is proportional to the flow velocity.

A chamber with a hollow ball is situated over this channel. It is connected with the lower channel by two bore holes. The oscillation of the liquid column is thus transferred to the ball, which in turn moves back and forth with the same frequency. The ball movement is sensed by an initiator. An electrical alternating signal is generated that is displayed in the seriesconnected electronics.

Application

The inner, connected flow channels are generously dimensioned. The constant changes of direction of the flow in the channels have a self-cleaning effect. The devices are therefore extremely dirt resistant and have no consumables. The unit may be conditionally installed horizontally or vertically, be chosen at will. When the liquid contains air bubbles, the horizontal mounting position with the sensing element pointing upwards is recommended. To avoid air bubbles the device should not be mounted at the highest point in a plant. Pulsating flow must be avoided. The recommended inlet pipe section is 10xDN and the outlet pipe section 5xDN.

Areas of Application

- Hot water in district heat supply
- Non-conductive liquid

Technical Details

Measuring accuracy: $\pm 1\%$ of measured value (5...100%*)
 $\pm 2\%$ of measured value (at 2...5%)
 *These values relate to viscosities of ≤ 1 mm²/s

Repeatability: 0.2% of measured value

Temperature: max. 0... +120 °C

Ambient temperature: max. 60 °C

Operating pressure: DOG-52xxE PN10
 DOG-52xxF PN16
 DOG-52xxS PN40

Span: 1:70 (at 0.5 mm²/s)
 1: 50 (at 1 mm²/s)
 1: 25 (at 2 mm²/s)
 1: 12 (at 3 mm²/s)

Max. viscosity: 3 mm²/s

Connection: cable, 2 m PVC

Protection: IP65

Materials

Case: DOG-5 ...: stainless steel 1.4404

Orifice: stainless steel 1.4404

Sensing element: polyphenylene sulfide (PPS)

Sensor: hollow ball / 1.4401 (AISI 316)
 proximity switch

Gaskets: Klinger SIL® 4265, FKM

Frequency output: initiator, 2 wire, NAMUR (A/B)
 3 wire PNP (C)

Frequency output may be combined with following evaluating electronics ZOK-Zx, ZED-x and ADI-1

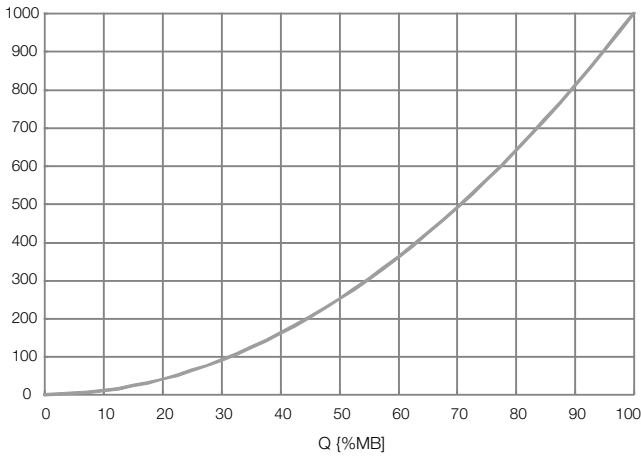


Order Details (Example: DOG-52 03H S25 1 A 0)

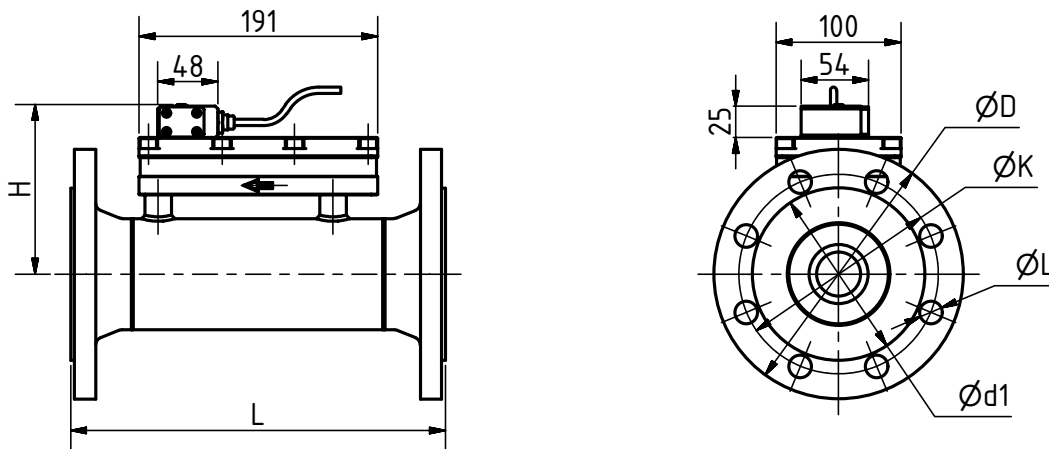
Model	Measuring range	Flange	Seal	Electrical Output	Options
DOG-52	03H = 0.075 ... 3.75 m³/h water	S25 = DN 25 PN 40	1 = Klinger SIL® 4265/FKM	A = frequency output, PNP, 2-wire Namur, 2 m PVC- cable	0 = without Y = special version acc. description
	07H = 0.13 ... 6.6 m³/h water	A25 = 1" ASME CI 150			
	10H = 0.2 ... 10 m³/h water	B25 = 1" ASME CI 300			
	06H = 0.12 ... 6 m³/h water	S40 = DN 40 PN 40			
	14H = 0.28 ... 14 m³/h water	A40 = 1½" ASME CI 150			
	30H = 0.6 ... 30 m³/h water	B40 = 1½" ASME CI 300			
	13H = 0.26 ... 13 m³/h water	S50 = DN 50 PN 40			
	28H = 0.56 ... 28 m³/h water	A50 = 2" ASME CI 150			
	48H = 0.96 ... 48 m³/h water	B50 = 2" ASME CI 300			
	23H = 0.46 ... 23 m³/h water	F80 = DN 80 PN 16			
	66H = 1.32 ... 66 m³/h water	S80 = DN 80 PN 40			
	H3H = 2.6 ... 130 m³/h water	A80 = 3" ASME CI 150			
		B80 = 3" ASME CI 300			
	60H = 1.2 ... 60 m³/h water	F1H = DN 100 PN 16			
	1HH = 2 ... 100 m³/h water	S1H = DN 100 PN 40			
	H6H = 3.6 ... 160 m³/h water	A1H = 4" ASME CI 150			
		B1H = 4" ASME CI 300			
	94H = 1.9 ... 94 m³/h water	F1F = DN 150 PN 16			
	2HH = 4 ... 200 m³/h water	S1F = DN 150 PN 40			
	5HH = 10 ... 500 m³/h water	A1F = 6" ASME CI 150			
		B0F = 6" ASME CI 300			
	H7H = 3.4 ... 170 m³/h water	E2H = DN 200 PN 10			
	3HH = 6.8 ... 340 m³/h water	F2H = DN 200 PN 16			
	9HH = 19.6 ... 980 m³/h water	S2H = DN 200 PN 40			
	A2H = 8" ASME CI 150				
	B2H = 8" ASME CI 300				

Pressure Loss/Flow

Pressure loss



Dimensions and Weight



DN [mm]	L [mm]	H [mm]	ØD [mm]	ØK [mm]	ØL [mm]	Ød1 [mm]	Number of holes	Screw size	Weight [kg]
25	300	109	115	85	14	68	4	M12	7,97
40	300	116	150	110	18	88	4	M16	9,86
50	300	122	165	125	18	102	4	M16	11,46
80	300	136	200	160	18	138	8	M16	14,25
100	320	149	220	180	18	158	8	M16	16,39
150	320	176	285	240	22	212	8	M20	24,64
200	320	201	340	295	22	268	8	M20	35,56