



- Measuring range:
 2.5-25 to 10 000-100 000 L/h
 water
 0.07-0.7 to 40-400 m³/h
 air (20 °C, 1.013 bar)
- Accuracy class: 1.6
- p_{max} PN 40,
 t_{max} -80 to +400 °C
- Connection:
 flange DN 15 to DN 100
- Material:
 stainless steel 1.4404,
 PTFE, hastelloy
- Option: Contacts,
 analogue output, totalizer

KOBOLD companies worldwide:

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Model:
 KDM



Description

The KOBOLD flow meter model KDM for liquids, gases and vapours is an all-metal flow meter based on the suspended float principle. Due to its very rugged design it is particularly suited for difficult applications. The elevation of the float, which depends on the flow rate, is transferred to the indicator scale by means of magnetic measured-value transfer. The instrument must be installed vertically and the direction of flow must be upwards.

Other advantages

- Rugged all-metal design
- Electrical teletransmission of measured data (option)
- Float damping (optional, can be retrofitted)
- Low pressure loss

Damping (optional, can be retrofitted)

Damping can be installed for nominal sizes DN 15 to DN 80. Damping should always be installed, where unstable flow conditions prevail; damping should always be installed for gas metering with an operating pressure less than 300 mbar. Material: Al₂O₃ (ceramics)

EX version (option)

The flow meter KDM is also suited for service in hazardous areas (EEx ia II C T6...T3 and EEx ib II C T6...T3).

Limit contacts (option)

One or two contacts can be fitted. These contacts are slotted proximity switches. Both contacts can be slid across the entire measuring range; the set values are indicated.

An isolation and switch unit is required to operate one or both contacts (model REL-6000 Z2 Accessories brochure).

Nominal voltage: 8 V_{DC}
 Current consumption: ≥ 3 mA or ≤ 1 mA
 (depending on the output state)

Electrical characteristic values: Acc. to DIN 19234 (NAMUR)

An isolation and switch unit model REL-6000 is required for the ex area.

Analogue output 4 - 20 mA (optional)

Using state-of-the-art magnetic field sensors and reliable micro electronics a rugged module has been developed that is fitted in the indicator without mechanical transmission. The module is calibrated at the factory. A replaceable, electronic chip allows easy conversion to other measuring substances.

Counters (optional)

Auxiliary power: 16 - 30 V_{DC}
 Current consumption: 4 - 22 mA
 Environment: -25 to +65 °C
 Six-segment display (fitted in the indicator)
 No data loss with power failure

Technical Details

Measuring tube: stainless steel 1.4404
 Float: stainless steel 1.4404
 Flange: stainless steel 1.4404
 Fittings: stainless steel 1.4404
 Medium temperature: -80...+200 °C
 (option L/I and T_{amb.} < 40 °C)
 -80...+300 °C
 (w/o additional features)
 more details are listed in the operating instructions)
 Ambient temperature: -25...+80 °C
 -40...+120 °C (without additional features)
 Nominal pressure: PN 40 (DN 15 to DN 50)
 PN 16 (DN 80, DN 100)
 option PN 40, (DN 80/DN 100)
 Installation position: vertical, upward flow
 Accuracy class: 1.6 according to VDI/VDE guideline; 3513, sheet 2
 Protection: IP 65
 Mechanical connection: flange form B1 EN 1092-1 (standard)
 hygienic thread according to DIN 11851 or internal thread
 Flange sizes: DN 15, DN 25, DN 50, DN 80, DN 100
 Option: Hastelloy C4 (2.4610), PTFE

Analogue output (optional)

Auxiliary power: 12.7 to 30 V_{DC}
 Output: 4 - 20 mA, 2-wire
 Repeatability: < 0.1% f. s.
 Load: $R = (U_B - 12.7 \text{ V}) / 20 \text{ mA}$
 Storage temperature: -25 °C to 80 °C
 Explosion protection: EEx ia IIC T6
 according to EN 50014 and EN 50020

Intrinsically safe circuits with special maximum values (upon request).



Order Details medium water (Example: KDM-V15 W01 K0 0)

Measuring range water [L/h]	Flange	Max. pressure loss [mbar]	Order number stainless steel	Additional features	Option
2.5 - 25	DN 15	26	KDM-VD15W01...		
4 - 40	DN 15	26	KDM-VD15W02...		
6.3 - 63	DN 15	26	KDM-VD15W03...		
10 - 100	DN 15	26	KDM-VD15W04...		
16 - 160	DN 15	26	KDM-VD15W05...	...A0... = standard indicator	
25 - 250	DN 15	26	KDM-VD15W06...	...AE... = standard indicator with ATEX	
40 - 400	DN 15	28	KDM-VD15W07...	...H0... = 1 contact	
63 - 630	DN 15	32	KDM-VD15W08...	...HE... = 1 Ex contact	
63 - 630	DN 25	32	KDM-VD25W09...	...I0... = 2 contacts	...0 = without option
100 - 1000	DN 25	33	KDM-VD25W10...	...IE... = 2 Ex contacts	...T = displaced indicator for > 200°C
160 - 1600	DN 25	34	KDM-VD25W11...	...L0... = 4/20 mA output	...D = damping to DN 80
250 - 2500	DN 25	38	KDM-VD25W12...	...LE... = 4/20 mA Ex output	...P = PN 40 for DN 80 and DN 100
400 - 4000	DN 25	45	KDM-VD25W13...	...M0... = 4/20 mA 1 contact	...Y = oil-free and nonfat
630 - 6300	DN 25	103	KDM-VD25W14...	...ME... = 4/20 mA 1 Ex contact	
630 - 6300	DN 50	74	KDM-VD50W16...	...N0... = 4/20 mA 2 contacts	
1 - 10 m³/h	DN 50	77	KDM-VD50W17...	...NE... = 4/20 mA 2 Ex contacts	
1.6 - 16 m³/h	DN 50	84	KDM-VD50W18...	...K0... = 4/20 mA and counter	
2.5 - 25 m³/h	DN 50	104	KDM-VD50W19...		
2.5 - 25 m³/h	DN 80	68	KDM-VD80W23...		
4 - 40 m³/h	DN 80	89	KDM-VD80W24...		
6.3 - 63 m³/h	DN 100	120	KDM-VD1HW25...		
10 - 100 m³/h	DN 100	220	KDM-VD1HW26...		

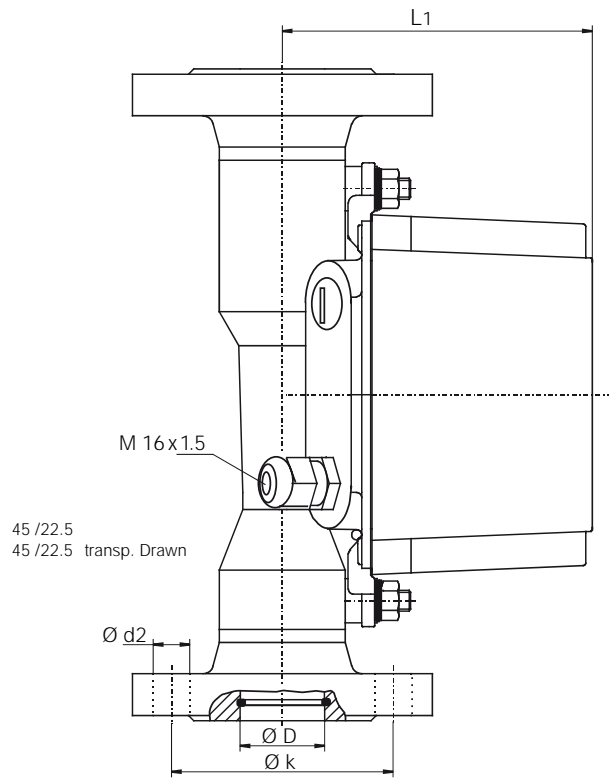
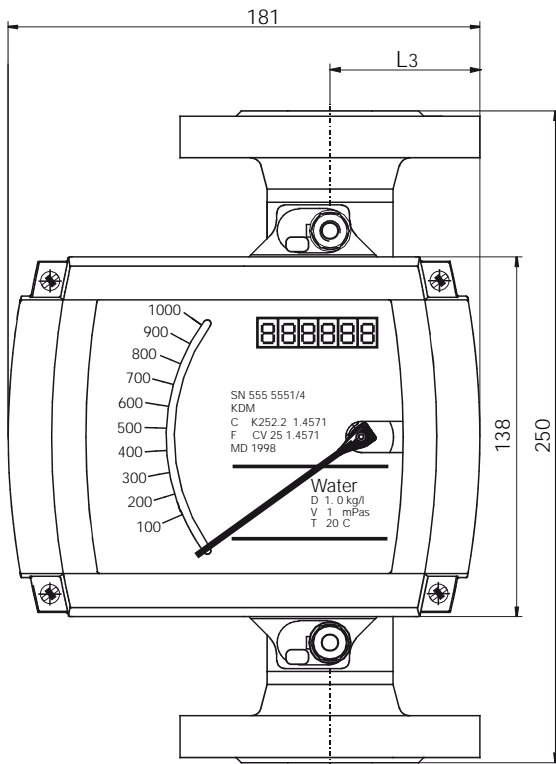
Order Details medium air (Example: KDM-V15 L01 K0 0)

Measuring range air [m³ _N /h]	Flange	Max. pressure loss [mbar]	Order number stainless steel	Additional features	Option
0.07 - 0.7	DN 15	21	KDM-VD15L01...		
0.1 - 1	DN 15	21	KDM-VD15L02...		
0.15 - 1.5	DN 15	21	KDM-VD15L03...		
0.22 - 2.2	DN 15	21	KDM-VD15L04...		
0.36 - 3.6	DN 15	21	KDM-VD15L05...		
0.55 - 5.5	DN 15	21	KDM-VD15L06...		
1 - 10	DN 15	21	KDM-VD15L07...	...A0... = standard indicator	
1.4 - 14	DN 15	22	KDM-VD15L08...	...AE... = standard indicator with ATEX	
1.4 - 14	DN 25	24	KDM-VD25L09...	...H0... = 1 contact	
2.2 - 22	DN 25	24	KDM-VD25L10...	...HE... = 1 Ex contact	
3.5 - 35	DN 25	25	KDM-VD25L11...	...I0... = 2 contacts	...0 = without option
5.0 - 50	DN 25	25	KDM-VD25L12...	...IE... = 2 Ex contacts	...T = displaced indicator for > 200°C
8.0 - 80	DN 25	30	KDM-VD25L13...	...L0... = 4/20 mA output	...D = damping to DN 80
11 - 110	DN 25	78	KDM-VD25L14...	...LE... = 4/20 mA Ex output	...P = PN 40 for DN 80 and DN 100
17 - 170	DN 25	103*	KDM-VD25L15...	...M0... = 4/20 mA 1 contact	...Y = oil-free and nonfat
8 - 80	DN 50	13	KDM-VD50L16...	...ME... = 4/20 mA 1 Ex contact	
11 - 110	DN 50	13	KDM-VD50L17...	...N0... = 4/20 mA 2 contacts	
15 - 150	DN 50	13	KDM-VD50L18...	...NE... = 4/20 mA 2 Ex contacts	
18 - 180	DN 50	14	KDM-VD50L19...	...K0... = 4/20 mA and counter	
23 - 230	DN 50	60	KDM-VD50L20...		
35 - 350	DN 50	69	KDM-VD50L21...		
60 - 600	DN 50	104	KDM-VD50L22...		
35 - 350	DN 80	16	KDM-VD80L23...		
40 - 400	DN 80	16	KDM-VD80L24...		
Special range	DN 50-100	-	KDM-YDYYAY...		

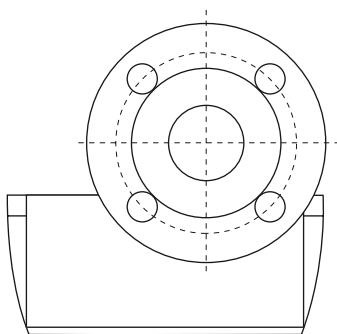
*300 mbar with damping

No responsibility taken for errors; subject to change without prior notice.

Dimensions



Hole diagram



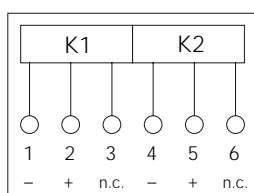
Other options

- Measuring range lining PTFE
- Measuring tube in hastelloy

Flange	PN	L1 [mm]	Ø D [mm]	Ø k [mm]	Ø d2 [mm]	L3 [mm]
DN 15	40	107	20	65	4 x 14	70.5
DN 25	40	119	32	85	4 x 14	70.5
DN 50	40	132	65	125	4 x 14	57.5
DN 80	16	148	89	160	8 x 18	57.5
DN 100	16	158	114	180	8 x 18	57.5

Electrical connection

Contacts



Analogue output

