



- Measuring range:  
 2.5–25 to 10.000–100.000 l/h  
 Water  
 0.07–0.7 to 60–600 m<sup>3</sup>/h  
 Air (20°C, 1.013 bar)
- Accuracy class: 1.6
- Pmax PN 40,  
 Tmax -80 to +400 °C
- Connection:  
 Flange DN 15 to DN 100
- Material:  
 Stainless steel 1.4404,  
 PTFE, hastelloy
- Option: Contacts,  
 analogue output, totalizer





### 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: Al<sub>2</sub>O<sub>3</sub> (ceramics)

### EX version (option)

The flow meter KDM is also suited for service in hazardous areas (EEx ia II C T<sub>6</sub>...T<sub>3</sub> and EEx ib II C T<sub>6</sub>...T<sub>3</sub>).

### 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 VDC

Current consumption:  $\geq 3$  mA or  $\leq 1$  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 VDC  
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 temperatures: -80...+200 °C  
-80...+175 °C DN 80/DN 100 and analogue output  
-80...+400 °C (with option: T)  
ambient temperature: -25...+60 °C  
-25...+120 °C (without additional features)

*Please specify medium temperatures > 150°C, as a heat-resistant cable is required.*

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

Reproducibility: < 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 T<sub>6</sub>  
according to EN 50014  
and EN 50020:

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



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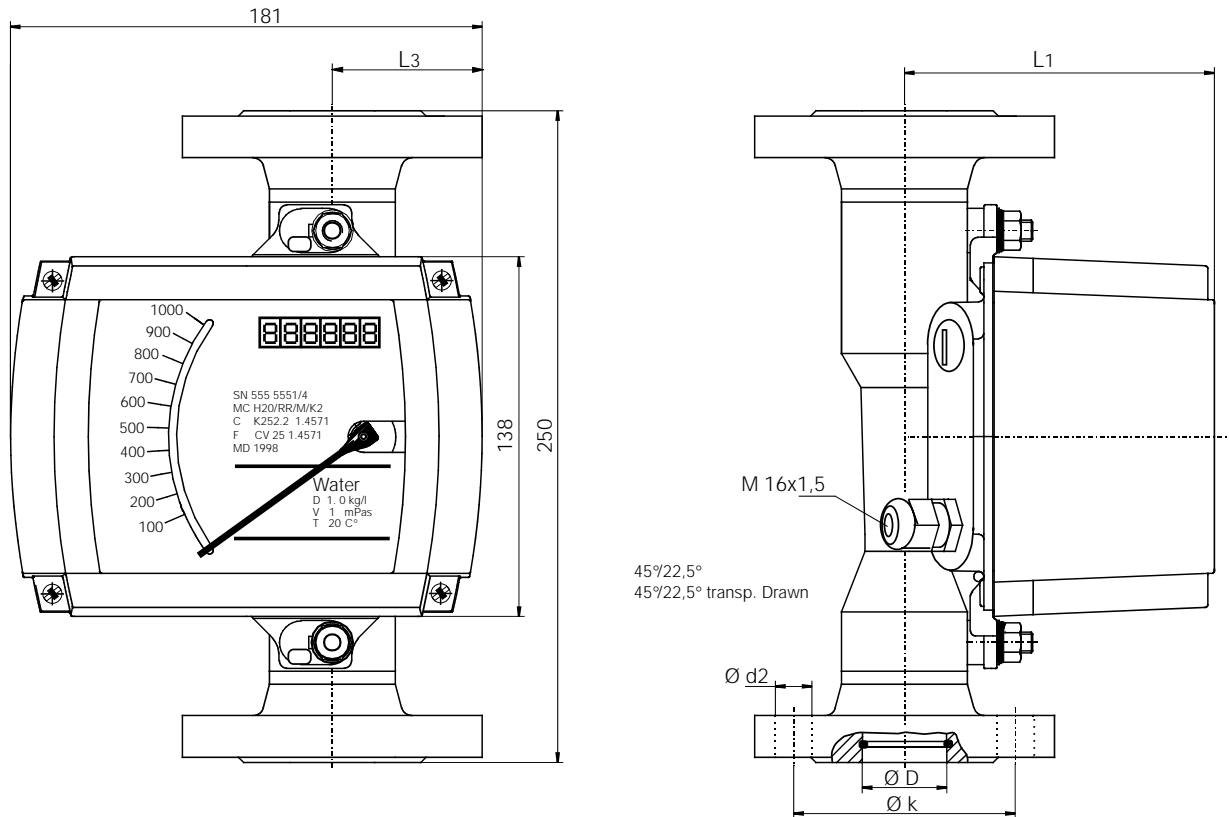
**Order Details medium water** (Example: KDM-V15 W01 K0)

Measuring range water l/h	Flange	Pressure loss (mbar) with Q <sub>nenn</sub> *	Order number stainless steel	Additional features	Option
2.5-25	DN 15	26	KDM-VD15W01...	...A0= standard indicator	...T= displaced indicator for >200 °C
4-40	DN 15	26	KDM-VD15W02...	...AE= standard indicator with ATEX	...D= damping to DN 80
6.3-63	DN 15	26	KDM-VD15W03...	...H0= 1 contact	...P= PN 40 for DN 80 and DN 100
10-100	DN 15	26	KDM-VD15W04...	...HE= 1 Ex contact	...Y= oil-free and non fat
16-160	DN 15	26	KDM-VD15W05...	...I0= 2 contacts	
25-250	DN 15	26	KDM-VD15W06...	...IE= 2 Ex contacts	
40-400	DN 15	28	KDM-VD15W07...	...L0= 4/20 mA output	
63-630	DN 15	32	KDM-VD15W08...	...LE= 4/20 mA Ex output	
63-630	DN 25	32	KDM-VD25W09...	...K0= 4/20 mA output	
100-1000	DN 25	33	KDM-VD25W10...		
160-1600	DN 25	34	KDM-VD25W11...		
250-2500	DN 25	38	KDM-VD25W12...		
400-4000	DN 25	45	KDM-VD25W13...		
630-6300	DN 25	103	KDM-VD25W14...		
630-6300	DN 50	74	KDM-VD50W16...		
1-10m³/h	DN 50	77	KDM-VD50W17...		
1,6-16m³/h	DN 50	84	KDM-VD50W18...		
2,5-25m³/h	DN 50	104	KDM-VD50W19...		
2,5-25m³/h	DN 80	68	KDM-VD80W23...		
4-40m³/h	DN 80	89	KDM-VD80W24...		
6,3-63m³/h	DN 100	120	KDM-VD1HW25...		
10-100m³/h	DN 100	220	KDM-VD1HW26...		

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

Measuring range air m³/h	Flange	Pressure loss (mbar) with Q <sub>nenn</sub> *	Order number stainless steel	Additional features	Option
0.07-0.7	DN 15	21	KDM-VD15L01...	...A0= standard indicator	...T= displaced indicator for >200 °C
0.1-1	DN 15	21	KDM-VD15L02...	...AE= standard indicator with ATEX	...D= damping
0.15-1.5	DN 15	21	KDM-VD15L03...	...H0= 1 contact	...P= PN 40 for DN 80
0.22-2.2	DN 15	21	KDM-VD15L04...	...HE= 1 Ex contact	...Y= oil-free and non fat
0.36-3.6	DN 15	21	KDM-VD15L05...	...I0= 2 contacts	
0.55-5.5	DN 15	21	KDM-VD15L06...	...IE= 2 Ex contacts	
1-10	DN 15	21	KDM-VD15W07...	...L0= 4/20 mA output	
1.4-14	DN 15	22	KDM-VD15L08...	...LE= 4/20 mA Ex output	
1.4-14	DN 25	24	KDM-VD25L09...	...K0= 4/20 mA output	
2.2-22	DN 25	24	KDM-VD25L10...		
3.5-35	DN 25	25	KDM-VD25L11...		
5.0-50	DN 25	25	KDM-VD25L12...		
8.0-80	DN 25	30	KDM-VD25L13...		
11-110	DN 25	78	KDM-VD25L14...		
17-170	DN 25	103*	KDM-VD25L15...		
8-80	DN 50	13	KDM-VD50L16...		
11-110	DN 50	13	KDM-VD50L17...		
15-150	DN 50	13	KDM-VD50L18...		
18-180	DN 50	14	KDM-VD50L19...		
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...		

Dimensions



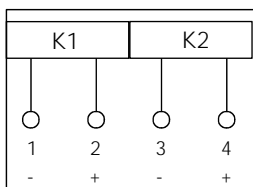
Flange	PN	L1 (mm)	Ø D (mm)	Ø k (mm)	Ø d2 (mm)	L3 (mm)
DN 15	40	107	20	65	4x14	70.5
DN 25	40	119	32	85	4x14	70.5
DN 50	40	132	65	125	4x14	70.5
DN 80	16	148	89	160	8x18	57.5
DN 100	16	158	114	180	8x18	57.5

Other options

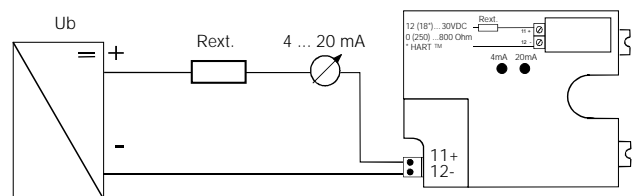
- Measuring range lining PTFE
- Measuring tube in hastelloy

Electrical connection

Contacts



Analogue output



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