



## All-Metal Flow Meters and Switches for very Low Flows

for Liquids and Gases



measuring  
•  
monitoring  
•  
analysing



- Flow rates:  
0.1 -1 to 25-250 L/h water  
4-37.5 to 800-7000 L<sub>N</sub>/h air
- Accuracy: category 4
- p<sub>max</sub> PN 160, t<sub>max</sub> 120 °C
- Connection: G ¼, G ⅜
- Material: stainless steel



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**Model:**  
KMI



### Description

The Kobold flow meters for very low flows model KMI are suited for operation in tough industrial environments as well as laboratories.

The flow meters comprise a tapered stainless steel measuring tube.



A female thread or compression fitting (also a hose connector) can be provided. The position of the float in the measuring tube is transferred to a large side indicator by means of a magnetic field.

This indicator can be fitted with a maximum of two slotted proximity switches (limit contacts). For remote indication the meters can also be supplied with a transmitter (output 4–20 mA).

### Applications

- Lubricant circuits
- Paper-making machines
- Machine tools
- Glass-melting ovens
- Cooling circuits
- Welding machines
- Induction furnaces
- Pumps

### Technical Details

Medium temperature:	
with local display	-80 °C to +120 °C
with limit switch or	
with transmitter	-40 °C to +120 °C
Pressure:	
	PN 10 hose connector
	PN 100 standard
	PN 160 on request (from KMI-..11)
Accuracy:	
	VDI/VDE 3513 category 4
	for the minimum measuring
	range category 5
Pressure loss:	
	KMI-..01 to KMI-..04..: 6 mbar
	KMI-..05 to KMI-..07..: 8 mbar
	KMI-..08 to KMI-..10..: 11 mbar
	KMI-..11 to KMI-..12..: 13 mbar
Connection (standard):	
	G 1/4 or G 3/8 female
	option: 1/4, 3/8 NPT
	Compression fitting
	6, 8, 10, 12 mm
	hose connector 6 or 8 mm
Protection:	IP 65
Material:	wetted parts in st. steel 1.4571
Housing:	aluminium finish, cover plastic
Installation position:	vertical
Flow:	from bottom to top
<b>Limit switch option</b>	
Inductive switch:	EN 50227 (NAMUR) as min.
	and / or max. contact
Ambient temperature:	-25 °C to +100 °C
Ex area:	EEx ia II CT 1 - T6

*We recommend our isolation and switch unit model REL-6000 when a NAMUR Switch is fitted (see Accessories Z2 brochure).*

### Electrical transmitter option

Supply voltage:	13.5...30 V <sub>DC</sub> , max. 20 mA
Output signal:	4 to 20 mA
Load impedance:	(U-13.5)/20 mA

*For the operation of the transducer a power supply unit type .....U21 (230 V<sub>AC</sub>) is suggested..*



**Order Details**

**Model KMI-12... with indicator** (Example: KMI-1201H R2 000)

Measuring range water (at 20°C)		Measuring range air (at 1.013 bar abs., 20°C)		Connection	Electrical output	Options
L/h	Order number	L <sub>N</sub> /h	Order number			
0.1 - 1	KMI-1201H...	4-37,5	KMI-1201L...	..R2..= G 1/4 female ..N2..= 1/4 NPT female ..E1..= Olive 8 mm ..E2..= Olive 10 mm ..E3..= Olive 6 mm ..E4..= Olive 12 mm ..S1..= hose connector 6 mm	..00..= without ..A4..= 4-20 mA	..0= without ..H= O <sub>2</sub> cleaning ..P= PN 160 ..Y= other
0.25 - 2.5	KMI-1202H...	10-90	KMI-1202L...			
0.4 - 4	KMI-1203H...	14-140	KMI-1203L...			
0.6 - 6	KMI-1204H...	20-180	KMI-1204L...			
1 - 10	KMI-1205H...	30-300	KMI-1205L...			
1.6 - 16	KMI-1206H...	50-450	KMI-1206L...			
2.5 - 25	KMI-1207H...	80-750	KMI-1207L...			
4 - 40	KMI-1208H...	140-1200	KMI-1208L...			
6 - 60	KMI-1209H...	200-1800	KMI-1209L...			
10 - 100	KMI-1210H...	300-3000	KMI-1210L...			
16 - 160	KMI-1211H...	500-4500	KMI-1211L...	..R3..= G 3/8 female	..00..= without ..A4..= 4-20 mA	..0= without ..H= O <sub>2</sub> cleaning ..P= PN 160 ..Y= other
25 - 250	KMI-1212H...	800-7000	KMI-1212L...	..N3..= 3/8 NPT female		
other	KMI-12yyy...	other	KMI-12yyy...	upon request		

**Model KMI-22... with indicator and 1 min. contact \*** (Example: KMI-2201H R2 000)

Measuring range water (at 20°C)		Measuring range air (at 1.013 bar abs., 20°C)		Connection	Electrical output	Options
L/h	Order number	L <sub>N</sub> /h	Order number			
0.1 - 1	KMI-2201H...	4-37,5	KMI-2201L...	..R2..= G 1/4 female ..N2..= 1/4 NPT female ..E1..= Olive 8 mm ..E2..= Olive 10 mm ..E3..= Olive 6 mm ..E4..= Olive 12 mm ..S1..= hose connector 6 mm	..00..= without ..A4..= 4-20 mA	..0= without ..H= O <sub>2</sub> cleaning ..P= PN 160 ..Y= other
0.25 - 2.5	KMI-2202H...	10-90	KMI-2202L...			
0.4 - 4	KMI-2203H...	14-140	KMI-2203L...			
0.6 - 6	KMI-2204H...	20-180	KMI-2204L...			
1 - 10	KMI-2205H...	30-300	KMI-2205L...			
1.6 - 16	KMI-2206H...	50-450	KMI-2206L...			
2.5 - 25	KMI-2207H...	80-750	KMI-2207L...			
4 - 40	KMI-2208H...	140-1200	KMI-2208L...			
6 - 60	KMI-2209H...	200-1800	KMI-2209L...			
10 - 100	KMI-2210H...	300-3000	KMI-2210L...			
16 - 160	KMI-2211H...	500-4500	KMI-2211L...	..R3..= G 3/8 female	..00..= without ..A4..= 4-20 mA	..0= without ..H= O <sub>2</sub> cleaning ..P= PN 160 ..Y= other
25 - 250	KMI-2212H...	800-7000	KMI-2212L...	..N3..= 3/8 NPT female		
other	KMI-22yyy...	other	KMI-22yyy...	upon request		

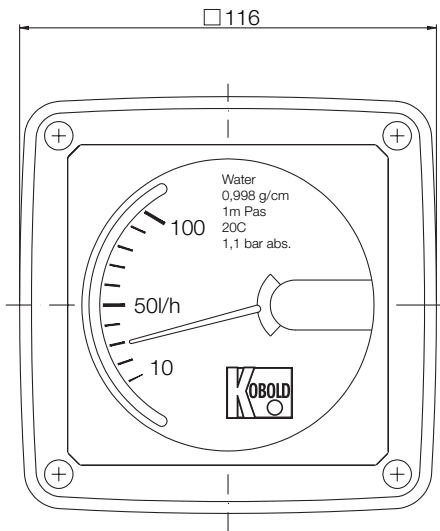
\*Max contact upon request (model: KMI-4...)

**Model KMI-32... with indicator and 2 contacts (Min and Max)** (Example: KMI-3201H R2 000)

Measuring range water (at 20°C)		Measuring range air (at 1.013 bar abs., 20°C)		Connection	Electrical output	Options
L/h	Order number	L <sub>N</sub> /h	Order number			
0.1 - 1	KMI-3201H...	4-37,5	KMI-3201L...	..R2..= G 1/4 female ..N2..= 1/4 NPT female ..E1..= Olive 8 mm ..E2..= Olive 10 mm ..E3..= Olive 6 mm ..E4..= Olive 12 mm ..S1..= hose connector 6 mm	..00..= without	..0= without ..H= O <sub>2</sub> cleaning ..P= PN 160 ..Y= other
0.25 - 2.5	KMI-3202H...	10-90	KMI-3202L...			
0.4 - 4	KMI-3203H...	14-140	KMI-3203L...			
0.6 - 6	KMI-3204H...	20-180	KMI-3204L...			
1 - 10	KMI-3205H...	30-300	KMI-3205L...			
1.6 - 16	KMI-3206H...	50-450	KMI-3206L...			
2.5 - 25	KMI-3207H...	80-750	KMI-3207L...			
4 - 40	KMI-3208H...	140-1200	KMI-3208L...			
6 - 60	KMI-3209H...	200-1800	KMI-3209L...			
10 - 100	KMI-3210H...	300-3000	KMI-3210L...			
16 - 160	KMI-3211H...	500-4500	KMI-3211L...	..R3..= G 3/8 female	..00..= without	..0= without ..H= O <sub>2</sub> cleaning ..P= PN 160 ..Y= other
25 - 250	KMI-3212H...	800-7000	KMI-3212L...	..N3..= 3/8 NPT female		
other	KMI-32yyy...	other	KMI-32yyy...	upon request		



Dimensions



KMI-...A4 0

