



Electronic Low Volume Flow Meter

for Liquids and Gases



measuring
•
monitoring
•
analysing



Model: KFF-3...

- Measuring ranges:
15-100 mL/min to 1-10 L/min water
10-50 mL/min to 100-500 L/min air
- Measuring accuracy: $\pm 3\%$ f.s.
- p_{\max} : 35 bar, t_{\max} : 50°C
- Viscosity range: low viscosity
- Compression fittings: 1/8" to 1/2"
- Material: Ryton, brass, PTFE
- Output: 0-5 V_{DC} or pulses
- No zero drift
- very sturdy
- Medium: infrared light transmissive



Model: KFF-1...

KOBOLD companies worldwide:

ARGENTINA, AUSTRIA, BELGIUM, CANADA, CHILE, CHINA, CZECHIA,
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Model:
KFF/KFG...



Areas of Application

KOBOLD KFF/KFG flow meters are used for sensing small, to extremely small, volumetric flow rates of gases (KFG) and liquids (KFF). The media must be transmissive for infrared light.

KFF-1/KFG-1 flow meters are available in Ryton®, brass and PTFE materials; therefore suited for many applications in industry, in laboratories, and so forth. The new KFF-15 sensor is delivered as standard with (0-5 V_{DC}) analogue output and frequency output. The frequency output is optional on the KFF-10/KFF-11 models.

Series KFF-3/KFG-3 flow meters are available in Ryton® and in brass.

Technical Specifications

Accuracy:	± 3% f. s.
Linearity:	± 3% f. s.
Repeatability:	
KFF:	± 0.2% f. s.
KFG:	± 1% f. s.
Installation position:	horizontal
Temperature range:	0-50 °C
Temperature drift:	0.2% / °C
Max. pressure:	
KFF:	
Ryton®:	7 bar
Brass:	35 bar
PTFE:	4 bar
KFG:	2.5 bar
Supply voltage:	12.5 V _{DC} ± 2 V _{DC}
PTFE version:	12.5 V _{DC} ± 1 V _{DC}
Current consumption:	50 mA (typically)
Output:	
KFF-1.../KFG-1...:	
Standard:	0-5 V _{DC}
Option T	
(KFF-1... only):	0-5 V _{DC} and frequency output
PTFE version:	0-5 V _{DC} and frequency output
Max. Frequency:	500 Hz
KFF-3.../KFG-3...:	0-5 V _{DC}

Material

Version	Ryton®	Brass	PTFE
Housing	60% Ryton® / 40% glass	Brass/glass	PTFE
Turbine	60% Ryton® / 40% glass	60% Ryton® / 40% glass	PTFE
Bearings	Sapphire	Sapphire	Sapphire
Bearing shell	Stainless steel (316)	Stainless steel (316)	PTFE
Gasket	FPM	FPM	Kalrez®
Connection	Acetal	brass	PFA

Function Principle

The flow meter is based on the Pelton Principle, that is, the flowing medium causes a vane to rotate. The rotary motion is converted to electrical impulses by means of photo-diodes. The flow rate is output as a frequency signal or a linear analogue (0-5 V_{DC}).

KFF-1.../KFG-1...



KFF-3.../KFG-3...





Order Details

Model KFF-1.../KFG-1... sensor

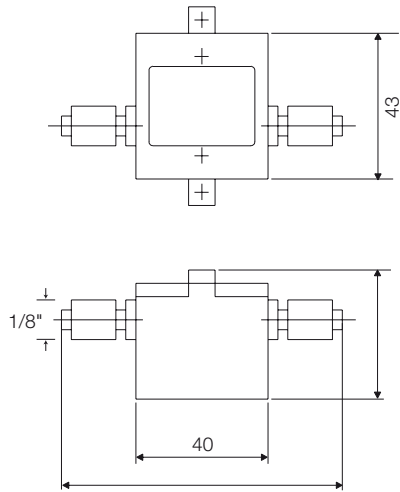
Water						Air			
Measuring range [mL/min]	Pressure loss [bar]	Connection	Ryton®	Brass	PTFE	Measuring range [mL/min]	Pressure loss [mbar]	Connection	Ryton®:
15-100	1	1/8"	KFF-1003	KFF-1103	KFF-1503	10-50	100	1/8"	-
50-500	0.7	1/4"	KFF-1005	KFF-1105	KFF-1505	25-100	50	1/8"	KFG-1003
60-1000	0.5	1/4"	KFF-1006	KFF-1106	KFF-1506	40-200	25	1/8"	KFG-1004
100-2000	0.5	1/4"	KFF-1007	KFF-1107	KFF-1507	100-500	7.5	1/8"	KFG-1005
200-5000	0.7	3/8"	KFF-1008	KFF-1108	KFF-1508	200-1000	5	1/8"	KFG-1006
1-10 L/min	0.7	3/8"	KFF-1009	KFF-1109	KFF-1509	400-2000	5	1/4"	KFG-1007
						[L/min]			
						1-5	5	1/4"	KFG-1008
						2-10	5	1/4"	KFG-1009
						4-20	5	3/8"	KFG-1010
						10-50	5	3/8"	KFG-1011
Option T:	Frequency output (for KFF-1... only)					20-100	5	1/2"	KFG-1012
KF-8000:	Power pack 120 V _{AC}					40-200	5	1/2"	KFG-1013
KF-8100:	Power pack 240 V _{AC}					100-500	7.5	1/2"	KFG-1014

Model KFF-3.../KFG-3... sensor with digital display

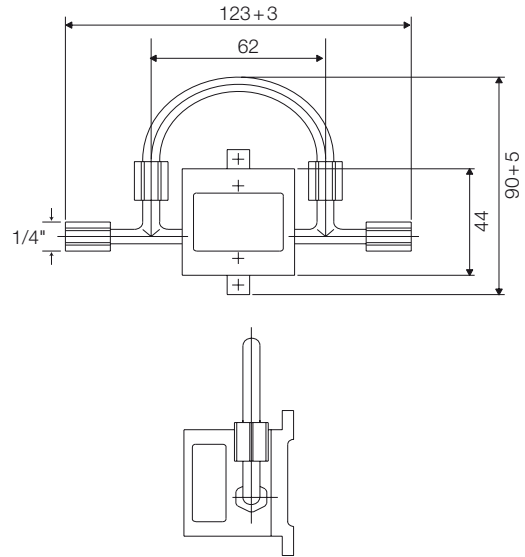
Water					Air				
Measuring range [mL/min]	Pressure loss [bar]	Connection	Ryton®	Brass	Measuring range [mL/min]	Pressure loss [bar]	Connection	Ryton®	Brass
13-100	0.7	1/8"	KFF-3003	KFF-3103	10-50	100	1/8"	-	-
20-200	0.7	1/8"	KFF-3004	KFF-3104	20-100	50	1/8"	KFG-3003	KFG-3103
50-500	0.7	1/4"	KFF-3005	KFF-3105	40-200	25	1/8"	KFG-3004	KFG-3104
60-1000	0.5	1/4"	KFF-3006	KFF-3106	100-500	7.5	1/8"	KFG-3005	KFG-3105
100-2000	0.5	1/4"	KFF-3007	KFF-3107	200-1000	7.5	1/8"	KFG-3006	KFG-3106
200-5000	0.5	3/8"	KFF-3008	KFF-3108	400-2000	7.5	1/4"	KFG-3007	KFG-3107
					[L/min]				
KF-8000:	Power pack 120 V _{AC}				1-5	7.5	1/4"	KFG-3008	KFG-3108
KF-8100:	Power pack 240 V _{AC}				2-10	7.5	1/4"	KFG-3009	-

Dimensions

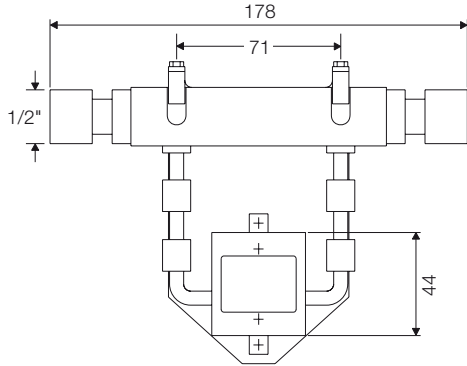
KFF-/KFG-1...1/8"



KFF-/KFG-1...1/4"



KFF-/KFG-1...1/2"



KFF-/KFG-3...

