



Electronic Low Volume Flow Meter

for liquids and gases



measuring
•
monitoring
•
analysing

KFF / KFG



Model: KFF-3...



Model: KFF-1...

- Measuring ranges:
15-100 ml/min...1-10 l/min water
25-100 ml/min...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: $\frac{1}{8}$ " ... $\frac{1}{2}$ "
- Material: Ryton, brass
- Output: 0-5 V_{DC} or pulses
- No zero drift
- Very sturdy
- Medium: infrared light transmissive



S4

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Areas of Application

KOBOLD KFF/KFG flow meters are used for measuring low and smaller, volumetric flow rates of gases (KFG) and liquids (KFF). The media must be transmissive for infrared light.

Series KFF/KFG 1000/3000 flow meters are available in Ryton® and brass, and therefore suitable for many applications in industry, in laboratories, and so forth. The frequency output is optional.

Technical Data

Accuracy: $\pm 3 \% \text{ f. s.}$

Linearity: $\pm 3 \% \text{ f. s.}$

Repeatability:

KFF: $\pm 0.2 \% \text{ f. s.}$

KFG: $\pm 1 \% \text{ f. s.}$

Installation position: horizontal

Temperature range: $0 \dots 50^\circ\text{C}$

Temperature drift: $0.2\% / ^\circ\text{C}$

Max. pressure:

KFF:

Ryton®: 7 bar

Brass: 35 bar

KFG: 2.5 bar

Supply voltage: $12.5 V_{\text{DC}} \pm 2 V_{\text{DC}}$

Current consumption: 50 mA (typically)

Output:

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

Standard: $0 \dots 5 V_{\text{DC}}$

Option T

(KFF-1.. only): $0 \dots 5 V_{\text{DC}}$ and frequency output

Max. frequency: 500 Hz

KFF-3../KFG-3..: $0 \dots 5 V_{\text{DC}}$

Material

Version	Ryton®	Brass
Housing	60% Ryton®/ 40% glass	brass/glass
Turbine	60% Ryton®/ 40% glass	60% Ryton®/ 40% glass
Bearings	sapphire	sapphire
Bearing shell	st. steel (316)	st. steel (316)
Gasket	FPM	FPM
Connection	Acetal	brass

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 photodiodes. The flow rate is output as a frequency signal or a linear analogue ($0 \dots 5 V_{\text{DC}}$).

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	Measuring range [ml/min]	Pressure loss [mbar]	Connection	Ryton®
15-100	1	1/8"	KFF-1003	KFF-1103	10-50	100	1/8"	-
50-500	0.7	1/4"	KFF-1005	KFF-1105	25-100	50	1/8"	KFG-1003
60-1000	0.5	1/4"	KFF-1006	KFF-1106	40-200	25	1/8"	KFG-1004
100-2000	0.5	1/4"	KFF-1007	KFF-1107	100-500	7.5	1/8"	KFG-1005
200-5000	0.7	3/8"	KFF-1008	KFF-1108	200-1000	5	1/8"	KFG-1006
1-10 l/min	0.7	3/8"	KFF-1009	KFF-1109	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

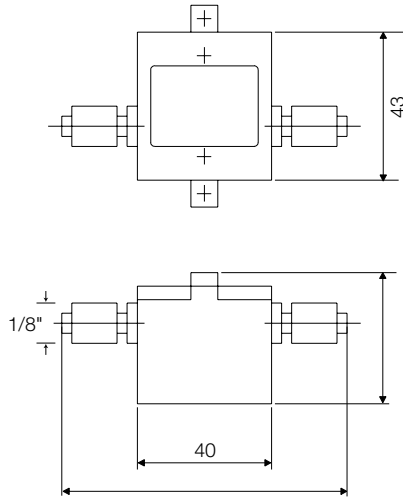
Model KFF-3.../KFG-3... sensor with digital display

Water					Air				
Measuring range [ml/min]	Pressure loss [bar]	Connection	Ryton®	Brass	Measuring range [ml/min]	Pressure loss [mbar]	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	-

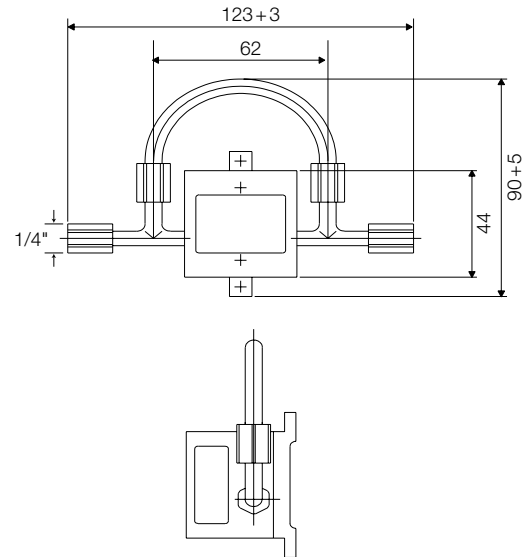


Dimensions [mm]

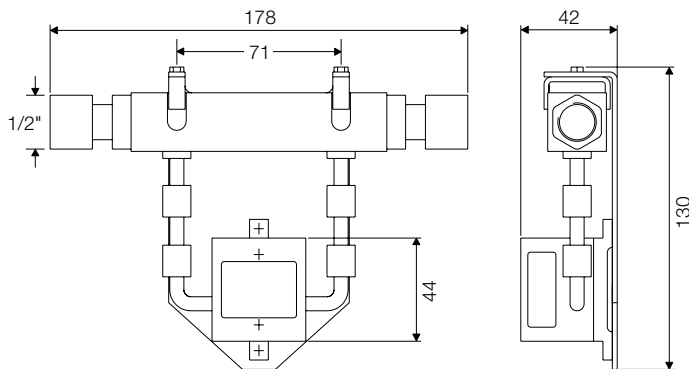
KFF-/KFG-1... 1/8"



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



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



KFF-/KFG-3...

