

Turbine Flow Sensor and Flowmeter for Liquids and Gases



measuring
•
monitoring
•
analyzing

KFF/KFG



Series 1000: Flow Sensors

- Linear 0-5 VDC Output Signal
- Highly Repeatable
- Very Stable
- No Zero Drift
- Standard 12 V_{DC} Input Power
- Liquid or Gas Versions



Series 3000: Flowmeters

- All Features of the Series 1000 Flow Sensors
- Very Compact
- Power-Efficient LCD Display



Order from: **C A Briggs Company**
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Description

Our KOBOLD KFF/KFG 1000 Series Flow Sensors measure low flow rates for a wide variety of industrial, commercial and laboratory flow applications involving media transparent to the near-infrared spectrum. The Pelton-type turbine wheel and photodiodes generate an electrical signal linearly proportional to flow rate. This output signal (accessible via the included cable) can be either a pulse or 0–5 V_{DC} analog output. They are available in Ryton®, brass, or PTFE. Our most economical option replaces the standard PTFE fittings on the KFF/KFG-1500 series with PVDF.

The KOBOLD KFF/KFG 3000 Series Flowmeter adds a compact, 0.4" LCD in-line display. Available in either brass or Ryton®, it is compatible with a variety of common media. An analog 0-5 V_{DC} output is standard. Requiring only 35 mA at 12 V_{DC}, this flowmeter can either be battery powered or connected to a 12 volt source with the included cable.



Specifications: 1000 Series

Accuracy:	± 3% of full scale
Linearity:	± 3% of full scale
Repeatability	
Liquid:	± 0.2% of full scale
Gas:	± 1% of full scale
Temperature Ratings	
Range:	32...120 °F
Drift:	±0.1% / °F
Maximum Pressure Ratings	
Liquids (KFF)	
Ryton®:	100 PSIG
Brass:	500 PSIG
PTFE:	60 PSIG
Gases (KFG)	
All Materials:	40 PSIG
Fittings:	Compression
Installation:	Horizontal

Wetted Parts

Ryton Units

Housing:	60% Ryton/40% Glass
Turbine:	60% Ryton/40% Glass
Bearing:	Sapphire
Support:	316 Stainless Steel
Gaskets:	Viton®
Fittings:	Acetal

Brass Units

Housing:	Brass & glass
Turbine:	60% Ryton / 40% Glass
Bearing:	Sapphire
Support:	316 Stainless Steel
Gaskets:	Viton®
Fittings:	Brass

PTFE Units

Housing:	PTFE
Turbine:	PTFE
Bearing:	Sapphire
Support:	PTFE
Gaskets:	Kalrez®
Fittings:	PFA
Output Signal:	0–5 V _{DC}
Option T:	0–5 V _{DC} & pulse
PTFE Units:	0–5 V _{DC} & pulse
Max. Frequency:	500 Hz
Power Requirements	
Voltage	
Standard Units:	11.5...15 V _{DC}
PTFE Units:	11.5...15 V _{DC}
Current:	50 mA (typical)

**Additional Specifications: 3000 Series
(Not available in PTFE)**

Repeatability	
Liquid:	± 0.2% of full scale
Gas:	± 0.5% of full scale
Display	
Type:	3 1/2 digit LCD
Character	
Height:	0.4"
Electrical Data	
Output	
Signal:	0–5 V _{DC}
Power Requirements	
Voltage:	12.5 V _{DC} ± 2 V _{DC}
Current:	35 mA (typical)
Hook-Up:	Via supplied cable



Order Details for KFF (for Water)

1000 Series Sensor (Example: **KFF-1003 C2**)

Range ml/min	Pressure Drop (PSI)	Fittings (Tube)	Model Number		
			Ryton®	Brass	PTFE
13...100	15	1/8"	KFF-1003	KFF-1103	KFF-1503
20...200	15	1/8"	KFF-1004	KFF-1104	KFF-1504
50...500	10	1/4"	KFF-1005	KFF-1105	KFF-1505
100...1000	7	1/4"	KFF-1006	KFF-1106	KFF-1506
200...2000	7	1/4"	KFF-1007	KFF-1107	KFF-1507
500...5000	10	3/8"	KFF-1008	KFF-1108	KFF-1508
1000...10000	10	3/8"	KFF-1009	KFF-1109	KFF-1509

3000 Series Flowmeter (Example: **KFF-3108 C2**)

Range ml/min	Pressure Drop (PSI)	Fittings (Tube)	Model Number	
			Ryton®	Brass
13...100	10	1/8"	KFF-3003	KFF-3103
20...200	10	1/8"	KFF-3004	KFF-3104
50...500	10	1/4"	KFF-3005	KFF-3105
60...1000	6	1/4"	KFF-3006	KFF-3106
100...2000	6	1/4"	KFF-3007	KFF-3107
200...5000	6	3/8"	KFF-3008	KFF-3108
1000...10000	9	3/8"	KFF-3009	KFF-3109

Order Details for KFG (for Air)

1000 Series Sensor (Example: **KFG-1008 C1**)

Range	Pressure Drop (Inches H ₂ O)	Fittings (Tube)	Model Number
			Ryton®
20...100 ml/min	20	1/8"	KFG-1003
40...200 ml/min	10	1/8"	KFG-1004
100...500 ml/min	3	1/8"	KFG-1005
200...1000 ml/min	2	1/8"	KFG-1006
400...2000 ml/min	2	1/4"	KFG-1007
1...5 L/min	2	1/4"	KFG-1008
2...10 L/min	2	1/4"	KFG-1009
4...20 L/min	2	3/8"	KFG-1010
10...50 L/min	2	3/8"	KFG-1011
20...100 L/min	2	1/2"	KFG-1012
40...200 L/min	2	1/2"	KFG-1013
100...500 L/min	3	1/2"	KFG-1014

3000 Series Flowmeter (Example: **KFG-3008 C1**)

Range	Pressure Drop (Inches H ₂ O)	Fittings (Tube)	Model Number	
			Ryton®	Brass
20...100 ml/min	20	1/8"	KFG-3003	KFG-3103
40...200 ml/min	10	1/8"	KFG-3004	KFG-3104
100...500 ml/min	3	1/8"	KFG-3005	KFG-3105
200...1000 ml/min	3	1/8"	KFG-3006	KFG-3106
400...2000 ml/min	3	1/4"	KFG-3007	KFG-3107
1...5 L	3	1/4"	KFG-3008	KFG-3108
2...10 L	3	1/4"	KFG-3009	KFG-3109
4...20 L	2	3/8"	KFG-3010	---
10...50 L	3	3/8"	KFG-3011	---
20...100 L	3	1/2"	KFG-3012	---
40...200 L	5	1/2"	KFG-3013	---
100...500 L	20	1/2"	KFG-3014	---

Options	Suffix
18.0...25.0 VDC Power (Not available with option T)	..B2
Brass Compression Fittings	..C1
Stainless Steel Compression Fittings	..C2
EPDM O-rings in place of the standard FKM	..OR3
Frequency Output (Models KFF only)(Not available with option B2)	..T

Accessories	Item Number
110 VAC Power Adapter for 12 VDC Models	KF-8000
230 VAC Power Adapter for 12 VDC Models	KF-8100