



## Low Volume Variable Area Flow Meters

for liquids and gases



measuring  
•  
monitoring  
•  
analysing

KFR



- Measuring ranges:  
Water: 10 ... 100 cm<sup>3</sup>/min...  
1 ... 10 l/min  
Air: 0.04 ... 0.5 l/min...  
100 ... 700 l/min
- Accuracy:  
±2 % ... 5 % of full scale
- p<sub>max</sub> 6.5 bar; t<sub>max</sub> 65 °C
- Connection:  
1/8 ... 1" NPT female
- Material: acrylic

51



KOBOLD companies worldwide:

AUSTRALIA, AUSTRIA, BELGIUM, BULGARIA, CANADA, CHINA, CZECHIA, FRANCE, GERMANY, GREAT BRITAIN, HUNGARY, INDIA, INDONESIA, ITALY, MALAYSIA, MEXICO, NETHERLANDS, PERU, POLAND, REPUBLIC OF KOREA, SPAIN, SWITZERLAND, THAILAND, TUNISIA, TURKEY, USA, VIETNAM

KOBOLD Messring GmbH  
Nordring 22-24  
D-65719 Hofheim/Ts.  
Head Office:  
+49(0)6192 299-0  
+49(0)6192 23398  
info.de@kobold.com  
www.kobold.com



**Method of Operation**

The flow meter model KFR operates on the proven suspended float system, that is, the installation position is vertical and the flow is from bottom to top.

The instrument is constructed as a single unit, that is, it has an acrylic housing with removable connections made of PVC, brass or stainless steel.

The flow meter is thus very reasonably priced.

**Areas of Application**

- Gas analysis
- Water applications
- 

**KFR versions**

1. KFR-21... and KFR-41...:  
acrylic with brass connection at the back
2. KFR-22... and KFR-42...:  
acrylic with stainless steel connection at the back
3. KFR-53...:  
acrylic with PVC connection at top and bottom

**Technical Details**

See order details for technical details and measuring ranges

Accuracy:

KFR-2...: ±5 % of full scale

KFR-4...: ±3 % of full scale

KFR-5...: ±2 % of full scale

Max. temperature: 65 °C

Max. pressure: 6.5 bar

Connection:

KFR-2 and KFR-4

1/4" NPT female at the back: measuring ranges 69, 70, 73

1/8" NPT female at the back: all other ranges

Accessories: hose connector PPH, white, straight for 1/4" hose diameter

KFR-5...: 1" NPT female at bottom and top

KFR-5..PM (with panel mounting option): connection at the back

**Materials**

Wetted parts	KFR-21 + KFR-41	KFR-22 + KFR-42	KFR-53
Housing	Acrylic	Acrylic	Acrylic
Connection	Brass	St. steel	PVC
Gasket	NBR	FPM	NBR
Float	Glass or st. steel	Glass or st. steel	St. steel

Glass: black glass

Stainless steel: AISE 316 SS

Acetal: Acetal copolymer

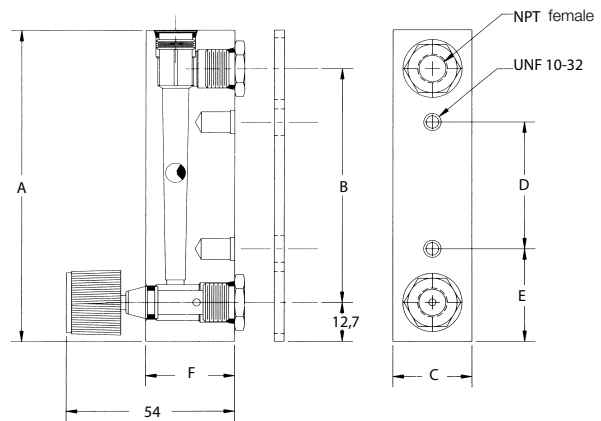
**Options**

Optional needle valves in brass or stainless steel are available for models KFR-2... and KFR-4...

We can supply model KFR-5... with a panel installation kit. Please note that in this case the connections are at the rear.

**Dimensions [mm] KFR-2... and KFR-4...**

Model	A	B	C	D	E	F
KFR-2...	102	76.2	25.4	41.3	30.2	28.6
KFR-4... (1/8")	165	140	34.9	88.9	38.1	28.6
KFR-4... (1/4")	168	140	28.6	88.9	38.1	34.9





**Order Details**

**Model KFR-2...** (overall length 102 mm, connection at the back, accuracy  $\pm 5\%$  of full scale)

Measuring range (water)	Float material	Brass connection	Stainless steel connection	Air measuring range (at 1 bar abs., 20 °C)	Float material	Brass connection	Stainless steel connection	Option
10...100 cm <sup>3</sup> /min	Glass	KFR-2110	KFR-2210	0.04...0.5 l/min	Glass	KFR-2112	KFR-2212	NO = needle valve
-	-	-	-	0.1...1 l/min	St. steel	KFR-2113	KFR-2213	
5...50 cm <sup>3</sup> /min	Glass	KFR-2109	-	0.2...2.5 l/min	Glass	KFR-2129	KFR-2229	
20...240 cm <sup>3</sup> /min	St. steel	KFR-2111	KFR-2211	0.4...5 l/min	Glass	KFR-2114	KFR-2214	
				1...10 l/min	St. steel	KFR-2115	KFR-2215	
				2...25 l/min	Glass	KFR-2116	KFR-2216	
				6...50 l/min	St. steel	KFR-2117	KFR-2217	
				10...100 l/min	St. steel	KFR-2118	KFR-2218	
Accessories: hose connector set, straight for ¼" hose						KFR-PPH W 024		

**Model KFR-4...** (overall length 165 mm, connection at the back, accuracy  $\pm 3\%$  of full scale)

Measuring range (water)	Float material	Brass connection	Stainless steel connection	Air measuring range (at 1 bar abs., 20 °C)	Float material	Brass connection	Stainless steel connection	Option
4...50 cm <sup>3</sup> /min	St. steel	KFR-4138	-					NO = needle valve
10...120 cm <sup>3</sup> /min	St. steel	KFR-4156	-	0.4...5 l/min	St. steel	-	KFR-4240	
25...225 cm <sup>3</sup> /min	Glass	KFR-4151	KFR-4251	1...10 l/min	Glass	KFR-4141	KFR-4241	
40...400 cm <sup>3</sup> /min	St. steel	KFR-4150	-	2...20 l/min	St. steel	-	KFR-4242	
50...660 cm <sup>3</sup> /min	St. steel	KFR-4152	-	-	-	-	-	
100...1500 cm <sup>3</sup> /min	St. steel	KFR-4153	KFR-4253	3...30 l/min	St. steel	KFR-4143	-	
200...3000 cm <sup>3</sup> /min	St. steel	KFR-4154	-	4...50 l/min	St. steel	KFR-4144	-	
300...3700 cm <sup>3</sup> /min	St. steel	KFR-4155	KFR-4255	10...100 l/min	St. steel	KFR-4147	KFR-4247	
1...10 l/min*	St. steel	KFR-4169*	KFR-4269*	30...300 l/min*	St. steel	KFR-4170*	KFR-4270*	
				100...560 l/min*	St. steel	KFR-4173*	-	
Accessories: hose connector set, straight for ¼" hose						KFR-PPH W 024		

\* Connection: ¼" NPT female at the back and dual scales l/min and l/h, cannot be combined with hose connector set KFR-PPH W 024

**Model KFR-5...** (overall length 343 mm (277 mm for panel mounting), accuracy  $\pm 2\%$  of full scale)

Air measuring range (at 1 bar abs., 20 °C)	Float material	PVC connection	Option
100...700 l/min	St. steel	KFR-5353	00 = no option



Dimensions [mm]

KFR-5...

