

Series 50 and 50K

65 MM, Direct Reading, Flowmeters

Series 50 flowmeters offer an economical means of measuring gas or liquid flow at low pressures where $\pm 10\%$ accuracy is acceptable. They are suitable for plant and general laboratory applications. These flowmeters are direct reading for air; however, approximate flow ranges for other gases are listed in the Tube Selection Table on the following page.

Standard Features

- Ribbed Tubes stabilize float and improve accuracy and readability.
- Borosilicate Glass Tubes allow operating temperatures up to 250°F (100°F for Series 50K).
- Threaded Fittings with Locking Nuts (Standard on Series 50) permit front panel mounting.*
- Unique Valve Design allows bubble-tight shutoff.
- Availability of Aluminum, Stainless Steel or Kynar® Construction provides a wide material selection for maximum gas compatibility.

Optional Features

- Baseplate with Leveling Screws permits bench use.
- Aluminum Bezel permits flush panel mounting.
- Inlet Filter traps foreign matter, extends flowmeter life and reduces maintenance.

*Series 50K Flowmeters may be front panel mounted using predrilled holes on rear of flowmeter and self-tapping screws.

Specifications

Maximum Operating Pressure and Temperature:
 50: 200 psig at 250°F
 50K: 150 psig at 100°F

Minimum Operating Temperature: 32°F

Accuracy: $\pm 10\%$ of full scale from 10% to 100% of range

Repeatability: Within 0.5% of full scale

Tube Graduations: Standard cubic centimeters per minute or standard liters per minute of Air depending upon range. See Tube Selection Tables.

Scale Length: 65 mm

Inlet and Outlet Connections:
 50: 1/8" NPT female
 50K: 1/4" NPT female

Approximate Weight: 0.75 lb

Materials of Construction

Tubes: Borosilicate Glass with float stops of Teflon®

Floats: Borosilicate Glass, Type 316 Stainless Steel or Carbonyl as specified in Tube Selection Tables

End Blocks: See Table I

Inlet/Outlet Adaptors: See Table I

Side Plates: Aluminum

Back Plate: White Plastic

Front Plate: Clear Plastic

Seals and Packing: Viton® (other materials available on special order)

Valve: Type 316 Stainless Steel



Series 50 Flowmeter



FM 4711
Optional Panel Mounting Bezel

Table I

Series	Part No.	End Blocks Material	Inlet/Outlet Adaptor Material
50	FM4350-()	Aluminum	Aluminum
50	FM4360-()	Type 316 Stn. Stl.	Type 316 Stn. Stl.
50K	FM4451-()	Kynar®	None

Where "()" is indicated above, complete the part number by inserting applicable tube number from Tube Selection Table below. Example: FM4350-5. Order by complete part number.

Optional Equipment

Equipment	Part No.
Baseplate	FM4702
Inlet Filter, 2 micron	
Aluminum	FM4741
Type 316 Stainless Steel (Series 50)	FM4746
Type 316 Stainless Steel (Series 50K)	SG6113
Aluminum Bezel for Flush Panel Mounting	FM4711
Replacement Metering Valves	
Flowmeters with Tube Numbers FM4340 – FM4344	0202-4113 (L)
Flowmeters with Tube Numbers FM4345 – FM4346	0202-4114 (M)
Flowmeters with Tube Numbers FM4347 – FM4349	0202-4115 (H)
Replacement Tubes	See Table Below


Tube selection tables for series 50 and 50K Flowmeters

Flow rates shown are at 70°F and 14.7 psia.

Tube No.	Float Material	Air (Actual Graduations)	Argon* (Approx. Range)	Carbon Dioxide* (Approx. Range)	Helium* (Approx. Range)
0	Glass	8.0–50 sccm	4.3–43 sccm	6.1–61 sccm	4.7–47 sccm
1	Glass	5.0–85 sccm	7.1–71 sccm	10.4–104 sccm	7.9–79 sccm
2	Glass	40–440 sccm	38–375 sccm	36–355 sccm	52–513 sccm
3	316 Stn. Stl.	100–950 sccm	81–808 sccm	77–767 sccm	0.15–1.5 slpm
4	Glass	0.2–1.8 slpm	0.15–1.5 slpm	0.16–1.6 slpm	0.38–3.8 slpm
5	316 Stn. Stl.	0.4–3.6 slpm	0.31–3.1 slpm	0.32–3.2 slpm	0.78–7.8 slpm
6	Glass	0.5–7 slpm	0.6–5.9 slpm	0.6–5.9 slpm	1.55–15.5 slpm
7	316 Stn. Stl.	1.0–13 slpm	1.1–11.1 slpm	1.1–10.9 slpm	3.1–30.6 slpm
8	316 Stn. Stl.	6.0–24 slpm	2.1–20.5 slpm	2.0–20.1 slpm	5.7–56.4 slpm
9	Carboly	4.0–44 slpm	3.8–37.4 slpm	3.6–36.3 slpm	10.4–103 slpm

Tube No.	Hydrogen* (Approx. Range)	Nitrogen* (Approx. Range)	Oxygen* (Approx. Range)
0	10.5–105 sccm	5.1–51 sccm	4.5–45 sccm
1	17.8–178 sccm	8.7–87 sccm	9.3–93 sccm
2	0.1–1.1 slpm	45–449 sccm	41–411 sccm
3	0.3–2.8 slpm	97–969 sccm	88–884 sccm
4	0.6–6.0 slpm	0.2–1.8 slpm	0.2–1.7 slpm
5	1.2–12.0 slpm	0.4–3.7 slpm	0.3–3.4 slpm
6	2.4–23.8 slpm	0.7–7.1 slpm	0.8–8.2 slpm
7	4.6–45.8 slpm	1.4–13.2 slpm	1.6–15.5 slpm
8	8.5–84.5 slpm	2.5–24.5 slpm	2.9–28.7 slpm
9	15.5–155 slpm	4.5–44.9 slpm	5.3–52.4 slpm

Replacement Tubes and Packing Part No.
FM4340
FM4341
FM4342
FM4343
FM4344
FM4345
FM4346
FM4347
FM4348
FM4349



* Series 50 flow tubes are directly calibrated for air at 70°F and 14.7 psia. Flow rates shown for other gases are for reference purposes only. Flow capacities for gases not listed may be obtained by contacting your Advanced Representative.