

## FLOWMETER - Series 7920

### DESCRIPTION

The 7920 flowmeters provide the most accurate indication and precise control of fluids available for a wide range of applications. This versatile meter is functionally and dimensionally interchangeable with other current designs while incorporating many innovative features.

All 7920 glass metering tubes have integral float guides to assure the accuracy of  $\pm 5\%$  of full scale. Glass and stainless steel floats are standard. The meters are available in a wide range of flows.

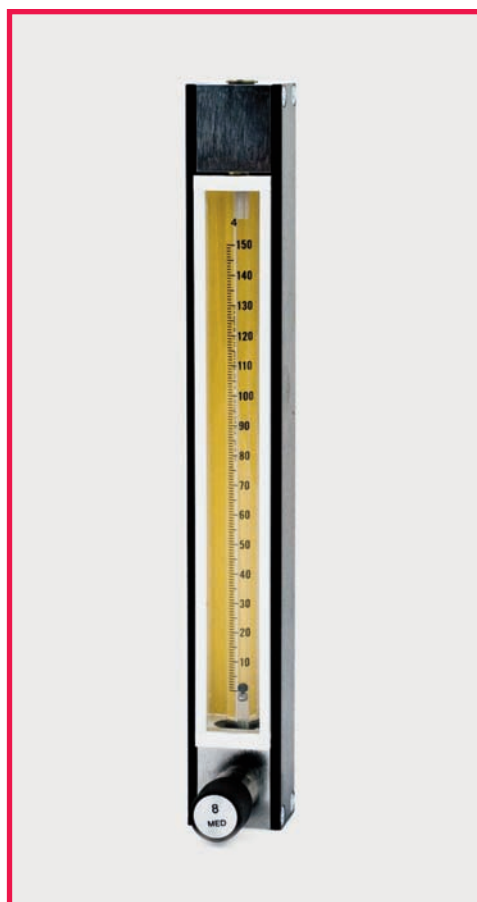
Standard with this series is the TUBE-CUBE™, a unique, design concept. The "cube," a unitized tube holder, aligns the tube quickly and easily for a simple tube installation or replacement, reduces chipped tube ends, broken tubes, and misalignment. The TUBE-CUBE™ also provides tube protection during handling and storage and affords a 1.5 X scale magnification factor for more accurate tube reading. End seals in the design are direct-acting and nonrotating for fast alignment and convenient service access.

### APPLICATIONS

- Carrier and fuel gas chromatography
- Atomic absorption
- Semiconductor manufacture
- Chemical processing
- General research and industrial uses

### DESIGN FEATURES

- High resolution 150mm scale length.
- Many standard direct reading scales available.
- Precision taper, fluted metering tube.
- Lowest available pressure drop via maximum flow path area increases available flow rates at low feed pressures.
- Standard front panel mounting requires minimum hardware - easy installation, quick access.
- Available utility and high precision metering valves do not require special fittings.
- Simplified; direct acting non-rotating compression seal.



### MATERIALS OF CONSTRUCTION

End Blocks: Chrome plated Brass, 316 Stainless, or Monel®

"O" Rings & packing: Viton® - standard  
Buna-N, EPR rubber and teflon  
are available options

Side Plates: Anodized Aluminum

### SPECIFICATIONS

Maximum Pressure: 250 psig

Temperature Range: -20°F to +250°F  
-30°C to +120°C

Accuracy:  $\pm 5\%$  of full scale

Repeatability:  $\pm 0.25\%$  of scale reading

## Series 7920 CONTINUED

Model	Material	Valve Type
B7920*	Brass	None
B7920V*	Brass	Standard
B7920HA*	Brass	High Accuracy
S7920	316 Stainless Steel	None
S7920V*	316 Stainless Steel	Standard
S7920HA*	316 Stainless Steel	High Accuracy
M7920*	Monel®	None
M7920V*	Monel®	Standard

\*Each model includes one tube from the table below; specify your choice when ordering.

### Options:

- 1/4" NPT female inlet & outlet
- 1/4" hose barbs inlet and outlet - add suffix "4HB"
- 1/4" compression tube fittings inlet and outlet
- 1/8" compression tube fittings inlet and outlet

### P/N Suffix:

P4FF  
4HB  
T4FF  
T2FF

**Bench stand - Model 7920B**

## HOW TO ORDER

### Model -X-Y

X = tube required 1, 2, 3, 4, 5, 6, 7, 8, 10  
Y = optional fittings 4HB = hose barbs  
P4FF = 1/4" NPT female  
T4FF = 1/4" compression  
T2FF = 1/8" compression

**Example:** B7920V-2-T4FF is a brass unit with a 7920-2 flow tube and 1/4" compression fittings on inlet and outlet.

## FLOWMETER TUBES IN TUBE-CUBE®

Model	Typical Flow Range*		
	Float	Air scc/min.	Water cc./min.
7920-1	Glass	3 - 56	0.04 - 0.66
	St. Steel	11 - 158	0.12 - 3.18
7920-2	Glass	6- 91	0.08 -1.0
	St. Steel	16- 271	0.17 - 5.5
7920-3	Glass	22- 388	0.24 -7.8
	St. Steel	63- 845	0.68 -17
7920-4	Glass	64- 847	1 -17
	St. Steel	217- 1707	2 -46
7920-5	Glass	550- 2560	6 -54
	St. Steel	1070- 5080	21 -135
7920-6	Glass	610- 3830	9 -89
	St. Steel	1330- 7670	30 -217
7920-7	Glass	820- 8610	14 -200
	St. Steel	2090- 16580	53 -482
7920-8	Glass	2220- 24920	47 -568
	St. Steel	4190- 45940	102 -1319
7920-10	Glass	1.0- 100	

### Selected Correction Factors flow = air flow x correction factor

Gas	Correction Factors
air	1.00
acetylene	1.054
ammonia	1.304
argon	0.851
n-butane	0.706
carbon dioxide	0.811
carbon monoxide	1.017
ethane	0.981
ethylene	1.016
helium	2.689
hydrogen	3.810
methane	1.343
nitrogen	1.017
nitrous oxide	0.811
oxygen	0.951
propane	0.810

\*Actual flow rates will vary from one manufacturing lot to another.  
Calibration data is supplied for each tube shipped.  
All calibrations are for air @ 0 psig outlet and 70°F.