

7400 Series

Both 65 mm and 150 mm scales, low flow glass tube models feature a one piece frame with snap in shield. Inlet or outlet valve is optional. Floats are rib guided.

Description

Metering Tube
Borosilicate Glass

Internal Components
316 Stainless Steel, Black Glass, Sapphire, Carboloy, Tantalum

Inlet/Outlet Fittings
NPT, Horizontal
Valve optional

Fitting Material
Standard: 316L Stainless Steel
Optional: PVC, PVDF, Brass

Elastomers
Standard: Viton
Optional: Buna N, EPR, and Kalrez®

Options

Alarm
Fiber-Optic or Inductive Ring Sensor

Certified Calibrations
Conform to ISA RP 16.6

Scales
Can be produced in any volumetric unit



Glass Tube

Performance

Capacities
.56 to 1800 cc/mn – Water
54 to 70000 cc/mn – Air

Scale
65 mm, 150 mm
Direct reading, detachable

Accuracy
± 6% of Full Scale Flow, 65 mm
± 4% of Full Scale Flow, 150 mm


Turndown
10:1 to 12.5:1 unless otherwise indicated

Repeatability
1%

Max Temperature
316L SS Fittings – 200° F (93° C)
Brass Fittings – 200° F (93° C)
PVC Fittings – 100° F (38° C)
PVDF Fittings – 150° F (66° C)

Max Pressure
316L SS Fittings – 200 psig
Brass Fittings – 200 psig
PVC Fittings – 130 psig
PVDF Fittings – 150 psig

Ambient Temperature
33° F to 125° F (1° C to 52° C)



Inductive Ring Sensor
Inductive ring sensors are designed to be used with a remote intrinsic safety barrier/switch isolator. These sensors are able to detect the metal float by producing an electromagnetic field within the ring. Ring sensors are available in either proximity or latching format for the 7400 Series.

Sensor Specifications
Power Supply: 5-25 VDC (from Switch Isolator)
Max Current, Target Present: 1 mA
Max Current, Target Absent: 15 mA
Temperature Limits: -14°F to +158°F
Output: NAMUR
Repeatability: 0.01 mm
Switching Frequency: 2 kHz (.125"), 1.5 kHz (.25")
Sensor Approvals:
UL Listed: General Purpose
FM Approved: Intrinsically Safe*
CSA Certified: Intrinsically Safe*
Cenelec: Intrinsically Safe*
*Additional cost, call for pricing

Fiber Optic Sensor
The fiber optic sensor is housed in a junction box attached to the side of a 7400 Series flowmeter. The sensor uses a pair of fiber optic cables, an emitter and receiver to transmit the light across the metering tube and back to the sensor. If the light beam is blocked by the float, the sensor output will change. The sensor provides a transistor output that switches the common or negative voltage (NPN) or positive voltage (PNP) to the load. The fiber optic sensor is compatible with all 7400 Series float types

Sensor Specifications
Supply Voltage: 10-30 Vdc
Current Consumption: 25 mA
Temperature Limits: -14°F to +212°F
Output:
NPN (Sinking), N.O. or N.C.
PNP (Sourcing), N.O. or N.C.
Offstate Leakage Current = 1 microamp at 30 Vdc
Output Saturation Voltage = 1 V at 10 mA DC
< 1.5 V at 150 mA DC

Note:
Sapphire floats are not compatible with Fiber Optic Sensor

Float/Sensor Compatibility

Type	Tube Size	Tube Material
Proximity	.125"	SS, CB
Proximity	.25"	SS, CB
Latching	.125"	SS, CB
Latching	.25"	SS, CB

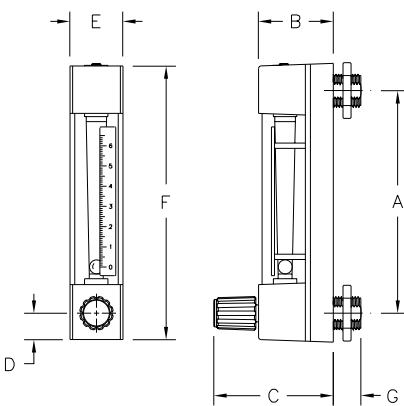
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Glass Tube

Specifications:

65MM Scale Flow Ranges								150 MM Scale Flow Ranges							
Tube Number	Float Material	Air (STP)			Water (70°F)			Tube Number	Float Material	Air (STP)			Water (70°F)		
		CC/MIN	SCFH	SLPH	CC/MIN	GPH	LPH			CC/MIN	SCFH	SLPH	CC/MIN	GPH	LPH
1-02-G-021	Glass	66	.14	4.0	0.72	.011	.042	1-03-G-022	Glass	54	.114	3.2	.56	.0088	.033
	Sapphire	105	.22	6.2	1.3	.021	.078		Sapphire	82	.175	4.9	1.04	.0160	.062
	Stainless Steel	200	.42	12.0	3.3	.052	.190		Stainless Steel	160	.340	9.8	2.25	.0350	.135
	Carboloy	340	.70	20.0	7.0	.110	.420		Carboloy	280	.580	16.5	5.00	.0780	.300
	*Tantalum	350	.74	21.0	7.8	.125	.460		*Tantalum	300	.620	17.5	5.20	.0840	.320
1-03-G-041	Glass	76	.16	4.6	1.15	.018	.068	1-04-G-042	Glass	106	.225	6.4	1.24	.0195	.074
	Sapphire	120	.25	7.2	2.10	.032	.125		Sapphire	165	.35	10.0	2.35	.0380	.145
	Stainless Steel	230	.50	14.0	4.20	.068	.260		Stainless Steel	320	.68	19.0	5.60	.0900	.340
	Carboloy	400	.85	24.0	9.00	.145	.560		Carboloy	540	1.14	32.0	12.4	.1950	.740
	*Tantalum	440	.90	26.0	10.00	.165	.620		*Tantalum	580	1.24	35.0	13.5	.2100	.820
1-08-G-061	Glass	525	1.1	31	9.0	.14	.54	1-07-G-062	Glass	350	.74	21.0	4.7	.074	.28
	Sapphire	700	1.5	42	15.5	.24	.95		Sapphire	500	1.06	30.0	10.0	.160	.60
	Stainless Steel	1130	2.4	68	29.0	.46	1.70		Stainless Steel	820	1.75	50.0	20.5	.330	1.25
	Carboloy	1600	3.4	95	46.0	.72	2.80		Carboloy	1250	2.60	76.0	34.0	.540	2.05
	*Tantalum	1700	3.6	100	50.0	.78	3.00		*Tantalum	1350	2.90	80.0	36.0	.560	2.15
1-23-G-081	Glass	2000	4.2	120	44	.70	2.6	1-11-G-082	Glass	850	1.8	50.0	16.5	.26	1.0
	Sapphire	2600	5.4	150	68	1.05	4.0		Sapphire	1100	2.3	66.0	27.0	.42	1.6
	Stainless Steel	3800	8.2	230	110	1.70	6.6		Stainless Steel	1600	3.4	100.0	46.0	.72	2.7
	Carboloy	5600	12.0	340	170	2.70	10.5		Carboloy	2300	4.9	140.0	72.0	1.15	4.4
	*Tantalum	6000	13.0	360	180	2.90	11.0		*Tantalum	2450	5.2	155.0	80.0	1.25	4.8
2-14-G-021	Glass	6800	14.5	400	160	2.6	9.5	1-27-G-102	Glass	2150	4.6	130.0	52	.84	3.1
	Sapphire	9200	19.5	540	240	3.8	14.5		Sapphire	2800	6.0	170.0	78	1.24	4.7
	Stainless Steel	13000	28.0	800	400	6.4	24.0		Stainless Steel	4400	9.2	260.0	130	2.05	7.8
	Carboloy	19000	40.0	1100	600	9.5	36.0		Carboloy	6200	13.5	380.0	205	3.20	12.5
	*Tantalum	20000	42.0	1200	640	10.0	38.0		*Tantalum	6750	14.0	400.0	210	3.30	12.5
2-34-G-041	Glass	19000	40.0	1150	520	8.25	31.0	2-09-G-002	Glass	3800	8.2	230.0	86	1.35	5.2
	Sapphire	25000	52.0	1500	740	11.50	44.0		Sapphire	5000	10.6	300.0	130	2.05	7.8
	Stainless Steel	42500	90.0	2550	1200	19.00	72.0		Stainless Steel	7500	16.0	450.0	220	3.40	13.0
	Carboloy	60000	125.0	3600	1700	27.00	105.0		Carboloy	10600	22.5	640.0	330	5.20	20.0
	*Tantalum	70000	145.0	4200	1800	29.00	110.0		*Tantalum	11500	24.0	680.0	360	5.60	21.5

*Extra cost option.



Dimensions (Inches)

Detail Letter	Scale length 65mm	Scale length 150mm
A	4.525	8.825
B	1.5	1.5
C	2.5	2.5
D	.625	.625
E	1.50	1.50
F	5.75	10
G	.625	.625

Connection Size

1/4" FNPT Brass, 316L SS Fittings
1/8" FNPT PVC, PVDF Fittings

2-17-G-022	Glass	9000	19.0	540.0	215	3.40	13.0
	Sapphire	11400	24.5	700.0	320	5.00	19.0
	Stainless Steel	17000	36.0	1000.0	520	8.20	31.0
	Carboloy	24000	50.0	1450.0	760	12.2	46.0
	*Tantalum	25000	54.0	1500.0	820	13.0	49.0
2-32-G-042	Glass	20500	43.0	1220.0	470	7.5	28.0
	Sapphire	26000	56.0	1550.0	700	11.0	42.0
	Stainless Steel	38000	82.0	2300.0	1120	18.0	68.0
	Carboloy	54000	116.0	3300.0	1650	26.0	100.0
	*Tantalum	60000	125.0	3500.0	1750	28.0	106.0

*Extra cost option.

Ordering:

Use the following guide to determine the specific product number you require.



Meter Series	Tube Number	Float Material	Fitting Material	Elastomer Compound	Scale	Valve Option	Optional Alarm Switch
7	4	Glass - 1	Brass - 1	EPR - 1	Millimeter - 1	Valve - Inlet - 1	Without Alarm - 0
		Sapphire - 2	316L SS - 2	Buna-N - 2	GPH Water@70°F - 2	Valve - Outlet - 2	Fiber-Optic NPN (Proximity) - 1
		316 SS - 3	PVC - 3	Viton® - 3	LPH Water@70°F - 3	No Valve - 3	Fiber-Optic PNP (Proximity) - 2
		Carboloy - 4	PVDF - 7	Kalrez® - 4	CC/MN Water@STP - 4		Inductive Ring Sensor (Proximity) - 3
		Tantalum - 5			SLPH Air@STP - 5		Inductive Ring Sensor (Latching) - 4
					SCC/MN Air@STP - 7		
					Non standard - 8		

Example: 74 - 102G021 - 1 - 2 - 3 - 1 - 1 - 0