



*Economical  
Precision  
Glass Tube  
Rotameters*



74C	Base Model Number
	Code Range Code - see chart page 2
	Code Float Material
	1 Glass
	2 Sapphire
	3 316 SS
	4 Carboly
	5 Tantalum
	Code Fitting Material
	2 316L SS
	3 PVC
	5 PVDF
	7 Hastelloy® C
	Code O-Rings
	1 EPR
	2 Buna-N
	3 Viton®
	4 Kalrez®
	5 Kalrez® with Valve
	Code Scale
	1 Millimeter
	2 USGPH Water @ 70°F
	3 LPH Water @ 70°F
	4 CC/MIN Water @ 70°F
	5 SCFH Air @ STP
	6 SLPH Air @ STP
	7 SCC/MIN Air @ STP
	8 Non Standard
	Code Valve (same Material as Fitting)
	1 316L SS Inlet Valve
	2 316L SS Outlet Valve
	3 No Valve
	4 PVC Inlet Valve
	5 PVC Outlet Valve
	6 PVDF Inlet Valve
	7 PVDF Outlet Valve
	8 Hastelloy® C Inlet Valve
	9 Hastelloy® C Outlet Valve
	Code Optional Alarm Switch
	0 Without Alarm
	1 Fiber-Optic NPN (Proximity)
	2 Fiber-Optic PNP (Proximity)
	3 Inductive Ring Sensor (Proximity)
	4 Inductive Ring Sensor (Latching)

74C 127G102 3 2 3 7 1 1 ◀ Typical Model Number

**Float**  
Options for rotameter float materials and designs extend flow ranges for different fluids within a given rotameter tube design

Description / Materials	
Metering Tube	Borosilicate Glass
Internal Components	316L SS, black glass, sapphire, Carboly, tantalum
Fitting Material	316L SS Optional : PVC, PVDF, Hastelloy®
Inlet / Outlet Fittings	1/8", 1/4" FNPT, horizontal Control valve optional
O-Ring	Standard: Viton® Optional : EPR, Buna-N, Kalrez®

Options	
Alarm	Fiber-Optic or Inductive Ring Sensor
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

Performance		
Capacities	Water	0.56 to 1,800 cc/min
	Air	54 to 70,000 cc/min
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	
Repeatability	1%	
Max Temp	Gases	250°F (121°C)
	Liquids	200°F (93°C)
Max Pressure	316L SS Fittings	200 psig
	PVC Fittings	130 psig
	PVDF Fittings	150 psig
Ambient Temp	33°F to 125°F (1°C to 52°C)	

**Muis Controls Ltd. - Flow Meters · Flow Controls**

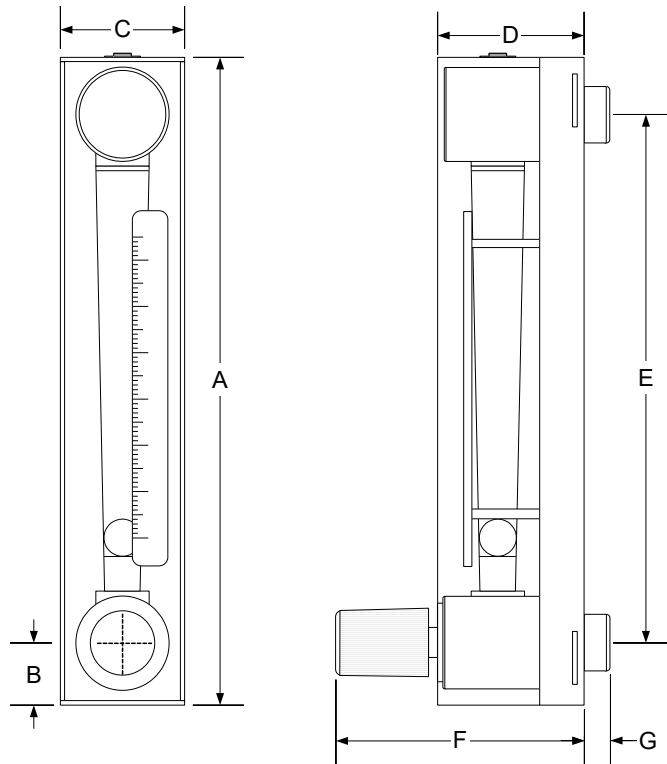
29 Riel Drive, St. Albert, AB, Canada T8N 3Z2  
 Ph +1-780-459-7080 Fx +1-780-459-7085 Toll Free 1-800-661-8823  
 www.muiscontrols.com info@muiscontrols.com

Flow Ranges

65 mm Scale

150 mm Scale

Tube Number	Float Material	Air (STP)			Water (70°F)			Tube Number	Float Material	Air (STP)			Water (70°F)		
		CC/Min	SCFH	SLPH	CC/Min	USGPH	LPH			CC/Min	SCFH	SLPH	CC/Min	USGPH	LPH
102G021	Glass	66	.14	4	0.72	.011	.042	103G022	Glass	54	.114	3.2	.56	.0088	.033
	Sapphire	105	.22	6.2	1.3	.021	.078		Sapphire	82	.175	4.9	1.04	.016	.062
	St. Steel	200	.42	12	3.3	.052	.19		St. Steel	160	.34	9.8	2.25	.035	.135
	Carboloy	340	.7	20	7	.11	.42		Carboloy	280	.58	16.5	5	.078	.3
	Tantalum	350	.74	21	7.8	.125	.46		Tantalum	300	.62	17.5	5.2	.084	.32
103G041	Glass	76	.16	4.6	1.15	.018	.068	104G042	Glass	106	.225	6.4	1.24	.0195	.074
	Sapphire	120	.25	7.2	2.1	.032	.125		Sapphire	165	.35	10	2.35	.038	.145
	St. Steel	230	.5	14	4.2	.068	.26		St. Steel	320	.68	19	5.6	.09	.34
	Carboloy	400	.85	24	9	.145	.56		Carboloy	540	1.14	32	12.4	.195	.74
	Tantalum	440	.90	26	10	.165	.62		Tantalum	580	1.24	35	13.5	.21	.82
108G061	Glass	525	1.1	31	9	.14	.54	107G062	Glass	350	.74	21	4.7	.074	.28
	Sapphire	700	1.5	42	15.5	.24	.95		Sapphire	500	1.06	30	10	.16	.6
	St. Steel	1130	2.4	68	29	.46	1.7		St. Steel	820	1.75	50	20.5	.33	1.25
	Carboloy	1600	3.4	95	46	.72	2.8		Carboloy	1250	2.6	76	34	.54	2.05
	Tantalum	1700	3.6	100	50	.78	3		Tantalum	1350	2.9	80	36	.56	2.15
123G081	Glass	2000	4.2	120	44	.7	2.6	111G082	Glass	850	1.8	50	16.5	.26	1
	Sapphire	2600	5.4	150	68	1.05	4		Sapphire	1100	2.3	66	27	.42	1.6
	St. Steel	3800	8.2	230	110	1.7	6.6		St. Steel	1600	3.4	100	46	.72	2.7
	Carboloy	5600	12	340	170	2.7	10.5		Carboloy	2300	4.9	140	72	1.15	4.4
	Tantalum	6000	13	360	180	2.9	11		Tantalum	2450	5.2	155	80	1.25	4.8
214G021	Glass	6800	14.5	400	160	2.6	9.5	127G102	Glass	2150	4.6	130	52	.84	3.1
	Sapphire	9200	19.5	540	240	3.8	14.5		Sapphire	2800	6	170	78	1.24	4.7
	St. Steel	13000	28	800	400	6.4	24		St. Steel	4400	9.2	260	130	2.05	7.8
	Carboloy	19000	40	1100	600	9.5	36		Carboloy	6200	13.5	380	205	3.2	12.5
	Tantalum	20000	42	1200	640	10	38		Tantalum	6750	14	400	210	3.3	12.5
234G041	Glass	19000	40	1150	520	8.25	31	209G002	Glass	3800	8.2	230	86	1.35	5.2
	Sapphire	25000	52	1500	740	11.5	44		Sapphire	5000	10.6	300	130	2.05	7.8
	St. Steel	42500	90	2550	1200	19	72		St. Steel	7500	16	450	220	3.4	13
	Carboloy	60000	125	3600	1700	27	105		Carboloy	10600	22.5	640	330	5.2	20
	Tantalum	70000	145	4200	1800	29	110		Tantalum	11500	24	680	360	5.6	21.6
217G022	Glass	9000	19	540	215	3.4	13	232G042	Glass	20500	43	1220	470	7.5	28
	Sapphire	11400	24.5	700	320	5	19		Sapphire	26000	56	1550	700	11	42
	St. Steel	17000	36	1000	520	8.2	31		St. Steel	38000	82	2300	1120	18	68
	Carboloy	24000	50	1450	760	12.2	46		Carboloy	54000	116	3300	1650	26	100
	Tantalum	25000	54	1500	820	13	49		Tantalum	60000	125	3500	1750	28	106



Dimensions (inches)

Scale Length	Detail Letter						
	A	B	C	D	E	F	G
65 mm (2 1/2")	6.00	.73	1.525	1.56	4.53	2.90	.50
150 mm (6")	10.26	.73	1.525	1.56	8.826	2.90	.50

Connection

316L Stainless Steel	1/4" FNPT
----------------------	-----------

Maximum Temperature and Pressure

	Max Pressure	Max Temperature
316 SS	200 PSIG	200°F (93°C)
Hastelloy® C	200 PSIG	200°F (93°C)
PVC	130 PSIG @ 70°F (21°C)	125°F (52°C) @ 0 PSIG
PVDF	150 PSIG @ 70°F (21°C)	200°F (93°C) @ 0 PSIG

## Inductive Ring Sensor alarm available for 7430, 7440 Series

### Inductive Ring Sensor

7440 Series flowmeters with metallic floats can be ordered with an inductive ring sensor that is able to detect a predetermined rate of flow and is compatible with stainless steel or Carboloy floats only.

Inductive ring sensors are 2-wire, DC, low current devices and are designed to be used with a remote intrinsic safety barrier / switch isolator. Sensors are available as either proximity or latching devices. The sensor can be positioned to trigger at any point on the scale. It is able to detect the metal float by producing an electromagnetic field that senses the float within its sensing zone.

The inductive sensor connects to a barrier / switch isolator which powers the sensor and provides the desired switching option. Barrier / switch isolators are available with 220VAC, 110VAC or 24VDC supply voltage requirements, contain single pole double throw (SPDT) relays, and are DIN rail mountable. See barrier / switch isolator specifications for electrical connections and further details.

Maximum operating temperature 40°C for 1/8" float; 70°C for 1/4" float.

**Note:** We can supply the safety barriers / switch isolators upon request, but the user must provide the power supply voltage.



### Electrical Specifications for Inductive Ring Sensor

Type	Inductive Proximity or Latching
Supply Voltage	5 - 25V DC (Switch Isolator)
Output	NAMUR
Output Load Current	<=1 mA - Float Present >=3mA (15 mA Max.) - Float Absent
Switching Frequency	2 kHz
Housing Rating	IP67
Wiring	PVC Covered, 2 Conductor, 26 AWG, 6.5 feet long Positive = Brown, Negative = Blue
Pepperl & Fuchs Slot Sensor Approvals	<b>UL</b> : General Purpose <b>FM</b> : Intrinsically Safe <b>CSA</b> : Intrinsically Safe <b>CENELEC</b> : Intrinsically Safe
Electrical Connections	See barrier/switch isolator specifications for details

### Fiber Optic Sensor

The fiber optic alarm sensor is an available option for all 7440 Series flowmeters and is compatible with all float materials except sapphire. The sensor is used to detect a predetermined rate of flow. The sensor can interface directly to a Programmable Logic Controller (PLC) or when connected to a separate relay can trigger a local or remote alarm.

The fiber optic sensor is mounted in a junction box attached to the side of the flowmeter. The sensor uses a pair of fiber optic cables, an emitter and receiver, to transmit the light generated by the sensor. **Note: Maximum operating temperature is 131°F.**

### Fiber Optic Sensor Electrical Specifications

Supply Voltage	10-30 VDC
Supply Current	25 mA
Output	NPN Sinking, N.O. & N.C. PNP Sourcing, N.O. & N.C.
Output Rating	150 mA Max Total Load
Output Response Time	1ms
Off State Leakage Current	1 MICROAMP @ 30 VDC
Output Saturation Voltage	< 1 V at 10 mA DC < 1.5 V at 150 mA DC
Repeatability	0.25 ms
Housing Rating	IP67; NEMA 6
Operating Temperature	-5° to +131°F

**Muis Controls Ltd. - Flow Meters · Flow Controls**

29 Riel Drive, St. Albert, AB, Canada T8N 3Z2  
Ph +1-780-459-7080 Fx +1-780-459-7085 Toll Free 1-800-661-8823  
www.muiscontrols.com info@muiscontrols.com