



7700 SERIES FLOWMETER

King Instrument Company
Garden Grove, CA
Made in U.S.A.

www.kinginstrumentco.com

KING INSTRUMENT
COMPANY

When it comes to flow...we're instrumental.

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King Instrument Company opened its doors in 1983 with one major goal: To produce the finest group of rotameters ever sold.

At the time, we occupied a 1,200 square foot space in a multi-tenant building. With two small manual lathes, a cut-off saw, and two drill presses, we began production. The product line consisted of a total of 19 model numbers. In our first year of business, sales were just over \$37,000.

A lot has changed in 35 years. We now run two shifts and utilize the most sophisticated computer controlled machinery. King Instrument Company currently calls its home a 46,000 square foot facility in Garden Grove, California. We now manufacture 95% of the 6,000 meter components used in our products. These include the borosilicate glass metering tubes we call Kinglass. We operate an in-house calibration lab and perform NIST - traceable calibrations conforming to ISA RP 16.6. Our Quality Management System was certified to ISO 9001:2008 in 2012 and upgraded to ISO 9001:2015 in 2017. We also acquired Canada-wide CRNs for our metal tube meters in 2013.

We are sensitive to our customer's requirements. In fact, nearly all of our products were designed in response to customer need with our own exceptional quality and distinctive style. The King product line has grown and expanded to satisfy the demands of almost any variable area flowmeter application.

Did we reach our original goal? You be the judge. The next time you're in the market for rotameters consider King Instrument Company. We think you'll agree there is no better time than right now to discover the advantages of the King line.

After all, when it comes to flow . . . we're instrumental.



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Stainless Steel, Hastelloy and Monel Meters



7100 Series

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New Color and Flange Connections!

- Low flow, high pressure applications; CRNs available
- 400°F maximum temperature; 4,000 psig maximum pressure
- Magnetically coupled dial display; 60mm scale
- 0.6 to 25 gph water; 1 to 120 scfm air



7710 Series

Pages 8 - 9

New Indicator Housing!

- Superior accuracy and versatility at an excellent value; CRNs available
- Offered with NPT or flange connections; 4-20mA output available
- Magnetically coupled dial display; 120mm dual scale
- 0.55 to 450 gpm water; 4 to 100 scfm air



7750 Series

Pages 10 - 11

New Indicator Housing!

- 250mm end-to-end length with flange connections; CRNs available
- Welded construction, no elastomeric O-rings used
- 4-20mA transmitter output available; 120mm detachable scale
- 0.55 to 16.5 gpm water; 2.2 to 76 scfm air

Borosilicate Glass Meters



7430 Series

Pages 13 - 16

- Low flow, gas purge applications; alarm options available
- 250°F max temp.; 200 psig max pressure
- 65mm or 150mm detachable, direct reading scales
- Horizontal connections; designed for panel mounting
- 66 to 70,000 cc per minute air
- 0.72 to 1800 cc per minute water



7440 Series

Pages 17 - 20

- Low flow, gas purge, chemical dosing applications; alarm options available
- 250°F max temperature; 200 psig max pressure
- 65mm or 150mm detachable, direct reading scales
- Vertical connections and stainless steel frame
- 66 to 70,000 cc per min. air 0.72 to 1800 cc per min. water



7450 Series

Pages 21 - 22

- Sturdy side plate construction; material options for chemical resistance
- Panel-mountable with optional control valve
- 75mm or 150mm detachable direct reading scales
- 0.48 to 7.4 gpm water; 2 to 20 scfm air



7459 Series

Pages 23 - 24

- Sturdy side plate construction with polycarbonate shield
- High accuracy meter; 250mm detachable, direct reading scale
- 250°F maximum temperature; 350 psig maximum pressure
- 0.22 to 100 gpm water; 0.9 to 350 scfm air



7460 Series

Pages 25 - 26

- Excellent value in utility glass meter in stainless steel case
- In-line FNPT connections; 75mm detachable, direct reading scale
- 0.5 to 25 gpm water; 2 to 14 scfm air



7470 Series

Pages 27 - 29

- Excellent value in municipal glass meter in stainless steel case
- In-line FNPT connections; 127mm detachable, direct reading scale
- 0.25 to 116 gpm water; 1 to 245 scfm air



7480 Series

Pages 30 - 32

- Excellent value in high-flow glass meter in stainless steel case
- In-line FNPT connections; 250mm detachable, direct reading scale
- 0.22 to 132 gpm water; 0.9 to 350 scfm air



7610 Series

Pages 33 - 34

- Versatile and exceptionally durable, fully enclosed glass meter
- In-line connections; material and alarm options
- 127mm detachable direct reading scale
- 0.25 to 116 gpm water; 1 to 245 scfm air



7650 Series

Pages 35 - 36

- Designed for chemical resistance and purity
- Stainless steel tie rod frame for added safety
- 80mm direct reading scale
- 0.25 to 26gpm water; Liquid Service Only



7910 Series

Pages 37 - 39

- 70 flow ranges in 7 tube sizes; 250mm scale
- Stainless steel case with dual port connections for ease of installation
- 200°F maximum temperature; 300 psig maximum pressure
- 0.22 to 132 gpm water; 0.9 to 350 scfm air



Silver Series

Pages 40 - 42

- Removable glass metering tube for ease of maintenance
- 35 flow ranges in 6 tube sizes; 200mm and 250mm scales
- Vertical or horizontal NPT or flanged connections
- 0.23 to 85 gpm water; 1.15 to 285 scfm air



Acrylic, Polysulfone & PVC Meters



7200 Series

Pages 44 - 45

- Low cost, low maintenance applications where quality is important
- Precision machined and polished acrylic meter with 127mm scale
- In-line 3/8" to 2" NPT connections
- 1 to 200 gpm water; 4 to 245 scfm air



7310 Series

Pages 46 - 48

- An economical polysulfone meter in a stainless steel case
- Stainless steel, Hastelloy or Teflon wetted parts
- 127mm detachable, direct reading scale
- 0.5 to 160 gpm water; 6.1 to 330 scfm air



7330 Series

Pages 49 - 50

- Union ends for ease of installation; available with alarm options
- Stainless steel, Hastelloy or Teflon wetted parts
- 127mm detachable, direct reading scale
- 0.5 to 160 gpm water; Liquid Service Only



7510 & 7511 Series

Pages 51 - 53

- Block type, precision machined and polished acrylic meter
- Panel mount with in-line connections
- 50mm, 75mm, 100mm, 127mm, 250mm scales
- 0.12 to 20 gpm water; 0.04 to 60 scfm air



7520 & 7530 Series

Pages 54 - 56

- Block type, precision machined and polished acrylic meter
- Panel mount with horizontal connections and optional metering valve
- 50mm, 75mm, 100mm, 127mm, 250mm scales
- 0.12 to 20 gpm water; 0.04 to 60 scfm air



7720 Series

Pages 57 - 58

New Indicator Housing!

- Unique, Type 1, Grade 1 all PVC meter; NPT or flange connections
- Hastelloy wetted parts for corrosive applications
- 120mm detachable, direct reading scale; 4-20mA output available
- 0.55 to 450 gpm water; Liquid Service Only

Stainless Steel Tube Meters

2.180

1.900

3



7100 Series

Pages 5 - 7



7700 Series

Pages 8 - 9



7750 Series

Pages 10 - 11

Corrosion-resistant metal tube meters; available in Stainless Steel, Hastelloy or Monel; CRNs for all Canadian provinces available.

All 316L stainless steel construction makes this meter suitable for low-flow, high-pressure applications.



DESCRIPTION

Metering Tube	316L SS
Internal Components	316L SS, Hastelloy® C-276
Case and Side Cover	Die-cast Aluminum / Powder Coated with Chemfilm base (RoHS Compliant)
Fitting Material / Type	316L SS ¼" FNPT, horizontal
Scale Cover	304 SS frame Annealed glass window
O-Ring	EPR, Buna N, Kalrez®

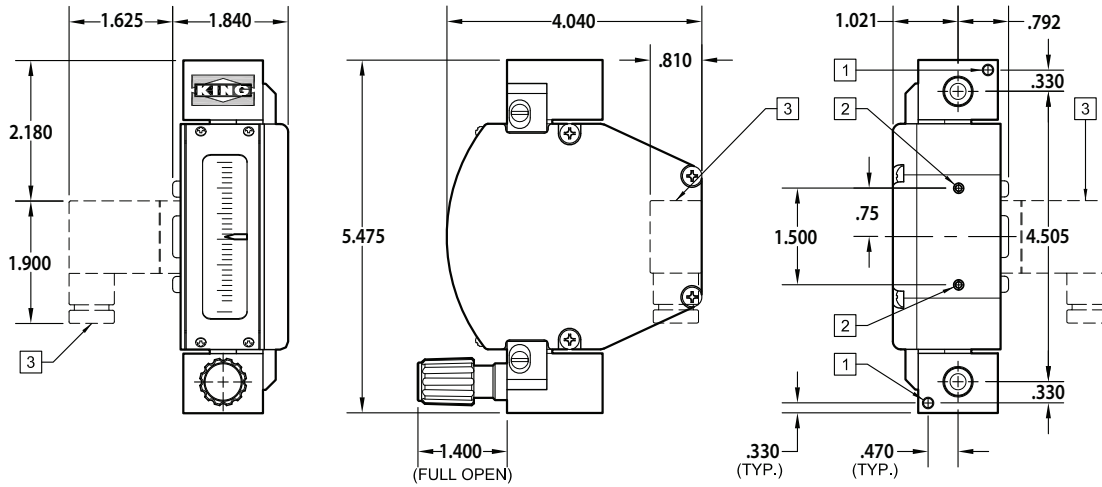
PERFORMANCE

Flow Capacities	Water	0.6 to 25 GPH (2.4 to 95 LPH)	
	Air	1 to 120 SCFH (28.3 to 3,400 SLPH)	
Accuracy	± 5% of full scale flow		
Repeatability	1%		
Turndown	10:1		
Ambient Temperature	-40°F to 125°F (-40°C to 52°C)		
Maximum Temperature	O-Ring	Maximum Temperature	
	EPR	225° F	(107° C)
	Buna N	275° F	(135° C)
	Viton	350° F	(177° C)
	Kalrez	400° F	(204° C)
No O-ring	400° F	(204° C)	
FNPT Connection Pressure	Valve models — 1,500 psig Non-valve models — 4,000 psig		
Flange Connection Pressure	Temp F	150#	300#
	200°	225 psi	600 psi
	300°	200 psi	540 psi
	400°	180 psi	515 psi

OPTIONS

Alarm	Single, Inductive Slot Sensor (See page 61)
Certified Calibrations	ISA RP 16.6
Control Valves	Inlet and outlet
CRNs	All Canadian provinces (Flange connections are not CRN approved)
Rear Mounting Bracket	304 SS
Scales	Any volumetric unit

DIMENSION DIAGRAMS (INCHES)

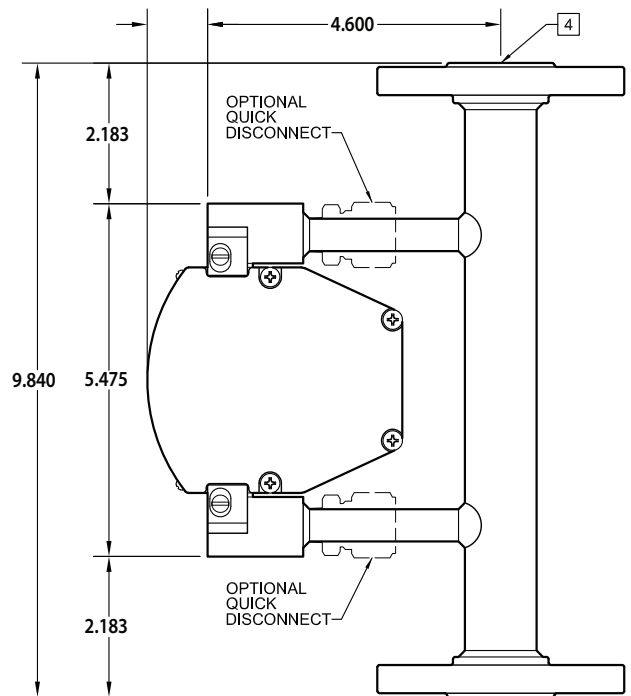


- 1 10-32 THREADED PANEL MOUNTING HOLES (2 PLACES)
- 2 10-32 THREADED HOLE FOR OPTIONAL MOUNTING BRACKET (2 PLACES)
- 3 OPTIONAL ALARM CONNECTION (BACKSIDE OF CASE)
- 4 FLANGE CONNECTION (1/2" / 1"-150# FLANGE - FULLY WELDED ASSEMBLY / QUICK DISCONNECT OPTIONAL)

Flange Connections Now Available!



Threaded connection for easy meter replacement.



SPECIFICATIONS WATER METERING

Order Number	Full Scale Flow Water GPH	Full Scale Flow Water LPH
02W	.6	2.4
04W	1.2	4.5
06W	2.8	10.5
08W	5.5	20
10W	12	45
12W	25	95

SPECIFICATIONS AIR METERING

Order Number	Full Scale Flow Air SCFH	Full Scale Flow Air SLPH
00A*	1.0	28.3
01A	2.5	70
03A	5.5	155
05A	13	360
07A	24	680
09A	55	1550
11A	120	3400

* This meter has a titanium float

ORDERING:

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

Meter Series	Material of Construction	O-Ring Material	Scale	Valve Options	Optional Alarm	Order Number
710	316L SS, ¼" FNPT - 1	No O-ring* - 0	Millimeter - 1	Inlet 316L SS - 1	No Alarm - 0	See Specifications
	HST® C-276, ¼" FNPT - 2	EPR - 1	GPH Water - 2	Outlet 316L SS - 2	With Alarm - A	above
	316L SS, ½" 150# RF Welded - A	Buna-N - 2	LPH Water - 3	No Valve - 3		
	316L SS, 1" 150# RF Welded - B	Viton® - 3	SCFH Air@STP - 4	Inlet HST® C-276 - 4		
	316L SS, ½" 300# RF Welded - C	Kalrez® - 4	SLPH Air@STP - 5	Outlet HST® C-276 - 5		
	316L SS, 1" 300# RF Welded - D		Non standard - 6			
	316L SS, ½" 150# RF Quick Connect - E					
	316L SS, 1" 150# RF Quick Connect - F					
	316L SS, ½" 300# RF Quick Connect - G					
	316L SS, 1" 300# RF Quick Connect - H					

* The No O-ring option is for non-valve meters only

Hastelloy (HST) C-276® is a registered trademark of Haynes International

Viton® is a registered trademark of The Chemours Company

Kalrez® is a registered trademark of the DuPont Company

This all 316L stainless steel meter utilizes a float and tapered tube design which offers longer, more linear scales, better pointer stability and 40% greater accuracy than competitively priced products. A 4-20mA transmitter option adds to its versatility.

New Indicator Housing!



DESCRIPTION

Metering Tube	316L SS
Internal Components	316L SS
Fitting Material	316L SS
Inlet/Outlet Fittings	316L SS NPT or flange, vertical
O-Ring	Standard: Viton® Optional: Buna N, EPR, Kalrez®
Indicator Housing	Die-cast Aluminum / Powder Coated with Chemfilm base (RoHS Compliant) Rated IP66 (Excludes Alarm and Transmitter Cases)

PERFORMANCE

Capacities	Water	33 GPH to 450 GPM
	Air	4 to 100 SCFM
Scale	120 mm direct reading, detachable	
Accuracy	± 3% of full scale flow	
Turndown	10:1	
Repeatability	1 %	
Maximum Temperature	O-Ring Material	Max Temperature
	EPR	225° F (107° C)
	Buna-N	275° F (135° C)
	Viton®	350° F (177° C)
	Kalrez®	400° F (204° C)
Maximum Pressure	NPT fittings 1,500 psi	
	SS flange class	
	Temp F	150# 300# 600#
	200°	225 psi 600 psi 1,200 psi
	300°	200 psi 540 psi 1,100 psi
	400°	180 psi 515 psi 1,000 psi
Ambient Temperature	-40° F to 400° F (-40° C to 204° C)	

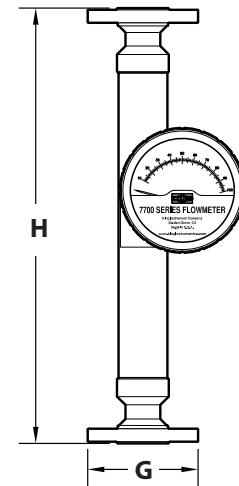
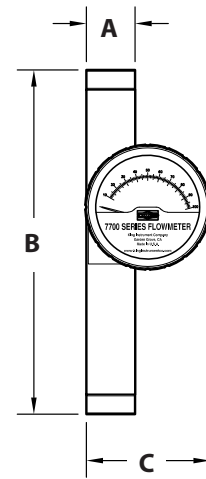
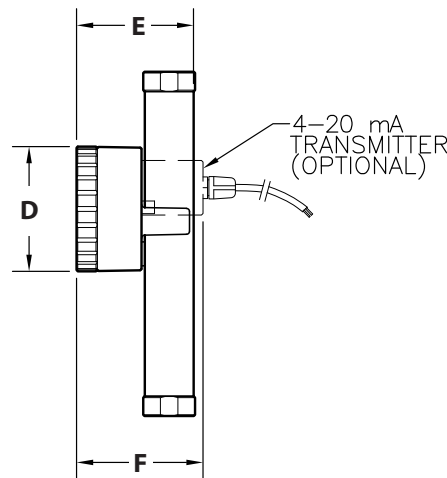
OPTIONS

Alarm	Single or dual, Inductive Slot Sensor 4-20 mA transmitter (See page 62)
Certified Calibrations	Conform to ISA RP 16.6
CRNs	All Canadian provinces
Scales	Any volumetric unit

DIMENSION DIAGRAMS

Water Order Number	Full Scale Flow GPM-Water
706	33.0 GPH - 1/2" FNPT
708	1.1 GPM - 1/2" FNPT
710	2.0 GPM - 1/2" FNPT
712	4.0 GPM - 1/2" FNPT
714	6.0 GPM - 1/2" FNPT
716	5.0 GPM - 1" FNPT
718	10.0 GPM - 1" FNPT
720	16.5 GPM - 1" FNPT
722	25.0 GPM - 1" FNPT
724	35.0 GPM - 1 1/2" FNPT
726	60.0 GPM - 1 1/2" FNPT
728	76.0 GPM - 2" FNPT
730	100.0 GPM - 2" FNPT
732	120.0 GPM - 2" FNPT
734	152.0 GPM - 2" FNPT
736	150.0 GPM - 3" FNPT
738	225.0 GPM - 3" FNPT
740	300.0 GPM - 4" FNPT
742	375.0 GPM - 4" FNPT
744	450.0 GPM - 4" FNPT

Air Order Number	Full Scale Flow SCFM - Air
707	4.0 SCFM - 1/2" FNPT
709	8.0 SCFM - 1/2" FNPT
711	16.5 SCFM - 1/2" FNPT
713	24 SCFM - 1/2" FNPT
715	20 SCFM - 1" FNPT
717	42 SCFM - 1" FNPT
719	76 SCFM - 1" FNPT
721	100 SCFM - 1" FNPT



Water Order Number	Dimensions (Inches) FNPT Connections						150 # Flange		300 # Flange	
	A	B	C	D	E	F	G	H	G	H
706 - 714	1.30	11	4.32	4.8	3.92	4.87	3.50	13.125	3.75	13.625
716 - 722	1.88	13.24	4.86	4.8	4.50	4.87	4.25	16.75	4.88	17.500
724 - 726	2.34	13.864	5.24	4.8	4.96	4.87	5.00	18.625	6.12	19.250
728 - 734	3.46	13.875	6.35	4.8	6.08	4.87	6.00	17.156	6.50	17.786
736 - 738	4.46	—	7.26	4.8	7.08	4.87	7.50	17.867	8.25	18.867
740 - 744	5.49	—	8.24	4.8	8.11	4.87	9.00	18.562	10.00	19.696

Air Order Number	Dimensions (Inches) FNPT Connections						150 # Flange		300 # Flange	
	A	B	C	D	E	F	G	H	G	H
707 - 713	1.30	11	4.32	4.8	3.92	4.87	3.50	13.125	3.75	13.625
715-721	1.88	13.24	4.86	4.8	4.50	4.87	4.25	16.75	4.88	17.500

ORDERING:

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

Meter Series	Connection Type	Float Material	O-Ring Material	Optional Alarm/Transmitter	Order Number
771	FNPT Connections - 1	316L SS - 2	EPR - 1	None - 0	See Specifications
	150# R.F. Flanged - 2		Buna-N - 2	With Transmitter - T	
	300# R.F. Flanged - 3		Viton® - 3	One Alarm (Inductive Slot Sensor) - A	
	600# R.F. Flanged*		Kalrez® - 4	Two Alarms (Inductive Slot Sensors) - D	

*Call factory for 600# R.F. flange availability

These 316L stainless steel meters feature flange connections, all welded construction (no O-rings), and an end to end length of 250mm. A float and tapered tube design provides longer, more linear scales. A 4-20mA transmitter option adds to its versatility.

New Indicator Housing!



DESCRIPTION

Overall Length	250 millimeters
Metering Tube	316L SS
Internal Components	316L SS
Inlet/Outlet Fittings	150# or 300# flange, vertical
O-Ring	All welded construction, no O-rings or gaskets
Indicator Housing	Die-cast Aluminum / Powder Coated with Chemfilm base (RoHS Compliant) Rated IP66 (Excludes Alarm and Transmitter Cases)
Flange Material	316L SS
Scale	120 mm direct reading, detachable

PERFORMANCE

Capacities	Water 33 GPH to 16.5 GPM Air 2.2 SCFM to 76 SCFM												
Scale	120 mm direct reading, detachable												
Accuracy	± 3% of full scale flow												
Turndown	10:1												
Repeatability	1%												
Maximum Temperature	400° F (204° C)												
	<table border="1"> <thead> <tr> <th>Temp F</th> <th>150#</th> <th>300#</th> </tr> </thead> <tbody> <tr> <td>200°</td> <td>225 psi</td> <td>600 psi</td> </tr> <tr> <td>300°</td> <td>200 psi</td> <td>540 psi</td> </tr> <tr> <td>400°</td> <td>180 psi</td> <td>515 psi</td> </tr> </tbody> </table>	Temp F	150#	300#	200°	225 psi	600 psi	300°	200 psi	540 psi	400°	180 psi	515 psi
Temp F	150#	300#											
200°	225 psi	600 psi											
300°	200 psi	540 psi											
400°	180 psi	515 psi											
Maximum Pressure	See 150# and 300# SS flange class above												
Ambient Temperature	-40° F to 400° F (-40° C to 204° C)												

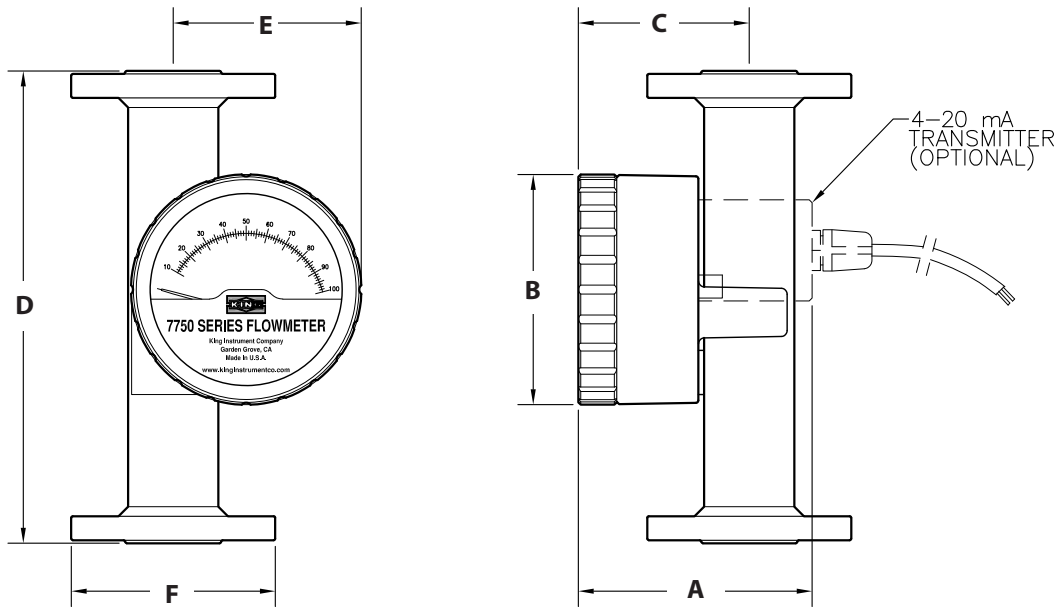
OPTIONS

Alarm	Single or dual, Inductive Slot Sensor 4-20 mA transmitter (See page 62)
Certified Calibrations	Conform to ISA RP 16.6
CRNs	All Canadian provinces
Scales	Any volumetric unit

Order Number	Full Scale Flow GPM-Water	Meter
706	33.0 GPH	1/2"
708	1.1 GPM	1/2"
710	2.0 GPM	1/2"
712	4.0 GPM	1/2"
716	5.0 GPM	1"
718	10.0 GPM	1"
720	16.5 GPM	1"

Order Number	Full Scale Flow SCFM - Air	Meter
705	2.2 SCFM	1/2"
707	4 SCFM	1/2"
709	8 SCFM	1/2"
711	16.5 SCFM	1/2"
715	20 SCFM	1"
717	42 SCFM	1"
719	76 SCFM	1"

DIMENSION DIAGRAMS



Water Order Number	Meter	Dimensions (Inches)					150 # Flange	300 # Flange
		A	B	C	D	E	F	F
706 - 712	1/2"	4.87	4.80	3.27	9.84	3.67	3.50	3.75
716 - 720	1"	4.87	4.80	3.56	9.84	3.92	4.25	4.88

Air Order Number	Meter	Dimensions (Inches)					150 # Flange	300 # Flange
		A	B	C	D	E	F	F
705 - 711	1/2"	4.87	4.80	3.27	9.84	3.67	3.50	3.75
715 - 719	1"	4.87	4.80	3.56	9.84	3.92	4.25	4.88

ORDERING:

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

Meter Series	Connection Type	Float Material	O-Ring Material	Optional Alarm/Transmitter	Order Number
775	150# R.F. Flanged - 2 300# R.F. Flanged - 3	316L SS - 2	No O-ring - 0	None - 0 With Transmitter - T One Alarm (Inductive Slot Sensor) - A Two Alarms (Inductive Slot Sensors) - D	See Specifications

Glass Tube Meters



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Silver Series
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Borosilicate Kinglass tubes are manufactured in house. These meter series are suitable for a wide range of applications.

Both 65 mm and 150 mm scales, borosilicate glass tube models feature all stainless steel frame and horizontal connections at a less expensive price than competitive products. Valve optional.



DESCRIPTION

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

PERFORMANCE

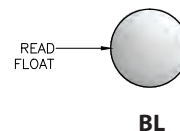
Capacities	Water 0.56 to 1,800 cc/min Air 54 to 70,000 cc/min
Scale	65 mm, 150 mm direct reading, detachable
Accuracy	± 6% of full scale flow, 65 mm ± 4% of full scale flow, 150 mm
Turndown	10:1
Repeatability	1%
Maximum Temperature	Gases 250° F (121° C) Liquids 200° F (93° C)
Maximum Pressure	316L SS fittings 200 psig PVC fittings 130 psig PVDF fittings 150 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

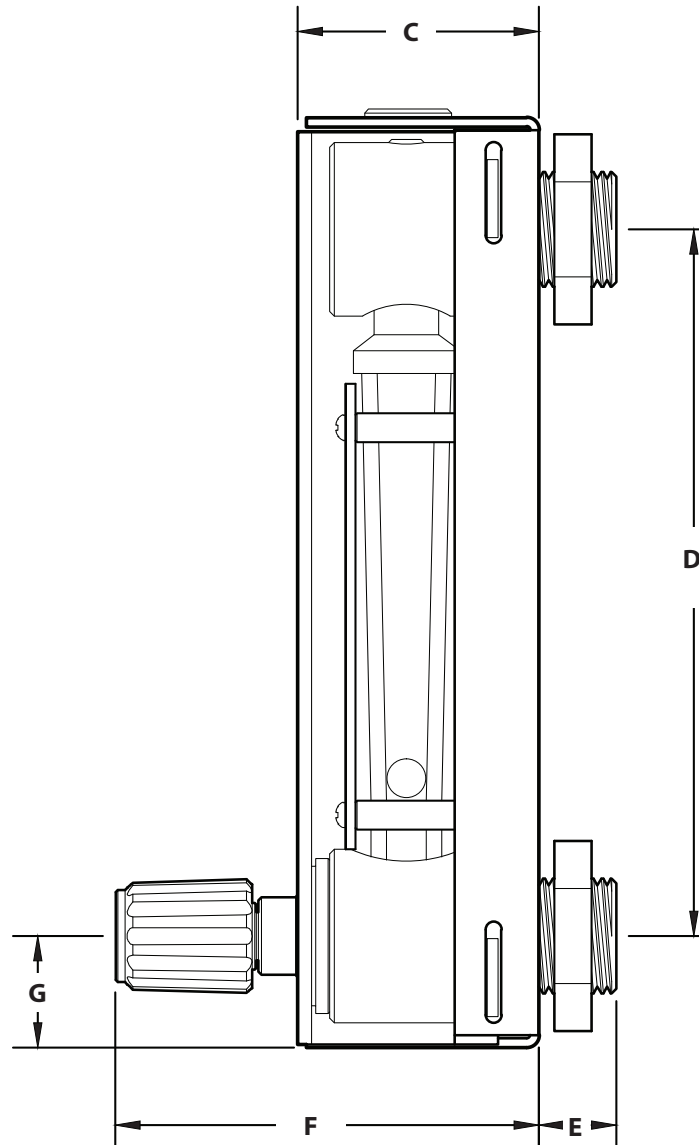
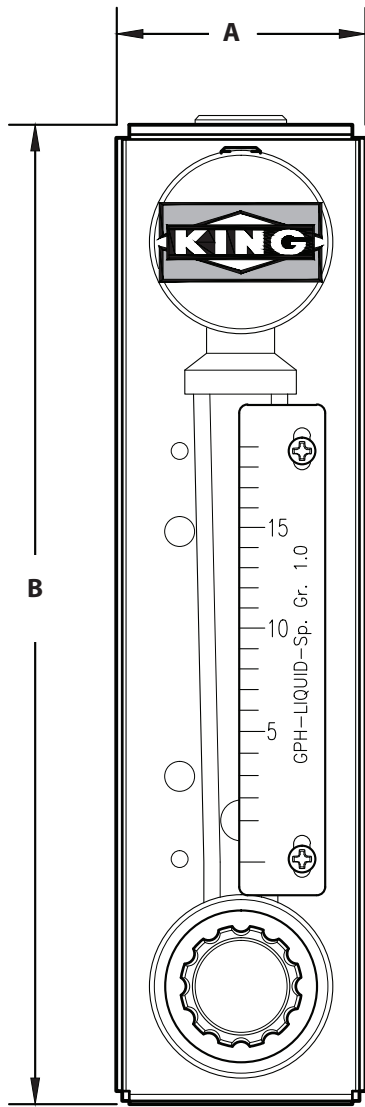
Alarm	Fiber-Optic or Inductive Ring Sensor (See page 63)
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOAT

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



DIMENSION DIAGRAMS



(FULL OPEN)

Dimensions (Inches)

Detail Letter	Scale length	
	65mm	150mm
A	1.525"	1.525"
B	6.00"	10.26"
C	1.56"	1.56"
D	4.53"	8.82"
E	0.50"	0.50"
F	2.90"	2.90"
G	0.73"	0.73"

Tube Number	Float Material	150 MM Scale Flow Ranges					
		Air (STP)			Water (70° F)		
		CC/MIN	SCFH	SLPH	CC/MIN	GPH	LPH
1-03-G-022	Glass	54	.114	3.2	.56	.0088	.033
	Sapphire	82	.175	4.9	1.04	.0160	.062
	Stainless Steel	160	.340	9.8	2.25	.0350	.135
	Carboloy	280	.580	16.5	5.00	.0780	.300
	Tantalum	300	.620	17.5	5.20	.0840	.320
1-04-G-042	Glass	106	.225	6.4	1.24	.0195	.074
	Sapphire	165	.35	10.0	2.35	.0380	.145
	Stainless Steel	320	.68	19.0	5.60	.0900	.340
	Carboloy	540	1.14	32.0	12.4	.1950	.740
	Tantalum	580	1.24	35.0	13.5	.2100	.820
1-07-G-062	Glass	350	.74	21.0	4.7	.074	.28
	Sapphire	500	1.06	30.0	10.0	.160	.60
	Stainless Steel	820	1.75	50.0	20.5	.330	1.25
	Carboloy	1250	2.60	76.0	34.0	.540	2.05
	Tantalum	1350	2.90	80.0	36.0	.560	2.15
1-11-G-082	Glass	850	1.8	50.0	16.5	.26	1.0
	Sapphire	1100	2.3	66.0	27.0	.42	1.6
	Stainless Steel	1600	3.4	100.0	46.0	.72	2.7
	Carboloy	2300	4.9	140.0	72.0	1.15	4.4
	Tantalum	2450	5.2	155.0	80.0	1.25	4.8
1-27-G-102	Glass	2150	4.6	130.0	52	.84	3.1
	Sapphire	2800	6.0	170.0	78	1.24	4.7
	Stainless Steel	4400	9.2	260.0	130	2.05	7.8
	Carboloy	6200	13.5	380.0	205	3.20	12.3
	Tantalum	6750	14.0	400.0	210	3.30	12.6
2-09-G-002	Glass	3800	8.2	230.0	86	1.35	5.2
	Sapphire	5000	10.6	300.0	130	2.05	7.8
	Stainless Steel	7500	16.0	450.0	220	3.40	13.0
	Carboloy	10600	22.5	640.0	330	5.20	20.0
	Tantalum	11500	24.0	680.0	360	5.60	21.5
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

Tube Number	Float Material	65MM Scale Flow Ranges					
		Air (STP)			Water (70° F)		
		CC/MIN	SCFH	SLPH	CC/MIN	GPH	LPH
1-02-G-021	Glass	66	.14	4.0	0.72	.011	.042
	Sapphire	105	.22	6.2	1.3	.021	.078
	Stainless Steel	200	.42	12.0	3.3	.052	.190
	Carboloy	340	.70	20.0	7.0	.110	.420
	Tantalum	350	.74	21.0	7.8	.125	.460
1-03-G-041	Glass	76	.16	4.6	1.15	.018	.068
	Sapphire	120	.25	7.2	2.10	.032	.125
	Stainless Steel	230	.50	14.0	4.20	.068	.260
	Carboloy	400	.85	24.0	9.00	.145	.560
	Tantalum	440	.90	26.0	10.00	.165	.620
1-08-G-061	Glass	525	1.1	31	9.0	.14	.54
	Sapphire	700	1.5	42	15.5	.24	.95
	Stainless Steel	1130	2.4	68	29.0	.46	1.70
	Carboloy	1600	3.4	95	46.0	.72	2.80
	Tantalum	1700	3.6	100	50.0	.78	3.00
1-23-G-081	Glass	2000	4.2	120	44	.70	2.6
	Sapphire	2600	5.4	150	68	1.05	4.0
	Stainless Steel	3800	8.2	230	110	1.70	6.6
	Carboloy	5600	12.0	340	170	2.70	10.5
	Tantalum	6000	13.0	360	180	2.90	11.0
2-14-G-021	Glass	6800	14.5	400	160	2.6	9.5
	Sapphire	9200	19.5	540	240	3.8	14.5
	Stainless Steel	13000	28.0	800	400	6.2	24.0
	Carboloy	19000	40.0	1100	600	9.5	36.0
	Tantalum	20000	42.0	1200	640	10.0	38.0
2-34-G-041	Glass	19000	40.0	1150	520	8.25	31.0
	Sapphire	25000	52.0	1500	740	11.50	44.0
	Stainless Steel	42500	90.0	2550	1200	19.00	72.0
	Carboloy	60000	125.0	3600	1700	27.00	105.0
	Tantalum	70000	145.0	4200	1800	29.00	110.0

ORDERING:

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

Meter Series	Tube Number	Float Material	Fitting Material	O-Ring Material	Scale	Valve Option	Optional Alarm Switch
7	4	C					
See Specifications above and on page 15		Glass - 1 Sapphire - 2 316 SS - 3 Carboloy - 4 Tantalum - 5	316L SS - 1/8" FNPT - 1 316L SS - 1/4" FNPT - 2 PVC - 1/4" FNPT - 3 PVC - 1/8" FNPT - 4 PVDF - 1/4" FNPT - 5 PVDF - 1/8" FNPT - 6 Hastelloy® C - 1/4" FNPT - 7 Hastelloy® C - 1/8" FNPT - 8	EPR - 1 Buna-N - 2 Viton® - 3 Kalrez® No Valve - 4 Kalrez® Valve - 5	Millimeter - 1 GPH Water@70°F - 2 LPH Water@70°F - 3 CC/MIN Water@STP - 4 SCFH Air@STP - 5 SLPH Air@STP - 6 SCC/MIN Air@STP - 7 Non standard - 8	316L SS - Inlet - 1 316L SS - Outlet - 2 No Valve - 3 PVC - Inlet - 4 PVC - Outlet - 5 PVDF - Inlet - 6 PVDF - Outlet - 7 Hastelloy® C - Inlet - 8 Hastelloy® C - Outlet - 9	Without Alarm - 0 Fiber-Optic NPN (Proximity) - 1 Fiber-Optic PNP (Proximity) - 2 Inductive Ring Sensor (Proximity) - 3 Inductive Ring Sensor (Latching) - 4

Based on our proven panel-mountable 7430, we offer the vertically-connected 7440 with the same scale lengths, flow rates, and cost-effective performance for low-flow applications such as purge metering and chemical dosing.



DESCRIPTION

Metering Tube	Borosilicate Kinglass
Internal Components	316L stainless steel, black glass, sapphire, Carboloy, tantalum
Fitting Material	316L SS Optional: PVDF
Inlet/Outlet Fittings	1/4" FNPT, vertical
O-Ring	Standard: Viton® Optional: Buna N, EPR, Kalrez®

PERFORMANCE

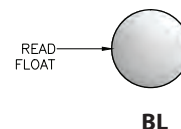
Capacities	Water 0.56 to 1,800 cc/min Air 54 to 70,000 cc/min
Scale	65 mm, 150 mm direct reading, detachable
Accuracy	± 6% of full scale flow, 65 mm ± 4% of full scale flow, 150 mm
Turndown	10:1
Repeatability	1%
Maximum Temperature	Gases 250° F (121° C) Liquids 200° F (93° C)
Maximum Pressure	316L SS fittings 200 psig PVDF fittings 150 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

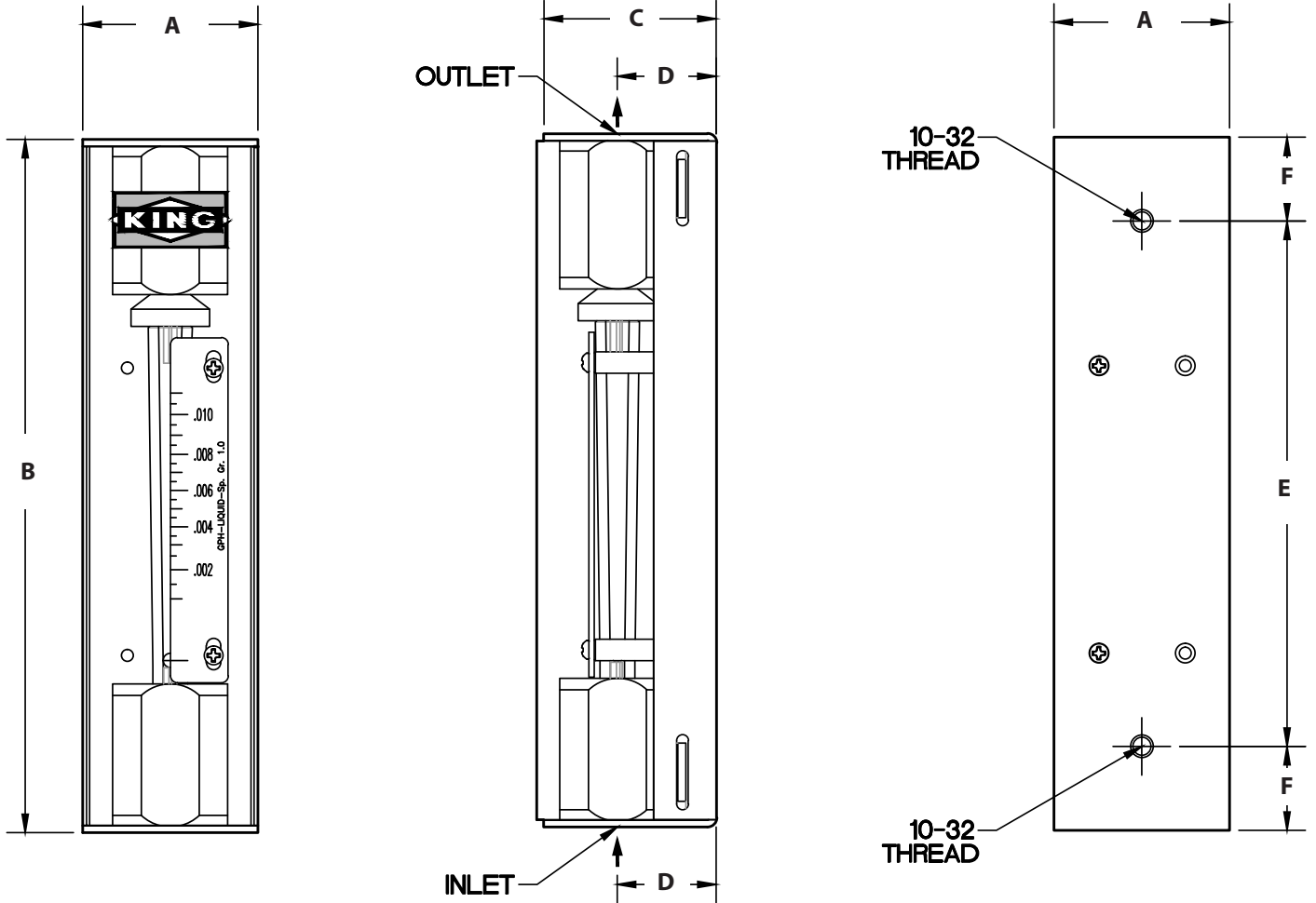
Alarm	Fiber-Optic or Inductive Ring Sensor (See page 63)
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOAT

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



DIMENSION DIAGRAMS



Detail Letter	Dimensions (Inches)	
	65 mm	150 mm
A	1.525"	1.525"
B	6.03"	10.25"
C	1.56"	1.56"
D	.86"	.86"
E	4.57"	8.77"
F	.73"	.74"

1/4" FNPT Vertical Connections

Tube Number	Float Material	150 MM Scale Flow Ranges					
		Air (STP)			Water (70° F)		
		CC/MIN	SCFH	SLPH	CC/MIN	GPH	LPH
1-03-G-022	Glass	54	.114	3.2	.56	.0088	.033
	Sapphire	82	.175	4.9	1.04	.0160	.062
	Stainless Steel	160	.340	9.8	2.25	.0350	.135
	Carboloy	280	.580	16.5	5.00	.0780	.300
	Tantalum	300	.620	17.5	5.20	.0840	.320
1-04-G-042	Glass	106	.225	6.4	1.24	.0195	.074
	Sapphire	165	.35	10.0	2.35	.0380	.145
	Stainless Steel	320	.68	19.0	5.60	.0900	.340
	Carboloy	540	1.14	32.0	12.4	.1950	.740
	Tantalum	580	1.24	35.0	13.5	.2100	.820
1-07-G-062	Glass	350	.74	21.0	4.7	.074	.28
	Sapphire	500	1.06	30.0	10.0	.160	.60
	Stainless Steel	820	1.75	50.0	20.5	.330	1.25
	Carboloy	1250	2.60	76.0	34.0	.540	2.05
	Tantalum	1350	2.90	80.0	36.0	.560	2.15
1-11-G-082	Glass	850	1.8	50	16.5	.26	1.0
	Sapphire	1100	2.3	66	27.0	.42	1.6
	Stainless Steel	1600	3.4	100	46.0	.72	2.7
	Carboloy	2300	4.9	140	72.0	1.15	4.4
	Tantalum	2450	5.2	155	80.0	1.25	4.8
1-27-G-102	Glass	2150	4.6	130	52	.84	3.1
	Sapphire	2800	6.0	170	78	1.24	4.7
	Stainless Steel	4400	9.2	260	130	2.05	7.8
	Carboloy	6200	13.5	380	205	3.20	12.5
	Tantalum	6750	14.0	400	210	3.30	12.5
2-09-G-002	Glass	3800	8.2	230	86	1.35	5.2
	Sapphire	5000	10.6	300	130	2.05	7.8
	Stainless Steel	7500	16.0	450	220	3.40	13.0
	Carboloy	10600	22.5	640	330	5.20	20.0
	Tantalum	11500	24.0	680	360	5.60	21.5
2-17-G-022	Glass	9000	19.0	540	215	3.40	13.0
	Sapphire	11400	24.5	700	320	5.00	19.0
	Stainless Steel	17000	36.0	1000	520	8.20	31.0
	Carboloy	24000	50.0	1450	760	12.2	46.0
	Tantalum	25000	54.0	1500	820	13.0	49.0
2-32-G-042	Glass	20500	43.0	122	470	7.5	28.0
	Sapphire	26000	56.0	1550	700	11.0	42.0
	Stainless Steel	38000	82.0	2300	1120	18.0	68.0
	Carboloy	54000	116.0	3300	1650	26.0	100.0
	Tantalum	60000	125.0	3500	1750	28.0	106.0

Tube Number	Float Material	65MM Scale Flow Ranges					
		Air (STP)			Water (70° F)		
		CC/MIN	SCFH	SLPH	CC/MIN	GPH	LPH
1-02-G-021	Glass	66	.14	4.0	0.72	.011	.042
	Sapphire	105	.22	6.2	1.3	.021	.078
	Stainless Steel	200	.42	12.0	3.3	.052	.190
	Carboloy	340	.70	20.0	7.0	.110	.420
	Tantalum	350	.74	21.0	7.8	.125	.460
1-03-G-041	Glass	76	.16	4.6	1.15	.018	.068
	Sapphire	120	.25	7.2	2.10	.032	.125
	Stainless Steel	230	.50	14.0	4.20	.068	.260
	Carboloy	400	.85	24.0	9.00	.145	.560
	Tantalum	440	.90	26.0	10.00	.165	.620
1-08-G-061	Glass	525	1.1	31	9.0	.14	.54
	Sapphire	700	1.5	42	15.5	.24	.95
	Stainless Steel	1130	2.4	68	29.0	.46	1.70
	Carboloy	1600	3.4	95	46.0	.72	2.80
	Tantalum	1700	3.6	100	50.0	.78	3.00
1-23-G-081	Glass	2000	4.2	120	44	.70	2.6
	Sapphire	2600	5.4	150	68	1.05	4.0
	Stainless Steel	3800	8.2	230	110	1.70	6.6
	Carboloy	5600	12.0	340	170	2.70	10.5
	Tantalum	6000	13.0	360	180	2.90	11
2-14-G-021	Glass	6800	14.5	400	160	2.6	9.5
	Sapphire	9200	19.5	540	240	3.8	14
	Stainless Steel	13000	28.0	800	400	6.2	24
	Carboloy	19000	40.0	1100	600	9.5	36
	Tantalum	20000	42.0	1200	640	10.0	38
2-34-G-041	Glass	19000	40.0	1150	520	8.25	31
	Sapphire	25000	52.0	1500	740	11.50	44
	Stainless Steel	42500	90.0	2550	1200	19.00	72
	Carboloy	60000	125.0	3600	1700	27.00	105
	Tantalum	70000	145.0	4200	1800	29.00	110

ORDERING:

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

Meter Series	Tube Number	Float Material	Fitting Material	O-Ring Material	Scale	Optional Alarm Switch
7 4 V	See Specifications above and on page 19	Glass - 1 Sapphire - 2 316 SS - 3 Carboloy - 4 Tantalum - 5	316L SS - 1/4" FNPT - 1 PVDF - 1/4" FNPT - 2	EPR - 1 Buna-N - 2 Viton® - 3 Kalrez® - 4	Millimeter - 1 GPH Water@70°F - 2 LPH Water@70°F - 3 CC/MIN Water@STP - 4 SCFH Air@STP - 5 SLPH Air@STP - 6 SCC/MIN Air@STP - 7 Non standard - 8	Without Alarm - 0 Fiber-Optic NPN (Proximity) - 1 Fiber-Optic PNP (Proximity) - 2 Inductive Ring Sensor (Proximity) - 3 Inductive Ring Sensor (Latching) - 4

Side plate style meters with 75 mm or 150 mm borosilicate glass tube and 316L stainless steel or brass connections. Valves optional. Available with Hastelloy®C-276 construction for greater chemical resistance.



DESCRIPTION

Metering Tube	Borosilicate Kinglass®
Internal Components	316L SS
Fitting Material	Brass or 316L SS
Inlet/Outlet Fittings	FNPT, horizontal Control valve optional
O-Ring	Standard: Viton Optional: Buna N, EPR, and Kalrez®

PERFORMANCE

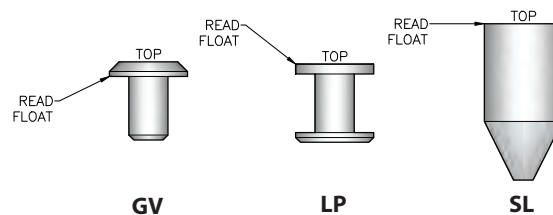
Capacities	Water 0.48 to 7.4 GPM Air 2 to 20 SCFM
Scale	75 mm (3"), 150 mm (6") direct reading, detachable
Accuracy	± 5% of full scale flow, 75 mm ± 3% of full scale flow, 150 mm
Turndown	10:1
Repeatability	1%
Maximum Temperature	Liquid 200° F (93° C) Gases 250° F (121° C)
Maximum Pressure	200 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

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



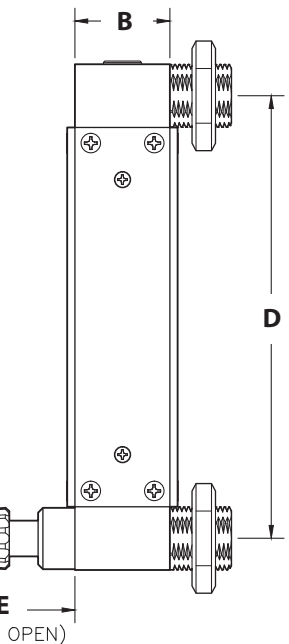
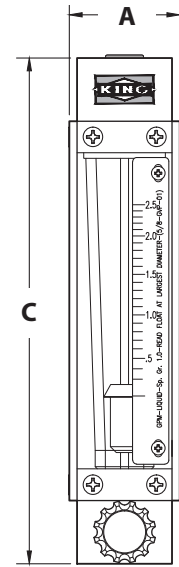
75mm (3") Scale Models								
Order Number	Full Scale Flow			Float Number	Float Type	Tube Size	Tube Number*	
	Water		Air					
	GPM	LPM	SCFM	SLPM				
3G1	.48	1.8	2.0	56	1/2-LPG-04	LP	.50"	1/2-24-G-3
3G2	1.0	3.8	4.0	112	1/2-LPG-05	LP	.50"	1/2-24-G-3
3G3	2.0	7.6	8.2	230	1/2-SLG-01	SL	.50"	1/2-24-G-3
3P1	2.5	9.4	10.0	280	5/8-GVP-01	GV	.625"	5/8-29-P-3
3P2	4.0	15.0	20.0	560	5/8-SLP-01	SL	.625"	5/8-29-P-3
3P3	5.6	21.0	—	—	5/8-SLP-02	SL	.625"	5/8-29-P-3
3P4	7.4	28.0	—	—	5/8-SLP-03	SL	.625"	5/8-29-P-3

150mm (6") Scale Models								
Order Number	Full Scale Flow			Float Number	Float Type	Tube Size	Tube Number*	
	Water		Air					
	GPM	LPM	SCFM	SLPM				
6G1	0.5	1.9	2.0	57	1/2-LPG-04	LP	.50"	1/2-24-G-6
6G2	1.0	3.8	4.2	118	1/2-LPG-05	LP	.50"	1/2-24-G-6
6G3	2.0	7.6	8.2	230	1/2-SLG-01	SL	.50"	1/2-24-G-6
6P1	2.5	9.4	10.0	280	5/8-GVP-02	GV	.625"	5/8-32-P-6
6P2	4.0	15.0	20.0	560	5/8-SLP-04	SL	.625"	5/8-32-P-6
6P3	5.6	21.0	—	—	5/8-SLP-05	SL	.625"	5/8-32-P-6
6P4	7.4	28.0	—	—	5/8-SLP-06	SL	.625"	5/8-32-P-6

* Tubes designated "G" have rib-guided floats.
Tubes designated "P" have pole-guided floats.

Order Number	Dimensions (Inches)				
	A	B	C	D	E
75mm(3") Scale Models					
3G1-3P4	1.75	1.50	8.00	7.00	2.25
150mm (6") Scale Models					
6G1-6P4	1.75	1.50	11.57	10.57	2.25

DIMENSION DIAGRAMS

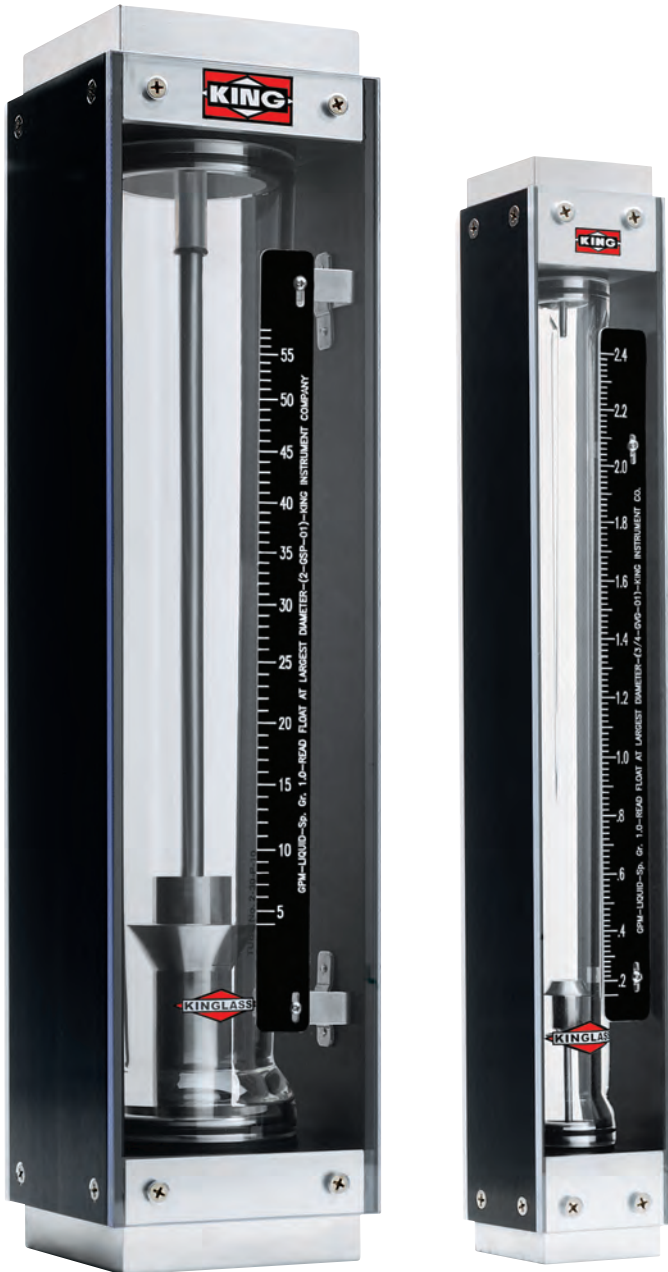


ORDERING:

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

Meter Series	Order Number	Fitting Material	O-Ring Material	Scale	Valve Option
7 4 5	See Specifications	Brass - 3/8" FNPT - 1 316L SS - 3/8" FNPT - 2	EPR - 1 Buna-N - 2 Viton® - 3 Kalrez® - No Valve - 4 Kalrez® - Valve - 5	Millimeter - 1 GPM Water@70°F - 2 LPM Water@70°F - 3 SCFM Air@STP - 4 SLPM Air@STP - 5 Non standard - 6	Brass - Inlet - 1 Brass - Outlet - 2 No Valve - 3 316L SS - Inlet - 4 316L SS - Outlet - 5

Expanding the line of side plate construction rotameters is the 7459 Series. These models feature a 250 mm scale borosilicate glass tube with aluminum side plates and a polycarbonate shield. Connections are vertical FNPT, 316L stainless steel.



DESCRIPTION

Metering Tube	Borosilicate Kinglass®
Internal Components	Standard: 316L SS
Fitting Material	Standard: 316L SS
Inlet/Outlet Fittings	NPT, vertical connection: Sizes 3 & 4: 1/2" FNPT Size 5: 3/4" FNPT Size 6: 1" FNPT Size 8 & 9: 1 1/2" FNPT
O-Ring	Standard: Viton® Optional: Buna N, EPR, Kalrez®

PERFORMANCE

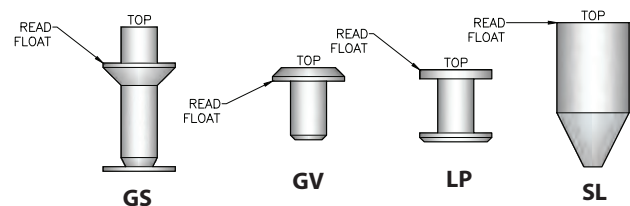
Capacities	Water 0.22 to 100 GPM Air 0.9 to 350 SCFM
Scale	250 mm (10") direct reading, detachable
Accuracy	± 2% of full scale flow
Turndown	10:1
Repeatability	0.5%
Max Temperature	Gases 250° F (121° C) Liquids 200° F (93° C)
Maximum Pressure	Sizes 3 & 4: 350 psig Size 5: 175 psig Size 6, 8 & 9: 125 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

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

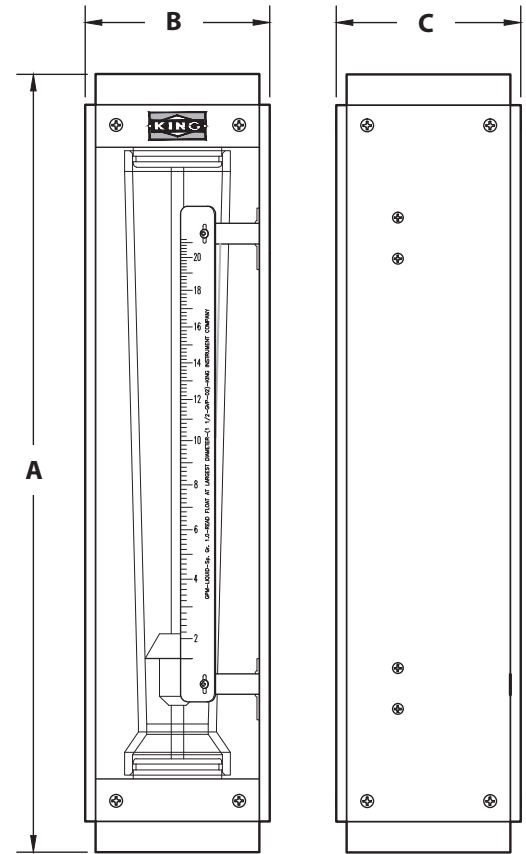


7459 Series Specifications

Glass Tube

Order No.	Full Scale Flow GPM - Water	Order Number	Full Scale Flow SCFM - Air	Float Number	Float Type	Pressure Drop (Inches of Water)	Tube Size*	Tube No.
31W	0.220	31A	.9	3/8-LPG-01	LP	—	3/8-20-G-10	3G
32W	0.315	32A	1.4	3/8-SLG-01	SL	2	3/8-20-G-10	3G
33W	0.640	33A	2.7	3/8-SLG-02	SL	7	3/8-20-G-10	3G
41W	0.77	41A	3.4	1/2-LPG-01	LP	6	1/2-32-G-10	4G
42W	1.02	42A	4.4	1/2-LPG-02	LP	10	1/2-32-G-10	4G
43W	1.20	43A	5.0	1/2-GVG-01	GV	0	1/2-32-G-10	4G
44W	1.44	44A	6.1	1/2-GSG-01	GS	15	1/2-32-G-10	4G
45W	1.92	45A	8.5	1/2-SLG-01	SL	28	1/2-32-G-10	4G
46W	2.26	46A	10.2	1/2-SLG-02	SL	41	1/2-32-G-10	4G
51W	1.1	51A	4.5	3/4-LPG-01	LP	1	3/4-28-G-10	5G
52W	2.4	52A	10.0	3/4-GVG-01	GV	4	3/4-28-G-10	5G
53W	3.0	53A	12.0	3/4-GSG-01	GS	5	3/4-28-G-10	5G
54W	3.3	54A	13.2	3/4-GVG-02	GV	6	3/4-28-G-10	5G
55W	4.0	55A	16.4	3/4-GSG-02	GS	6	3/4-28-G-10	5G
56W	5.2	56A	22.0	3/4-SLG-01	SL	18	3/4-28-G-10	5G
61W	6.9	—	—	1-LPG-02	LP	4	1-32-G-10	6G
62W	9.8	—	—	1-SLG-01	SL	8	1-32-G-10	6G
63W	12.6	—	—	1-SLG-02	SL	13	1-32-G-10	6G
64W	6.7	64A	27.0	1-LPP-01	LP	4	1-40-P-10	6P
65W	7.4	65A	30.0	1-GVP-01	GV	6	1-40-P-10	6P
66W	8.5	66A	35.0	1-GVP-02	GV	8	1-40-P-10	6P
67W	10.4	67A	42.5	1-GSP-01	GS	10	1-40-P-10	6P
68W	11.6	68A	46.5	1-GVP-03	GV	15	1-40-P-10	6P
69W	12.0	69A	50.0	1-GSP-02	GS	14	1-40-P-10	6P
610W	15.6	610A	63.0	1-GSP-03	GS	24	1-40-P10	6P
611W	21.6	611A	100.0	1-SLP-01	SL	61	1-40-P10	6P
612W	27.5	—	—	1-SLP-02	SL	85	1-40-P10	6P
613W	34.5	—	—	1-SLP-03	SL	110	1-40-P10	6P
84W	17.0	84A	70.0	11/2-GVP-01	GV	10	8P - 11/2-32-P-10	8P
85W	21.2	85A	87.0	11/2-GVP-02	GV	13	8P - 11/2-32-P-10	8P
86W	22.2	—	—	11/2-GSP-01	GS	14	8P - 11/2-32-P-10	8P
87W	24.8	87A	102.0	11/2-GVP-03	GV	18	8P - 11/2-32-P-10	8P
88W	28.5	—	—	11/2-GSP-02	GS	20	8P - 11/2-32-P-10	8P
89W	35.0	—	—	11/2-GSP-03	GS	24	8P - 11/2-32-P-10	8P
94W	41.5	94A	170.0	2-GVP-01	GV	20	9P - 2-30-P-10	9P
95W	58.0	95A	240.0	2-GSP-01	GS	25	9P - 2-30-P-10	9P
96W	65.0	96A	270.0	2-GSP-02	GS	30	9P - 2-30-P-10	9P
97W	85.0	97A	350.0	2-SLP-00	SL	40	9P - 2-30-P-10	9P
98W	100.0	—	—	2-SLP-01	SL	50	9P - 2-30-P-10	9P

DIMENSION DIAGRAMS



Water Order Number	Air Order Number	Dimensions (Inches)			Connection Size (FNPT)
		A	B	C	
31W - 46W	31A - 46A	17	2.5	2.375	1/2"
51W - 56W	51A - 56A	17	2.5	2.375	3/4"
61W - 613W	61A - 613A	17	2.5	2.375	1"
84W - 98W	84A - 98A	19	4.5	4.500	1 1/2"

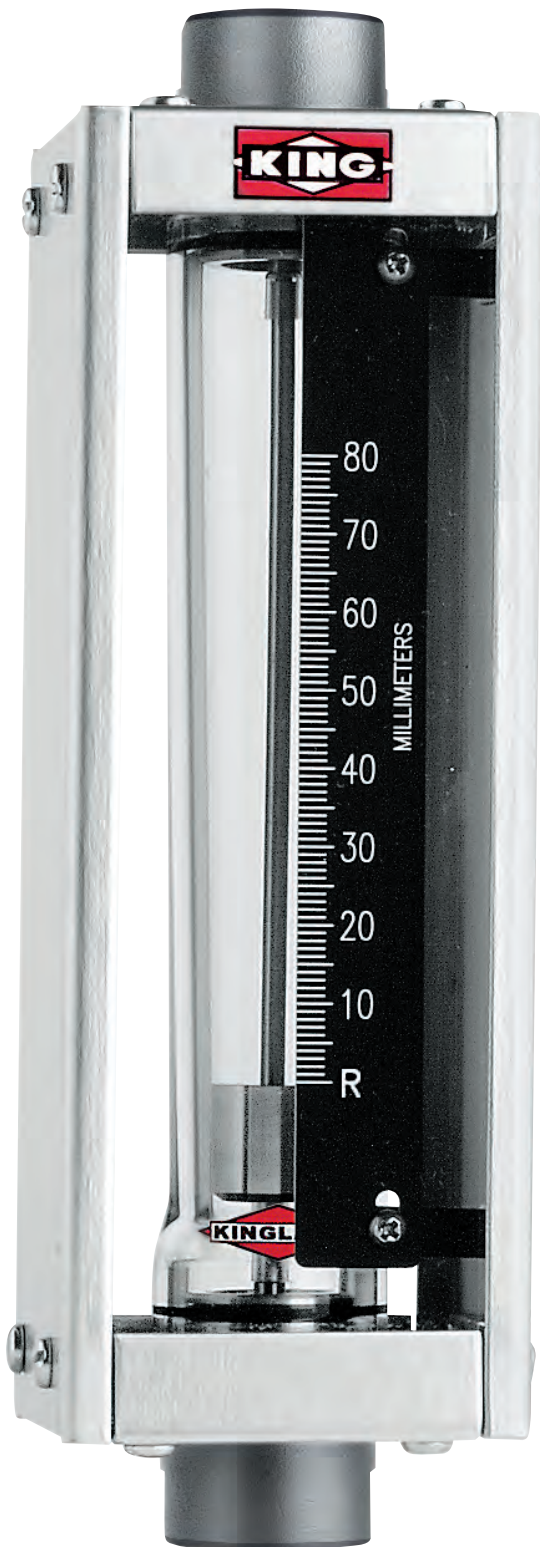
* Tubes designated "G" have rib-guided floats.
Tubes designated "P" have pole-guided floats.

ORDERING:

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

7 4 5	Order Number	Fitting Material	O-Ring Material	Scale
	See Specifications	316L SS - 2	EPR - 1	Millimeter - 1
	* Only use this 4th box with order numbers 610W thru 613W. Otherwise leave blank.		Buna-N - 2	GPM Water@70°F - 2
			Viton® - 3	LPM Water@70°F - 3
			Kalrez® - 4	SCFM Air@STP - 4
				SLPM Air@STP - 5
				Non standard - 6

There is nothing else like it in the industry. This 75 mm scale glass tube meter offers economical 304 stainless steel case construction with vertical connections.



DESCRIPTION

Metering Tube	Borosilicate Kinglass
Internal Components	Standard: 316L SS Optional: Hastelloy®C-276
Fitting Material	Standard: 316L SS Optional: PVC
Inlet/Outlet Fittings	FNPT Vertical
O-Ring	Standard: Viton® Optional: Buna N, EPR, and Kalrez®
Case and Covers	304 SS case Polycarbonate shield

PERFORMANCE

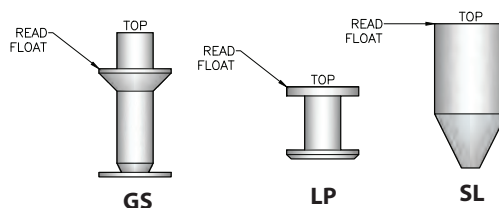
Capacities	Water 0.5 to 25 GPM Air 2 to 14 SCFM
Scale	80 mm (3") direct reading, detachable
Accuracy	± 5% of full scale flow
Turndown	10:1
Repeatability	1%
Max Temperature	316L SS fittings Gases 250° F (121° C) 316L SS fittings Liquids 200° F (93° C) PVC fittings Liquids 110° F (43° C)
Maximum Pressure	316L SS 200 psig PVC fittings 150 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

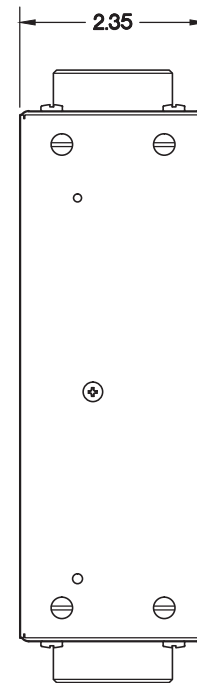
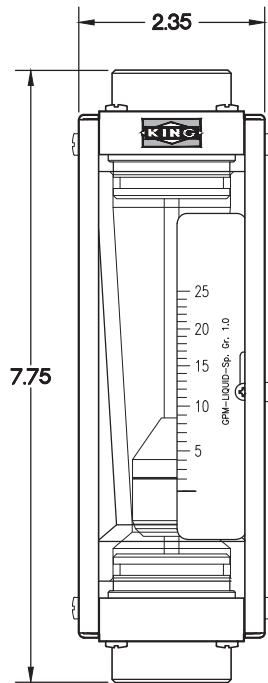
Options for rotameter float materials and designs extend flow ranges for different fluids within a given rotameter tube design.



Order Number	Full Scale Flow GPM - Water	Order Number	Full Scale Flow SCFM - Air	Float Number	Float Type	Pressure Drop (Inches of Water)	Tube Size	Tube Number*	Connection Size
41W	.5	41A	2.0	1/2-LPG-04	LP	-	4G (.50")	1/2-24-G-3	1/2" - FNPT
42W	1.0	42A	4.0	1/2-LPG-05	LP	5	4G (.50")	1/2-24-G-3	1/2" - FNPT
43W	2.0	43A	8.2	1/2-SLG-01	SL	9	4G (.50")	1/2-24-G-3	1/2" - FNPT
44W	3.5	44A	14.0	5/8-SLP-01	SL	9	4P (.625")	5/8-29-P-3	1/2" - FNPT
45W	5.6	45A	22.0	5/8-SLP-02	SL	11	4P (.625")	5/8-29-P-3	1/2" - FNPT
46W	7.4	46A	29.0	5/8-SLP-03	SL	15	4P (.625")	5/8-29-P-3	1/2" - FNPT
61W	10.0	61A	40.0	1-GSP-01	GS	16	6P (1")	1-35-P-3	1" - FNPT
62W	15.0	62A	68.0	1-SLG-02	SL	24	6P (1")	1-35-P-3	1" - FNPT
63W	25.0	-	-	1-SLG-01	SL	42	6P (1")	1-35-P-3	1" - FNPT

* Tubes designated "G" have rib-guided floats.
Tubes designated "P" have pole-guided floats.

DIMENSION DIAGRAMS (Inches)



ORDERING:

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

Meter Series	Fitting Material	Float Material	O-Ring Material	Order Number
7 4 6	316L SS - 1 PVC - 3 (Not for air)	316L SS - 2 Hastelloy® C-276 - 4	EPR - 1 Buna - N - 2 Viton® - 3 Kalrez® - 4	See Specifications above

Available with NPT or flange connections, vertical or horizontal, this 127 mm scale glass tube meter offers value and versatility in 304 stainless steel case construction.



DESCRIPTION

Metering Tube	Borosilicate Kinglass
Internal Components	Standard: 316L SS Optional: Hastelloy® C-276
Fitting Material	Standard: 316L SS Optional: PVC (vertical connections only)
Inlet/Outlet Fittings	FNPT or flange, vertical or horizontal
O-Ring	Standard: Viton® Optional: Buna-N, EPR, and Kalrez®
Case and Covers	304 SS case Polycarbonate shield

PERFORMANCE

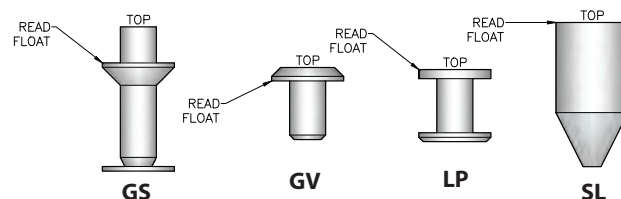
Capacities	Water 0.25 to 116 GPM Air 1 to 245 SCFM
Scale	127 mm (5") direct reading, detachable
Accuracy	± 3% of full scale flow
Turndown	10:1
Repeatability	0.5%
Max Temperature	316L SS fittings only Gases 250° F (121° C) 316L SS fittings Liquids 200° F (93° C) PVC fittings Liquids 110° F (43° C)
Max Pressure	316L SS fittings 250 psig, size 3 & 4 316L SS fittings 200 psig, size 5 & 6 316L SS fittings 150 psig, size 8 & 9 PVC fittings 150 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

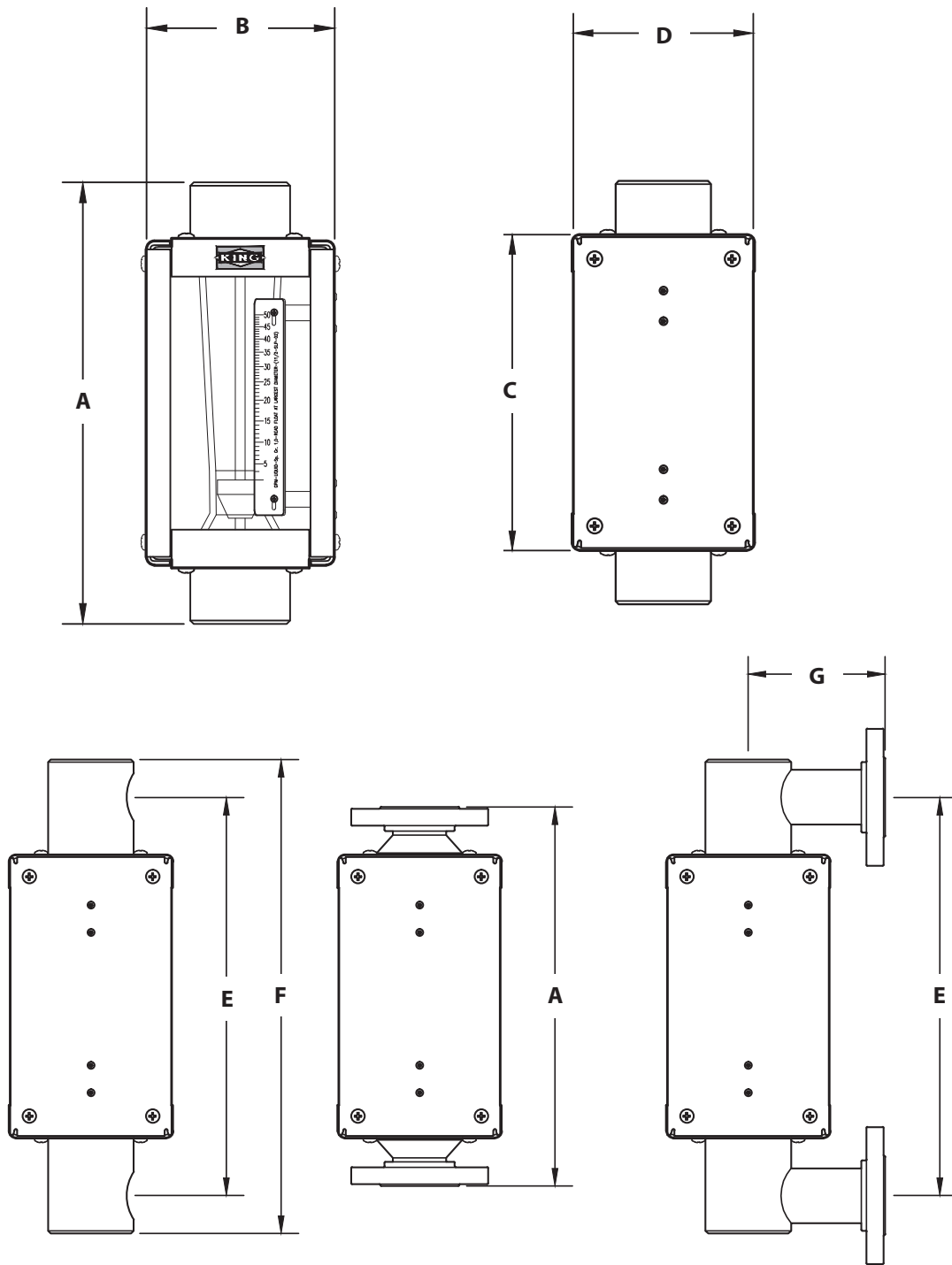
Alarm	Latching Reed Switch (See page 60)
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

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



DIMENSION DIAGRAMS



Water Order Number	Air Order Number	Dimensions (Inches)							Connection Size	
		A	B	C	D	E	F	G	FNPT	Flange
31W - 43W	31A - 66A	14.78	4.22	10.13	4.22	12.50	14.32	3.56	3/4"	1/2"
51W - 67W	31A - 66A	14.78	4.22	10.13	4.22	12.50	14.32	3.56	3/4"	1"
81W - 94W	81A - 92A	13.86	5.90	10.18	5.90	14.50	17.25	5.00	1 1/2"	1 1/2"

Order No.	Full Scale Flow GPM - Water	Alarm Opt.	Order No.	Full Scale Flow SCFM - Air	Alarm Opt.	Float Number	Float Type	Pressure Drop (Inches of Water)	Tube Size - Number*
31W	.25	No	31A	1.0	No	3/8-LPG-01	LP	---	3G - 3/8-20-G-5
32W	.36	No	32A	1.5	No	3/8-SLG-01	SL	2	3G - 3/8-20-G-5
33W	.74	No	33A	3.0	No	3/8-SLG-02	SL	5	3G - 3/8-20-G-5
41W	1.0	No	41A	4.2	No	1/2-LPG-01	LP	6	4G - 1/2-27-G-5
43W	2.0	Yes	43A	8.2	Yes	1/2-SLG-01	GS	10	4G - 1/2-27-G-5
51W	1.5	No	51A	6.0	No	3/4-LPG-01	LP	3	5G - 3/4-30-G-5
52W	3.8	Yes	52A	16.0	Yes	3/4-GSG-01	GS	10	5G - 3/4-30-G-5
53W	5.0	Yes	53A	21.5	Yes	3/4-SLG-01	SL	14	5G - 3/4-30-G-5
61W	6.0	No	61A	25.5	No	1-GVP-01	GV	5	6P - 1-33-P-5
62W	7.4	No	62A	30.0	No	1-GVP-02	GV	6	6P - 1-33-P-5
63W	9.6	No	63A	40.0	No	1-GSP-01	GS	10	6P - 1-33-P-5
64W	11.0	No	64A	45.0	No	1-GSP-02	GS	13	6P - 1-33-P-5
65W	14.0	No	65A	62.0	No	1-GSP-03	GS	24	6P - 1-33-P-5
66W	20.0	Yes	66A	90.0	Yes	1-SLP-01	SL	39	6P - 1-33-P-5
67W	26.0	Yes	—	—	—	1-SLP-02	SL	45	6P - 1-33-P-5
81W	22.0	Yes	81A	90.0	Yes	1 1/2-GVP-01	GV	16	8P - 1 1/2-34-P-5
82W	30.0	No	82A	125.0	No	1 1/2-GVP-02	SL	23	8P - 1 1/2-34-P-5
83W	44.0	Yes	83A	180.0	Yes	1 1/2-SLP-01	SL	30	8P - 1 1/2-34-P-5
84W	50.0	Yes	84A	200.0	Yes	1 1/2-SLP-02	SL	35	8P - 1 1/2-34-P-5
85W	61.0	Yes	85A	250.0	Yes	1 1/2-SLP-03	SL	40	8P - 1 1/2-34-P-5
91W	41.0	Yes	91A	160.0	Yes	2-GVP-01	GV	5	9P - 2-33-P-5
92W	60.0	Yes	92A	245.0	Yes	2-GSP-01	GS	16	9P - 2-33-P-5
93W	86.0	Yes	—	—	—	2-SLP-01	SL	25	9P - 2-33-P-5
94W	116.0	Yes	—	—	—	2-SLP-02	SL	45	9P - 2-33-P-5

* Tubes designated "G" have rib-guided floats.
Tubes designated "P" have pole-guided floats.

ORDERING:

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

Meter Series	Fitting Material	Float Material	O-Ring Material	Order Number	Alarm Option
7 4 7	Vertical FNPT - 316L SS - 1 Horizontal FNPT - 316L SS - 2 Vertical Flange - 150# - 3 Vertical Flange - 300# - 4 Horizontal Flange - 150# - 5 Horizontal Flange - 300# - 6 Vertical FNPT-PVC - 7 (not for air)	316L SS - 2 Hastelloy® C-276 - 4	EPR - 1 Buna - N - 2 Viton® - 3 Kalrez® - 4	See Specification above	Check Specifications for availability Without Alarm - 0 With Alarm - 1

This 250 mm scale, economical glass tube meter features 304 stainless steel case construction. NPT or flange, vertical or horizontal connections offer installation versatility.



DESCRIPTION

Metering Tube	Borosilicate Kinglass
Internal Components	Standard: 316L SS Optional: Hastelloy® C-276
Fitting Material	Standard: 316L SS Optional: PVC (vertical connections only)
Inlet/Outlet Fittings	FNPT or flange, vertical or horizontal
O-Ring	Standard: Viton® Optional: Buna N, EPR, and Kalrez®
Case and Covers	304 SS case Polycarbonate shield

PERFORMANCE

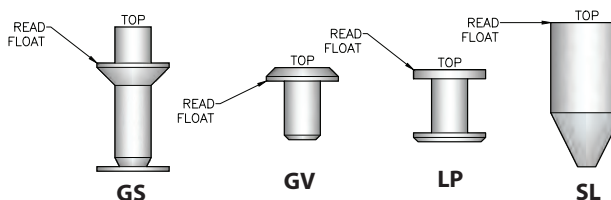
Capacities	Water 0.22 to 132 GPM Air 0.9 to 350 SCFM
Scale	250 mm (10") direct reading, detachable
Accuracy	± 2% of full scale flow
Turndown	10:1
Repeatability	0.5%
Maximum Temperature	316L SS fittings Gases 200° F (93° C) PVC fittings Liquids 110° F (43° C)
Maximum Pressure	316L SS fittings 250 psig, size 3 & 4 316L SS fittings 250 psig, size 5 & 6 316L SS fittings 150 psig, size 8 & 9 PVC fittings* 150 psig, size 3, 4, 5 & 6 PVC fittings* 125 psig, size 8 & 9
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Alarm	Latching Reed Switch (See page 60)
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit.

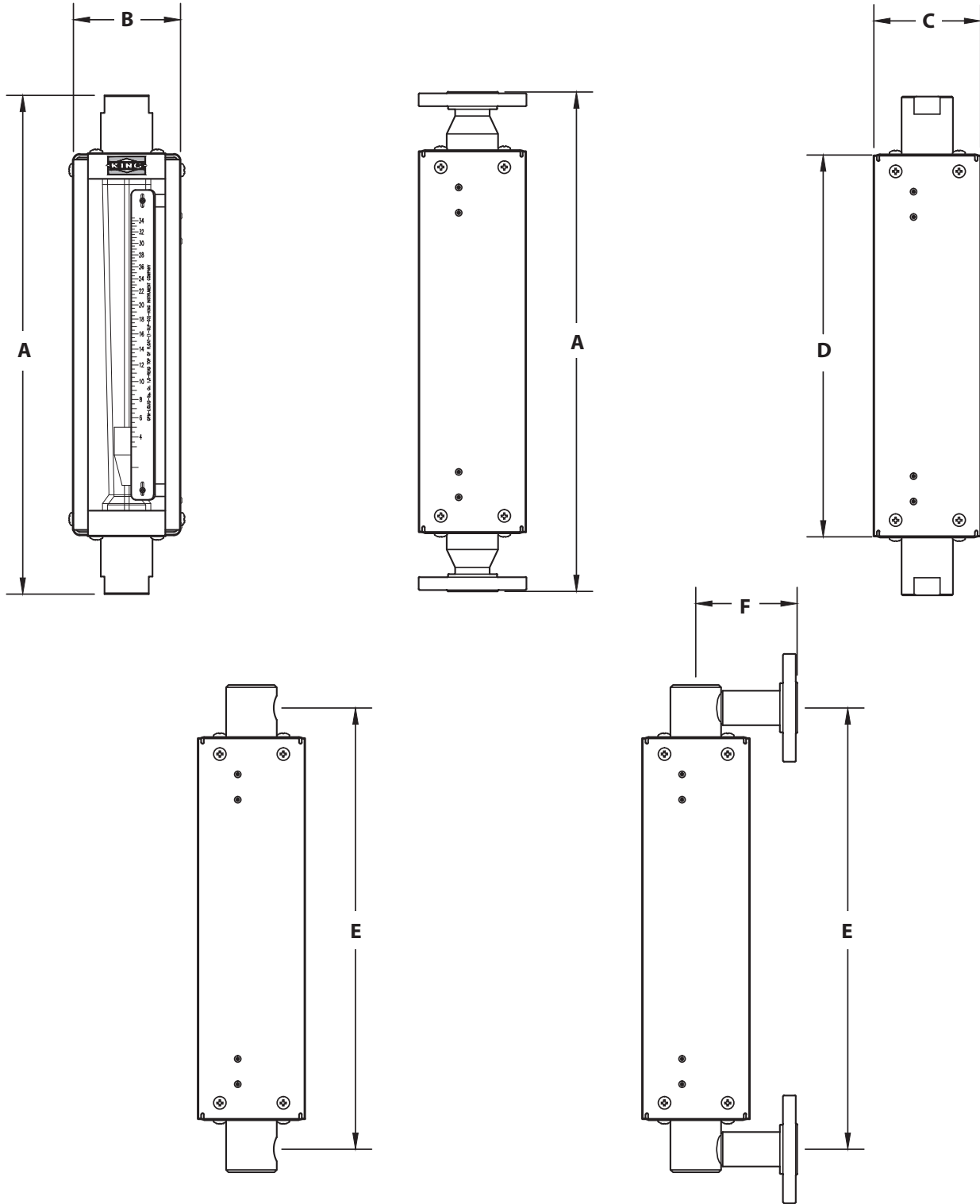
FLOATS

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



* Liquids service only

DIMENSION DIAGRAMS



Water Order Number	Air Order Number	Dimensions (Inches)						Connection Size	
		A	B	C	D	E	F	FNPT	Flange
31W -46W	31A -46A	19.69	4.22	4.22	15.00	17.42	3.56	3/4"	1/2"
51W -613W	51A -611A	19.69	4.22	4.22	15.00	17.42	4.00	3/4"	1"
84W -99W	84A -97A	19.69	5.90	5.90	16.14	20.41	5	1 1/2"	1 1/2"

7610 models feature fully enclosed, 127 mm scale, borosilicate glass metering tube with 304 stainless steel case. In-line 316L fittings and internals or PVC fittings with Hastelloy® C-276 internals are suitable for a variety of applications.



DESCRIPTION

Metering Tube	Borosilicate Kinglass
Internal Components	Standard: 316L SS Optional: Hastelloy® C-276
Fitting Material	Standard: 316L SS Optional: PVC
Inlet/Outlet Fittings	FNPT, vertical
O-Ring	Standard: Viton® Optional: Buna N, EPR, and Kalrez®
Case and Covers	304 SS case Polycarbonate shield

PERFORMANCE

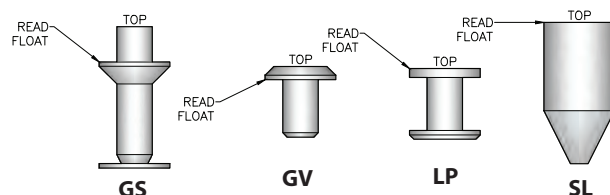
Capacities	Water 0.25 to 116 GPM Air 1 to 245 SCFM
Scale	127 mm (5") direct reading, detachable
Accuracy	± 3% of full scale flow
Turndown	10:1
Repeatability	0.5%
Maximum Temperature	316L SS fittings 200° F (93° C) PVC fittings 110° F (43° C)
Maximum Pressure	316L SS fittings 250 psig, size 3 & 4 316L SS fittings 200 psig, size 5 & 6 316L SS fittings 150 psig, size 8 & 9 PVC fittings 100 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Alarm	Latching Reed Switch (See page 60)
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

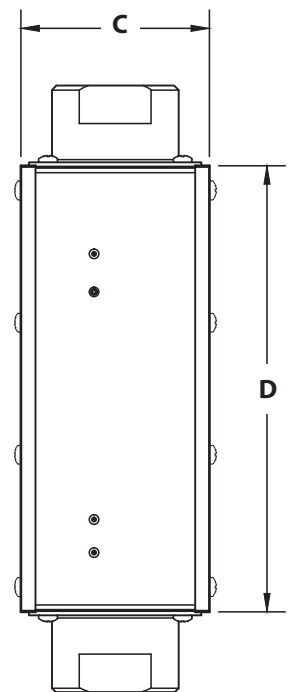
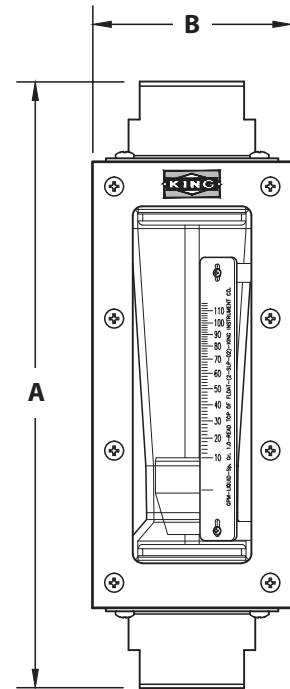
Options for rotameter float materials and designs extend flow ranges for different fluids within a given rotameter tube design.



Order No.	Full Scale Flow GPM - Water	Alarm Opt.	Order No.	Full Scale Flow SCFM - Air	Alarm Opt.	Float Number	Float Type	Pressure Drop (Inches of Water)	Tube Size - Number*
31W	.25	No	31A	1.0	No	3/8-LPG-01	LP	—	3G - 3/8-20-G-5
32W	.36	No	32A	1.5	No	3/8-SLG-01	SL	2	3G - 3/8-20-G-5
33W	.74	No	33A	3.0	No	3/8-SLG-02	SL	5	3G - 3/8-20-G-5
41W	1.0	No	41A	4.2	No	1/2-LPG-01	LP	6	4G - 1/2-27-G-5
43W	2.0	Yes	43A	8.2	Yes	1/2-SLG-01	GS	10	4G - 1/2-27-G-5
51W	1.5	No	51A	6.0	No	3/4-LPG-01	LP	3	5G - 3/4-30-G-5
52W	3.8	Yes	52A	16.0	Yes	3/4-GSG-01	GS	10	5G - 3/4-30-G-5
53W	5.0	Yes	53A	21.5	Yes	3/4-SLG-01	SL	14	5G - 3/4-30-G-5
61W	6.0	No	61A	25.5	No	1-GVP-01	GV	5	6P - 1-33-P-5
62W	7.4	No	62A	30.0	No	1-GVP-02	GV	6	6P - 1-33-P-5
63W	9.6	No	63A	40.0	No	1-GSP-01	GS	10	6P - 1-33-P-5
64W	11.0	No	64A	45.0	No	1-GSP-02	GS	13	6P - 1-33-P-5
65W	14.0	No	65A	62.0	No	1-GSP-03	GS	24	6P - 1-33-P-5
66W	20.0	Yes	66A	90.0	Yes	1-SLP-01	SL	39	6P - 1-33-P-5
67W	26.0	Yes	—	—	—	1-SLP-02	SL	45	6P - 1-33-P-5
81W	22.0	Yes	81A	90.0	Yes	1 1/2-GVP-01	GV	16	8P - 1 1/2-34-P-5
82W	44.0	Yes	82A	180.0	Yes	1 1/2-SLP-01	SL	30	8P - 1 1/2-34-P-5
83W	61.0	Yes	83A	250.0	Yes	1 1/2-SLP-02	SL	40	8P - 1 1/2-34-P-5
91W	41.0	Yes	91A	160.0	Yes	2-GVP-01	GV	5	9P - 2-33-P-5
92W	60.0	Yes	92A	245.0	Yes	2-GSP-01	GS	16	9P - 2-33-P-5
93W	86.0	Yes	—	—	—	2-SLP-01	SL	25	9P - 2-33-P-5
94W	116.0	Yes	—	—	—	2-SLP-02	SL	45	9P - 2-33-P-5

* Tubes designated "G" have rib-guided floats.
Tubes designated "P" have pole-guided floats.

DIMENSION DIAGRAMS



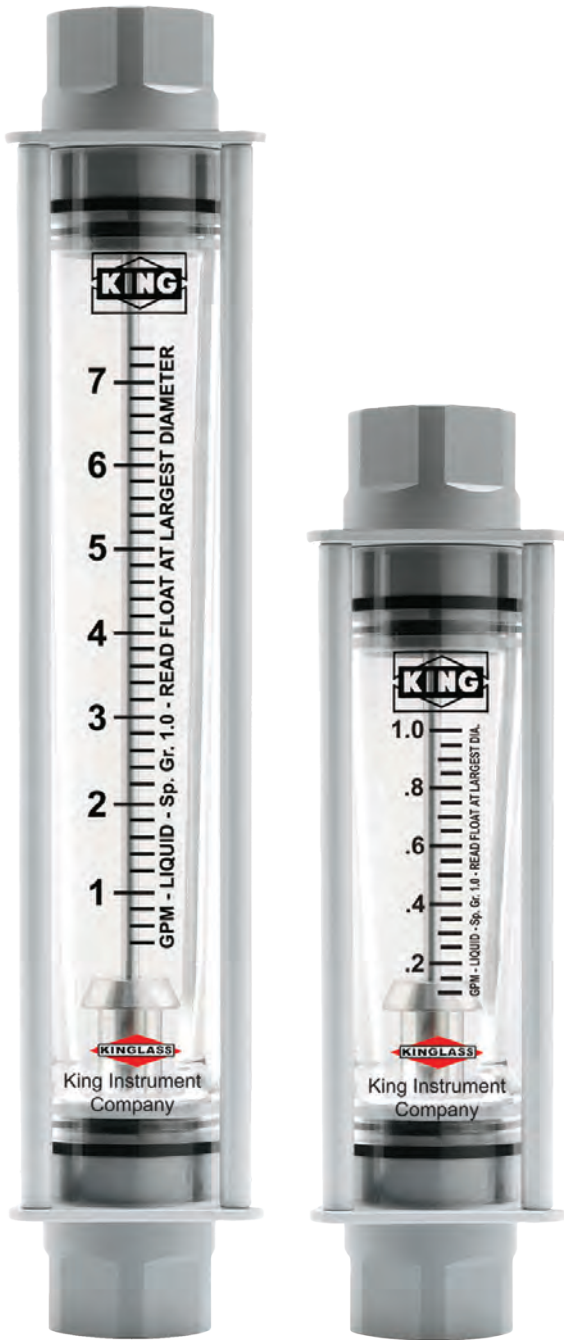
Water Order Number	Air Order Number	Dimensions (Inches)				Connection Size FNPT
		A	B	C	D	
31W - 43W	31A - 43A	11.875	3.15	3.125	9.50	1/2"
51W - 67W	51A - 66A	13.75	3.95	3.90	10.60	1"
81W - 94W	81A - 92A	16	5.312	5.375	11.80	2"

ORDERING:

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

7	6	1							
Meter Series	Fitting Material	Float Material	O-Ring Material	Alarm Option	Order Number				
	316L SS - 2 PVC (not for air service) - 3	316L SS - 2 Hastelloy® C-276 - 4	EPR - 1 Buna - N - 2 Viton® - 3 Kalrez® - 4	No Alarm - 0 Alarm - A	See Specification above				

A chemically resistant, borosilicate glass tube meter series for liquid service. It features a clear polycarbonate shield surrounding the glass metering tube. It is assembled in a 304 SS tie rod frame. It offers CPVC and Hastelloy® C-276 as optional materials of construction, suitable for a wide range of chemical and corrosive applications. O-ring seals allow for easy disassembly and cleaning.



DESCRIPTION

Metering Tube	Borosilicate Kinglass
Internal Components	316L SS Hastelloy® C-276
Inlet/Outlet Fittings	FNPT, vertical
Fitting Material	PVC, CPVC
O-Ring	EPR, Buna-N, Viton®, Kalrez®

PERFORMANCE

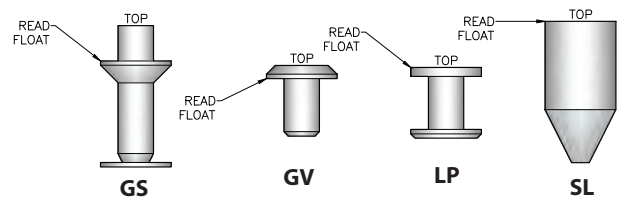
Capacities	Water 0.25 to 26 GPM
Scale	80 mm (3"), 127 mm (5") direct reading
Accuracy	± 5% of 3" full scale flow ± 3% of 5" full scale flow
Turndown	10:1
Repeatability	0.5%
Maximum Temperature	140° F (60° C)
Maximum Pressure	100 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

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



7650 Series Specifications

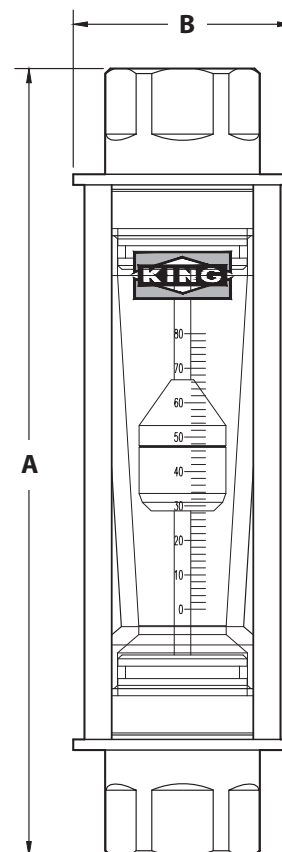
Glass Tube

80 mm (3 inch) Scale							
Order Number	Full Scale Flow GPM - Water	Float Number	Float Type	Pressure Drop (Inches of Water)	Tube Size	Tube Number	Connection Size
41W	.5	1/2-LPG-04	LP	---	4G	1/2-24-G-3	1" - FNPT
42W	1.0	1/2-LPG-05	LP	5	4G	1/2-24-G-3	1" - FNPT
43W	2.0	1/2-SLG-01	SL	9	4G	1/2-24-G-3	1" - FNPT
44W	3.5	5/8-SLP-01	SL	9	4P	5/8-29-P-3	1" - FNPT
45W	5.6	5/8-SLP-02	SL	11	4P	5/8-29-P-3	1" - FNPT
46W	7.4	5/8-SLP-03	SL	15	4P	5/8-29-P-3	1" - FNPT
60W	10.0	1-GSP-01	GS	16	6P	1-35-P-3	1" - FNPT
61W	15.0	1-GSP-02	GS	24	6P	1-35-P-3	1" - FNPT
62W	25.0	1-SLG-01	SL	42	6P	1-35-P-3	1" - FNPT

127 mm (5 inch) Scale							
Order Number	Full Scale Flow GPM - Water	Float Number	Float Type	Pressure Drop (Inches of Water)	Tube Size	Tube Number*	Connection Size
31W	.25	3/8-LPG-01	LP	---	3G	3/8-20-G-5	1" - FNPT
32W	.36	3/8-SLG-01	SL	2	3G	3/8-20-G-5	1" - FNPT
33W	.74	3/8-SLG-02	SL	5	3G	3/8-20-G-5	1" - FNPT
47W	1.0	1/2-LPG-01	LP	6	4G	1/2-27-G-5	1" - FNPT
48W	2.0	1/2-SLG-01	SL	10	4G	1/2-27-G-5	1" - FNPT
51W	1.5	3/4-LPG-01	LP	3	5G	3/4-30-G-5	1" - FNPT
52W	3.8	3/4-GSG-01	GS	10	5G	3/4-30-G-5	1" - FNPT
53W	5.0	3/4-SLG-01	SL	14	5G	3/4-30-G-5	1" - FNPT
63W	6.0	1-GVP-01	GV	5	6P	1-33-P-5	1" - FNPT
64W	7.4	1-GVP-02	GV	6	6P	1-33-P-5	1" - FNPT
65W	9.6	1-GSP-01	GS	10	6P	1-33-P-5	1" - FNPT
66W	11.0	1-GSP-02	GS	13	6P	1-33-P-5	1" - FNPT
67W	14.0	1-GSP-03	GS	24	6P	1-33-P-5	1" - FNPT
68W	20.0	1-SLP-01	SL	39	6P	1-33-P-5	1" - FNPT
69W	26.0	1-SLP-02	SL	45	6P	1-33-P-5	1" - FNPT

*Tubes designated "G" have rib-guided floats.
Tubes designated "P" have pole-guided floats.

DIMENSION DIAGRAM



Dimensions (Inches)		
Detail Letter	80mm	127mm
A	9.00"	12.25"
B	2.50"	2.50"

ORDERING:

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

Meter Series	Scale Size	Fitting Material	Float Material	O-Ring Material	Order Number
7 6 5	80 mm (3 inch) - 1	PVC - 3	316L SS - 2	EPR - 1	See Specifications
	127 mm (5 inch) - 2	CPVC - 4	Hastelloy® C-276 - 4	Buna-N - 2 Viton® - 3 Kalrez® - 4	

70 flow ranges in 7 tube sizes makes these 250 mm scale glass tube, 304 Stainless steel case models one of our largest series. Dual port connections (both horizontal and vertical on each end) allow for a variety of installation options.



DESCRIPTION

Metering Tube	Borosilicate Kinglass
Internal Components	Standard: 316L SS Optional: Hastelloy C-276
Fitting Material	Standard: 316L SS Optional: PVC (vertical connections only)
Inlet/Outlet Fittings	NPT or flange, vertical or horizontal 360° fully rotatable
O-Ring	Standard: Viton Optional: Buna N, EPR, and Kalrez
Case and Covers	304 SS case Polycarbonate shield

PERFORMANCE

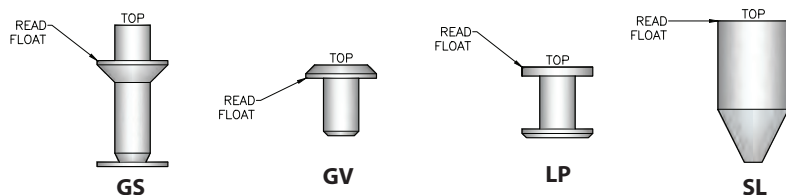
Capacities	Water 0.22 to 132 GPM Air 0.9 to 350 SCFM
Scale	250mm (10") direct reading, detachable
Accuracy	± 2% of full scale flow
Turndown	10:1
Repeatability	0.5 %
Maximum Temperature	316L SS fittings 200° F (93° C) PVC fittings 115° F (46° C)
Maximum Pressure	316L SS fittings 300 psig, size 3 & 4 316L SS fittings 250 psig, size 5 & 6 316L SS fittings 150 psig, size 8 316L SS fittings 125 psig, size 9 PVC fittings 150 psig, size 3,4,5,6 & 8 PVC fittings 125 psig, size 9
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

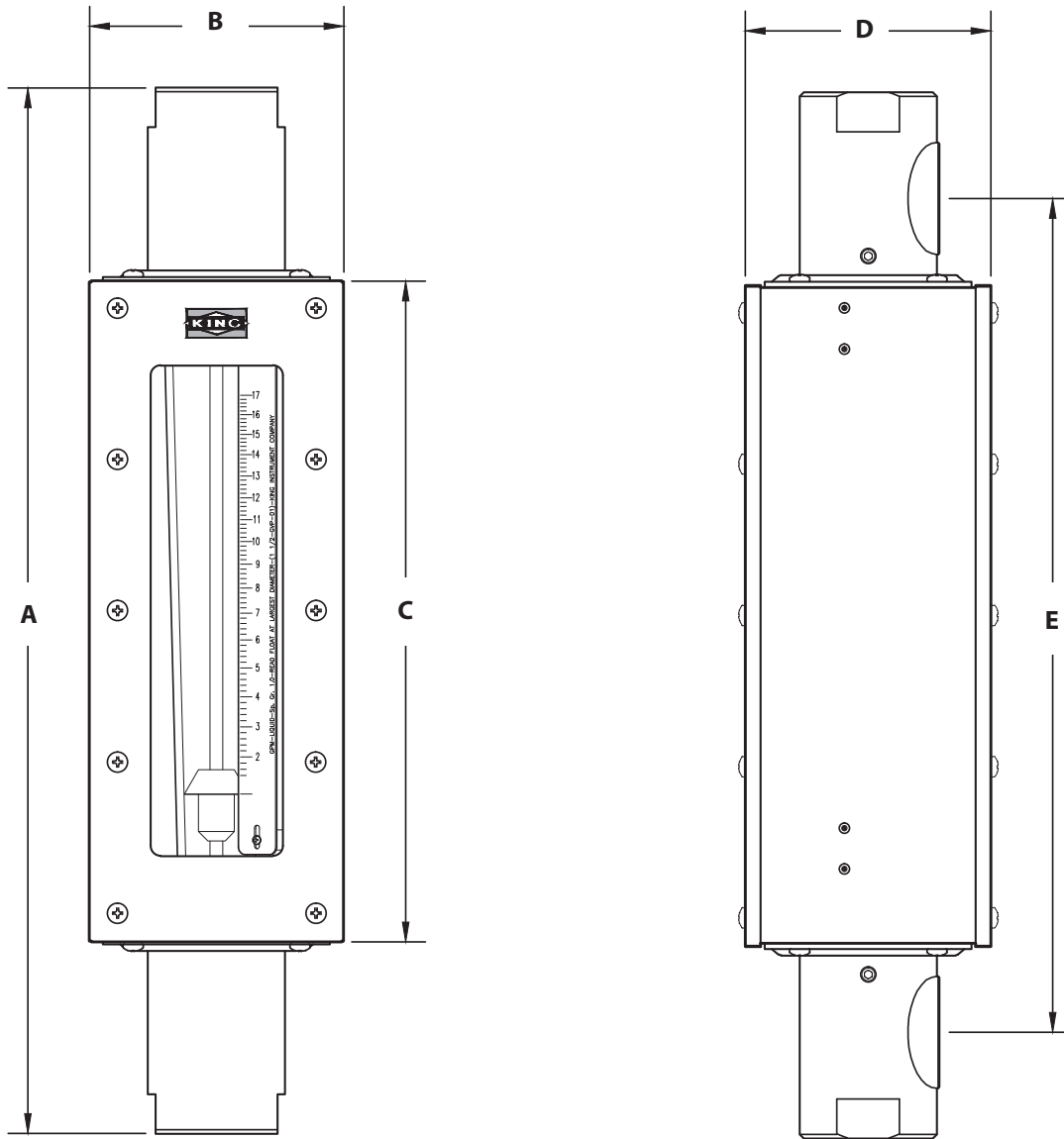
Alarm	Latching Reed Switch (See page 60)
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

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



DIMENSION DIAGRAMS



Water Order No.	Air Order No.	Dimensions (Inches)					Connection Size FNPT
		A	B	C	D	E	
31W - 46W	31A - 46A	19.85	3.125	14.45	3.125	17.50	1/2" (FNPT) Flange connection are also available. Contact the factory.
51W - 69W	51A - 69A	20.75	4.625	14.46	4.50	17.45	1" (FNPT) Flange connections are also available. Contact the factory
610W - 613W	610A - 611A	20.75	4.625	14.46	4.50	17.45	1" (FNPT) Flange connections are also available. Contact the factory
84W - 99W	84A - 97A	25.65	6.25	16.25	6.125	20.50	1 1/2" Horiz., 2" Vert (FNPT) (PVC fittings vert. only) Flange connection also available. Contact the factory

7910 Series Specifications

Glass Tube

Water Order No.	Full Scale Flow GPM - Water	Alarm Opt.	Air Order No.	Full Scale Flow SCFM - Air	Alarm Opt.	Float Number	Float Type	Pressure Drop (Inches of Water)	Tube Size	Tube Number*
31W	0.220	No	31A	.9	No	3/8-LPG-01	LP	—	3G	3/8-20-G-10
32W	0.315	No	32A	1.4	No	3/8-SLG-01	SL	2	3G	3/8-20-G-10
33W	0.640	No	33A	2.7	No	3/8-SLG-02	SL	7	3G	3/8-20-G-10
41W	0.77	No	41A	3.4	No	1/2-LPG-01	LP	6	4G	1/2-32-G-10
42W	1.02	No	42A	4.4	No	1/2-LPG-02	LP	10	4G	1/2-32-G-10
43W	1.20	Yes	43A	5.0	Yes	1/2-GVG-01	GV	10	4G	1/2-32-G-10
44W	1.44	No	44A	6.1	No	1/2-GSG-01	GS	15	4G	1/2-32-G-10
45W	1.92	Yes	45A	8.5	Yes	1/2-SLG-01	SL	28	4G	1/2-32-G-10
46W	2.26	Yes	46A	10.2	Yes	1/2-SLG-02	SL	41	4G	1/2-32-G-10
51W	1.1	No	51A	4.5	No	3/4-LPG-01	LP	1	5G	3/4-28-G-10
52W	2.4	Yes	52A	10.0	Yes	3/4-GVG-01	GV	4	5G	3/4-28-G-10
53W	3.0	Yes	53A	12.0	Yes	3/4-GSG-01	GS	5	5G	3/4-28-G-10
54W	3.3	Yes	54A	13.2	Yes	3/4-GVG-02	GV	6	5G	3/4-28-G-10
55W	4.0	Yes	55A	16.4	Yes	3/4-GSG-02	GS	6	5G	3/4-28-G-10
56W	5.2	Yes	56A	22.0	Yes	3/4-SLG-01	SL	18	5G	3/4-28-G-10
61W	6.9	Yes	—	—	—	1-LPG-02	LP	4	6G	1-32-G-10
62W	9.8	No	—	—	—	1-SLG-01	SL	8	6G	1-32-G-10
63W	12.6	Yes	—	—	—	1-SLG-02	SL	13	6G	1-32-G-10
64W	6.7	No	64A	27.0	No	1-LPP-01	LP	4	6P	1-40-P-10
65W	7.4	No	65A	30.0	No	1-GVP-01	GV	6	6P	1-40-P-10
66W	8.5	No	66A	35.0	No	1-GVP-02	GV	8	6P	1-40-P-10
67W	10.4	No	67A	42.5	No	1-GSP-01	GS	10	6P	1-40-P-10
68W	11.6	No	68A	46.5	No	1-GVP-03	GV	15	6P	1-40-P-10
69W	12.0	No	69A	50.0	No	1-GSP-02	GS	14	6P	1-40-P-10
610W	15.6	No	610 A	63.0	No	1-GSP-03	GS	24	6P	1-40-P-10
611W	21.6	Yes	611A	100.0	Yes	1-SLP-01	SL	61	6P	1-40-P-10
612W	27.5	Yes	—	—	—	1-SLP-02	SL	85	6P	1-40-P-10
613W	34.5	Yes	—	—	—	1-SLP-03	SL	110	6P	1-40-P-10
84W	17.0	No	84A	70.0	No	11/2-GVP-01	GV	10	8P	11/2-32-P-10
85W	21.2	No	85A	87.0	No	11/2-GVP-02	GV	13	8P	11/2-32-P-10
86W	22.2	No	—	—	—	11/2-GSP-01	GS	14	8P	11/2-32-P-10
87W	24.8	No	87A	102.0	No	11/2-GVP-03	GV	18	8P	11/2-32-P-10
88W	28.5	No	—	—	—	11/2-GSP-02	GS	20	8P	11/2-32-P-10
89W	35.0	No	—	—	—	11/2-GSP-03	GS	24	8P	11/2-32-P-10
94W	41.5	No	94A	170.0	No	2-GVP-01	GV	20	9P	2-30-P-10
95W	58.0	No	95A	240.0	No	2-GSP-01	GS	25	9P	2-30-P-10
96W	65.0	No	96A	270.0	No	2-GSP-02	GS	30	9P	2-30-P-10
97W	85.0	No	97A	350.0	No	2-SLP-00	SL	40	9P	2-30-P-10
98W	100.0	No	—	—	—	2-SLP-01	SL	50	9P	2-30-P-10
99W	132.0	No	—	—	—	2-SLP-02	SL	60	9P	2-30-P-10

* Tubes designated "G" have rib-guided floats.
Tubes designated "P" have pole-guided floats.

ORDERING:

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

7	9	1					*		
Meter Series	Fitting Material		Float Material		O-Ring Material		Order Number	Connection	Alarm Option
	316 Stainless steel - 2 PVC (not for air) - 3		316L SS - 2 Hastelloy 276-C - 4		EPR - 1 Buna-N - 2 Viton® - 3 Kalrez® - 4		See Specifications	Vertical - V Horizontal - H (plastic fittings vertical only)	No Alarm - 0 Alarm - A

* Only use this 4th box with order numbers 610W thru 613W. Otherwise leave blank.

35 flow ranges in 6 tube sizes with full horizontal and vertical connection options make these flowmeters the most versatile removable glass tube meters available. The powder-coated 304 stainless steel case and precision molded polycarbonate shield will tolerate most corrosive applications.



DESCRIPTION

Metering Tube	Borosilicate Kinglass
Internal Components	Standard: 316L SS Optional: Hastelloy®C-276
Fitting Material	Standard: 316L SS Optional: PVDF (FNPT Only)
Inlet/Outlet Fittings	FNPT or flange, vertical or horizontal
O-Ring	Standard: Viton® Optional: Buna N, EPR, and Kalrez®
Case	Powder-coated 304 SS
Cover	Molded polycarbonate shield

PERFORMANCE

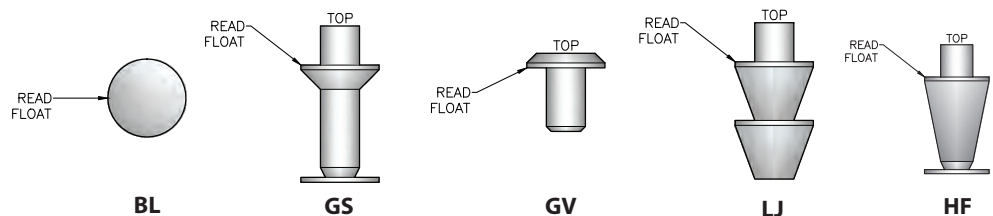
Capacities	Water 0.23 to 85 GPM Air 1.15 to 285 SCFM
Scale	Size 3 to 6 250 mm (10") Size 8 to 9 200 mm (8") direct reading, detachable scales
Accuracy	± 2% of full scale flow
Turndown	10:1
Repeatability	0.5%
Maximum Temperature	316L SS fittings 200° F (93° C) PVDF fittings 200° F (93° C)
Maximum Pressure	316L SS fittings 300 psig, size 3 & 4 316L SS fittings 250 psig, size 5 & 6 316L SS fittings 75 psig, size 8 & 9 PVDF fittings 150 psig, size 3 & 4 PVDF fittings 150 psig, size 5 & 6 PVDF fittings 75 psig, size 8 & 9
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Alarm	Latching Reed Switch (See page 64)
Valve	External valve - 316L SS (size 3 to size 6 FNPT only)
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit.

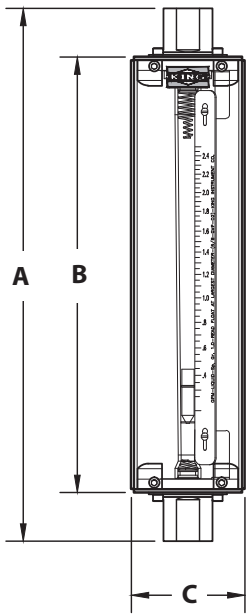
FLOATS

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

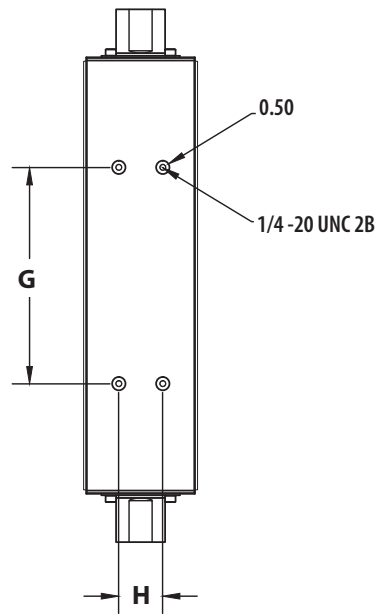


DIMENSION DIAGRAMS

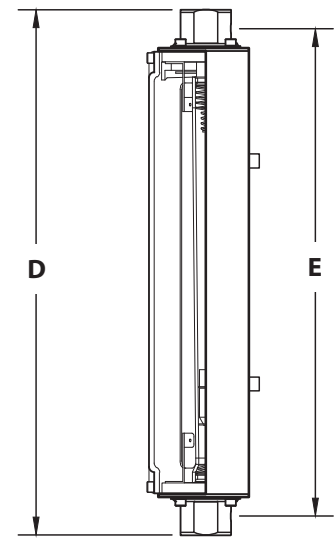
**Vertical FNPT
Front View**



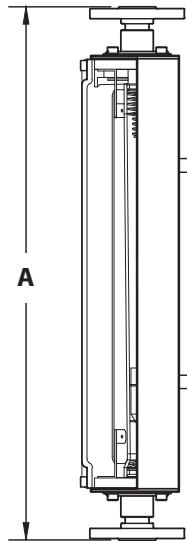
**Vertical FNPT
Back View (mounting)**



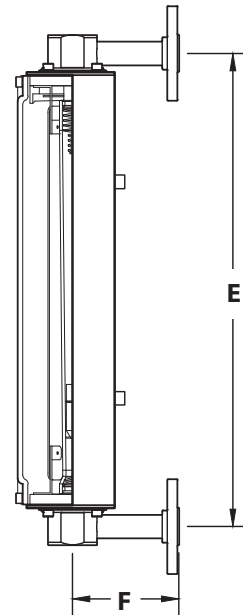
**Horizontal FNPT
Side View**



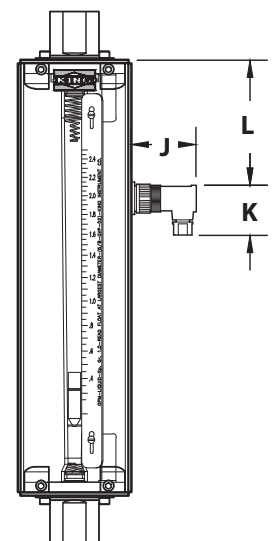
**Vertical Flange
Side View**



**Horizontal Flange
Side View**



**Alarm
Connection**



Water Order Number	Air Order Number	Case And Fittings (inches)					Mounting		Alarm Connection			Connection Size		
		A	B	C	D	E	F	G	H	J	K	L	FNPT	Flange
31W - 47W	31A - 47A	19.70	16.1	4.13	18.86	17.5	3.94	8.00	1.63	2.5	1.85	4.63	1/2"	1/2"
51W - 67W	51A - 67A	19.70	16.1	4.13	18.86	17.5	4.72	8.00	1.63	2.5	1.85	4.63	3/4"	1"
81W - 95W	81A - 94A	19.78	16.3	5.75	23.26	20.5	5.12	*	*	2.5	1.85	4.83	1 1/2"	1 1/2"

* Mounting studs are not available in size 8 and 9

Order Number	Full Scale Flow GPM - Water	Order Number	Full Scale Flow SCFM - Air	Float Number	Float Type	Alarm Option	Pressure Drop (Inches of Water)
31W	0.23	31A	1.15	3-BLG-01	BL	No	4
32W	0.49	32A	2.10	3-BLG02	BL	No	4
33W	.64	33A	2.64	3-HFG-01	HF	Yes	4
34W	.77	34A	3.20	3-LJG-01	LJ	Yes	4
41W	1.1	41A	4.20	4-GVG-01	GV	Yes	6
42W	1.3	42A	5.50	4-GSG-01	GS	Yes	6
43W	1.5	43A	6.20	4-GVG-02	GV	Yes	8
44W	1.8	44A	7.60	4-GSG-02	GS	Yes	9
45W	2.2	45A	9.00	4-GSG-03	GS	Yes	15
46W	2.5	46A	10.2	4-GSG-03	GS	Yes	19
47W	3.4	47A	14.0	4-GSG-04	GS	Yes	27
51W	2.5	51A	10.0	5-GVG-01	GV	Yes	6
52W	3.0	52A	12.0	5-GSG-01	GS	Yes	6
53W	3.5	53A	14.4	5-GSG-02	GS	Yes	10
54W	4.0	54A	16.4	5-GVG-02	GV	Yes	15
55W	5.0	55A	20.0	5-LJG-01	LJ	Yes	41
61W	6.5	61A	26.8	6-GSG-01	GS	Yes	13
62W	7.0	62A	28.8	6-GVG-01	GV	Yes	20
63W	8.2	63A	34.0	6-GSG-02	GS	Yes	27
64W	10.5	64A	44.0	6-GVG-02	GV	Yes	30
65W	13.0	65A	54.0	6-GSG-03	GS	Yes	32
66W	16.0	66A	66.0	6-GVG-03	GV	Yes	48
67W	20.0	67A	82.0	6-HFG-01	HF	Yes	97
81W	15.0	81A	61.0	8-GVG-01	GV	Yes	8
82W	20.0	82A	82.0	8-GVG-02	GV	Yes	13
83W	25.0	83A	103.0	8-GVG-03	GV	Yes	22
84W	28.0	84A	122.0	8-GSG-01	GS	Yes	30
85W	32.0	85A	145.0	8-GSG-02	GS	Yes	24
86W	36.0	86A	155.0	8-HFG-01	HF	Yes	43
91W	41.0	91A	165.0	9-GVG-01	GV	Yes	28
92W	50.0	92A	195.0	9-GVG-02	GV	Yes	44
93W	60.0	93A	245.0	9-GSG-01	GS	Yes	36
94W	70.0	94A	285.0	9-HFG-01	HF	Yes	62
95W	85.0	---	---	9-LJG-01	LJ	Yes	88

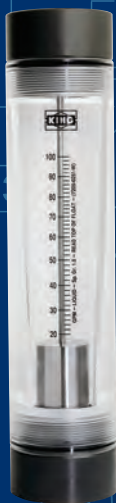
* Mounting studs are not available in size 8 and 9

ORDERING:

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

Meter Series	Fitting Type/Material	Float Material	O-Ring Material	Order Number	Optional Alarm
9 0 0	Vertical FNPT - 316L SS - 1	316L SS - 2	EPR - 1	See Specification	No Alarm - 0
	Horizontal FNPT - 316L SS - 2	Hastelloy® C-276 - 4	Buna-N - 2	above	With Alarm - 1
	Vertical Flange -316L SS - 150# - 3	Glass - 5 (For 31A & 31W only)	Viton® - 3		Dual Alarm - 2
	Horizontal Flange -316L SS- 150# - 4		Kalrez® - 4		See Specification table for availability
	Vertical Flange -316L SS - 300# - 5				
	Horizontal Flange -316L SS - 300# - 6				
	Vertical FNPT - PVDF - 7				
	Horizontal FNPT - PVDF - 8				

Polysulfone, Acrylic & PVC Tube Meters



7200 Series
Pages 44 - 45



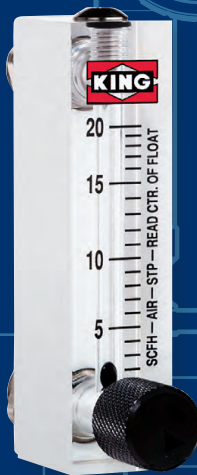
7310 Series
Pages 46 - 48



7330 Series
Pages 49 - 50



7510 & 7511 Series
Pages 51 - 53

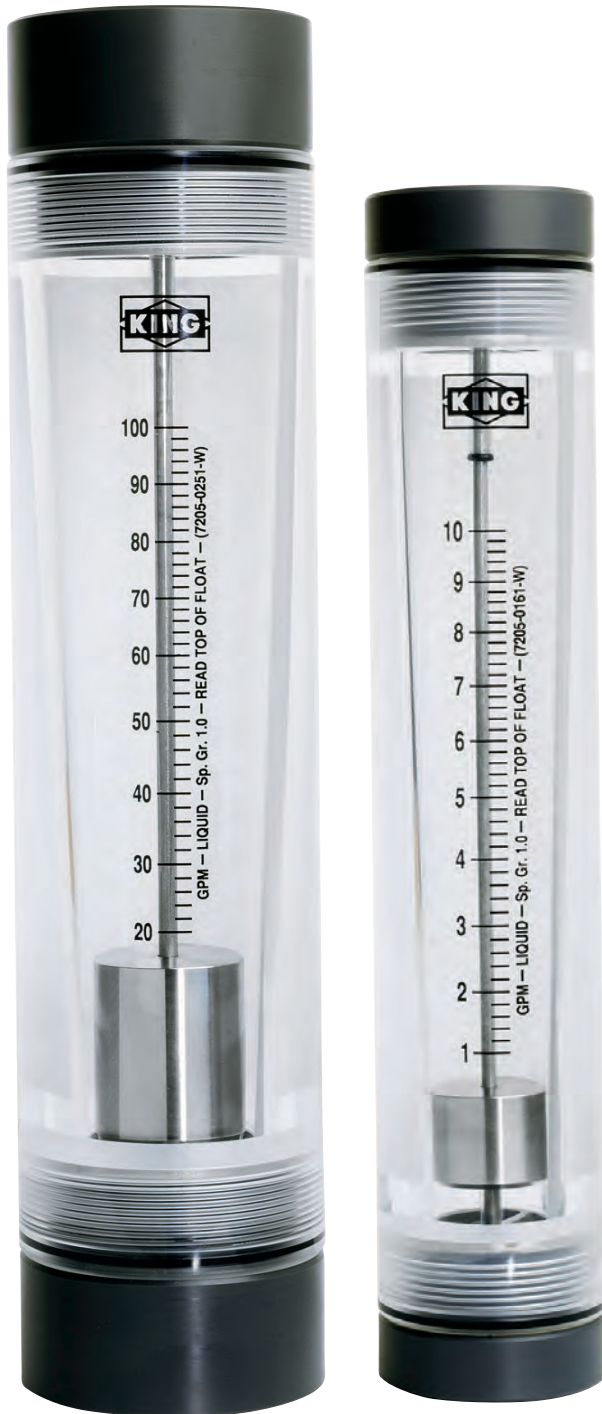


7520 & 7530 Series
Pages 54 - 56



7720 Series
Pages 57 - 58

A real value in general purpose rotameters. Vertical connections are from 3/8" NPT to 2" NPT.



DESCRIPTION

Metering Tube	Machined cast acrylic
Internal Components	316L SS
Fitting Material	PVC (for water service only) 316 SS, brass, aluminum (for water and air service)
Inlet/Outlet Fittings	NPT, vertical
O-Ring	Standard: EPR Optional: Buna-N, Viton

PERFORMANCE

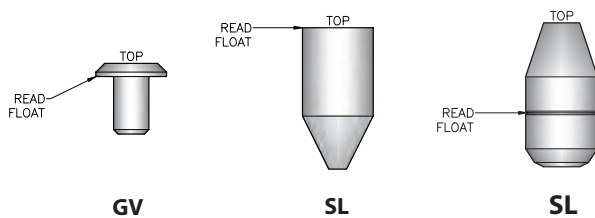
Capacities	Water 1 to 200 GPM Air 4 to 245 SCFM
Scale	127 mm (5") direct reading
Accuracy	± 3% to ± 6% of full scale flow See Specifications table
Turndown	10:1 unless otherwise indicated
Repeatability	1% to 2% See Specifications table
Maximum Temperature	Water 130° F (54° C) Air 100° F (38° C)
Maximum Pressure	Water 150 psig Air 100 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

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



CAUTION: Meters used in gas service are designed to operate at 14.7 psia. Meters used in pressure gas service must be shielded using 3/8" polycarbonate to protect personnel and equipment in the event of tube failure.

Order Number	Flow GPM Water	Flow SCFM Air	F.S. Accuracy Repeatability	Pressure Drop (Inches of water)	Float Type	Actual Turndown	Connection Size
0051	1	4.3	3%/2%	2.9	GV	10:1	3/8" FNPT
0052	1	4.3	3%/2%	2.9	GV	10:1	1/2" FNPT
0061	2	8	3%/2%	5.2	GV	10:1	3/8" FNPT
0062	2	8	3%/2%	5.2	GV	10:1	1/2" FNPT
0071	3.5	14	3%/2%	9.5	SL	10:1	3/8" FNPT
0072	3.5	14	3%/2%	9.5	SL	10:1	1/2" FNPT
0081	5	20	3%/2%	13.1	SL	10:1	3/8" FNPT
0082	5	20	3%/2%	13.1	SL	10:1	1/2" FNPT
0151	5	20	3%/1%	10	GV	10:1	1" FNPT
0161	10	43	3%/1%	12	SL	10:1	1" FNPT
0171	15	62	3%/1%	18	SL	10:1	1" FNPT
0181	21	86	3%/1%	22	SL	10:1	1" FNPT
0191	30.5	—	3%/1%	26	SL	10:1	1" FNPT
0201	40	—	6%/2%	32	SL	10:1	1 1/2" MNPT
0211	50	—	6%/2%	38	SL	10:1	1 1/2" MNPT
0221	40	165	4%/1%	18	SL	10:1	2" FNPT
0231	60	245	4%/1%	25	SL	10:1	2" FNPT
0241	80	—	4%/1%	30	SL	10:1	2" FNPT
0251	100*	—	4%/1%	35	SL	5:1	2" FNPT
0261	120*	—	6%/2%	45	SL	4:1	2" FNPT
0271	160*	—	6%/2%	60	SL	3.55:1	2" FNPT
0281	200*	—	6%/2%	80	SL	3.63:1	2" FNPT

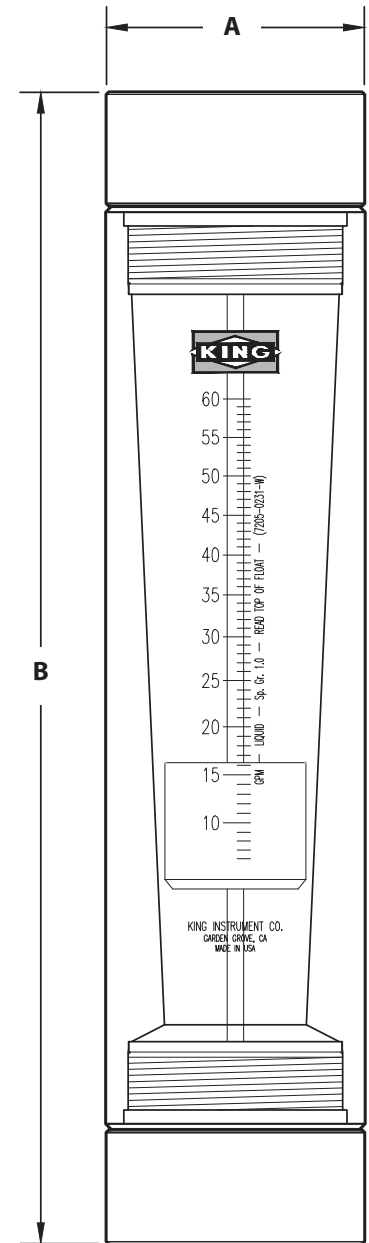
* These meters have less than 10:1 turndown.

ACTUAL TURNDOWN:

Order Number	Flow Range	Actual Turndown
0251	20-100 GPM	5:1
0261	30-120 GPM	4:1
0271	45-160 GPM	3.55:1
0281	55-200 GPM	3.63:1

Order Number	Dimensions (Inches)	
	A	B
0051-0082	1.375"	8.25"
0151-0191	2.000"	10.25"
0201-0211	2.000"	12.06"
0221-0281	3.000"	13.25"

DIMENSION DIAGRAM



ORDERING:

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

Meter Series	Order Number	Fitting Material	O-ring Material	Fluid Metered
7 2 0 5	See Specification above	Brass - 1 316L SS - 2 PVC* - 3 Aluminum - 6	EPR - 1 Buna-N - 2 Viton® - 3	GPM - Liquid - W SCFM - Air - A

* PVC for water service only

An economical 304 stainless steel case with a molded polysulfone metering tube for lighter duty applications where a case enclosed meter is preferred.



DESCRIPTION

Metering Tube	Molded polysulfone
Internal Components	316L SS, Teflon Polysulfone or Hastelloy® C-276
Fitting Material	Standard: 316L SS Optional: PVC, PVDF
Inlet/Outlet Fittings	FNPT, vertical
O-Ring	Standard: Viton® Optional: Buna N, EPDM, and Kalrez®
Case and Shield	304 SS case Polycarbonate shield

PERFORMANCE

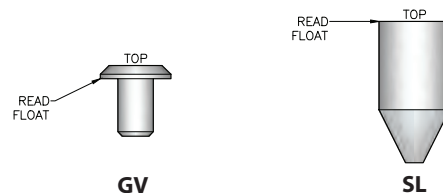
Capacities	Water (Teflon float) 0.5 to 100 GPM Water (Metal float) 1.5 to 160 GPM Air 6.1 to 330 SCFM
Scale	127 mm (5") direct reading, detachable
Accuracy	± 3% of full scale flow ± 5% of full scale flow (120 & 150 GPM Metal floats) ± 6% of full scale flow (Teflon® floats)
Turndown	10:1
Repeatability	1/2% 1% (120 & 150 GPM Metal floats) 1% (Teflon® floats)
Maximum Temperature	316L SS fittings 200° F (93° C) PVC fittings 130° F (54° C)
Maximum Pressure	316L SS fittings 200 psig PVC & PVDF fittings 150 psig (sizes 41W to 72W) PVC & PVDF fittings 125 psig (sizes 90W to 103W)
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Alarm	Latching Reed Switch (See page 60)
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

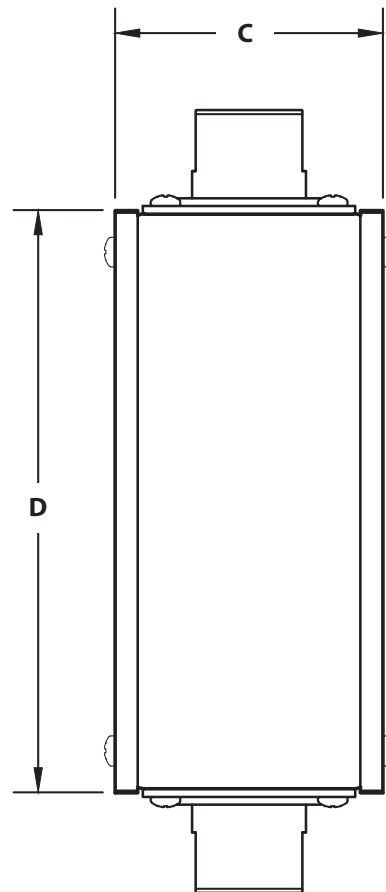
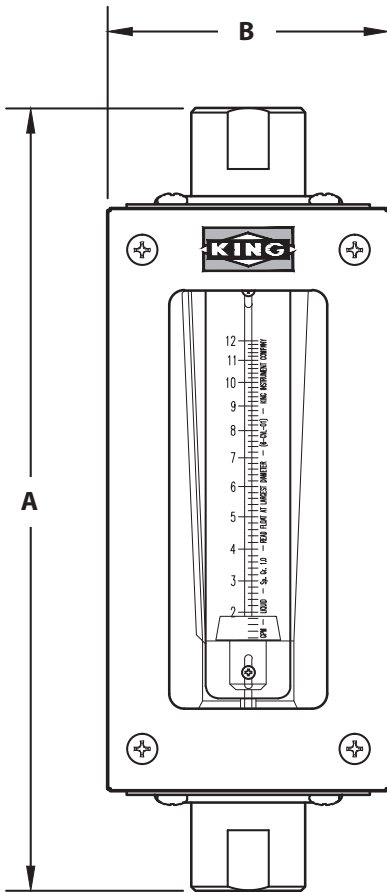
Options for rotameter float materials and designs extend flow ranges for different fluids within a given rotameter tube design.



DIMENSIONS - WATER & AIR METERING

Order Number Water	Order Number Air	Dimensions (Inches)				Connection Size
		A	B	C	D	
41W - 46W	43A - 44A	12.875	4.625	4.50	9.58	1/2" FNPT
51W - 56W	53A - 54A	12.875	4.625	4.50	9.58	3/4" FNPT
61W - 72W	65A - 67A	12.875	4.625	4.50	9.58	1" FNPT
90W - 103W	99A, 95A	16.000	6.250	6.25	13.25	2" FNPT

DIMENSION DIAGRAMS



SPECIFICATIONS – WATER

Order Number	Flow Range Water	Float Material	Float Number	Float Type	Alarm Option
41W	0.5 GPM	PVDF	4-TSL-01	SL	no
42W	1 GPM	Teflon®	4-TSL-02	SL	yes
43W	1.5 GPM	316L SS	4-SSL-01	SL	yes
44W	3 GPM	316L SS	4-SSL-02	SL	yes
45W	1.6 GPM	Hastelloy®	4-HSL-01	SL	yes
46W	3.2 GPM	Hastelloy®	4-HSL-02	SL	yes
51W	2.4 GPM	Teflon®	5-TSL-01	SL	yes
52W	5 GPM	Teflon®	5-TSL-02	SL	yes
53W	6 GPM	316L SS	5-SSL-01	SL	yes
54W	10 GPM	316L SS	5-SSL-02	SL	yes
55W	6.3 GPM	Hastelloy®	5-HSL-01	SL	yes
56W	10.6 GPM	Hastelloy®	5-HSL-02	SL	yes
61W	7.6 GPM	Teflon®	6-TSL-01	SL	yes
62W	10 GPM	Teflon®	6-TSL-02	SL	yes
63W	15 GPM	Teflon®	6-TSL-03	SL	yes
64W	20 GPM	Teflon®	6-TSL-04	SL	yes
65W	12 GPM	316L SS	6-GVL-01	GV	yes
66W	18 GPM	316L SS	6-SSL-02	SL	yes
67W	25 GPM	316L SS	6-SSL-03	SL	yes
68W	35 GPM	316L SS	6-SSL-04	SL	yes
69W	13 GPM	Hastelloy®	6-HSL-01	SL	yes
70W	19 GPM	Hastelloy®	6-HSL-02	SL	yes
71W	26.5 GPM	Hastelloy®	6-HSL-03	SL	yes
72W	37 GPM	Hastelloy®	6-HSL-04	SL	yes
90W	40 GPM	Teflon®	9-TSL-00	SL	yes
91W	60 GPM	Teflon®	9-TSL-01	SL	yes
92W	80 GPM	Teflon®	9-TSL-02	SL	yes
94W	100 GPM	Teflon®	9-TSL-04	SL	yes
99W	60 GPM	316L SS	9-SSL-00	SL	yes
95W	80 GPM	316L SS	9-SSL-01	SL	yes
96W	100 GPM	316L SS	9-SSL-02	SL	yes
97W	120 GPM	316L SS	9-SSL-03	SL	yes
98W	150 GPM	316L SS	9-SSL-04	SL	yes
100W	84 GPM	Hastelloy®	9-HSL-01	SL	yes
101W	106 GPM	Hastelloy®	9-HSL-02	SL	yes
102W	126 GPM	Hastelloy®	9-HSL-03	SL	yes
103W	160 GPM	Hastelloy®	9-HSL-04	SL	yes

SPECIFICATIONS – AIR

Order Number	Flow Range Air	Float Material	Float Number	Float Type	Alarm Option
43A	6.1 SCFM	316L SS	4-SSL-01	SL	yes
44A	12.4 SCFM	316L SS	4-SSL-02	SL	yes
53A	25 SCFM	316L SS	5-SSL-01	SL	no
54A	41 SCFM	316L SS	5-SSL-02	SL	yes
65A	50 SCFM	316L SS	6-GVL-01	GV	yes
66A	76 SCFM	316L SS	6-SSL-02	SL	yes
67A	100 SCFM	316L SS	6-SSL-03	SL	yes
99A	245 SCFM	316L SS	9-SSL-00	SL	yes
95A	330 SCFM	316L SS	9-SSL-01	SL	yes

ORDERING:

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

7	3	1	1						
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Meter Series	Fitting Material	Float Material	O-ring Material	Optional Alarm*	Order Number
	316L SS - 2	316L SS - 2	EPR - 1	No Alarm - 0	See Specification above
	PVC* - 3	Hastelloy® C-276 - 4	Buna-N - 2	With Alarm - A	
	PVDF* - 7	Teflon® - 6	Viton® - 3		
	* Not for air service.	PVDF - 7	Kalrez® - 4		
		Teflon® is a registered trademark of the Chemours Company			

* Flow rates may vary for meter with alarms and Teflon floats

Union ends simplify installation and maintenance. With the Teflon® float option these meters are excellent for applications where no metal is preferred. Socket weld end connections available.



DESCRIPTION

Metering Tube	Molded polysulfone
Internal Components	316L SS, Teflon® Polysulfone or Hastelloy® C-276
Fitting Material	Standard: PVC Optional: PVDF
Inlet/Outlet Fittings	FNPT, vertical
O-Ring	Standard: Viton® Optional: Buna N, EPR, and Kalrez®

PERFORMANCE

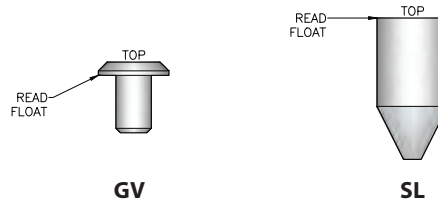
Capacities	Water (Teflon® float) 0.5 to 100 GPM Water (Metal float) 1.5 to 160 GPM
Scale	127 mm (5") direct reading, detachable
Accuracy	± 3% of full scale flow ± 5% of full scale flow (120 & 150 GPM metal floats) ± 6% of full scale flow (Teflon® floats)
Turndown	10:1
Repeatability	1/2% 1% (120 & 150 GPM Metal floats) 1% (Teflon floats)
Maximum Temperature	PVC fittings 130° F (54° C) PVDF fittings 200° F (93° C)
Maximum Pressure	PVC fittings 150 psig (sizes 41W - 72W) PVC fittings 125 psig (size 90W - 103W) PVDF fittings 150 psig (sizes 41W - 72W) PVDF fittings 125 psig (size 90W - 103W)
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Alarm	Latching Reed Switch (See page 60)
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

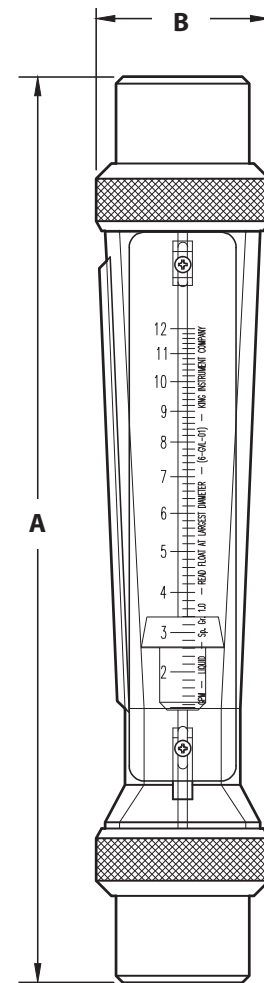
FLOATS

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



Order Number	Flow Range Water	Float Material	Float Number	Float Type	Alarm Option
41W	.5 GPM	PVDF	4-TSL-01	SL	no
42W	1 GPM	Teflon®	4-TSL-02	SL	yes
43W	1.5 GPM	316L SS	4-SSL-01	SL	yes
44W	3 GPM	316L SS	4-SSL-02	SL	yes
45W	1.6 GPM	Hastelloy®	4-HSL-01	SL	yes
46W	3.2 GPM	Hastelloy®	4-HSL-02	SL	yes
51W	2.4 GPM	Teflon®	5-TSL-01	SL	yes
52W	5 GPM	Teflon®	5-TSL-02	SL	yes
53W	6 GPM	316L SS	5-SSL-01	SL	yes
54W	10 GPM	316L SS	5-SSL-02	SL	yes
55W	6.3 GPM	Hastelloy®	5-HSL-01	SL	yes
56W	10.6 GPM	Hastelloy®	5-HSL-02	SL	yes
61W	7.6 GPM	Teflon®	6-TSL-01	SL	yes
62W	10 GPM	Teflon®	6-TSL-02	SL	yes
63W	15 GPM	Teflon®	6-TSL-03	SL	yes
64W	20 GPM	Teflon®	6-TSL-04	SL	yes
65W	12 GPM	316L SS	6-GVL-01	GV	yes
66W	18 GPM	316L SS	6-SSL-02	SL	yes
67W	25 GPM	316L SS	6-SSL-03	SL	yes
68W	35 GPM	316L SS	6-SSL-04	SL	yes
69W	13 GPM	Hastelloy®	6-HSL-01	SL	yes
70W	19 GPM	Hastelloy®	6-HSL-02	SL	yes
71W	26.5 GPM	Hastelloy®	6-HSL-03	SL	yes
72W	37 GPM	Hastelloy®	6-HSL-04	SL	yes
90W	40 GPM	Teflon®	9-TSL-00	SL	yes
91W	60 GPM	Teflon®	9-TSL-01	SL	yes
92W	80 GPM	Teflon®	9-TSL-02	SL	yes
94W	100 GPM	Teflon®	9-TSL-04	SL	yes
99W	60 GPM	316L SS	9-SSL-00	SL	yes
95W	80 GPM	316L SS	9-SSL-01	SL	yes
96W	100 GPM	316L SS	9-SSL-02	SL	yes
97W	120 GPM	316L SS	9-SSL-03	SL	yes
98W	150 GPM	316L SS	9-SSL-04	SL	yes
100W	84 GPM	Hastelloy®	9-HSL-01	SL	yes
101W	106 GPM	Hastelloy®	9-HSL-02	SL	yes
102W	126 GPM	Hastelloy®	9-HSL-03	SL	yes
103W	160 GPM	Hastelloy®	9-HSL-04	SL	yes

DIMENSION DIAGRAM



Order Number	Dimensions (Inches)		Connection Size
	A	B	
41W - 46W	10.00	1.375	1/2" FNPT
51W - 56W	10.00	1.750	3/4" FNPT
61W - 72W	11.75	2.250	1" FNPT
90W - 103W	16.00	3.875	2" FNPT

CAUTION: Polysulfone should not be used in direct sunlight or any other significant sources of UV light.

ORDERING:

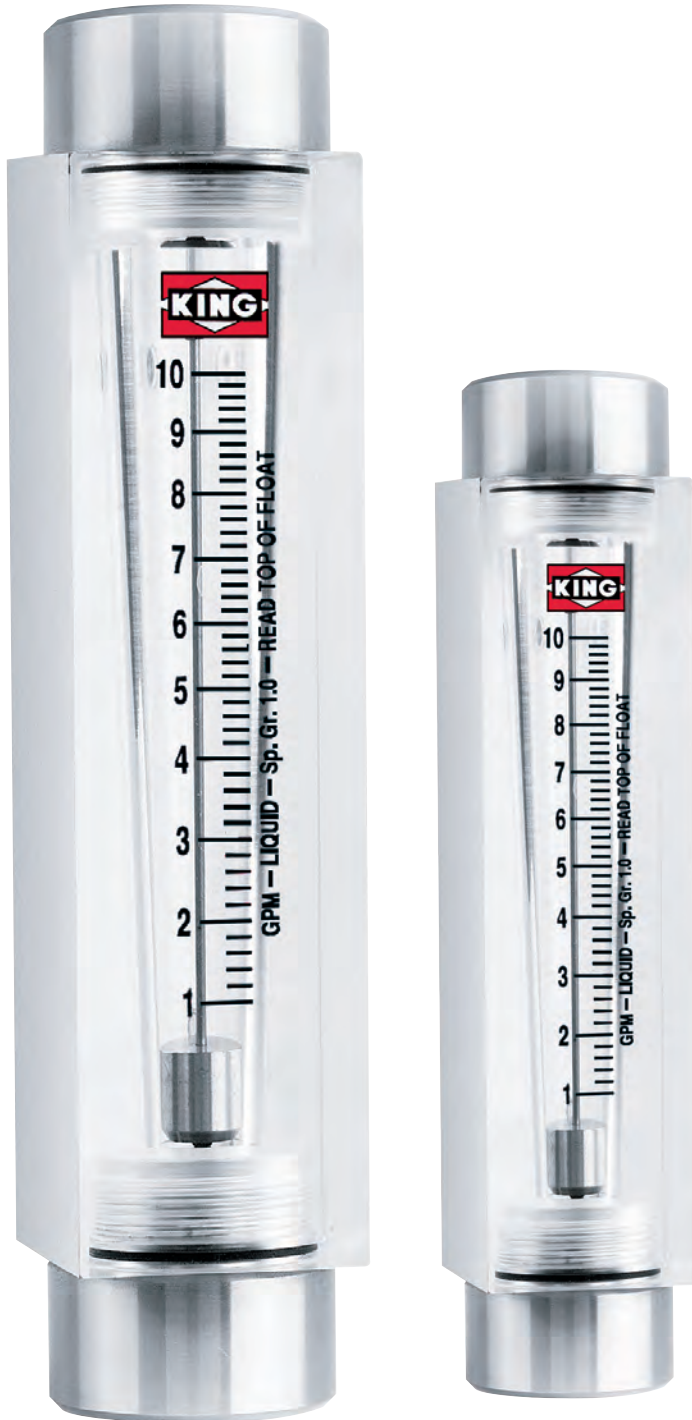
Use the following guide to determine the specific product number you require.

Meter Series	Fitting Material	Float Material	O-Ring Material	Optional Alarm*	Order Number
7 3 3 1	PVC* - 3 PVDF* - 7	316L SS - 2 Hastelloy® C-276 - 4 Teflon® - 6 PVDF - 7	EPR - 1 Buna-N - 2 Viton® - 3 Kalrez® - 4	No Alarm - 0 With Alarm - A	See Specification above

* Not for air service

* Flow rates may vary for meter with alarms and Teflon floats

Acrylic block construction with direct reading scales have white screen printed backs to enhance scale readability. Connections are in-line for easy installation.



DESCRIPTION

Metering Tube	Machined cast acrylic
Internal Components	316L SS
Fitting Material	Standard: PVC Optional: 316L SS, brass
Inlet/Outlet Fittings	FNPT, vertical
O-Ring	Standard: EPR Optional: Buna N, Viton

PERFORMANCE

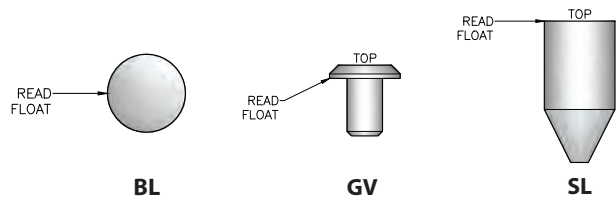
Capacities	Water 7 GPH to 20 GPM Air 2.6 SCFH to 60 SCFM
Scale	50mm, 65mm, 100mm, 127mm, 250mm direct reading
Accuracy	± 6% of full scale flow, 50mm scale ± 5% of full scale flow, 65mm scale ± 4% of full scale flow, 100mm scale ± 3% of full scale flow, 127mm scale ± 2% of full scale flow, 250mm scale
Turndown	10:1
Repeatability	3%, 50 mm scale 2%, 75 mm scale 2%, 100 mm scale 2%, 127 mm scale 0.5%, 250 mm scale
Maximum Temperature	Liquid 130° F (54° C) Gases 100° F (38° C)
Maximum Pressure	Water 125 psig Air 100 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

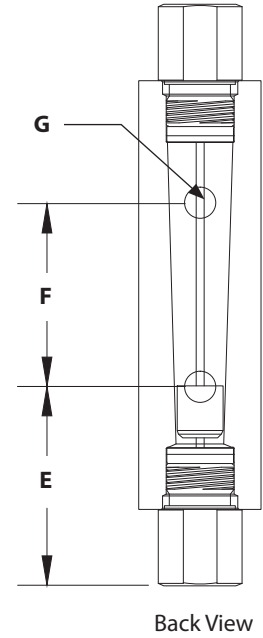
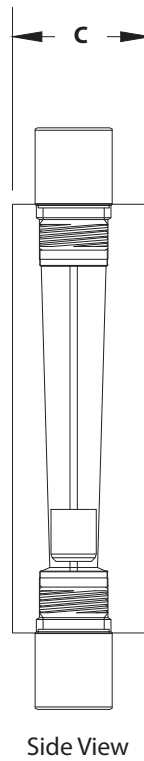
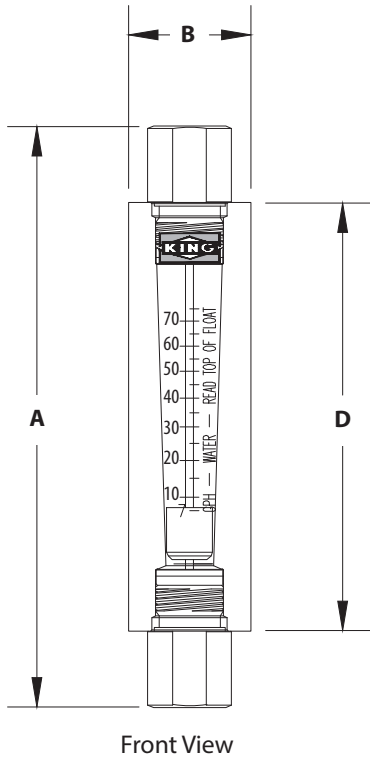
Options for rotameter float materials and designs extend flow ranges for different fluids within a given rotameter tube design.



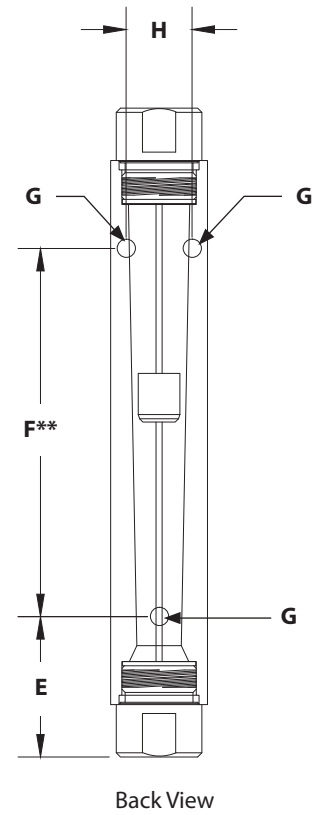
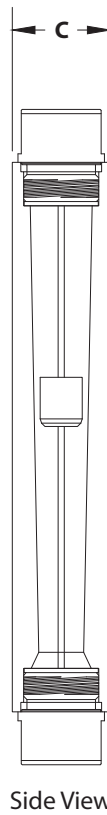
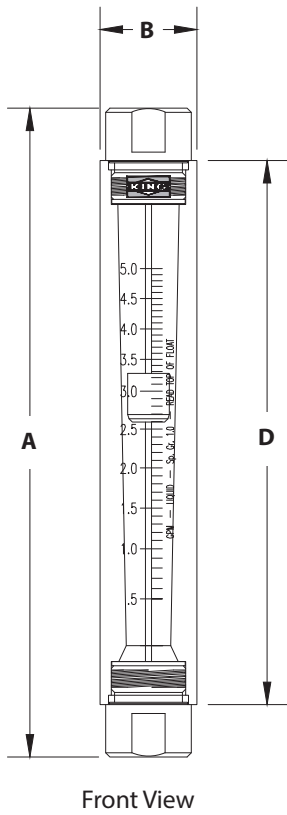
CAUTION: Meters used in gas service are designed to operate at 14.7 psia. Meters used in pressure gas service must be shielded using 3/8" polycarbonate to protect personnel and equipment in the event of tube failure.

DIMENSION DIAGRAMS

2A Blocks



2B, 5B, 6A, and 7A Blocks



Water Order Number	Air Order Number	Dimensions (Inches)								Connection Size
		A	B	C	D	E	F	G	H	
Block #2A*, 50mm (2 Inch) Scale										
2A-02 - 2A-12	2A-01 - 2A-17	4.75	1	1.125	3.50	1	1.50	10-32		1/4" FNPT*
Block #2B, 65mm (2 1/2 Inch) Scale										
2B-02 - 2B-08	2B-01 - 2B-07	6.50	1.375	1.375	5	1.25	2.50	10-32	.937	1/2" FNPT
Block #5B, 127mm (5 Inch) Scale										
5B-02 - 5B-08	5B-01 - 5B-07	9.25	1.375	1.375	7.75	1.25	5.25	10-32	.937	1/2" FNPT
Block #6A, 100mm (4 Inch) Scale										
6A-02 - 6A-06	6A-01 - 6A-03	8.375	1.78	1.812	6.625	1.312	4	10-32	1.25	1" FNPT
Block #7A, 250mm (10 Inch) Scale										
7A-02 - 7A-08	7A-01 - 7A-07	14.78	1.78	1.812	13	2.50	8	10-32	1.25	3/4" FNPT

*Block 2A has 1/4" FNPT with brass or stainless steel fitting, 1/4" MNPT with PVC fittings

** 10-32 female thread (mounting screws not supplied)

Order Number	Float	Flow Water	Order Number	Float	Flow Air
Block #2A, 50mm (2 Inch) Scale					
—	—	—	2A-01*	BL	2.6 SCFH
—	—	—	2A-03**	BL	5 SCFH
—	—	—	2A-05*	BL	10 SCFH
—	—	—	2A-07*	BL	20 SCFH
2A-02	SL	7 GPH	2A-09**	BL	30 SCFH
2A-04	SL	12 GPH	2A-11	SL	70 SCFH
2A-06	SL	22 GPH	2A-13	SL	100 SCFH
2A-08	SL	44 GPH	2A-15	SL	180 SCFH
2A-10	SL	60 GPH	2A-17	SL	4 SCFM
2A-12	SL	75 GPH	—	—	—

*These meters have glass ball floats.

**These meters have stainless steel ball floats.

Order Number	Float	Flow Water	Order Number	Float	Flow Air
Block #2B, 65mm (2 1/2 Inch) Scale					
2B-02	GV	1 GPM	2B-01	GV	4 SCFM
2B-04	GV	2 GPM	2B-03	GV	8 SCFM
2B-06	SL	3.6 GPM	2B-05	SL	15 SCFM
2B-08	SL	5 GPM	2B-07	SL	20 SCFM
Block #5B, 127mm (5 Inch) Scale					
5B-02	GV	1 GPM	5B-01	GV	4.2 SCFM
5B-04	GV	2 GPM	5B-03	GV	8.2 SCFM
5B-06	SL	3.5 GPM	5B-05	SL	15 SCFM
5B-08	SL	5 GPM	5B-07	SL	21 SCFM
Block #6A, 100mm (4 Inch) Scale					
6A-02	SL	10 GPM	6A-01	SL	40 SCFM
6A-04	SL	15 GPM	6A-03	SL	60 SCFM
6A-06	SL	20 GPM	—	—	—
Block #7A, 250mm (10 Inch) Scale					
7A-02	GV	2 GPM	7A-01	GV	8 SCFM
7A-04	GV	3.5 GPM	7A-03	GV	14.8 SCFM
7A-06	GV	5 GPM	7A-05	GV	20 SCFM
7A-08	SL	10 GPM	7A-07	SL	42 SCFM

ORDERING:

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

7 5 1			
Meter Series	Fitting Material	O-Ring Material	Order Number
7510 - 2A, 6A, 7A	Brass - 1	EPR - 1	See Specifications
7511 - 2B, 5B	PVC - 2	Buna-N - 2	
	316L SS - 3	Viton - 3	

Economical machined cast acrylic block construction makes these meters great for OEM use. Optional inlet metering valve available.



DESCRIPTION

Metering Tube	Machined cast acrylic
Internal Components	316L SS
Fitting Material	Standard: PVC (brass for 2C block size) Optional: 316L SS or brass
Inlet/Outlet Fittings	NPT, horizontal Control valve optional
O-Ring	Standard: EPR Optional: Buna N, Viton®, and Kalrez®

PERFORMANCE

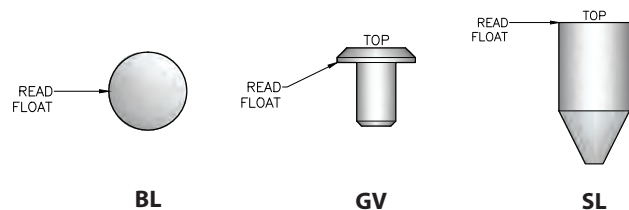
Capacities	Water 7 GPH to 20 GPM Air 2.6 SCFH to 60 SCFM
Scale	50mm, 75mm, 100mm, 127mm, 250mm direct reading
Accuracy	± 6% of full scale flow, 50 mm scale ± 4% of full scale flow, 75 mm scale ± 4% of full scale flow, 100 mm scale ± 7% of full scale flow, 6C-04, 6C-06 ± 3% of full scale flow, 127 mm scale ± 2% of full scale flow, 250 mm scale
Turndown	10:1
Repeatability	3%, 50 mm scale 2%, 75 mm scale 2%, 100 mm scale 4%, 6C-04, 6C-06 2%, 127 mm scale 0.5%, 250 mm scale
Maximum Temperature	Liquid 130° F (54° C) Gases 100° F (38° C)
Maximum Pressure	Water 125 psig Air 100 psig
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

FLOATS

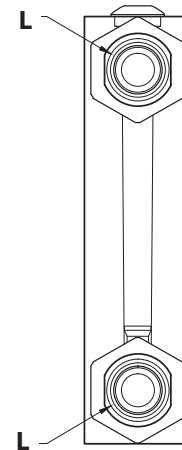
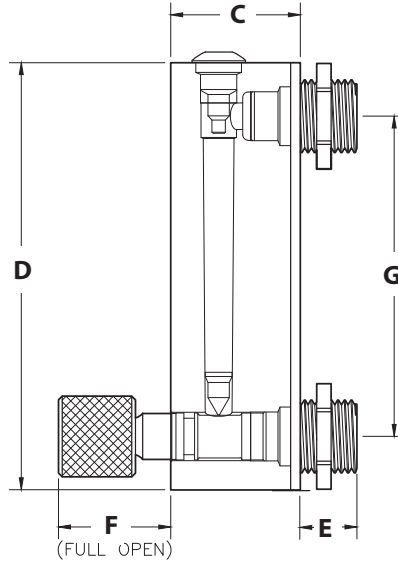
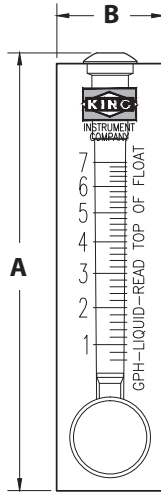
Options for rotameter float materials and designs extend flow ranges for different fluids within a given rotameter tube design.



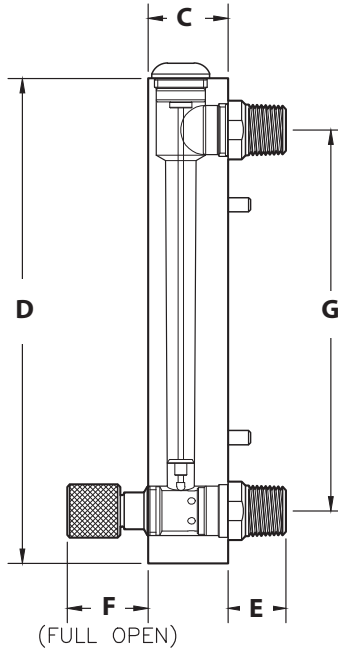
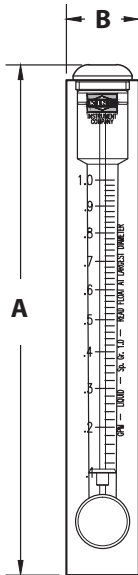
CAUTION: Meters used in gas service are designed to operate at 14.7 psia. Meters used in pressure gas service must be shielded using 3/8" polycarbonate to protect personnel and equipment in the event of tube failure.

DIMENSION DIAGRAMS

2C blocks



3C, 5C, 6C, 7C blocks



Water Order Number	Air Order Number	Dimensions (Inches)							Connections & Mounting			
		A	B	C	D	E	F	G	Connection Size	Centerline H	Thread J	Diameter L
Block #2C, 50mm (2 Inch) Scale												
2C-02 - 2C-12	2C-01 - 2C-17	4.125	1	1.215	4	.50	1.05	3	1/4" FNPT			.700
Block #3C, 75mm (3 Inch) Scale												
3C-02 - 3C-08	3C-01 - 3C-07	6.875	1.20	1.35	6.625	1	1.37	5	1/2" MNPT x 1/4" FNPT	3	.25 - 20	1
Block #5C, 127mm (5 Inch) Scale												
5C-10 - 5C-08	5C-11 - 5C-07	8.45	1.20	1.35	8.25	1	1.37	6.437	1/2" MNPT x 1/4" FNPT	3.937	.25 - 20	1
Block #6C, 100mm (4 Inch) Scale												
6C-02 - 6C-06	6C-01 - 6C-03	9.125	1.78	1.812	8.875	1.25	1.875	6.437	1" MNPT	3.937	.25 - 20	1.375
Block #7C, 250mm (10 Inch) Scale												
7C-02 - 7C-08	7C-01 - 7C-07	14.50	1.78	1.812	14.25	.75	1.75	12.25	1/2" FNPT	8.75	.375 - 24	1.25

Order Number	Float	Flow Water	Order Number	Float	Flow Air
Block #2C, 50mm (2 Inch) Scale					
-	-	-	2C-01*	BL	2.6 SCFH
-	-	-	2C-03**	BL	5 SCFH
-	-	-	2C-05*	BL	10 SCFH
-	-	-	2C-07*	BL	20 SCFH
2C-02	SL	7 GPH	2C-09**	BL	30 SCFH
2C-04	SL	12 GPH	2C-11	SL	60 SCFH
2C-06	SL	22 GPH	2C-13	SL	100 SCFH
2C-08	SL	44 GPH	2C-15	SL	180 SCFH
2C-10	SL	60 GPH	2C-17	SL	4 SCFM
2C-12	SL	75 GPH	-	-	-

*These meters have glass ball floats

**These meters have stainless steel ball floats.

Order Number	Float	Flow Water	Order Number	Float	Flow Air
Block #3C, 75mm (3 Inch) Scale					
3C-02	GV	1 GPM	3C-01	GV	4 SCFM
3C-04	GV	2 GPM	3C-03	GV	8 SCFM
3C-06	SL	3.5 GPM	3C-05	SL	15 SCFM
3C-08	SL	5 GPM	3C-07	SL	23 SCFM
Block #5C, 127mm (5 Inch) Scale					
5C-10	GV	10 GPH	5C-11	GV	42 SCFH
5C-12	SL	20 GPH	5C-13	SL	100 SCFH
5C-14	SL	40 GPH	5C-15	SL	175 SCFH
5C-02	GV	1 GPM	5C-01	GV	4 SCFM
5C-04	GV	100 GPH	5C-03	GV	6.8 SCFM
5C-06	GV	2 GPM	5C-05	GV	8.2 SCFM
5C-08	SL	5 GPM	5C-07	SL	22 SCFM
Block #6C, 100mm (4 Inch) Scale					
6C-02	SL	10 GPM	6C-01	SL	40 SCFM
6C-04	SL	15 GPM	6C-03	SL	60 SCFM
6C-06	SL	20 GPM	-	-	-
Block #7C, 250mm (10 Inch) Scale					
7C-02	GV	2 GPM	7C-01	GV	8 SCFM
7C-04	GV	3.5 GPM	7C-03	GV	14.4 SCFM
7C-06	GS	5 GPM	7C-05	GS	20 SCFM
7C-08	SL	10 GPM	7C-07	SL	42 SCFM

Blocks 3C, 5C, 6C and 7C have mounting studs depicted in dimension "H" and thread "J". (Mounting nuts not supplied)

ORDERING:

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

Meter Series	Fitting Material	O-Ring Material	Valve Material	Order Number
7520 No valve	Brass - 1	EPR - 1	Brass - 1	See Specifications
7530 With valve	PVC - 2 (2C not available in PVC)	Buna-N - 2	316L SS - 2	
	316L SS - 3	Viton® - 3	Without Valve - 0	

Type 1, Grade 1 PVC tube meters offer chemical resistance. The dial type display makes measuring opaque fluids simple. A 4-20mA transmitter is optional.

New Indicator Housing!



DESCRIPTION

Metering Tube	Type 1, grade 1 PVC
Internal Components	Hastelloy® C-276
Fitting Material	Type 1, grade 1 PVC
Inlet/Outlet Fittings	NPT or flange, vertical
O-Ring	Standard: Viton® Optional: Buna N, EPR, Kalrez®
Indicator Housing	Die-cast Aluminum / Powder Coated with Chemfilm base (RoHS Compliant) Rated IP66 (Excludes Alarm and Transmitter Cases)

PERFORMANCE

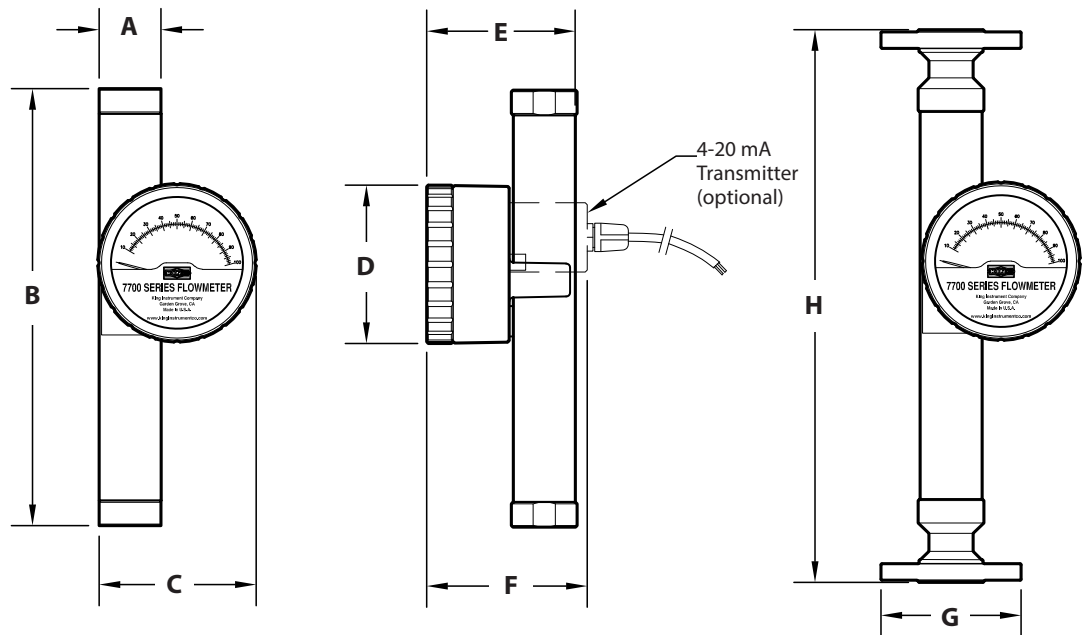
Capacities	Water 33 GPH to 450 GPM
Scale	120 mm direct reading, detachable
Accuracy	± 3% of full scale flow
Turndown	10:1
Repeatability	1%
Maximum Temperature	130° F (54° C)
Maximum Pressure	150 psig, sizes 4 & 6 125 psig, sizes 8, 9, 11, 12
Ambient Temperature	33° F to 125° F (1° C to 52° C)

OPTIONS

Alarm	Single or dual, Inductive Slot Sensor 4-20 mA transmitter (See page 62)
Certified Calibrations	Conform to ISA RP 16.6
Scales	Any volumetric unit

DIMENSION DIAGRAMS

Order Number	Full Scale Flow GPM - Water
706	33.0 GPM - 1/2" FNPT/Flange
708	1.1 GPM - 1/2" FNPT/Flange
710	2.0 GPM - 1/2" FNPT/Flange
712	4.0 GPM - 1/2" FNPT/Flange
714	6.0 GPM - 1/2" FNPT/Flange
716	5.0 GPM - 1" FNPT/Flange
718	10.0 GPM - 1" FNPT/Flange
720	16.5 GPM - 1" FNPT/Flange
722	25.0 GPM - 1" FNPT/Flange
724	35.0 GPM - 1 1/2" FNPT/Flange
726	60.0 GPM - 1 1/2" FNPT/Flange
728	76.0 GPM - 2" FNPT/Flange
730	100.0 GPM - 2" FNPT/Flange
732	120.0 GPM - 2" FNPT/Flange
734	152.0 GPM - 2" FNPT/Flange
736	150.0 GPM - 3" Flange
738	225.0 GPM - 3" Flange
740	300.0 GPM - 4" Flange
742	375.0 GPM - 4" Flange
744	450.0 GPM - 4" Flange



Order Number	Dimensions (Inches) FNPT Connections						150 # Flange		300 # Flange	
	A	B	C	D	E	F	G	H	G	H
706 - 714	1.30	11	4.32	4.8	3.92	4.87	3.50	13.125	3.75	13.625
716 - 722	1.88	13.24	4.86	4.8	4.50	4.87	4.25	16.75	4.88	17.500
724 - 726	2.34	13.864	5.24	4.8	4.96	4.87	5.00	18.625	6.12	19.250
728 - 734	3.46	13.875	6.35	4.8	6.08	4.87	6.00	17.156	6.50	17.786
736 - 738	4.46	—	7.26	4.8	7.08	4.87	7.50	17.867	8.25	18.867
740 - 744	5.49	—	8.24	4.8	8.11	4.87	9.00	18.562	10.00	19.696

ORDERING:

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

Meter Series	Connection Type	Float Material	O-Ring Material	Optional Alarm/Transmitter	Order Number
772	FNPT Connections - 1 150# R.F. Flanged - 2	Hastelloy®C-276 - 4	EPR - 1 Buna-N - 2 Viton® - 3 Kalrez® - 4	None - 0 With Transmitter - T One Alarm (Inductive Slot Sensor) - A Two Alarms (Inductive Slot Sensors) - D	See Specifications

Alarm Options



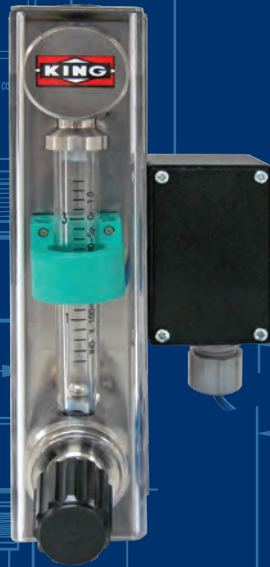
Latching Reed Switch
 available for
7310, 7330, 7470, 7480, 7610, 7910 Series
 Page 60



Inductive Slot Sensor
 Alarm available for
7100 Series
 Page 61



Inductive Slot Sensor Alarm & Transmitter available for
7710, 7720 & 7750 Series
 Page 62



Inductive Ring Sensor & Fiber Optic
 Sensor Alarm available for
7430 & 7440 Series
 Page 62 - 63



Latching Reed Switch
 available for
Silver Series
 Page 64

Latching Reed Switch alarm available for 7310, 7330, 7470, 7480, 7610, 7910 Series



7330 with Latching Reed Switch

A latching reed switch is available for 7310, 7330, 7470, 7480, 7610, 7910 Series flowmeters. Operating temperature range is -40° C to 125° C.

The switch assembly is mounted on the side of the metering tube by a dovetail or guide rod. The switch can be positioned to trip at any point on the scale.

The switch is a reed type and uses a biasing magnet to give it the latching feature. The float contains hermetically sealed magnet(s), so when the float comes in close proximity to the switch it closes and remains closed (latched) when the float moves past the switch. When the flow returns to normal and the float moves below the switch it resets itself. Multiple switches can be used.

ELECTRICAL SPECIFICATIONS FOR LATCHING REED SWITCH

Switch Type	SPDT, Latching
Max Contact Voltage	100 VDC
Max Contact Current	0.2 A DC
Max Contact Power	4 Watts DC
Breakdown Voltage	200 VDC
Initial Contact Resistance	0.15 OHMS
Standard Pull-In Range	15-40 ampere turns
Intrinsically Safe Wiring	With switch Isolator 3 conductor, 22 Awg, 2' long 1) White, N.O. switch output 1 2) Red, common 3) Black, N.C. switch output 2

SWITCH ISOLATOR OPTION

Latching reed switches can be used as stand alone devices, or may be connected to a switch isolator for intrinsically safe applications. The purpose of the switch isolator is to supply electrical signals between safe and hazardous areas in either direction while limiting the amount of energy that can be transferred even under fault conditions. Switch isolators are available with 220 VAC, 110 VAC or 24 VD supply voltage requirements, contain single pole double throw (SPDT) relays, and are DIN rail mountable. See switch isolator specifications for electrical connections and further details.

Inductive Slot Sensor alarm available for 7100 Series



7100 with Inductive Slot Sensor

All 7100 Series flowmeters may be fitted with one inductive slot sensor.

Inductive sensors are 2-wire, DC low current devices and are designed to be used with a remote barrier/switch isolator capable of powering the sensor and providing the desired switching option(s). Barrier/switch isolators are available with 220 VAC, 110 VAC or 24 VDC supply voltage requirements, contain single pole, double throw (SPDT) relays, and are DIN rail mountable. (Only 24 VDC units are actually powered by the rail.) See barrier/switch isolator specifications for electrical connections and further details.

The operating temperature range for this sensor is -13° F to 158° F (-25° C to 70° C).

Note: We can supply the isolator / barrier upon request, but the user must provide the power supply voltage.

ELECTRICAL SPECIFICATIONS

Type	Inductive
Supply Voltage	5-25V DC (Switch Isolator)
Output	NAMUR
Output Load Current	<=1 mA – Float Present >= 3 mA (15 mA Max.) –Float Absent
Switching Frequency	5 kHz
Housing Rating	IP67
Wiring	2 Conductor, NAMUR Pos = Brown, Neg.= Blue
Terminals	#1=Pos., #2=Neg.
Pepperl & Fuchs Slot Sensor Approvals:	UL: General Purpose FM: Intrinsically Safe CSA: Intrinsically Safe CENELEC: Intrinsically Safe

Inductive Slot Sensor alarm available for 7710, 7720, 7750 Series



7750 with Inductive Slot Sensor

All 7710, 7720 and 7750 Series flowmeters may be fitted with one inductive slot sensor.

Inductive sensors are 2-wire, DC low current devices and are designed to be used with a remote barrier/switch isolator capable of powering the sensor and providing the desired switching option(s). Barrier/switch isolators are available with 220 VAC, 110 VAC or 24 VDC supply voltage requirements, contain single pole, double throw (SPDT) relays, and are DIN rail mountable. (Only 24 VDC units are actually powered by the rail.) See barrier/switch isolator specifications for electrical connections and further details.

The operating temperature range for this sensor is -13° F to 158° F (-25° C to 70° C).

Note: We can supply the isolator / barrier upon request, but the user must provide the power supply voltage.

ELECTRICAL SPECIFICATIONS

Type	Inductive
Supply Voltage	5-25V DC (Switch Isolator)
Output	NAMUR
Output Load Current	<= 1 mA – Float Present >= 3 mA (15 mA Max.) –Float Absent
Switching Frequency	5 kHz
Housing Rating	IP67
Wiring	2 Conductor, NAMUR, Pos = Brown, Neg.= Blue
Terminals	#1=Pos., #2=Neg.
Pepperl & Fuchs Slot Sensor Approvals:	UL: General Purpose FM: Intrinsically Safe CSA: Intrinsically Safe CENELEC: Intrinsically Safe

OPTIONAL 4-20 MA TRANSMITTER FOR 7710, 7720, 7750

To Convert the measured flow into a 4-20 mAdc signal, an angle of rotation transmitter is mounted to the indicator. This device is factory calibrated to ensure accuracy and should only be adjusted by King Instrument Company.

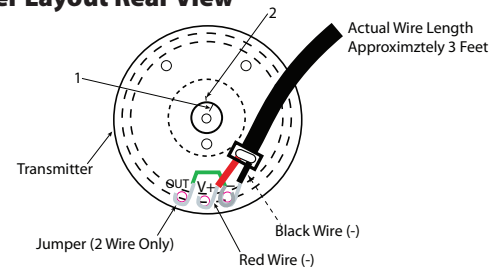
The proper and safe operation of the device requires that the specific listed below are not exceeded:

SPECIFICATIONS

Power Supply	12 to 33Vdc
Maximum Current Consumption	40mA
Temperature Limits	-13° to 158° F (-25° to 70° C)
Output	4 to 20 mAdc
Accuracy	<= 0.5%
Linearity	± 0.4%
Influence From Bearing	± 0.1%
Temperature Influence (ambient)	± 0.3% per degree C
Power Supply Influence	± 0.1%
Load Resistance Influence	± 0.1% at R max.

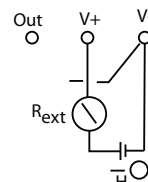
ELECTRICAL CONNECTIONS

Transmitter Layout Rear View



- Zero:** Potentiometer P1 for zero point
- SPAN:** Potentiometer P2 for measuring range and value
- 1:** Zero point mark on transmitter housing
- 2:** Zero point mark on transmitter shaft
- S1:** Switch for reversing rotation (Not Applicable)

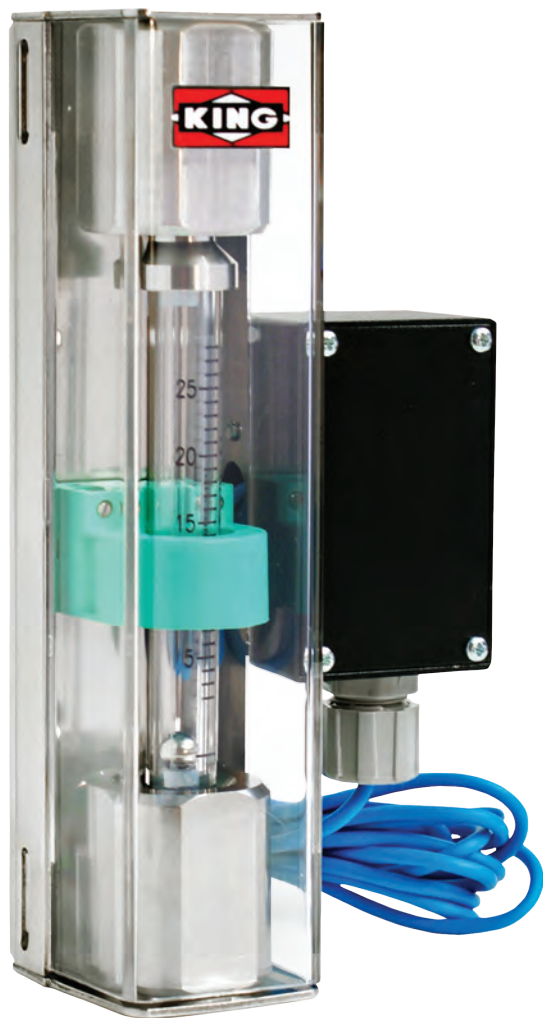
2- Wire Connection



R_{ext}: External Resistance
= Power Supply (V) - 12V
Output Signal (mA)

H: DC Power Supply
(12 - 33 V)

Inductive Ring Sensor alarm available for 7430, 7440 Series



7440 with Inductive Ring Sensor

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 Carbonyl 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. User must provide the power supply voltage.

INDUCTIVE RING SENSOR ELECTRICAL SPECIFICATIONS

Type	Inductive Proximity or Latching
Supply Voltage	5-25V DC (Switch Isolator)
Output	NAMUR
Output Load Current	<=1 mA – Float Present >= 3 mA (15 mA max) – Float Absent
Switching Frequency	2 kHz
Housing Rating	IP67
Wiring	PVC Covered, 2 Conductor, 26 AWG, 6.5 Feet Long. Brown (+), Blue (-)
Pepperl & Fuchs Ring Sensor Approvals	UL: General Purpose FM: Intrinsically Safe CSA: Intrinsically Safe CENELEC: 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 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 < 1.5V at 150 mA DC
Repeatability	0.25 ms
Housing Rating	IP67; NEMA 6
Operating Temperature	-5° to +131° F

Latching Reed Switch alarm available for the Silver Series



The latching reed switch is an available option for the Silver Series Flowmeter.

The switch assembly is mounted on the side of the metering tube by a dovetail or guide rod. The switch can be positioned to trip at any point on the scale.

The switch is a reed type and uses a biasing magnet to give it the latching feature. The float contains hermetically sealed magnet(s), so when the float comes in close proximity to the switch it closes and remains closed (latched) when the float moves below the switch it resets itself. Multiple switches can be used.

Operating temperature range is -40° C to 125° C.

LATCHING REED SWITCH ELECTRICAL SPECIFICATIONS

SW721AS

Switch Type	SPST
Power	4W Max
Switching Voltage	30VDC Max
Breakdown Voltage	200VDC Min
Switching Current	0.2 A Max
Carry Current	1.4 A Max
Initial Contact Resistance	.020 OHM Max @50% Magnetic Overdrive

CONNECTIONS

Single Switch	Dual Switch
1(+), 2(-)	High Switch 1(+), 2(-)
	Low Switch 4(+), 5(-)

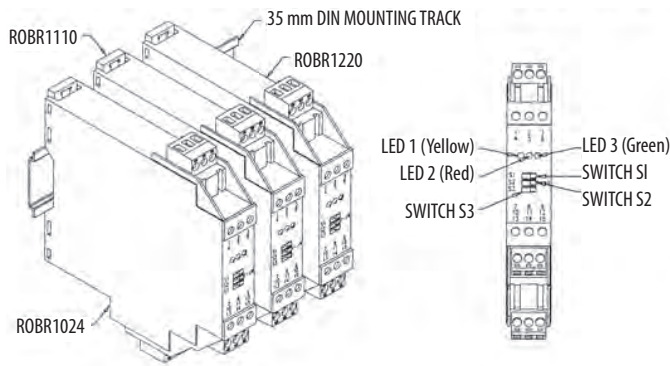
Silver Series with Latching Reed Switch

Barrier/Switch Isolator

BARRIER/SWITCH ISOLATOR

A barrier/switch isolator is designed to supply power to the NAMUR sensor, read the output state of the sensor and provide the desired safety and switching options based on the sensors current state. The barrier/switch isolator has three sets of connections: the supply voltage (powers the barrier), an input stage (accepts sensor inputs), and an output stage (relay or transistor switching). Supply voltages are 220VAC, 110VAC, or 24VDC. Switch isolators may receive an input from inductive sensors or dry mechanical contacts. The input circuit between the sensor or mechanical contact and the switch isolator is suitable to be installed in a hazardous area under the designation "Intrinsically Safe". Supply voltage and switching options must be specified when ordering.

SINGLE CHANNEL BARRIER/SWITCH ISOLATORS (I.S.)



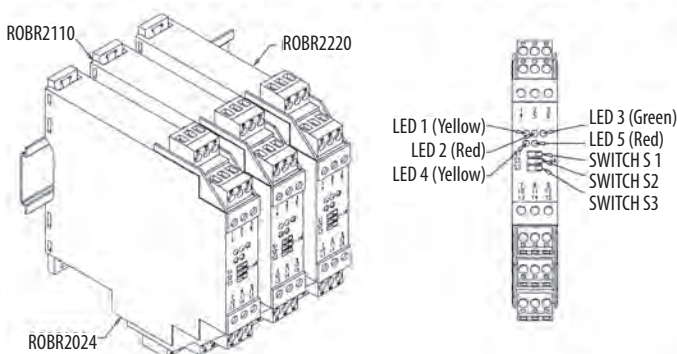
SINGLE CHANNEL OPTIONS

KING ORDER #	POWER SUPPLY	PEPPERL & FUCHS #	OUTPUT
ROBR1024	DC 20V-30V	KFD2-SR2-EX1.W	1 SPDT RELAY AC: 250V/2A DC: 40V/2A
ROBR1110	AC IO4-126V	KFA5-SR2-EX1.W	
ROBR1220	AC 207V-253V	KFA6-SR2-EX1.W	

RECOMMENDED USE

PRODUCT LINE	ALARM OPTION
7310/7330 Series	Single Latching Reed Switch
7430/7440 Series	Proximity or Latching Inductive Namur Ring Sensor
7470 Series	Single Latching Reed Switch
7480 Series	Single Latching Reed Switch
7610 Series	Single Latching Reed Switch
7710/7720/7750 Series	Single Inductive Namur Slot Sensor
7910 Series	Single Latching Reed Switch
9000 Series	Single Latching Reed Switch

DUAL CHANNEL BARRIER/SWITCH ISOLATORS (I.S.)



DUAL CHANNEL OPTIONS

KING ORDER #	POWER SUPPLY	PEPPERL & FUCHS #	OUTPUT
ROBR2024	DC 20V-30V	KFD2-SR2-EX2.W	2 SPDT RELAY AC: 250V/2A DC: 40V/2A
ROBR2110	AC IO4-126V	KFA5-SR2-EX2.W	
ROBR2220	AC 207V-253V	KFA6-SR2-EX2.W	

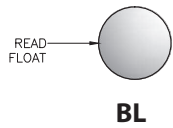
RECOMMENDED USE

PRODUCT LINE	ALARM OPTION
7310/7330 Series	Dual Latching Reed Switch
7470 Series	Dual Latching Reed Switch
7480 Series	Dual Latching Reed Switch
7610 Series	Dual Latching Reed Switch
7710/7720/7750 Series	Dual Inductive Namur Slot Sensor
7910 Series	Dual Latching Reed Switch
9000 Series	Dual Latching Reed Switch

Floats

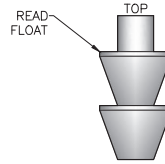
How To Read Different Floats

Options for rotameter float materials and designs extend flow ranges for different fluids within a given rotameter tube design. In the simplest float design type, a ball float, different flow ranges are achieved by substituting same diameter ball floats of differing specific gravities.



No Viscosity Compensation

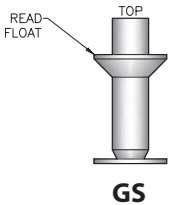
Lowest meter capacity and no viscous fluids with medium capacity.



Minimal Viscosity Compensation

Maximum flowmeter capacity with limited viscosity immunity.

LJ



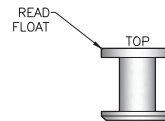
Semi - Viscosity Compensation

"RS" Rib Guided:

High flow capacity with some immunity to viscous fluids.

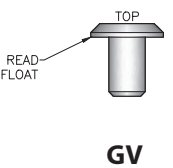
Rod Guided:

Analogous in design to a sharp edge orifice gives most immunity to viscosity variations of the fluid being metered.



Lowest Pressure Loss

LP

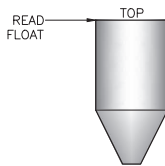


Maximum - Viscosity Compensation

"RV" Rib Guided:

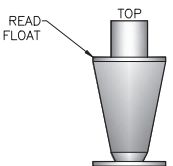
Highest immunity to viscous fluids with medium meter capacity. (Most stable)

Analogous in design to a flow nozzle or venturi offers the maximum capacity in any given size flowmeter.



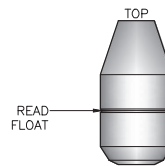
Maximum - Flow

SL



Maximum - Flow

HF



Maximum - Flow

SL

Warranty & Policies

WARRANTY

Meters are warranted against defects in materials and workmanship to the original user for a period of thirteen (13) months from the date of factory shipment, provided the meter is installed, operated and maintained in accordance with the Company's instructions and recommendations.

This warranty does not apply if the failure is caused or contributed to by any of the following: improper handling, improper storage, improper installation, abuse, unsuitable application of the product, lack of reasonable and necessary maintenance, use exceeding suggested pressure and temperature maximums, improper packaging for return, or repairs made or attempted to be made by other than the Company.

THE COMPANY MAKES NO WARRANTY AS TO THE FITNESS OF ITS PRODUCTS FOR SPECIFIC APPLICATIONS.

This warranty is valid for the original end-user only and does not apply to products that have been damaged or modified.

This warranty is nontransferable and is limited to replacement or repair. The liability of the Company arising out of its supply of the products, or their use, shall not in any case exceed the cost of correcting defects in the products as above set forth.

NOTE: If it is determined by King Instrument Company that repair charges are required, our Quality department will contact you to receive a purchase order for the work needed. If we do not receive a purchase order from you within 30 days from our initial request, we will return the meter freight collect without repair. We are unable to store returned meters over 60 days.

DISCLAIMER

This warranty is a limited warranty and shall be in lieu of any other warranties, express or implied, including but not limited to any implied warranty or merchantability or fitness for a particular purpose. There are no other warranties which exist beyond the description or face hereof.

In no event shall the company be liable for loss of profits, indirect, consequential or incidental damages.

CAUTION

Pressure and temperature limits are based on a study of the engineering data for particular materials used in construction and on the design of individual models. This information is supplemented by destructive testing results. Pressure and temperature maximums for these meters are simultaneous.

WARNING

Meters with stainless enclosures must never be operated without shields securely in place. Meters exposed to difficult environments such as those created by certain chemicals, excessive vibration or other stress inducing factors could fail at or below the suggested maximums. NEVER operate meters above pressure and temperature maximums. Meter failure could result in damage to equipment and serious personal injury.

Always use suitable safety gear including OSHA approved eye protection when working around meters in service. We are happy to pass along chemical compatibility information that has been published by the manufacturers of raw materials used in our products; however, this information should not be construed as a recommendation made by King Instrument Company, Inc. for a specific application. Specifications are subject to change without notice.

RETURNED GOODS

Returns for shortages or inaccurate shipments must be made to King Instrument Company within ten days of receipt. A Return Materials Authorization (RMA) number is required for all returns shipped for repair, warranty evaluation, replacement, exchange or credit. Please call the sales department for an RMA number. A copy of the invoice or shipper must be included. The RMA number must be clearly marked on the shipping package. Return meter in individual packaging equivalent to original packaging. When returning meters that have been in service, include MSDS of chemicals used. Ensure that the meters have been cleaned or flushed of any hazardous materials. There may be a restocking charge on items that are returned when the error is not King Instrument Company's. Items over one year old are not returnable. Damaged shipments should be handled through the shipping carrier. C.O.D. return shipments will not be accepted. If there are any questions call the sales department Monday through Friday, 7:00 a.m. to 4:30 p.m., Pacific Time.



www.kinginstrumentco.com

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