

## Glass Tube O-ring Seal Flowmeter

- Side-plate construction
- Ten-to-one rangeability
- O-ring seal - inlet and outlet same size
- Choice of float types and capacity ranges
- Standard NPT connections

### DESCRIPTION

Model 1307 O-ring seal flowmeters are economical, accurate indicating flowmeters. They are designed for applications where the industrial features or special materials of construction of Brooks® standard Full-View® or GT 1000 flowmeters are not required.

### SPECIFICATIONS

#### Capacities

Refer to Table 1

#### Flow Accuracy

Standard:  $\pm 2\%$  full scale from 100% down to 10% of scale reading.

Optional:  $\pm 1\%$  of full scale from 100% down to 10% of scale reading

#### Repeatability

0.5% full scale

#### Pressure Ratings

Refer to Table 2

#### Scales

Length: 250 mm

Standard: Fused on metering tube, choice of arbitrary millimeter or calibration data sheet; percentage of maximum flow with factor tag.

Optional: Direct reading, engraved detachable metal plate.

#### Ambient Temperature Limits

33°F to 125°F (1°C to 52°C)

#### Operating Fluid Temperature Limits

33°F to 250°F (1°C to 121°C)

#### Connections

NPT female

#### Dimensions

Refer to Figure 2



#### Ordering Information and Model Code

Refer to Table 3

#### Materials of Construction:

##### Metering Tube

Borosilicate Glass

##### Protective Tube Sleeve

UV stabilized polycarbonate

#### Window

Scratch resistant UV stabilized polycarbonate

#### Floats

Size 7 (1/2") (ball floats) glass, 316 stainless steel, Monel®  
Size 8 (1/2") - 13 (1/2") 316 stainless steel

#### Float Stops

316 stainless steel

#### Float Types

Spherical: Size 7 meter only

Types RV, LJ and RS: Sizes 8 to 13, refer to Figure 1

#### Housing

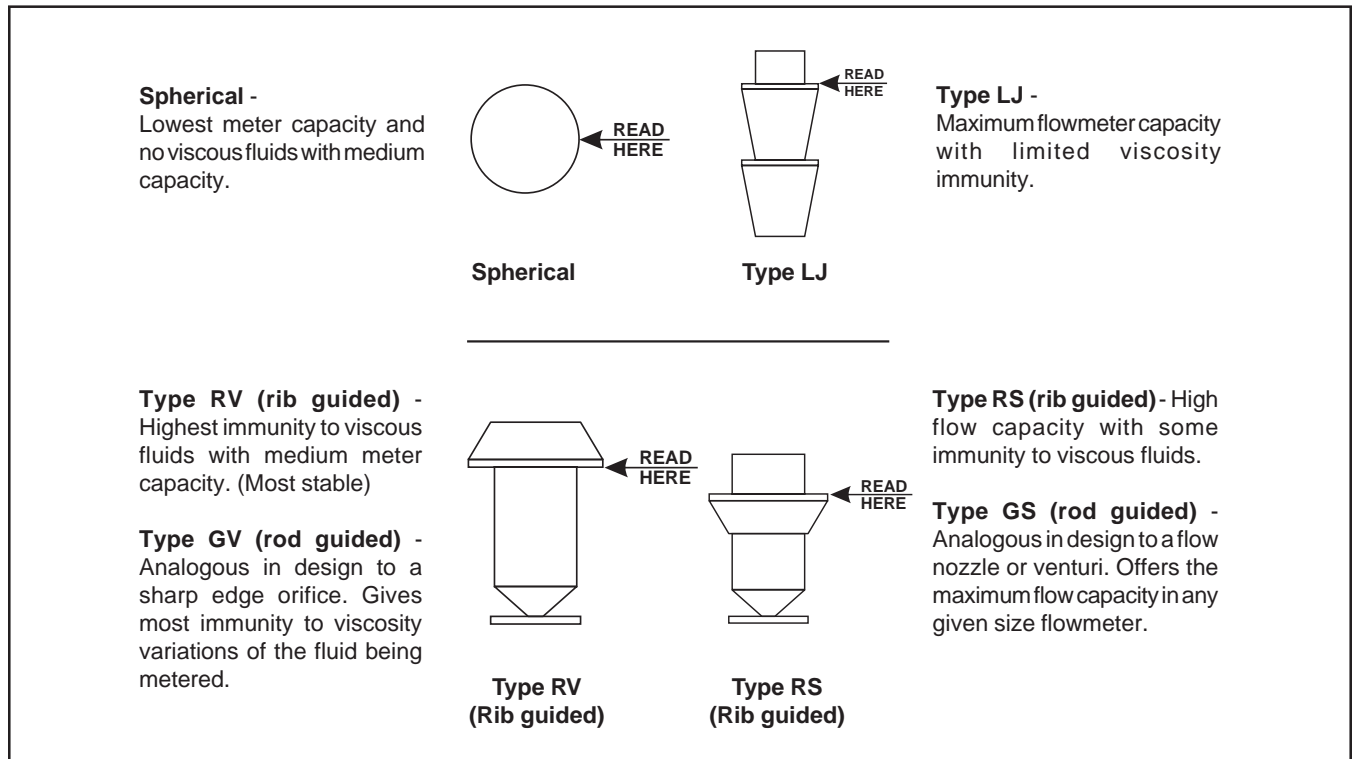
Side-plates: Aluminum, stainless steel

**Table 1 Capacities**

METER SIZE	TUBE	FLOAT	WATER				AIR @ 14.7 PSIA AND 70°F (21°C)			
			GPM	LPM	PRESSURE DROP INCHES W.C.	VISCOSITY IMMUNITY CEILING, CS (**)	SCFM	SLPM	PRESSURE DROP INCHES W.C.	PSI CRITICAL (*)
7	R-7M-25-1F	GLASS	0.16	0.59	1.0	1.0	0.86	24.2	2.0	0
		STN. STL.	0.34	1.29	3.0	1.0	1.51	42.7	4.0	0
		MONEL	0.36	1.36	4.0	1.0	1.58	44.8	4.0	0
8	R-8M-25-4F	8-RV-3	0.78	2.95	4.0	2.0	3.17	89.8	4.0	0
		8-RV-8	1.09	4.13	7.0	3.7	4.45	126.0	8.0	0
		8-RS-8	1.40	5.30	10.0	1.8	5.86	166.0	11.0	0
		8-RV-14	1.45	5.49	12.0	5.4	5.88	166.5	14.0	0
		8-RS-14	1.83	6.93	17.0	1.9	7.56	214.1	19.0	0
		8-RV-31	2.06	7.80	23.0	7.0	8.32	235.6	28.0	30
		8-RS-31	2.59	9.80	33.0	3.1	10.66	301.9	37.0	30
9	R-9M-25-3F	9-RV-33	2.53	9.58	6.0	11.0	10.45	295.9	7.0	0
		9-RS-33	3.24	12.26	7.0	2.4	13.45	380.9	8.0	0
		9-RV-87	3.92	14.84	14.0	17.0	16.25	460.2	16.0	30
		9-RS-87	5.12	19.38	17.0	3.5	21.20	600.4	20.0	30
10	R-10M-25-3F	10-RV-64	6.28	23.77	11.0	15.0	25.76	729.5	13.0	0
		10-RS-64	7.84	29.67	15.0	3.7	32.15	910.5	17.0	0
		10-RV-138	8.84	33.46	23.0	23.0	36.10	1022.4	26.0	30
		10-RS-138	10.93	41.37	29.0	5.5	45.90	1299.9	33.0	30
12	R-12M-25-5F	12-RV-221	17.21	65.14	10.0	29.0	70.80	2005.1	11.0	0
		12-RV-343	20.95	79.30	15.0	36.0	86.45	2448.3	17.0	30
		12-RS-221	22.40	84.78	12.0	4.2	91.85	2601.2	14.0	0
		12-RS-343	26.90	101.82	18.0	4.5	112.00	3171.8	20.0	30
		12-LJ-740	67.60	255.87	65.0	1.0	299.50	8481.8	75.0	30
13	R-13M-25-3F	13-RV-510	31.78	120.29	17.0	42.0	130.90	3707.1	19.0	0
		13-RV-760	37.60	142.32	24.0	52.0	155.20	4395.3	27.0	30
		13-RS-510	42.52	160.94	23.0	7.6	176.60	5001.3	26.0	0
		13-RS-760	49.55	187.55	32.0	9.3	217.70	6165.3	36.0	30
		13-LJ-1394	92.00	348.22	92.0	1.0				

(\*) MINIMUM OPERATING DOWNSTREAM PRESSURE FOR GAS SERVICE (PSIG)

(\*\*) VISCOSITY IMMUNITY CEILING LISTED IS FOR STAINLESS STEEL FLOAT AND FLUID SP.GR. 1.0.



**Figure 1 Float Types**

**Table 2 Pressure Ratings**

Meter Size	Maximum Working Pressure (psig)	PED Category	Maximum Temperature	
			Liquid Service	Gas Service
7	350	SEP	200°F (93°C)	250°F (121°C)
8	300	SEP		
9	175	SEP		
10	100	SEP		
12	75	SEE		
13	100	NOTE 4		

1. Pressure ratings are based on static pressure applicable at 250°F.
2. Glass tubes are not usable for caustic service.
3. Fluid temperatures below 32°F will cause frosting of the glass metering tube. Please consult factory for applications below this temperature.
4. Size 12 and 13 do not conform to Pressure Equipment Directive 97/23/EC, therefore cannot be sold or used in the EU/EFTA.

**End Fittings**

Brass or 316 stainless steel

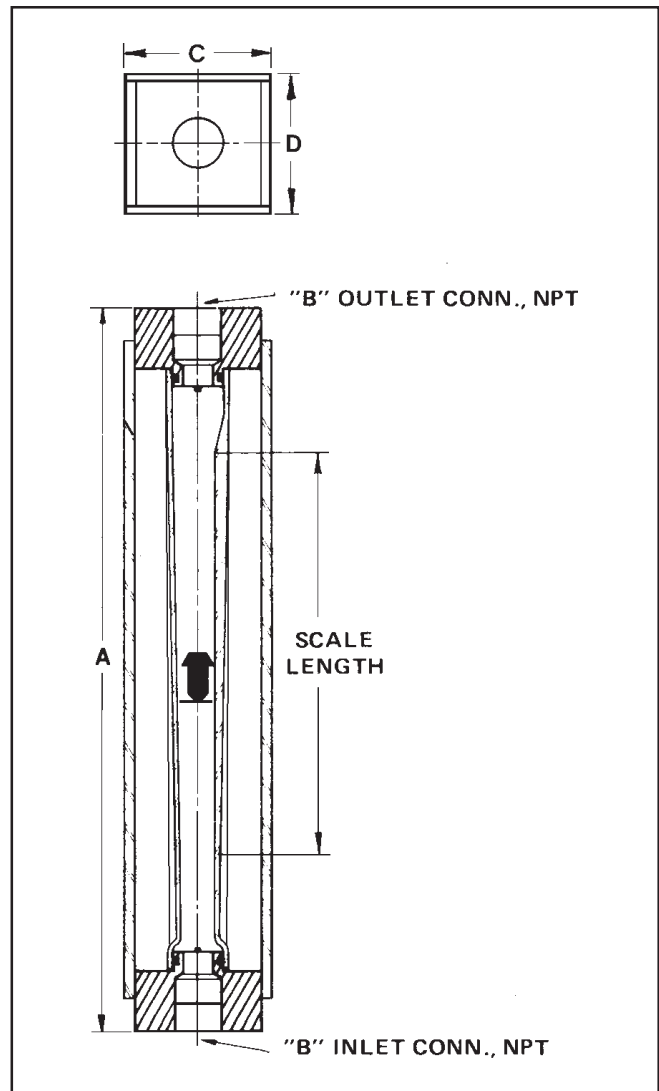
**O-rings**

Standard: Buna-N

Optional: Viton-A® fluoroelastomers

**OPTIONAL EQUIPMENT**

Mounting - front of panel screws



Meter Size	Dimensions			
	A	B	C	D
7 & 8	16-15/16"	1/2"	2-3/8"	2-1/2"
9	16-15/16"	3/4"	2-3/8"	2-1/2"
10	17"	1"	2-3/8"	2-9/16"
12	19-1/16"	1-1/2"	3-3/8"	2-1/2"
13	21-7/16"	1-1/2"	4-1/2"	4-1/2"

Figure 2 Dimensions

**Approximate Shipping Weight (lbs)**

Weight	Size		
	7-10	12	13
	7	8	10

**TRADEMARKS**

- Brooks ..... Brooks Instrument, LLC
- Full-View ..... Brooks Instrument, LLC
- Monel ..... Huntington Alloys, Inc.
- Viton-A ..... DuPont Performance Elastomers

Specifications Subject to Change Without Notice

**Table 3 Ordering Information and Model Code**

MODEL	VARIABLE AREA FLOWMETER							BASE
1307F	THREADED							TABLE A
	CODE	TUBE DESIGNATOR						ADD
	H1	R-7M-25-1F						NC
	J2	R-8M-25-4F						NC
	K1	R-9M-25-3F						NC
	L2	R-10M-25-3F						NC
	M2	R-12M-25-5F						NC
	N1	R-13M-25-3F						NC
		FLOAT DESIGNATOR						
	CODE	SIZE 7	SIZE 8	SIZE 9	SIZE 10	SIZE 12	SIZE 13	ADD
	1	SPHERICAL	8-RV-3	9-RV-33	10-RV-64	12-RV-221	13-RV-510	NC
	2		8-RV-8	9-RS-33	10-RS-64	12-RS-221	13-RS-510	NC
	3		8-RS-8	9-RV-87	10-RV-138	12-RV-343	13-RV-760	NC
	4		8-RV-14	9-RS-87	10-RS-138	12-RS-343	13-RS-760	NC
	5		8-RS-14			12-LJ-740	13-LJ-1394	NC
	6		8-RV-31					NC
	7		8-RS-31					NC
	CODE	FLOAT MATERIAL						ADD
	A	GLASS (SIZE 7 ONLY)						NC
	C	316 STN. STL.						NC
	F	MONEL (SIZE 7 ONLY)						NC
	CODE	SCALE (NOTE 4)						ADD
	A1	NO INSCRIPTION (BLANK)						TABLE B
	B2	MM SCALE ON TUBE						TABLE B
	D1	% OF MAX FLOW DETACHABLE (LIQUID)						TABLE B
	D2	% OF MAX FLOW ON TUBE (LIQUID)						TABLE B
	E1	% OF MAX FLOW DETACHABLE (GAS)						TABLE B
	E2	% OF MAX FLOW ON TUBE (GAS)						TABLE B
	H1	LPM AIR @ STP DETACHABLE						TABLE B
	J1	GPM WATER SP. GR. 1.0, VISC 1.0 CP DETACHABLE						TABLE B
	K1	LPM WATER SP. GR. 1.0, VISC 1.0 CP DETACHABLE						TABLE B
	L1	SCFM AIR @ STP DETACHABLE						TABLE B
		THE FOLLOWING SCALES ARE DETACHED						TABLE B
	M1	SPECIAL INSCRIPTION (SPECIAL CALIBRATION NOT REQ'D)						TABLE B
	Q1	SPECIAL CALIBRATION WITH SCALE 2% FS GAS (NOTE 2)						TABLE B
	Q3	SPECIAL CALIBRATION WITH SCALE 2% FS LIQUID (NOTE 2)						TABLE B
	Q5	SPECIAL CALIBRATION WITH SCALE 2% FS VISCOSITY						TABLE B
	R1	SPECIAL CALIBRATION WITH SCALE 1% FS GAS						TABLE B
	R2	SPECIAL CALIBRATION WITH SCALE 1% FS LIQUID						TABLE B
	R3	SPECIAL CALIBRATION WITH SCALE 1% FS VISCOSITY						TABLE B
		MATERIALS OF CONSTRUCTION (NOTE 3)						
	CODE	FITTING	O-RING	SIDE PLATES			ADD	
	A	BRASS	BUNA	ALUMINUM (NOT SIZE 12 & 13)			TABLE A	
	B	316 S.S.	VITON	ALUMINUM			TABLE A	
	C	316 S.S.	VITON	STN. STL.			TABLE A	
	D	316 S.S.	BUNA	ALUMINUM			TABLE A	
	E	BRASS	VITON	ALUMINUM (NOT SIZE 12 & 13)			TABLE A	
	CODE	ACCESSORIES						ADD
	A	NONE						BASE
	F	FRONT OF PANEL MTG SCREWS						\$15

1307F J2 2 C J1 A A TYPICAL MODEL CODE



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