

# Glass Tube O-ring Seal Flowmeter

## Features and benefits

- 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

Model 1307

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 CELING, 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 CELING LISTED IS FOR STAINLESS STEEL FLOAT AND FLUID SP.GR. 1.0.

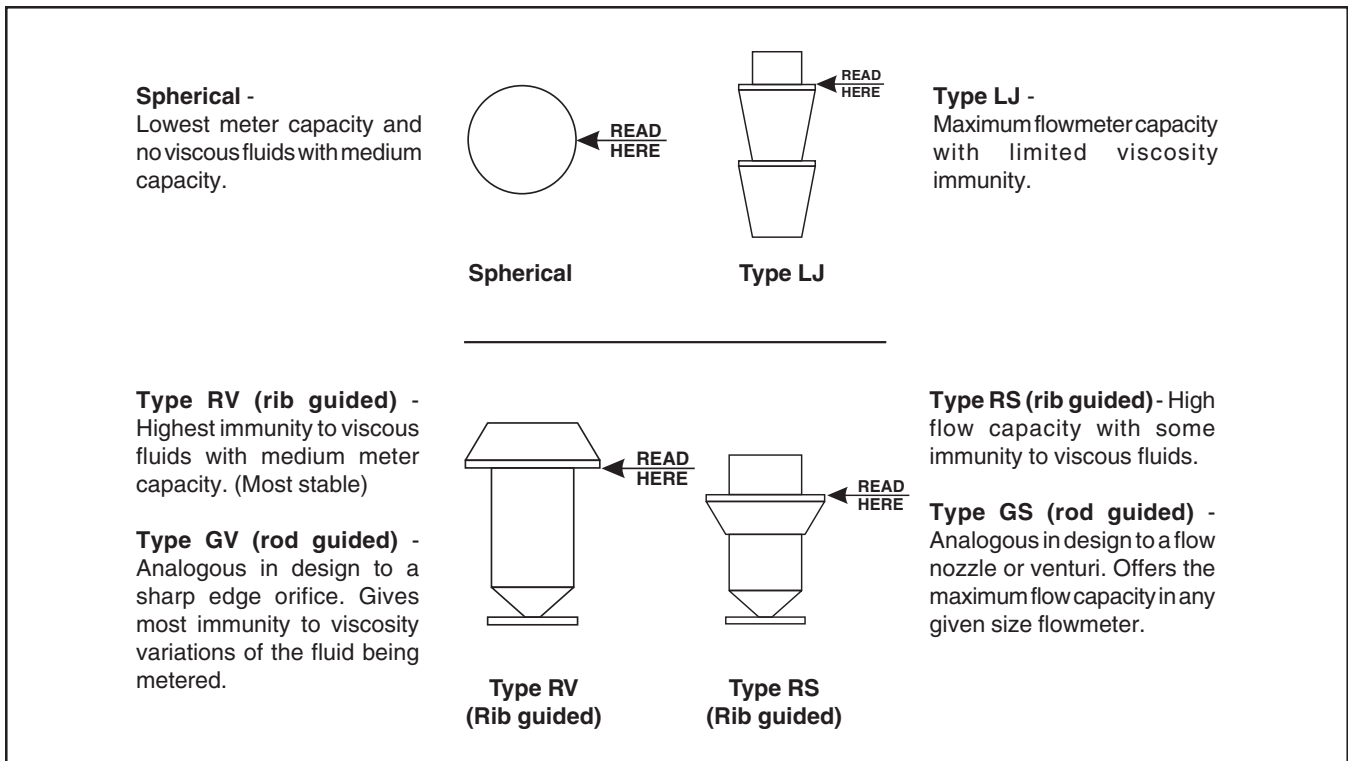


Figure 1 Float Types

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

**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

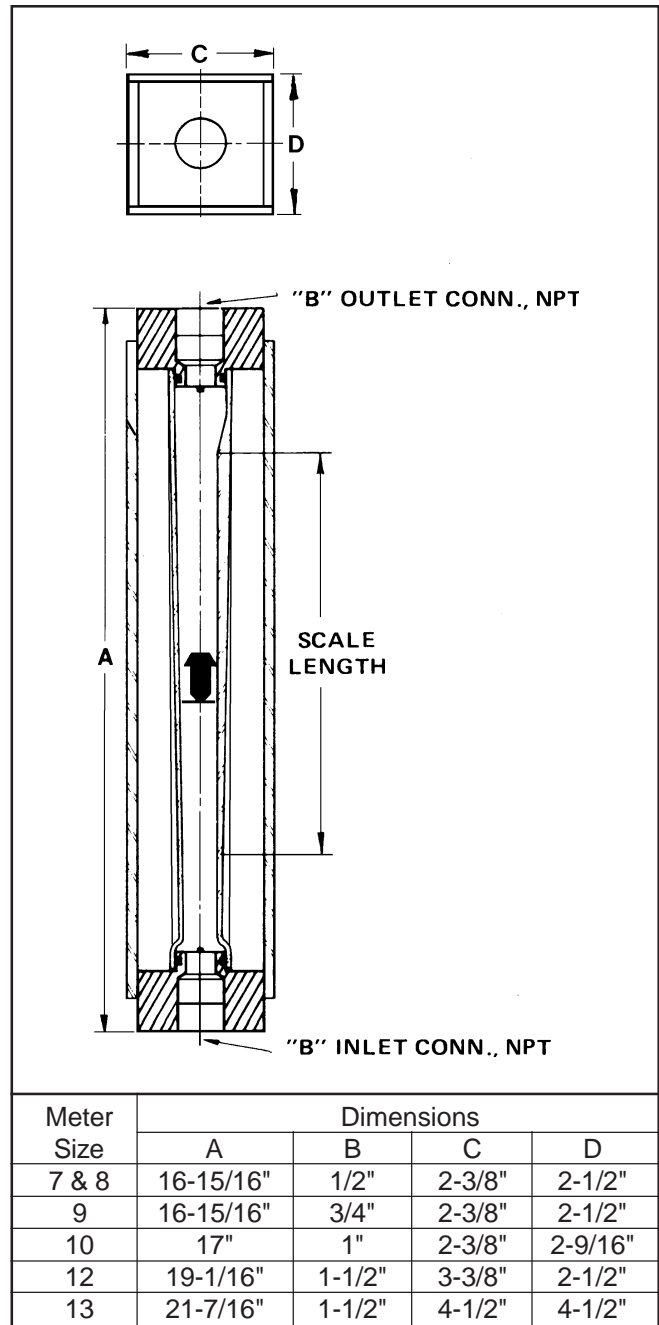


Figure 2 Dimensions

# Model 1307

Table 3 Ordering Information and Model Code

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

1307E J2 2 C J1 A A TYPICAL MODEL CODE

## BROOKS SERVICE AND SUPPORT

Brooks is committed to assuring all of our customers receive the ideal flow solution for their application, along with outstanding service and support to back it up. We operate first class repair facilities located around the world to provide rapid response and support. Each location utilizes primary standard calibration equipment to ensure accuracy and reliability for repairs and recalibration. The primary standard calibration equipment to calibrate our flow products is certified by our local Weights and Measures Authorities and traceable to the relevant International Standards.

Visit [www.BrooksInstrument.com](http://www.BrooksInstrument.com) to locate the service location nearest to you.

## START-UP SERVICE AND IN-SITU CALIBRATION

Brooks Instrument can provide start-up service prior to operation when required. For some process applications, where ISO-9001 Quality Certification is important, it is mandatory to verify and/or (re)calibrate the products periodically. In many cases this service can be provided under in-situ conditions, and the results will be traceable to the relevant international quality standards.

## CUSTOMER SEMINARS AND TRAINING

Brooks can provide customer seminars and dedicated training to engineers, end users and maintenance persons. Please contact your nearest sales representative for more details.

## HELP DESK

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Due to Brooks Instrument's commitment to continuous improvement of our products, all specifications are subject to change without notice.



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