

Sho-Rate™ Models 1250 & 1255



Sho-Rate™ 1250/55 Series

Variable Area

**Low Flow
Glass Tube Flowmeters**

QuickShip
Ships in 3 days

Overview

Series 1250/55 are flowmeters for liquids and gases available in 65 or 150mm scale lengths. These flowmeters can be configured with a standard or precision control valve on the inlet, the outlet (with limitations) or no valve; fittings can be specified in either aluminum or stainless steel; valves can be specified in either brass or stainless steel; O-rings and seals can be provided in Buna-N or Viton® fluoroelastomer.

Product Features

- Standard direct read scales on tube for air, N₂ & water @ reference conditions
- Additional direct read scales on tube for selected gases @ reference conditions are available as options
- Standard millimeter scales with flow data @ reference conditions for air, water, O₂, N₂, CO₂, He & Ar
- Scale length (approximate) 65mm, 150mm
- Rotating lens provides a 180° view with magnification
- Flowmeter options:
 - No valve
 - Cartridge valve (inlet and outlet (vacuum or water service only))
 - Precision control valve (inlet and outlet (vacuum or water service only))
- EZ-CHANGE™ design allows quick interchangeability of tube assemblies
- Available with aluminum & 316 SS connections

Product Specifications

Performance	1250	1255
Accuracy	±5% full scale at reference conditions* (for listed gases)	± 3% full scale at reference conditions* (for listed gases)
Repeatability	0.25% F.S.	
Pressure/Temperature	200 psig (33°F - 250°F) / 13.8 bar (1°C-121°C)	
Materials of Construction	Borosilicate Glass, Aluminum, 316 Stainless Steel, Clear Polycarbonate, Teflon®	
End Block Options	Stainless Steel and Aluminum	
Packing Material	Viton® fluoroelastomers, Buna	
Float Materials	Glass, Sapphire, Stainless Steel, Carboloy®, Tantalum	
Connection Materials	Stainless Steel and Aluminum	
Connection Options	1/8" NPT (w/locknuts) - Aluminum and Stainless Steel 1/4" NPT (w/locknuts) - Stainless Steel only	
Dimensions	See Dimension Drawings	
Valve Options	Cartridge Valve and Precision Valve	
Valve Materials	Stainless Steel and Brass	

*Reference conditions: 70°F (21.1°C) / 14.7 psia (1 BarA)

Features and Benefits

Metering Tube Assemblies

- Heavy-wall, precision bore
- Borosilicate glass
- Removeable without disconnecting instrument

Rotating Polycarbonate Lens

- 180° view of float with magnification



Threaded Jack Screw

- Tubes sealed on compression gasket

EZ-CHANGE™ Interchangeable Tubes Assemblies with Direct Reading (DR) Scales on the Tube

- Allows users to change ranges as the application dictates
- DR Scale on Tube for standard fluids at reference conditions

Optional Valves for Inlet

- Cartridge III Valves
- Precision valves (For enhanced resolution of flow setting)

Product Specifications - Capacity Table: Model 1250

Model 1250							
Air							
Tube No.	Float	Float Dia.	ml/mim	LPM	CCM	SCFH	
D6011	G	1/8"			2 - 50		
D6023	ST	1/8"			10 - 300		
D6032	S	1/8"			25 - 550	0.1 - 1.2	
D6042	S	1/8"		0.1 - 1	120 - 1,200		
D6051	G	3/16"		0.1 - 2.5		0.25 - 5.5	
D6053	ST	3/16"		0.3 - 5			
D6073	ST	1/4"		0.2 - 11.4		2.5 - 25	
D6092	S	1/4"		1 - 20			
D6093	ST	1/4"		1 - 30		4 - 60	
D6104	C	1/4"		2 - 60			
D6013	ST	1/8"			0 - 150		
D6021	G	1/8"			5 - 100		
D6083	ST	1/4"				4 - 40	
D6052	S	3/16"			0 - 5000		
Model 1250							
Nitrogen							
Tube No.	Float	Float Dia.	ml/mim	LPM	CCM	SCFH	
D6021	G	1/8"	4 - 100				
D6032	S	1/8"	20 - 560			0.1 - 1.2	
D6051	G	3/16"				0.5 - 5	
D6053	ST	3/16"				0.4 - 10	
D6063	ST	3/16"				0.5 - 16	
D6081	G	1/4"				2 - 20	
D6104	C	1/4"				13 - 130	
D6013	ST	1/8"			15 - 150		
D6053	ST	3/16"			500 - 5,000		
D6081	G	1/4"		1 - 10			
Model 1250							
Water							
Tube No.	Float	Float Dia.	ml/mim	LPH	CCM	GPM	GPH
D6053	ST	3/16"	4 - 140		4 - 140		
D6073	ST	1/4"					0.2 - 5
D6093	ST	1/4"					0.5 - 14
D6101	G	1/4"			25 - 575		
D6105	T	1/4"			50 - 2000		
D6105	T	1/4"				.02 - 0.5	
Model 1250							
Oxygen							
Tube No.	Float	Float Dia.	ml/mim	LPM	CCM	SCFH	
D6052	S	3/16"		0.3 - 3			
Hydrogen							
D6011	G	1/8"			5 - 115		
D6052	S	3/16"		1 - 10			
Argon							
D6051	G	3/16"		0 - 2			
Carbon Dioxide							
D6042	S	1/8"			100 - 1,000		

Float Material Key

- (G) Black Glass
- (S) Sapphire
- (ST) Stainless Steel
- (C) Carboloy
- (T) Tantalum

Product Specifications - Capacity Table: Model 1255

Model 1255						
Air						
Tube No.	Float	Float Dia.	ml/mim	LPM	CCM	SCFH
D1022	S	1/8"			4- 160	
D1032	ST	1/8"				.05 - 1.15
D1033	ST	1/8"			30 -850	
D1043	ST	1/8"		0.06 -1.7		
D1052	S	3/16"		0.05 -3		0.1 - 6
D1082	S	1/4"		1 -30		
D1084	C	1/4"		1 - 50		
D1021	G	1/8"	2 -100		2 -100	
D1032	S	1/8"			20 -550	
D1053	ST	3/16"			100 -4,500	
D1063	ST	3/16"		0.1 - 6.6		
D1085	T	1/4"			2,000 -66,000	
Model 1255						
Nitrogen						
Tube No.	Float	Float Dia.	ml/mim	LPM	CCM	SCFH
D1021	G	1/8"			2 -100	
D1041	G	1/8"	20-900			
D1071	G	1/4"		0.1 - 9		0.5 - 20
D1081	G	1/4"				
Model 1255						
Water						
Tube No.	Float	Float Dia.	ml/mim	LPH	CCM	GPM
D1053	ST	3/16"			2 -130	
D1083	ST	1/4"		0.1 -1.3		
Model 1255						
Oxygen						
Tube No.	Float	Float Dia.	ml/mim	LPM	CCM	SCFH
D1054	C	3/16"		0.2 - 5		
D1072	S	1/4"				2 -24

Float Material Key

- (G) Black Glass
- (S) Sapphire
- (ST) Stainless Steel
- (C) Carboloy
- (T) Tantalum

Product Specifications - Capacity Tables: Models 1250 & 1255 - Millimeter

Model 1250				
Millimeter				
Tube No.	Float	Float Dia.	Air (CCM)	Water (CCM)
R6011**	G	1/8"	50	
R6012**	S	1/8"	75	
R6013**	ST	1/8"	153	
R6014**	C	1/8"	278	
R6021**	G	1/8"	103	
R6022**	S	1/8"	160	
R6023**	ST	1/8"	298	
R6024**	C	1/8"	498	
R6031**	G	1/8"	400	
R6032**	S	1/8"	550	
R6033**	ST	1/8"	855	21.4
R6034**	C	1/8"	1275	35.4
R6041**	G	1/8"	900	18.2
R6042**	S	1/8"	1200	29.6
R6043**	ST	1/8"	1800	50.1
R6044**	C	1/8"	2620	76.1
R6051**	G	3/16"	2580	55
R6052**	S	3/16"	3350	85
R6053**	ST	3/16"	5030	140
R6054**	C	3/16"	7270	215
R6061**	G	3/16"	3840	90
R6062**	S	3/16"	5080	130
R6063**	ST	3/16"	7510	220
R6064**	C	3/16"	10700	325
R6071**	G	1/4"	6000	130
R6072**	S	1/4"	7790	200
R6073**	ST	1/4"	11450	335
R6081**	G	1/4"	10100	235
R6082**	S	1/4"	12980	350
R6083**	ST	1/4"	18960	560
R6091**	G	1/4"	15750	375
R6092**	S	1/4"	20170	545
R6093**	ST	1/4"	29400	880
R6101**	G	1/4"	23640	570
R6102**	S	1/4"	30090	825
R6103**	ST	1/4"	43340	1330
R6105**	T	1/4"	65850	2055

Standard
Ranges

Model 1255				
Millimeter				
Tube No.	Float	Float Dia.	Air (CCM)	Water (CCM)
R1011**	G	1/8"	50	
R1012**	S	1/8"	80	
R1013**	ST	1/8"	152	
R1014**	C	1/8"	275	
R1021**	G	1/8"	103	
R1022**	S	1/8"	160	
R1023**	ST	1/8"	293	
R1024**	C	1/8"	497	
R1031**	G	1/8"	400	
R1032**	S	1/8"	555	
R1033**	ST	1/8"	870	22.2
R1034**	C	1/8"	1300	36.2
R1041**	G	1/8"	855	18
R1042**	S	1/8"	1135	27.6
R1043**	ST	1/8"	1710	47.5
R1044**	C	1/8"	2465	73.2
R1051**	G	3/16"	2290	50
R1052**	S	3/16"	3980	75
R1053**	ST	3/16"	4480	125
R1054**	C	3/16"	6475	190
R1061**	G	3/16"	3425	75
R1062**	S	3/16"	4465	115
R1063**	ST	3/16"	6600	190
R1064**	C	3/16"	9470	285
R1071**	G	1/4"	9180	215
R1072**	S	1/4"	11990	315
R1073**	ST	1/4"	17810	515
R1081**	G	1/4"	23740	565
R1082**	S	1/4"	30270	830
R1083**	ST	1/4"	44050	1335
R1085**	T	1/4"	66370	2080

Standard
Ranges

**** QuickShip** → Select meters ship in 3 days.
Max order quantity = 15 meters.
Consult factory on orders of more than 15 meters.

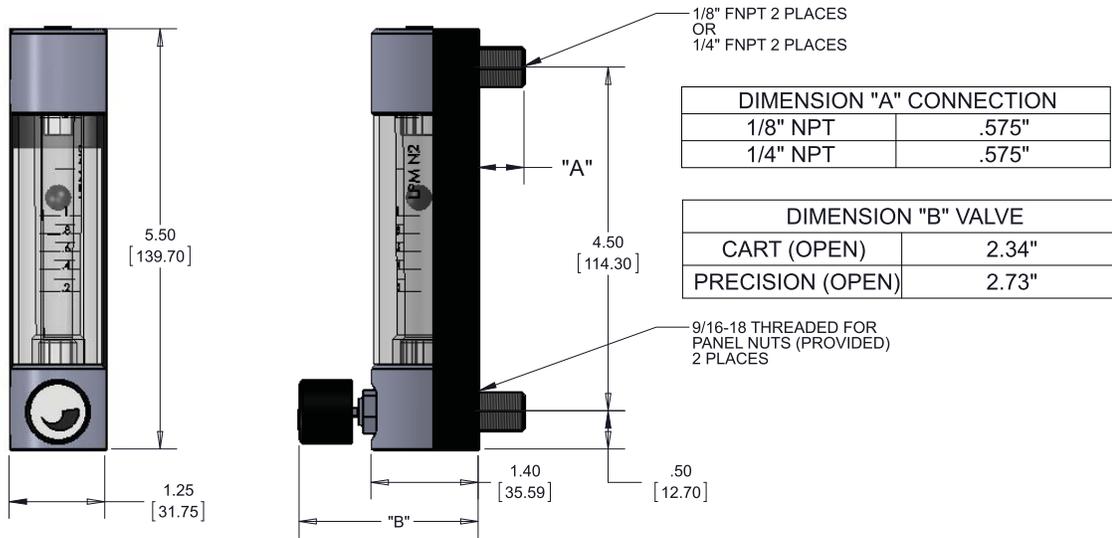
**** QuickShip** → Select meters ship in 3 days.
Max order quantity = 15 meters.
Consult factory on orders of more than 15 meters.

Float Material Key

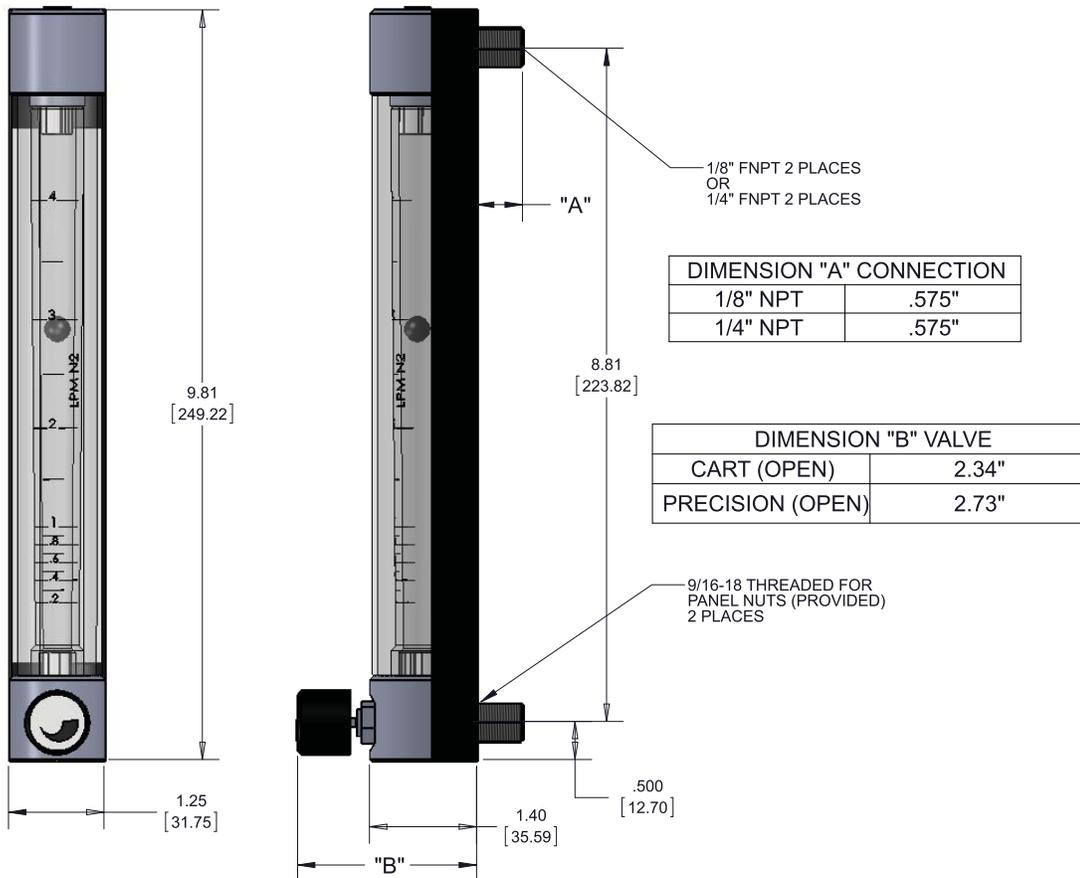
- (G) Black Glass
- (S) Sapphire
- (ST) Stainless Steel
- (C) Carboly
- (T) Tantalum

Product Dimensions - Models 1250 and 1255

Model 1250 Sho-Rate



Model 1255 Sho-Rate



Ordering Information - Reference Model Code Table

1. Model
2. Size & connections
3. Quantity required
4. Fluid
5. Materials of construction
 - a. End fittings (Aluminum or stainless steel)
 - b. Elastomers (Viton or Buna)
6. Fluid or mm scale with table
7. Optional equipment
 - a. Valve type or none

Model Code

Code Description	Code Option	Option Description
I. Base Model Number	1250A	65 mm Tube Flowmeter
	1255A	150 mm Tube Flowmeter
II. Tube Number	XXXXX	See Capacity Tables for appropriate Tube Number
III. Gas or Liquid	A	Air
	M**	Millimeter with standard data tables
	N	Nitrogen
	W	Water
IV. Unit of Measure	M	ml/min
	L	LPM
	C	CCM
	P	GPM
	R**	Millimeter
	F	SCFH
V. End Blocks Material (Wetted)	A**	1/8" FNPT Aluminum
	S**	1/8" FNPT Stainless Steel
	Q**	1/4" FNPT Stainless Steel
VI. Valve Designation	N**	No Valve
	V**	Standard Inlet Valve
	P*	Precision Inlet Valve, maximum flow of 21.3 slpm air/1,255 sccm water
	O**	Outlet Valve (Vacuum or water service only)
	R*	Precision Outlet Valve (Vacuum or water service only)
VII. O-ring Material Used in Valve	B**	Buna - Aluminum only
	V**	Viton - Stainless Steel only

* Valve material is determined by End Blocks Material selection (Brass valve with Aluminum End Blocks and Stainless Steel valve with Stainless Steel End Blocks).

**** QuickShip** Select meters ship in 3 days.
 Max order quantity = 15 meters.
 Consult factory on orders of more than 15 meters.

Additional Options

- Certificate of Conformance
- ICC
- Paper Tag
- Stainless Steel Tag
- Degrease for O₂ Cleaning
- Material Certification 2.2
- No Brooks logo

Sample Standard Model Code

I	II	III	IV	V	VI	VII
1250A	D6011	A	C	S	V	V

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 and is certified by our local Weights and Measures Authorities and traceable to the relevant International Standards.

Visit 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.

SEMINARS AND TRAINING

Brooks Instrument can provide seminars and dedicated training to engineers, end users, and maintenance persons.

Please contact your nearest sales representative for more details.

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

TRADEMARKS

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