

# Sho-Rate™ Series Model 1358

Variable Area



Sho-Rate™ Model 1358

## Sho-Rate™ "50", Size 8, Flow Indicator Glass Tube Variable Area Flowmeters

### Overview

The Brooks® Sho-Rate "50" Series of low flow indicators provide a cost-effective means of flow indication where the accuracy requirements are not severe. Available options include an integral needle control valve as well as flow controllers piped to the inlet or outlet of the meter.

### Product Features

- Ten-to-one rangeability
- Heavy-wall, precision bore borosilicate glass metering tube
- A wide range of scales on the metering tube
- Tube removable without disconnecting the instrument
- Interchangeable tubes and floats
- Piping connections rotatable through 360° at 90° intervals
- Easily panel mounted
- Single tube or multi-tube configurations available

### Product Specifications

Specifications	1358
Measuring Range	See Capacity Table
Standard Accuracy	±10% of full scale from 100% to 10% of reading
Repeatability	0.5% full scale
Rangeability	Ten to one
Pressure/Temperature	200 psig at 33°F to 250°F (1°C to 121°C)
	Fluid temperatures below 32°F (0°C) will cause frosting of the glass metering tube. Consult factory for applications below this temperature.
	100 psig at 33°F to 250°F (1°C to 121°C)(CRN Certification)
Pressure Equipment Directive (PED) 97/23/EC	Flowmeters mentioned in this document are Sound Engineering Practice (SEP)

(Specifications continued on next page)

## Product Specifications (Continued)

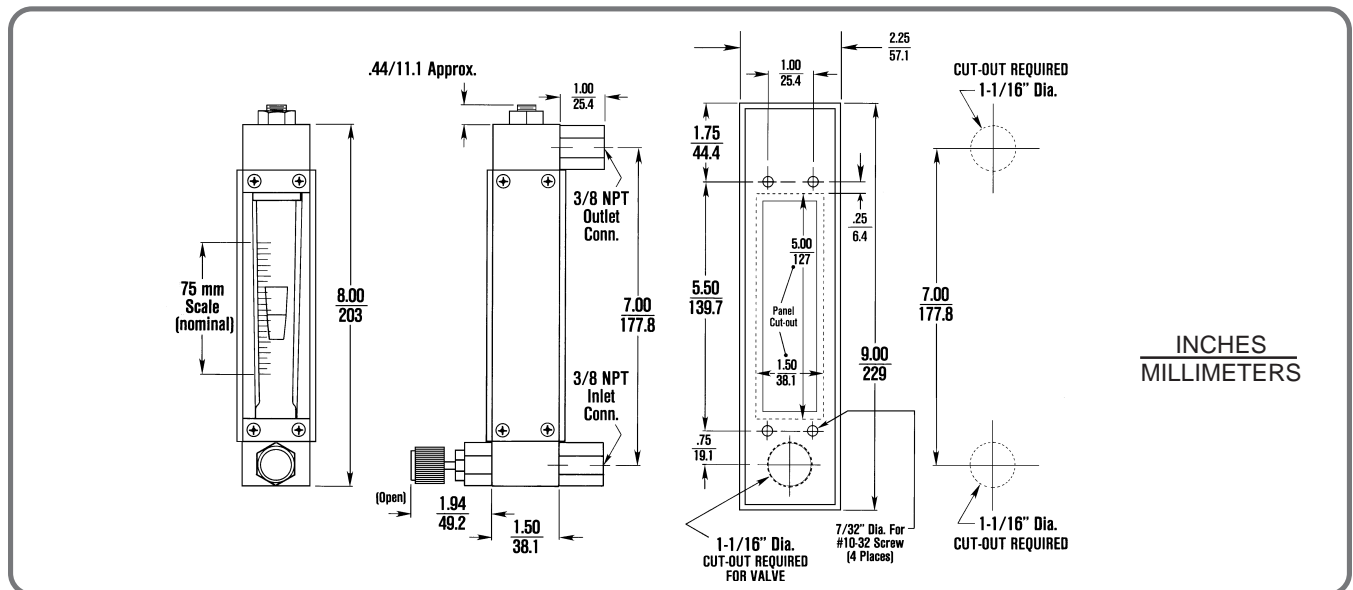
Specifications		1358
<b>Materials of Construction:</b>		
Metering Tube	Borosilicate Glass	
Tube Packing	Standard: Neoprene™ (Brass meters); Viton-A® fluoroelastomers (316 Stainless Steel meters); Optional: Teflon®, EPM	
O-rings	Standard: Buna-N (Brass meters); Viton-A® fluoroelastomers (316 Stainless Steel meters); Optional: Kalrez®, EPM	
Float	316 Stainless Steel	
Float Stops	Stainless Steel	
Side Plates	Standard: Black Anodized Aluminum; Optional: 316 Stainless Steel	
Window	Scratch resistant, UV stabilized polycarbonate	
Back Cover	Milk white polycarbonate	
End Fittings	Chrome Plated Brass or 316 Stainless Steel	
Connections	Standard: Horizontal female 3/8" NPT threaded adaptors; Optional: Refer to Model Code	
Scales	Type (standard): Fused on meter tube	
	Length: 75 mm, nominal	
	Graduations: Standard: Direct read on tube in gpm water or scfm air	
	Optional: Special direct read decal on tube. Consult factory for available ranges.	
	Direct read on metal scale plate mounted beside tube	

## Product Capacities

Maximum Flow Rate		Pressure Drop Without Valve Inches W.C.		Pressure Drop With Valve Inches W. C.		Float
		Flow	Pressure Drop	Flow	Pressure Drop	
	Water (gpm)	0.8	12.6	13.6	8-RV-8	
		1.5	22.2	27.0	8-RJ-10	
		2.5	61.0	85.2	8-RJ-23	
		3.5	88.7	121.0	8-RJ-30	
		5.0	172	238.0	8-RJ-39	
	Air (scfm)	3.4	14.34	15.5	8-RV-8	
		6.0	25.34	30.8	8-RJ-10	
		12.0	69.34	97.3	8-RJ-23	
		15.0	101.34	138.3	8-RJ-30	

NOTE: All air flows are at 14.7 psia and 70°F.

## Product Dimensions



## Model Code

Code Description	Code Option	Option Description
I. Base Model Number	<b>1358F</b>	Sho-Rate "50", Size 8
II. Tube	<b>1</b>	R-8M-75-1 (Cut-Off)
	<b>2</b>	R-8M-75-1 CRN option
	<b>9</b>	No Tube
III. Float (316 Stainless Steel)	<b>A</b>	8-RV-8
	<b>B</b>	8-RJ-10
	<b>C</b>	8-RJ-23
	<b>D</b>	8-RJ-30
	<b>E</b>	8-RJ-39
	<b>Y</b>	No Float
IV. Scale Type/Side Plate Arrangement	<b>1</b>	Scale on tube (Plain Side Plates)
	<b>2</b>	Aluminum Detachable Scale Mounted to Right Side Plate
	<b>3</b>	Dual Aluminum Detachable Scales
	<b>4</b>	Stainless Steel Detachable Scale Mounted to Right Side Plate
	<b>5</b>	Dual Stainless Steel Detachable Scales
V. Scale Inscription	<b>A</b>	No Inscription
	<b>B</b>	MM Scale
	<b>C</b>	0-100 Linear
	<b>D</b>	SCFM Air @ 70°F psia, Standard 10% Accuracy
	<b>E</b>	Precision Inlet Valve
	<b>F</b>	Standard Outlet Valve
	<b>G</b>	Special Calibration, 10% Full Scale Air
	<b>H</b>	Special Calibration, 10% Full Scale Water
	<b>J</b>	Special Calibration, 10% Full Scale Oil
	<b>K</b>	Special Calibration, 5% Full Scale Air
	<b>L</b>	Special Calibration, 5% Full Scale Water
	<b>M</b>	Special Calibration, 5% Full Scale Oil
	VI. Tube Packing & O-ring Materials for Meter/Valve <sup>1</sup>	<b>A</b>
<b>B</b>		Viton Tube Packing, Buna O-ring
<b>C</b>		Viton Tube Packing, Viton O-ring
<b>D</b>		Viton Tube Packing, EPM O-ring
<b>E</b>		Viton Tube Packing, Kalrez O-ring
<b>F</b>		Teflon Tube Packing, Buna O-ring
<b>G</b>		Teflon Tube Packing, Viton O-ring
<b>H</b>		Teflon Tube Packing, EPM O-ring
<b>J</b>		Teflon Tube Packing, Kalrez O-ring
<b>K</b>		EPM Tube Packing, EPM O-ring
<b>L</b>		No Packing <sup>2</sup> , Buna O-ring
<b>M</b>		No Packing <sup>2</sup> , Viton O-ring
<b>N</b>		No Packing <sup>2</sup> , EPM O-ring
<b>P</b>		No Packing <sup>2</sup> , Kalrez O-ring
VII. Fitting & Adapter Material <sup>3/</sup> Process Connection Size & Type	<b>1*</b>	3/8" NPT Connection, Brass Fitting & Adapter
	<b>2</b>	3/8" NPT Connection, 316 Stainless Steel Fitting & Adapter
	<b>3*</b>	Thd. 3/8" NPT with Locknut Connection, Brass Fitting & Adapter
	<b>4</b>	Thd. 3/8" NPT with Locknut Connection, 316 Stainless Steel Fitting & Adapter
	<b>5*</b>	No Adapter <sup>3</sup> , Brass Fitting
	<b>6</b>	No Adapter <sup>3</sup> , 316 Stainless Steel Fitting
	<b>B*</b>	1/2" NPT, Brass
	<b>C</b>	1/2" NPT, 316 Stainless Steel
	<b>F</b>	3/8" Rc with Locknuts, 316 Stainless Steel
<b>G</b>	1/2" Rc with Locknuts, 316 Stainless Steel	
VIII. Valve Configuration	<b>A</b>	No Valve (Plain End Fitting on Inlet)
	<b>B</b>	Standard Stainless Steel Needle Valve on Inlet
	<b>C</b>	Standard Stainless Steel Needle Valve on Outlet
	<b>D*</b>	Standard Brass Needle Valve on Inlet
	<b>E*</b>	Standard Brass Needle Valve on Outlet
	<b>F<sup>4</sup></b>	Mounted to 8810 Flow Controller
	<b>G<sup>4</sup></b>	Mounted to 8910 Flow Controller
	<b>H<sup>4*</sup></b>	Mounted to 8830 Flow Controller
	<b>J</b>	Standard Valve Cavity with Stainless Steel Plug
	<b>K</b>	Standard Valve Cavity without Valve or Plug

Sample Standard Model Code	I	II	III	IV	V	VI	VII	VIII	IX	X
1358F		<b>1</b>	<b>C</b>	<b>2</b>	<b>D</b>	<b>C</b>	<b>2</b>	<b>B</b>		

(Model Code continued on next page)

## Model Code (Continued)

Code Description	Code Option	Option Description
IX. Connection Orientation	1	Inlet Port Back, Outlet Port Back
	2	Inlet Port Back, Outlet Port Front
	3	Inlet Port Back, Outlet Port Right
	4	Inlet Port Back, Outlet Port Left
	5	Inlet Port Front, Outlet Port Back
	6	Inlet Port Front, Outlet Port Front
	7	Inlet Port Front, Outlet Port Right
	8	Inlet Port Front, Outlet Port Left
	9	Inlet Port Right, Outlet Port Back
	A	Inlet Port Right, Outlet Port Front
	B	Inlet Port Right, Outlet Port Right
	C	Inlet Port Right, Outlet Port Left
	D	Inlet Port Left, Outlet Port Back
	E	Inlet Port Left, Outlet Port Front
F	Inlet Port Left, Outlet Port Right	
G	Inlet Port Left, Outlet Port Left	
X. Accessories (One or Two-Digit Field)	A	None
	B	Plastic Bezel
	C	Stainless Steel Side Plates
	D	Degrease for Oxygen Service
	E	Triangular Base Plate with Spirit Level
	G	No Brooks Identification

- NOTES: <sup>1</sup>If valve is not required, select proper O-ring material for meter only.  
<sup>2</sup>If tube is not required, select proper O-ring material coded L through P.  
<sup>3</sup>If no adapter is required, select proper code for end fitting material only.  
<sup>4</sup>Flow Controller must be a second-line item on customer's order.  
\* Not available with CRN Certification

Sample Standard Model Code	I	II	III	IV	V	VI	VII	VIII	IX	X
1358F	1	C	2	D	C	2	B	1	A	

## 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](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 Instrument can provide customer 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

Brooks & Sho-Rate ..... Brooks Instrument, LLC  
All other trademarks are the property of their respective owners.



### Global Headquarters

**Brooks Instrument**  
407 West Vine Street  
Hatfield, PA  
19440-0903 USA

Toll-Free (USA): 888-554-FLOW  
T: 215-362-3500  
F: 215-362-3745

[BrooksAM@BrooksInstrument.com](mailto:BrooksAM@BrooksInstrument.com)

A list of all Brooks Instrument locations and contact details can be found at [www.BrooksInstrument.com](http://www.BrooksInstrument.com)

