

# Sho-Rate™ Models 1350G & 1355G

Variable Area Purgemeters



Model 1350G & 1355G  
Sho-Rate™

## Sho-Rate™ "50" Model 1350G and Sho-Rate™ "150" Model 1355G

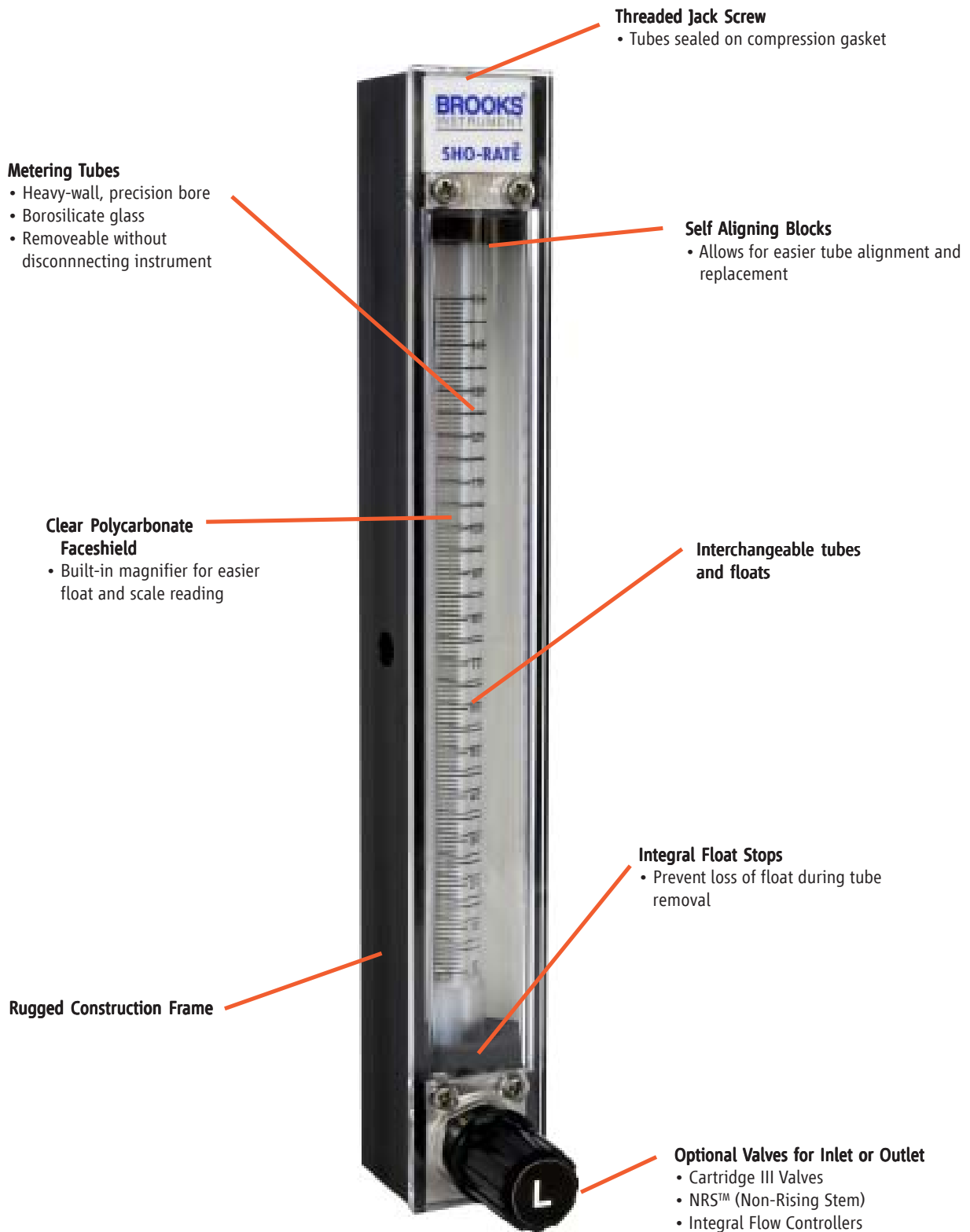
### Overview

Brooks 1350 glass tube variable area flow meter has been the industry standard glass tube variable area meter for decades. This glass tube meter is ideal for a variety of gas and liquid applications. These meters are particularly ideal for purge applications. The base configuration uses a borosilicate glass tube installed in an aluminum frame with 316SS end blocks, adaptors, and valve. Additional material options, valve options, and flow controllers are available to provide the appropriate configuration for a wide variety of applications.

### Product Description

The Sho-Rate 1350G and 1355G Series of low flow indicators provides a cost-effective means of flow indication for both 3% (Model 1355G) and 5% (Model 1350G) accuracy requirements. Available options include the standard or NRS™ integral needle control valves, as well as flow controllers on the inlet or outlet.

## Features and Benefits



## Product Specifications

Performance	1350G	1355G
Accuracy	±5% at reference conditions	± 3% at reference conditions
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, Brass, Aluminum, 316 Stainless Steel, Clear Polycarbonate, Milk White Polycarbonate, Teflon®	
End Block Options	Stainless Steel and Brass	
Packing Material	Viton® fluoroelastomers, Teflon®, Buna, Kalrez® perfluoroelastomers	
Float Materials	Glass, Sapphire, Stainless Steel, Carboloy®, Tantalum	
Connection Materials	Stainless Steel	
Connection Options	1/8" NPT (w/wo locknuts) 1/4" NPT (w/wo locknuts) 1/8" Compression (w/wo locknuts) 1/4" Compression (w/wo locknuts) 6 mm Compression (w/wo locknuts) 1/4" RC (w/wo locknuts) 3/8" RC (w/wo locknuts) 1/4" VCR® 1/4" ID Hose Swagelok® Converters	
Dimensions	See Dimension Drawings	
Alarm Availability	(coming soon)	
Valve Options	Cartridge III Valve and NRS™	
Valve Materials	Stainless Steel	
Flow Controller	Yes	
Certifications	International Calibration Certificate (ICC) CRN (coming soon) Pressure Equipment Directive (97/23/EC) RoHS (II) REACH (coming soon)	

## Product Specifications - Capacities; 1350G, Rib Guided, Spherical Floats

		RIBBED TUBES, SPHERICAL FLOATS									
METER SIZE	TUBE NO.	FLOAT MATERIAL	WATER					AIR			
			GPH	CODE	LPH	CODE		SCFH	CODE	NLPH	CODE
2	R-2-65-A G	GLASS	0.010	JB6	0.041	JB9	0.12	JB7	3.2	JB8	
		SAPPHIRE	0.021	JC4	0.079	JC2	0.19	JC3	5.0	JC1	
		STN. STL.	0.049	JC8	0.18	JC5	0.37	JC7	9.8	JC6	
		CARBOLOY	0.10	JB4	0.36	JB5	0.65	JB2	17	JB3	
		TANTALUM	0.10	JD2	0.40	JC9	0.71	JD1	18	JD3	
	R-2-65-B G	GLASS	0.014	KB8	0.06	KB2	0.16	KB7	4.4	KB9	
		SAPPHIRE	0.028	KC1	0.10	KD3	0.25	KC2	6.7	KC3	
		STN. STL.	0.07	KC5	0.25	KC6	0.48	KC7	12	KC8	
		CARBOLOY	0.12	KB4	0.48	KB5	0.80	KB3	21	KB6	
		TANTALUM	0.14	KD2	0.53	KD5	0.87	KD4	22	KD1	
	R-2-65-C G	GLASS	0.12	LB9	0.47	LB7	0.99	LB6	26	LB8	
		SAPPHIRE	0.22	LC1	0.83	LC2	1.3	LC3	35	LC4	
		STN. STL.	0.41	LC7	1.5	LC8	2.1	LC9	55	LC6	
		CARBOLOY	0.65	LB3	2.4	LB2	3.1	LB4	81	LB5	
		TANTALUM	0.70	LD1	2.6	LD2	3.3	LD3	87	LD4	
	R-2-65-D G	GLASS	0.68	MB9	2.5	MB7	3.9	MB8	100	MC1	
		SAPPHIRE	0.99	MC2	3.7	MC3	5.1	MC4	130	MC5	
		STN. STL.	1.6	MC7	6.3	MD1	7.9	MC6	200	MC8	
		CARBOLOY	2.5	MB5	9.5	MB2	11	MB3	290	MB4	
		TANTALUM	2.7	MD5	10.0	MD6	12	MD2	310	MD4	
6	R-6-65-A G	GLASS	2.4	NB8	9.2	NB7	14	NC1	370	NB9	
		SAPPHIRE	3.6	NC4	13	NC3	18	NC6	480	NC5	
		STN. STL.	6.0	ND1	22	ND3	27	NC9	710	ND2	
		CARBOLOY	8.9	NB2	33	NB3	38	NB5	1000	NB6	
		TANTALUM	9.5	ND6	36	ND5	41	ND7	1000	ND4	
	R-6-65-B G	GLASS	9.9	PB9	37	PB8	52	PC1	1300	PB7	
		SAPPHIRE	14.0	PC5	53	PC3	67	PC4	1700	PC2	
		STN. STL.	22.0	PD1	85	PC9	97	PC8	2500	PC6	
		CARBOLOY	32.0	PB3	120	PB2	130	PB6	3500	PB4	
		TANTALUM	34.0	PD7	130	PD6	140	PD5	3700	PD4	

**AIR FLOWS ARE AT 14.7 PSIA AND 70 DEGREES F/1.01 BAR AND 21.1 DEGREES C**

## Models 1350G/1355G Tube and Float Code; Decaded Scale Option, 7th, 8th & 9th Digits

SEVENTH DIGIT IN MODEL CODE, FOR SCALE CONFIGURATION		
CODE	MODEL 1350 TUBE	MODEL 1355 TUBE
A		R-2-15-A G
B		R-2-15-B G
C		R-2-15-C G
D		R-2-15-D G
F		R-6-15-B G
G	R-2-65-A G	R-2-15-AAAA G
H	R-2-65-B G	
J	R-2-65-C G	
K	R-2-65-D G	
L	R-6-65-A G	
M	R-6-65-B G	
N	NO TUBE	NO TUBE

EIGHTH AND NINTH DIGITS IN MODEL CODE, FOR SCALE CONFIGURATION					
METER ACCURACY	FLOAT MATERIAL	DETACHABLE SCALE INSCRIPTION			
		MM SCALE	LINEAR SCALE	CUSTOM DECAL	PERCENT SCALE
STANDARD (1350-10%) (1355-5%)	GLASS	1A	2A	3A	4A
	STN. STL.	1B	2B	3B	4B
	SAPPHIRE	1C	2C	3C	4C
	CARBOLOY	1D	2D	3D	4D
	TANTALUM	1E	2E	3E	4E
CALIBRATED (1350-5%) (1355-2%)	GLASS	1G	2G	3G	4G
	STN. STL.	1H	2H	3H	4H
	SAPPHIRE	1J	2J	3J	4J
	CARBOLOY	1K	2K	3K	4K
	TANTALUM	1L	2L	3L	4L

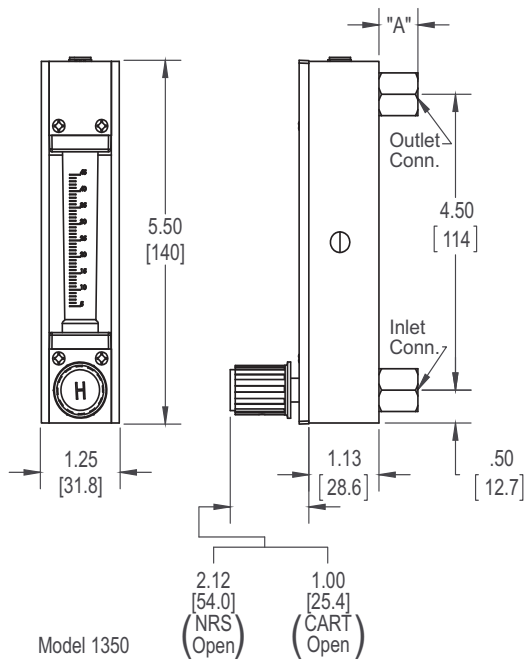
## Product Specifications - Capacities; 1355G, Rib Guided, Spherical Floats

CAPACITIES (RIB GUIDE TUBES, SPHERICAL FLOATS) - FOR USE WITH 1355 SERIES ONLY					
METER SIZE	TUBE NO.	FLOAT MATERIAL	MAXIMUM FLOW RATE *		MODEL CODE
			WATER	AIR	SCALE ON TUBE
			(CC/MIN.)		R-150 MM
2	R-2-15-AAAA	GLASS	0.59	50 SCC/M	JA6
		SAPPHIRE	1.1	79 SCC/M	JA8
		STN. STL.	2.6	150 SCC/M	JA7
		CARBOLOY	5.2	280 SCC/M	JA9
		TANTALUM	5.8	310 SCC/M	JB1
	R-2-15-D	GLASS	5.5	370 SCC/M	FA6
		SAPPHIRE	10	520 SCC/M	FA8
		STN. STL.	20	830 SCC/M	FA7
		CARBOLOY	34	1200 SCC/M	FA9
		TANTALUM	36	1300 SCC/M	FB1
	R-2-15-A	GLASS	17	0.82 SLPM	AA6
		SAPPHIRE	26	1.0 SLPM	AA8
		STN. STL.	46	1.6 SLPM	AA7
		CARBOLOY	70	2.4 SLPM	AA9
		TANTALUM	75	2.5 SLPM	AB1
	R-2-15-B	GLASS	53	2.3 SLPM	DA6
		SAPPHIRE	80	3.0 SLPM	DA8
		STN. STL.	130	4.6 SLPM	DA7
		CARBOLOY	200	6.7 SLPM	DA9
		TANTALUM	210	7.1 SLPM	DB1
R-2-15-C	GLASS	90	4.0 SLPM	EA6	
	SAPPHIRE	130	5.2 SLPM	EA8	
	STN. STL.	220	7.9 SLPM	EA7	
	CARBOLOY	340	11 SLPM	EA9	
	TANTALUM	360	11 SLPM	EB1	
6	R-6-15-A	GLASS	210	9.5 SLPM	GA6
		SAPPHIRE	320	12 SLPM	GA8
		STN. STL.	540	18 SLPM	GA7
		CARBOLOY	790	25 SLPM	GA9
		TANTALUM	840	26 SLPM	GB1
	R-6-15-B	GLASS	560	23 SLPM	HA6
		SAPPHIRE	820	29 SLPM	HA8
		STN. STL.	1300	43 SLPM	HA7
		CARBOLOY	1900	60 SLPM	HA9
		TANTALUM	2000	63 SLPM	HB1

**AIR FLOWS ARE AT 14.7 PSIA AND 70 DEGREES F/1.01 BAR AND 21.1 DEGREES C**

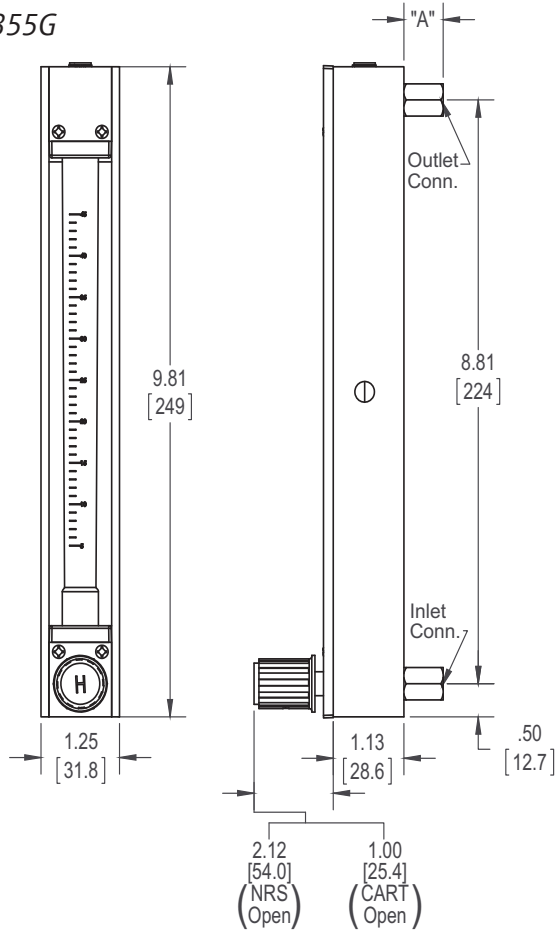
# Product Dimensions - Model 1350G and 1355G

## Model 1350G

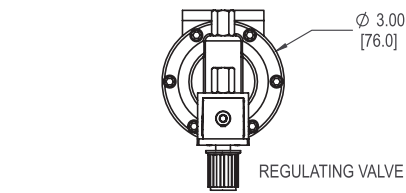


Dimension "A" Connection Adapter	
1/8" NPT/RC	.625 [15.9]
1/4" NPT/RC	.625 [15.9]
1/8" Compression	.719 [18.3]
1/4" Compression	.843 [21.4]
1/4" ID Hose	.72 [18.3]

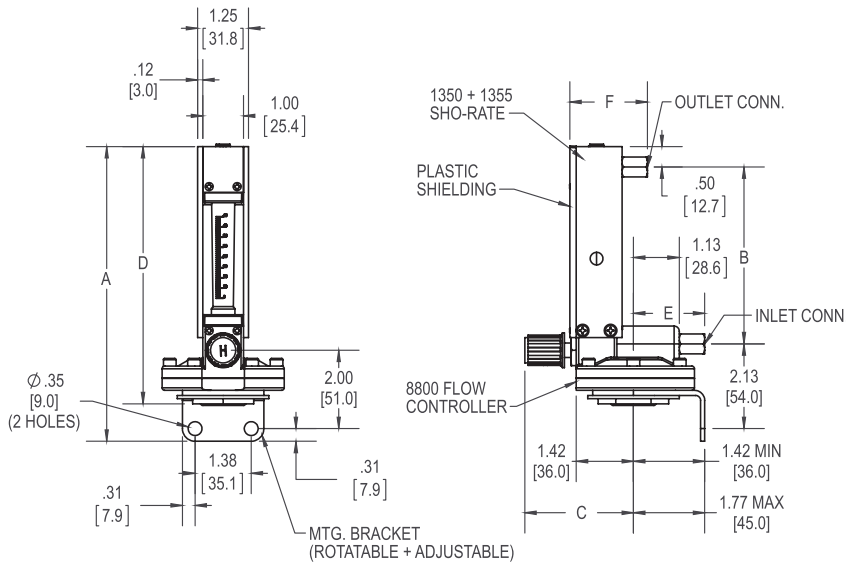
## Model 1355G



# Product Dimensions - Model 1350G/1355G with Flow Controller

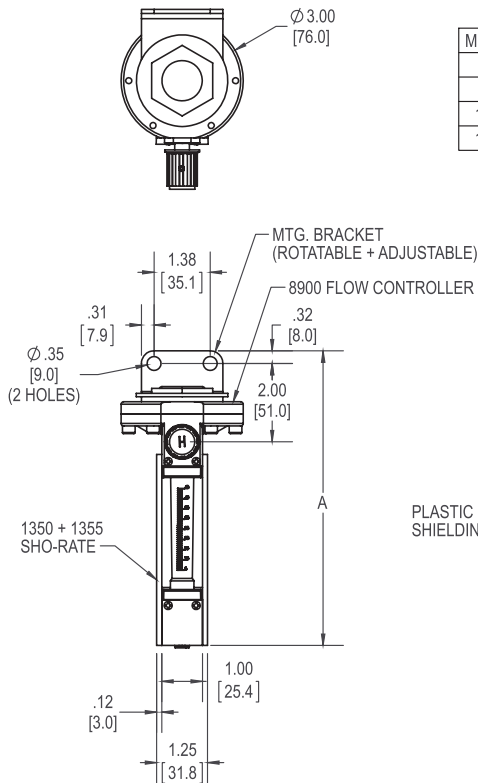


MODEL NO	SCALE LENGTH	A	A	B	B	C	C	C	C	D	D
		INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
1350	65	7.31	185.7	4.34	110.3	2.5	63.5	2.17	55.2	6.38	162.0
1355	150	11.72	297.7	8.75	222.2	2.50	63.5	2.17	55.2	10.78	273.8

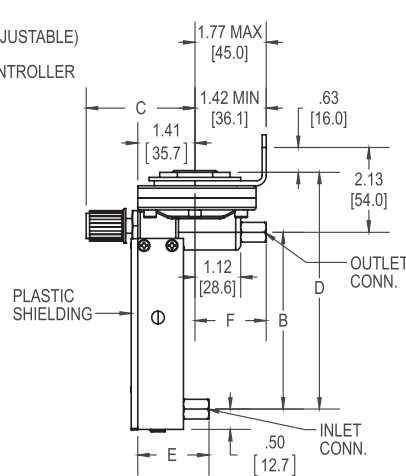


	INLET CONN.	INLET CONN.	OUTLET CONN.	OUTLET CONN.
CONN. SIZE	E	E	F	F
	INCH	MM	INCH	MM
1/8 NPT	1.72	43.7	1.62	41.1
1/4 NPT	1.12	28.6	1.71	46.0
1/8 COMP.	1.91	48.5	1.71	46.0
1/4 COMP.	2.04	51.8	1.94	49.3
1/4 I.D. HOSE	1.82	46.2	1.72	43.7
1/4 VCR (M)	N/A	N/A	2.06	52.3
1/8 Rc	1.91	48.5	1.62	41.1
1/4 Rc	1.91	48.5	1.81	46.0
3/8 Rc	2.35	53.1	2.09	53.1

Model 1350G/1355G with Model 8800 Flow Controller on Inlet



MODEL NO	SCALE LENGTH	A	A	B	B	C	C	C	C	D	D
		INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM
1350	65	7.31	185.7	4.34	110.3	2.5	63.5	2.17	55.2	6.38	162.0
1355	150	11.72	297.7	8.75	222.2	2.50	63.5	2.17	55.2	10.78	273.8



	INLET CONN.	INLET CONN.	OUTLET CONN.	OUTLET CONN.
CONN. SIZE	E	E	F	F
	INCH	MM	INCH	MM
1/8 NPT	1.62	41.1	1.72	43.7
1/4 NPT	1.81	46.0	1.12	28.6
1/8 COMP.	1.81	46.0	1.91	48.5
1/4 COMP.	1.94	49.3	2.04	51.8
1/4 I.D. HOSE	1.72	43.7	1.82	46.2
1/4 VCR (M)	2.06	52.3	N/A	N/A
1/8 Rc	1.63	41.1	1.91	48.5
1/4 Rc	1.81	46.0	1.91	48.5
3/8 Rc	2.09	53.1	2.35	59.7

Model 1350G/1355G with Model 8900 Flow Controller on Outlet

## Ordering Information - Reference Model Code Tables

1. Model
2. Size, connections, type
3. Quantity required
4. Fluid
5. Minimum, normal and maximum operating temperature
6. Minimum, normal and maximum operating pressure (inlet and outlet)
7. Minimum, normal and maximum flow rate
8. Materials of construction
  - a. End fittings
  - b. Side plates
  - c. Bezel
  - d. Elastomers
9. Fluid
10. Fluid specific gravity
11. Fluid viscosity
12. Unusual system conditions (For ranges and pressure drops other than those listed, consult factory).
13. Optional equipment
  - a. Valve type and location
  - b. Flow controller and type



## Model Code

Code Description	Code Option	Option Description
I. Basic Model Number	1350	65mm Sho-Rate Size 1-6 Flow Indicator
	1355	150mm Sho-Rate Size 1-6 Flow Indicator
II. Model Revision Level	G	Revision G
III. End Block Material	A	316 stainless steel
	B	Brass
	C*	Kynar

\*Notes: Not yet available.

IV. Tube	1350		1355	
	A	-	-	R-2-15-A G
B	-	-	R-2-15-B G	
C	-	-	R-2-15-C G	
D	-	-	R-2-15-D G	
E	-	-	R-6-15-A G	
F	-	-	R-6-15-B G	
G	R-2-65-A G		R-2-15-AAAA G	
H	R-2-65-B G			
J	R-2-65-C G			
K	R-2-65-D G			
L	R-6-65-A G			
M	R-6-65-B G			
N*	No Tube			

\*Notes: The options indicated are not available with a CRN certification.

V. Float & Direct Read Scale Selection	Float	Accuracy	Scale Inscription
	1A	*GLASS	STD-50(10%), 55(5%)
1B	*ST.STL	STD-50(10%), 55(5%)	MM
1C	*SAPPHIRE	STD-50(10%), 55(5%)	MM
1D	*CARBOLOY	STD-50(10%), 55(5%)	MM
1E	*TANTALUM	STD-50(10%), 55(5%)	MM
1G	GLASS	CALIB-50(5%), 55(3%)	MM
1H	ST.STL	CALIB-50(5%), 55(3%)	MM
1J	SAPPHIRE	CALIB-50(5%), 55(3%)	MM
1K	CARBOLOY	CALIB-50(5%), 55(3%)	MM
1L	TANTALUM	CALIB-50(5%), 55(3%)	MM
2A	*GLASS	STD-50(10%), 55(5%)	LINEAR
2B	*ST.STL	STD-50(10%), 55(5%)	LINEAR
2C	*SAPPHIRE	STD-50(10%), 55(5%)	LINEAR
2D	*CARBOLOY	STD-50(10%), 55(5%)	LINEAR
2E	*TANTALUM	STD-50(10%), 55(5%)	LINEAR
2G	GLASS	CALIB-50(5%), 55(3%)	LINEAR
2H	ST.STL	CALIB-50(5%), 55(3%)	LINEAR
2J	SAPPHIRE	CALIB-50(5%), 55(3%)	LINEAR
2K	CARBOLOY	CALIB-50(5%), 55(3%)	LINEAR
2L	TANTALUM	CALIB-50(5%), 55(3%)	LINEAR
3A	*GLASS	STD-50(10%), 55(5%)	CUSTOM DECAL
3B	*ST.STL	STD-50(10%), 55(5%)	CUSTOM DECAL
3C	*SAPPHIRE	STD-50(10%), 55(5%)	CUSTOM DECAL
3D	*CARBOLOY	STD-50(10%), 55(5%)	CUSTOM DECAL
3E	*TANTALUM	STD-50(10%), 55(5%)	CUSTOM DECAL
3G	GLASS	CALIB-50(5%), 55(3%)	CUSTOM DECAL
3H	ST.STL	CALIB-50(5%), 55(3%)	CUSTOM DECAL
3J	SAPPHIRE	CALIB-50(5%), 55(3%)	CUSTOM DECAL
3K	CARBOLOY	CALIB-50(5%), 55(3%)	CUSTOM DECAL
3L	TANTALUM	CALIB-50(5%), 55(3%)	CUSTOM DECAL
4A	*GLASS	STD-50(10%), 55(5%)	PERCENT SCALE
4B	*ST.STL	STD-50(10%), 55(5%)	PERCENT SCALE
4C	*SAPPHIRE	STD-50(10%), 55(5%)	PERCENT SCALE
4D	*CARBOLOY	STD-50(10%), 55(5%)	PERCENT SCALE
4E	*TANTALUM	STD-50(10%), 55(5%)	PERCENT SCALE
4G	GLASS	CALIB-50(5%), 55(3%)	PERCENT SCALE
4H	ST.STL	CALIB-50(5%), 55(3%)	PERCENT SCALE
4J	SAPPHIRE	CALIB-50(5%), 55(3%)	PERCENT SCALE
4K	CARBOLOY	CALIB-50(5%), 55(3%)	PERCENT SCALE
4L	TANTALUM	CALIB-50(5%), 55(3%)	PERCENT SCALE

\*Accuracy for air and water in the preceding capacity tables will be STD-50(5%), 55(3%).

## Model Code (Continued)

Code Description	Code Option	Option Description
<b>VI.</b> Tube Packing and O-ring Materials		Tube Packing O-ring Meter/Valve
	<b>A</b>	Buna Buna
	<b>B</b>	Viton Viton
	<b>C</b>	Viton Teflon(mtr), Kalrez(vlv, jack screw)
	<b>D</b>	Viton EPR
	<b>E</b>	Viton Kalrez
	<b>F</b>	Teflon Buna
	<b>G</b>	Teflon Viton
	<b>H</b>	Teflon Teflon(mtr), Kalrez(vlv, jack screw)
	<b>J</b>	Teflon EPR
	<b>K</b>	Teflon Kalrez
	<b>L</b>	EPR EPR
	<b>M</b>	Butyl Butyl
	<b>N</b>	No Packing Buna
	<b>P</b>	No Packing Viton
<b>Q</b>	No Packing Teflon(mtr), Kalrez(vlv, jack screw)	
<b>R</b>	No Packing EPR	
<b>S</b>	No Packing Kalrez	
<b>T</b>	No Packing Butyl	
<i>Note: If valve assy is not required for a specific model number, select the proper code for the O-ring material of the Sho-Rate.</i>		
<b>VII.</b> End Fitting Composition		Fitting Material Connection Size and Type
	<b>C</b>	316SS 1/8" NPT
	<b>*F</b>	316SS 1/8" Thd.W/Locknut
	<b>J</b>	316SS 1/4" NPT
	<b>* / ***K</b>	KYNAR 1/4" NPT
	<b>*N</b>	316SS 1/4" Thd.W/Locknut
	<b>R</b>	316SS 1/8" Compression
	<b>*U</b>	316SS 1/8" Compression w/locknut (2 pc design)
	<b>W</b>	316SS 1/4" F-Rc Thd w/Locknut
	<b>X</b>	316SS 1/4" Compression
	<b>*1</b>	316SS 1/4" Compression w/locknut (2 pc design)
	<b>3</b>	316SS 3/8" F-Rc Thd w/Locknut
	<b>***4</b>	316SS 1/4" I.D.Hose
	<b>*6</b>	316SS Integral 5/16-24 thd.
	<b>*7</b>	316SS 1/4" VCR
<b>***8</b>	316SS 6mm thd	
<i>*Not valid for controllers ***The options indicated are not available with a CRN certification.</i>		
<b>VIII.</b> Valve Type	<b>A</b>	Valve Plug
	<b>B</b>	NRS-316SS #1
	<b>C</b>	NRS-316SS #2
	<b>D</b>	NRS-316SS #3
	<b>E</b>	NRS-316SS #4
	<b>F</b>	NRS-316SS #5
	<b>G</b>	NRS-316SS #6
	<b>H</b>	NRS-316SS #7
	<b>J</b>	To Integrally Mounted 88/8900 316SS Flow Controller - Viton Diaphragm
	<b>K</b>	To Integrally Mounted 88/8940 316SS Flow Controller - Viton Diaphragm
	<b>L</b>	To Integrally Mounted 88/8900 Brass Flow Controller - Viton Diaphragm
	<b>M</b>	To Integrally Mounted 88/8940 Brass Flow Controller - Viton Diaphragm
	<b>N</b>	To Integrally Mounted 88/8900 316SS Flow Controller - Teflon Diaphragm
	<b>P</b>	To Integrally Mounted 88/8940 316SS Flow Controller - Teflon Diaphragm
	<b>Q</b>	To Integrally Mounted 88/8900 Brass Flow Controller - Buna Diaphragm
	<b>R</b>	To Integrally Mounted 88/8940 Brass Flow Controller - Buna Diaphragm
	<b>S</b>	Std. Valve Cavity - no valve assy or plug
	<b>T</b>	Cartridge II/III Valve - Low Flow - 316SS
<b>U</b>	Cartridge II/III Valve - Med Flow - 316SS	
<b>V</b>	Cartridge II/III Valve - HighFlow - 316SS	