

## O-RING SEAL FLOWMETER

### DESIGN FEATURES

- Heavy wall, precision bore, ribbed borosilicate glass tubes
- O-ring seals
- Vertical connections
- Simple assembly procedure
- Wide choice of float types and flow ranges
- CE certified

### DESCRIPTION

The GT 1305 and GT 1306 flowmeters are low cost instruments intended for general metering installations where the operating pressure is within the limitations imposed by the use of borosilicate glass metering tubes. The instruments can be supplied with brass or 316 SS female threaded end fittings.

### SPECIFICATIONS

#### Performance

- Accuracy classification*
- GT 1305**
- Standard Class 6 acc VDE/VDI 3513
  - Optional Class 4 acc VDE/VDI 3513
- GT 1306**
- Standard Class 2.5 acc VDE/VDI 3513
  - Optional Class 1.6 acc VDE/VDI 3513

*Repeatability* ± 0.5 %

*Scale length* **GT 1305** 75 mm  
**GT 1306** 127 mm

#### Materials of construction

*End fittings* Brass or 316 SS, fitted in aluminium collar

*Metering tubes*

Borosilicate glass

*Floats*

**#7-1306** Glass, 316 SS or Monel  
**#8-1305** PPL, Ertacital, Glass, or 316 SS  
**#10-1305** 316 SS  
**#8/10-1306** 316 SS

*O-ring seals* Viton, Buna or Kalrez

*Side plates* Aluminum

*Scale type*

- Standard Millimeter or percent of maximum flow etched on metering tube
- Optional Direct reading engraved on a detachable aluminium plate



Model GT 1306

### Ratings

Meter size	Max. pressure at 90°C (bar)		Max. temperature °C	Pressure reduction above 90 °C bar/°C
	GT 1305	GT 1306		
7	-	24	120	0.093
8	13.8	20.7	120	0.093
10	8.9	6.9	120	0.056

**TABLE 1 Flow ranges for GT 1305**

SIZE	TUBE TYPE	FLOAT	MODEL CODE	WATER			V.I.C. <sup>2)</sup> cSt	AIR		
				l/h		ΔP (kPa)		m <sup>3</sup> /h		ΔP (kPa) at max.
				min.	max.			min.	max.	
8	R-8M-75-1	PPL	C7**					0.41	4.1	0.32
		Ertacital	C8**					0.52	5.2	0.50
		Glass	C1	19	190	0.80	1	0.75	7.5	0.90
		316 SS	C3	42	420	2.60	1	1.36	13.6	2.90
8	R-8M-75-1	8-RV-2	CA	20	110	0.35	1.2	0.6	3.4	0.38
		8-RV-3	CB	30	160	0.53	3	0.8	5.0	0.61
		8-RV-8	CC	40	250	1.28	4	1.2	7.5	1.36
		8-RS-8	CD	50	320	1.82	2	1.4	9.7	1.98
		8-RV-14	CE	100	320	2.05	9	2.6	9.7	2.30
		8-RS-14	CF	110	390	3.00	3	3.4	12.0	3.27
		8-HF-23*	CG	160	680	7.70	2	5.0	21.0	8.29
		10	R-10M-75-3	10-RV-15	FA	100	660	4.40	12	3.0
		10-RV-30	FB	140	960	9.30	13	4.0	30.0	1.04
		10-RV-64	FC	400	1490	2.30	24	14.0	46.0	2.50
		10-RS-64	FD	600	1900	3.05	5	18.0	58.0	3.15
		10-HF-133*	FE	1400	3580	8.36	8	40.0	108.0	8.66

**TABLE 2 Flow ranges for GT 1306**

SIZE	TUBE TYPE	FLOAT	MODEL CODE	WATER		V.I.C. <sup>2)</sup> cSt	AIR	
				l/h	ΔP (kPa)		m <sup>3</sup> /h	ΔP (kPa)
7	R-7M-127-1F	Glass	A1	31	0.25	1	1.20	0.25
		316 SS	A3	73	0.75	1	2.30	0.75
		Monel	A6	74	0.75	1	2.40	0.75
8	R-8M-127-4F	8-RV-2	DA	110	0.50	1.2	3.3	0.50
		8-RV-3	DB	160	0.50	3	4.8	0.75
		8-RV-8	DC	225	1.25	4	6.9	1.50
		8-RS-8	DD	300	2.00	2	9.0	2.00
		8-RV-14	DE	310	2.00	7	9.1	2.50
		8-RS-14	DF	380	3.00	3	11.0	3.25
		8-RV-31*	DG	430	6.00	7	12.0	7.00
		8-RS-31*	DH	480	8.25	3	15.5	9.25
10	R-10M-127-3F	10-RV-15	GA	615	0.50	12	18.5	0.50
		10-RV-30	GB	845	1.00	13	25.5	1.00
		10-RV-64	GC	1385	2.25	20	42.0	2.50
		10-RS-64	GD	1725	3.00	5	52.5	3.25
		10-RV-138*	GE	1785	5.75	23	52.5	6.50
		10-RS-138*	GF	2205	7.25	5	66.0	8.25

\*\* These floats are not recommended for liquid service

\* These floats are not recommended for gas service unless downstream operating pressure exceeds 2 bar gauge

1 The capacities stated are based on 316 SS floats unless otherwise indicated

2 Viscosity Immunity Ceiling

**OPTIONAL EQUIPMENT**

**Screwed-in needle valves**

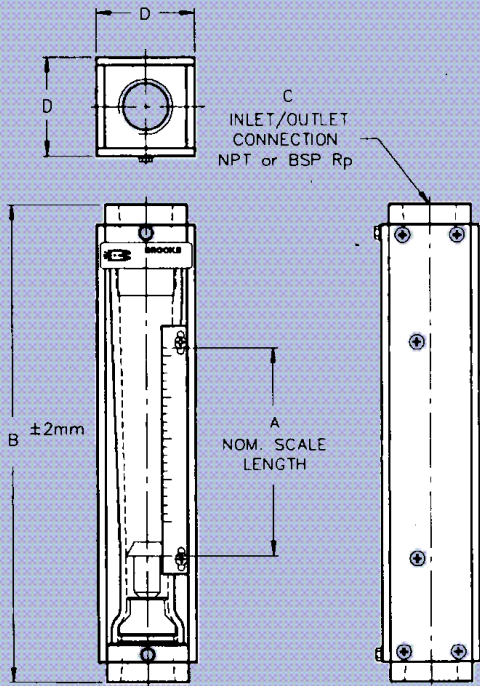
For flowrate control, needle valves in brass or 316 SS may be externally piped to the inlet or outlet side of the instrument.

We strongly advise not to use solenoid-valves as these can cause pressure shocks and damage to glass tubes

**Screwed-in flow controllers**

Brooks self-contained flow controllers are constant differential regulators with built-in flow

control needle valves. The internal diaphragm-actuated control valve is positioned by the incoming fluid pressure on one side of the diaphragm and outlet pressure + spring action on the other side. Variations in the supply and/or discharge pressure disturb the balance of forces on the diaphragm, causing the control valve to close or to open, thus maintaining a fixed differential across the manual flow regulating valve. The series 8800 controllers are designed for all liquid and gas flows with constant downstream pressure. Series 8900 controllers are designed for all liquids and gas flows with constant upstream pressure.



#### MODEL GT 1305

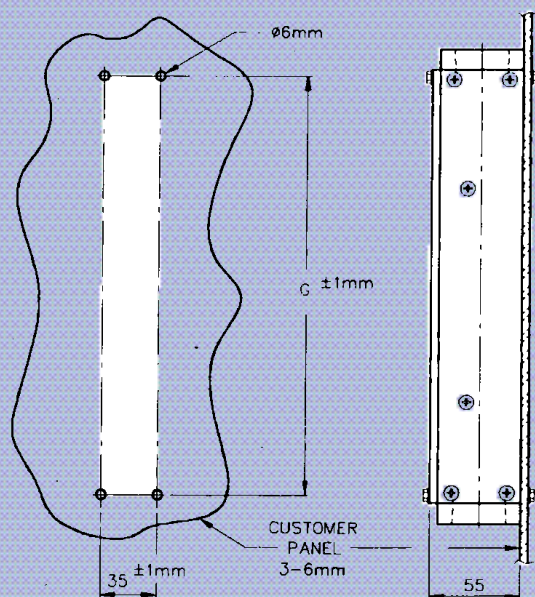
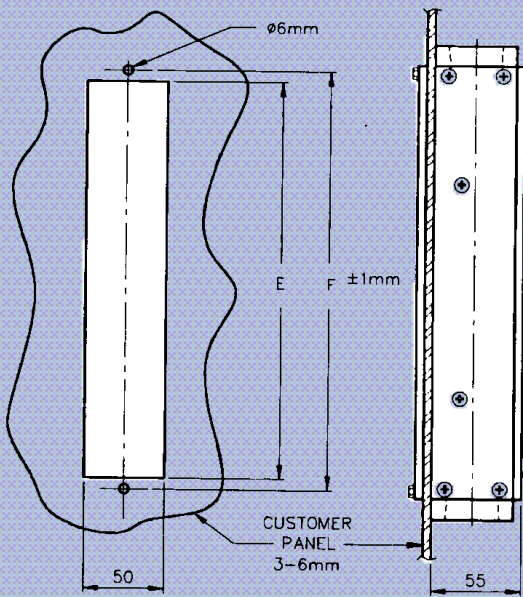
METER SIZE	A	B	C	D	E	F	G
SIZE 8	75	197	1/2"	60	150	162	160
SIZE 10	75	197	1"	60	150	162	160

#### MODEL GT 1306

METER SIZE	A	B	C	D	E	F	G
SIZE 7	127	300	1/2"	60	250	264	261
SIZE 8	127	300	1/2"	60	250	264	261
SIZE 10	127	300	1"	60	250	264	261

PANEL CUT OUT FOR BACK PANEL MOUNTING

PANEL CUT OUT FOR FRONT PANEL MOUNTING



#### WARNING

Glass metering tubes are designed for operation up to the maximum operating pressures and temperatures as specified herein. Due to the inherent brittle characteristics of glass and conditions beyond our control, tube breakage could result below specified operating conditions. Possible glass tube breakage represents a potential hazard to operating personnel; therefore, operator protection should be supplied where operating pressures may exceed 3,4 bar. A customer supplied window constructed of 1/2-inch polycarbonate plastic may be used or the glass tube meter may be replaced with an all metal (amored) meter.

## MODEL LISTING

BASE MODEL NO.	DESCRIPTION
1305/A	O-ring seal flowmeter, scale length 75 mm
1306/A	O-ring seal flowmeter, scale length 127 mm
	<b>CODE TUBE TYPE</b>
*	To be selected from the flow range table
	<b>CODE FLOAT TYPE</b>
*	To be selected from the flow range table
	<b>CODE FITTING MATERIAL</b>
1	Brass
2	316 SS
	<b>CODE O-RING MATERIAL</b>
1	Viton
2	Buna
3	Kalrez
	<b>CODE CONNECTION TYPE</b>
1	NPT
2	BSP
	<b>CODE SCALE TYPE</b>
A	mm Decal + cal. curve, Class 6 (GT 1305 only)
B	mm Decal + cal. curve, Class 4 (GT 1305 only)
C	mm Decal + cal. curve, Class 2.5 (GT 1306 only)
D	mm Decal + cal. curve, Class 1.6 (GT 1306 only)
E	% Decal + factor, Class 6 (GT 1305 only)
F	% Scale + factor, Class 4 (GT 1305 only)
G	% Decal + factor, Class 2.5 (GT 1306 only)
H	% Scale + factor, Class 1.6 (GT 1306 only)
J	DR scale, Class 6 (GT 1305 only)
K	DR scale, Class 4 (GT 1305 only)
L	DR scale, Class 2.5 (GT 1306 only)
M	DR scale, Class 1.6 (GT 1306 only)
	<b>CODE PANEL MOUNTING</b>
1	Long screws for front panel mounting
2	Long screws for back panel mounting
	<b>CODE VALVE</b>
A	1/2" Brass needle valve on inlet
B	1/2" 316 SS needle valve on inlet
C	1" Brass needle valve on inlet
D	1" 316 SS needle valve on inlet
E	1/2" Brass needle valve on outlet
F	1/2" 316 SS needle valve on outlet
G	1" Brass needle valve on outlet
H	1" 316 SS needle valve on outlet
1305/A	* * 1 1 1 A 1 A <b>Typical model number</b>

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How to order: please describe:

- Model Number
- Quantity required
- Minimum, normal and maximum flow rate
- Process fluid, density and viscosity at operating conditions
- Minimum, normal and maximum operating temperature and pressure
- Scale inscription
- Accessories required, i.e. flow controller



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