

# 65 AND 150 mm VARIABLE AREA FLOW METER

**Featuring Standard Industrial Dimensions and Superior Readability**

**FL-3207G**



Optional

- ✓ Up to  $\pm 2\%$  FS Accuracy
- ✓ Non-Rotating Seal Spindle
- ✓ Easy-to-Read Scale Design
- ✓ Special Dimensions for Interchangeability

The OMEGA® precision variable area flow meter can measure flows of air, water, and gases, with up to  $\pm 2\%$  FS accuracy (models ending in "07" or "45" have  $\pm 5\%$  FS accuracy) and 0.25% FS repeatability. These units feature an easy-to-read millimeter scale and come with correlation charts for air and water. The scale is fused on the metering tube in 1 mm ( $\frac{3}{32}$ " ) increments, which enables a user to read the flow rate with the highest accuracy.

The scale design, in which a vertical line runs through the length of the scale and intersects the horizontal scale divisions, reduces parallax and eye fatigue, thus ensuring high-accuracy readings (see inset, next page). The front polycarbonate resin shield is also curved to act as a magnifying glass, which yields superior performance over other variable area flow meter with standard designs

### Non-Rising Stem Needle Valve

The 150 mm size flowmeters are also available with a non-rising stem type needle valve for special applications. This 15-turn metering valve has superior flow-rate control, and is particularly suited to use in chromatography applications. The sliding tapered-needle mechanism virtually eliminates sticking or buildup due to foreign matter in the fluid stream, without variations or saw-toothing of the flow rate.

### Shielded for Pressurized Systems

These variable area flow meter, with precisionbored borosilicate glass metering tubes, are fully shielded against breakage. A white opaque rear shield provides a background to aid in discerning the float position.

### Panel Mounting Design

These variable area flow meter are equipped with horizontal ports and NPT threads for easy panel mounting. The ports have external threads and are equipped with panel retaining nuts. No additional mounting hardware is required. Simply drill 2 holes 131 mm (5.156") apart (center to center) for 65 mm units, 240 mm (9.469") apart (center to center) for 150 mm units. Each hole should be 16 mm ( $\frac{5}{8}$ " ) in diameter.

### SPECIFICATIONS

**Scales:** 65 or 150 mm arbitrary scale

**Accuracy:**  $\pm 2\%$  FS ( $\pm 5\%$  FS)

**Repeatability:**  $\pm \frac{1}{4}\%$  FS

**Connections:**  $\frac{1}{8}$  FNPT, horizontal

**Flow Tube:** Borosilicate glass

**End Fittings:** Anodized aluminum or 316 SS

**Side Panels:** Aluminum

**Valve Orifice:** Polyacetal for aluminum models, PCTFE for 316 SS models

**O-Rings:** Buna in aluminum models, FKM in 316 SS models

**Packings:** FKM

**Float Stops:** PTFE

**Maximum Temperature:**

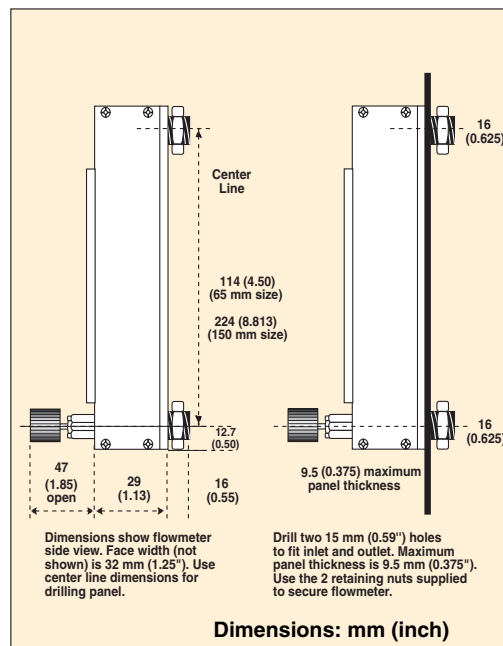
250°F (180°F for water)

**Maximum Pressure:** 200 psig

**Valve Orifice:** Polyacetal for

aluminum units, PCTFE for 316 SS

FL-3207G shown larger than actual size.



Variable area flow meter with 65 mm Flow Tubes



FL-3207G shown larger than actual size.

Polycarbonate resin shield acts as a magnifier to ensure high accuracy with less eye fatigue.

To Order			
Model No. Aluminum Frame	Model No. 316 SS Frame	Maximum Flow Rate† (cc/min)	
		Air	Water
FL-3207G*	FL-3307G*	5.77	0.07
FL-3207ST*	FL-3307ST*	16.77	0.28
FL-3207C*	FL-3307C*	32.99	0.62
FL-3235G	FL-3335G	48.7	0.59
FL-3235ST	FL-3335ST	214.5	2.38
FL-3213G	FL-3313G	104	1.75
FL-3213ST	FL-3313ST	298	5.78
FL-3210G	FL-3310G	202	2.64
FL-3210ST	FL-3310ST	522	12.0
FL-3210C	FL-3310C	818	20.8
FL-3251G††	FL-3351G††	1056	20.8
FL-3251ST††	FL-3351ST††	2125	58.7
FL-3292G	FL-3392G	1249	26.97
FL-3292ST	FL-3392ST	2520	70.67
FL-3292C	FL-3392C	3680	03.5
FL-3288G	FL-3388G	2040	39.7
FL-3288ST	FL-3388ST	3980	108.3
FL-3288C	FL-3388C	5739	169.8
FL-3265G	FL-3365G	2678	52.0
FL-3265ST	FL-3365ST	4922	150.0
FL-3296ST	FL-3396ST	12,058	364.0
FL-3217ST	FL-3317ST	24,680	745.0
FL-3263ST	3263ST	42,094	1261.0
FL-3263C	FL-3363C	58,500	1866.0

Variable area flow meter with 150 mm Flow Tubes<sup>1</sup>

Model No. Aluminum Frame	Model No. 316 SS Frame	Maximum Flow Rate† (cc/min)	
		Air	Water
FL-3445G*	FL-3545G*	18.6	0.196
FL-3445ST*	FL-3545ST*	61.8	0.956
FL-3445C*	FL-3545C*	110	1.92
FL-3441G	FL-3541G	48.5	0.53
FL-3441ST	FL-3541ST	141.5	2.45
FL-3461G	FL-3561G	92	0.85
FL-3461SA	FL-3561SA	140	1.92
FL-3461ST	FL-3561ST	263	4.7
FL-3461C	FL-3561C	454	8.5
FL-3402G	FL-3502G	374	5.5
FL-3402ST	FL-3502ST	814	20.4
FL-3402C	FL-3502C	1222	33.7
FL-3403G	FL-3503G	825	16.5
FL-3403ST	FL-3503ST	1682	46.0
FL-3404G	FL-3504G	2313	53.5
FL-3404ST	FL-3504ST	4562	130.4
FL-3405G	FL-3505G	3807	84.3
FL-3405ST	FL-3505ST	7590	216.6
FL-3439G	FL-3539G	8678	210.0
FL-3439ST	FL-3539ST	16,737	506.0
FL-3440G	FL-3540G	22,536	54.0
FL-3440ST	FL-3540ST	41,512	1288.0
FL-3440C	FL-3540C	59,494	1881.0
FL-3263C	FL-3363C	58,500	1866.0

Comes complete with correlation tables (one each for air and water) on the back of the instruction sheet.

G suffix denotes glass float, ST suffix denotes 316 SS float, C suffix denotes carboly float, SA suffix denotes sapphire float. For units without valve, add suffix “-NV” to model number.

<sup>1</sup>For 16 turn, high-resolution non-rising stem valve for 150 mm variable area flow meter, add suffix “-HRV” to model number, for additional cost.

\* Accuracy ±5% on these models.

† Minimum flow rate is 10% of maximum.

†† New flow rates effective for purchase after January 1, 2013

For NIST traceable certificate for air, add suffix “-NISTAIR” to model number, for additional cost. For water, add suffix “-NISTWATER” to model number, for additional cost.

Ordering Examples: FL-3403ST, 150 mm flowtube in aluminum frame.

FL-34406-NV, 150 mm flowtube in aluminum frame, no valve.

FL3502G-HRV, 150 mm flowtube in 316 SS frame with high resolution valve.