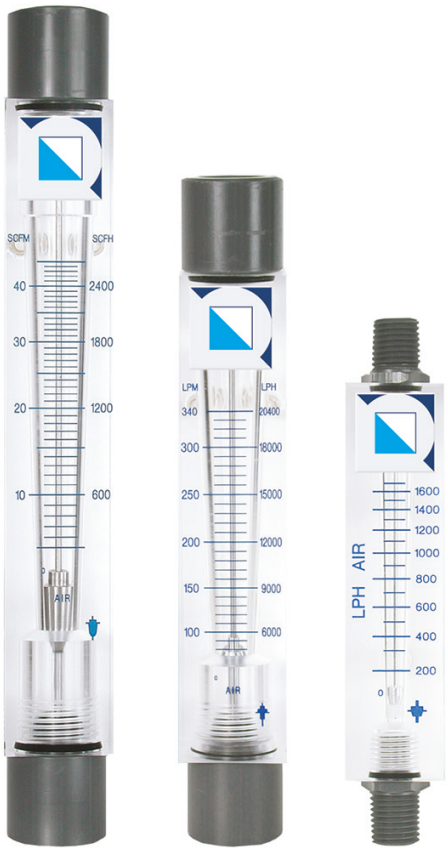
SM-07

In-Line Variable Area Flowmeter made of Acrylic



- **Local indication without auxiliary power supply**
- **Scales for water and air**
- **Excellent readability**
- **Compact design**
- **Easy to assemble**
- **Accuracy class 3.0 or 5.0**

Description:

SM-07 variable area flowmeters operate according to the variable area principle in which the measuring element such as a stainless steel ball can move in a conical flow tube in vertical direction. When the medium being measured begins to flow from bottom to top, the float, too, moves to top until a dynamic equilibrium of forces freezes it at a certain height.
The position that the float reaches in this manner is proportional to the volume flow. The scale value that can be read at the center of the measuring ball, therefore, corresponds to the flow rate.

Range of application:

Variable area flowmeters made of acrylic are a cost-effective alternative to glass-made devices. Especially users in the fields of

- Machine construction
- Medical engineering
- Pharmaceutical industry
- Chemical industry and in
- Research & Development

where flow indicators are used in large numbers for simple applications and maximum accuracy is not a decisive factor stand to benefit from this. An important aspect while assembling these devices is that the flow must always be from bottom to top and the medium is free from abrasive solid particles which, otherwise, may cause scratches inside the plastic tube and render it opaque. Due to this constraint, the SM-07 cannot be deployed as a main component in tube designing.

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www.profimess.com
Schleusenstraße 3 · 27568 Bremerhaven · ☎ +49 471 98 24 -151 · 🖷 +49 471 98 24 -152 · E-Mail: info@profimess.de

Versions:

SM-07.1: Design size 1, height 5 11/32 inches
accuracy ± 5 % FS

SM-07.2: Design size 2, height 9 1/4 inches
accuracy ± 3 % FS

SM-07.3: Design size 3, height 11 1/4 inches
accuracy ± 3 % FS

Technical specifications:

Measuring principle: variable area measuring principle

Mesasurement

primary: float position

secondary: operating and standard volumetric flow

Inflow, outflow lines: min. 5 x D inflow and outflow

Mounting position: vertical inwards
flow from below

max. Pressure: 6.9 bar

max. Media temperature: +65°C

max. Ambient temp.: +65°C

Accuracy: SM-07.1: ± 5 % Full Scale
SM-07.2: ± 3 % Full Scale
SM-07.3: ± 3 % Full Scale

Process connection: SM-07.1: 1/4" -NPT-male
SM-07.2: 1/2" -NPT-female
SM-07.3: 3/4" -NPT-female

Materials:

Body: clear acrylic

Float: aluminium or stainless steel

Process connection: PVC

Seals: Buna-N®

Ordering codes:

Ordering number: **SM-07. | 1. | 1. | 1. | L101. | 1**

In-Line Variable Area Flowmeter made of Acrylic

Version:
1 = design size 1, 1/4" -NPT-male, accuracy class 5.0
2 = design size 2, 1/2" -NPT-female, accuracy class 3.0
3 = design size 3, 3/4" -NPT-female, accuracy class 3.0

Connection material:
1 = PVC

Seal material:
1 = Buna-N®

Operating range:
L101 - L313 = code as per table 1-3
W101 - W313 = code as per table 1-3
9 = special operating range

Option:
0 = none
9 = please specify in detailed text

Table 1: Operating ranges - SM-07.1

Operating Ranges SCFH of Air	Code
6 - 60	L101
15 - 100	L102
25 - 300	L103

Operating Ranges LPH of Air	Code
200 - 1700	L111
500 - 3000	L112
1000 - 8500	L113

Operating Ranges GPH of Water	Code
1 - 12	W101
4 - 25	W102
6 - 60	W103

Operating Ranges LPH of Water	Code
4 - 50	W111
15 - 100	W112
30 - 230	W113

Table 2: Operating ranges - SM-07.2

Dual Scale Air Ranges SCFM	Dual Scale Air Ranges SCFH	Code
3 - 12	180 - 720	L201
3 - 25	180 - 1500	L202
5 - 50	300 - 3000	L203

Dual Scale Air Ranges LPM	Dual Scale Air Ranges LPH	Code
80 - 340	4800 - 20400	L211
100 - 700	6000 - 42000	L212
150 - 1500	9000 - 90000	L213

Dual Scale Water Ranges GPM	Dual Scale Water Ranges GPH	Code
0.5 - 2.5	30 - 150	W201
0.4 - 5.0	24 - 300	W202
1 - 10	60 - 600	W203

Dual Scale Water Ranges LPM	Dual Scale Water Ranges LPH	Code
2 - 10	120 - 600	W211
2 - 20	120 - 1200	W212
4 - 40	240 - 2400	W213

Table 3: Operating ranges - SM-07.3

Dual Scale Air Ranges SCFM	Dual Scale Air Ranges SCFH	Code
5 - 50	300 - 3000	L301
6 - 70	360 - 4200	L302
10 - 80	600 - 4800	L303

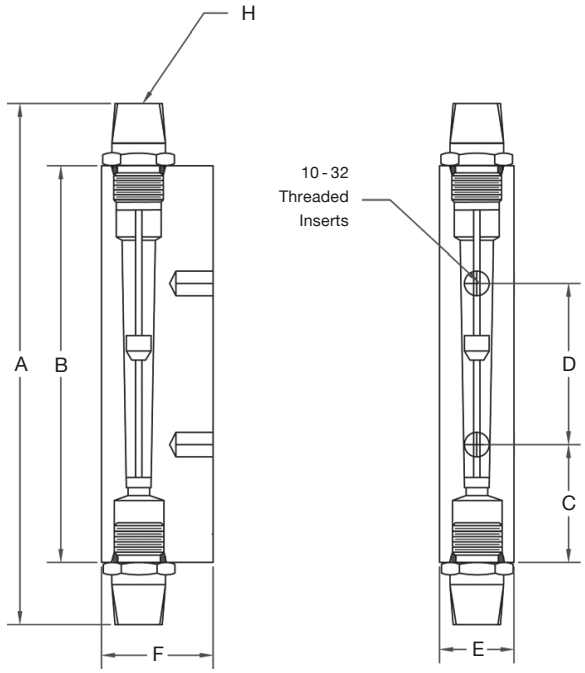
Dual Scale Air Ranges LPM	Dual Scale Air Ranges LPH	Code
150 - 1400	9000 - 84000	L311
200 - 1800	12000 - 108000	L312
200 - 2200	12000 - 132000	L313

Dual Scale Water Ranges GPM	Dual Scale Water Ranges GPH	Code
1 - 12	60 - 720	W301
1.5 - 15	90 - 900	W302
2 - 20	120 - 1200	W303

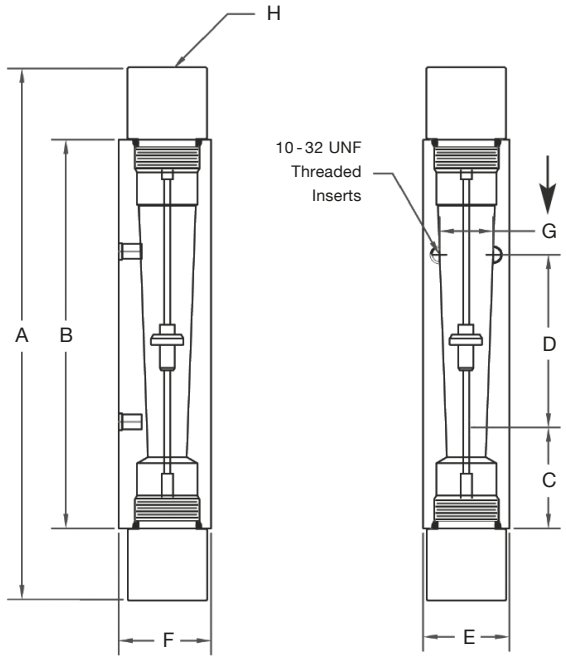
Dual Scale Water Ranges LPM	Dual Scale Water Ranges LPH	Code
5 - 45	300 - 2700	W311
6 - 60	360 - 3600	W312
8 - 70	480 - 4200	W313

Dimensions:

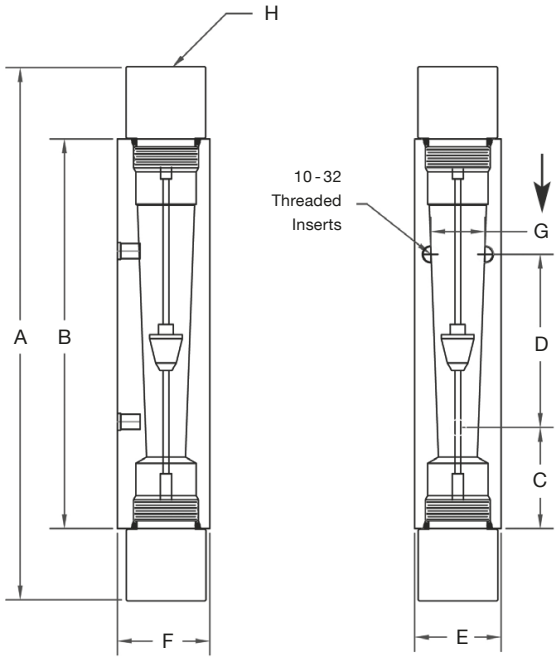
SM-07.1



SM-07.2



SM-07.3



Versions	A	B	C	D	E	F	G	H
	[inches]	[inches]	[inches]	[inches]	[inches]	[inches]	[inches]	[process connection]
SM-07.1	5 11/32	4	1 3/16	1 5/8	1	1 1/8	-	1/4“-NPT-male
SM-07.2	9 1/4	6 3/4	1 7/8	3	1 1/2	1 5/8	1	1/2“-NPT-female
SM-07.3	11 1/4	8 3/4	1 7/8	5	1 1/2	1 5/8	1	3/4“-NPT-female

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