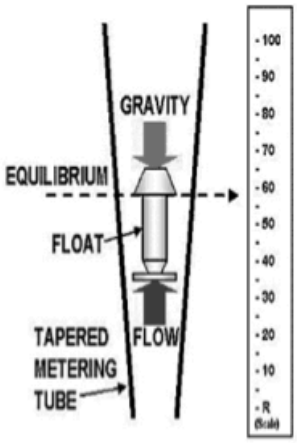
ROTAMETER

Acrylic Rotameter

Working Principal

When fluid or gas flows through a taper tube containing a float, a pressure difference of P1 and P2 is created between upper and lower side of the float. The float moves upwards by a force obtained by multiplying the pressure differential by the maximum cross sectional area of the float.



Due to taper tube, as the float moves upwards, the fluid passing area increases as a result of which the differential pressure decreases. Upward movement of float stops when the dead load is dynamically balanced by the differential pressure. Tapering of metering tube is so designed that the vertical movement of the float becomes linearly proportional to the rate of flow and the scale is provided to read the position of the float, thus giving birth to flow rate indication.

Based on Bemoulli's theorem, the principle mentioned above can be theoretically expressed as follows.

FLOW FORMULA

$$Q = CA \frac{\sqrt{2g V (a p v)}}{Af \quad y}$$

Where

Q = Volumetric flow rate
C = Flow coefficient
A = Fluid passing Area
g = gravimetric acceleration
V = Volume of Float
Af = Maximum pressure receiving area of float.
P = Float Density
y = Fluid Density

THERE ARE VARIOUS TYPES OF FLOW METERS AVAILABLE NAMELY :

- GLASS TUBE ROTAMETERS
- PLASTIC BODY ROTAMETERS
- METAL TUBE ROTAMETERS WITH DIGITAL FLOW RATE INDICATION
- METEL TUBE ROTAMETER WITH TRANSMITTER i.e. 4-20 mA output & DIGITAL TOTALISER (OPERATING ON 4-20mA OUTPUT
- BY-PASS ROTAMETER COMPLETE ASSEMBLIES
- GANG / MULTIPLE ROTAMETERS
- ROTEMERS AS PER SAMPLE & OR DRAWING

DETAILS REQUIRED

- Name of Fluid
- Flow Ranges, Min. & Max.
- Line / Connection size
- Wetted Parts Material Prefered
- Flanged or Screwed or other End Connections
- Position of connections
- Operating Sp. Gr. or Density
- Operating Viscoity
- Op. Temp. & Pressure

Acrylic Body Rotameter (Online)

ZE01B is new, modern Variable area flow meter for gases and liquids
The flow meter has been developed inactive co-operative with users and combines ours long experience with the requirement of practice.
It is an online Rotameter having inlet connection at the bottom side and outlet connection at top with minimum pressure.
We are certain that we have a suitable solution for your application with an interesting price in our product range.

DE-58, Sector 3, Industrial Area ,Bawana –New Delhi-39
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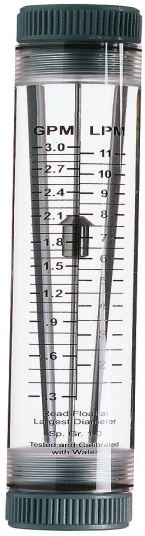
Ranges and Product specification

Model	Air at Amb. Temp LPM	Air at Amb. Temp NM³/HR	Pressure Rating Maximum	Model	Water at 20°C LPM	Water at 20°C LPH	Pressure Rating Maximum
ZE01B-100	0.04-.5		2 Kg/Cm²	ZE02B-100		0.4-5	2 Kg/Cm²
	0.1-1					1-10	
	0.2-2					3-30	
	04-5				0.1-1	4-50	
	1-10				0.15-1.5	10-100	
	2-20	0.1-1.2		150	0.4-4	20-250	
	3-30	0.15-1.8		200	0.2-2.5	15-150	
	4-50	0.3-3		300	0.4-5	30-300	5 Kg/Cm²
150	15-150	0.8-9			0.8-8	40-500	
200	8-75	0.4-4.5			1-10	60-600	
	10-100	0.6-6			1.5-16	100-1000	
300	15-160	1-10	5 Kg/Cm²	350	2-25	150-1500	
	20-250	1.5-15			3-30	200-2000	
	40-500	3-30			4-40	200-2500	
350	80-800	4-50		400	4-50	300-3000	
	100-1000	6-60			6-60	400-4000	
400	150-1500	10-100			8-80	400-5000	
	200-2000	10-120			10-100	600-6000	
	200-2500	15-150		450	10-100	600-6000	
450		20-200			10-130	600-8000	
500		25-250	15 Kg/Cm²	500	10-130	600-8000	15 Kg/Cm²
		30-300			10-160	1000-10000	
		40-400			20-200	1000-12000	
		50-500			20-250	1000-15000	
600		60-600		600	20-300	1000-18000	
		70-700			30-330	2000-20000	
650		80-800		650	40-400	2000-25000	
		100-1000			40-500	3000-30000	
		120-1200			60-600	3600-36000	
700		80-800		700	40-400	2000-25000	
		100-1000			40-500	3000-30000	
		130-1300			60-650	4000-40000	
		160-1600			80-800	5000-50000	
800		200-2000		800	100-1000	6000-60000	
		250-2500			150-1300	10000-80000	



Screwed Connection

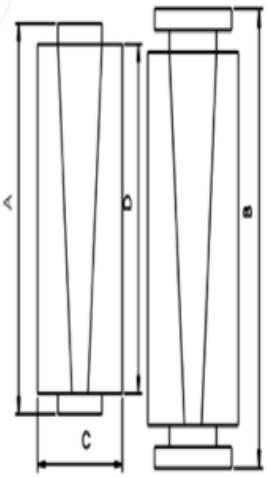
Flanges Connection

Acrylic Rotameter Technical specification

Availability of model No –ZE01B

Meter Body	Acrylic
Float	SS 316, PTFE, PVC etc.
Wetted Parts	SS, PVC, P.P, PTFE etc.
O-Rings	Neoprene, PTFE Silicon etc.
Scale	Engraved on Body
Temp. Rating	160°F
Connection	Flanged Or Threaded
Accuracy of	Series 100 & 150 ±3%
Full Scale	Series 200, 300, 350 & 400 ±2%
	Series -450, 500, 600, 700 & 800 ±2%
Repeatibility	0.5%
Rangeability	10:1

Series	A	B	C	D	Connection BSP 'F' or Flange
100	190	---	24	150	¼"& ½"
150	190	---	30	130	¼" & ½"
200	240	---	24	195	¼"& ½"
300	250	275	35	180	½"&¾"
350	250	275	38	180	¾"&1"
400	300	325	55	230	1" & 1½"
450	400	450	60	320	1" & 1½"
500/600	400	450	70	320	1½", 2"&2½"
700	---	450	100	320	2", 2½", 3"&4"



Overall Dimension

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