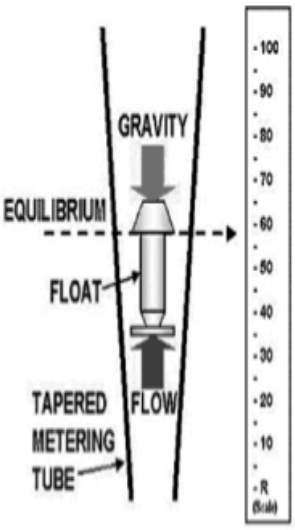
Glass Tube Rotameter

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

Glass Tube Rotameter

ZE01G is new, modern Variable area flow meter for gases and liquids
It has been constantly perfected in active Co-operative with user so that
It was delivered into a reliable measuring instrument that has proven itself many times. Notes in particular the may models, the durable construction and the extensive options.

DE-58, Sector 3, Industrial Area ,Bawana –New Delhi-39
Contact- sales@zestengg.com, zestengg@gmail.com
Tel: +919760158775 , +918800445945

Availability of Model No-ZE01G

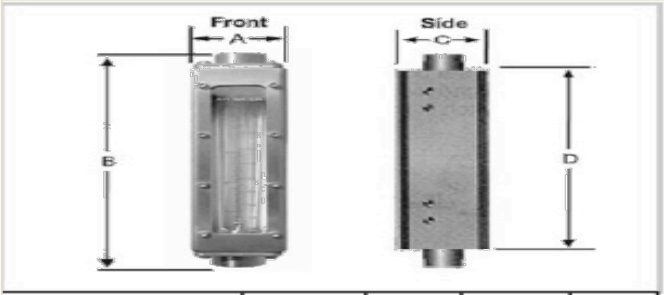
Meter Body	:	Powder coated M.S. optional SS 304, SS 316 etc.
Float	:	SS 316L, SS 316, PTFE, Monel, PVC etc.
Wetted Parts	:	SS 316L, SS 316, SS 304, MS PTFE, PVC, P.P., Monel etc.
Packings	:	Neoprene, PTFE , Silicon etc.
Tube	:	Borosillicate glass
Scale Length	:	175-225 mm
Temperature Max.	:	Upto 200°C depends on gland Packing material.
Connections	:	Flanged, threaded etc.
Accuracy	:	±2% of full scale.
Repeatibility	:	0.5%
Rangeability	:	10:1

Glass Tube Rotameter

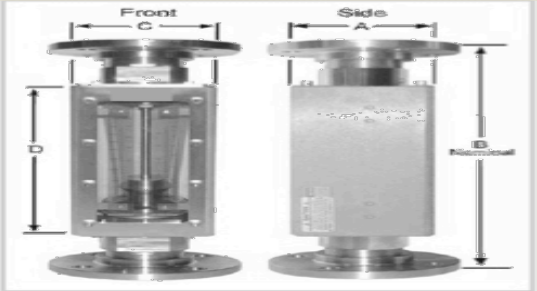
Range and Product Specification

Model		Air At Ambient Temp.			Water At 20°C		
ZE01G		LPM	CFM	M^3/Hr	LPH	CFH	M^3/Hr
100	Min.	5-50	0.15-1.5	.03-3	10-100	.35-3.5	0.01-0.1
	Max.	25-250	0.8-8	1.5-15	50-500	1.5-15	0.05-0.5
200	Min.	40-400	1.5-15	2.5-25	80-800	3-30	0.08-0.8
	Max.	150-1500	5-50	9-90	300-3000	10-100	0.3-3
300	Min.	200-2000	7-70	12-120	400-4000	14-140	0.4-4
	Max.	250-2500	9-90	15-150	500-5000	17-175	0.5-5
400	Min.	300-3000	10-100	18-180	600-6000	20-200	0.6-6
	Max.	500-5000	17-175	30-300	1000-10000	35-350	1-10
500	Min.	600-6000	20-200	40-400	1200-12000	40-400	1.2-12
	Max.	1000-10000	35-350	60-600	2000-20000	70-700	2-20

SPECIAL SIZES & RANGES ON REQUEST



Model	A	B	C	D
100-400	88	400	92	350
500	112	400	116	350



Model	A	B	C	D
100-400	88	400	92	350
500	112	400	116	350

Overall Dimension

DE-58,Sector 3, Industrial Area ,Bawana –New Delhi-39
Contact- sales@zestengg.com, zestengg@gmail.com
Tel: +919760158775 , +918800445945