

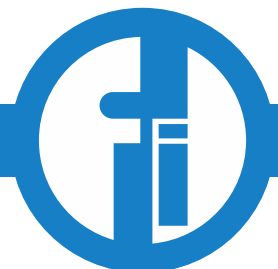
# GLASS TUBE ROTAMETER

## FDI - GTR - 202



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# INTRODUCTION : GTR

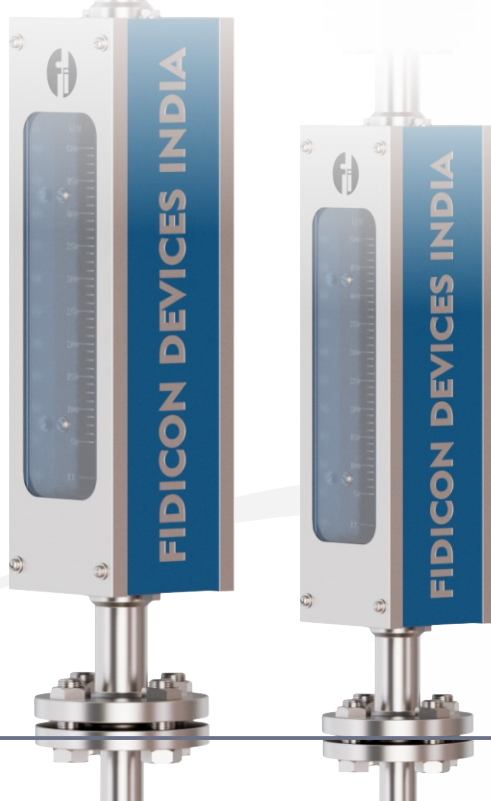
Glass Tube Rota-meter is a Variable Area Flow Meter. A Rota-meter consists of a tapered tube, typically made of glass, with a 'float' made of SS or PTFE. The differential pressure across the annulus area is constant. The float moves through the tapered tube up and down with respect to fluid flow. The vertical position of the float as indicated by scale is the measure of the instantaneous flow rate.

A glass tube rotameter is a type of flow meter used to measure the flow rate of liquids or gases in a pipeline. It consists of a glass tube with a float inside that is free to move up and down with the flow. The float is typically shaped like a cylinder or a ball, and is designed to have a higher density than the fluid being measured.

The flow rate can be determined by observing the position of the float inside the tube and referring to a calibration chart. The glass tube allows the operator to visually observe the float and the flow, making the Rotameter a simple, low-cost, and reliable method of flow measurement.

The meter assembly's metal body is rigidly constructed to maintain tube alignment. The various types of end fittings provide process pipe connections, either threaded or flanged. O-rings or packing glands at either end of the tube seal it to the end fittings.

FIDICON is a pioneer in the field of manufacturing Rotameter in India since 2002 years of designing, manufacturing, installation and service of the same. Glass Tube Rotameter manufactured by FIDICON are user friendly and easy to install. It comes in many ranges and can be tailor made as per the requirements of customers.



*Dedicated to People & Environment Protection*

# PRINCIPLE OF GLASS TUBE ROTAMETER

The principle of operation of a glass tube rotameter is based on the relationship between the flow rate and the pressure drop across an orifice. The float inside the glass tube is positioned in such a way that it creates an obstruction, or orifice, in the flow stream. As the flow rate increases, the pressure drop across the orifice increases, causing the float to rise. Conversely, as the flow rate decreases, the pressure drop decreases, causing the float to fall.

The position of the float is proportional to the flow rate, and this relationship is calibrated on a chart. The chart is usually marked on the outside of the glass tube and displays the corresponding flow rate for a given float position. The rotameter is designed so that the pressure drop across the orifice and the consequent rise or fall of the float are proportional to the square root of the flow rate.

In summary, the glass tube rotameter works by measuring the pressure drop across an orifice created by the float and using this pressure drop to determine the flow rate. The position of the float inside the glass tube indicates the flow rate, and the operator can read this flow rate from the calibrated chart.



## OPERATING PRINCIPLE & STANDARD FEATURES

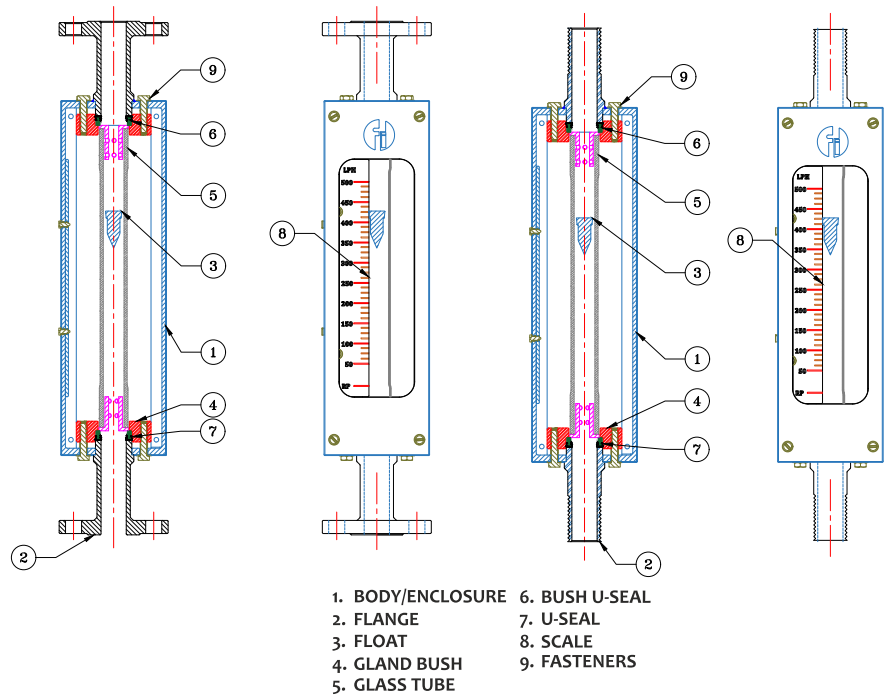
The flow rate is measured as a function of the annulus area, and the differential pressure across the annulus region is constant. this location is shown as being in the position of a "Float."

Glass Tube Rotameter Designed on variable area basis using tapered borosilicate glass tube pressure rating at 10kg/cm<sup>2</sup> temp at 150°C. We are leading manufacturer & supplier of Glass Tube Rotameter in Gujarat, India.

Material of wetted part: CS/SS 304/ SS316/PP/PVC/Teflon  
Line Size: 15NB to 100NB  
Flow range: 10 to 20,000 LPH of water  
Accuracy: ±1.5 % full scale reading  
Glass Tube Rotameter Accessories: Screwed /Flanged  
House -connection

# KEY APPLICATION

- Oil and gas pumping and refining processes
- Fuel cell research
- Chemical manufacturing
- Analytical instrumentation
- Water treatment and distribution systems
- Industrial processes
- Pharmaceutical production



Sr.	Part Name	Option
A	Body / Enclosure	MS-Powder Coated, SS-Powder Coated, SS-Buffed
B	Flanged(NB)	15, 20, 40, 50, 80
C	Flange Specifications	ASA-150, BS10-T-E, BS10 T-F, DIN-10
D	MOC Wetted	CS, SS 304, SS 316, CS-PTFE, CS-PP
E	Float - MOC	SS 316, PTFE, PVC, Aluminium
F	Glass Tube	Borosilicate
G	Flange - MOC	CS, SS 304, SS 316
H	PTFE Enve. Gland Packing	Nitrite, Silicon, Viton
I	Measuring Range in LPH of H2O @ T :- Ambt / Pr:-ATM	

◆ Materials are customized as per customer's specifications.

Glass Size	With PTFE Float LPH	With SS 316 Float LPH	Max. Pressure Drop in MMWC	Test Pressure
PN 1	2-20	3-30	140	15
PN 2	3-30	6-60		
PN 3	4-40	10-100		
PN 4	6-60	20-200	350	15
PN 5	8-80	30-300		
PN 6	12-120	40-400		
PN 7	18-180	60-600		
PN 8	20-200	80-800	600	12
PN 9	40-400	100-1000		
PN 10	50-500	150-1500		
PN 11	80-800	250-2500	900	9
PN 12	90-900	300-3500		
PN 13	100-1000	350-3500		
PN 14	150-1500	400-4000		
PN 15	200-2000	600-6000	900	7
PN 16	250-2500	700-7000		
PN 17	400-4000	1000-10000		
PN 18	500-5000	1500-15000	900	5
PN 19	600-6000	2000-20000		
PN 20	800-8000	2500-25000		

# RECOMMENDED DISPOSAL

- Give it back to us & we will take care of recycling & possible disposal.
- User can dis-assemble the product in multiple stage
- The above may be handed over (state pollution board), authorized re-cycler item-wise.



## ENQUIRY SPECIFICATIONS:

- [1] Service Media Details.
- [2] Size/Connection
- [3] System Operating and Design Pressure.
- [4] System Operating and Design Temperature.
- [5] Material Specifications ( Body, Internal )

## RECOMMENDED SPARES

- [1] Glass Tube
- [2] Float
- [3] Bush U-Seal

## OTHER RANGE OF PRODUCTS

- [1] Flame Arrester
- [2] Breather Valve
- [3] Level Indicators
- [4] Rotameters
- [5] Emergency Relief Valve
- [6] Gauge Hatch
- [7] Strainers
- [8] Pressure Reducing Valve
- [9] Safety Relief Valve
- [10] Flowmeters
- [11] Level Switches
- [12] Pressure Reducing Station
- [13] Level Gauge, etc.



### Any Query?

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