

Description of Metal Tube Rotameter

INDUSTRIX PRECISE SOLUTIONS PRIVATE LIMITED offers a series of variable area flow meters. Designed to measure the actual flow rate of a fluid flowing through vertical or horizontal pipelines. Metal tube rotameters are also known as armored meters and these meters are built of corrosion resistant stainless steel. Metal tube rotameters are being used for general in-line flow metering applications for different liquids & gases.

Where operating conditions are with the limitations of metering metal pipe of rotameter. These meters can withstand pressure up to 100 Kg/cm² and temperature 350 Deg C. The float moves up and down in the metallic tube with fluid flow from bottom to top or horizontal towards right or left. The float takes up a position where buoyancy forces and the float weight is balance in proportion to flow rate. They are best suited for high temperature or pressure applications.

These metal tube rotameters are factory calibrated and supplied with valid & traceable calibration certificate.



Working Principle

The measuring Element consists of a sharp-edged measuring ring (1) and a conical float (2). A medium flows from the bottom to the top, through the measuring ring, lifting the float until the buoyancy force (A) and the weight of the float (Gs) establish equilibrium. As the height of the float varies, an annular clearance (S) proportional to the flow (Q) appears between the float and the measuring ring. The height of the float in the measuring ring is a measure of the flow (Q). The permanent magnet (3) embedded in the float then transmits this measure to the scale and the optional electronics evaluators through the magnet tracking indicator system (4).

Features

- High pressure and temperature application.
- Linear flow reading and output signals.
- All stainless-steel metal construction, strong and durable.
- Short stroke, compact structure.
- Minimum pressure drop design.
- Magnetic coupling mechanism ensures that the signal transmitted is smoother & more stable.
- Thermal insulation or tracing steam jacket is available.
- Used for the gas and liquid flow measurement in all process industries.
- The measuring flow tube can use different metals suitable for different fluids.

Applications

- Catalysts, tensides, foam inhibitors, emulsifiers, acids, bases, chloridic substances, sulphuric substances.
- Inertisation of vessels and tanks.
- Sample flow monitoring for analysis.
- Emulsifiers and demulsifiers.
- Gas seal monitoring for turbo compressors.
- Coolant and lubricant.
- Air supply, condensate, and cooling water supply.
- Dosing of protective gas

Technical Specifications

Fluid	Liquids & Gases
Specific Gravity	Up to 2.95
Viscosity	Up to 200 centipoise
Design Temperature	Up to 350°C
Design Pressure	Up to 100 Kg/cm ²
Range	10 to 60000 LPH of Liquid & 3.3 to 1400 Nm ³ /hr of Air/Gas at NTP
Line Size	½ " Up to 4" NB
Materials	Stainless Steel 304, 316, 316L, PTFE lined on SS
Connection	Flanged to ASA, BS, DIN, Triclover & Screwed to BSP, NPT (M/F)
Accuracy	±2% of FSD
Enclosure	Weatherproof

Available Options

- Metal tube rotameter with flanged end connection.
- Metal tube rotameter with screwed BSP/NT connection.
- Metal tube rotameter with tri-clover connection.
- Metal tube rotameter with steam hot jacket arrangement

Optional Features

Two-Wire Transmitter

It is a micro controller-based transmitter having LCD display with digital indications of instantaneous and totalized flow. The user can set various parameters through a front panel with easy to operate keypad. Each of the modes like Communication, Configuration, Calibration, Relay; in which the instrument can be programmed to operate and are PASSWORD protected.

- Integral mounting with Rotameter
- Transmitter Enclosure: Aluminium Die Casting, Ex-d IIC, IP^{^^}, T6 Zone 1 and 2
- Power Supply: 24 VDC ±10%, 4.8 VA
- Input: Displacement of float with respect to flow
- Output: Option 1 : 4 – 20mA dc max. 600 Ω load
Option 2 : 2.4 – 20mA with HART Compatibility (Optional)
- Zero Cut-Off : 1%, 2%, 5%, 10% - Programmable.
- Accuracy : ±2% of Full Scale
- In-Built Relay Output (Latching Type)
- Nominal Switching Capacity : 1A 30 VDC (resistive load)
- Max. Switching Power : 30 W (DC) (resistive load)
- Maximum Switching Voltage: 110V DC
- Max. Switching Current : 1A

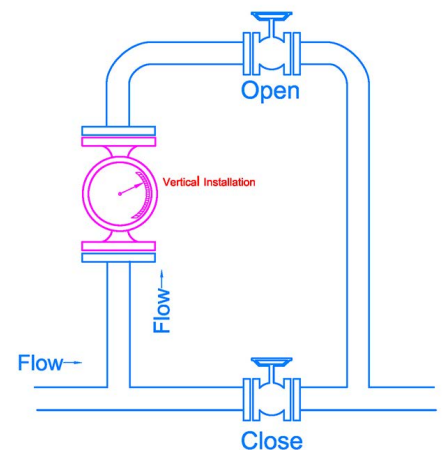
Due to continuous development of our products technical information's are subject to change.

Please ensure the compatibility between the measured medium and the contacting part of the product when placing an order.

IPSPL reserves the right to make any change in this datasheet without notice. The information provided is believed to be accurate and reliable as of this product sheet.

Contact factory for custom configurations not shown

Installation



Rotameter Installation



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