Bypass Rotameter E-Catalogue

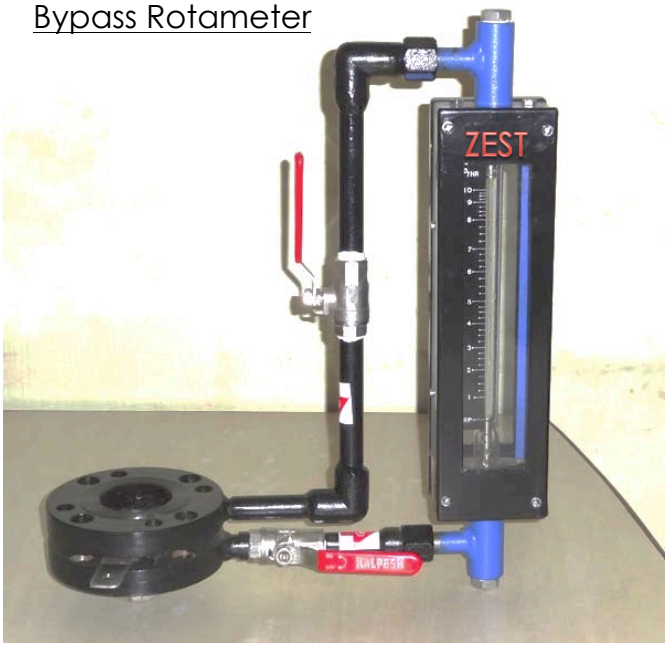
Working Principal

Zest Bypass flow meters measure linear fluid flow rates in conjunction with an orifice plate. This provides an inexpensive method of measuring flow rates in pipes of two inch or larger using relatively low-cost orifice plates. The bypass flow meters consist of a mainline orifice, a set of orifice flanges, a flow meter. A secondary orifice and bypass piping. A size 1/2" Metal Tube MT 3809 or Glass Tube Rotameter is used to measure flow regardless of main line pipe size. The purpose of the mainline orifice plate is to create the pressure differential. The secondary orifice is sized such that the total pressure drop though the bypass piping equals the pressure differential across the mainline orifice. Because the same pressure drop exists across each line, the 1/2" flow meter in the bypass line gives an exact indication of flow rate in the mainline. The Zest Bypass flow meter with its secondary orifice is calibrated as a unit. Main line differential pressure and orifice practice data is available from ASME, DIN and manufacturers of primary elements. Because the secondary orifice controls the flow through the bypass line, a change in orifice diameter changes the differential ranges.

Application

- Chilled Water Schemes
- Compressed Air System
- Water Treatment Plant
- Plant Service

Bypass Rotameter



Specification

- Gas Ranges: 20-700nm3/hr
- Liquid Ranges: 2-1000m3/hr
- Pipe Sizes : 40-300mm NB
- Scale Length: 100mm
- Accuracy Class: +/- 2% FS
- Temp Ranges : -15 to 90 deg C
- Pressure: 20 Bar
- Connection End: Suitable for clamping B/w Flanges
- Orifice MOC: Carbon Steel Carrier/SS316L
- Seals: Viton
- Float: SS 316L/SS304/PTFE
- Tube: Borosilicate Glass

DE-58, Sector 3, Industrial Area ,Bawana –New Delhi-39

Contact- sales@zestengg.com, zestengg@gmail.com

Tel: +919760158775 , +918800445945

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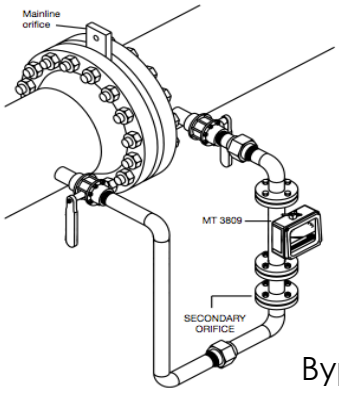
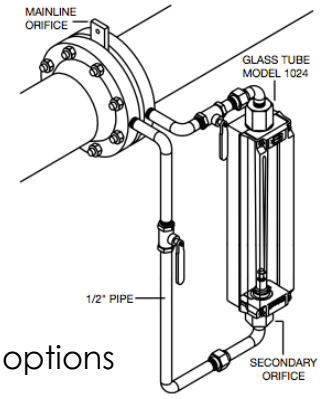
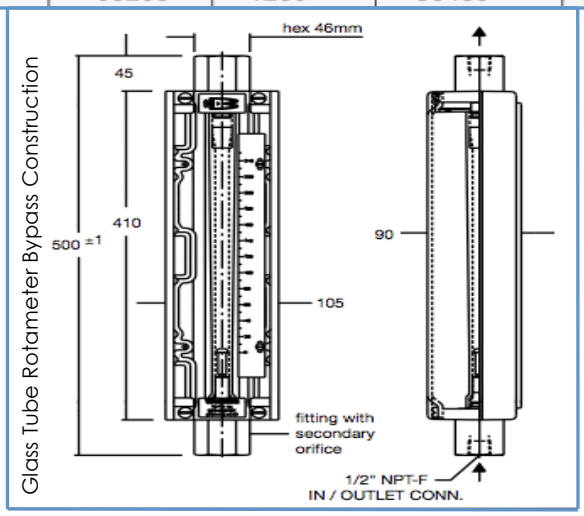
Maximum capacities For Air & Water Flow

DIFFERENTIAL PRESSURE kPa								
Nominal diameter mainline pipe(mm)	12,5		25		50		100	
	Water m^3/h	Air m^3n/h	Water m^3/h	Air m^3n/h	Water m^3/h	Air m^3n/h	Water m^3/h	Air m^3n/h
50	13	1185	19	1730	26	2520	38	3470
80	29	2130	41	3000	59	4260	83	6000
100	51	3630	71	5210	102	7260	143	10420
125	78	5680	111	8070	156	11370	222	16110
150	110	8210	156	11530	220	16430	310	23060
200	199	14370	280	20540	390	28750	560	41080
250	310	22750	440	31600	620	45500	880	63200
300	440	31600	620	44280	890	63200	1260	88480



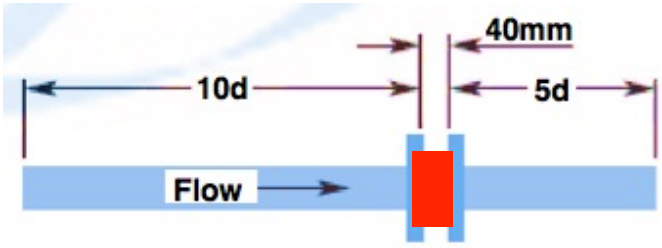


Bypass options



Installation Diagram

The achievable accuracy of the ~~Zest~~ ~~Engineering~~ flow meter is a function of installation. For the best results, a minimum straight length requirement of 10 diameters upstream and 5 diameters downstream is recommended



Data Required For Sizing

- Name of fluid
- Sp.Gr. of Fluid at operating temperature.
- Temperature
- Pressure
- Measuring Range
- Material of Construction desired

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