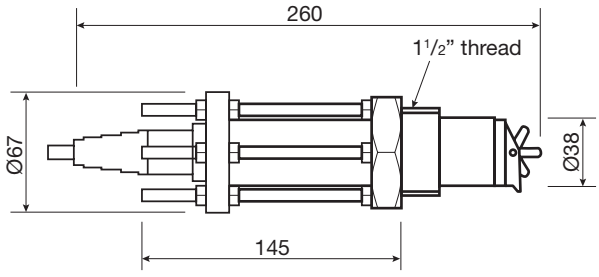
INSERTION FLOWMETER Series 400

This innovative, robust insertion turbine combines proven technology with modern materials and design. The PVDF turbine rotates freely on a 316 St St shaft and has specially aerofoil shaped blades to extend the dynamic range of the meter. The specially contoured housing further improves the meters linearity particularly at lower fluid velocities. Each meter contains two sensors, one self powered for our battery operated equipment and the other an open collector transistor.

A reed switch may be specified for hazardous areas where simple apparatus is acceptable. The body is manufactured from AISI316 stainless steel and as standard is supplied with 1.5M of five core screened instrument cable. The Metra-Count, Metra-Smart and Metra-Batch devices can all be mounted directly onto the meter (via a mounting stalk) and all of these can be self powered with the exception of Metra-Batch which requires an external power source.

IDEAL FOR

- HVAC
- Water distribution
- Boiler feed
- Irrigation



Insertion depth = pipe internal diameter divided by 8.

FEATURES

- Economical
- For 40–900mm pipes
- 0.3 to 10M/S velocity
- Linearity 1.5% typical
- 316 St St body
- Dual sensing
- Low installation cost
- Pulse output
- 80 Bar rating
- Viton® seal
- 1½" fitting
- 1% repeatability
- IP68 (NEMA 6)
- 100°C standard
- IS option for hazardous areas
- Bi-diectional flow measurement
- Simple apparatus option

Ordering codes – Standard meter

BSPT mount
400-003
BSPT reed switch
400-003-R
NPT mount
400-004
Mounting stalk
400-005
For local instrument mounting

These insertion turbines provide a cost effective and simple means to measure the flow of a wide range of low viscosity liquids. Installation is quick and inexpensive in pipes from 40mm diameter up to 900mm diameter. For rate and total applications a self powered instrument can be mounted directly onto the meter for a stand-alone measurement.

Other instruments permit high and low flow alarms, 4–20mA loops or even batching functions, these all require external power. The meter requires at least ten pipe diameters of straight pipe upstream and five downstream to ensure a fully developed flow profile and accurate measurements. Large disturbances may require greater straight lengths.

TECHNICAL SPECIFICATIONS

Meter 'K' factors for common pipe sizes				
Pipe I/D (#40)mm	**Schedule 40 Pipe (#40)**		**Schedule 80 Pipe (#80)**	
	pulses/litre	**pulses/USG**	**pulses/litre**	**pulses/USG**
1½" 40.9	18.678	70.695	21.524	81.468
2" 52.6	11.238	42.534	12.818	48.517
2½" 62.7	7.880	29.824	8.899	33.682
3" 78.0	5.062	19.161	5.676	21.485
4" 102.0	2.912	11.021	3.233	12.237
Weight	1.30kg (model 400-003)			

Standard specification

Pipe sizes	40 to 900mm
Velocity range	0.3 to 10M/sec
Fitting size	1½" BSPT or NPT
Linearity	± 1.5% typically
Repeatability	± 1.0% typically
Pressure	80Bar Maximum
Temperature	-40°C to +100°C Optional 200°C
Body material	316 Stainless steel
Rotor material	PVDF
Rotor shaft	316 Stainless Steel
Spindle	Tungsten carbide
'O' Ring seal	Viton®
Outputs	Open collector pulse 1.5V X 10µS pulse Reed switch (optional)
Frequency	230Hz @ 10M/sec 77Hz with reed switch
Cable	1.5m X 5 core screened
Protection	IP68
Options	Mounted instruments Reed switch sensor Conduit entry