



FN Series Short Insert

INTRODUCTION

TRENT FN Series Short Insert are differential pressure producing flow elements that will accurately and repeatedly measure the flow of fluids & gases in fully filled closed pipes. Standard short inserts are designed to BS1042 with other standard as optional. The Short Inserts are available in both metric or imperial standards.

APPLICATION

TRENT FN Series Short Insert are designed for the measurement of full pipe flow of water, wastewater, sludge, gases, steam etc.

DESIGN FEATURES

Sizes :

2 inch and above
50 mm and above

Material of Construction :

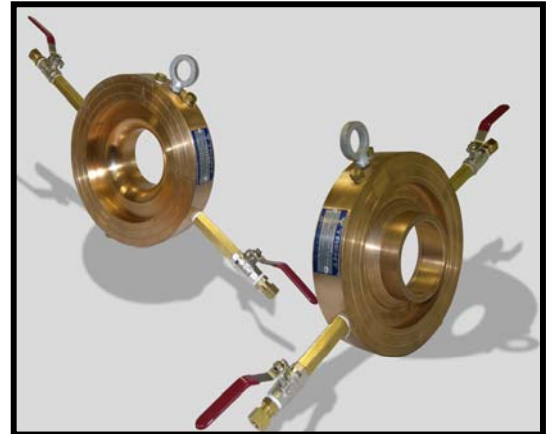
High quality grey cast iron to BS 1452 : 1977 grade 17 for sizes above 250 mm (10 inch) and bronze for smaller sizes. Cast iron surfaces are coated with 3 coats of non-toxic epoxy-polyamide with mid-grey top coat.

Mounting :

TRENT FN Series Short Inserts are precisely machined wafer type flowmeter that installed between 2 flanges to BS, ANSI or any other standards to suit customer requirements.

Drain holes :

Standard TRENT FN Series Short Inserts are furnished with drain holes flush with mating pipe internal diameter for draining of gas or liquid bubble through the pipe line.



Hydraulic Configuration :

TRENT FN Series Short Inserts are individually designed flow measuring elements that provide a coefficient of discharge independent of Beta ratio and at the same time allow the adiabatic expansion to be calculated accurately.

Flow direction indication :

An arrow is engraved on the outside of the Short Insert body for identification of flow direction.

Flow data :

Each Short Insert shall be furnished with a copy of flow data detailing all necessary information.

Calibrated name plate detail :

Each Short Insert is furnished with a calibrated nameplate detailing its serial number, throat bore, I.D. and flow rate etc.

SPECIFICATIONS

Maximum working pressure :
16 bar standard
Higher pressure as optional.

Maximum working temperature :
150°C (320°F) for dry air
60°C (140°F) for liquid.

Beta ratio :
0.4 to 0.75

Pressure loss:
The permanent pressure loss of TRENT FN Short Insert expressed as a percentage of the differential produced is shown in fig 1

Accuracy:
Within the specified flow range and piping configuration, the TRENT FN Short Insert shall produce measurement accuracy of $\pm 1.00\%$.

INSTALLATION

TRENT FN Short Inserts can be either horizontally or vertically mounted. General practice requires the pipe be maintained full and the upstream piping be sufficient to develop good velocity profiles.

Standard Accessories :
2 Nos 3/8" Ball valves for both upstream and downstream tappings.

2 Nos Air vents for both upstream and downstream air venting points.

QUOTATION/ORDERING PROCEDURE

Required Ordering Date :

- Measured bore of mating pipe.
- Maximum flow (if volume, state whether reduced or actual)
- Reduction condition if flow stated at reduced conditions.
- Operating pressure and temperature
- Fluid density at operating condition.
- Required differential pressure.
- Viscosity at operating condition.
- Type of fluid measured.
- Flange standard.

OPTIONS

- Dry Calibration certificate from internationally recognised third party inspection body for all sizes available.
- Actual flow calibration for sizes below 200mm (8 inch) diameter available upon request.

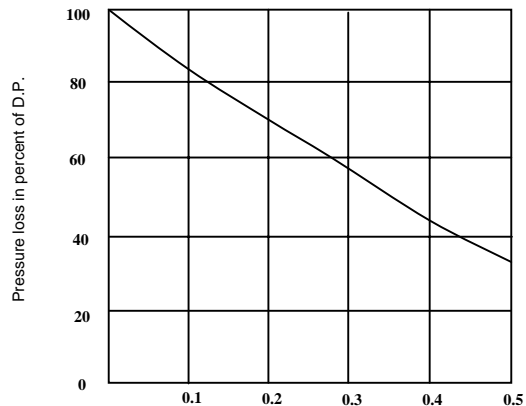


Fig. 1-Pressure loss vs Area Ratio

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Manufactured by :

Hydro-Trent Automation Sdn Bhd (Company No 475419-P)
No 23, Jalan TIB 1/9, Taman Industri Bolton,
68100 Batu Caves, Selangor, Malaysia.