



## FLOWSTREAM Dall Tubes

### **For Topside Flow Measurement**

#### **Flow Measurement Excellence**

Widely recognized by the Oil, Gas & Petrochemical industries worldwide, Solartron ISA offers more than 45 years experience in the design and manufacture of primary Differential Pressure flow meter devices.

Solartron ISA: Engineering a solution for the metering community.

#### **Dall Tubes**

Dall Tubes have the lowest permanent pressure loss of any primary Differential Pressure Flow element. Up to 97% of the DP generated can be recovered.

Dall Tubes are suitable for a number of process conditions, and are particularly suited to gas transmission pipelines, where significant pressure loss is not tolerated.

The design configuration of the Dall Tube is ideal for clean fluids. It is not suited for fluids with suspended solids.

Solartron ISA offers a range of Dall Tube designs including flange and insert types of to suit various pipe-work configurations, overall length requirements, orientations and end connections. Line sizes available range from 50mm up to 1200mm.

We provide complete Engineering support from initial design and sizing concepts to manufactured final products.

#### **Benefits**

- Proven flow metering technology and robust design
- Very low permanent pressure loss saving energy
- Accurate flow metering of clean gasses and liquids
- Negligible wear and erosion with less maintenance/inspection required
- Shorter overall lengths compared to alternative DP flow elements



#### **Applications**

- ✓ Hydrocarbon, Liquid & Gas Process
- ✓ Gas Transmission
- ✓ Process Measurement

#### **Key Parameters**

- ✓ Proven Technology
- ✓ Robust Design
- ✓ Low Permanent Pressure Loss
- ✓ Accurate Flow Measurement
- ✓ Suitability for Most Process Conditions
- ✓ Minimal Upstream Lengths

#### **Standards**

- ✓ ISA Standard Design
- ✓ ASME B31.3
- ✓ ISO 9001
- ✓ PED-97/23/EC

## FLOWSTREAM Dall Tubes

### Specifications

#### Functional Specifications

##### Line Size

DN50 (1") to DN1200 (48")

Larger line sizes are available on request

##### Pressure Ratings

Ranging from ANSI 150# to API 15K PSI

##### Types of Flow Nozzles

Flanged, Butt-Weld, Hub, Insert

Further connections are available on request

##### Types of Tappings

Flanged / NPT / Socket Weld / Thread

O'let / Socket O'let

Further types are available on request

##### Beta Ratio

0.3 to 0.8

(Dall Tube Type Dependant)

##### Reynolds Number

$\geq 10^4$

##### Accuracy

Typically  $\pm 3\%$  un-calibrated

$\pm 1\%$  calibrated

##### NDT Testing

Hydro-testing, Dye Penetrant, Radiography

Additional options:

Magnetic Particle, PMI, Gas and Water Calibrations

Further testing is available on request

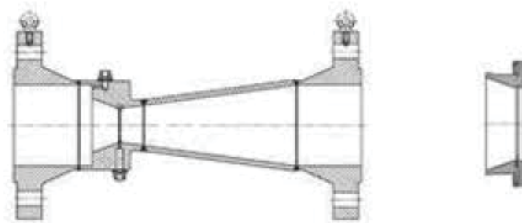
##### Flow Turndown

Typically  $>10:1$ , depending on Transmitter configuration

##### Dall Tube Material

Carbon Steel, Low Temperature Carbon Steel, Stainless Steel, Chrome Moly Steel, Duplex, Super Duplex, 6 Mo, Aluminum

Further materials are available on request



Dall Tube

Dall Insert



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