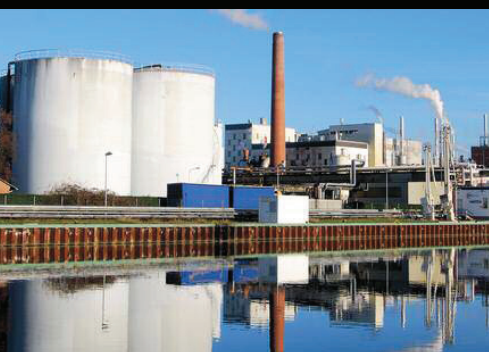


Flow Measuring Element
Differential Pressure - Averaging Pitot

AptiFlow

Industrial Flow Meter



For Liquids, Gas, and Steam

AptiFlow is a universal flow meter designed to measure liquids, gases, and vapours in a wide range of applications.

Wide Ranging

AptiFlow can be used in a wide range of processes and conditions. From vacuum to high pressure, and sub-zero to 1000 Deg C with selected materials.

Flexible Design

AptiFlow can be engineered to produce solutions for difficult applications. Elements may be machined from solid for high mechanical integrity, made as two piece sections for very large duct diameters (over 6m), headless for fully enclosed installations, and dual manifolds for stacked transmitters.

Economical

AptiFlow provides a low cost solution for flow measurement in large diameter pipes or ducts:

- **Low permanent pressure loss** - energy lost with use is minimal
- **Robust construction** - long service life and virtually impossible to wear out
- **Negligible wear** - long term stability with zero drift or degradation.



Construction

AptiFlow is manufactured from fully traceable 316L Stainless Steel (as standard), with options for manufacture in :

304 St Stl	Alloy 400	Duplex St Stl	Inconel 625
321 St Stl	Hastelloy C & B2	Super Duplex	90 / 10 Cu Ni
310 St Stl	6 Mo	Titanium Gr 2	Polypropylene

Quality Assurance

AptiFlow is manufactured under strict Quality Assurance

- ISO 9000 Quality Control
- CE Marking to (97/23/EC)
- ASME IX certified welding

NACE certification, post weld heat treatment, and full NDE is also available



Welding Bay

Every AptiFlow is subjected to post manufacture pressure test to confirm



Fitting Area



Final Inspection

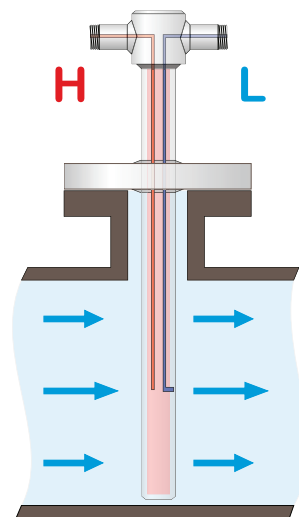
Principle of Operation

AptiFlow generates a differential pressure when placed in the path of a flowing fluid.

The magnitude of the differential pressure generated is a function of the fluid's mean axial velocity, density, and the characteristic of the AptiFlow probe, commonly referred to as its k-factor.

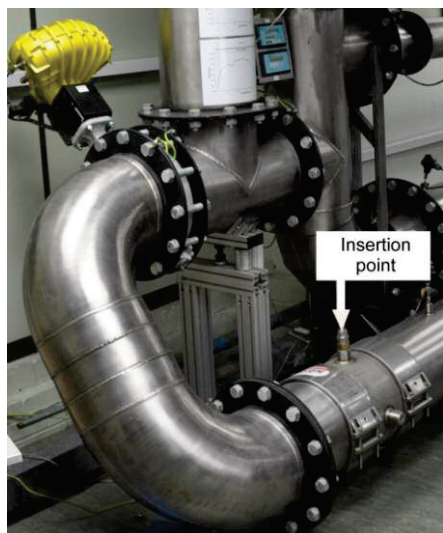
The differential pressure generated is sensed via the HP and LP ports and connected to a suitable measuring gauge or transmitter. The instantaneous flow rate can then be derived from the square root of the differential pressure.

AptiFlow series 25, 40 and 60 models have an internal HP tube which helps average any distortion in the flow profile and helps to provide AptiFlow's excellent performance when installed in the plane of close upstream bends.

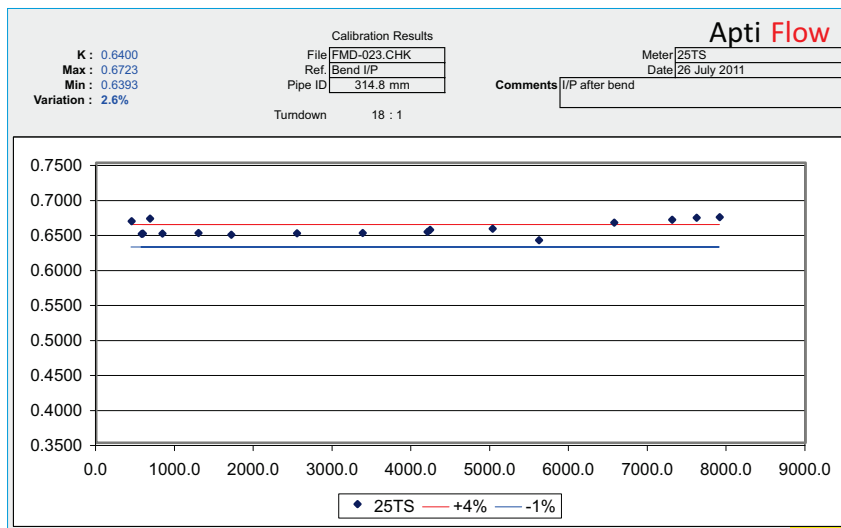


Application-Friendly

AptiFlow was tested in a calibration laboratory on a 300mm NB pipeline with a "T"-piece and two bends immediately upstream - the "shift" in k-factor (and therefore overall accuracy) was less than 5% and the overall variation (non-linearity) better than +/- 3%

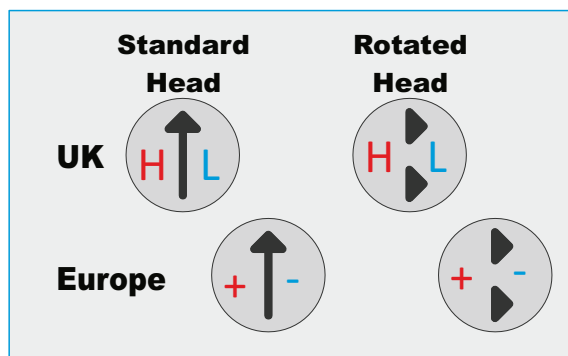


Difficult Installation



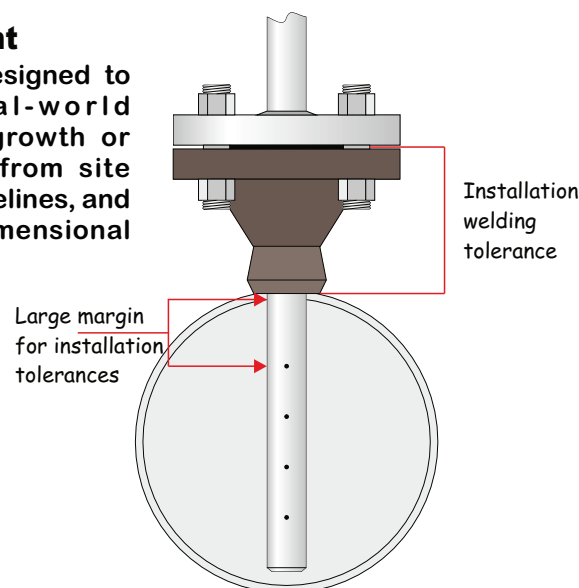
Clearly Marked

AptiFlow has distinctive head marking to assist installation, correct orientation, and help eliminate commissioning problems such as reversed DP connections.

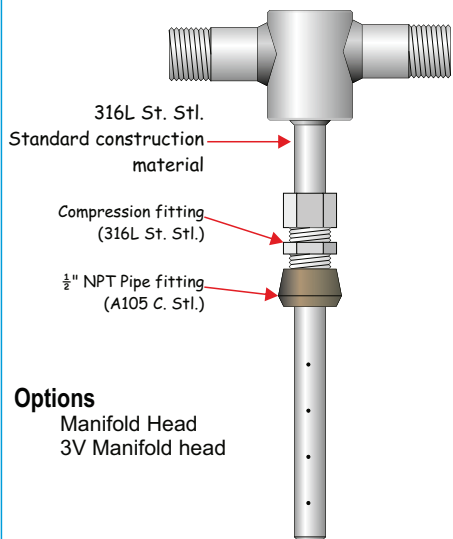


Installation Tolerant

AptiFlow has been designed to accommodate real-world problems, such as growth or shrinkage resulting from site welding, ovality of pipelines, and standard pipeline dimensional tolerances.



13TS 13mm Threaded Single Support



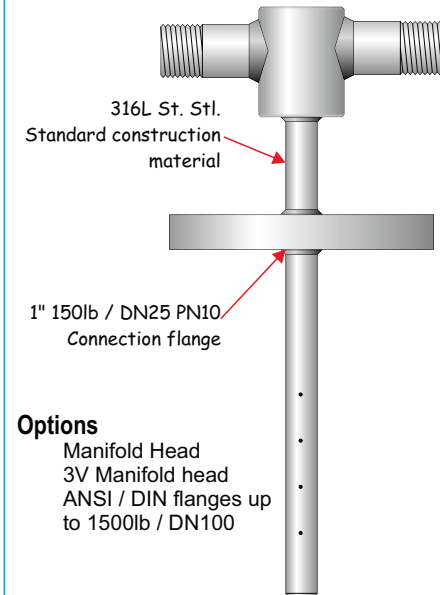
Options
 Manifold Head
 3V Manifold head

Optional materials

Apti Flow : See table B on final page
 Pipe fitting : 316ss / 304ss

Probe Diameter : 13 mm Line Size : DN50 - DN 200
 Max. Pressure : 40 Bar G Max. Temp : 450 Deg C

13FS 13mm Flanged Single Support



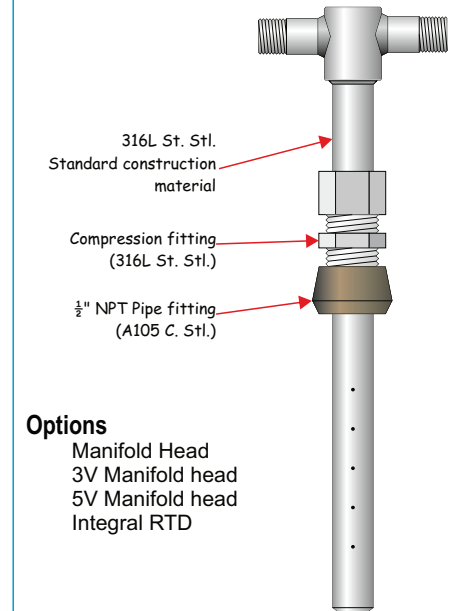
Options
 Manifold Head
 3V Manifold head
 ANSI / DIN flanges up to 1500lb / DN100

Optional materials

Apti Flow : See table B on final page
 Pipe fittings : See table F on final page

Probe Diameter : 13 mm Line Size : DN50 - DN 200
 Max. Pressure : As flange Max. Temp : As flange

25TS 25mm Threaded Single Support



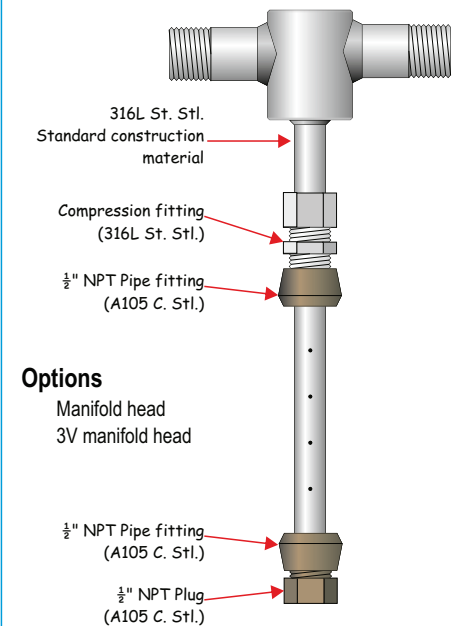
Options
 Manifold Head
 3V Manifold head
 5V Manifold head
 Integral RTD

Optional materials

Apti Flow : **316L ss (Std) / All other**
 Pipe fitting : A105cs / 316ss / 304ss

Probe Diameter : 25 mm Line Size : DN150 - DN 1200
 Max. Pressure : 40 Bar G Max. Temp : 450 Deg C

13TD 13mm Threaded Double Support



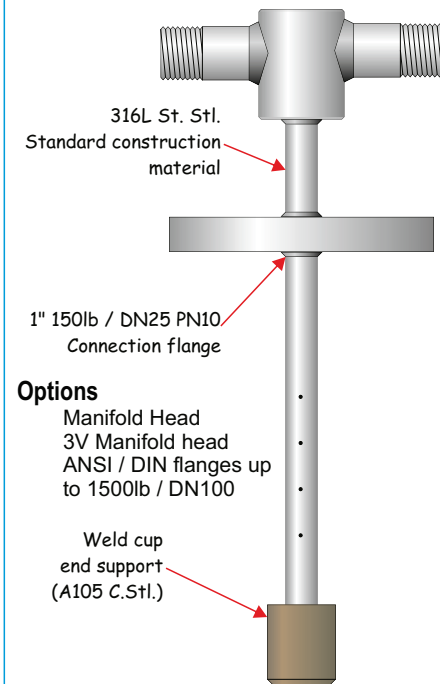
Options
 Manifold head
 3V manifold head

Optional materials

Apti Flow : **316L ss (Std) / All other**
 Pipe fitting : A105cs / 316ss / 304ss

Probe Diameter : 13 mm Line Size : DN100 - DN 250
 Max. Pressure : 40 Bar G Max. Temp : 450 Deg C

13FD 13mm Flanged Double Support



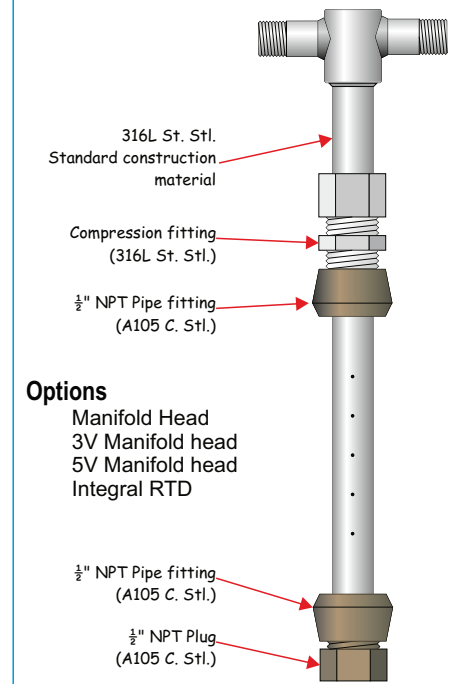
Options
 Manifold Head
 3V Manifold head
 ANSI / DIN flanges up to 1500lb / DN100

Optional materials

Apti Flow : See table B on final page
 Pipe fittings : See table F on final page

Probe Diameter : 13 mm Line Size : DN100 - DN 250
 Max. Pressure : As flange Max. Temp : As flange

25TD 25mm Threaded Double Support



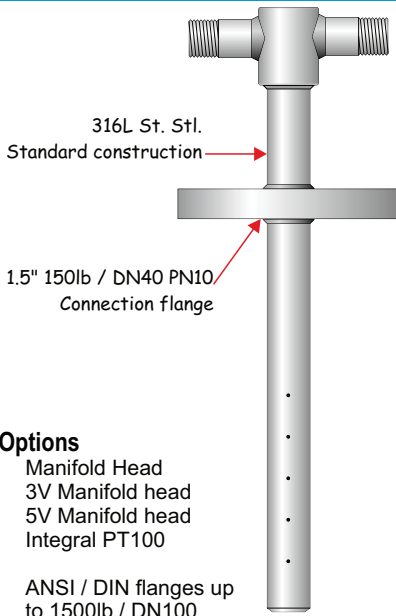
Options
 Manifold Head
 3V Manifold head
 5V Manifold head
 Integral RTD

Optional materials

Apti Flow : **316L ss (Std) / All other**
 Pipe fitting : A105cs / 316ss / 304ss

Probe Diameter : 13 mm Line Size : DN100 - DN 250
 Max. Pressure : 40 Bar G Max. Temp : 450 Deg C

25FS 25mm Flanged Single Support



Options

- Manifold Head
- 3V Manifold head
- 5V Manifold head
- Integral PT100

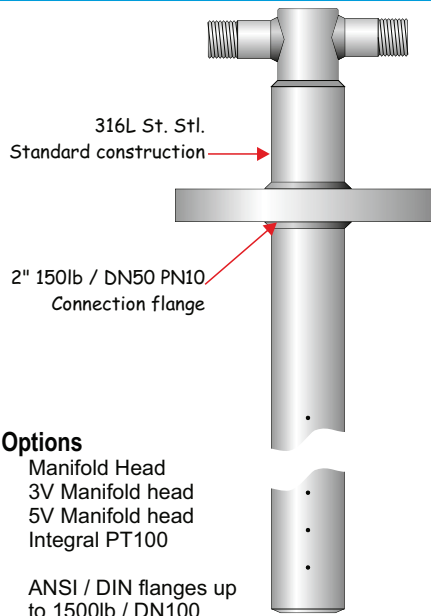
ANSI / DIN flanges up to 1500lb / DN100

Optional materials

- Apti Flow : See table B on final page
- Pipe fittings : See table F on final page

Probe Diameter : 25 mm Line Size : DN150 - 1200mm ID
 Max. Pressure : As flange Max. Temp : As flange

40FS 40mm Flanged Single Support



Options

- Manifold Head
- 3V Manifold head
- 5V Manifold head
- Integral PT100

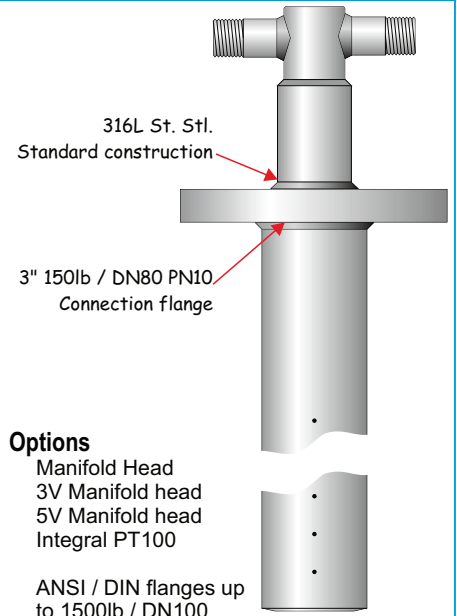
ANSI / DIN flanges up to 1500lb / DN100

Optional materials

- Apti Flow : See table B on final page
- Pipe fittings : See table F on final page

Probe Diameter : 40 mm Line Size : DN250 - 2400mm ID
 Max. Pressure : As flange Max. Temp : As flange

60FS 60mm Flanged Single Support



Options

- Manifold Head
- 3V Manifold head
- 5V Manifold head
- Integral PT100

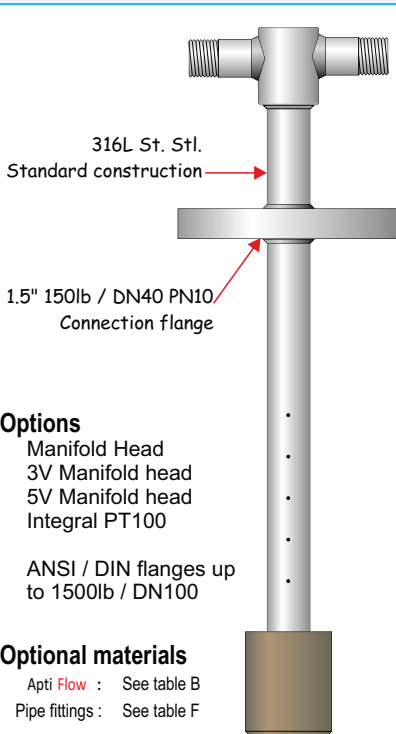
ANSI / DIN flanges up to 1500lb / DN100

Optional materials

- Apti Flow : See table B on final page
- Pipe fittings : See table F on final page

Probe Diameter : 60 mm Line Size : DN350 - 3500mm ID
 Max. Pressure : As flange Max. Temp : As flange

25FD 25mm Flanged Double Support



Options

- Manifold Head
- 3V Manifold head
- 5V Manifold head
- Integral PT100

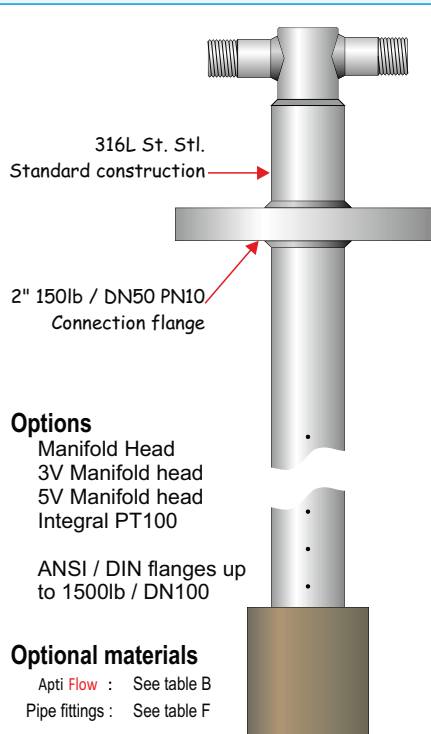
ANSI / DIN flanges up to 1500lb / DN100

Optional materials

- Apti Flow : See table B
- Pipe fittings : See table F

Probe Diameter : 25 mm Line Size : DN200 - 2400mm ID
 Max. Pressure : As flange Max. Temp : As flange

40FD 40mm Flanged Double Support



Options

- Manifold Head
- 3V Manifold head
- 5V Manifold head
- Integral PT100

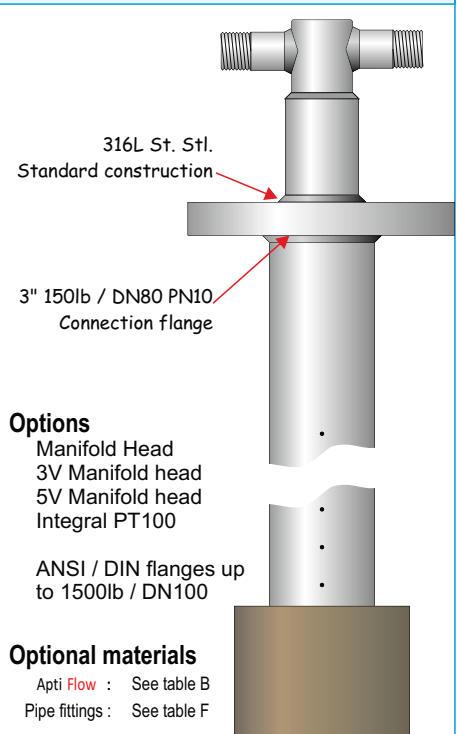
ANSI / DIN flanges up to 1500lb / DN100

Optional materials

- Apti Flow : See table B
- Pipe fittings : See table F

Probe Diameter : 40 mm Line Size : DN400 - 4000mm ID
 Max. Pressure : As flange Max. Temp : As flange

60FD 60mm Flanged Double Support



Options

- Manifold Head
- 3V Manifold head
- 5V Manifold head
- Integral PT100

ANSI / DIN flanges up to 1500lb / DN100

Optional materials

- Apti Flow : See table B
- Pipe fittings : See table F

Probe Diameter : 60 mm Line Size : DN600 - 6000mm ID
 Max. Pressure : As flange Max. Temp : As flange

06 Series

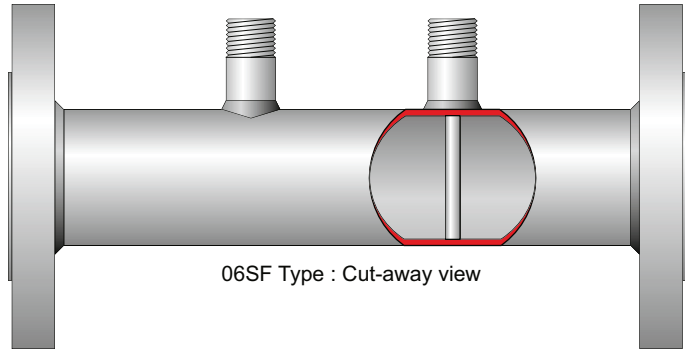
06mm Butt-Weld / Screwed / Flanged In-Line Type

AptiFlow 06 Series are In-Line sections of pipe that contain a 6mm probe.

They are available with butt-weld, threaded, or flanged process connections at each end and make up part of the process pipeline in which the flow rate is being measured.

They are available for line sizes from 1/2" (DN15) to 3" (DN80) and are manufactured in 316ss as standard.

They provide a robust option for small bore differential pressure flow measurement.



MH *Manifold head*

Allows DP transmitter to be direct mounted & eliminates costs associated with remote mounting, and problems introduced by impulse lines.

Compatible with flange / flange or bolt-on H-type manifolds

Forms an integral part of the AptiFlow probe

Materials
Available in all AptiFlow materials except polypropylene

3V *Integral 3 valve manifold*

Allows DP transmitter to be direct mounted. Provides primary isolation to allow DP transmitter to be removed / zeroed while in service. Eliminates costs associated with remote mounting, and problems introduced by impulse lines.

Forms an integral part of the AptiFlow probe

Materials
316L Stainless Steel

5V *Integral 5 valve manifold*

Allows DP transmitter to be direct mounted. Provides primary isolation to allow DP transmitter to be removed / zeroed while in service. Provides facility to vent to threaded ports. Eliminates costs associated with remote mounting, and problems introduced by impulse lines.

Forms an integral part of the AptiFlow probe

Materials
316L Stainless Steel

Flanged Nozzle

Materials
Available in all AptiFlow materials except polypropylene

Gasket

Options
1.5mm elastomer or 4.5mm spiral wound

Bolting

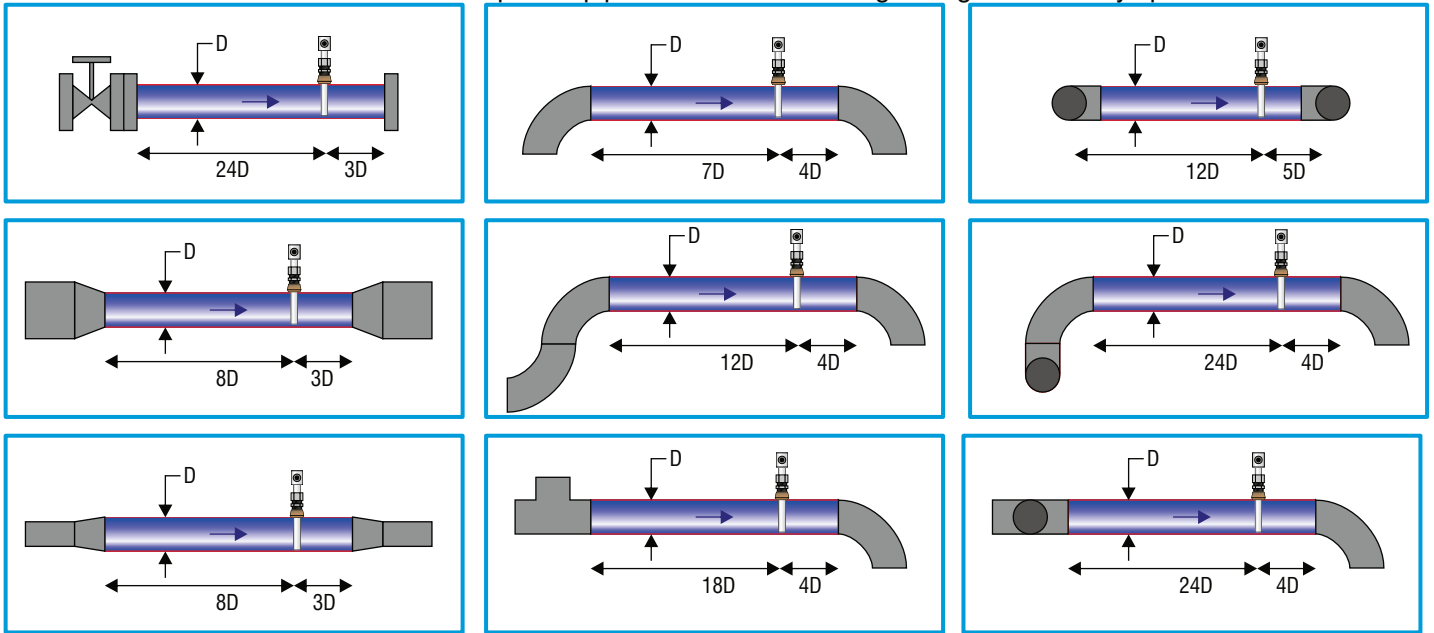
Specification
ASTM A 193 B7 Studbolt
ASTM A 194 2H Nuts

DP Isolation Valves

Options
1/4" or 1/2"
316St Stl
Ball / Needle / Gate / Globe

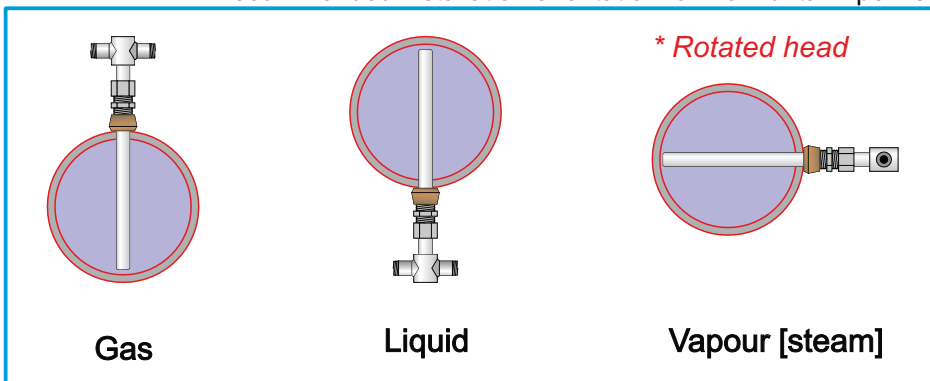
Upstream / Downstream straight length requirements

Dimensions shown are multiples of pipe inside diameter - larger lengths are always preferable



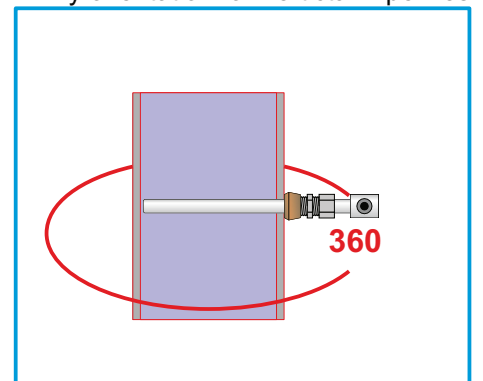
Orientation - Horizontal

Recommended installation orientation for Horizontal Pipelines



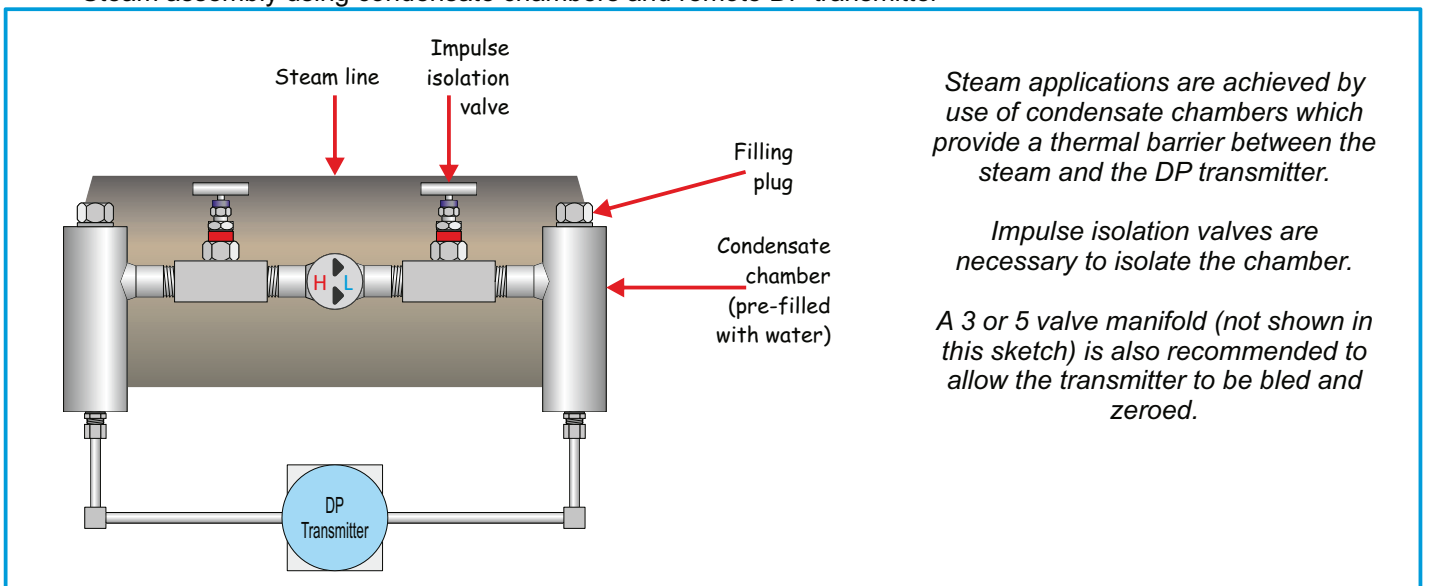
Orientation - Vertical

Any orientation for Vertical Pipelines

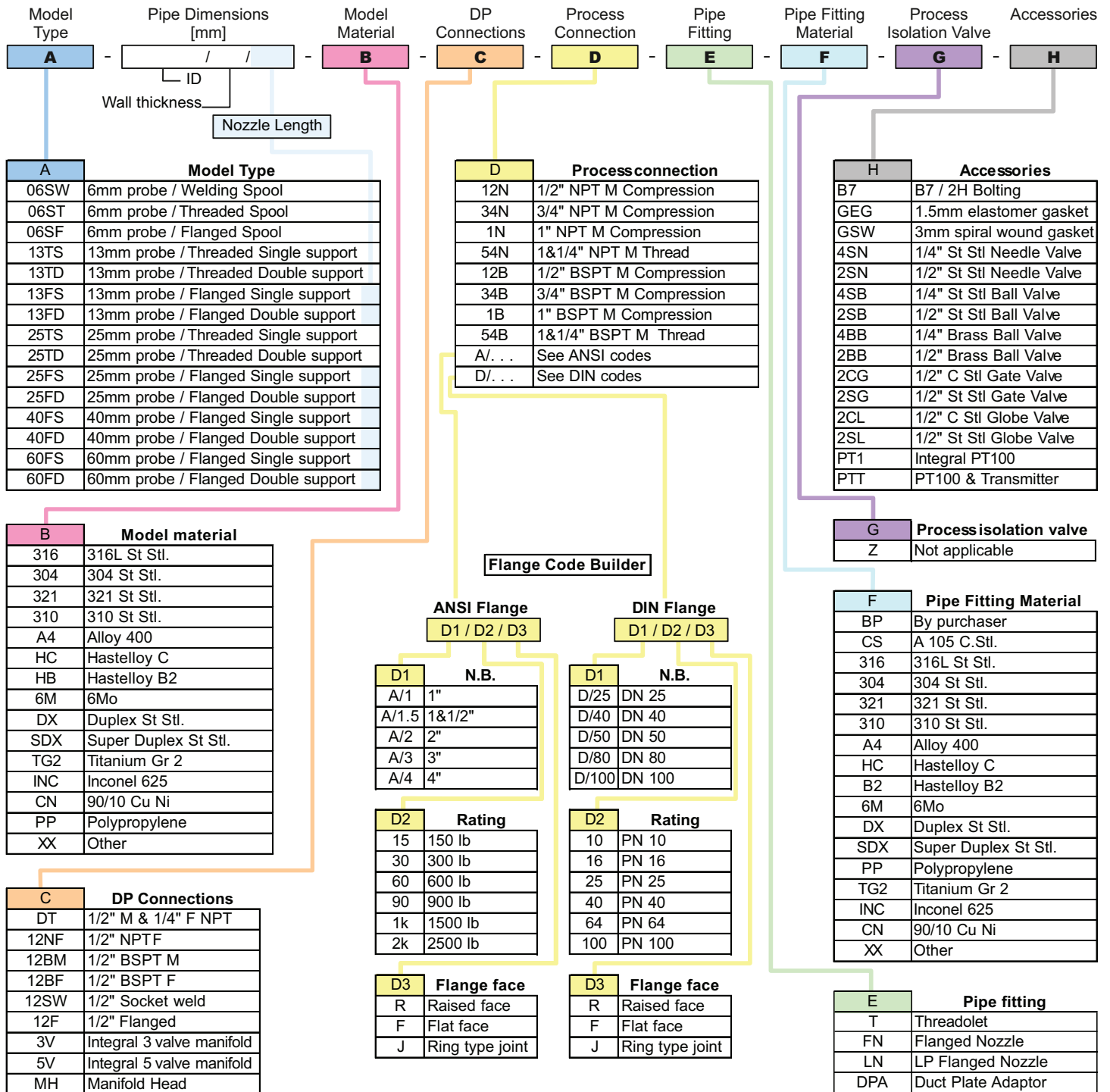


Configuration - Steam

Steam assembly using condensate chambers and remote DP transmitter



AptiFlow Model Coding



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