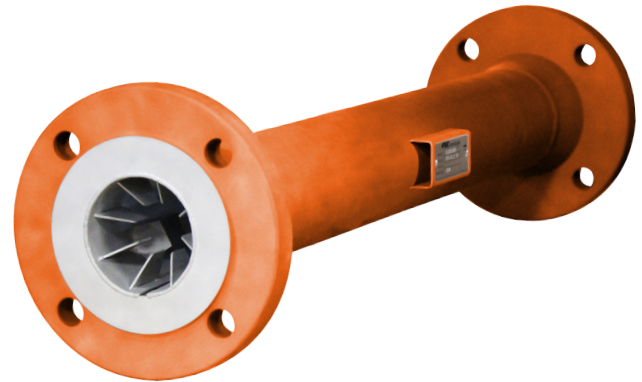


High Performance Flow Conditioning Assemblies

Bulletin SS02018 Issue/Rev. 1.2 (7/17)

Smith Meter® Turbine Meters

Smith Meter High Performance Flow Conditioning Assemblies include a flow conditioning element and flanged pipe spool. It optimizes turbine meter performance by reducing fluid swirl and velocity profile distortions caused by valves, pumps, strainers, thermal-wells and other piping configurations.



Features

- » **Superior flow conditioning** – substantially better than standard API designed flow conditioning assemblies.
- » **316 stainless steel** – flow conditioning element.
- » **Low pressure drop** – reduces pumping cost.
- » **Non-obstructive design** – does not collect debris.

Options

- » **Dowel pin alignment** provides repeatable alignment and performance as factory tested.

Specifications

Maximum Working Pressure¹ – PSI (kPa)

Class	Carbon Steel Flanges	Stainless Steel Flanges
150 ASME	285 (1,965)	275 (1,896)
300 ASME	740 (5,102)	720 (4,964)
600 ASME	1,480 (10,205)	1,440 (9,929)

Materials of Construction

Pipe Spool and Flanges	Standard: Carbon Steel Optional: Stainless Steel
Flow Conditioning Element	316 Stainless Steel

Applications

Pressure Drop Correction

For liquids with other than 1.0 cP viscosity and 1.0 specific gravity, the flow conditioning assembly pressure drop can be estimated by the following equation:

$$\Delta P = PD \times \mu^{1/4} \times (\text{sp. gr.})^{3/4}$$

Where: PD = Pressure drop from chart at desired flow rate.

μ = Absolute viscosity (cP or mPa•s)

sp. gr. = Specific Gravity

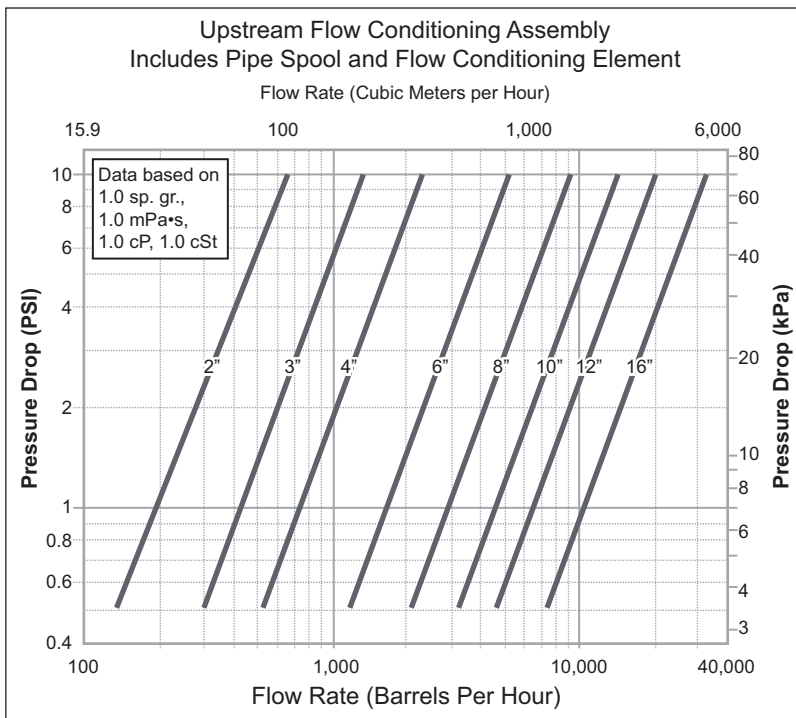
Example: 6" flow conditioning assembly at 4,000 BPH, 50 cP, 0.9 sp. gr.

$$\Delta P = 5.8 \text{ psi (from chart)} (50)^{1/4} \times (0.9)^{3/4}$$

$$\Delta P = 14.3 \text{ psi}$$

¹ Maximum working pressures are for temperatures of -20F to 100F (-28C to 38C). Consult factory for maximum working pressures at other temperatures.

Pressure Drop



Catalog Code – Flow Straightening Assemblies

1	2	3	4	5	6	7	8	9
K	2	2	H	G	A	0	0	0

Positions 1 and 2: Product Line

K2 - Turbine Meter

Position 3: Item

2 - Flow Straightening Assembly

Position 4: Type

H - Upstream Section with High Performance Flow Conditioner

J - Captive Flange Insert Only - Standard Flange

K - Captive Flange Insert Only - Serrated Flange

Position 5: Size

E - 3" J - 10"

F - 4" K - 12"

G - 6" L - 16"

H - 8"

Position 6: Pressure Class

A - Class 150 ANSI

B - Class 300 ANSI

D - Class 600 ANSI

T - Captive Flange Insert for Schedule 40 Pipe*

S - Captive Flange Insert for Other Pipe Schedules

*Upstream Assembly Pipe Schedules

Positions 7 and 8: End Connections/Tube Material

00 - RF, CS Flanges/CS Tubes

A1 - RF, SS Flanges/SS Tubes

XX - Not Req'd. for Captive Flange Insert

Position 9: Specials

0 - None

X - Special-Specify

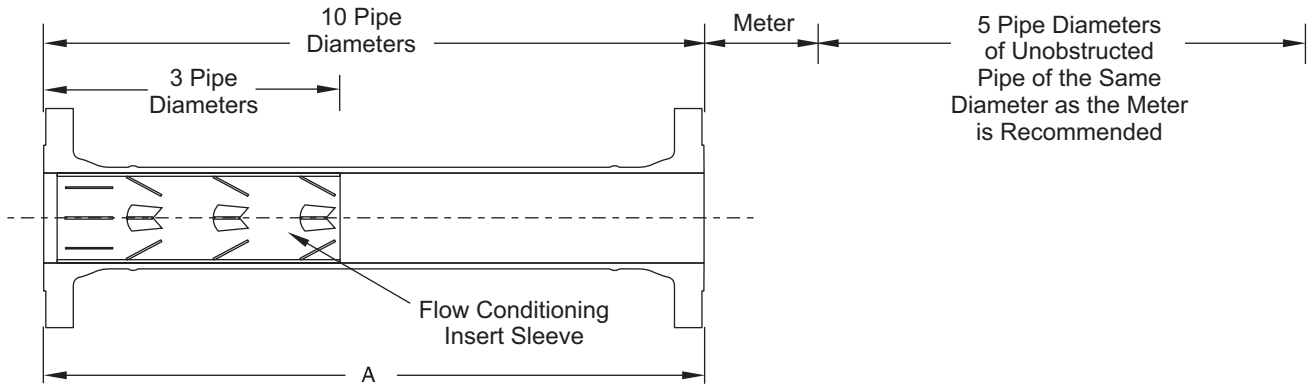
Pipe Size	Pipe Schedule		
	150	300	600
3"	Sch. 40	Sch. 40	Sch. 40
4"	Sch. 40	Sch. 40	Sch. 40
6"	Sch. 40	Sch. 40	Sch. 40
8"	Sch. 40	Sch. 40	Sch. 80
10"	Sch. 40	Sch. 40	Sch. 80
12"	Sch. Std.	Sch. Std.	Sch. 80
16"	Sch. 30	Sch. 40	Sch. 80

Installation

A Customer supplied gasket must be installed both in front of and behind the insert's flange.

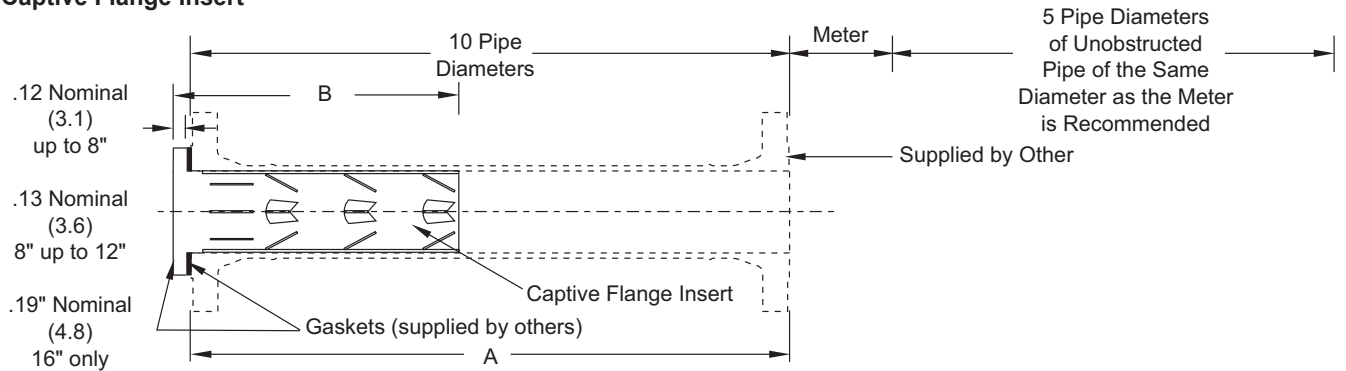
Dimensions

Flow Conditioning Assembly



Pipe Size	A		Weight – ASME Flange Class					
			150		300		600	
	Inch	mm	Pounds	kg	Pounds	kg	Pounds	kg
3"	30	762	40	17	53	23	58	25
4"	40	1,016	67	29	86	37	117	52
6"	60	1,524	140	61	177	78	271	121
8"	80	2,032	284	116	336	139	503	215
10"	100	2,540	463	189	550	229	823	353
12"	120	3,048	697	287	800	334	1,102	471
16"	160	4,064	1,223	483	1,429	577	2,125	892

Captive Flange Insert



Pipe Size	B					
	ASME 150		ASME 300		ASME 600	
	Inch	mm	Inch	mm	Inch	mm
3"	9.0	228.6	9.0	228.6	9.0	228.6
4"	12.0	304.8	12.0	304.8	12.0	304.8
6"	17.93	455.4	17.93	455.4	17.01	432.1
8"	23.67	601.2	23.67	601.2	23.17	588.5
10"	29.79	756.7	29.79	756.7	28.42	721.9
12"	35.73	907.5	35.73	907.5	33.85	859.8
16"	45.36	1152.1	45.36	1152.1	42.55	1080.8

Note: Dimensions – inches to the nearest tenth (millimeters to the nearest whole mm), each independently dimensioned from respective engineering drawings.

The specifications contained herein are subject to change without notice and any user of said specifications should verify from the manufacturer that the specifications are currently in effect. Otherwise, the manufacturer assumes no responsibility for the use of specifications which may have been changed and are no longer in effect.
Contact information is subject to change. For the most current contact information, visit our website at www.technipfmc.com/ and click on the "Contact Us" link in the upper right-hand area of the home page.

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