



Model FC10 Flow Conditioner for Gas Applications

- Reduces the need for long straight pipe runs
- Precision, laser-cut design
- 316 stainless steel material
- Creates proper gas flow profile from irregular flow profiles
- Negligible pressure drop
- Use with insertion style flow meters
- Available in 10 sizes for schedule 40 pipes: 1.5", 2", 2.5", 3", 4", 5", 6", 8", 10", and 12"
- Install upstream from the flow meter probe between 150 lb. flanges
- Easy installation in the center of the pipe via flange matching pipe outer diameter (OD)

FC10

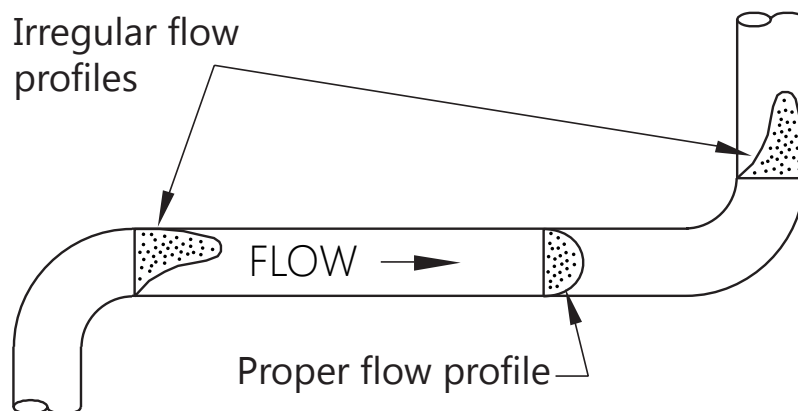
Flow Conditioner for use with Insertion Style Flow Meters

Flow conditioners installed upstream of flow meters reduce the need for long, straight pipe runs.



Installation Solutions for Limited Pipe Runs

Flow meter accuracy is often dependent on achieving a uniform flow profile near the center of the pipe. Distortion and swirl are disturbances in flow that can be remedied either by extending the length of space between the cause of the disturbance and the sensing element (increasing straight pipe runs) or by adding a flow conditioner to correct the disturbance directly.



In certain circumstances, the extra space needed to accommodate flow meters requiring more straight pipe runs upstream or downstream of the flow meter's flow sensor isn't available. In these cases, it's necessary to find solutions to these space limitations.

Insertion thermal mass flow meters are easy to install and require minimal straight pipe runs. In the past, the only option to reducing straight pipe runs for very tight spaces was to order inline flow meters with flow conditioners. In order to give customers more flexibility, Fox Thermal has developed the FC10 flow conditioner for use with insertion style flow meters.

Each flow meter is calibrated with the flow conditioner to ensure the highest accuracy.

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SPECIFICATIONS

Sizing

The FC10 was designed to be used in a variety of pipe sizes. FC10s are available in 10 sizes for schedule 40 pipes: 1.5", 2", 2.5", 3", 4", 5", 6", 8", 10", and 12". For pipe sizes outside of this range, an inline flow meter is recommended.

NOTE: For pressure drop data, please visit the Fox website.

Lateral Placement

To determine where to install the FC10 flow conditioner, the pipe size is important. FC10s require 5D upstream. The flow meter's sensor should also have 5D before any downstream disturbances. The distance between the FC10 flow conditioner and the flow meter's sensor is dependent on the pipe size and is listed in Table 1.1 and illustrated in Figure 1.1 below.

Figure 1.1: Straight Pipe Run Requirements

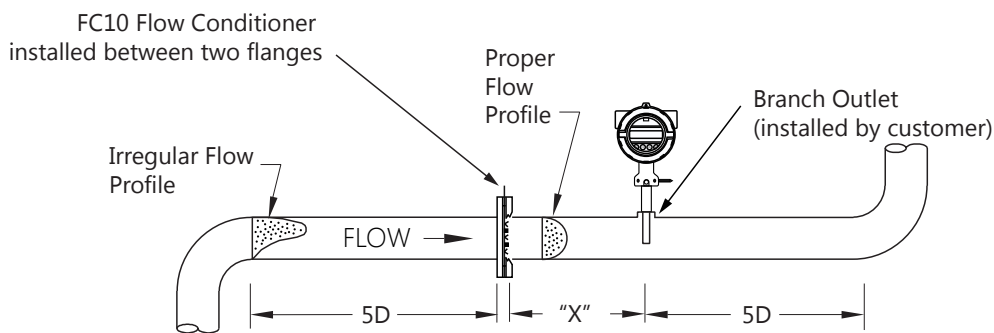


Table 1.1: Straight Pipe Run Requirements

Schedule 40 Pipe Size	"X" Inch (mm)	Min. Up/Downstream	
		Pipe Diameters	Inch (mm)
1.5	6 (152)	5D	8 (203)
2	6 (152)	5D	10 (254)
2.5	9 (229)	5D	15 (381)
3	9 (229)	5D	15 (381)
4	9 (229)	5D	20 (508)
5	10 (254)	5D	25 (635)
6	12 (305)	5D	30 (762)
8	16 (406)	5D	40 (1016)
10	20 (508)	5D	50 (1270)
12	24 (610)	5D	60 (1524)

TECH TIP

Compare Upstream & Downstream Straight Run Requirements for Common Flow Meter Technologies

DP METERS

20 Upstream
10 Downstream

VORTEX METERS

35 Upstream
5 Downstream

TURBINE METERS

20 Upstream
5 Downstream

ULTRASONIC METERS

10 - 20 Upstream
10 - 20 Downstream

INSTALLATION

FC10 Orientation

Every FC10 has "UPSTREAM" etched into the orientation marker at the top of the flow conditioner. This marker should be pointing parallel to the probe with the "UPSTREAM" etching pointing toward the upstream portion of the pipe.

The FC10 is installed between two 150lb flanges and gaskets (supplied by customer) should be placed on both sides of the flow conditioner to ensure a tight seal.

Please refer to document #107679 for further installation instructions.

Figure 1.2: Orientation of FC10 Flow Conditioner

