

# FC FLOW CONDITIONER INSTALLATION INSTRUCTIONS FOR MDOT SERIES INSERTION FLOW METERS

**This document is for use with Pulsar Measurement MDot series insertion models.**

The FC Flow Conditioner is installed upstream of the MDot flow meter to correct irregular flow profiles and ensure flow measurement accuracy. The FC Flow Conditioner is installed between two flanges in schedule 40 pipe with insertion type flow meters.

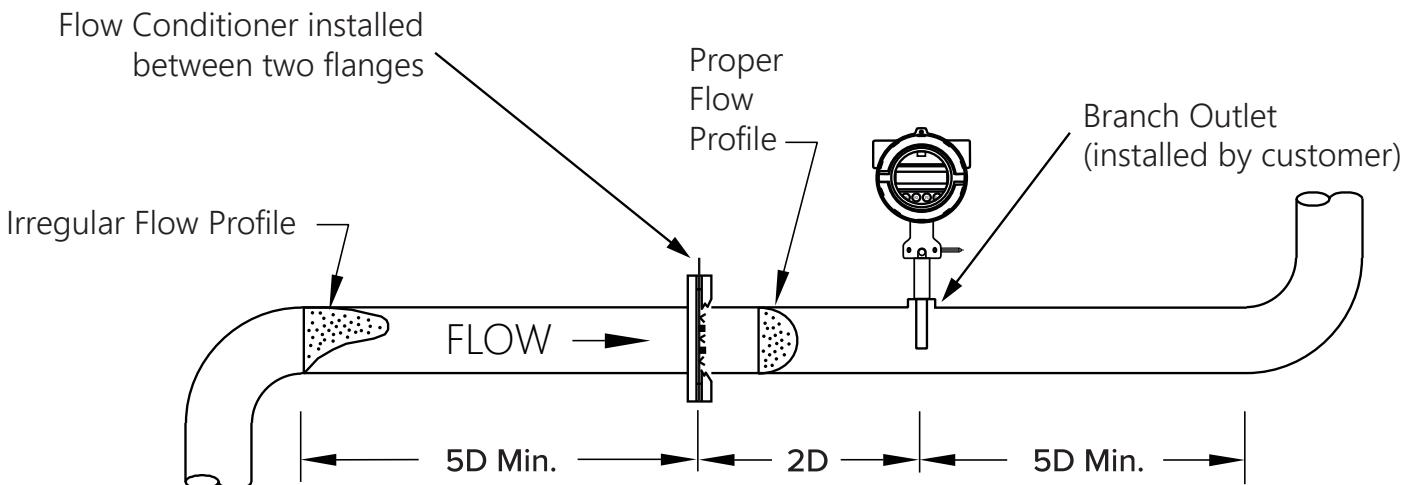
**PURPOSE:** This procedure describes proper installation of the FC Flow Conditioner to ensure flow measurement accuracy.

**Note:** MDot flow meters that will utilize the FC Flow Conditioner as part of the installation must be identified at time of order and calibrated with a FC Flow Conditioner.

## Instructions:

1. Determine the correct distance for dimensions 2D and 5D from the table below for the appropriate schedule 40 pipe.
2. Ensure proper installation of the branch outlet for the flow meter. See "Welding Branch Fitting to Pipe" section of the MDot Installation Manual on the Pulsar Measurement website. [https://pulsarmeasurement.com/downloads/download/mdot\\_manual.pdf](https://pulsarmeasurement.com/downloads/download/mdot_manual.pdf).

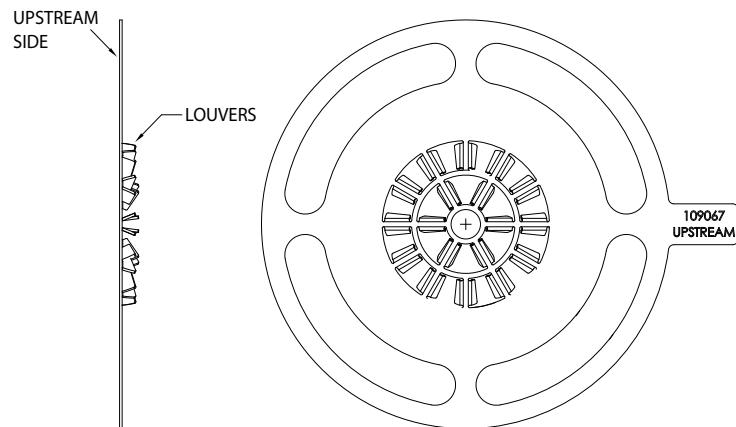
**Figure 1:** MDot Minimum Straight Run Requirements



Schedule 40 Pipe Size Inch	2D Inch (mm)	5D Min. Up/ Downstream Inch (mm)
1.5	3.22 (82)	8 (203)
2	4.14 (105)	10 (254)
2.5	4.94 (125)	12 (305)
3	6.14 (156)	15 (381)
4	8.06 (205)	20 (508)
6	12.13 (308)	30 (762)

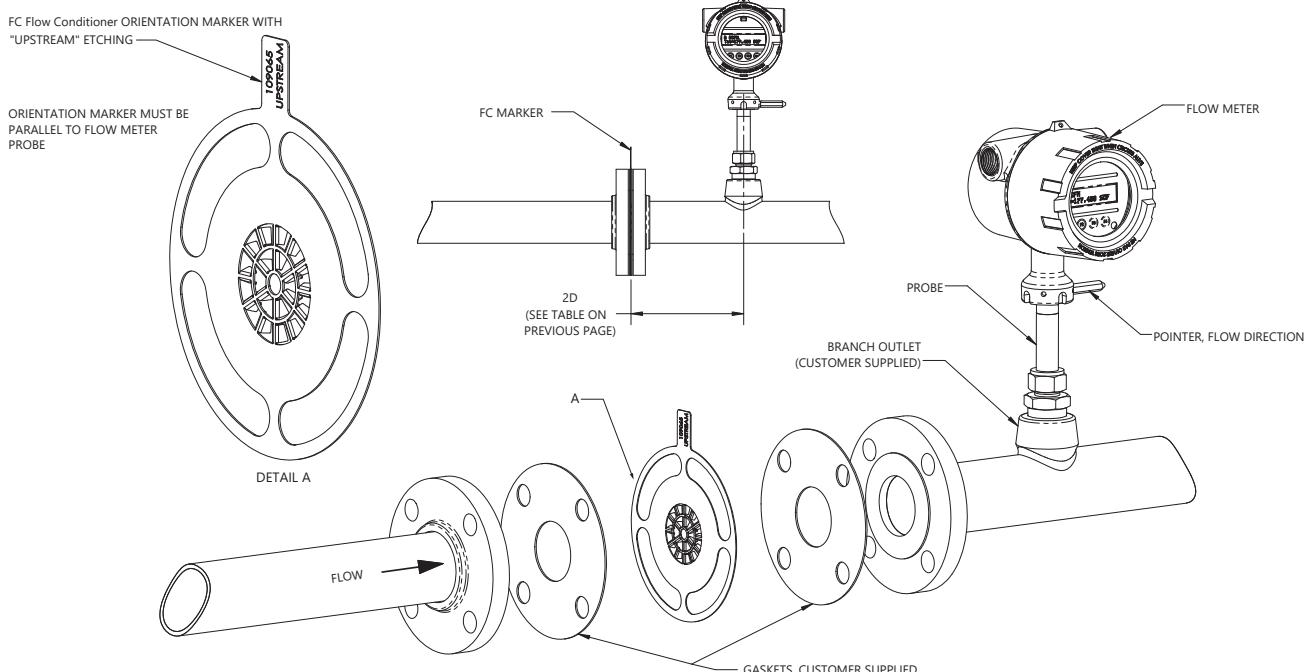
Schedule 40 Pipe Size Inch	2D Inch (mm)	5D Min. Up/ Downstream Inch (mm)
8	15.96 (405)	40 (1016)
10	20.04 (509)	50 (1270)
12	23.88 (607)	60 (1524)
14	26.24 (666)	66 (1676)
16	30.00 (762)	75 (1905)
18	33.75 (857)	84 (2133)
20	37.62 (956)	94 (2389)

**Figure 2:** Upstream Side of the FC Flow Conditioner



1. Position the FC Flow Conditioner correctly between the flanges.
  - The flow conditioner must be installed between flanges and two gaskets for optimum seal.
  - Center the flow conditioner between the flanges.
  - The MDot is equipped with an orientation marker. This marker must be aligned in parallel with the probe of the flow meter.
  - The FC orientation marker is also etched with "UPSTREAM" to indicate which side of the FC Flow Conditioner must be facing upstream. When installed correctly, the louvers inside the pipe will point downstream toward the flow meter's probe.

**Figure 3:** Upstream Side of the FC Flow Conditioner



2. Evenly tighten bolts on the flanges to complete installation of the FC Flow Conditioner.



INFO@PULSARMEASUREMENT.COM

Pulsar Measurement is a trading name of Pulsar Process Measurement Ltd.

Copyright © 2024 Pulsar Measurement  
Registered Address: 1 Chamberlain Square CS, Birmingham B3 3AX  
Registered No.: 3345604 England & Wales

**United States**  
+1 888-473-9546

**Asia**  
+60 102 591 332

**Canada**  
+1 855-300-9151

**United Kingdom**  
+44 (0) 1684 891371

**pulsarmeasurement.com**  
110049 - Rev A