

This document is for use with Sierra's BioTrak™ 645S, BioTrak™ 645i, TM100™, and TM500™ insertion models.

The FlowTrak is a flow conditioner installed upstream of a BioTrak or TM Series flow meter to correct irregular flow profiles and ensure flow measurement accuracy. The FlowTrak is installed between two flanges in schedule 40 pipe with insertion type flow meters.

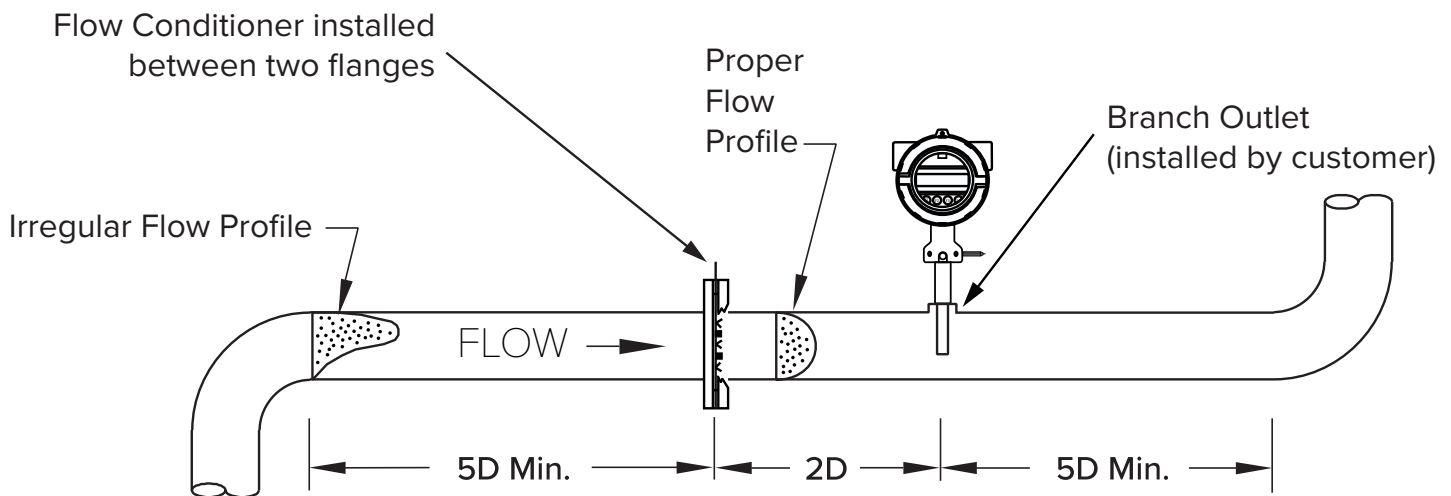
PURPOSE: This procedure describes proper installation of the FlowTrak to ensure flow measurement accuracy.

 **Note:** BioTrak and TM Series flow meters that will utilize the FlowTrak as part of the installation must be identified at time of order and calibrated with a FlowTrak flow conditioner.

Instructions:

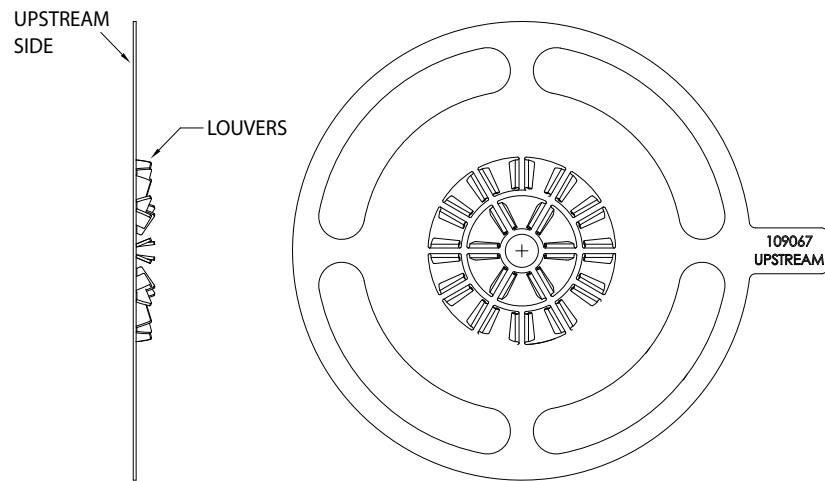
1. Determine the correct distance for dimensions 2D and 5D from the table below for the appropriate schedule 40 pipe.
2. Ensure proper installation of the branch outlet for the flow meter. See "Instructions for Welding NPT Female Branch Outlet to Pipe" guide for more information, sierrainstruments.com/Instructions_for_welding_NPT.

Figure 1: FlowTrak Minimum Straight Run Requirements



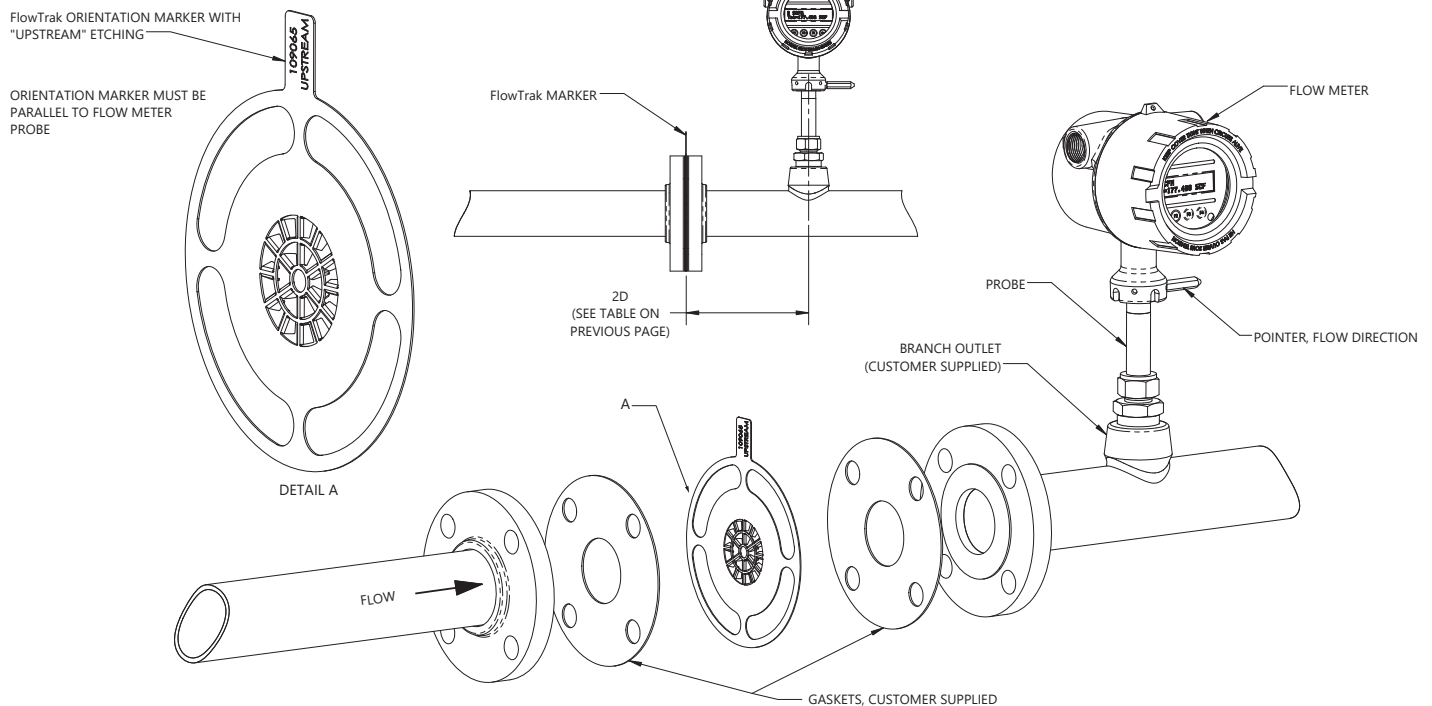
Schedule 40 Pipe Size Inch	2D Inch (mm)	5D Min. Up/Downstream Inch (mm)	Schedule 40 Pipe Size Inch	2D Inch (mm)	5D Min. Up/Downstream Inch (mm)
1.5	3.22 (82)	8 (203)	8	15.96 (405)	40 (1016)
2	4.14 (105)	10 (254)	10	20.04 (509)	50 (1270)
2.5	4.94 (125)	12 (305)	12	23.88 (607)	60 (1524)
3	6.14 (156)	15 (381)	14	26.24 (666)	66 (1676)
4	8.06 (205)	20 (508)	16	30.00 (762)	75 (1905)
6	12.13 (308)	30 (762)	18	33.75 (857)	84 (2133)
			20	37.62 (956)	94 (2389)

Figure 2: Upstream Side of the FlowTrak Flow Conditioner



3. Position the FlowTrak 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 BioTrak / TM Series FlowTrak is equipped with an orientation marker. This marker must be aligned in parallel with the probe of the flow meter.
 - The Orientation marker is also etched with “UPSTREAM” to indicate which side of the FlowTrak 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 FlowTrak Flow Conditioner



4. Evenly tighten bolts on the flanges to complete installation of the FlowTrak.

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