

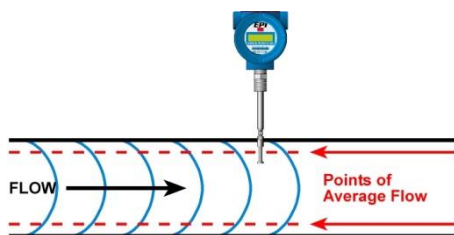


Proper Installation Positioning of Eldridge Flow Meters

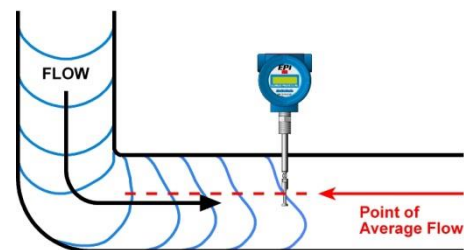
Reynolds Number (RD) defines whether the flow profile within a flow conduit is laminar flow or turbulent flow. Laminar flow has a RD of <2000 with a parabolic flow profile, while turbulent flow has a RD of >4000 with a more uniform (squared up) face velocity. The RD's between 2000 and 4000 are in the transition region allowing a change in profile from laminar to a turbulent face velocity profile. Turbulent flow profile is not the same as turbulence or swirl within the flow conduit. Changing Reynolds Numbers are caused by changing flow rates within the flow conduit.

Optimum installation requires sufficient straight run to allow a uniform, non-swirling, fully-developed flow profile within the flow conduit. The illustration at right is provided as a general guideline for minimum straight run requirements. *Depending upon the specific location details, more or less straight run may be required to produce a satisfactory flow profile.* It is best to avoid installations which are immediately downstream of bends, abrupt cross-sectional area increases or decreases, fans, louvers, or other equipment installed in the line. These situations can cause non-uniform flow profiles and swirl which can result in signal errors. Problematic flow profiles require flow conditioning to improve meter performance. Consult the factory for additional information.

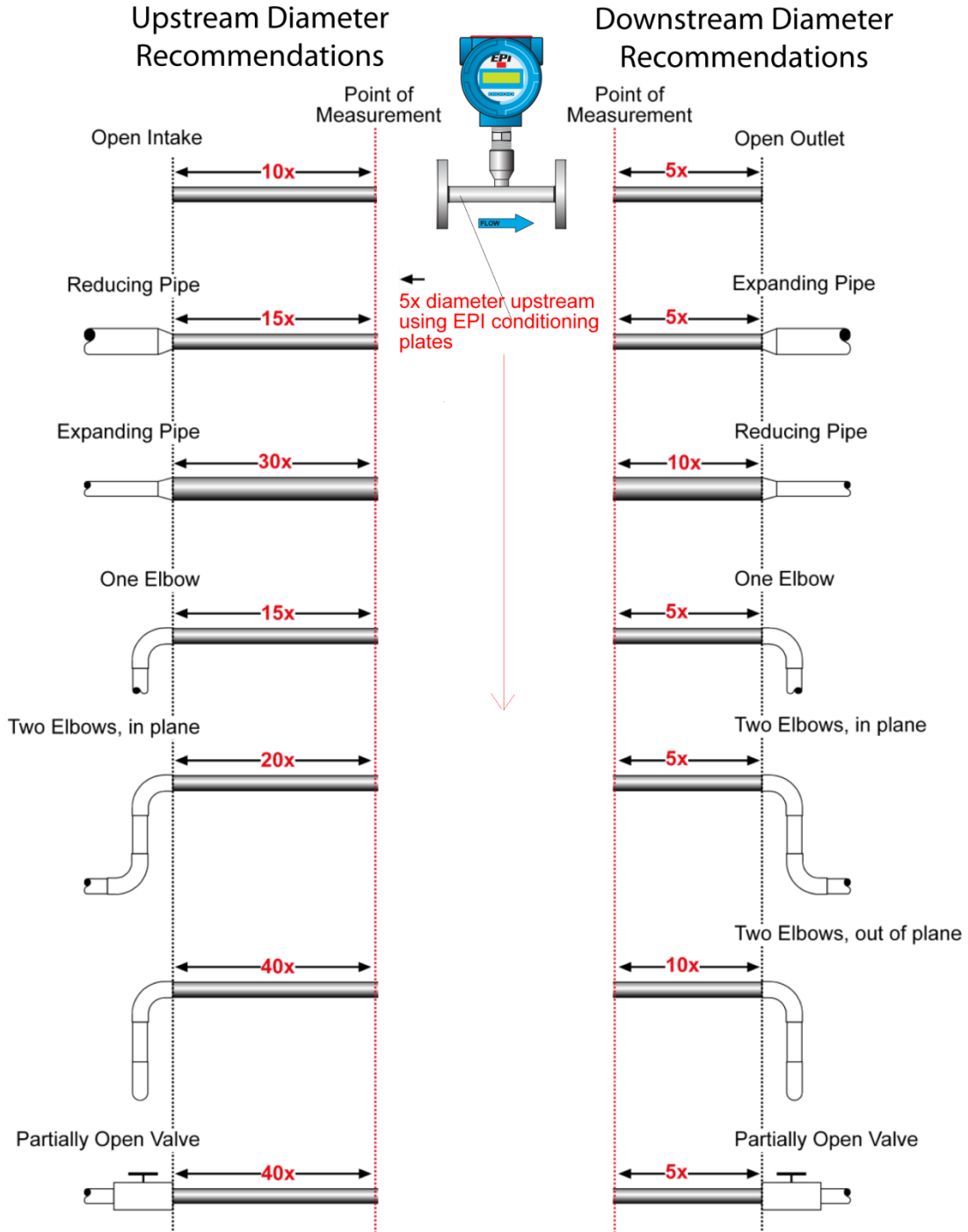
Our **insertion flow meters** are calibrated near the ISO Point-of-Average-Flow (.243r) positioning in the process line with a fully-developed flow profile. You may need to make minor adjustments in the sensor position for best results in your process line. You may also need to utilize the C-Factor adjustments of the Master-Touch™ software for the most accurate flow readings due to a non-uniform flow profile in your process line. *Consult your manual for the recommended insertion depth in common process pipes.*



This illustration shows a well-developed flow profile with the sensor positioned at the point-of-average-flow.



This illustration shows a poorly developed flow profile with the sensor positioned to achieve an accurate flow reading.



Consult factory for flow conditioning options that may reduce the straight run requirements for your installation.