

SONARtrac[®] Process Monitoring Systems – General Installation Guidelines

The following are general installation guidelines and recommendations for installing SONARtrac[®] process monitoring sensors.

- Select locations with well-developed flow profiles.
- Avoid installation locations directly after piping configurations that cause flow jetting.
- Install flow sensor upstream of control valves, “T”s, orifice plates, and any other severe source of flow disturbance.
- Locate the sensor upstream of pipe taps such as those used for temperature and pressure sensors.

*Good piping practices are required near flanges. This includes good alignment of pipes, and properly sized and installed gaskets that do not disturb the flow profile.

Recommended installation distances (pipe diameters) from flow disturbances

‘A’ = Upstream Diameters; ‘B’ = Downstream Diameters

Feature	Flow Measurements		Gas Volume Fraction Measurements		Flow and Gas Volume Fraction Measurements	
	‘A’	‘B’	‘A’	‘B’	‘A’	‘B’
90 Degree Elbow	15	5	NA	NA	15	5
Double Elbow in plane	25	5	NA	NA	25	5
Double Elbow out of plane	40	5	NA	NA	40	5
Diffuser (expansion)	30	5	NA	NA	30	5
Reducer	15	5	NA	NA	15	5
Control Valve	40	10	NA	NA	40	10
Flange	2	2	NA	NA	2	2

Please note: The recommended distances above are only guidelines. In many cases these installation guidelines cannot be met but the SONARtrac[®] meter will perform within specification. Contact CiDRA Corporation for additional information.