

SONARtrac[®] Process Monitoring System General Upstream/Downstream Recommendations

The following distances are recommended for optimal performance of the 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.
- Requires a full pipe

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	
	‘A’	‘B’	‘A’	‘B’
90 Degree Elbow	15	5	NA	NA
Double Elbow in plane	25	5	NA	NA
Double Elbow out of plane	40	5	NA	NA
Diffuser (expansion)	30	5	NA	NA
Reducer	15	5	NA	NA
Pump	20-30	5	NA	NA
Shut-off Valve (fully opened or closed)	2-4	5	NA	NA
Control Valve	40	10	NA	NA
Flange	2	2	NA	NA

Please note: The recommended distances above are only guidelines. Contact CiDRA for additional information.