

SONARtrac[®] Process Measurement 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.
- SONARtrac system can be installed in locations with entrained air.
- SONARtrac system with gas volume fraction feature can measure the volume fraction to deliver a true liquid flow.

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

Feature	Minimum for Repeatable Operation		Standard Specifications	
	Upstream	Downstream	Upstream	Downstream
Elbow	1/2	1/2	15	5
Diffuser (expansion)	6	1	30	5
Reducer	2	2	15	5
Pump	10	5	20	5
Shut-off Valve (fully opened)	2-4	5	2-4	5
Valve Variable Position i.e. Control Valve	40	10	40	10

* Please contact CiDRA for application-specific guidelines.

Please note: The recommended distances above are only guidelines. For any other configuration or application-specific questions, please contact CiDRA for assistance.