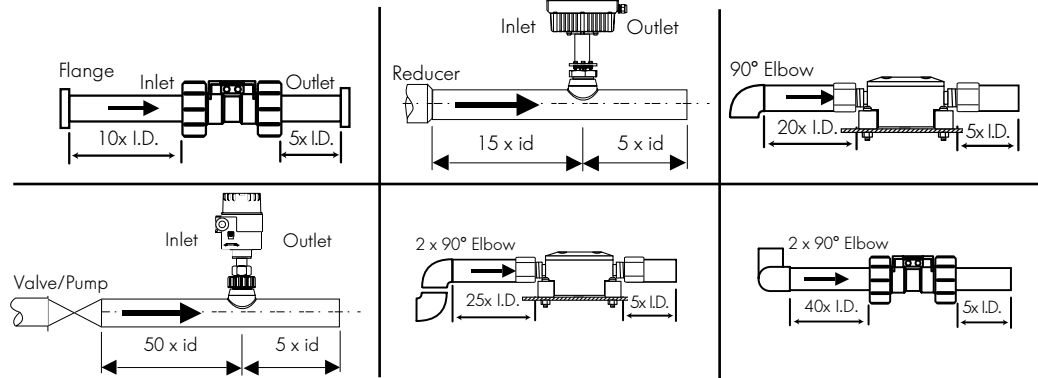


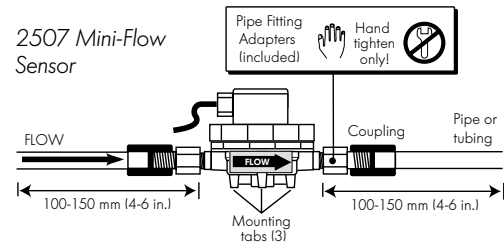
Installation of Flow Sensors: In-Line Rotors, Turbines, Magnetic and Ultrasonic

I. Piping Location

- The location of the sensor in the piping system determines the flow profile that the sensor is monitoring. The ideal location is to have sufficient straight pipe immediately upstream of the sensor to create "fully developed turbulent flow." Such a flow profile provides the stability required for the sensor to measure accurately.
- The diagrams below illustrate the minimum distances recommended from various obstructions.
- In all scenarios, it is recommended to choose a location with the maximum length of straight, uninterrupted pipe.
- Six common installation configurations are shown below as guidelines to help you select the best location in your piping system for the flow sensor. Always maximize distance between sensors and pump sources.
- Never install immediately downstream of valves, fittings, etc.
- Observe minimum Reynolds Number (see Technical Reference section).
- The flow sensors are not for bi-directional operation.

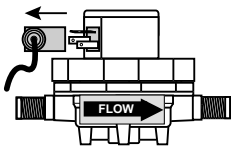


- For optimal performance of the 2507, a straight flow run of at least 100 to 150mm (4 to 6 in.) should be allowed before and after the sensor.

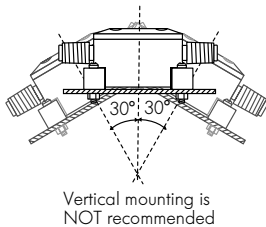


Installation & Wiring

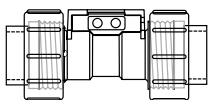
2507 In-Line Rotor



2000 Micro Flow Sensor



2100 Turbine Flow Sensor



II. Mounting Angle

The mounting angle of the sensor may affect the performance of the system.

In-line Rotors:

- +GF+ SIGNET Models 2507 and 2000 flow sensors are designed to be mounted on a flat surface, although the sensors may be tilted up to $\pm 30^\circ$ if necessary.
- Installation in excess of 30° will affect the accuracy of the sensor.

- For Model 2507, two pipe fitting adapters (included) convert the straight threads G-1/4 in. to 1/4 in. NPT.
- These sensors should be installed securely to their supporting surface to prevent vibrations from affecting the performance.

Turbine Flow Sensors

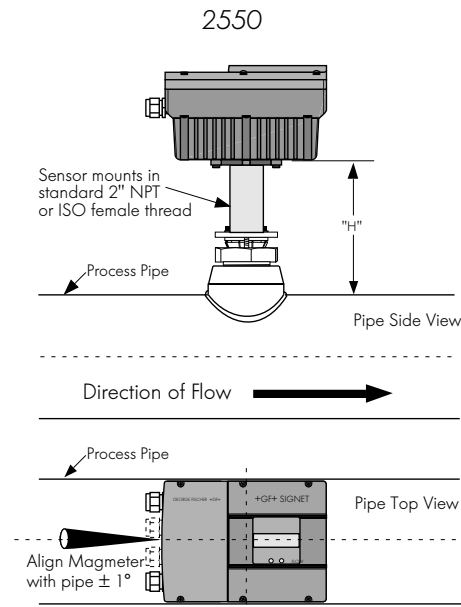
- All mounting angles are acceptable for these sensors if the basic parameters are met: the pipe must be full with no entrapped air.
- Install the sensor with the arrow pointing in the direction of the flow of liquid.

II. Mounting Angle, continued

The mounting angle of the sensor may affect the performance of the system.

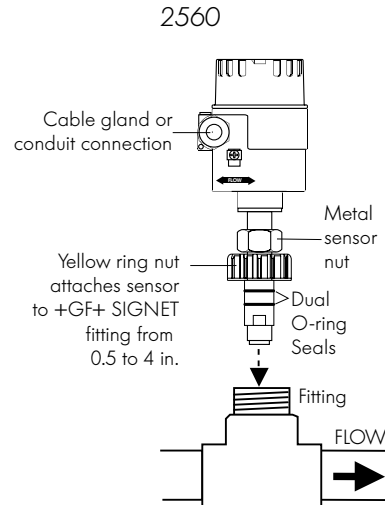
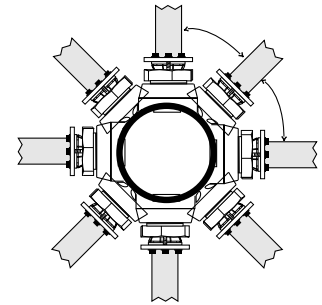
Magnetic Flow Sensors

- All mounting angles are acceptable for these sensors if the basic parameters are met: the pipe must be full with no entrained air.



- On horizontal pipe runs sensor may be mounted in any position around the pipe. If air bubbles or sediments are expected; mount at a slight angle.
- On vertical pipe runs sensor may be mounted in any orientation with UPWARD flow preferred to ensure a full pipe.

Any angle acceptable



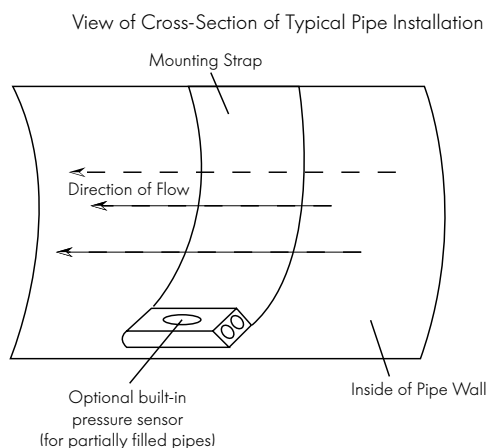
Ultrasonic Doppler Flow Sensors

The 3300 Ultrasonic Doppler is offered in two different styles, strap mount and insertion mount.

- The strap mount is inserted inside the pipe and placed on the bottom.
- The insertion mount is threaded into the top of the pipe.

In both cases, the liquid should be flowing towards the transducer. Both are designed to work with entrained air and solids in the fluid stream. For strap-mount sensors, partial full pipe or channel is acceptable. For insertion style sensors, the pipe must be full. Any mounting angle is acceptable.

Strap Mount Transducer



Insertion Mount Transducer

