

BL-PFS300, BL-PFS400, & BL-PFS600

Flow Sensor Installation

Baseline's BL-PFS300, BL-PFS400, and BL-PFS600 are saddle-type, impeller flow sensors that provide accurate digital output signals proportional to the velocity of the liquid flowing through the pipe.



Installation Overview

1. Choose the proper location and orientation.
2. Install the sensor in the pipe.
3. Make the electrical connections.
4. Program the controller.

Operation Notes

- Make sure the flow sensor is assembled and the retaining nut is tightened (hand tight) before pressurizing the system.
- Fill the pipeline and eliminate all trapped air.
- The flow sensor should begin transmitting flow immediately; however, it may take up to a minute for the flow readings to display in the appropriate screens on the BaseStation controllers.
- Always wait for flow to stabilize before setting control limits. Stabilization may take several minutes in large piping systems.



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Installing the Baseline PFS Flow Sensor in the Pipe

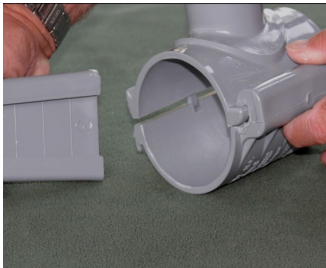
Important!

Depressurize and drain the pipe before installing the sensor.

Disassemble the PFS Flow Sensor



1. Turn the retaining nut on the PFS flow sensor insert counter-clockwise and pull the insert housing straight out of the tee.
Do not pull on the wire leads!



2. Remove the tapered wedge from the side of the saddle and fold the bottom half of the saddle down to separate it at the hinge.

Prepare the Pipe

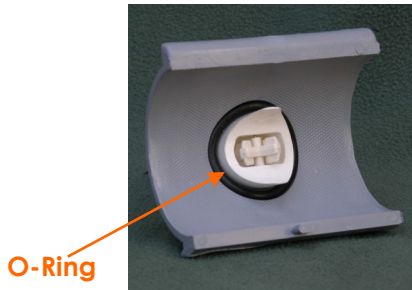
Attach the PFS flow sensor to the outside of a section of PVC pipe with the same nominal size as the saddle after an entry hole for the sensor insert has been drilled through the pipe. Use best industry practices to insure that the sensor is installed correctly.

1. Locate a straight section of pipe with a minimum of 15 diameters of straight pipe. Clean a 12" (minimum) section of pipe 10 diameters downstream of any valve, fitting, or change in size.
2. Use a 1 3/4" hole saw, NEITHER SMALLER NOR LARGER, to drill the entry hole in the center of the cleaned area of the empty depressurized pipe. Make sure the hole is perpendicular to the pipe and centered. Remove the pipe coupon with the saw; do not allow it to fall into the pipe. Remove the burr from the edge of the hole.

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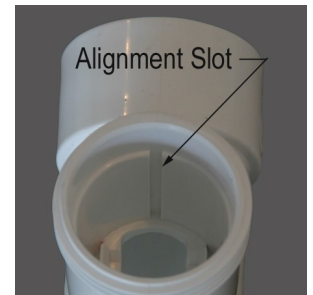
Attach the Saddle to the Pipe



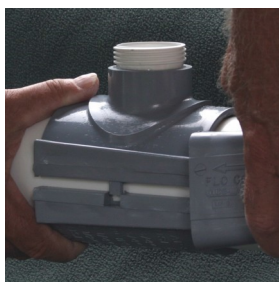
1. Make sure the o-ring seal is in place on the underside of the saddle around the protruding sensor housing.



2. Place the top half of the saddle with the alignment slot inside the sensor housing on the downstream side over the pipe so that the mount fits into the drilled hole.



3. Attach the bottom half of the saddle to the top half on the hinged side of the top half and close it around the pipe.



4. Push the larger end of the tapered wedge over the guides. Slide it until the pieces of the saddle are clamped together. The wedge should go on about halfway by hand. Finish setting the wedge by tapping it a couple times with a rubber mallet.



5. Position the flow sensor insert so the arrow is pointing downstream, and make sure that the key is aligned with the slot inside the housing.
6. Push the insert straight in until the o-ring seals the opening.
7. Slide the retaining nut over the wire leads and turn the nut clockwise by hand until it is tight.

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Making the Electrical Connections

1. Power off the two-wire when installing devices. Leave 24 to 36 inches of slack on the two-wire to allow the PFS flow sensor housing to be removed from the tee and brought above grade for servicing.
2. Connect the red and black wire from the PFS flow sensor to the corresponding red and black wires on the two-wire. It is critical that polarity is maintained. Do not connect flow sensor to power or valve circuits!
3. Use wire nuts for your initial connections. After you verify communications between the BaseStation and the PFS flow sensor, replace the wire nuts with 3M™ DBR/Y-6 or equivalent moisture-resistant connectors for all two-wire path connections.

Programming the Controller

In the BaseStation 1000 User Manual, refer to Setting Up Flow biCoders. If you want the PFS flow sensor to be associated with a water source, refer to Assigning a Flow Sensor to a Water Source.

In the BaseStation 3200 User Manual, refer to Searching for and Assigning Flow Meters. If you want the PFS flow sensor to be associated with a water source, refer to Assigning Devices to Water Sources.

BL-PFS300, BL-PFS400, & BL-PFS600 — Calibration Table

Model	K Value	Offset
PFS300	2.75	1.58
PFS400	4.53	1.11
PFS600	10.401	3.308