

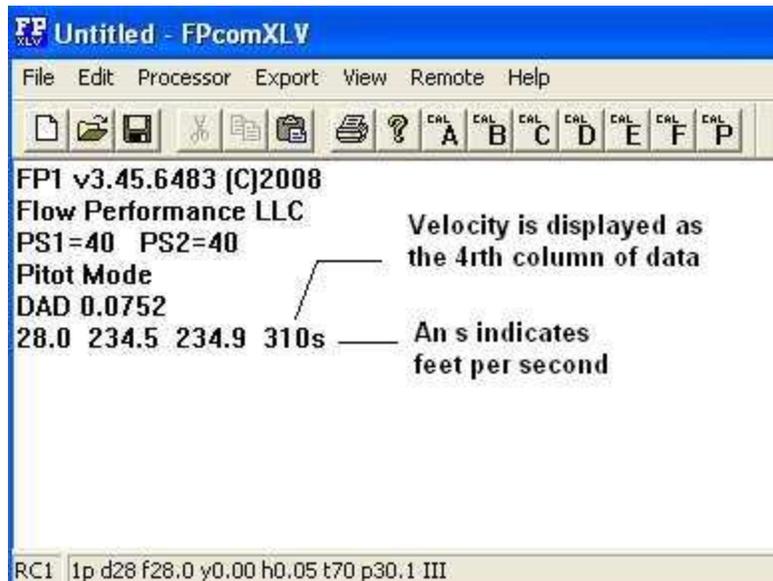
Flow Performance FP1

FP1 Velocity Measurement

With the Flow Performance FP1 flow rate processor, localized velocity measurements can be made. A Pitot/Static velocity probe can be used for actual velocity rate measurements.

On earlier FP1's velocity is displayed in the fourth column of your display in Feet per Minute.

Starting with FP1 software version 3.1.32, the velocity can also be displayed in Feet per Second, and velocity is only displayed when in flow mode or calibration P, or when the optional dedicated velocity probe sensor PS3 is enabled.



Feet per Minute/Seconds can be selected on FP1 software version 3.1.32 and later only. To select Feet per Minute, Set the value of upper case **V** to 0 (zero). For velocity readings in Feet per Seconds, set upper case **V** to 1 (one).

When the velocity readings are set for **Feet per Second** (software version 3.1.32 or later, **V** = 1), column 4 of your display will display the velocity value with an 's' notation to indicate the value is in Feet per Second. Example: 323s

When the velocity readings are set for **Feet per Minute** (**V** = 0), column 4 of your display will display the Feet per Minute value without any notation. Example 4567

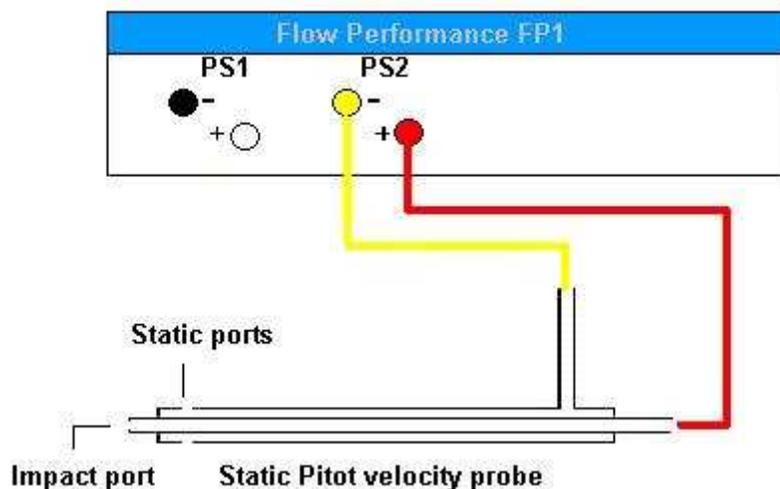
FP1 Velocity Measurement

Pitot Static Velocity Probe

A Pitot Static velocity probe can measure actual velocity rates in a localized area.

All FP1 flow processors accept Pitot Static velocity probes and display velocity rates in Feet per Minute. On earlier FP1s where the velocity is displayed at all times as the fourth column of data, you simply connect your velocity probe to PS2 and the velocity will be calculated from your Pitot.

Starting with FP1 software version 3.1.32, the user can select velocity rates displayed in Feet per Minute or Feet per Seconds.



Pitot Static Probe connection using PS2:

Later FP1s that do not display velocity at all times need to be set up for using a Pitot.

Set the flow mode (earlier FP1) or calibration (CAL, later FP1) to **P** for Pitot.

Upper case M [ENTER] upper case P [ENTER]

The FP1 will not process cfm or velocity readings unless it detects a pressure on PS1....

Flow Benches should connect PS1 to the bench receptacle or to the settling chamber static test pressure port. For positive pressures, connect to PS1 +. For vacuum pressures, connect to PS1 -.

If a Pitot is to be used alone, without a flow bench, PS1- will need to be connected to the static side of the Pitot, or PS1+ will need to be connected to the impact side of the Pitot, depending on the pressure of the air flow being measured with the Pitot.

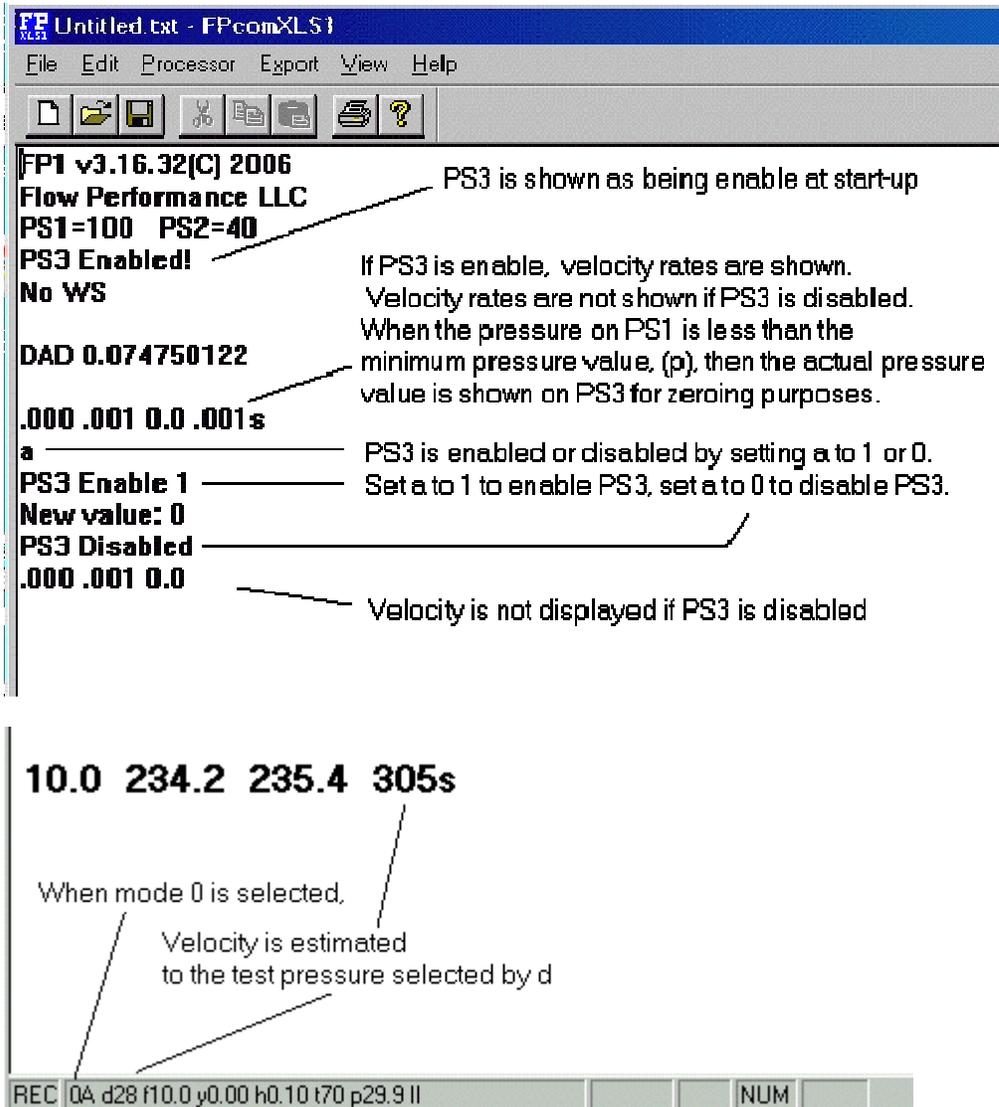
If the local pressure (pressure at the location of the velocity probe) is less than ambient pressure (atmospheric) then the velocity probe static port should be connected to PS1 - port.

If local pressure is greater than ambient pressure, then the velocity probe static port should be connected to PS1 + port.

FP1 Velocity Measurement

FP1 Optional Pressure Sensor 3 (PS3)

FP1 version 3.17.32 and higher, supports a third pressure sensor in the FP1, pressure sensor 3, or PS3. PS3 can be used to measure flow velocities while flow volume rates are being measured on PS2.



PS3 is enabled by setting lower case (a) to 1 (one).

PS3 is disabled by setting lower case (a) to 0 (zero).

When PS3 is enabled, the data reading rate from the FP1 is slowed. This is because of the time required to sample and process PS3.

If PS3 is disabled, make sure there is no pressure applied to all pressure sensors when enabling PS3. The FP1 will enter the zeroing function when PS3 is enabled.

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FP1 Velocity Measurement

v (lower case) is a trim multiple of the velocity reading. You can apply a velocity probe compensation factor to v. Annular static Pitot probes typically have a factor of .95 to 1.0. S type probes have a typical factor of .82 to .89.

V (upper case) Determines velocity reading format. V = 1 feet per second. V = 0 feet per minute. Velocity readings in feet per second are appended with an s (Example: 240s).

Mode 3 and PS3, When PS3 is enabled in mode 3, PS3 pressure is displayed in column 2. PS2 is not displayed.

If PS3 is disabled in mode 3, PS2 pressure readings are displayed in column 2.

Mode 4 allows velocity bar graph image and cfm readings. Max velocity is recorded in the status bar. To reset max velocity, zero the FP1. FP1 version 3.17.32 and later feature Space-Bar data capture. Mark increments are set by (Q), and can be any value.

