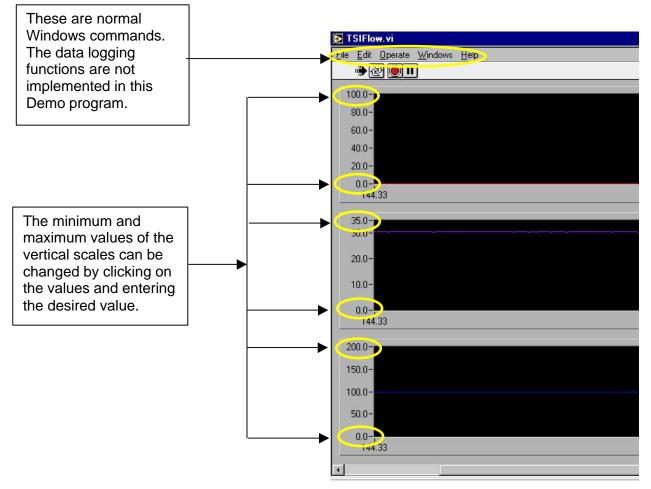# TSI FLOW
OPERATING HINTS

TSI Flow is a program designed to demonstrate the operation and capabilities of TSI's line of general-purpose mass flowmeters. It is not intended to be a serious laboratory tool.

TSI Flow is written in LabVIEW®, a popular laboratory software package. Many users will want to develop their own LabVIEW applications to meet their exact needs. To help these users we have also included the source code for TSI Flow. This demonstrates common functions of the flowmeter such as communicating with the instrument, controlling the instrument, and dealing with returned data. See the Serial Command Set manual for a complete list of the available functions for each flowmeter.

Screen, Left Half

These are normal Windows commands. The data logging functions are not implemented in this Demo program.

The minimum and maximum values of the vertical scales can be changed by clicking on the values and entering the desired value.

Screen, Right Half

Channel Enable for each measurement parameter. Can only be changed in Standby mode

Digital Readout for each measurement parameter. Update rate is determined by the sample rate.

Volume measurement "arm" button. Enables the volume measurement function. Can only be armed in the Standby mode, but can measure volume in either Run or Standby modes.

Volume measurement "armed" indicator. Shows that flowmeter is ready to start volume measurement as soon as the beginning-trigger criteria are met.

Volume Display. Volume is displayed immediately after end-trigger criteria are met.

Sets the start/stop measurement criteria for the volume measurement. See Serial Command Set manual for other start/stop criteria options

Run / Standby button.

Every time the Run/Standby button is pushed to "Run" the Demo software interrogates the flowmeter for its model and serial numbers. See Serial Command Set manual for additional information that is available from the flowmeter.

Sets the sample rate of the flowmeter's analog and digital outputs. Note that this is not the same command as the "Set Update Rate" command for the LCD display.

Communications Port Select.

Select Gas Calibration. This Demo program only supports Air and Oxygen choices. Different models of flowmeters offer additional choices such as N$_2$O and Air / Oxygen mixtures. Note that these calibration choices are internal to the flowmeter and are not correction factors from this Demo software

Screen elements

TSI Flow

Flowmete 0.00

SLPM

146.33 sec

Temperature 30.61

C

146.33 sec

Pressure 99.50

kPa

146.33 sec

Volume

Volume 0.0000 L

Begin trig level 0.25 LPM   Begin trig slope Positive

End trig level 0.10 LPM   End trig slope Negative

Run ON

Serial Number 41400003004

Model Number 4140

milliseconds/sample 10

Gas Air   Com Port 2