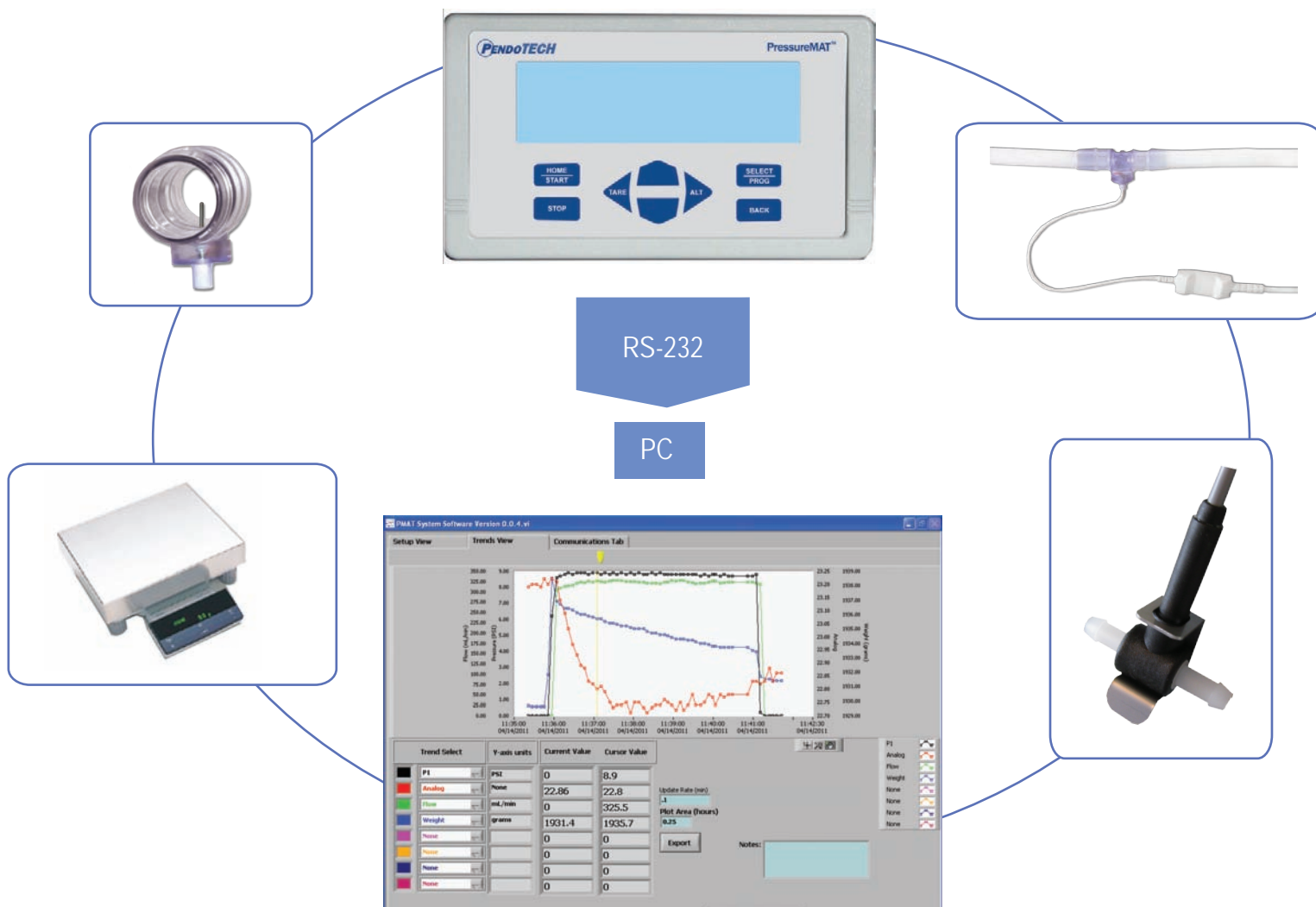


## PressureMAT Data Acquisition Software

The PendoTECH PressureMAT (PMAT) monitor/transmitter that is used to read the PendoTECH Pressure Sensors comes with a data port as a standard feature. PendoTECH has created a customized software package to be able to trend the data real-time and also collect the data to a file that can be opened by programs such as Excel. The software has settings to choose the PressureMAT model from a list and it can optionally perform calculated values such as DeltaP and also trans-membrane pressure that are used for certain filtration applications.



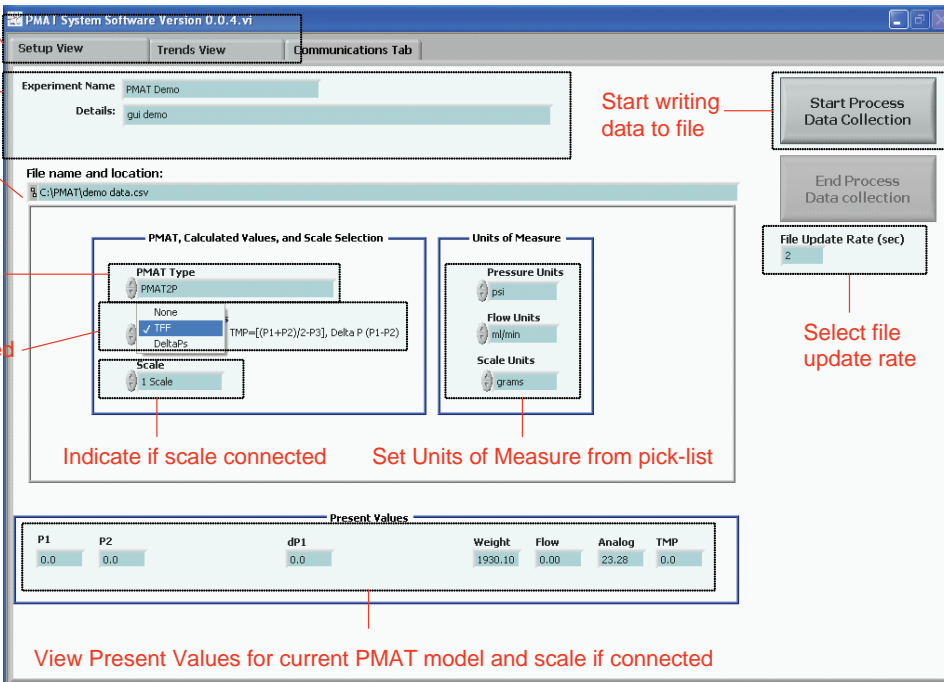
There are the PMAT-PLUS models that have a special flow meter pulse-frequency input to which flow meters can be connected. The PMAT-2PLUS model has an analog input port to which different sensors such as the PendoTECH Temperature Sensor, UV Sensor, Turbidity Sensor or other sensor can be connected via their 4-20mA transmitter and this data can be logged with the pressure and flow data. Additionally, a scale with an RS232 output may be plugged into the PC directly and the software can acquire weight data along with the PressureMAT data.

## Overview

The PressureMAT™ can be connected to a PC port - either serial port (9 pin) or USB. The software has a Setup View tab to make selections based on the model being used and process details and start a data file. The Trends view tab allows viewing of data real-time and is loaded with features to customize the data view or even export the data being viewed to a file that can be opened in Excel.

## Setup View

The setup view is used to enter information specific to the PMAT model and to select calculated values for specific applications. Data collection from a scale can be activated here also. The units of measure are selected to match the units on the PressureMAT and scale. At the top, information can be entered that is specific to an experiment and this data is written to the header of the data file when the data file is created. The data file location is also displayed. The data file may be updated at a rate of every 2 seconds or slower. All of the inputs to this view are locked out when the “Start Process Data Collection” button is clicked.



**Tab navigation** - Points to the 'Setup View' tab.

**Enter information that is written to data file header** - Points to the 'Experiment Name' and 'Details' fields.

**Indicates file location** - Points to the 'File name and location' field.

**Select PMAT Model** - Points to the 'PMAT Type' pick-list.

**Display Calculated Values** - Points to the 'None', 'TFF', and 'DeltaPs' options in the 'PMAT Type' pick-list.

**Indicate if scale connected** - Points to the 'Scale' pick-list.

**Set Units of Measure from pick-list** - Points to the 'Pressure Units', 'Flow Units', and 'Scale Units' pick-lists.

**Start writing data to file** - Points to the 'Start Process Data Collection' button.

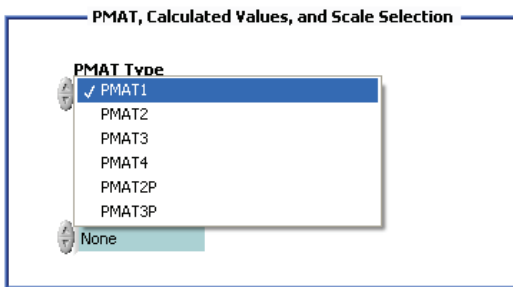
**Select file update rate** - Points to the 'File Update Rate (sec)' field.

**View Present Values for current PMAT model and scale if connected** - Points to the 'Present Values' table.

P1	P2	dp1	Weight	Flow	Analog	TMP
0.0	0.0	0.0	1930.10	0.00	23.28	0.0

The PMAT model and units are selected by pick-lists. These units are then used for the trends view and used in the column headers of the data files to indicate the units of the values in each column

### Select Model

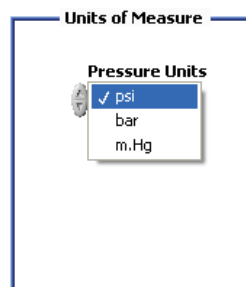


**PMAT, Calculated Values, and Scale Selection**

**PMAT Type**

- PMAT1
- PMAT2
- PMAT3
- PMAT4
- PMAT2P
- PMAT3P
- None

### Pressure Units

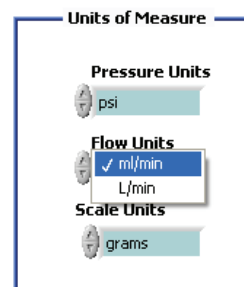


**Units of Measure**

**Pressure Units**

- psi
- bar
- m.Hg

### Flow Units



**Units of Measure**

**Pressure Units**

- psi

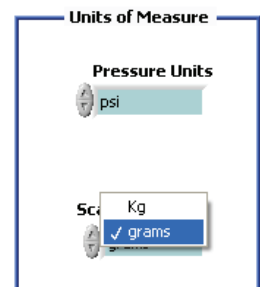
**Flow Units**

- ml/min
- L/min

**Scale Units**

- grams

### Weight Units



**Units of Measure**

**Pressure Units**

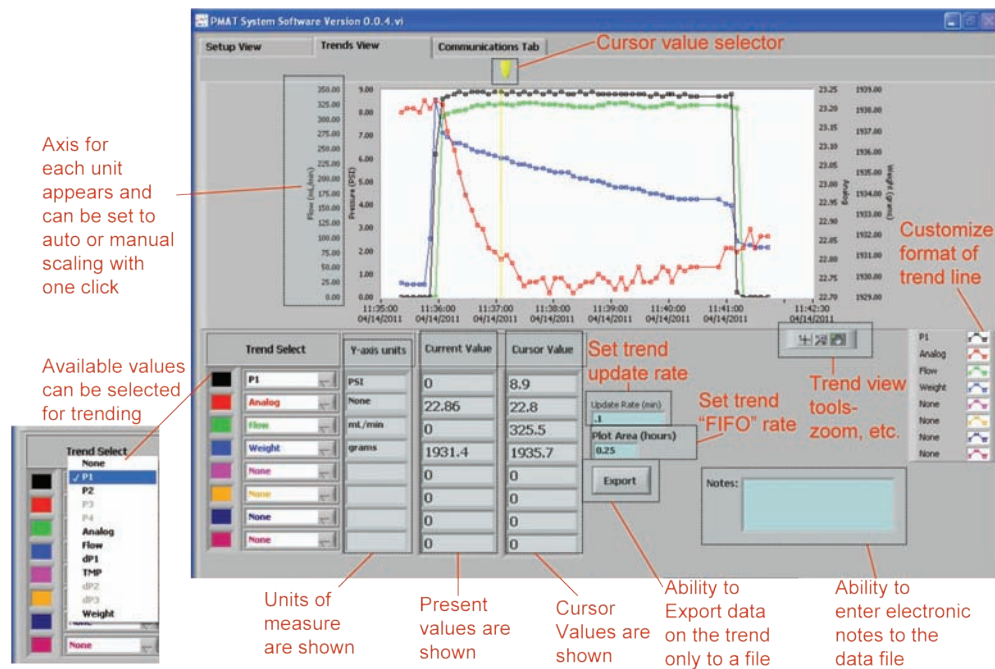
- psi

**Scale Units**

- grams
- Kg

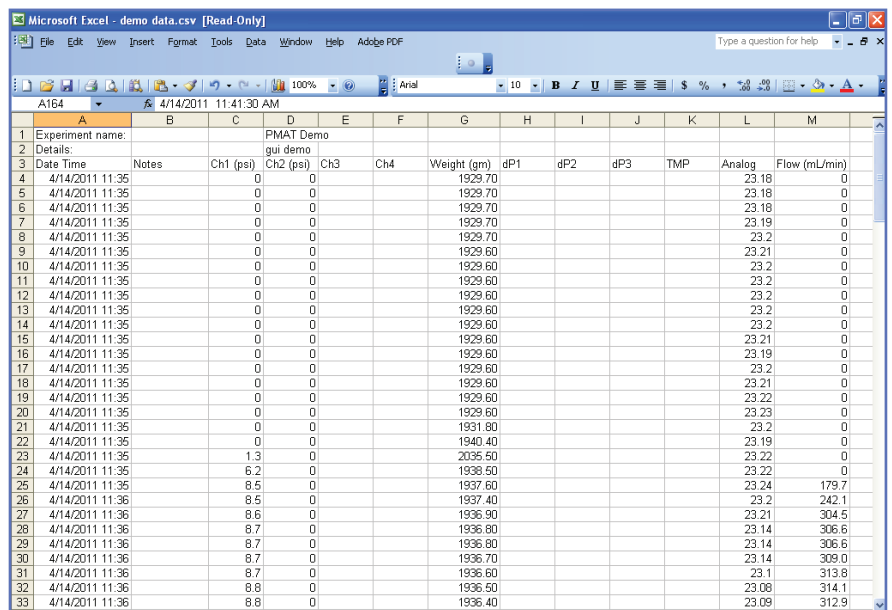
## Trends View

It has the flexibility to allow customization of the view to meet your requirements. The pick lists allow you to display the data of interest and at any time items can be added and removed from the plot area. It features auto-scaling options for all axes or manual scaling by simply typing mix/max values at an axis scale. The cursor tool is useful to compare older data versus present. Electronic Notes may be entered and the notes will be written to the data file with the following data record. The trends view features are highlighted below which is shown with a PMAT-2PLUS with temperature as the analog input and TFF calculations enabled. The plot with legend may also be copied as a picture for immediate placement into a report or presentation.



## Data File

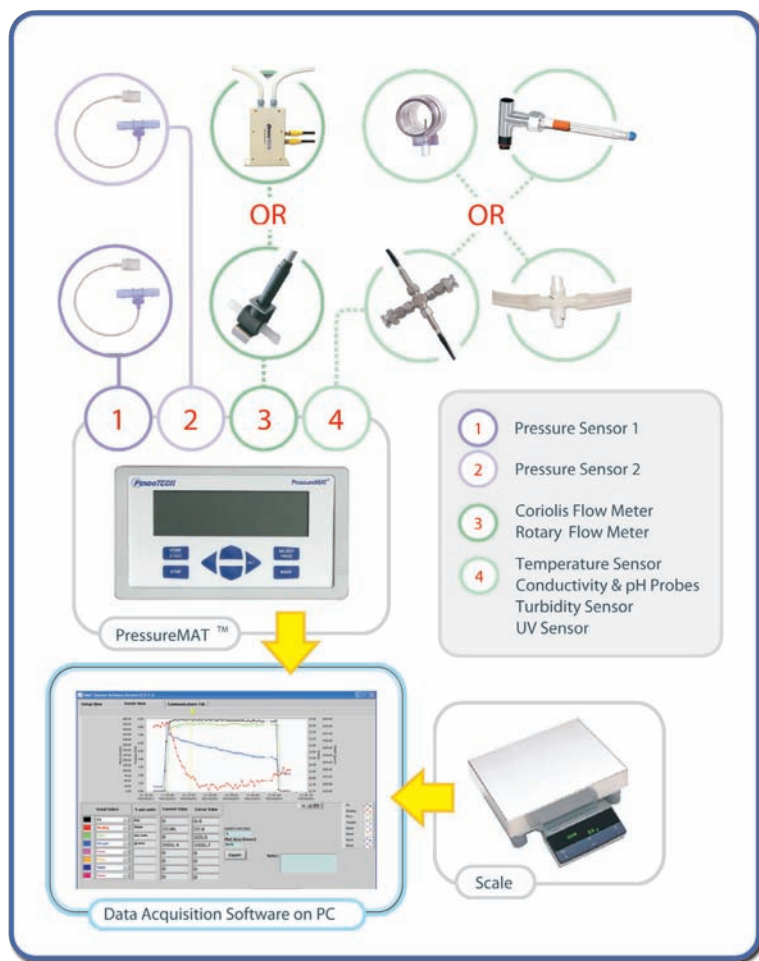
The file may be located in any directory and is created when the "Start Process Data Collection" button is clicked. The data is written to this file that is locked by the software until the "End Process Data Collection" button is clicked. The file format is CSV that is set to automatically open with Excel. A file sample is shown. The notes column is empty except for where notes were entered so they are easily located the time identified



A	B	C	D	E	F	G	H	I	J	K	L	M
1	Experiment name:		PMAT Demo									
2	Details:		gui demo									
3	Date Time	Notes	Ch1 (psi)	Ch2 (psi)	Ch3	Ch4	Weight (gm)	dP1	dP2	dP3	TMP	Analog
4	4/14/2011 11:35		0	0			1929.70				23.18	0
5	4/14/2011 11:35		0	0			1929.70				23.18	0
6	4/14/2011 11:35		0	0			1929.70				23.19	0
7	4/14/2011 11:35		0	0			1929.70				23.2	0
8	4/14/2011 11:35		0	0			1929.60				23.21	0
9	4/14/2011 11:35		0	0			1929.60				23.2	0
10	4/14/2011 11:35		0	0			1929.60				23.2	0
11	4/14/2011 11:35		0	0			1929.60				23.2	0
12	4/14/2011 11:35		0	0			1929.60				23.2	0
13	4/14/2011 11:35		0	0			1929.60				23.2	0
14	4/14/2011 11:35		0	0			1929.60				23.2	0
15	4/14/2011 11:35		0	0			1929.60				23.21	0
16	4/14/2011 11:35		0	0			1929.60				23.19	0
17	4/14/2011 11:35		0	0			1929.60				23.2	0
18	4/14/2011 11:35		0	0			1929.60				23.21	0
19	4/14/2011 11:35		0	0			1929.60				23.22	0
20	4/14/2011 11:35		0	0			1929.60				23.23	0
21	4/14/2011 11:35		0	0			1931.80				23.2	0
22	4/14/2011 11:35		0	0			1940.40				23.19	0
23	4/14/2011 11:35		1.3	0			2035.50				23.22	0
24	4/14/2011 11:35		6.2	0			1938.50				23.22	0
25	4/14/2011 11:35		8.5	0			1937.60				23.24	179.7
26	4/14/2011 11:36		8.5	0			1937.40				23.2	242.1
27	4/14/2011 11:36		8.6	0			1936.90				23.21	304.5
28	4/14/2011 11:36		8.7	0			1936.80				23.14	306.6
29	4/14/2011 11:36		8.7	0			1936.90				23.14	306.6
30	4/14/2011 11:36		8.7	0			1936.70				23.14	309.0
31	4/14/2011 11:36		8.7	0			1936.60				23.1	313.8
32	4/14/2011 11:36		8.8	0			1936.50				23.08	314.1
33	4/14/2011 11:36		8.8	0			1936.40				23.09	312.9

The PressureMAT-Plus models allow process values to be read directly into the PressureMAT and all the data can be collected and trended real-time. Up to 5 parameters can be collected (pressure and weight data along with other process valves.) The PressureMAT and the PC Software give the capability to quickly and easily create a custom configured Data Acquisition and Trending system. Tech support for set up is included.

For PressureMAT info go to [www.pendotech.com/pressuremat](http://www.pendotech.com/pressuremat)



**PressureMAT-Plus Model 2P** - quickly and easily enables creation of custom-configured process trending and data acquisition system.

## Ordering Information

Part Number	
PMAT-GUI	Data Acquisition and Trending Software for PressureMAT; Compatible with PCs with Windows XP, VISTA, and Windows 7 PC with minimum of 1 GB RAM and processor of 1 GHz or faster; Must have at least 2 free USB ports  Scale setting must be set to: RS232 communication protocol, with settings: 1200 baud, 7 data bits, ODD parity, 1 stop bit, NO HANDSHAKE. Continuous data output.  Scale output pins: Pin 2: Tx Pin 3: Tx Pin 5: GND
PDKTP-RS232	RS232 cable for PressureMAT data output (6ft/ 2M)
PDKTP-RS232U	RS232 cable for PressureMAT data output (6ft/ 2M) for USB input to PC