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# **Torque Measuring Unit**

*for Constant Speed Blender*

**Part No. 120-60-50**

## **Instruction Manual**

**Updated 3/28/2012**

**Ver. 1.2**

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# Introduction

The Torque Measuring Unit measures the current being supplied to the blender. As the fluid in the blender thickens, the current will increase in order to maintain a constant speed.

The current required to run the blender ranges from 0 to 5 amps. The Torque Measuring Unit converts this amperage to a range from 0 to 100 units. Therefore, the number on the display represents the relative thickness of the fluid in the blender.

# Installation



Tip



Note

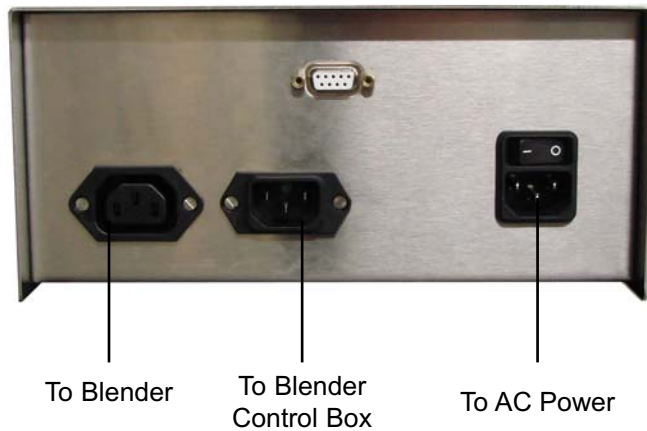
1. Unpack the Torque Measuring Unit and place it on top of the Constant Speed Blender.
2. Plug the blender into the female outlet on the back of the Torque Measuring Unit.

The cord on the blender is not long enough to reach to the Torque Measuring Unit. Use the supplied extension cord.

3. Connect the Torque Measuring Unit to the underside of the blender control box.

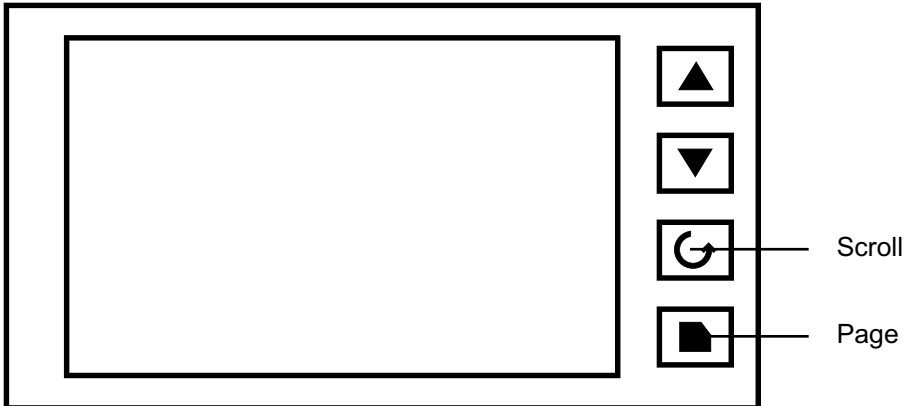
The outlet on the back of the unit is keyed to distinguish it from the AC power outlet.

4. Plug the Torque Measuring Unit into an AC power outlet.



# Operation

1. Turn the power switch on the back of the unit on.
2. Turn on the Constant Speed Blender and operate it according to the provided instruction manual.
3. As the blades in the blender turn, the number on the display will show the relative thickness of the fluid. At any point during operation, press the up or down arrow to see the maximum value the unit has measured.



4. When a test is complete, reset the maximum value for the next test:
  - a. Press the "Page" key until the display reads "info". (Five times)
  - b. Press the "Scroll" key until the display reads "rES.L". (Six times)
  - c. Press the up arrow (twice) until the display reads "Yes".
  - d. Press the "Page" and "Scroll" keys at the same time to return to the main screen.

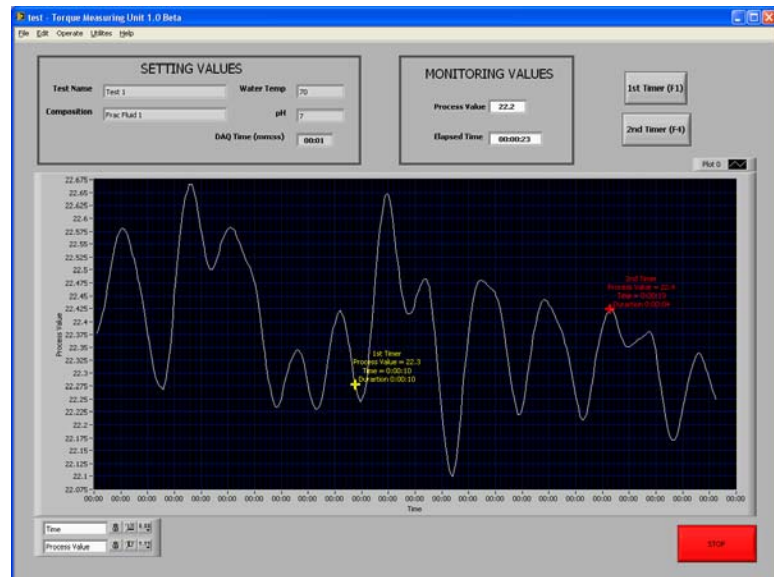
# Software

The “Main Screen” of the software shows a real-time graph of the data coming from the unit.

1. To begin a test, first select “Load Test” on the “Operate” menu. Enter the appropriate data on the resulting screen.

The “Test Name”, “Composition”, “Water Temp”, and “pH” fields are for display only. They will print in the header of the data file but will not affect the test. The “DAQ Time” field determines how often the software records data to the file.

2. Click the “Start” button.



“Setting Values” - These values are set on the “Load Test” screen.

## “Monitoring Values”

“Process Value” - This is the same value that displays on the front of the unit.

“Elapsed Time” - This shows the total time since the beginning of the test.

“1<sup>st</sup> Timer (F1)” - Click this button (or press the F1 key) to place a marker on the graph. The marker will show the process value and elapsed time at the moment you clicked the button. It will continue to record the duration until you click the “2<sup>nd</sup> Timer (F4)” or end the test.

“2<sup>nd</sup> Timer (F4)” - Click this button (or press the F4 key) to place a marker on the graph. The marker will show the process value and elapsed time at the moment you clicked the button. It will continue to record the duration until you click the “1<sup>st</sup> Timer (F1)” or end the test.

To access the “Options” screen, choose “Options” from the “Edit” menu.

“**COM Port #**” - Enter the COM port that the unit is connected to.

“**Eurotherm Address**” - This is the address of the Eurotherm controller. The value is set at the factory and should not be changed.

“**Data Archive Directory**” - In this field, specify a location for the software to save the data file. The filename of the data file will be the “Test Name” as specified in the “Options” screen followed by “.xls”. This file can be opened in Microsoft® Excel® for further analysis.

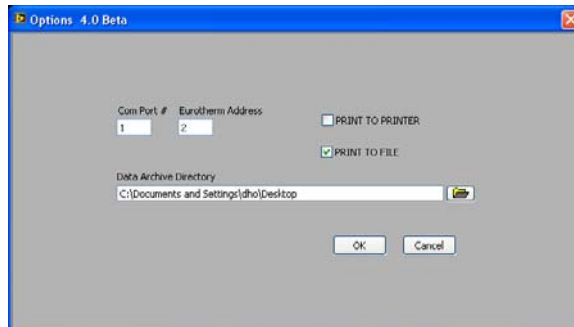
“**Print to Printer**” - When a chart is printed, if this box is checked the software will send the chart to the printer.

“**Print to File**” - When a chart is printed, if this box is checked the software will create an image file of the chart in the data archive directory. The filename of the image will be the “Test Name” as specified on the “Options” screen followed by “.jpg”.

If both the “Print to Printer” and “Print to File” boxes are checked, the file will be printed to the printer and saved as an image file.



Tip



The software can also print a chart from a previous test.

1. Select “Recall Test” from the “Utilities” menu.
2. Browse to the folder where the software is installed and find the “Data” subdirectory.
3. The filename will be the “Test Name” as specified on the “Options” screen followed by “.bin”. Select the file and click “OK”. The chart will be printed to the printer and/or a file.