

CHEMINSTRUMENTS

HIGH SPEED RELEASE TESTER

MODEL HSR-1000

OPERATING INSTRUCTIONS

PRODUCT DESCRIPTION	2
UNPACKING	3
ASSEMBLY	4
KEY COMPONENTS	5
OPERATION	6
SAMPLE PREPARATION	8
EZ LAB SOFTWARE	9
Installation.....	10
Operation.....	10
Calibration.....	11
Speed.....	11
Data Set Information.....	12
Storing Data	14
Graph Screen.....	15
Review Data.....	20
File Details	21
Save to Excel.....	23
Tabulate Data	23
Overlay.....	25
Cropping Graphs	26
Changing Directories	28
Previously Saved Tabulate Files	30
Previously Saved Overlay Files	30
MAINTENANCE	32
Trouble Shooting	32
WARRANTY	20

PRODUCT DESCRIPTION

Congratulations on the purchase of your new ChemInstruments HSR-1000 High Speed Release Tester. This versatile, user-friendly, carefully designed instrument allows you to determine release values of adhesive laminates at various constant high speeds.

This unit has the following features:

- Selectable testing speeds from 30 to 1000 feet per minute
- Separation angle of 180 degrees
- Automatic sampling area with selectable default cropping area
- Selectable units of measure; kilograms, Grams, newtons, pounds, & Ounces
- Collected data is exported via RS232 port.
- Includes EZ-Lab System software
- Data results can be normalized
- Test data can be saved in Excel® format



UNPACKING

ChemInstruments has made every effort to ensure that the HSR-1000 arrives at your location without damage. Carefully unpack the instrument and check for any damage that might have occurred during shipment. If any damage did occur during transit, notify the **carrier** immediately.

The ChemInstruments HSR-1000 consists of the following parts:

- The test frame, including the motor/drive mechanism and the data acquisition system.
- An envelope with this manual
- EZ-Lab System software CD
- Calibration wire
- Power cord
- RS-232 communication cable

Make sure all of these components are present before discarding packaging material.

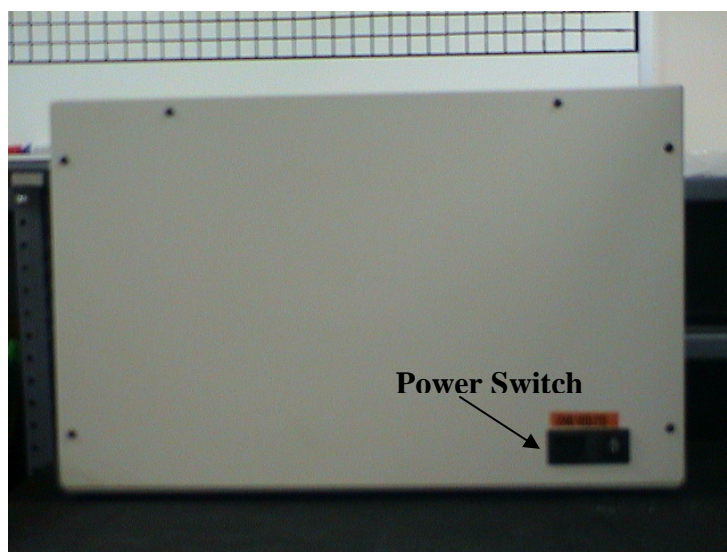
ASSEMBLY

Carefully remove the test frame/drive/data acquisition assembly from the packaging and set it on a sturdy bench top. The space required for the unit is approximately 24" long x 13" deep x 25" high. As with any precision piece of test equipment, it is preferable to locate the HSR-1000 in an area where temperature and humidity are controlled to standard conditions ($72 \pm 2^{\circ}\text{F}$, $50 \pm 5\%$ relative humidity).

Connect the power cord to its receptacle on the backside of the control cabinet at the far right side when viewed from the rear. Complete the connection by inserting the male end of the power cord into a convenient AC outlet. Notice that the on/off power switch is located next to the power cord receptacle on the backside of the test frame. (See Photo 2 – HSR-1000 Cabinet Back)

Connect one end of the RS-232 communication cable to the export connection on the HSR-1000. (See Photo 4 – RS232 Cable Connection) Connect the other end to the communication port on your computer.

The ChemInstruments HSR-1000 is now ready for calibration and use. Before proceeding with calibrating the HSR-1000, it is advisable to become familiar with the Key Components of the HSR-1000. These Key Components and a brief description of their function follow in the next section.



KEY COMPONENTS (See Photo 1)

- **POWER SWITCH** is located on the back panel of the control cabinet next to the power cord connection.
- **LOAD CELL** measures the forces involved with a High Speed Release test.
- **LOAD CELL ASSEMBLY** consists of the mounting bracket for the load cell with grip.
- **GRIP** secures the free end of the test strip to the load cell.
- **DIGITAL DATA DISPLAY** provides test data results and system status information.
- **CONTROL KEYS** control the various features of the data acquisition and operating system. There are 5 keys consisting of Select, Enter, Up↑, Down↓, and Units.
- **RS232 CONNECTION** data output port for downloading test data.
- **DRIVE WHEEL** determines the speed of separation during the test.
- **PINCH ROLLER** pinches the test specimen against the Drive Wheel in order to separate the test specimen.



Photo 1 – HSR-1000 High Speed Release Tester

OPERATION

THEORY OF OPERATION

The release liner of a pressure-sensitive adhesive laminate sample is removed at high speed in order to simulate production conditions. This is accomplished by peeling the release liner or the adhesive substrate at a 180-degree angle and at a selected speed (from 10 – 1,000 feet per minute). An electronic load cell measures the release force, then feeds the information to a data acquisition unit. The data acquisition unit collects the test data from the load cell and stores this information in memory for use in calculating the maximum, minimum and average values. The data acquisition unit assigns a file number and saves the results in its memory. This data is downloaded through the RS232 connection port, to the EZ-Lab System software on your PC.

POWER UP

Turn on the master power switch, which is located on the back panel of the control cabinet next to the power line receptacle. The onboard computer will go through a self-test. The system will then default to the “I” mode and display the current force being read by the load cell. The HSR-1000 high-speed release tester is now ready to be calibrated.



" Warning! Operating temperature for this equipment is 0 to 70 Celsius. The equipment needs to be completely free of condensation inside and out, before applying power."

GRIP OPERATION

The grip opens by pinching the top lever. Insert the free end of the sample into the open Grip while pinching the top lever. The spring action of the Grip will close the top jaw of the Grip down to the bottom.

NOTE: The grip is attached directly to the load cell. Do not move the grip sideways or up and down. When opening and closing the grip, support it with one hand and operate the lever with the other hand to avoid damaging the load cell. For proper operation of the load cell it is necessary for the grip to be mounted with a space between the load cell housing and the grip. DO NOT TIGHTEN THE GRIP AGAINST THE LOAD CELL HOUSING.

WARNING: Rotating the Grip on the threaded mounting rod, causing the Grip to come in contact with the wall of the load cell housing will damage the load cell. There must be a physical gap maintained between the Grip and the load cell housing for the load cell to function correctly.

MOTOR TIMING

In the unlikely event that the Pinch roll and Drive roll are not contacting during a test and the sample is not being pulled properly, an adjustment to the motor timing that controls the Pinch roll is necessary. The following procedure should be followed to perform this adjustment.

1. Open “Review Data” from the Main Screen of the EZ Lab program.
2. Open the menu under the EZ Lab logo at the top right of the screen.
3. Select “Motor Timing. To proceed you will need an authorization code. This code must be obtained from ChemInstruments. Please call 513-860-1598 or email us at CI@FUSE.NET to continue.
4. Enter the authorization code received from ChemInstruments and click OK.
5. Enter a new value. Higher values increase the force of the pinch roller.

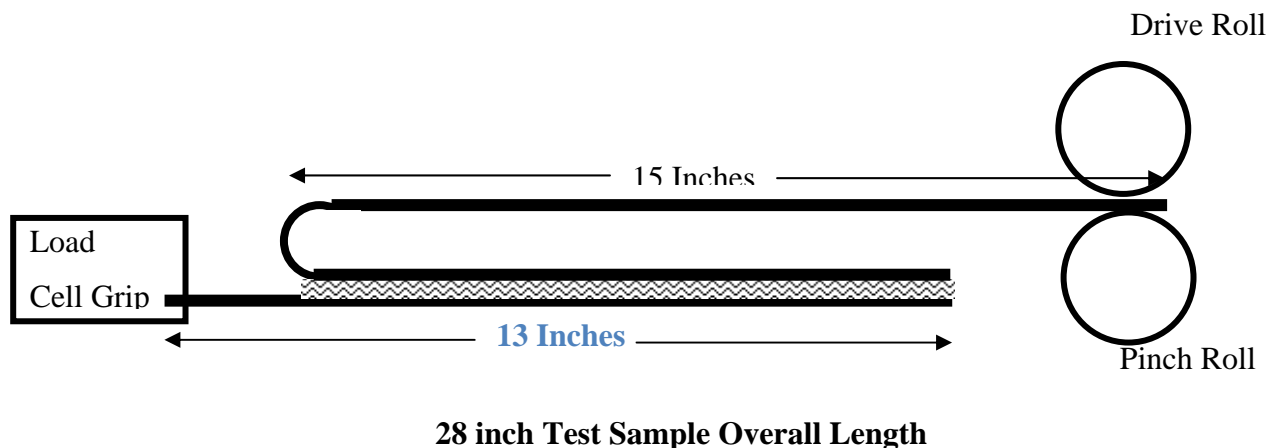
RUNNING A TEST

SAMPLE PREPARATION

High-speed release tests are preformed according to the FINAT Test Method no. 4. The HSR-1000 will accommodate test sample with dimensions of 2” wide and at least 28 inches in length. The sample is prepared for either a release pull or adhesive pull at 180 degrees. Approximately 12 inches of test material must be removed in order to provide a “lead” that is placed between the pinch roller and the drive roller. If you are testing the release liner removed from adhesive, then it is the adhesive and substrate that must be removed to expose the “lead” of release liner (See Figure Below). If you are testing the adhesive removed from release liner, then it is the release liner that must be removed to expose the “lead” of adhesive and substrate (See Figure Below). Samples need to be prepared according to the following drawings for proper operation of the test.

Make sure the load cell has been calibrated and is reading correctly.

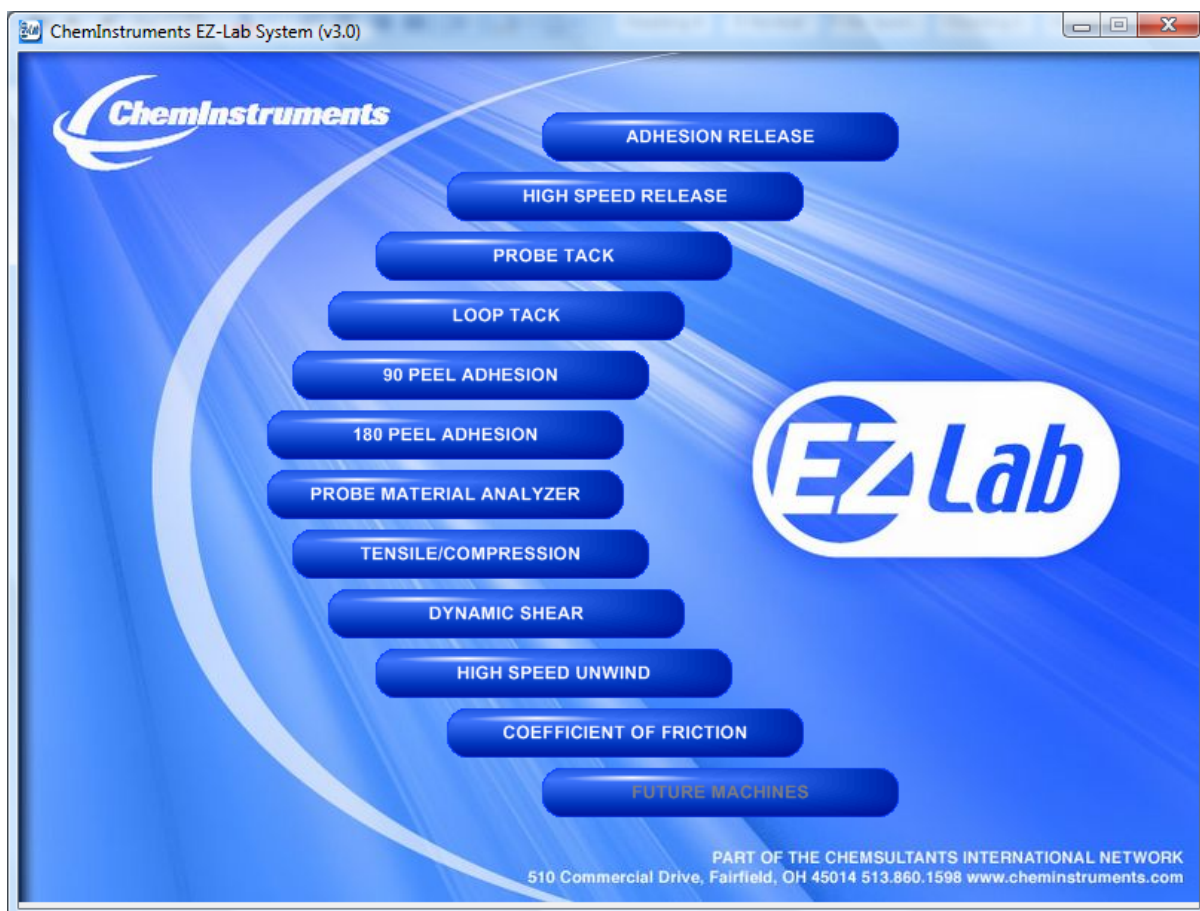
The HSR-1000 is designed to regulate the speed of the load cell’s sampling in accordance with the speed of the test. The rate of data sampling will be adjusted to provide 400 data samples regardless of the test speed. The setting of the speed does the adjustment of the sampling rate automatically.



EZ-LAB SYSTEM 3.0

OVERVIEW

EZ Lab System software Version 3.0 is designed to enhance your model 1000 or 1100 ChemInstruments test platforms. The following procedure describes how to use the EZ-Lab System. Should you have any problems or questions after following this procedure, please call ChemInstruments at 513-860-1598, or contact us by e-mail at, ci@fuse.net.



INSTALLATION

Insert the EZ Lab disk into the computer. EZ-Lab will self install.

1. If EZ-Lab does not self install, select **RUN, (Drive):\Setup.exe**
2. Follow the on screen instructions to complete the software installation.
3. Connect the test platform's RS232 connection to the appropriate port on your computer with the provided RS232 serial cable.
4. On the computer, open the EZ-Lab program. This file will be located in a folder titled "EZ-Lab" on the C drive.
5. Double click on the file "EZLabv3.0". This will open the EZ-Lab System program and display the Main Screen.
6. Select the appropriate test platform button to activate the program. The operating screen will appear on your display.

OPERATION

This operating system is designed to provide all the necessary instructions on your computer screen. However, the following information will provide additional insight.

The Main Operating Screen is divided into 3 sections. The left and right sections are

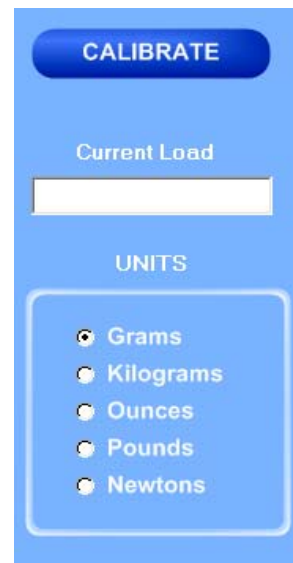


titled "**Setup**". Calibration of the load cell and choosing the units of measure are controlled in the left and right "**Load Setup**" section. The right section, titled "**Setup**", is for starting the motor and setting the test speed. The center section, titled "**Run Test**", is for running a test without using the **Test** button on the HSR-1000.

CALIBRATION

In order for the load cell to measure forces correctly it is necessary to calibrate the system. The following procedure describes the calibration process. The test platform uses **Grams** for calibration.

1. Select the “**Calibrate**” button in the Setup section of the Main Screen.
2. Follow the on screen instructions exactly, and make sure to hang the appropriate weight on the load cell Grip when entering the high calibration value.
3. Verify the calibration by hanging some other known weight on the load cell Grip and checking the display in the Current Load field.
4. Click on appropriate bullet to select desired unit of measure.



The image shows a vertical blue interface for calibration. At the top is a dark blue button with the word "CALIBRATE" in white. Below this is a white rectangular input field labeled "Current Load". Underneath the input field is the word "UNITS" in white. Below "UNITS" is a rounded rectangle containing five radio button options: "Grams", "Kilograms", "Ounces", "Pounds", and "Newtons". The "Grams" option is selected, indicated by a white dot inside its radio button.

UNITS

Click the bullet next to the unit of measure to select the desired unit for data collection and data analysis. All data will be displayed in the unit selected.

SPEED SETUP

The test speed of the HSR-1000 can be changed. The following procedure describes the process of setting the speed.

1. Select the “**Change Speed**” button in the “**Setup**” section on the right side of the Main Screen.
2. Follow the on screen instructions.
3. Select “**OK**” and the test platform will now run at the selected speed.
4. The selected speed will appear in the window above the “**Change Speed**” button.



The image shows a vertical blue interface for speed setup. At the top is the word "Speed" in white. Below it is a white rectangular input field. Underneath the input field is a dark blue button with the words "CHANGE SPEED" in white. Below this button is the word "UNITS" in white. Underneath "UNITS" is a rounded rectangle containing two radio button options: "Ft/min" and "M/min". The "Ft/min" option is selected, indicated by a white dot inside its radio button. At the bottom right of the screen is a white question mark icon inside a blue circle.

UNITS

Click the bullet next to the unit of measure to select the desired unit for data collection and data analysis. All data will be displayed in the unit selected.

RUNNING REMOTE TEST

The “**Start**” button automatically starts a test. To stop the test, press the “**Stop**” button on EZ Lab.



DATA SET INFORMATION

Data Set Information

File Name

Operator

Test Method

Data Set ID

Sample Length

Sample Thickness

Failure Mode

☐ Auto File Increment

FINISH **ABORT**

Normalize Sample

Sample Width

☒ Inches ☐ Feet

☐ Centimeters ☐ Meters

Data Set Stored In the Following

☒ File saved to: C:\EZ Lab\TestData\ar1000\

☐ Save File to Folder Specified Below

SPECIFY PATH

Upon completion of every test, the “**Data Set Information**” will automatically appear.

This allows the operator to record information about the test performed. It will also allow you select where test data is stored. All fields on the “**Data Set Information**” page are optional.

The only required field is “**File Name**”.

File Name – the only required field on the Data

Set Information page. You must enter a file name to save the test data.

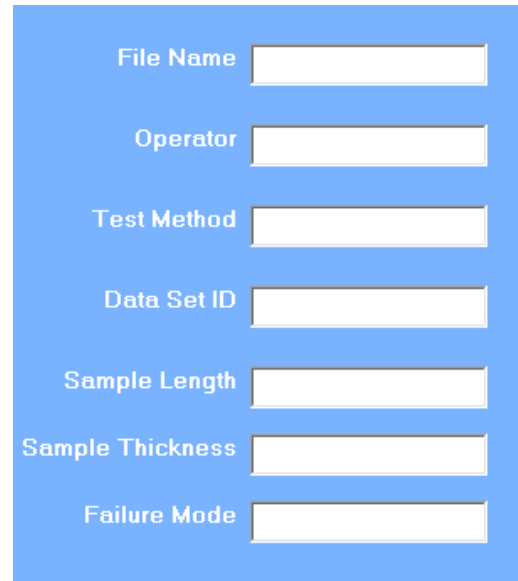
Test Method – optional field.

Data Set ID – optional field.

Sample Length – optional field.

Sample Thickness – optional field.

Failure Mode – optional field.



The image shows a screenshot of a data entry form titled "Data Set Information" with a blue header. Below the header, there are seven input fields, each with a label to its left: "File Name", "Operator", "Test Method", "Data Set ID", "Sample Length", "Sample Thickness", and "Failure Mode". Each field is represented by a white rectangular box with a thin border.

AUTO FILE INCREMENT

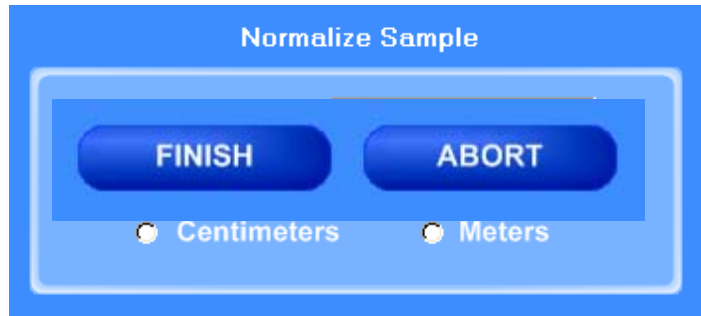
☐ Auto File Increment

“**Auto File Increment**” automatically assigns a sequential number to the “**File Name**”. It allows the operator to perform tests without having to rename each test, but add a number to the “**File Name**” to differentiate them. The feature is activated and deactivated by clicking the box. While active, you will not be able to change any information entered into the “**File Name**” field. EZ Lab will automatically assign sequential numbers in ascending order to each new test performed.

(**Example: File Name** – Test. Activating **Auto File Increment** will change the **File Name** Test to Test – 001. The next test performed will automatically be named Test – 002, then Test – 003 and so on.)

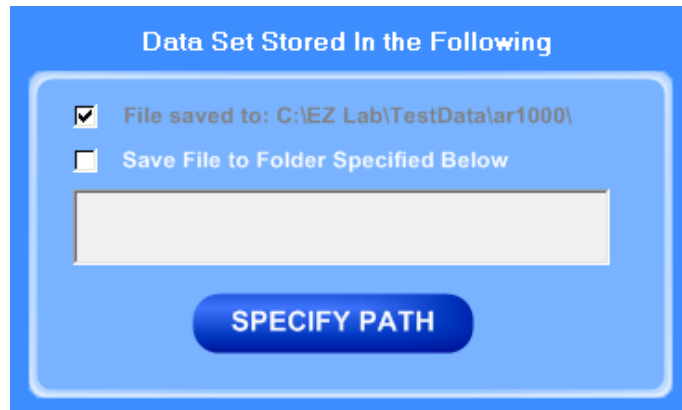
NORMALIZE SAMPLE

Normalize Sample allows you to record the width of the samples being tested. It also what the “**Normalize Data**” feature uses to calculate force per width.



STORING DATA

All data is automatically stored in a folder on the computers C: drive. EZ Lab also has the option to store the “**Specify Path**” button will allow you to select an alternative location to store your data. Once the selection is made it will appear in the box above the “**Specify Path**” button. Click the box next to “**Save File to Folder Specified Below**” to activate the feature. Click the box again to turn the feature off. The previous entered storage location will remain in the box to show the last place data was saved.



FINISH AND ABORT

Once all the information has been correctly entered on the “**Data Set Information**” screen, click the “**Finish**” button. This will save the data and EZ Lab will automatically go to

the “**Graph Screen**”. The “**Abort**” button discards the data from the previous test and EZ Lab automatically goes back to the “**Main Operating Screen**”.

GRAPH SCREEN



EZ Lab will automatically display the “**Graph Screen**” after the data has been entered on the “**Data Set Information**” screen. The Graph Screen will graph the profile of forces recorded during the test and will display the Low, Average, and High values.

CROPPING GRAPHS

The “**Graph Screen**” provides a cropping feature. Notice the red vertical lines (markers) located at the left and right sides of the graph.

These markers can be moved horizontally on the graph by using the arrows labeled “**Left Marker**” and “**Right Marker**”. The field next to the arrows will indicate the position of the marker on the graph.



***Note:** Cropping a graph will not erase the data saved from the original test.*

1. Using the arrows, move the left and right markers to the desired location.
2. Click the “**Recalculate**” button. This will change the data displayed on the graph page to reflect the area inside the markers. A graph can be recalculated up to 3 times.
3. After the “**Recalculate**” button has been selected, a “**Save Markers, Back, and Save**” buttons appear.



SAVE MARKERS

A blue rectangular button with a white checkmark icon on the left and the text "Save Markers" in white.

EZ Lab automatically records the data from the entire test. The “**Save Markers**” feature will hold the place of the left and right marker for future tests. This will automatically crop all test performed while the feature is on. To turn this feature on, click the box located next to “**Save Markers**”. A check mark will appear in the box. To turn it off, click the box again and the check mark will disappear. Turning off this feature will reset the left and right marker to the left and right sides of the graph. Future tests will not be cropped automatically.

Note: When the feature is turned on, EZ Lab will save two different files. One file will include all of the data recorded from the test. The other file will be the data automatically cropped by using the “**Save Markers**” feature. These files will be differentiated by the suffix “**-RevA**”. The “**-RevA**” file will be the data automatically cropped by the “**Save Markers**” feature. (Example: Test-001 and Test-001-RevA)

AUTO SCALE

A blue rounded rectangular button with the text "AUTO SCALE" in white.

The “**Auto Scale**” button changes the scale of the Y axis of the graph. This feature allows for an enhanced view of the graph profile. Clicking the “**Auto Scale**”

button activates the feature. The button will change to “**Full Scale**”.

A blue rounded rectangular button with the text "FULL SCALE" in white.

Clicking the “**Full Scale**” button will restore the graph back to the original scale of the Y axis.

BACK



The “**Back**” button is used to undo changes made when cropping the graph. It will appear after the graph has been cropped by moving either of the markers and clicking the “**Recalculate**” button. “**Back**” will only undo the last recalculation done to the graph.

SAVE

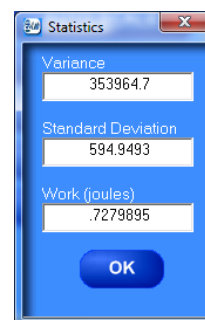


The “**Save**” button will save the cropped data as a new file with the same “**File Name**” as the original file but add the suffix “**-RevA**”. (Example: Test-001 becomes Test-001-RevA) Only one “**-RevA**” file per original test can be saved at a time. Anytime you click the “**Save**” button, a “**-RevA**” file will be saved. If there is an existing file name with a “**-RevA**” file already, the existing “**-RevA**” file will be replaced.

STATISTICS



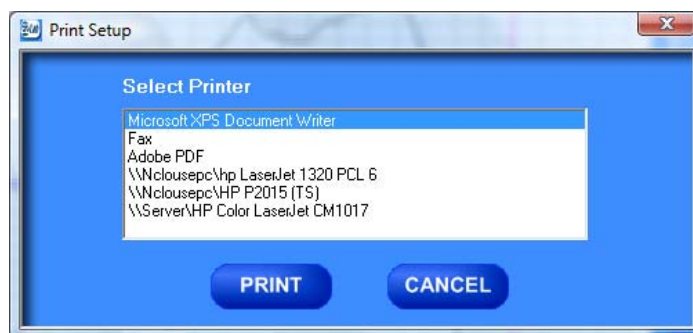
The “**Statistics**” button will open a new window and display the **Variance**, **Standard Deviation**, and **Work (joules)** of the data displayed on the graph. The data displayed on this screen will change anytime a change is made to the graph. To exit out of this screen, click either the “**OK**” button or the red “**X**” button. EZ Lab will automatically go back to the graph page.



PRINT



“Print” will allow you to use any printing feature available to your computer. Highlight the desired printer and click the **“Print”** button. This will take you to your computers print menu. You may exit this screen by clicking either **“Cancel”** or the red **“X”** buttons.



NOTES



The **“Notes”** field allows you to enter notes. Clicking the **“Save Notes”** button will save the notes. The notes will be stored with the information entered on the **“Data Set Information”** page.



HELP

The help button will open a “pdf” file of the machine manual. This manual contains operation instructions for both the test platform and the EZ Lab software. You must have Adobe Acrobat Reader on your computer to open “pdf” manual file. If the Adobe program is not already installed on your computer, a copy of it is included on the EZ Lab disk.

REVIEW DATA

REVIEW DATA

The “**Review Data**” button is located on the Main Operating Page. The “**Review Data**” feature will allow access previously recorded test data. The “**Review Data**” button will take you to the screen pictured below.

Units: Grams

File Name	Date	Low	Avg	High
www-017-RevA	01/16/09 04:11 PM	25.5	1056.8	1577.0
www-017	01/16/09 02:39 PM	0.0	835.0	1577.0
www-016-RevA	01/16/09 01:58 PM	0.0	631.2	993.5
www-016	01/16/09 01:58 PM	0.0	391.6	1062.6
www-007-RevA	01/16/09 01:58 PM	1223.0	1363.5	1464.6
www-015	01/16/09 10:49 AM	0.0	511.8	1430.6
www-013	01/16/09 10:39 AM	0.0	116.0	790.8
www-012	01/16/09 10:38 AM	0.0	903.6	1619.1
www-011	01/16/09 10:38 AM	0.0	224.8	1528.5
www-009	01/16/09 10:15 AM	204.4	878.1	1069.9
www-008	01/16/09 10:13 AM	232.3	784.2	954.6
www-007	01/16/09 10:13 AM	142.0	1123.4	1464.6
www-006	01/16/09 10:06 AM	9.6	727.1	975.6
www-005	01/16/09 10:06 AM	0.0	518.0	914.0
www-004	01/16/09 10:06 AM	0.0	281.4	1585.0
www-003	01/16/09 10:06 AM	0.0	141.3	1169.7
www-002	01/16/09 09:21 AM	0.0	455.0	1174.5

Buttons: GRAPH, FILE DETAILS, DELETE, DELETE ALL, ADD TO LIST, REMOVE FROM LIST, CLEAR LIST, SAVE TO EXCEL, TABULATE DATA, OVERLAY DATA, ?

Every time the “**Review Data**” feature is accessed, the screen will automatically display the test data located in the **EZ Lab** test data folder located on your computers **C:** drive. The individual tests will be displayed in chronological order with the most recent test appearing on the top of

the list. This screen will display the test's File Name, date and time the test was performed, Low, Average, and High values for the test performed. To access the test data from a test file, click the File Name. You will notice the File name is now highlighted. Once a file is highlighted, you may now use the buttons on the screen to access the test data.

GRAPH

GRAPH

The “**Graph**” button will access the “**Graph screen**”. This is the same “**Graph Screen**” displayed immediately following the “**Data Set Information Screen**”. For instructions on operating the “**Graph Screen**”.

FILE DETAILS

FILE DETAILS

“**File Details**” will display all the information entered on the “**Data Set Information screen**”. It will also display the Test Speed, Length of Test, Average, High, Low, Stand Deviation, Variance, Work, and Notes recorded for the individual test. File Details will only display this information for one test.

The screenshot shows a software window titled "File Details: vvvv-017-RevA". The window contains two main panels. The left panel lists input fields for: File Name (vvvv017RevA), Operator (vvvvv), Test Method (vvvv), Data Set ID (vvv), Sample Length, Sample Thickness, Sample Width (4 inches), and Failure Mode. The right panel displays calculated results: Test Speed (100.0 m/min), Length of Test (2.1 seconds), Average (1056.9 Grams), High (1577.0 Grams), Low (25.5 Grams), Std Deviation (467.8884), Variance (218899), Work (6163362 joules), and a Notes section with a dashed line for text entry. Logos for "ChemInstruments" and "EZ-Lab" are visible at the top.

DELETE

DELETE

“**Delete**” will permanently delete the test file.

DELETE ALL

DELETE ALL

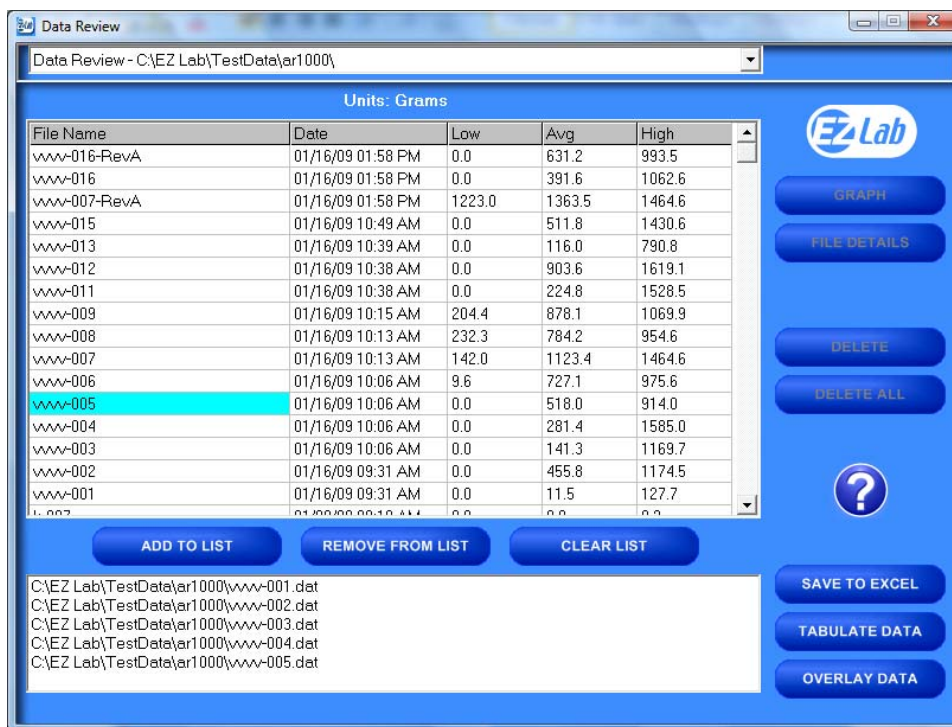
“Delete All” will permanently delete all the test files located in the **Test Data Folder** located on your computer’s **C:** drive.

HELP

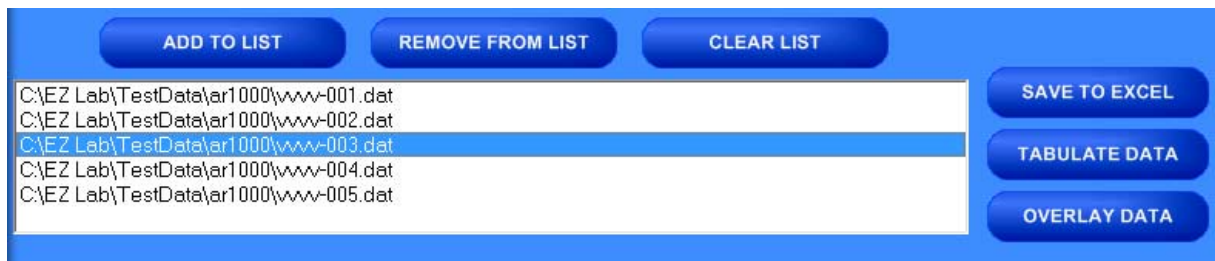


The “**Help**” button will open a **PDF** file of the machine manual. This manual contains operation instructions for both the test platform and the **EZ Lab** software. You must have Adobe Reader on your computer to open **PDF** manual file. If the Adobe program is not already installed on your computer, a copy of it is included on the **EZ Lab** disk.

The following instructions allow you compile test data from multiple files



In order to compile test data from multiple tests, you must first create a list of the test files you would like to compile. To create a list, highlight a test file and click the “**Add To List**” button. To delete a test file from the list, click the desired file on the list and then click the “**Remove From List**” button. The “**Clear List**” button will clear all the files from the list. There is no need to highlight the files first.



SAVE TO EXCEL

EZ Lab collects data throughout the entire test. This is done by collecting individual data points. These individual data points are used to display the Low, Average, and High values displayed from the test. The “**Save To Excel**” feature allows you to view a list of the individual data points from every test on the created list. The values will be displayed in the unit of measure selected on the “**Main Operating Screen**” (see page ?). Click the “**Save To Excel**” button. Follow the instructions on your screen to create a file name and save the file to the desired location on your computer.

TABULATE DATA

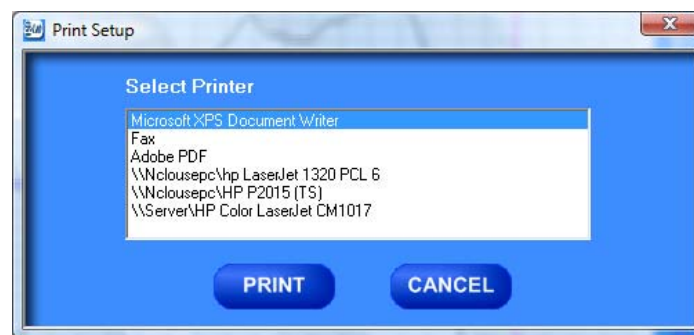
“**Tabulate Data**” will create a table of data from the files on the list created. Create a list of the desired test files and click the “**Tabulate Data**” button. The screen below will appear. The units of measure displayed will be the units selected on the “**Main Operating Screen**”.

analyze the test data. Click the **“Save To Excel”** button. Follow the on screen prompts to create a file name and save the table.

PRINT

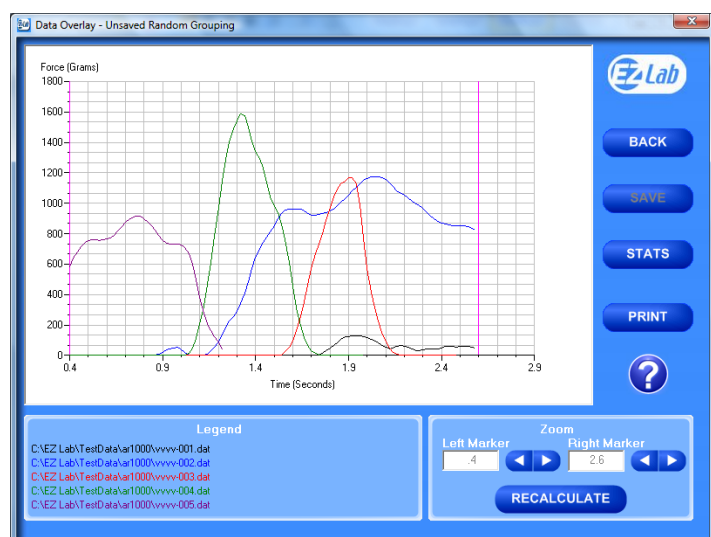
PRINT

“Print” will allow you to use any printing feature available to your computer. Highlight the desired printer and click the **“Print”** button. This will take you to your computers print menu. You may exit this screen by clicking either **“Cancel”** or the red **“X”** buttons.



OVERLAY DATA

“Overlay Data” allows you to overlay graphs from up to five different tests. Create a list (see page?). Click the **“Overlay Data”** Button. The following screen will appear. The file names of the graphed tests will appear in the box labeled Legend. The file names are color coded to correspond with the colors of the graph.



CROPPING GRAPHS



The “**Overlay Screen**” provides a cropping feature. Notice the red vertical lines (markers) located at the left and right sides of the graph. These markers can be moved horizontally on the graph by using the arrows labeled “**Left Marker**” and “**Right Marker**”. The field next to the arrows will indicate the position of the marker on the graph.

***Note:** Cropping a graph will not erase the data saved from the original test.*

1. Using the arrows, move the left and right markers to the desired location.
2. Click the “**Recalculate**” button. This will change the data displayed on the graph page to reflect the area inside the markers. A graph can be recalculated up to 3 times.
3. After the “**Recalculate**” button has been selected, a “**Save Markers**, **Back**, and **Save**” buttons appear.



BACK



The “**Back**” button is used to undo changes made when cropping the graph. It will appear after the graph has been cropped by moving either of the markers and clicking the “**Recalculate**” button. “**Back**” will only undo the last recalculation done to the graph.

SAVE

STATS

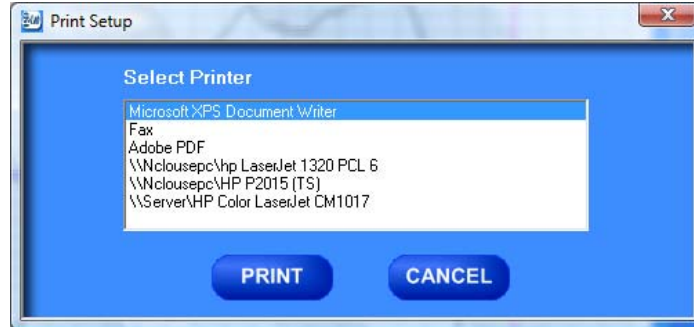
STATS

[illegible]

PRINT



“**Print**” will allow you to use any printing feature available to your computer. Highlight the desired printer and click the “**Print**” button. This will take you to your computers print menu. You may exit this screen by clicking either “**Cancel**” or the red “**X**” buttons.



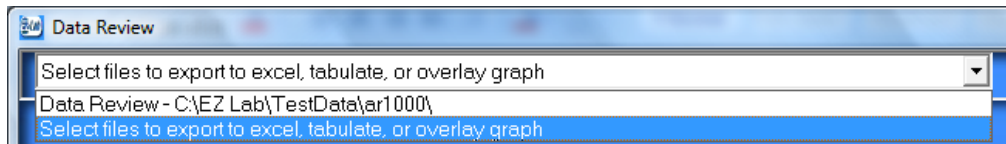
HELP



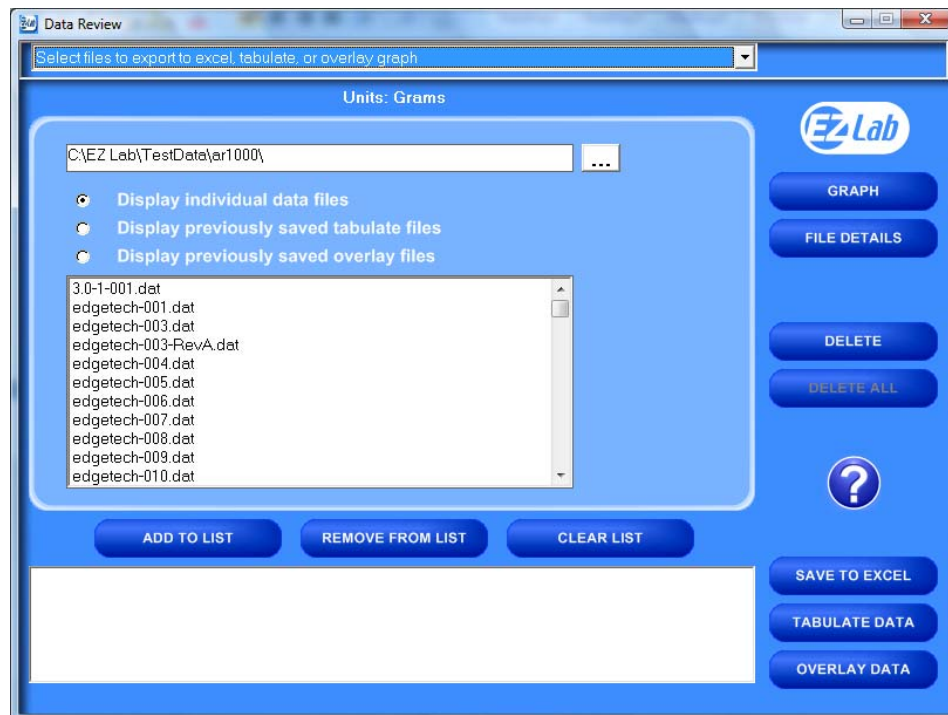
The help button will open a **PDF** file of the machine manual. This manual contains operation instructions for both the test platform and the **EZ Lab** software. You must have Adobe Reader on your computer to open **PDF** manual file. If the Adobe program is not already installed on your computer, a copy of it is included on the **EZ Lab** disk.

CHANGING DIRECTORIES

EZ Lab allows you to store your test data in multiple locations. Files can be stored in any location connected to your computer. This is accomplished on the “**Data Set Information screen**”. To change directories, click the drop down menu bar located on the top of the “**Review Data screen**”.



Click “**Select files to export to excel, tabulate, or overlay graph**” (above). This will bring you to the following screen.

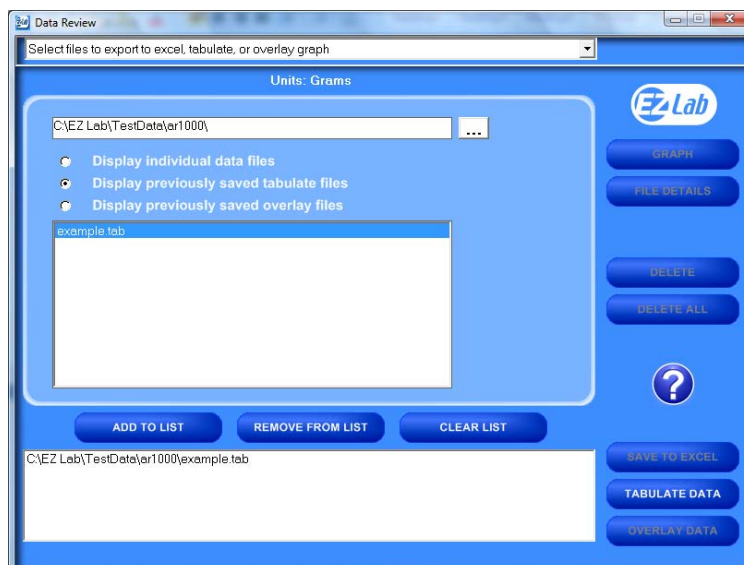


This screen will display all the test files located in the on your computer under the directory **C:\EZ Lab\TestData\ar1000**. To change directories, click the button located to the right of the directory address bar. Scrolling over the button will pop up a window “**Press this to change directories**”. Follow the on screen prompts to select files from a different directory.

This screen allows you all of the same features as the “**Review Data screen**”. It also allows you the ability to display previously saved tabulate files and overlay graphs.

PREVIOUSLY SAVED TABULATE FILES

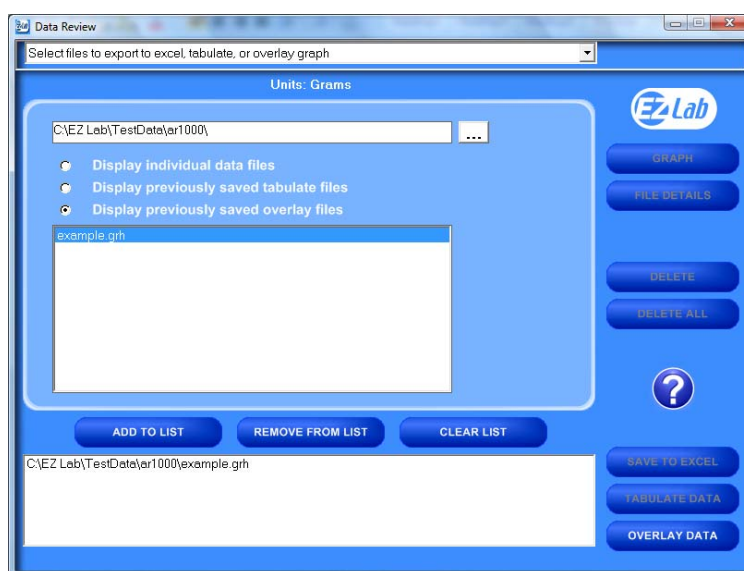
To recall previously saved tabulated files, click the bullet next to **“Display previously saved tabulate files”**. You will notice all previously saved tabulate files stored under this directory will appear in the box. Highlight the desired file and click **“Add to List”**. Click **“Tabulate Data”** to display the previously saved



tabulate file. To remove an item from the list, highlight the item on the list and click the **“Remove From List”** button. The **“Clear List”** button will automatically clear the list; there is no need to highlight the file first. You can only display one previously saved **Tabulate** file at a time.

PREVIOUSLY SAVED OVERLAY GRAPHS

To recall previously saved overlay files, click the bullet next to **“Display previously saved overlay files”**. You will notice all previously saved overlay files stored under this directory will appear in the box. Highlight the desired file and



click **“Add to List”**. Click **“Overlay Data”** to display the previously saved tabulate file. To remove an item from the list, highlight the item on the list and click the **“Remove From List”** button. The **“Clear List”** button will automatically clear the list; there is no need to highlight the file first. You can only display one previously saved overlay file at a time.

The Display previously saved overlay files screen will bring up the **“Overlay Graph”** screen. To operate this screen, see **“Overlay Data”**.

MAINTENANCE

As with any precision equipment it is important to provide care and maintenance to ensure proper performance and long life. General cleaning and care will along with keeping the drive and pinch rolls clean will ensure accurate test and trouble free performance.

TROUBLESHOOTING

In the unlikely event you experience problems with your HSR-1000 High Speed Release tester, the following list of probable causes and corrective procedures may provide a solution.

Problem	Probable Cause	Procedure
SE Full message	Either 20 test or 720 seconds of data have been collected	Refer to Delete Files
No Data collected	Sample not attached to load cell	Attach sample to load cell per drawing.
	Not in Run Menu	Refer to Running a Test
Test material slips or does not move.	Sample is the wrong length	Refer to test method.
Data measurement consistently Low/High	Improper calibration	Check calibration and/or calibration angle
	Bad calibration	Refer to load cell calibration
Calibration drifts	Bad or damaged load cell	Replace load cell
Pinch Drive rolls do not engage	Program timing is not calibrated	Follow procedure on page 10