

RheocalcT Manual



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Introduction

About Rheocalc T

Rheocalc T is designed for use with the DV3T rheometer or the DV2T viscometer and a Windows XP or above operating system. It collects data from the rheometer and allows it to be saved, viewed, printed, plotted, and analyzed. Features include:

- Wizards to guide you through the creation of common tests
- Yield Testing, alone, or in conjunction with other viscosity measurements
- Secure 21CFR features including multiple logins, access levels, digital signatures, and data storage in a password-protected database
- Looping functions for repetitive tasks
- Kinematic Viscosity measurements
- QC Limits displayed on the graph
- Math models: Bingham, Casson, NCA/CMA Casson, Power Law, IPC Paste, Herschel-Bulkley
- Averaging of collected data, by step or over the whole test
- Export of results to Excel or read-only PDF formats
- Temperature offsets, to adjust software readings to a calibrated standard

Minimum System Requirements

Operating System:	Windows XP or above, 32-bit or 64-bit
Processor Speed:	2 GHz
Memory (RAM):	2 GB
Screen Resolution:	1280 x 800
Communications:	USB port

Contacting Brookfield

Email: sales@brookfieldengineering.com
Website: www.brookfieldengineering.com
Telephone: 508-923-5000 or 800-628-8139
Fax: 508-946-6262
Address: Brookfield Engineering Laboratories, Inc.
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Middleboro, MA 02346 USA

How to ...

How to Create a Test

Step (#)	Speed (RPM)	Data Collection Type	Data Interval (00:00:00)	End Condition Type	End Value
1	50.00	Multi Point	00:00:01.0	Time	00:01:00

1 Choose a Spindle

Make sure the appropriate spindle is chosen for the test.

2 Set the Sample Identification

Define the folders and sample name that the data will be saved under. The test cannot be run without defining the sample name.

If "Automatically Increment the Run Number" is checked, each test run will save its data to the same folders and sample name, but will automatically increase the run number.

3 Adjust the Values in the Step Grid

Any values displayed in the Step Grid can be adjusted within the grid. Click once to select the box you want to edit, and a second time to enter the edit mode.

Change the box to the desired value, then click outside the box to save the change.

4 Add Steps (optional)

If the Step Grid does not display enough test steps or options, expand the Step Parameters panel. From this panel you can add steps, delete steps, change the values of a step, and add options such as QC Limits.

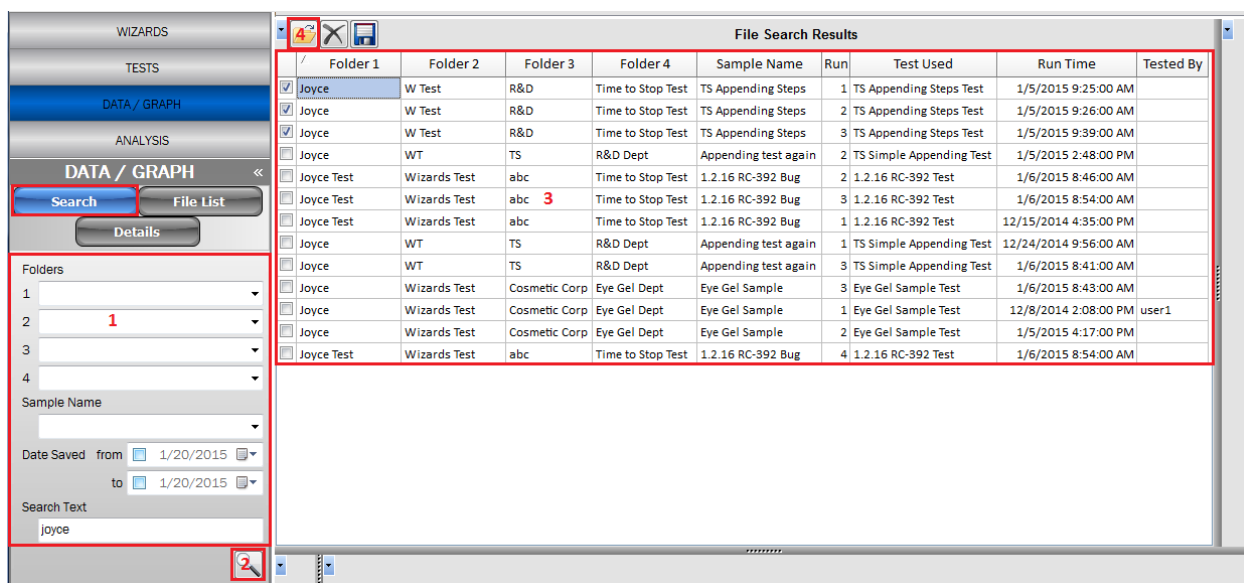
5 Set Up Loops (optional)

Expand the Loop Parameter panel if you wish to set up loops for your test. Loops are useful for repetitive tasks, such as running a test at several evenly spaced speeds.

6 Set Automatic Results (optional)

Expand the Automatic Results panel if you want specific actions to take place at the end of the test run. Among other options, you could have math model analysis carried out at the end of the test run, or have the data report automatically exported to an XLS file.

How to Load Files



1 Choose the Search Criteria

The first step to loading a Test or Data file is to search for the file. Fill out information in the [Test Search Panel](#) or [Data Search Panel](#) to narrow the search. You can search by the folders the file is under, the file name, or the date the file was saved. You can also do a general search for a given piece of text in any field.

2 Perform the Search

Once the search criteria is set, click the Search Button (magnifying glass icon) to perform the search. Note that the software will search for files that meet **all** of the criteria. If Folder 1 is set to "Company A" and Folder 3 is set to "Study XYZ", the software will display all files which have **both** "Company A" for Folder 1 **and** "Study XYZ" for Folder 3. If the Search Button is clicked with no search criteria set, all Test or Data files will be displayed.

3 Choose the Desired File(s) from the Search Results

Once the search is performed, the results will be displayed in the Search Results Table. Check the box next to the file(s) you wish to load. Only one Test File can be chosen, but multiple Data Files can be chosen at one time.

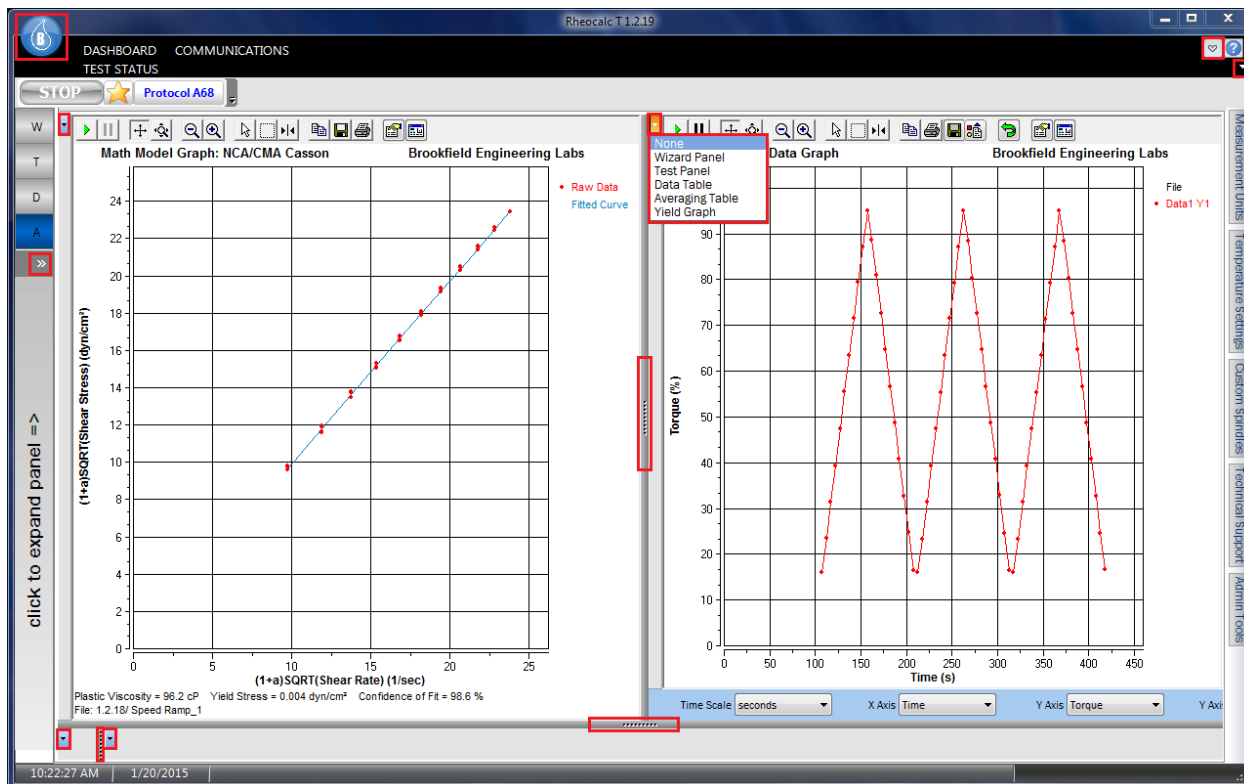
4 Load the Chosen File(s)

Once the file(s) are chosen, load them by clicking the Load File Button (Open Folder icon) at the top of the Search Results Table.

Only one Test File can be loaded. The Main Display will switch to the Test Setup Window when a Test File is loaded.

Up to 20 Data Files can be loaded at the same time. The Main Display Area will switch to the File List Panel and display the Data Graph and Data Table when Data File(s) are loaded. If a Data File is loaded into Data Set #1 and Automatic Results have been chosen for that Data File, these automatic actions will be carried out after all Data Files are loaded.

How to View and Size Different Items in the Main Display Area



1 Default Displays

There are default displays which go with each Action Panel. The Wizards Panel displays the currently chosen Wizard; the Test Panel displays the Test Setup Window; the Data/Graph Panel displays the Data Graph and Data Table; the Analysis Panel displays the graph or table of the currently chosen analysis. Clicking the tab for any of these Action Panels will always revert the Main Display Area to that panel's default display.

Certain actions also cause default displays, such as switching to the Data/Graph Panel at the start of a test run, and displaying the Search Results Table when the Search button (magnifying glass icon) on the Test Search Panel or Data Search Panel is clicked.

2 The "B" Button

To provide more room for the items in the Main Display Area, click the Brookfield "B" button in the upper left-hand corner of the software screen. This will collapse the Status Bars at the top and the Action Panels on the left side, close any open Utility Panels on the right side, and maximize the items in the Main Display Area (as shown above).

3 Expand/Collapse Arrows

To expand the collapsed Status Bars or the Action Panels, click the Expand/Collapse Arrows on the panels. These arrows can be used to individually expand or collapse these panels at any time.

4 Sliding Utility Panels

The Utility Panels on the right side expand and collapse by sliding. Hovering the mouse over the Utility Panels name will cause the panel to slide open. The panel will remain open as long as the mouse is over the panel, and will slide shut when the mouse leaves the panel. To force the panel to stay open, click the thumbtack in the upper right-hand corner of the panel. The Utility Panel will then stay open until the thumbtack is clicked again and the mouse leaves the panel.

5 Display Item Drop Down Lists

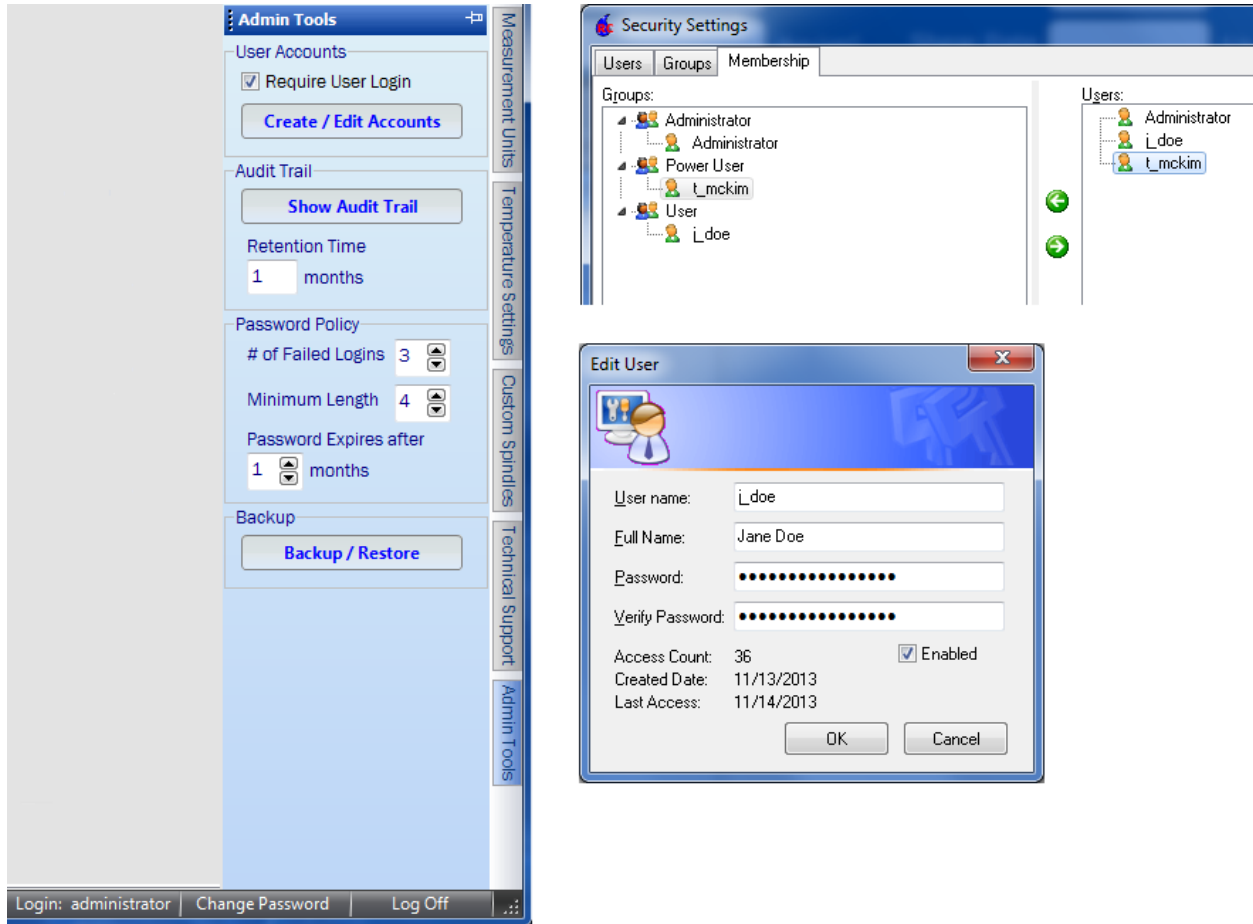
If you wish to see different items than what are in the Default Displays (such as the items shown above), you can load these items by choosing them from the Display Item Drop Down Lists. When the arrow in the upper left-hand corner of any Main Display Area window is clicked, a list of available items will drop down. Clicking an item on this list will load that item into that window. Whenever a new item is loaded, all the displayed items size evenly.

Note again that clicking any Action Panel tab will revert the Main Display Area back to that panel's corresponding default display.

6 Sizing Bars

The size of any item in the Main Display Area can be adjusted by grabbing and dragging the grey Sizing Bars between the Main Display Area windows. Note that whenever new items are displayed (because an Action Panel tab is clicked or a new item is loaded from the Item Drop Down List) all displayed items will again be evenly sized.


Set up User Logins and Set up Secure Access to the Software




1 Create Users

- A From the [Administrative Tools Panel](#), click the Create/Edit Accounts button to bring up the Security Settings dialog.
- B In the Security Settings dialog, click the Users tab then the Add User button to open the Edit User dialog.
- C In this blank dialog, enter the user's login name, their full name (for signing files) and their password.
- D Click OK to create the user.
- E To create additional users, click the Add User button again.


2 Review the Access Level Permissions


- A Go to the Groups tab to review the Access Levels (Administrator, Power User, and User) and the permissions assigned to each of these access level groups.
- B To deny a group the ability to perform a task, on the left side highlight that task under that group and click the right arrow .

C To give a group the ability to perform a task, on the left side highlight the group name, on the right side highlight the permission name, then click the left arrow .

3 Assign Users to an Access Level Group

A Once all users have been created and the access levels have been reviewed, click on the Membership tab to assign each user to an access level group.

B To add a user to a group, on the left side highlight the group, on the right side highlight the user, and click the left arrow .

C To remove a user from a group, on the left side highlight the user within the group, and click the right arrow .

D Once all users have been assigned to a group, click Close to leave the Security Settings dialog.

4 Set Administrative Policies

A Various password policies can be set from the Administrative Tools Panel:

a # of Failed Logins - how many times a user is allowed to unsuccessfully login before the software shuts down;

b Minimum Length - the minimum length required for any passwords set;

c Password Expiration - determines how often users will need to change their password. A setting of 0 means that passwords will never expire.

B The Administrator can also set the Audit Trail retention time here. The Administrator can coordinate the Audit Trail retention time with the company's document retention policy, to insure records are retained long enough, but without having old entries take up database space. A setting of 0 months means that audit trail entries will be kept indefinitely.

5 Require Login

A Once all users, permissions, and policies are in place, check the Require User Login checkbox. When the software starts up, it will require that the user log in using a valid login name and password. The tasks which the user can perform will be determined by the access level of the login used.

Overview

Click on the picture below to learn more about an area.

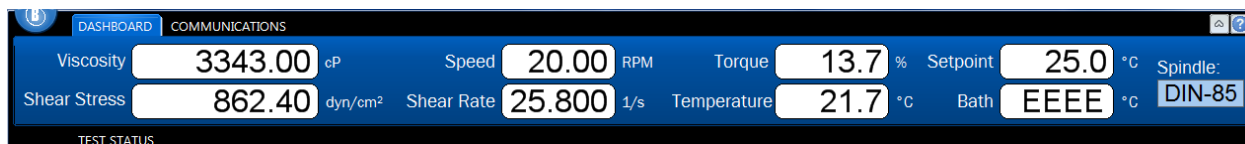
1 = Status Tabs 2 = Action Panels 3 = Main Display Area 4 = Utility Panels 5 = Favorites Bar

The screenshot displays the Rheocalc T 1.2.19 software interface. At the top, there are status tabs for 'DASHBOARD' and 'COMMUNICATIONS'. Below this, test parameters are shown: Viscosity (4075.00 cP), Speed (20.00 RPM), Torque (16.7%), Setpoint (25.0 °C), Spindle (DIN-85), Shear Stress (1051.00 dyn/cm²), Shear Rate (25.800 1/s), Temperature (20.7 °C), and Bath (EEEE °C). The 'TEST STATUS' section shows 'STOP' and 'Protocol A68'. A sidebar on the left contains navigation options like 'WIZARDS', 'TESTS', 'DATA / GRAPH', and 'ANALYSIS'. The main display area features a 'Data Graph' showing Torque (%) vs Time (s) with a red dashed line plot. Below the graph is a 'Data Table' with columns for Loop (#), Step (#), Pt (#), Time (s), Viscosity (cP), Speed (RPM), Torque (%), Sh Stress (dyn/cm²), Sh Rate (1/s), Temperature (°C), and Bath (°C). The table contains 11 rows of data. A 'Notes' section at the bottom left of the sidebar contains the text: 'Conditioned at 25 °C for 24 hrs before testing.' The bottom status bar shows the time '10:36:04 AM' and date '1/20/2015'.

Loop (#)	Step (#)	Pt (#)	Time (s)	Viscosity (cP)	Speed (RPM)	Torque (%)	Sh Stress (dyn/cm ²)	Sh Rate (1/s)	Temperature (°C)	Bath (°C)
0	3	1	00:01:47.0	97.60	20.00	16.0	25.18	25.800	25.0	49.5
0	4	2	00:01:52.0	95.57	30.00	23.5	36.98	38.700	25.0	49.4
0	5	3	00:01:57.0	95.77	40.00	31.4	49.42	51.600	25.0	49.4
0	6	4	00:02:02.0	96.14	50.00	39.4	62.01	64.500	25.0	49.4
0	7	5	00:02:07.0	96.58	60.00	47.5	74.76	77.400	25.0	49.3
0	8	6	00:02:12.0	96.55	70.00	55.4	87.19	90.300	25.0	49.3
0	9	7	00:02:17.0	96.69	80.00	63.4	99.78	103.200	25.0	49.3
0	10	8	00:02:22.1	96.92	90.00	71.5	112.50	116.100	25.0	49.2
0	11	9	00:02:27.1	96.87	100.00	79.4	125.00	129.000	25.0	49.2

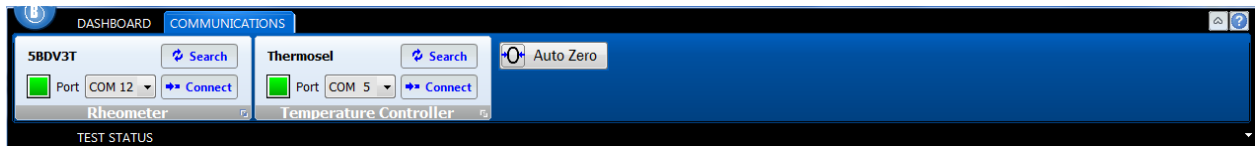
Status Tabs

Dashboard Tab



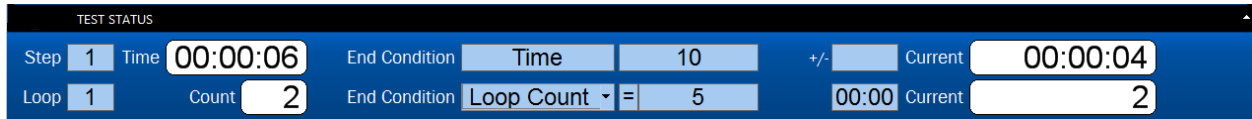
Displays the incoming data from the rheometer and temperature controller in the [units](#) selected. "Spindle" is the spindle currently being used: the [Test](#) Spindle if a test is being run, or the [Manual](#) Spindle if the speed is manually set.

Communications Tab



Click on the picture to learn about each control, or click [here](#) to learn more about establishing communications.

Test Status Tab



The screenshot shows a 'TEST STATUS' window with a dark blue header and a lighter blue body. It contains two rows of controls. The first row is for 'Step 1', with a 'Time' field set to '00:00:06', an 'End Condition' dropdown set to 'Time', a value field set to '10', a '+/-' toggle, and a 'Current' field set to '00:00:04'. The second row is for 'Loop 1', with a 'Count' field set to '2', an 'End Condition' dropdown set to 'Loop Count', an '=' operator, a value field set to '5', a '00:00' field, and a 'Current' field set to '2'.

Step	Time	End Condition	Value	+/-	Current
1	00:00:06	Time	10		00:00:04
Loop	Count	End Condition	Operator	Value	Current
1	2	Loop Count	=	5	00:00
					2

The Test Status tab displays the current status of an ongoing test. Click on the picture to learn more about each area.

Action Panels

Tests Panels

Test Search Panel

Use the Test Search Panel to search for test files based on given criteria. Check the desired test from the Search Table and load it by clicking the Load File button (open folder icon). Once a test has been loaded using the Test Search panel, that test will be displayed in the [Test Setup window](#).

The screenshot displays the Test Search Panel interface. On the left, there is a sidebar with navigation options: WIZARDS, TESTS (selected), DATA / GRAPH, and ANALYSIS. Below these are buttons for 'Search' and 'Manual'. The search criteria section includes four 'Folders' (1-4), a 'Test Name' dropdown, 'Date Saved' filters (from 1/21/2015 to 1/21/2015), and a 'Search Text' field containing 'ramp'. The main area is titled 'File Search Results' and contains a table with the following data:

	Folder 1	Folder 2	Folder 3	Folder 4	Test Name	Date Saved	Spindle
<input type="checkbox"/>	John INC	Ad Hoc test			speed ramp 1124	11/24/2014 8:13:00 AM	RV-7
<input checked="" type="checkbox"/>	John	W-5	Speed ramp		10-100	11/24/2014 3:24:00 PM	RV-7
<input type="checkbox"/>					d-speedramp	12/16/2014 9:43:00 AM	SC4-27
<input type="checkbox"/>				speed ramp	1	12/19/2014 4:17:00 PM	RV-7
<input type="checkbox"/>				speed ramp	ort8o6r8	12/23/2014 11:08:00 AM	RV-7
<input type="checkbox"/>				speed ramp	83b ewf	12/23/2014 11:23:00 AM	RV-6
<input type="checkbox"/>	John	W-5	Speed ramp		2step	1/14/2015 5:02:00 PM	RV-7

Test Setup Window

The Test Setup window is used to view, create, and modify tests.

Click on the picture below to learn more about each area. To learn more about creating tests, click [here](#).

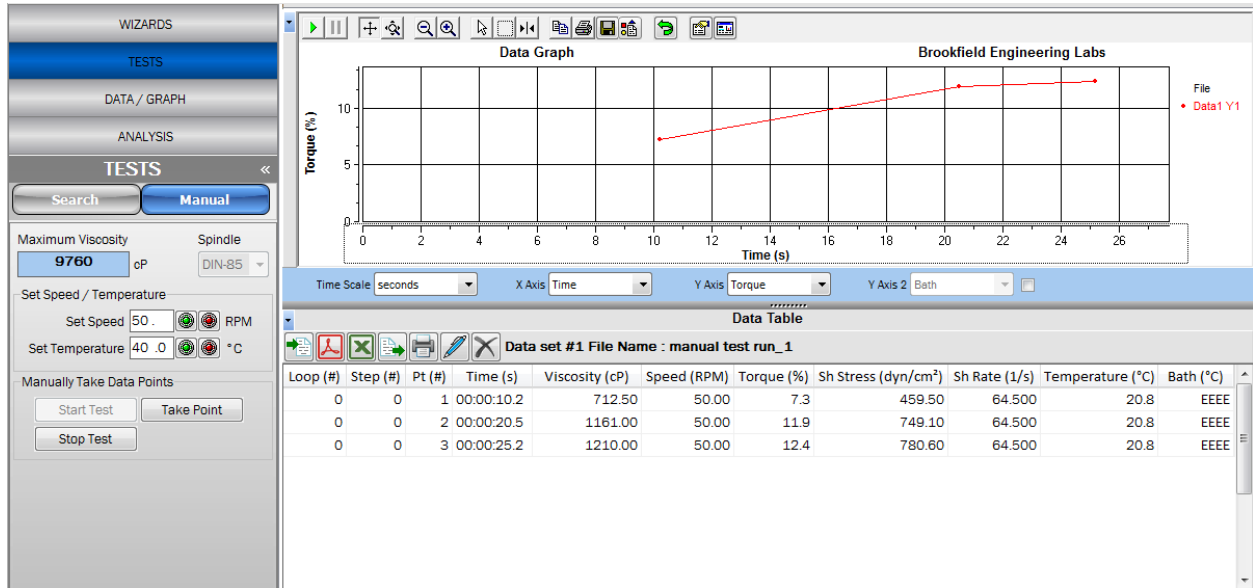
The screenshot displays the Test Setup Window interface. On the left is a navigation pane with sections: WIZARDS, TESTS (selected), DATA / GRAPH, ANALYSIS, and TESTS (with Search and Manual buttons). Below this are fields for Folders (1-4), Test Name, Date Saved (from/to 1/21/2015), and Search Text (ramp). The main area features a top toolbar with RUN (green) and STOP buttons, Spindle (SC4-28), and Test Method (John/ W-4/ 10-100). Below the toolbar is the SAMPLE IDENTIFICATION section with dropdowns for Folder 1 (Brookfield), Folder 2 (Viscosity Standards), Folder 3 (Silicone), and Folder 4 (30,000cP), along with Sample Name (W-4 speed ramp) and an 'Automatically Increment the Run Number' checkbox. The central table lists test steps:

Step (#)	Speed (RPM)	Inc Speed	Data Collection Type	End Condition Type	End Value
Loops are highlighted in blue.					
1	10.00	<input type="checkbox"/>	Single Point	Time	00:05:00
LOOP #1: Step 2 to 2, Loop Until Loop Count = 4 OR Torque > 90.0					
2	22 .5	<input checked="" type="checkbox"/>	Single Point	Time	00:05:00

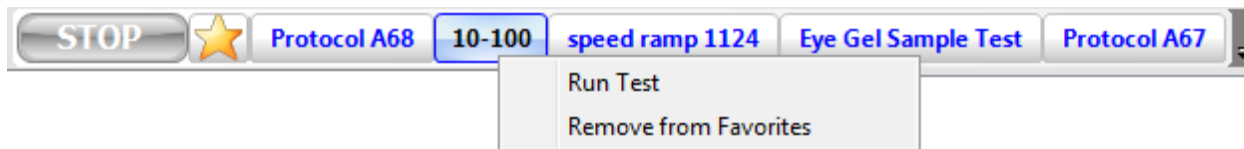
At the bottom, there are expandable sections for STEP PARAMETERS, LOOP PARAMETERS, and AUTOMATIC RESULTS.

Manual Test Panel

Use the Manual Test panel to set the rheometer and temperature controller to a specified speed and/or temperature, and to manually record data points.



Favorites Bar



Use the Favorites Bar to save shortcuts to your most frequently used tests. When a saved test is loaded into the Test Setup Window, you can click the Add Favorite button (Star icon) to add the test to the Favorites Bar. A new button will appear with the name of the test on it.

When any Favorites button is clicked, its corresponding test will be automatically loaded into the Test Setup Window.

Right-clicking on a Favorites button brings up a pop-up menu with two choices: "Run Test" and "Remove from Favorites". If "Run Test" is chosen, the software will try to immediately run the corresponding test. Note that for this option to work, the Sample Name must be saved as part of the test template. If "Remove from Favorites" is chosen, the button is removed from the Favorites Bar.

Data Panels

Data Search Panel

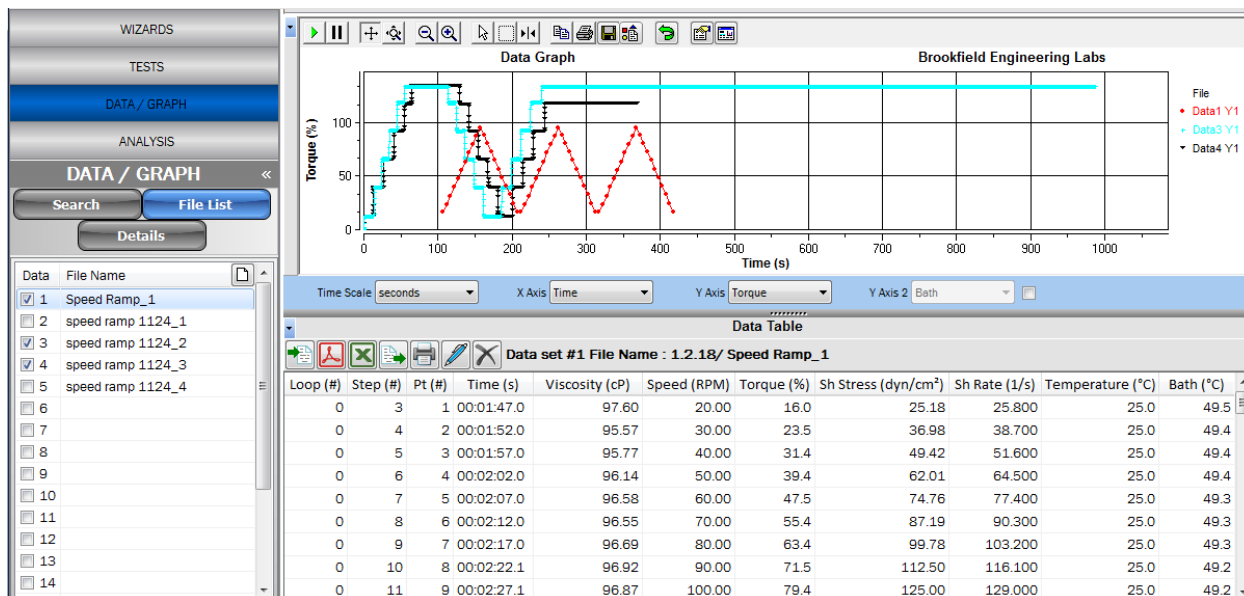
Use the Data Search Panel to search for data files based on given criteria. Check the desired data files from the Search Table and load them by clicking the Load File button (open folder icon). Up to 20 files can be loaded into the [File List](#) at one time.

The screenshot shows the 'Data Search Panel' interface. On the left, there is a sidebar with navigation tabs: 'WIZARDS', 'TESTS', 'DATA / GRAPH' (selected), and 'ANALYSIS'. Below these are buttons for 'Search', 'File List', and 'Details'. The sidebar also contains search filters: 'Folders' (1-4), 'Sample Name', 'Date Saved' (from 1/21/2015 to 1/21/2015), and 'Search Text' (joyce). The main area is titled 'File Search Results' and contains a table with the following data:

	Folder 1	Folder 2	Folder 3	Folder 4	Sample Name	Run	Test Used	Run Time	Tested By
<input type="checkbox"/>	Joyce	W Test	R&D	Time to Stop Test	TS Appending Step	1	TS Appending Step	1/5/2015 9:25:00 AM	
<input type="checkbox"/>	Joyce	W Test	R&D	Time to Stop Test	TS Appending Step	2	TS Appending Step	1/5/2015 9:26:00 AM	
<input type="checkbox"/>	Joyce	W Test	R&D	Time to Stop Test	TS Appending Step	3	TS Appending Step	1/5/2015 9:39:00 AM	
<input type="checkbox"/>	Joyce	WT	TS	R&D Dept	Appending test ag	2	TS Simple Appendi	1/5/2015 2:48:00 PM	
<input type="checkbox"/>	Joyce Test	Wizards Test	abc	Time to Stop Test	1.2.16 RC-392 Bug	2	1.2.16 RC-392 Test	1/6/2015 8:46:00 AM	
<input type="checkbox"/>	Joyce Test	Wizards Test	abc	Time to Stop Test	1.2.16 RC-392 Bug	3	1.2.16 RC-392 Test	1/6/2015 8:54:00 AM	
<input type="checkbox"/>	Joyce Test	Wizards Test	abc	Time to Stop Test	1.2.16 RC-392 Bug	1	1.2.16 RC-392 Test	12/15/2014 4:35:00 PM	
<input type="checkbox"/>	Joyce	WT	TS	R&D Dept	Appending test ag	1	TS Simple Appendi	12/24/2014 9:56:00 AM	
<input type="checkbox"/>	Joyce	WT	TS	R&D Dept	Appending test ag	3	TS Simple Appendi	1/6/2015 8:41:00 AM	
<input checked="" type="checkbox"/>	Joyce	Wizards Test	Cosmetic Corp	Eye Gel Dept	Eye Gel Sample	3	Eye Gel Sample Te	1/6/2015 8:43:00 AM	
<input checked="" type="checkbox"/>	Joyce	Wizards Test	Cosmetic Corp	Eye Gel Dept	Eye Gel Sample	1	Eye Gel Sample Te	12/8/2014 2:08:00 PM	user1
<input checked="" type="checkbox"/>	Joyce	Wizards Test	Cosmetic Corp	Eye Gel Dept	Eye Gel Sample	2	Eye Gel Sample Te	1/5/2015 4:17:00 PM	
<input type="checkbox"/>	Joyce Test	Wizards Test	abc	Time to Stop Test	1.2.16 RC-392 Bug	4	1.2.16 RC-392 Test	1/6/2015 8:54:00 AM	

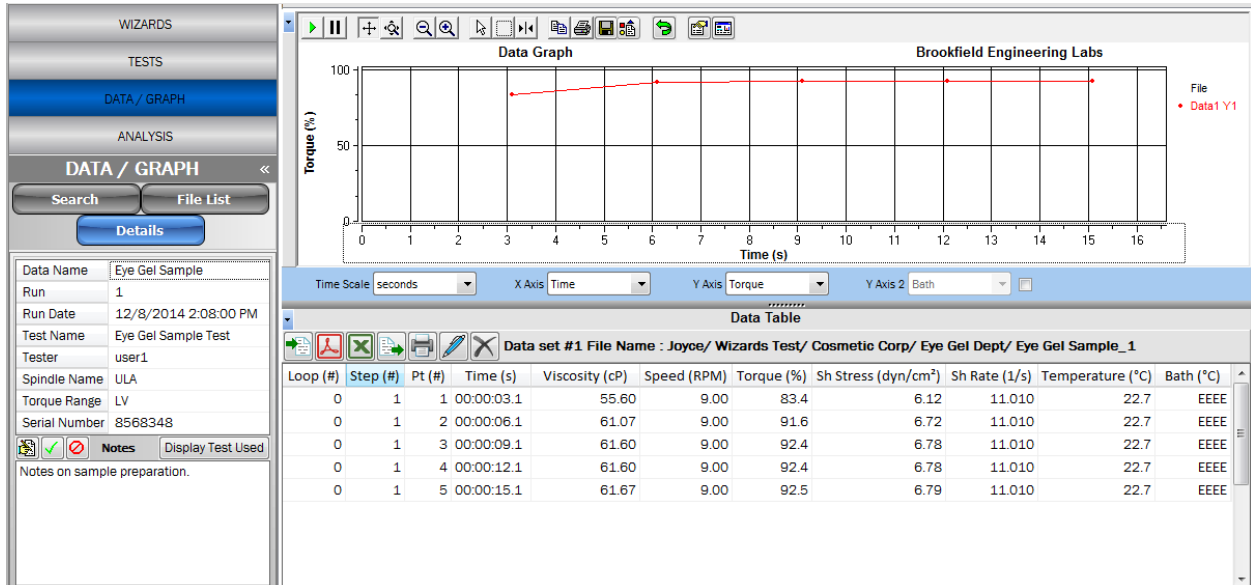
File List Panel

This panel lists all the loaded data sets. All files which are checked in the File List are graphed in the Data Graph. Clicking on a file name in the list brings up that file's data in the Data Table.



Data Details Panel

This panel displays the details of the data file highlighted in the [File List](#).

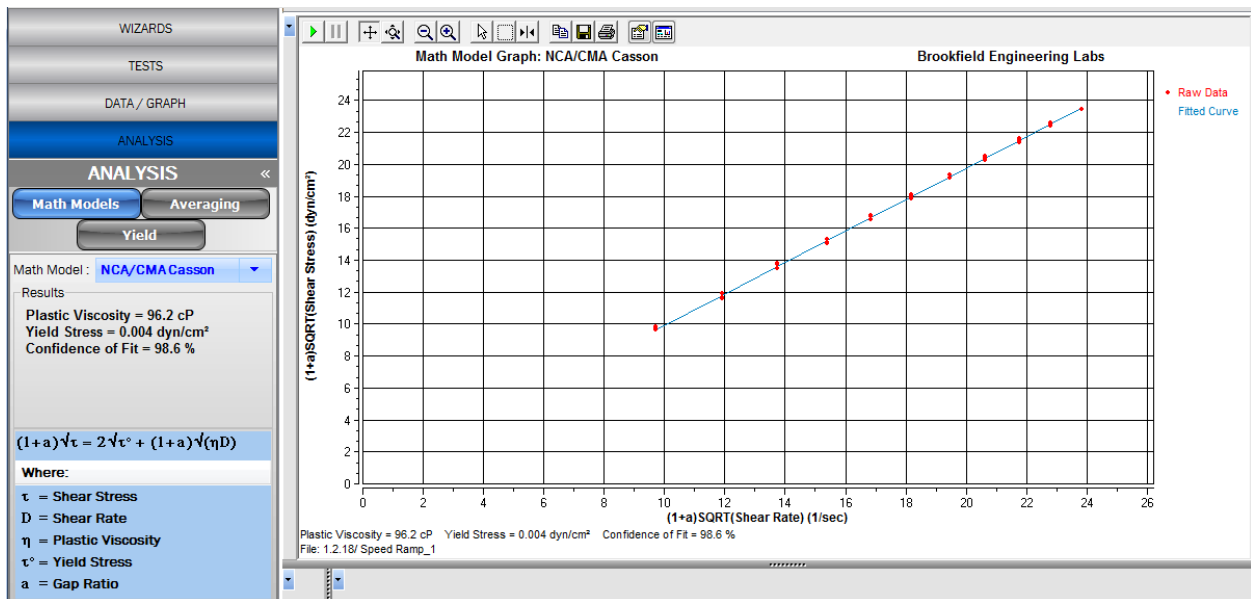


Results Panels

Math Models Panel

Bingham	Choosing a math model fits the current data (Data Set #1) to that model and displays the numerical results in this panel and in the graphical results in the Math Model Graph.
Casson	
NCA/CMA Casson	Click on the image to the left to learn about the available math models.
Power Law	
IPC Paste	
Herschel-Bulkley	
Thix Index	

Click on the picture below to learn more about each area.



Post Test Averaging Panel

Use this panel to average data from the current data file (Data Set #1). Data can either be averaged over each step, or over the entire test. When the Average button is clicked, the data is averaged according to the settings, and the results are displayed in the Averaging Table.

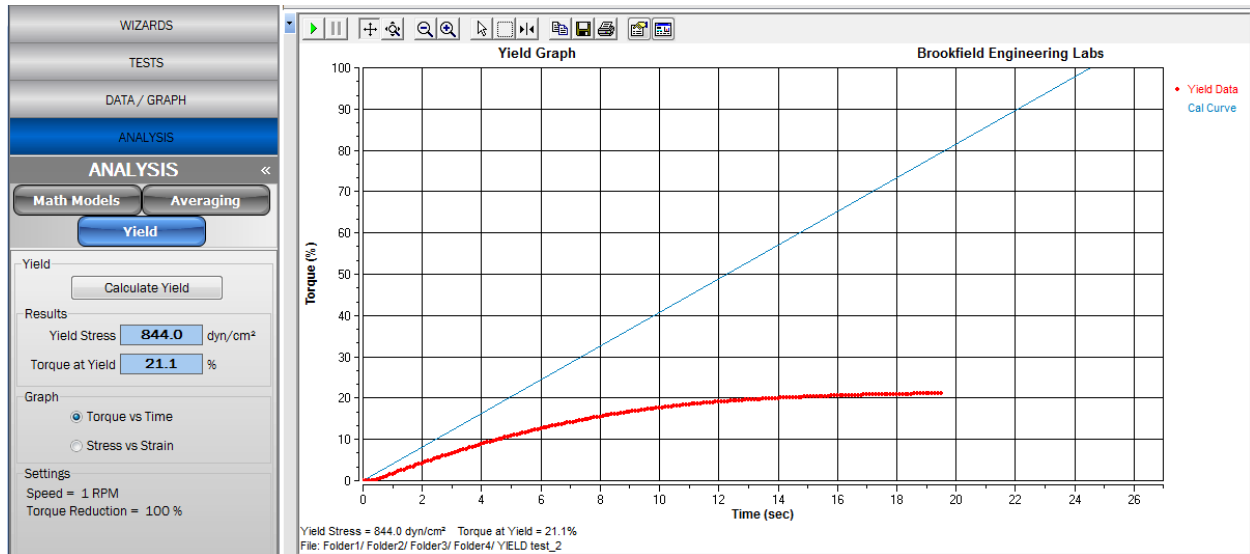
The screenshot shows the 'Post Test Averaging' panel with the following settings and data:

- File:** Brookfield/ Viscosity Shtmandard/ Shmilicone/ 30,000cP/ W-5 speed ramp_5
- Method:** Step Averaging (selected)
- Test Averaging:** Unselected. Description: 'Averages all the points over all the chosen steps within the test run. Choose the steps to include:'. A list of checkboxes for Step #1 through Step #6 is shown, all of which are currently unchecked.
- Buttons:** Math Models, Averaging, Yield, and Average.

Step (#)	Calculation	Viscosity (cP)	Speed (RPM)	Torque (%)	Sh Stress (dyn/cm ²)	Sh Rate (1/s)	Temptr (°C)	Bath (°C)	Density (g/cm ³)
1	Average	3025.64	178.57	108.1	1513.13	50.000	24.4	575	0.0000
1	Standard Deviation	1215.30	0.00	43.4	607.85	0.000	0.0	0	0.0000
2	Average	4558.25	91.04	82.7	1158.20	25.490	24.4	575	0.0000
2	Standard Deviation	1100.66	12.50	20.9	292.11	3.501	0.0	0	0.0000
3	Average	4710.36	37.86	35.4	495.39	10.600	24.4	575	0.0000
3	Standard Deviation	1622.73	10.60	13.9	193.93	2.969	0.0	0	0.0000
4	Average	2419.36	238.32	112.6	1576.47	66.731	24.4	575	0.0000
4	Standard Deviation	741.25	40.92	36.6	512.04	11.457	0.0	0	0.0000
5	Average	2678.74	249.93	133.9	1875.00	69.981	24.4	575	0.0000
5	Standard Deviation	5.36	0.49	0.0	0.00	0.137	0.0	0	0.0000
6	Average	5962.37	67.86	78.6	1100.22	19.000	24.4	575	0.0000
6	Standard Deviation	2717.60	25.75	35.3	494.66	7.211	0.0	0	0.0000

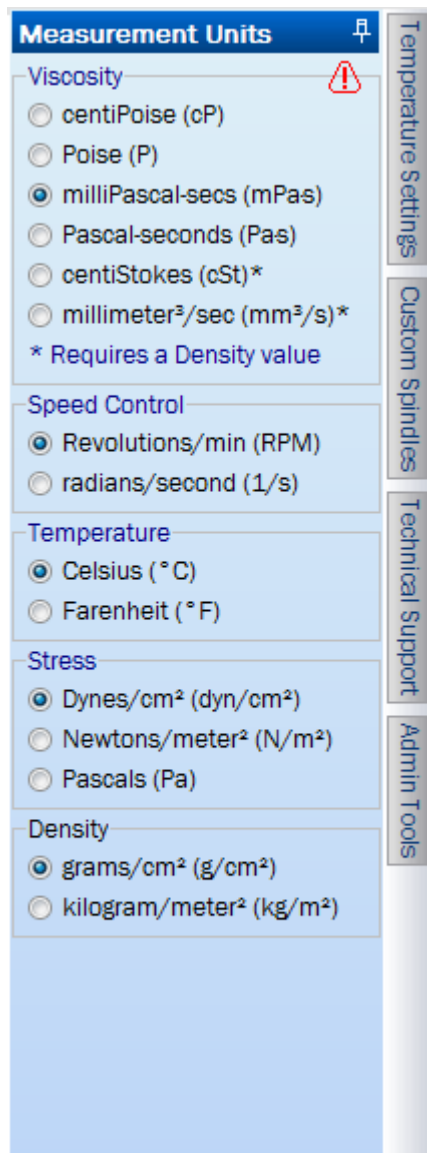
Yield Panel

Use this panel to calculate the yield of the current data file (Data Set #1). The Yield data can be graphed as either Torque vs Time or Stress vs Strain.



Utility Panels

Measurement Units Panel



Use this panel to choose what measurement units to display throughout the software. Any changes made to the measurement units will not take effect until the software is restarted.

Click on the picture to learn more about each area.

Temperature Settings Panel

Temperature Settings
📌

Probe Offsets

None ▼

Name

Offset

°C

Controller Offsets

Thermosel ▼

Name

Offset

°C

End Condition Reading

Probe

Controller

Default Temperature

°C

Default between tests

Use this panel to adjust various setting concerning temperature.

Click on the picture to learn more about each area.

Custom Spindles Panel

Code	Name
100	Unity
102	Duo

Code: 102
Name: Duo
SMC: 2
SRC: 2.220
YMC: 0

Buttons: Clear, Add, Delete, Edit

Sidebar: Measurement Units, Temperature Settings, Technical Support, Admin Tools

Use this panel to enter custom spindles. Enter a number and name for the spindle, and its factors. Once the custom spindle has been added, it will appear in the spindle drop down list in the [Test Setup Window](#). If the custom spindle is chosen for a test, all of the viscosity, shear rate, and shear stress calculations for that data file will be calculated using that custom spindle's factors.

Technical Support Panel

Technical Support ⌵

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FSTD_SPINDLE_49;Restricted;000811E
1/20/2015 1:09:41 PM Rx:

FSPEC_SPINDLE_2;Code;13300820E
1/20/2015 1:09:41 PM Rx:

FSPEC_SPINDLE_3;Name;custom000126
1/20/2015 1:09:41 PM Rx:

FSPEC_SPINDLE_4;SMC;3.6250001F4
1/20/2015 1:09:41 PM Rx:

FSPEC_SPINDLE_5;SRC;1.000000138
1/20/2015 1:09:41 PM Rx:

FSPEC_SPINDLE_6;YMC;9.55400814F
1/20/2015 1:09:41 PM Rx:

FSPEC_SPINDLE_7;Restricted;000834D
1/20/2015 1:09:41 PM Rx: FEND000325
1/20/2015 1:09:41 PM Rx: FEND000325
1/20/2015 1:09:41 PM Rx: 83AA
1/20/2015 1:10:34 PM Running Test: 517
Protocol A68
1/20/2015 1:10:35 PM Tx: V13880297
1/20/2015 1:10:35 PM Rx: V008039
1/20/2015 1:11:35 PM Tx: V177000B7
1/20/2015 1:11:35 PM Rx: V008039
1/20/2015 1:12:35 PM Tx: V00008317
1/20/2015 1:12:35 PM Rx: V008039
1/20/2015 1:12:35 PM tTX: RS0398C
1/20/2015 1:12:35 PM tTX: RA1
1/20/2015 1:12:35 PM tRx: RS0398C
1/20/2015 1:12:35 PM tRx: RA1
1/20/2015 1:12:36 PM Test ended

Measurement Units

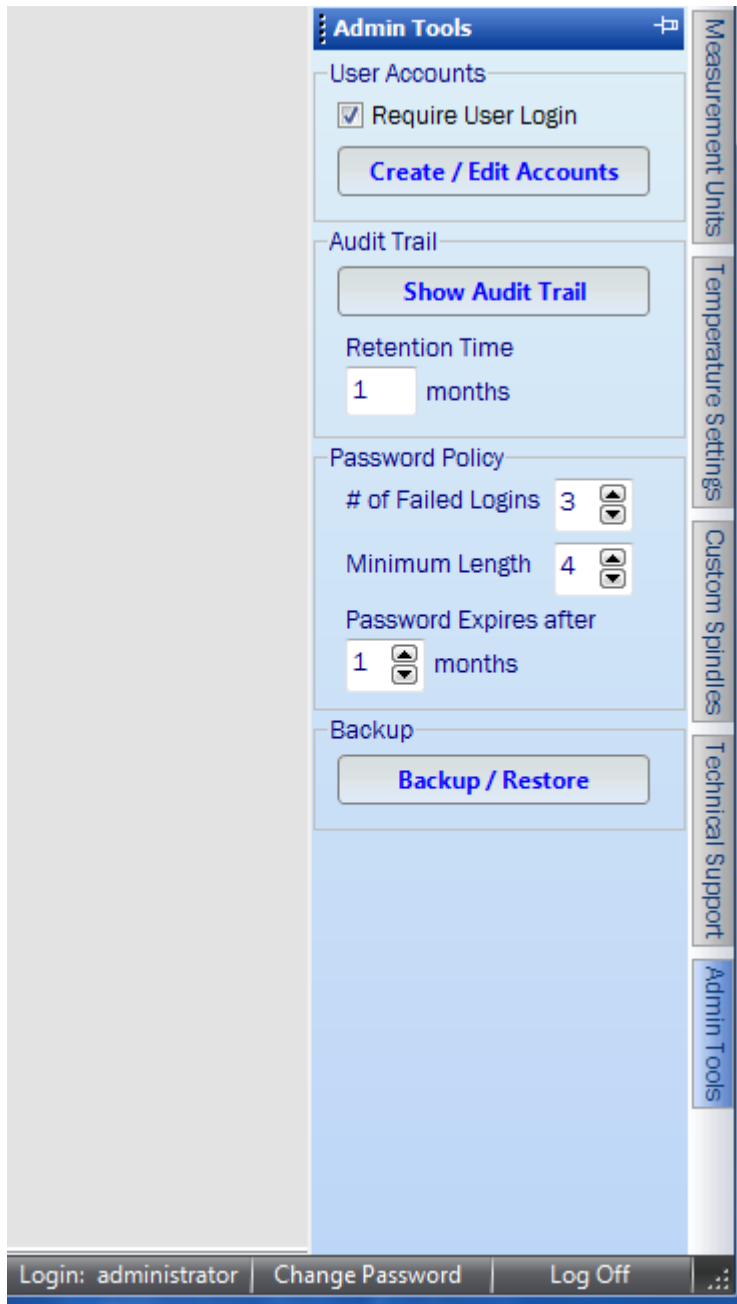
Temperature Settings

Custom Spindles

Admin Tools

If you encounter issues during the operation of the software, save the Technical Support Log before closing the software. This log can be emailed to [Brookfield](#). The information in this log may be useful in troubleshooting the issue.

Administrative Tools Panel

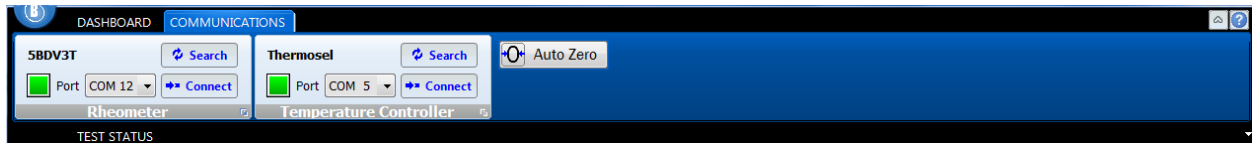


Various Administrative tools are located on this panel. The Administrator can create user accounts here, as well as set password policy, show the Audit Trail, and back up or restore the database.

Click on the picture to learn more about each area.

Troubleshooting

Establishing Communications



Establishing Communications for the First Time:

Rheometer

1. Install the software before connecting the rheometer. Note that, depending on the computer operator system, you may be asked to connect the rheometer during the installation. In this case, steps 2 and 3 will occur by the end of the installation.
2. Connect the USB cable to the computer and the rheometer.
3. Turn on the rheometer. Windows should display several messages as it automatically detects a new USB device and locates the driver for it. When it is done, Windows should indicate that the device/hardware is installed and ready to use.
4. Make sure the rheometer is in External Mode.
5. Start the software. Once the software is up and running, go to the [Communications Tab](#) and click the "Search" button in the "Rheometer" box. The software will find the port which the rheometer is connected to then light up the green light.

Temperature Controller

1. Connect the RS-232 cable to the computer and the temperature controller. Turn on the temperature controller and make sure it is in Remote Mode.
2. Start the software. Once the software is up and running, go to the [Communications Tab](#) and click the "Search" button in the "Temperature Controller" box. The software will find the port which the temperature controller is connected to then light up the green light.

Establishing Communications on a Regular Basis:

- **The easiest way to ensure communications is to have the rheometer and temperature controller connected, turned on, and in the correct mode before starting the software.** The software will then automatically connect with the instrument at start up.

- If you turn on the rheometer after the software has started, the rheometer's port will not be listed in the port list. Hit the "Search" button to find the rheometer port and start communications.
- If you turn on the temperature controller after the software has started, the correct port should still be chosen in the port list. Hit the "Connect" button to start communications.
- If you change where the communications cable is connected to the computer, hit the "Search" button to find the new port and start communications.

Troubleshooting

If you encounter a software issue which you cannot resolve, please [contact Brookfield](#) for assistance.

Please have the following information on hand:

1. An exact description of the error that occurred. Screenshots are useful.
2. The circumstances under which the error occurred: which button was pushed, what operation was under way, etc.
3. Any changes to setup or usage from when the software was operating properly to when the error occurred.
4. The software version, the rheometer model and firmware version, the temperature controller model.
5. The computer operating system, its processor speed and amount of RAM.
6. The [Technical Support Log](#).