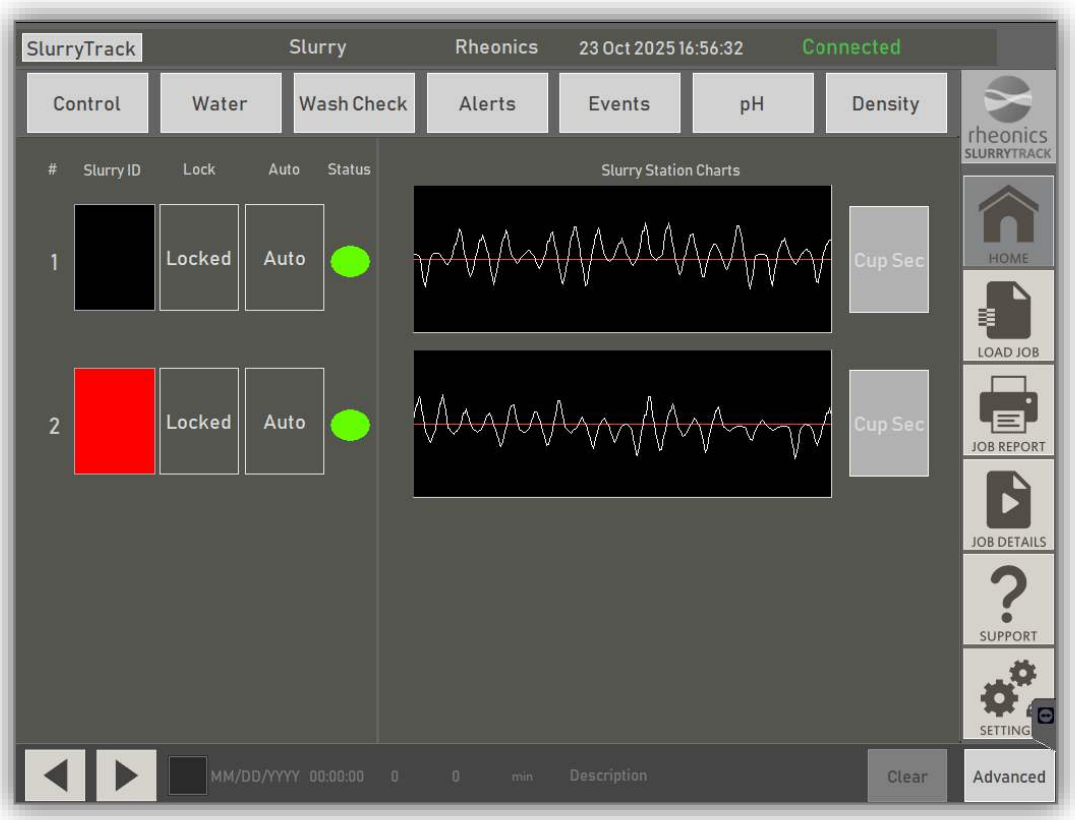
Rheonics SlurryTrack System

Software Manual

Slurry Monitoring and Control System

Doc. ID: STK-SM-27738A



GLOBAL SUPPORT

For Support, visit:

https://support.rheonics.com

EUROPE HEADQUARTERS

Rheonics GmbH

Winterthur, Switzerland

Tel: +41 52 511 32 00

US HEADQUARTERS

Rheonics, Inc.

Sugar Land, TX, USA

Tel: +1 713 364 5427

Website: https://rheonics.com

Support Portal: https://support.rheonics.com

Sales E-Mail: info@rheonics.com

Support E-Mail: support@rheonics.com

1 Before you begin

1.1 About the manual

This manual helps you understand how to operate Rheonics **SlurryTrack** software. It introduces key features and guides you through essential functions.

Important Instructions
This manual assumes the following:

- The sensor has been installed completely and correctly, following the sensor manual and Rheonics installation instructions.
- The installation meets all safety requirements.

1.2 Contact

Contact **Rheonics** to help you with any inquiry:

- For sales and delivery-related questions contact the Sales Team at info@rheonics.com
- For installation, integration, and troubleshooting contact the Support Team at support@rheonics.com

1.3 Hazard Messages

ATTENTION
This word indicates useful information for the operator but without risk for the operation of Rheonics product.

CAUTION
This word indicates a medium or highly recommended action to ensure the proper function of Rheonics product.

WARNING
This word indicates a hazard or mandatory action to ensure the proper function and safety of Rheonics product.

1.4 Nomenclature

Item	Abbreviation (short form)	Full-term	Description	Reference Image
1	**RPS-A**	Rheonics Process Solution	Multi Station Viscosity monitoring and control	
2	**SRD**	Symmetric Resonator Densitometer	Density and Viscosity sensor probe	
3	**SRV**	Symmetric Resonator Viscometer	Viscosity Sensor probe	
4	**SME**	Sensor Module Electronics	Transmitter/ Electronics of the sensor	

Table 1. Nomenclature

1.5 Related Documentation

You can find all product documentation on the USB storage device that was shipped with the system.

For more information on Rheonics sensors, refer to the following documents on Rheonics Website. Contact Rheonics Support Team if you cannot find a document online.

Title	Code	Description
RCP Software Manual	RCP-SM	Rheonics Control Panel Software Manual
RPS-A Hardware Manual	RPS-A-OP	RPS-A Cabinet Hardware Operator Manual
SRV Operator Manual	SRV-OP	SRV Sensor Operator Manual
SRD Operator Manual	SRD-OP	SRD Sensor Operator Manual
SME Operator Manual	SME-OP	Rheonics SME Sensor Module Electronics Manual
EX installation Manual	EX-IM	Installation of Intrinsically Safe Sensors Manual

Table 2. Related Documentation

2 SlurryTrack Overview

Rheonics **SlurryTrack** is a software-based solution for real-time monitoring and control of slurry viscosity in industrial applications. It is built to improve process consistency and reduce manual intervention.

2.1 Software Components

SlurryTrack consists of two main software applications:

2.1.1 Server Application

The server runs **SlurryTrack** core logic. It manages communication with sensors and valves, performs control actions, logs data, and handles alarms. The server supports up to 10 independent stations. Each station includes:

- Viscosity or density sensor (SRV or SRD).
- Smart Module Electronics (SME).
- Control valve.

2.1.2 Client Application

The client provides a graphical user interface (GUI) for operators. It connects to the server via TCP/IP and allows users to:

- Monitor real-time data.
- Configure system parameters.
- Manage jobs and events.
- View charts and alarms.

ATTENTION
The client depends on an active connection to the server. Ensure the server is running before launching the client.

2.2 Key Features

- Real-time viscosity control and automatic solvent dosing.
- Integrated pH and solvent level monitoring (when sensors are available).
- Configurable alarms and event history.
- Job-based configuration and logging.
- Data export (TDMS and csv).
- Web access to job reports and historical data.
- Built-in diagnostics and support for remote access.

3 SlurryTrack Client Interface

Use the **SlurryTrack** Client to monitor slurry station data, manage system operations, and respond to alerts in real time. The interface gives you a centralized view of system performance and station activity.

Figure 1: SlurryTrack Client Interface Overview

Figure 1 shows the layout of the Client Interface, highlighting each numbered area. **Table** 3 describes these interface sections.

No.	Section	Description
1	Information Bar	Displays the job name, customer name, current date, and server connection status.
2	Top Navigation Bar	Allows switching between different views: *Control*, *Water*, *Wash Check*, *Alerts*, *Events*, *pH*, and *Density*.
3	Right Navigation Bar	Provides quick access to the *Home* screen, *Load Job*, *Job Report*, *Job Details*, *Support*, and *Settings*.

4	Station Dashboard	Lists the stations available in ***SlurryTrack*** and their operating status.
5	Main Dashboard	Provides system status and real-time data based on the selected view.
6	Alarm Bar	Shows the most recent alarm.

Table 3. Client Interface Overview

4 Control Tab

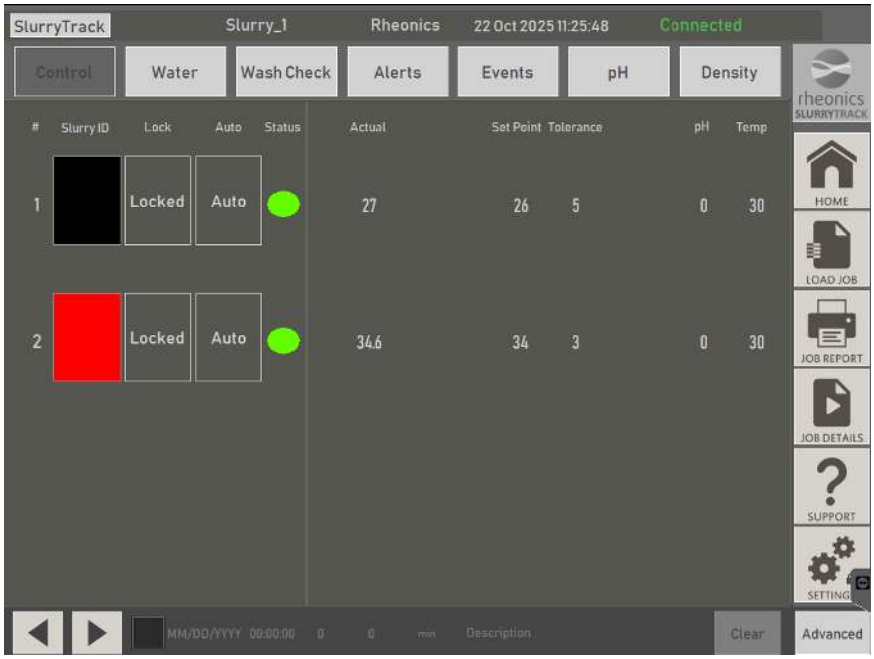
Control Tab shows the current viscosity value, setpoint, tolerance, pH, and temperature for each station.

It allows the operator to:

1. Monitor Viscosity.
2. Set the target viscosity (**Setpoint**).
3. Set the tolerance range in cP or %, as configured in the software.

> **Note**
> Default configuration for Tolerance Range is cP.

Figure 2: SlurryTrack Control Tab



4.1 Starting Slurry Control

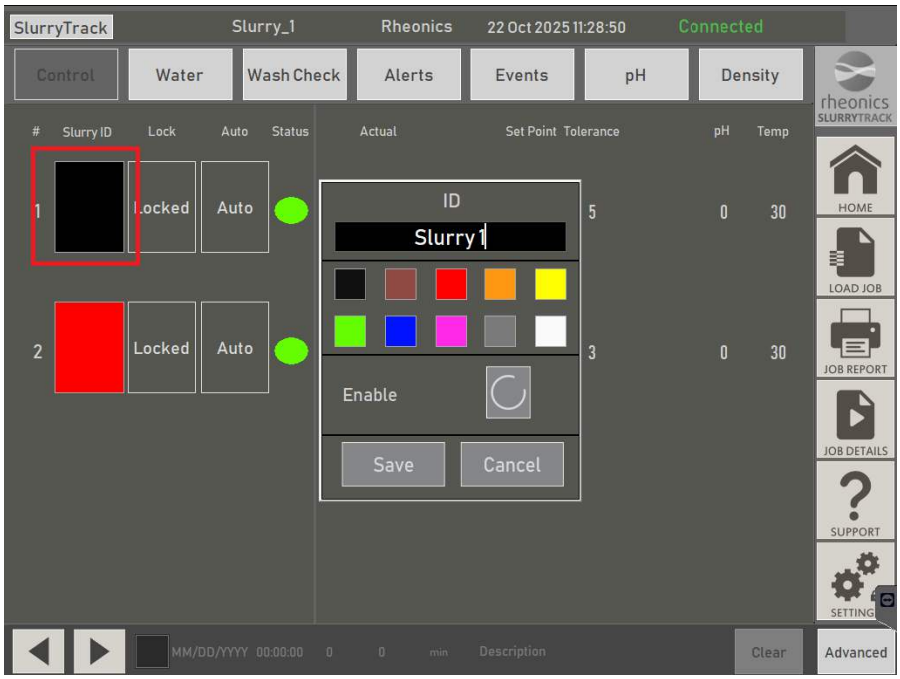
To start slurry control, you need to enable a station and set a target viscosity (Setpoint). Follow the steps below to begin automatic control.

4.1.1 Enabling a slurry station

1. Go to the **Home** view.
2. Click the **Slurry ID** box for the station you want to enable
3. In the popup window:
   a. Enter the **Slurry ID** and **Color ID**.

b. Select the **Enable** checkbox.
c. Click **Save** to confirm.

Figure 3: Enabling a Station - Slurry ID

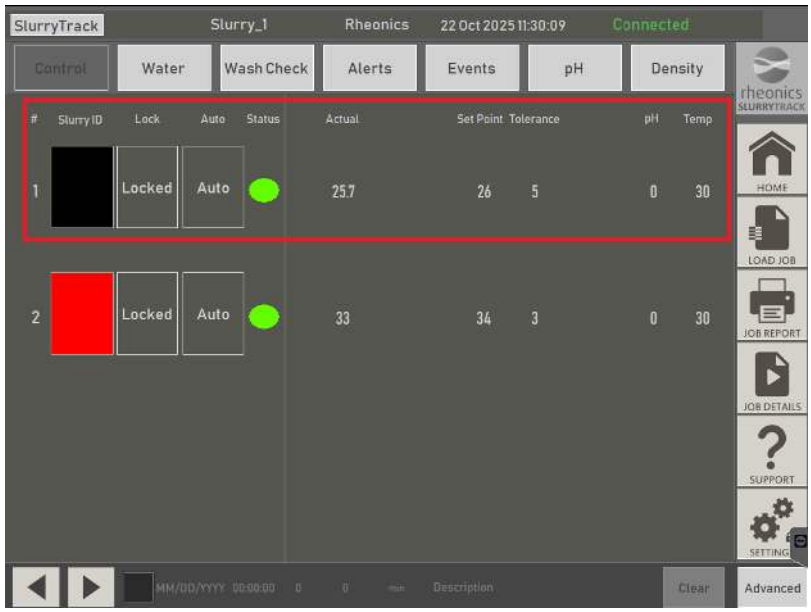


Once enabled, the station begins measuring viscosity and shows live data.

4.1.2 Lock the Setpoint and Start Control

1. Make sure the current viscosity is at the value you want.
2. Select **Lock**:
   a. The **Setpoint** updates to the current viscosity value.
   b. The **Lock** button changes to **Locked**.
   c. The **Manual** button changes to **Auto**.
   d. Automatic control starts.

Figure 4: Locking the Setpoint



ATTENTION

Only lock the setpoint when the viscosity is stable and within acceptable process limits.

4.2 Disable or Resume Automatic Control

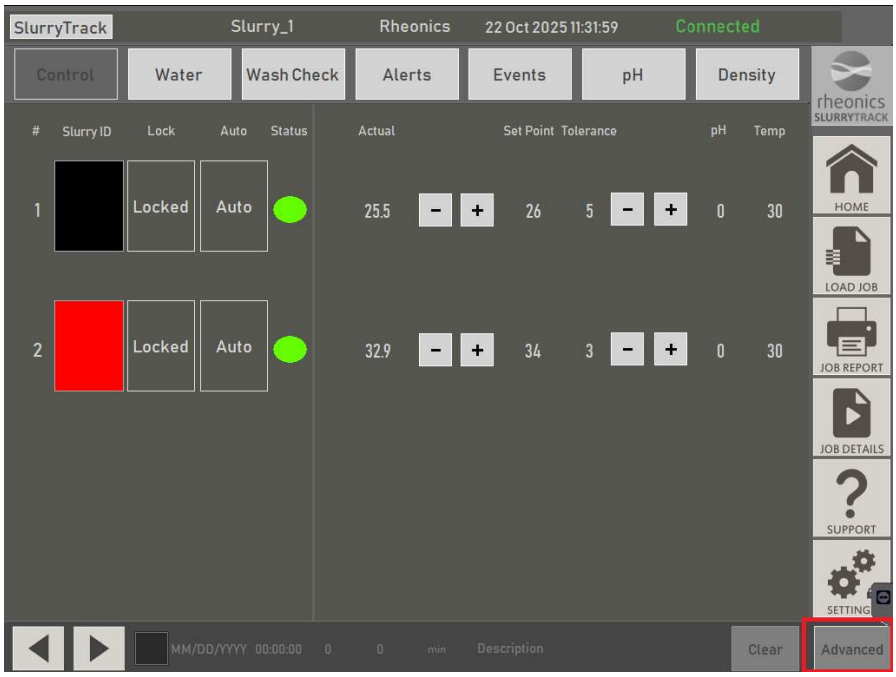
1. To pause automatic control, press **Auto**; it changes back to **Manual**.
2. The setpoint stays **Locked**, but the system only monitors now.
3. To resume control, press **Manual** again; it switches back to **Auto**.
4. Automatic Control resumes.

4.3 Using a Custom Setpoint

Use a custom setpoint when the current live viscosity is **not** suitable to be used as a setpoint, for example, after adding new slurry:

1. Click the **Advanced** mode button.

Figure 5: Advanced Button on Control Tab



2. The **Setpoint** field will now be editable.
3. Enter the viscosity value you want.
4. Press the **Manual** button: The button changes to **Auto**.
5. The system starts controlling to the viscosity value you entered as a **Setpoint**.

4.4 Input cup seconds viscosity value

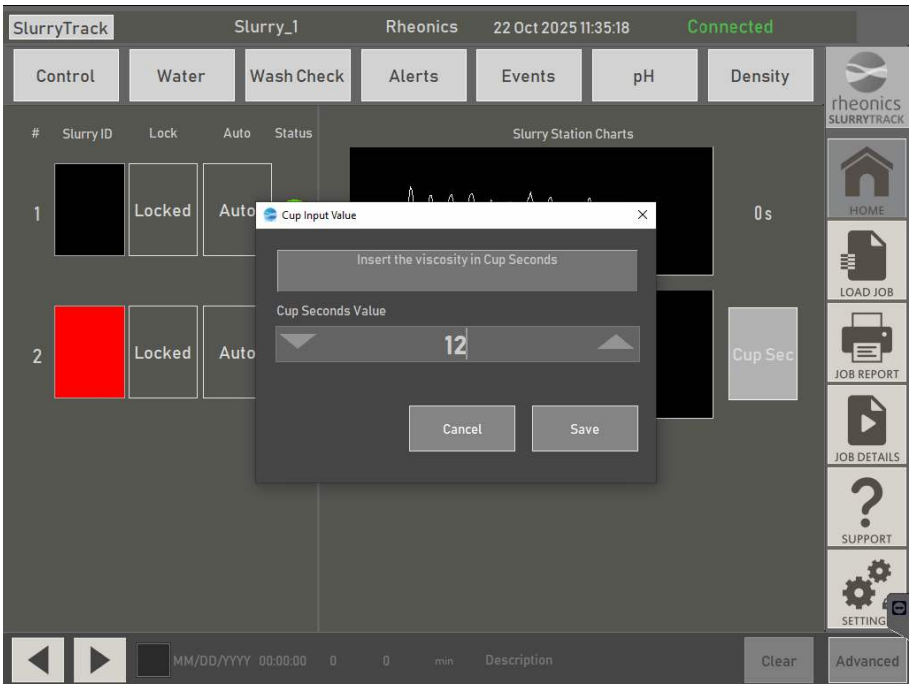
You can log **manual cup measurements** as a reference for each station. This is useful for routine manual checks, allowing operators to compare traditional measurements (e.g., Zahn or Ford cup) with the inline sensor reading.

To record a value:

1. On **Home screen**, select the **Cup Sec** button next to the station.
2. Enter the value measured.
3. Select **Save**.

> **Note**
> This field is for reference only. It doesn't affect the control system

Figure 6: Entering a Cup Measurement



4. To update the value, select it and repeat the steps.
5. The entered value will appear at the right side of the station chart (*Figure 7*: Cup Seconds Measurement).

Figure 7: Cup Seconds Measurement

5 Water Tab

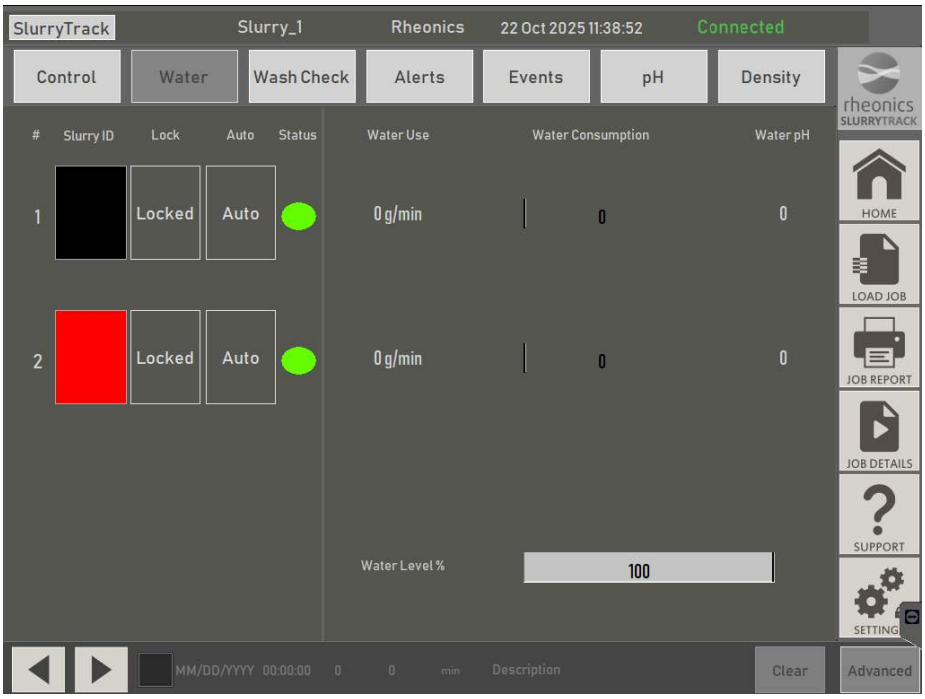
The **Water Tab** displays solvent tank levels and usage statistics, helping operators monitor supply and prevent interruptions. **SlurryTrack** supports two methods for tracking solvent tank levels:

1. Direct measurement using a level sensor (Section 5.1)
2. Estimated level tracking based on calibrated flow values (Section 5.2)

For accurate operation in either mode, make sure:

1. The Solvent Tank Capacity is correctly configured on SlurryTrack.
2. The Solvent Flow Calculation procedure has been completed. See *Section 13.2.2* for a complete procedure.

Figure 8: SlurryTrack Water Tab



5.1 SlurryTrack with a Level Sensor

When a level sensor is installed, **SlurryTrack** uses its live readings to determine the tank's current level.

1. The **Water Tab** shows the real-time tank level directly from the sensor
2. If the solvent level is too low:
   a. The **Empty Drum or Bucket** alarm is triggered.
   b. The alarm clears automatically after refilling (or manually if needed).
3. The system also shows:
   a. Average solvent use in g/min.

b. Usage as a percent of drum capacity.

ATTENTION
The Solvent Flow Calculation procedure is still required to track solvent consumption.

5.2 SlurryTrack without a Level Sensor

If no level sensor is installed, **SlurryTrack** estimates the solvent level by tracking dosing valve activations and using an estimated flow rate.

You can define this flow rate in two ways:

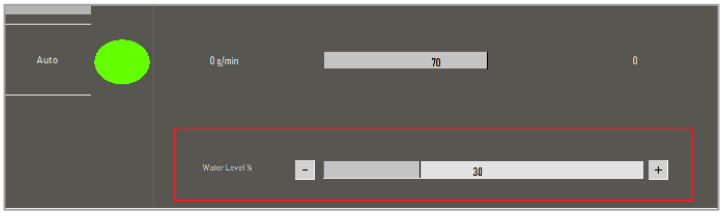
1. Manually in Job Details. (*Section 11.2*)
2. Automatically by performing the Solvent Flow Calculation procedure. (*Section 13.2.2*)

Note
Whichever flow rate calculation method is executed last will overwrite the previous value.

5.2.1 Estimated Level Calculation

- Each time the dosing valve opens, **SlurryTrack** subtracts the corresponding amount from the estimated solvent level.
- The **Water Tab** updates the level in real time.
- When the estimated level nears 0%:
    - You'll see an **Empty Drum or Bucket** alarm.
    - You can manually update the current level to let the system know it's been refilled by clicking the "**+**" button, as shown in Figure 9.

Figure 9: Solvent Level %



ATTENTION
Make sure the solvent tank capacity and dosing rate are configured correctly to enable accurate level tracking. Contact **Rheonics Support** if you need assistance.

5.3 Wash Check Tab

Wash Check tab shows the sensor cleaning status for all stations.

Figure 10: SlurryTrack Wash Check Tab

The system checks sensor state every 30 minutes. It shows one of these states:

1. **Air**
2. **Slurry**
3. **Wet**

Additionally, if clean, the Sensor Clean light will show green. If not, you might see yellow or red, which means it might need cleaning.

Abbreviation	Description
	Sensor is Clean
	Sensor may be partially dirty
	Sensor is dirty: Attention required.

Table 4. Sensor Clean Status

ATTENTION

Sensor Clean status is a reference value. Clean the probe based on your process conditions and before buildup affects viscosity readings.

6 Alerts Tab

Alerts Tab shows the most recent alarm for all stations.

Figure 11: SlurryTrack Alerts Tab

You might see alerts when stations are running. These can be caused by sensors, actuators, or common process conditions. Common alerts include:

- Viscosity or pH out of tolerance
- Low water level
- Station has been idle for too long.

For a complete list of alarms see **Appendix A – Alarms**.

6.1 Viewing Active Alerts

You'll see the latest alert on the lower side of the dashboard.

1. Use the **Left** and **Right** arrows to scroll through the alarms.
2. Select **Clear** to remove alerts that have been resolved.

Figure 12: Alerts Bar

ATTENTION

Clearing an alert **does not** fix the underlying issue. Ensure the condition is resolved before clearing the alarm.

6.2 Viewing Alerts History

To view the full history of alerts:

1. Go to the **Alerts Tab**.
2. Click the alert description for the station to open the **Alerts History** window.

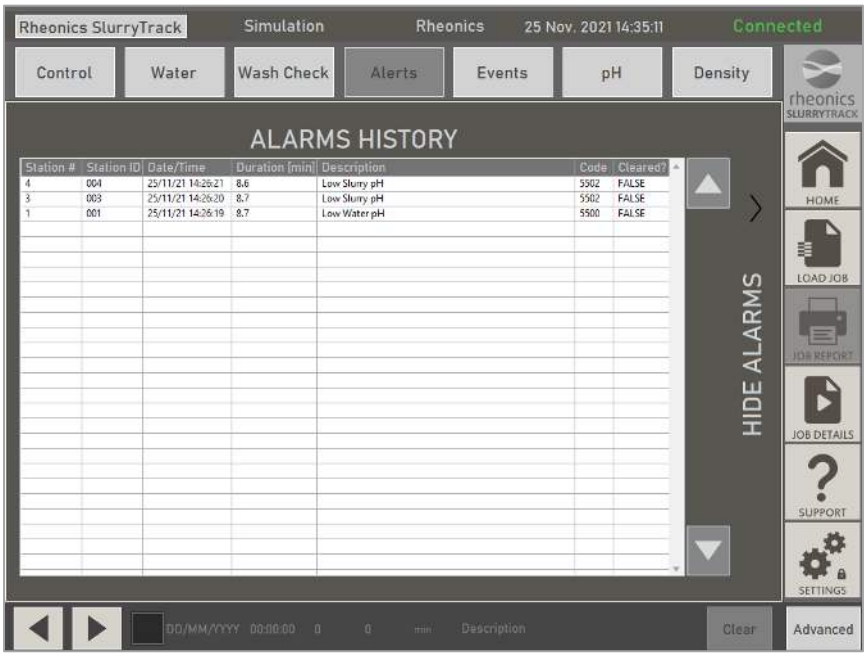
Figure 13: Viewing Alerts History

3. The Alerts History shows:
   a. **Station**: Station where the alarm occurred.
   b. **Alert code**: Numeric code that uniquely identifies the type of alarm.
   c. **Duration**: Time, in minutes, that the alarm remained active until it was cleared.
   d. **Description**: Name or brief description of the alarm condition.
   e. **Cleared Status**: Indicates whether the alarm was automatically cleared by the system or manually reset by the operator.

Note

Some alarms are self-recoverable. The alarm remains active as long as the triggering condition persists. For the complete list of alarms, refer to **Appendix A – Alarms**

Figure 14: Alerts History



4. Use the **Up** and **Down** arrows to scroll through the Alarms list.
5. Click **Hide Alarms** to close the history view.

6.3 Alarms Customization

Alarms are highly customizable. Rheonics Support can configure the following settings to fit your specific needs:

1. **Latency [s]**: Time (in seconds) to wait before triggering the alert after it's been cleared by the operator.
2. **Timeout [s]**: Maximum time (in seconds) the alert remains active before it's automatically cleared.
3. **Buzzer**: Enables an audible signal when the alert occurs.
4. **Email**: Sends an email notification when the alert is triggered.

Note

To enable or disable specific alerts in your system configuration, please contact **Rheonics Support.**

7 Events Tab

Events Tab shows the most recent event for all stations.

Figure 15: Events Tab

There are two main types of events:

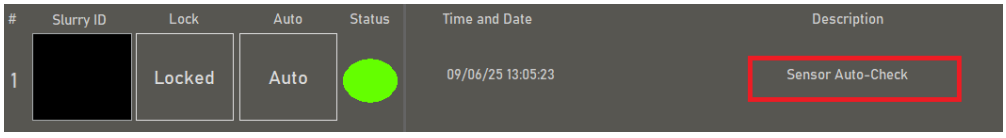
1. **Job events**: When you start jobs, change setpoints, or check sensors.
2. **Control events**: Actions the system takes, like opening valves or switching modes.

7.1 Viewing Event History

To view the complete list of events for a specific station:

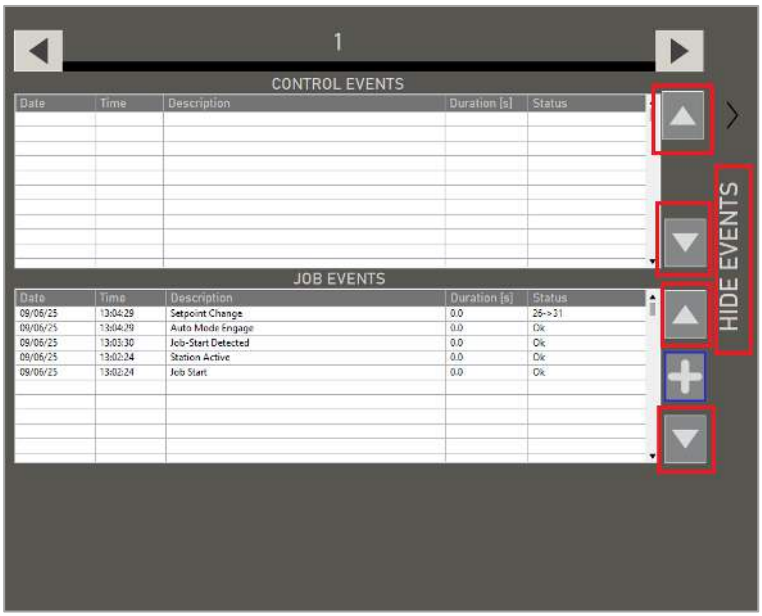
1. Click on the Event Description in the **Events Tab**.

Figure 16: Event Description



2. A new window will appear, showing a chronological list of job and control events for the selected station.
3. Use the **Up** and **Down** arrows to scroll through the list.
4. Click **Hide Events** to close the window.

Figure 17: Events History



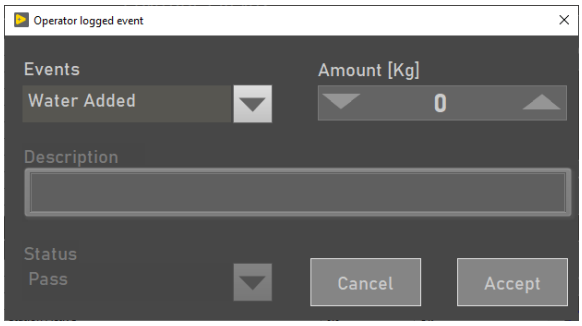
7.2 Adding Custom Events

1. Select the **"+"** button to add events or operator actions like:
   a. Manual water or slurry additions.
   b. Manual Cup measurements.
   c. Start or end of a job.
   d. Operator notes.

Figure 18: Add Custom Events

2. Enter the desired event on the pop-up window.

Figure 19: Add Custom Events



3. Click **Accept** to save the Custom Event

Note

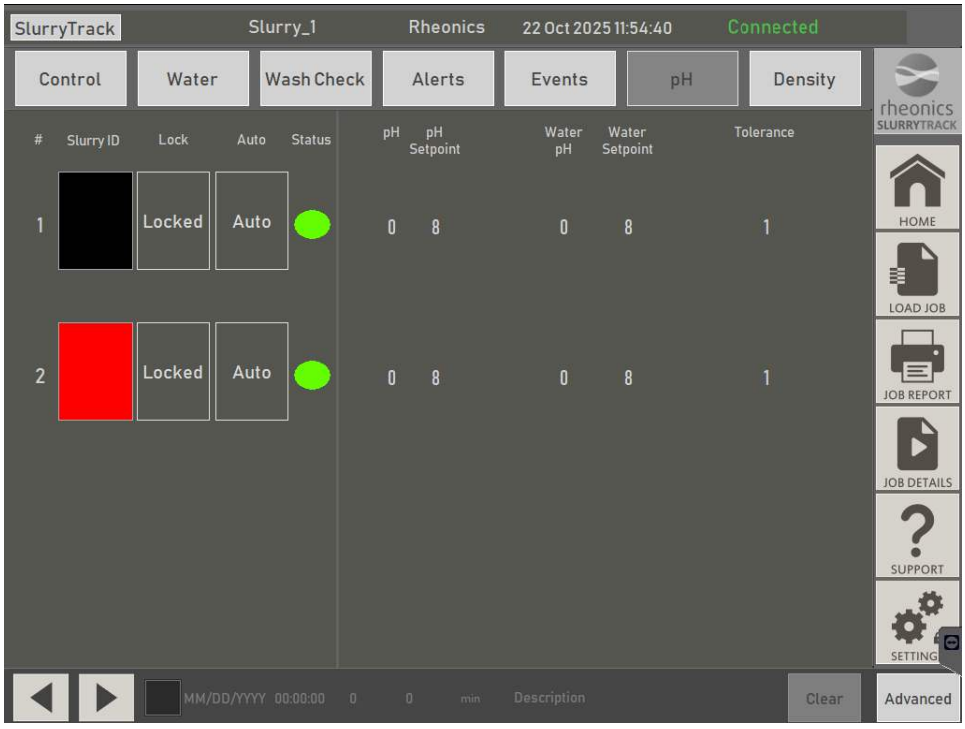
Custom events can then be reviewed on the **TDMS files** for further analysis

8 pH Tab (Optional)

SlurryTrack can monitor water and slurry pH using an external pH sensor, depending on your system setup. This tab is visible only if the pH measurement feature is enabled.

> **Note**
>
> Contact **Rheonics Support** to verify if the pH monitoring feature is available for your system.

Figure 20: pH Tab



When pH monitoring is available:

- The **pH tab** appears in the interface.
- You can set the **pH setpoints** and **tolerance**
- **Water** and **Slurry pH setpoints** can be configured separately. The **tolerance** setting applies to both.
- The system triggers an alarm if the pH value goes outside the set range.

> **Note**
>
> If your system uses a single water tank for all stations, you'll see the same water pH reading across all stations.

ATTENTION

Make sure to configure the pH settings based on your process requirements.

9 Density Tab (Optional)

If your system uses **SRD** sensors, it can monitor density in addition to viscosity. This tab is visible only if the density measurement feature is enabled (not available for SRV-based systems).

Note

Contact **Rheonics Support** to check availability or activation of the density monitoring feature.

Figure 21: Density Tab

When density monitoring is available:

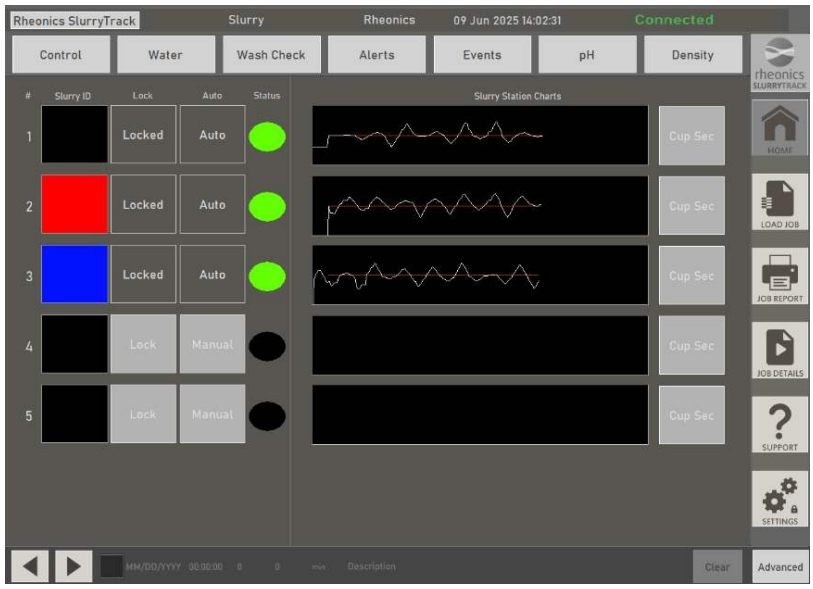
- The **Density** tab appears in the interface.
- You can adjust the **Setpoint** and **Tolerance** by selecting the **Advanced** button.
- The system triggers an alarm if the density value goes outside the set range.

ATTENTION

Make sure to configure the density settings based on your process requirements.

10 Home Tab

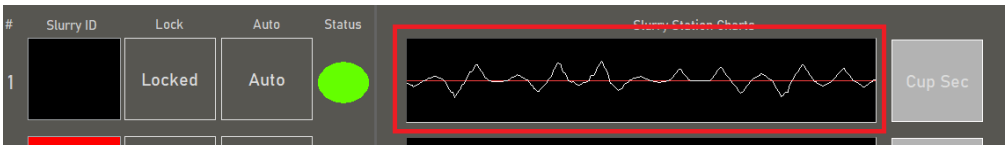
Figure 22: Home Tab



In the **Home tab**, you can see a chart of viscosity and setpoint values for each station.

- The **setpoint** is always centered in the chart but only appears when the system is Locked.
- Use the **Cup Sec button** to enter a cup measurement for reference. *See Section 4.4*
- Click a chart to open a detailed view for that station.

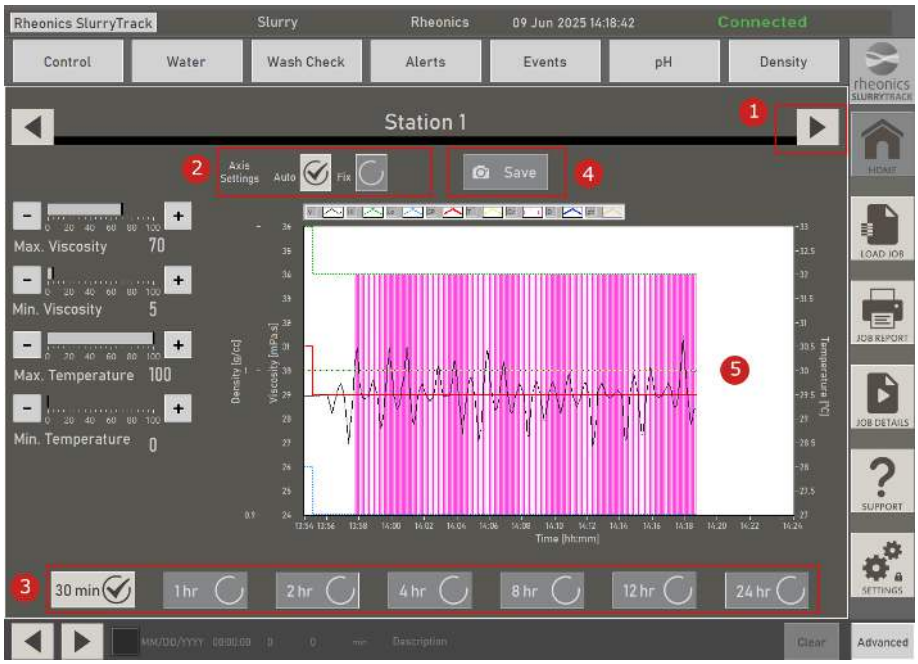
Figure 23: Station Chart



10.1 Chart interaction

Clicking on a station graph will open the Graph/Chart for that station.

Figure 24: Station 1 Chart



1. Press the **Arrow Buttons** to navigate between extended charts for each station.
2. Axis settings:
    a. In **Fixed mode**, the Y-axis range matches the values you set on the left controls. Only data within that range is shown.
    b. In **Auto mode**, the Y-axis adjusts to the min and max values of the current data.
3. You can change the time axis to show data from 30 minutes up to 24 hours.
4. Select **Save** to take a screenshot of the chart.
5. Click on top of the chart to get a larger view and hide the left side buttons. Click again on top to display the buttons.

10.2 Legend and axis

Figure 25: Legend

The legend identifies line styles for:

- Viscosity
- High and low limits
- Setpoint

- Temperature
- Control valve actions
- Density
- pH

There are four Y-axes:

- Left side: Density and viscosity
- Right side: Temperature and pH

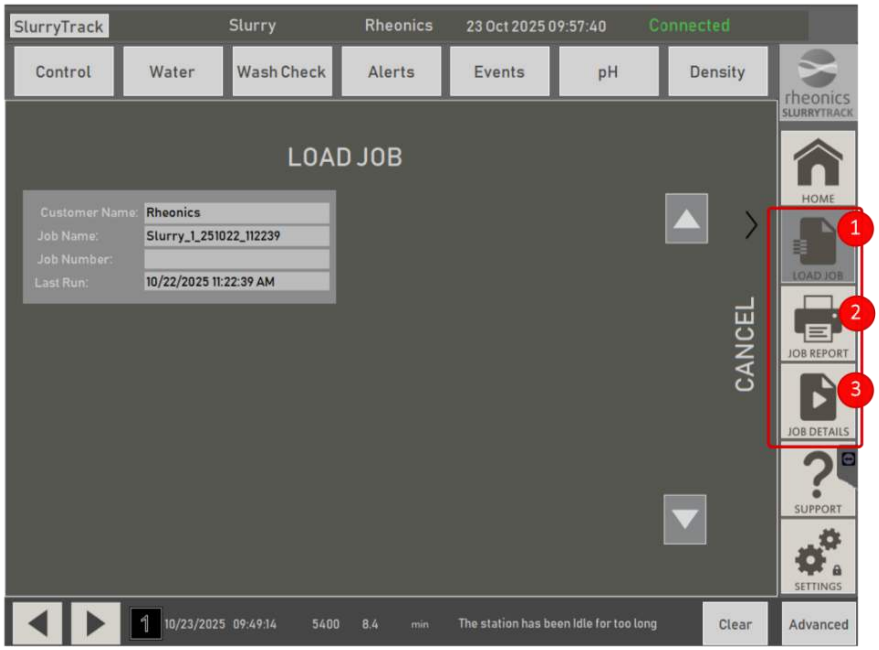
11 Job Management

You can store job configurations such as setpoints, tolerances, station ID, run name, and other details in a configuration file.

There are three job-related submenus:

1. Load Job. (Section 11.1)
2. Job Report. (Section 11.3)
3. Job Details. (Section 11.2)

Figure 26: Job Management Options



11.1 Load Job Tab

Select the **Load Job Tab** to open a window showing all saved configuration files from the Job Details window.

Make sure all stations are **disabled** before loading a job.

1. Use the **Up** and **Down** arrows to scroll through the list of files.
2. Select a file by clicking its rectangle area.

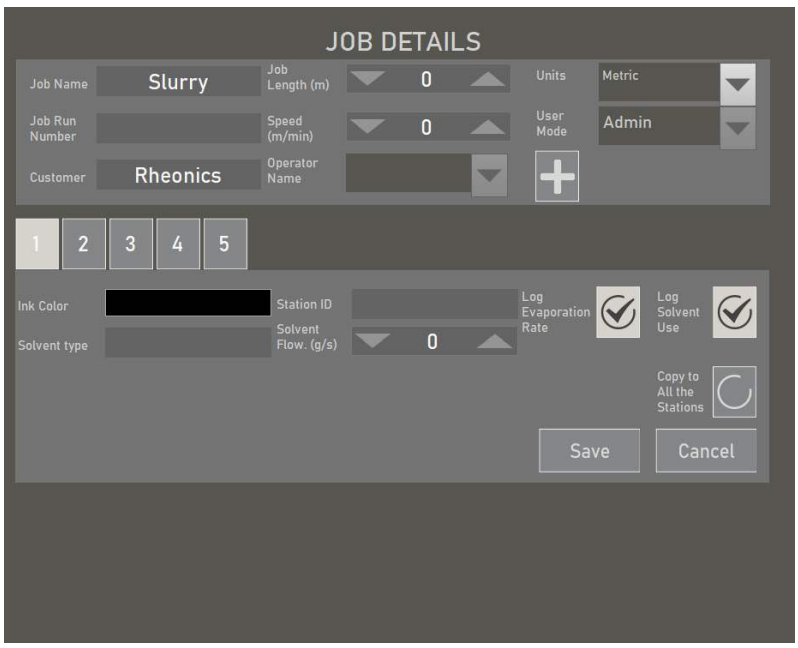
This action loads all saved job settings into the software and creates a new logfile for the current run.

Figure 27: Load Job Tab

11.2 Job Details Tab

On the **Job Details Tab**, you can create a new job after entering all required data.

Figure 28: Job Details Tab



When you save job details:

1. A configuration file is created for reuse.
2. A new logfile is also generated.

> **Note**
> It's best to enter job details at the start of each run. These values help calculate water use, slurry use, and evaporation rate, which appear in the software and logs.

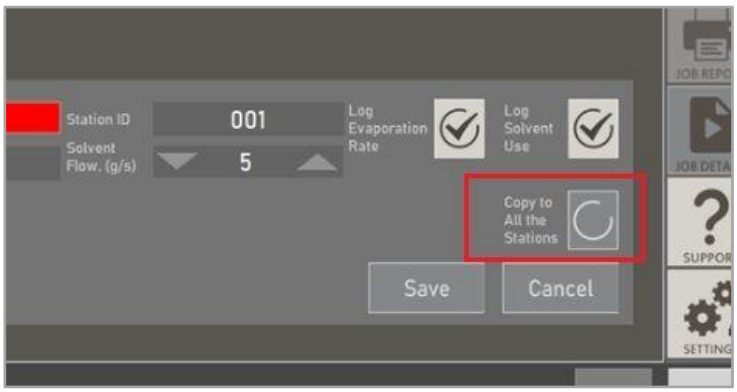
The job details window includes:

- **General job info**: job name, customer, operator, etc.
- **Station info**: water ID, initial water volume, flow rate, etc.

You can either enter information for each station individually or fill out one station and **use Copy to All Stations** to apply values (excluding color and ID) to all stations.

After completing the form, select **Save** to generate both the logfile and the configuration file.

Figure 29: Copy to All Stations



11.3 Job Report Tab

Job Report is a **Web Server** feature. See *Section 14.2* for more information.

12 Support Tab

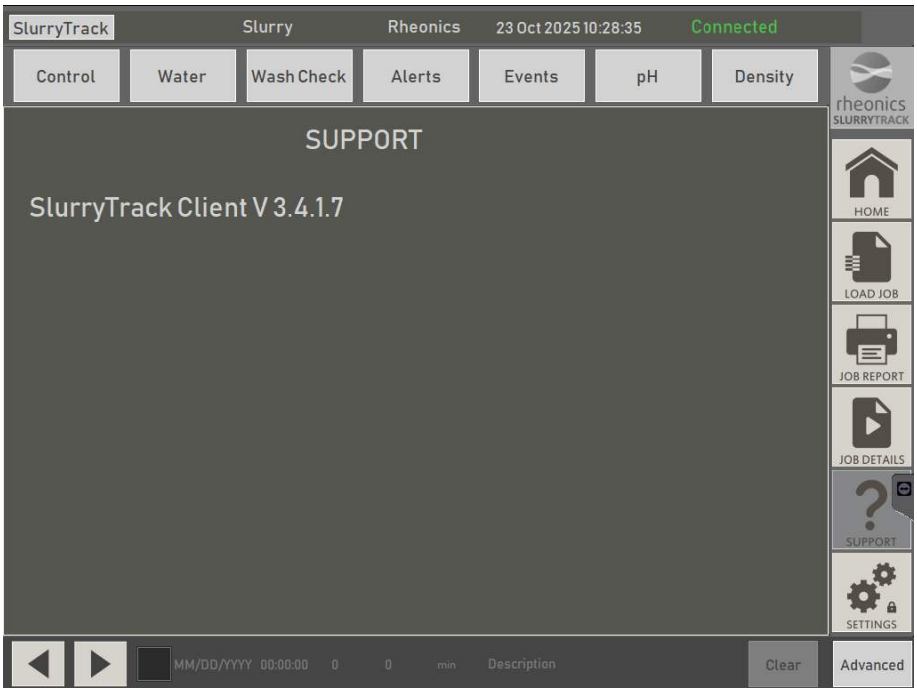
The **Support tab** displays the current version of **SlurryTrack**. This information is useful for troubleshooting, software updates, or when contacting technical support.

This tab is informational only.

Note

For assistance, contact **support@rheonics.com**

Figure 30: Load Job Tab



13 Settings Tab

Settings Tab allows **SlurryTrack** configuration at three different levels:

1. Operator Settings (Section 13.1)
2. Service Settings (Section 13.2)
3. Diagnostics Tab (Section 13.3)
4. Administrator Settings (accessible to Rheonics personnel only)

13.1 Operator Settings Tab

The **Operator Settings Tab** allows users to manage day-to-day configuration of the system, including station activation, dosing parameters, alarm thresholds, unit selection, and log file access.

Figure 31: Settings – Operator Settings Tab

Figure 31 shows the layout of the **Operator Settings** tab and enumerates its sections**. Table 5** describes each section.

No.	Section	Description
1	Active Stations	Enable or disable individual stations by clicking each station tile. This is a similar feature to the one described in *Section 4.1.1*
2	Period Settings	Configure each station's Period and Valve Open Settings.
3	Alarms	Set how far above or below the setpoint the viscosity must go to trigger Viscosity Too High and Viscosity Too Low Alarms.
4	Units	Choose the units to display. To use default cup-second conversion values, select **Import**. For more information, see Cup Seconds Conversion Coefficients (*Section 0*).
5	Cup-Second Coefficients	Define or import coefficients for conversion between cP cup-seconds
6	Copy Log Files to a USB	Use **Copy Logfiles to USB** to export measurement logs (*Section 13.1.8*).
7	Manual Switch	Enables Manual Switch Feature. This sets the system back to **Manual** if a configured number of valve activations is reached when the viscosity is outside the tolerance range. For configuration steps take a look at *Section 13.1.4.*

Table 5. Operator Settings Description

13.1.1 Period Settings

Configure the **Period** and **Valve Open Settings** for each station:

1. Select a station using the **Up** and **Down** arrows.
2. Then, select **Edit** to change the valve's **Period** and **Duty Cycle**.
3. To apply the same settings to all valves, select **Copy Settings**.
4. Select **Save** to keep your changes, or **Default** to restore factory settings.

> **Note**
> The system uses these settings as the starting point for control when viscosity drifts outside the tolerance.

13.1.1.1 Period

The **total duration** of one dosing cycle, expressed in seconds. It includes both the valve's **On Time** (dosing) and **Off Time** (mixing).

CAUTION
A too short Period may cause excessive dosing as the slurry and solvent mixing time is not enough

13.1.1.2 Valve Open Settings

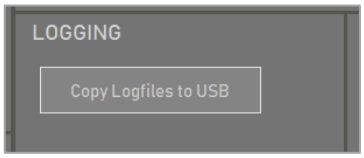
The **maximum time**, in seconds, that the valve remains open within one cycle. During this period, solvent is dosed into the system. Once the valve closes, no solvent is added; the slurry mixes until the next cycle begins.

CAUTION
A too large Valve Open Setting may overdose the system under certain conditions, resulting in over-dilution or large viscosity fluctuations.

13.1.2 Downloading Log Files to a USB

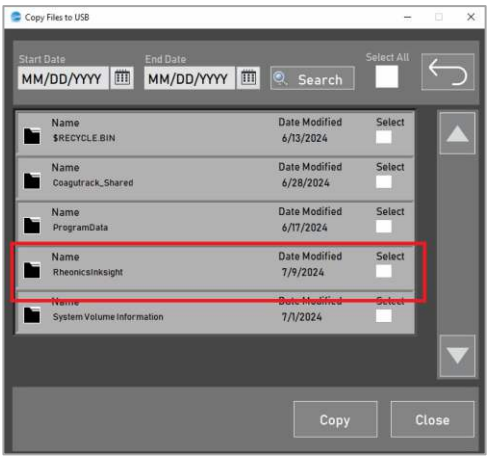
1. Click on **Copy Logfiles to USB.**

Figure 32: Log Files to USB - Copy Button



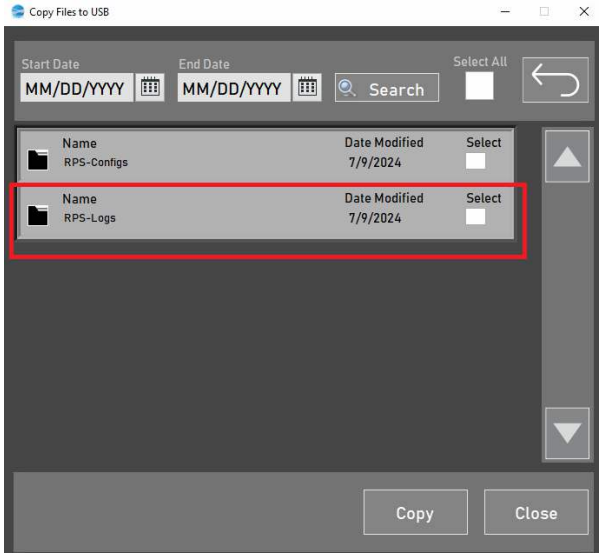
2. If prompted, Choose **Drive E**.
3. Select **RheonicsInksight** folder.

Figure 33: Log Files to USB - RheonicsInksight folder



4. Go into RPS-Logs folder.

Figure 34: Log Files to USB - RPS Logs folder

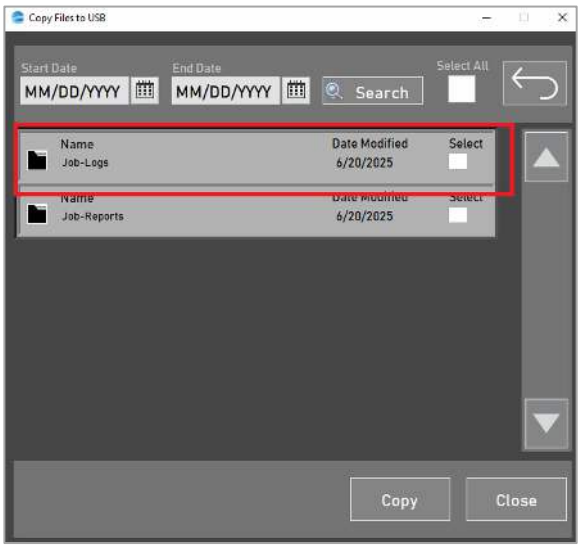


CAUTION

Don't try to copy the entire RPS-Logs folder. It might take too long or freeze the system.

5. Go into Job-Logs folder

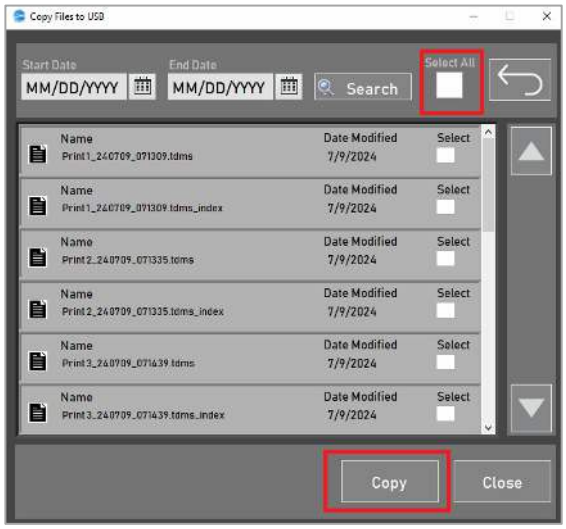
Figure 35. Log Files to USB - Jobs Logs folder



6. Select the specific Log File you are interested or just **Select All**, to select all logs.

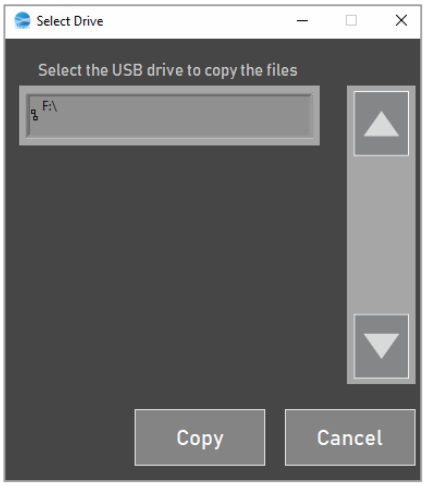
7. Click on **Copy**

Figure 36: Log Files to USB - Copy Files



8. Select the **USB drive** to copy the files. Select **Copy**.

Figure 37: Log Files to USB - USB Drive

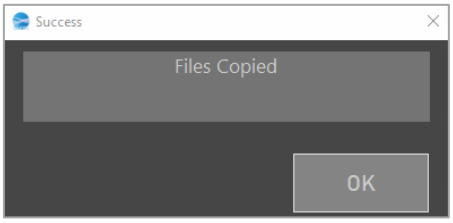


Note

This window shows all USB drives, starting with drive F:

9. Wait until a success message appears, confirming that the log files have been saved to the USB drive. Select **OK** to exit.

Figure 38: Log Files to USB – Success



Note

The log files are in TDMS format. For instructions on viewing these files in Excel, see the Rheonics article: *TDM Add-in for Excel: Installation Instructions.*

13.1.3 Cup Seconds Conversion Coefficients

SlurryTrack supports viscosity display in cP, mPa·s, or seconds (s).

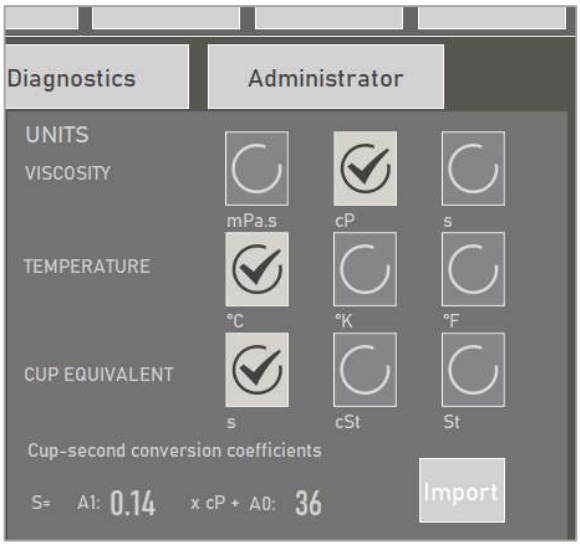
Note

Rheonics recommends using cP for process control, as it reflects the direct output from the Rheonics sensor.

To change the viscosity unit:

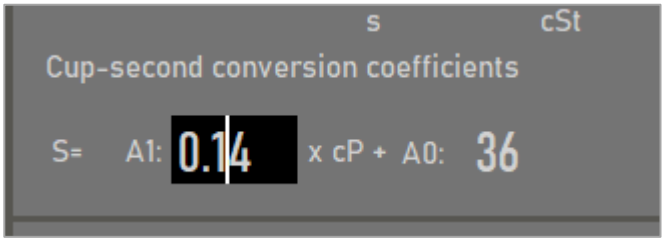
1. Go to the **Settings tab.**
2. Select the desired unit.

Figure 39: Viscosity Unit Selection



The system uses cup-seconds conversion coefficients **A1** and **A0** to convert cP to s using a linear formula.

Figure 40: Cup-seconds Coefficients



ATTENTION

Make sure the cup coefficients are correct for your use case. If set incorrectly, the system will use the wrong viscosity values, which will affect control accuracy.

Note

For further information, read Rheonics Article: *RPS Cup Seconds Conversion*

13.1.4 Manual Switch Feature

Use this feature when you need the system to stop adding solvent after a set number of valve cycles; for example, when high-viscosity readings are due to solids stuck to the probe.

13.1.4.1 Turn the Manual Switch Feature on

1. Go to **Operator Settings**, on **Settings Tab**.
2. In **Manual Switch**, turn Auto Manual Switch to **ON**.

Figure 41: Activating Manual Switch Feature

3. Enter **Max Valve Openings** (number of open–close cycles allowed).

13.1.4.2 Run the station

1. Start control as usual.
2. When the valve reaches the set count, the station automatically changes to **Manual mod**e and stops triggering the solvent valve.

13.1.4.3 Turn the Manual Switch Feature off:

1. Return to **Settings**.
2. In **Manual Switch**, turn Auto Manual Switch to **OFF**.
3. The station now operates normally without a valve-cycle limit.

13.2 Service Settings Tab

The **Service Settings Tab** provides advanced options for communication, control, logging, calibration, and connectivity. These settings are intended for service personnel and can be password-protected if desired.

Figure 42: Settings – Service View

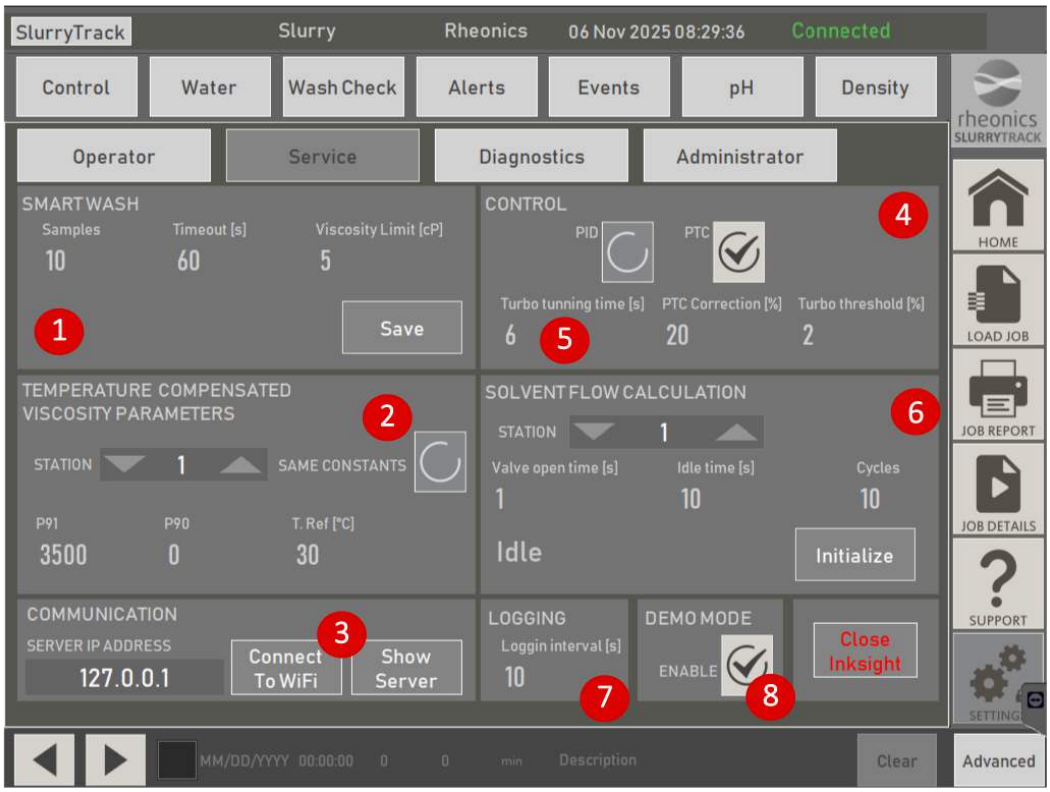


Figure 42 shows all the options on Service tab, highlighting each numbered area. **Table 6** describes these interface sections.

No.	Section	Description
1	Smart Wash	Smart Wash feature is not supported for **SlurryTrack**
2	Temperature Compensated Viscosity	Edit the compensation constants to use Temperature Compensated Viscosity. See Section 13.2.4**Error! Reference source not found.** for more information.
3	Communication	• Enter the IP address of the **Slurry Track Server.** • Connect to Wi-Fi network. Follow the steps in Section 13.2.3
4	Control	• Choose between **PID** (proportional-integral-derivative) or **PTC** (predictive tracking control). • You can also adjust **Turbo Mode** (Section 13.2.1) and **PTC correction**.

		Note: PTC is the current and recommended **SlurryTrack** control system
5	Turbo Mode	Define or import coefficients for conversion between cP cup-seconds.
6	Solvent Flow Calculation	See Section 13.2.2 for more information.
7	Logging Interval	Set how often the system saves data samples.
8	Demo Mode	Turn on demo mode to simulate station activity.

Table 6. Service Settings

13.2.1 Turbo Mode

Turbo Mode rapidly reduces viscosity when it exceeds a configured threshold. It may be suitable for specific applications, particularly when the system response time is too slow. Because Turbo Mode behavior depends on the fluid's properties, it is **disabled** by default. If enabled, configure its parameters carefully to avoid overshooting and over-diluting the fluid.

ATTENTION

For most applications, the **Predictive Tracking Controller** (PTC) offers more precise and stable control. Adjust the Correction Percentage and Period of Control to fine-tune system responsiveness and maintain target viscosity

Note

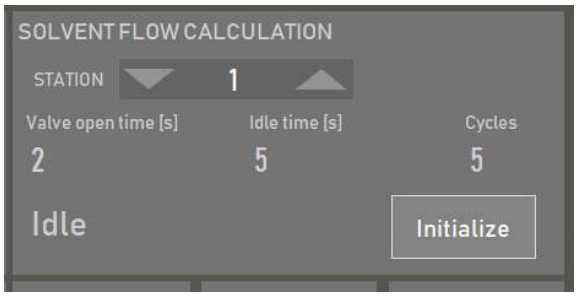
If you believe **Turbo Mode** is better suited to your process, contact **Rheonics Support** for guidance

13.2.2 Solvent flow calculation

Use this function to calculate the amount of water that is dispensed by the valve per second.

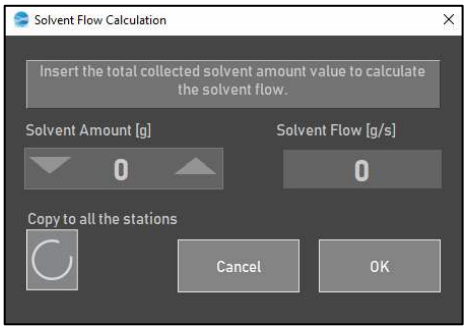
1. Select the station you want to calibrate. Make sure its **Enabled.**
2. Enter the **number of cycles**. These follow your settings for Valve open time [s] and Idle time [s].

Figure 43: Solvent Flow Calculation



3. Place a container to collect the dispensed water.
4. Select **Initialize** to start. **SlurryTrack** will trigger the valve according to the configured settings.
5. When prompted, enter the **amount of collected water**.

Figure 44: Insert Solvent Amount



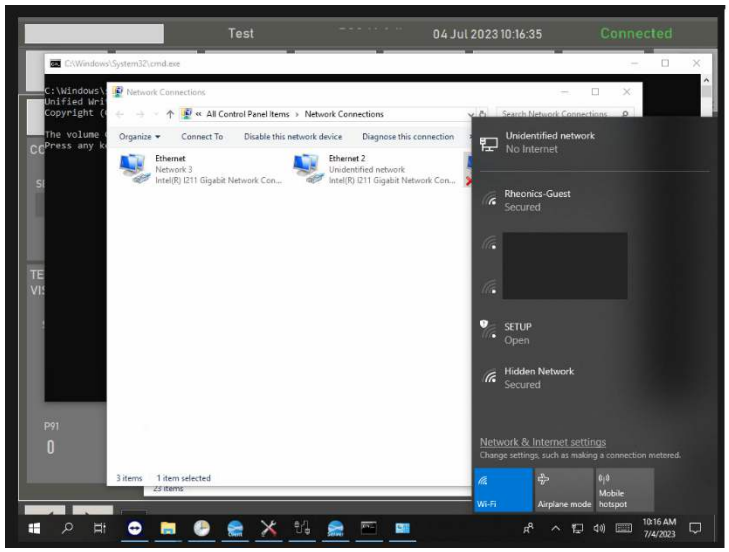
6. The system calculates the **Solvent Flow (g/s)**.
7. Select **OK** to store it.

13.2.3 Connect to Wi-Fi

Communication with the electronics box through WI-FI is possible whenever there is an active WI-FI connection.

1. Go to the **Service tab** and select **Connect to Wi-Fi**.
2. In the lower-right corner of the screen, double-click the Wi-Fi icon. Choose a network and connect.

Figure 45: Connect to WiFi

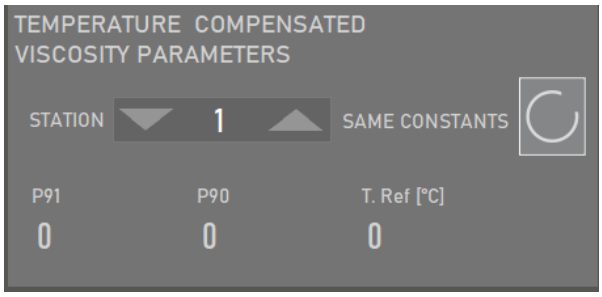


Note

Users can use the Wi-Fi connection to connect SlurryTrack to the internet for remote support or to their company LAN to access the web server.

13.2.4 Temperature Compensated Viscosity

Figure 46: Temperature Compensated Viscosity Parameters



Fluid viscosity is typically referenced to a constant temperature for consistency. When the process temperature varies, it introduces errors in the control system. To account for the temperature's effect on viscosity and ensure accurate monitoring, temperature-compensated viscosity is used.

To adjust for temperature changes, the Arrhenius Model is applied:

Figure 47: Arrhenius Model Equation

$$n_{comp} = n_L . e^{B\left(\frac{1}{T_{ref}+273} - \frac{1}{T_L+273}\right)} + A$$

In this model:

- **A** represents **P90**
- **B** represents **P91**

ATTENTION
Set parameters to 0 if no empirical data is available for your fluid. Otherwise, the system may use an incorrect viscosity as the setpoint.

Note
Contact Rheonics Support for more information on Temperature Compensated Viscosity

13.3 Diagnostics Settings Tab

The **Diagnostics Settings Tab** provides detailed system status information, primarily for Rheonics personnel, to assist in troubleshooting hardware, communication, and process issues. It includes:

1. Measurement error codes.
2. SME temperature and voltage status.
3. Water and cleaning valve status (errors appear in red).
4. PLC signal status (0V means no signal).

Figure 48: Settings – Diagnostics Tab

Figure 48 shows the Diagnostics Tab, numbering each section. **Table 7** Table 3 describes these sections.

No.	Section	Description
1	Station Status	Displays the status of each station (1–10). A green LED indicates the station is active and communicating. It shows information for each SME: • Electronics Temperature • Supply Voltage • Error Code
2	Solvent Valve Comm Status	Indicates internal communication status between the system and the valve actuators. • A green indicator means communication with the actuator is established. • A dark indicator means communication is not detected.

		This status only shows communication, not whether the valve signal is active or off. **Note**: SlurryTrack does not support Cleaning Valve
3	Cleaning Valve Comm Status	
4	PLC Comm Status	Displays the PLC communication signal level (0 V or 24 V). A green LED indicates signal presence
5	Max RPS Cabinet temp	

Table 7. Diagnostics Tab Description

14 Web Server

SlurryTrack includes a built-in web server, called the **InkSight Web Server**, for viewing reports and analyzing historical data through any modern web browser.

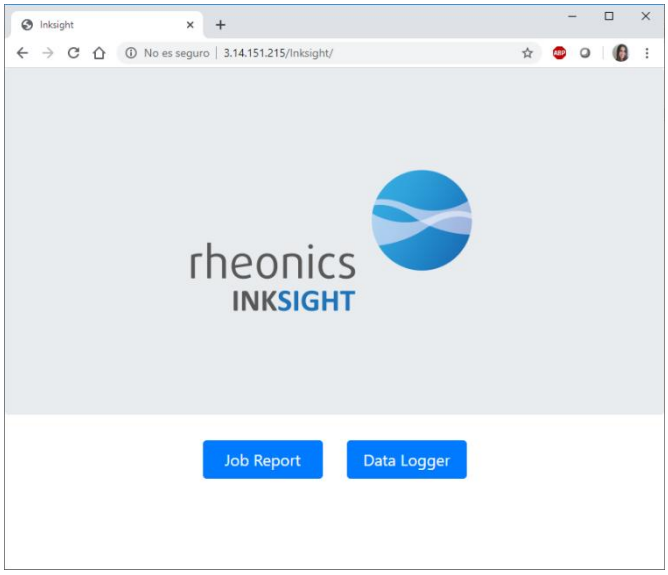
14.1 Using the Web Server

You can use a web browser to view reports and plot **SlurryTrack** logs.

To access the **Web Server**:

1. Open a Web Browser.
2. Go to **http://<IP>/Inksight/** (replace <IP> with the server's IP address).
   a. Example: http://3.14.151.215/Inksight

Figure 49: Web Server



Note

To access the web server from a computer, SlurryTrack and the computer must be on the same LAN.

There are two buttons:

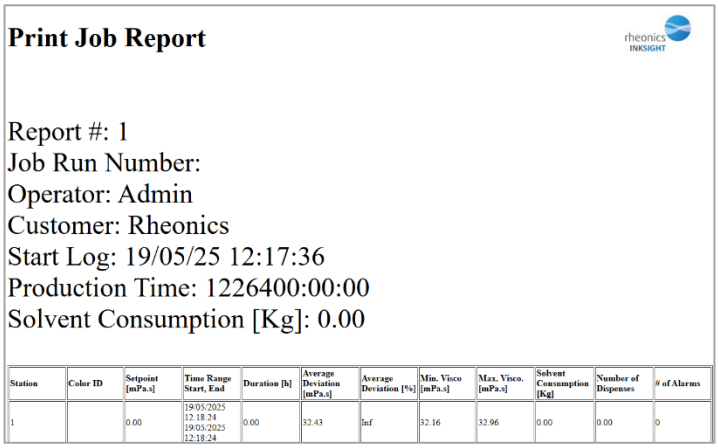
1. Job Report. (Section 14.2)
2. Data Logger. (Section 14.3)

14.2 Job Report

Job report opens the report of the current Job. The data shown is specific to the job timeline, it includes:

- Job Information.
- KPIs (Deviation, peaks, # Alarms, etc.)
- Event and Alarm tables.
- Graphs.

Figure 50: Job Report



Print Job Report

Report #: 1
Job Run Number:
Operator: Admin
Customer: Rheonics
Start Log: 19/05/25 12:17:36
Production Time: 1226400:00:00
Solvent Consumption [Kg]: 0.00

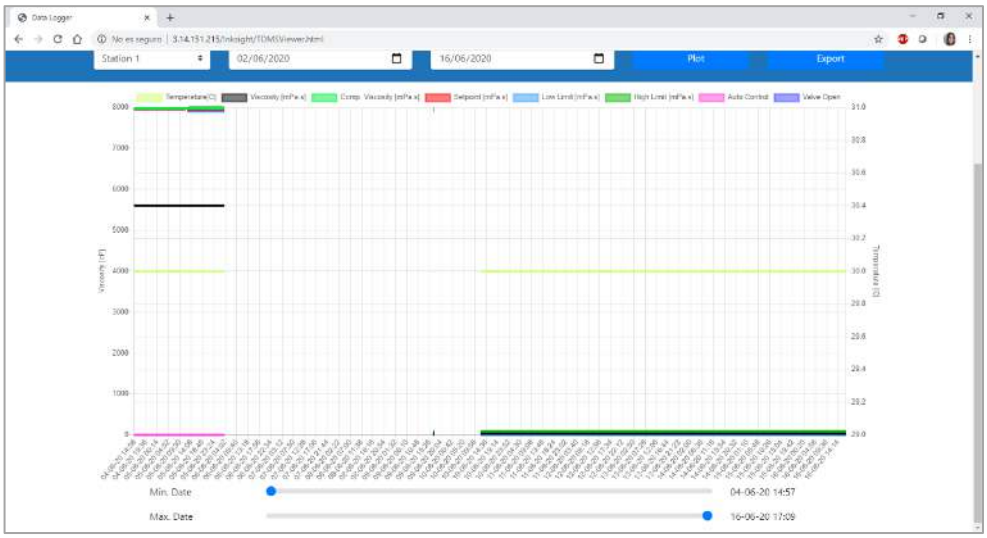
Station	Color ID	Setpoint [mPa.s]	Time Range Start, End	Duration [h]	Average Deviation [mPa.s]	Average Deviation [%]	Min. Visco [mPa.s]	Max. Visco. [mPa.s]	Solvent Consumption [Kg]	Number of Dispenses	# of Alarms
1		0.00	19/05/2025 12:18:24 19/05/2025 12:18:24	0.00	32.43	Inf	32.16	32.96	0.00	0.00	0

14.3 Data Logger

The Data Logger allows you to select specific dates and plot SlurryTrack logs for analysis.

1. Choose a **station** and **date range** (limit to 2 weeks for best performance).
2. Select **Plot** to display the data.

Figure 51: Data Logger



Note

The Export button will export the parameters for the selected date range in .csv format.

15 Troubleshooting

Issue	Description	Resolution
Client UI Screen is black	Client software is closed on the main UI of the system.	Restart the client PC. The client software should auto-start after restart.
Client UI shows “Disconnected” from server	Communication between client and server is lost.	1. Check that Ethernet cables are properly connected. 2. Ensure the server PC is powered on. 3. Restart the system if connections are correct. 4. Contact Rheonics support if the issue persists.
Viscosity values too high	Abnormally high viscosity readings.	1. Check for material buildup on the sensor probe. 2. If the sensor is clean but the issue persists, contact Rheonics support.
Alarms trigger too frequently	Default timeout settings may be too short.	Contact Rheonics support to adjust timeout settings.
“Stations have been Idle for too long” alarms	Triggered when color control isn’t engaged for a long time.	Disable the Station or contact Rheonics to reconfigured or disable this alarm.
Alarm emails not received	Server may be marking them as spam.	Ask your IT team to whitelist Rheonics email addresses.
Stations active but values not updating	Values are not updating despite station activation.	1. Check for Sensor Errors. 2. For single station issues, check sensor connection and cleanliness. 3. For all stations, check network connections or restart sensor electronics/system.

Table 8. Troubleshooting SlurryTrack

> **Note**
> For any other error not reported in this section, please contact Rheonics support.

16 Appendix A - Alarms

Code	ID	Description	Self-recoverable?
5100	Increasing viscosity- Probably no solvent	The viscosity has been increasing for more than 30 minutes, even though the duty cycle has been corrected and solvent has been added. It is assumed that solvent bucket is empty.	TRUE
5101	High Viscosity	Viscosity higher than high alarm limit	TRUE
5102	Low Viscosity	Viscosity lower than low alarm limit	TRUE
5200	Valve Close error	The valve couldn't be closed	TRUE
5201	Valve Open error	The valve couldn't be opened	TRUE
5300	Check sensor error	The sensor couldn't be checked due empty coefficients value	FALSE/ Should timeout or be cleared by operator
5400	Station Idle	The station has been idle for a period greater than the configured setting	TRUE
5103	Empty Drum or Bucket	Empty Drum: Reported only by the first station. Empty Bucket. Reported by each station with empty bucket.	TRUE/FALSE Will self-recover if there is a level sensor measuring the solvent
5500	Low Solvent pH	The active station or stations measuring pH will report to this error	TRUE

5501	High Solvent pH	The active station or stations measuring pH will report to this error	TRUE
5502	Low Ink pH	Ink pH is too low (every active station will report this error)	TRUE
5503	High Ink pH	Ink pH is too High (every active station will report this error)	TRUE
5104	High Density	Density higher than the upper density limit	TRUE
5105	Low Density	Density lower than the lower density limit	TRUE
5600	Low Power Supply	Power Supply Voltage is too low	TRUE
5700	SMET Comm Error	There are continuous errors with SMET readings and after restart the problem is not fixed	TRUE
5103	Jump in Process Control Variable	Jump in viscosity. There could be a piece of material stuck in the sensor. Check and clear the alarm	FALSE

Table 9. SlurryTrack Alarms List

17 Index

18 List of Tables

19 List of Figures

20 Notes/Errata

21 Revision and Approvals

Version	Nature of changes	Approvals	Date
1.0	Original version		06.08.2025

For more information: https://support.rheonics.com/en/support/home

https://rheonics.com/