

**CDAGeoV3TM**

**Software Operating Manual**

**Version 0.1**

**Date 18/10/2021**

Add device picture if applicable

Document Changes

|  |  |  |
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| ***Version*** | ***Date*** | ***Changes*** |
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# Introduction

This document provides instructions for the operation of the new CDA (Cable Data Analysis) software.

The primary purpose of the CDA is to analyse data captured by the UltraScreen system, for analysis both during and after the manufacturing process. The software provides a variety of data such as the cable’s layer thicknesses, the cable concentricity, and others.

# Starting Screen

## Starting the Software

Double click the CDAGeoV3 desktop shortcut to start the software. Alternatively, the executable can be located at: “C:/Executables/CDAGeoV3/Release/CDAGeoV3.exe”. The software will take a couple of seconds to launch.



Figure 1 - Desktop Shortcut

Once the software has loaded, the main form will appear.

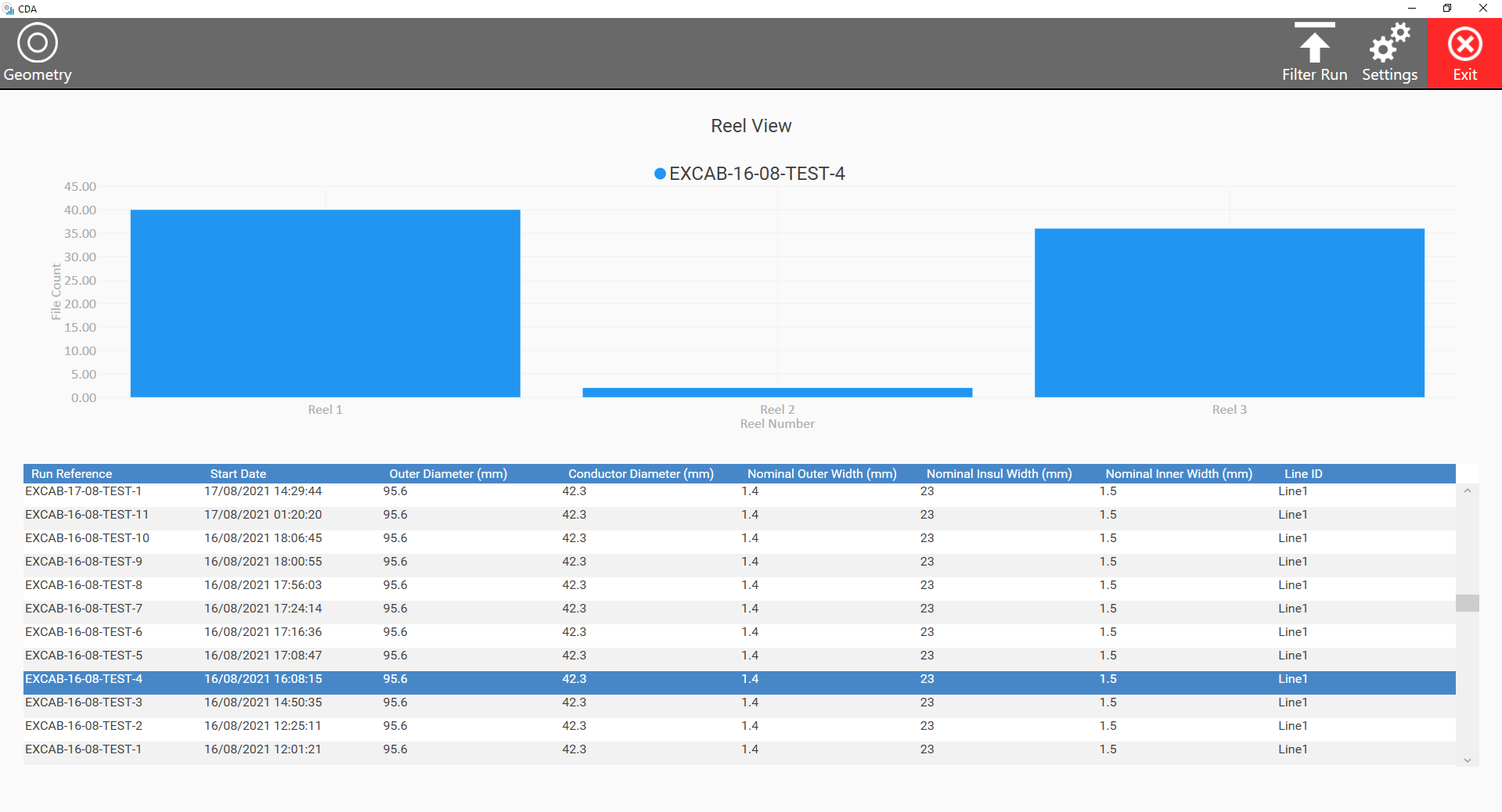


Figure 2 - Reel View

## Selecting a Run

Runs can be analysed by being selected from the runs table. The selected run is highlighted in blue. This is also where a summary of the cable recipe can be found, displaying the nominal layer measurements.

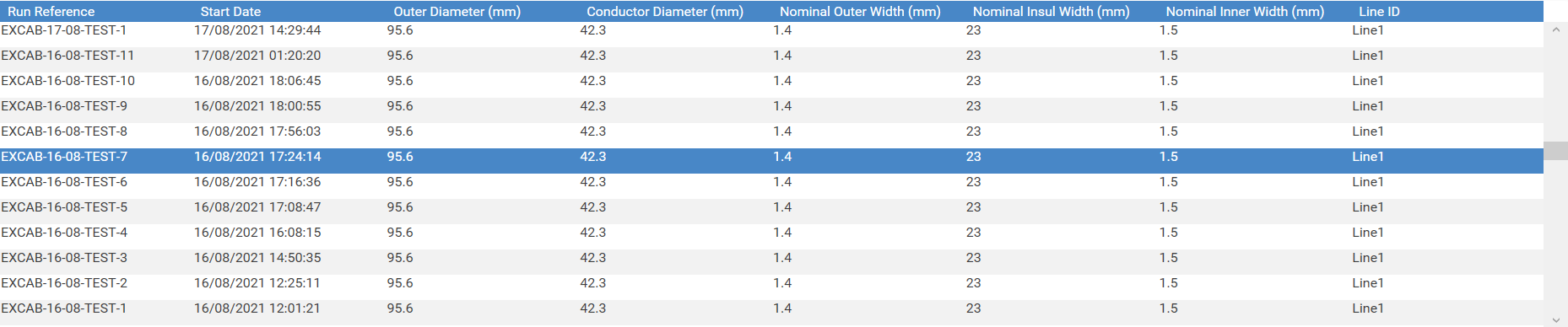


Figure 3 - Select Run Grid

Once selected, the chart is updated with the individual reel data.

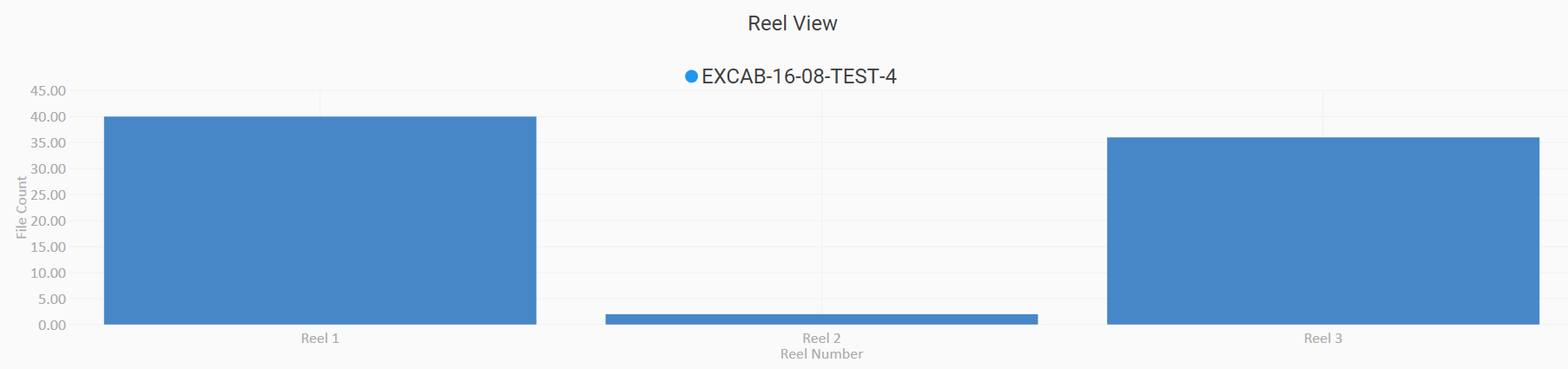


Figure 4 – Reel Data Chart

## Changing Process Duration

To analyse individual reels or the entire run, the process duration can be changed with the ‘Settings’ button located in the top-right hand corner.



Figure 5 - Settings Button

Upon clicking the Settings button, a pop-up is displayed. Hover over the ‘Process Duration’ text, then click on the appropriate setting.

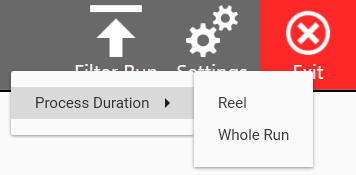


Figure 6 - Changing Process Duration

## Filtering a Run

Filtering a run is a process usually undertaken when an older run is occupying unnecessary space on the hard drive. Filtering the run will delete the raw and track files, which will typically occupy gigabytes.

Note: If necessary, these files can be recreated at a later date by reprocessing the run (contact Acuity).

To filter a run, click the ‘Filter Run’ button at the top-right hand corner.



Figure 7 - Filter Run Button

If there are no files to be deleted, a dialog window is displayed.

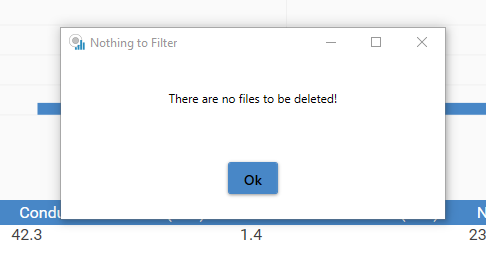


Figure 8 - Nothing to Filter Dialog

Otherwise, a Filter Run dialog window is opened.

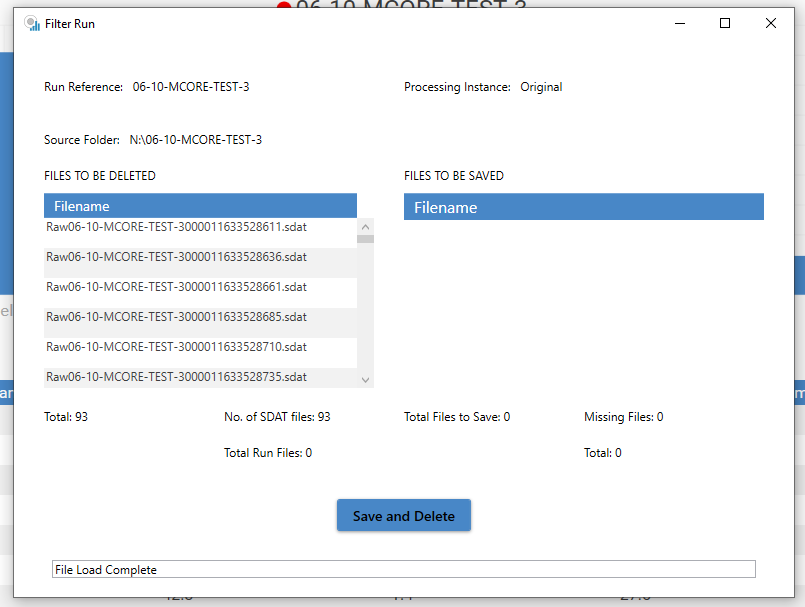


Figure 9 - Filter Run Window

To Filter the run and delete the files, click the ‘Save and Delete’ Button.

## Identifying Alarms

Alarms are present when the reel chart is coloured in red. If no alarms are present in the run, the charts are blue.

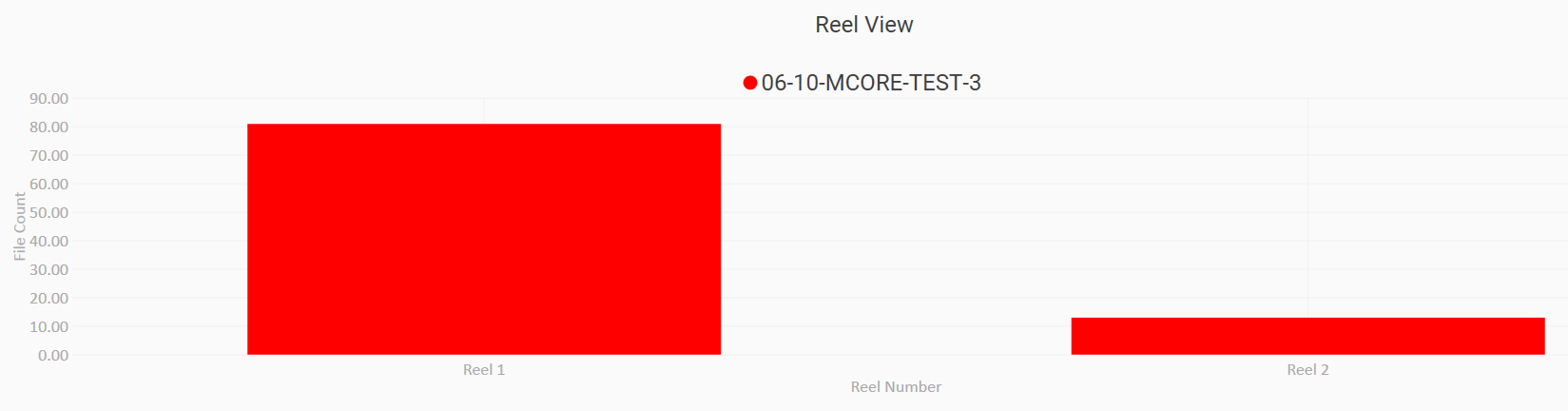


Figure 10 - Chart with alarms

# Geometry Analysis

## Load and Display Geometry Data

To start analysing a run, firstly select a reel by selecting a chart column with the mouse. The selected reel will subsequently turn orange.

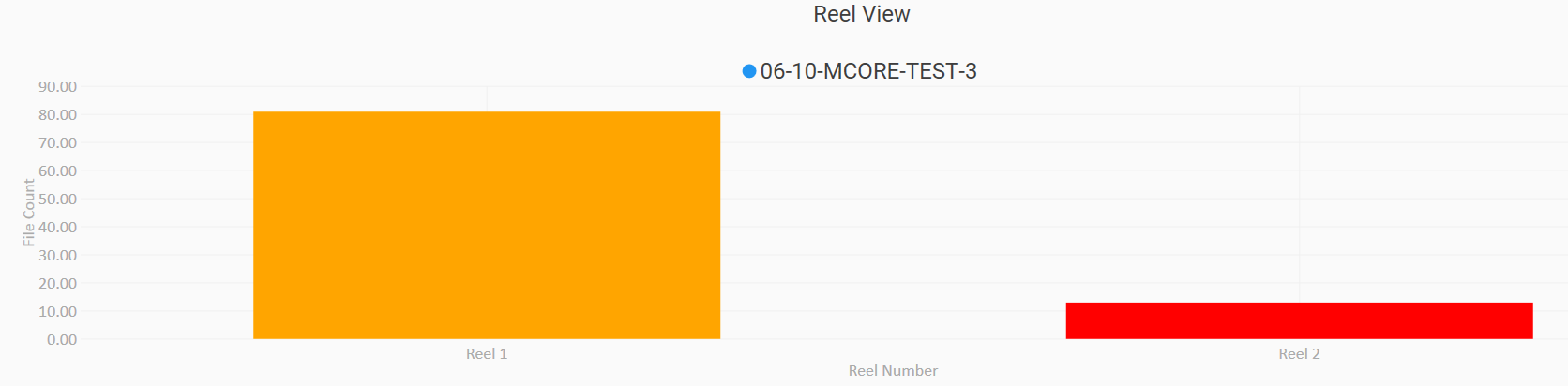


Figure 11 - Chart with Selected Reel

Next, select the ‘Geometry’ button located at the top-left corner.



Figure 12 - Geometry Button

Once the geometry data has loaded, the geometry form will appear.

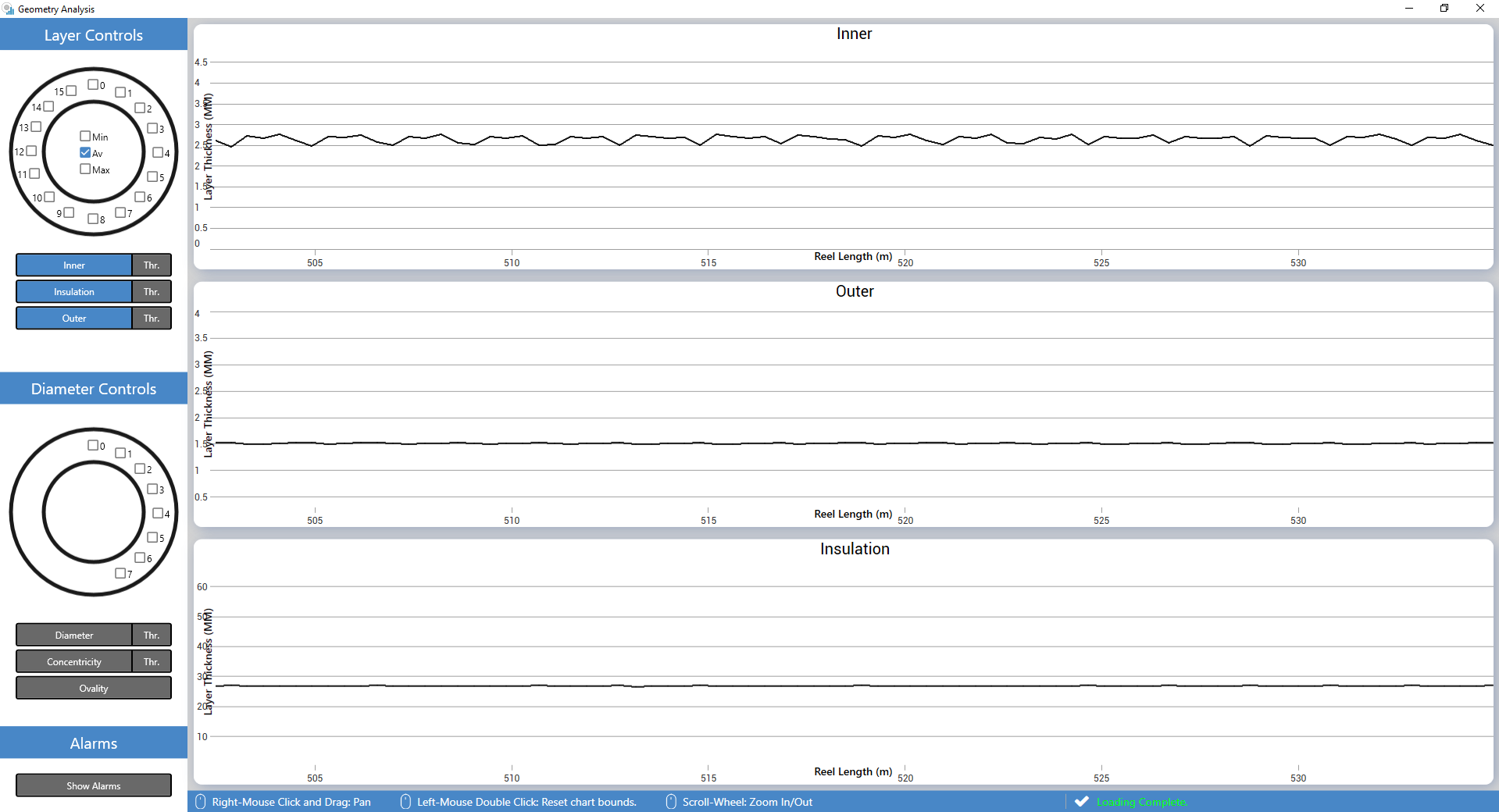


Figure 13 - Geometry View Window

By default, the average value for Outer, Inner, and Insulation layer thicknesses are displayed.

## Layer and Diameter Controls

The contents of the charts are controlled entirely by the sidebar located on the left side of the window.

The sidebar can be compartmentalised three individual sections, the layer controls, diameter controls, and the alarms.

### Layer Controls

Individual channels can be selected using the check boxes placed around the circle, which represents a cable and its respective channels. Selecting channels will plot the channels thicknesses to the charts.

The Average/Maximum/Minimum channel thicknesses can also be selected using the checkboxes in the centre of the cable. By default, only the average channel thicknesses are enabled.

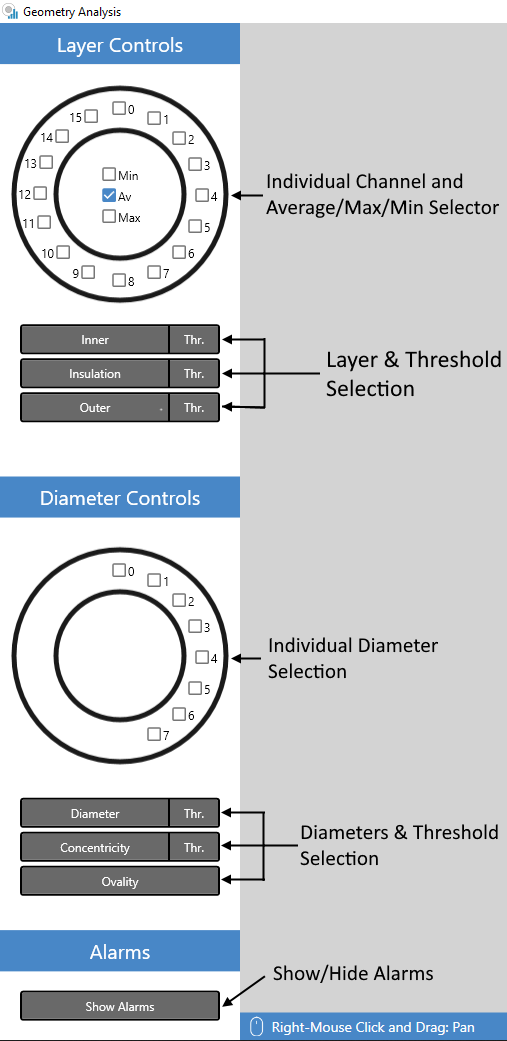


Figure - Layer Controls Diagram

If a channel is enabled, the checkbox colour will match the colour of the plotted data on the charts.

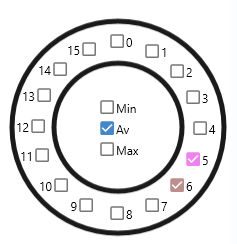


Figure - Channels 5,6 and average selected

The layer selection buttons are used to decide which layer charts are to be displayed on the screen, and the ‘*Thr.*’ buttons determine whether the layer thresholds for the specified layer are visible.

|  |  |
| --- | --- |
| C:\Users\44771\Desktop\Screenshot 2021-10-18 153130.png  Figure 16 - Unselected Layers | Figure 17 - Selected Layers |
|  |  |

### Diameter Controls

Individual diameters can be selected using the checkboxes placed around the circle.

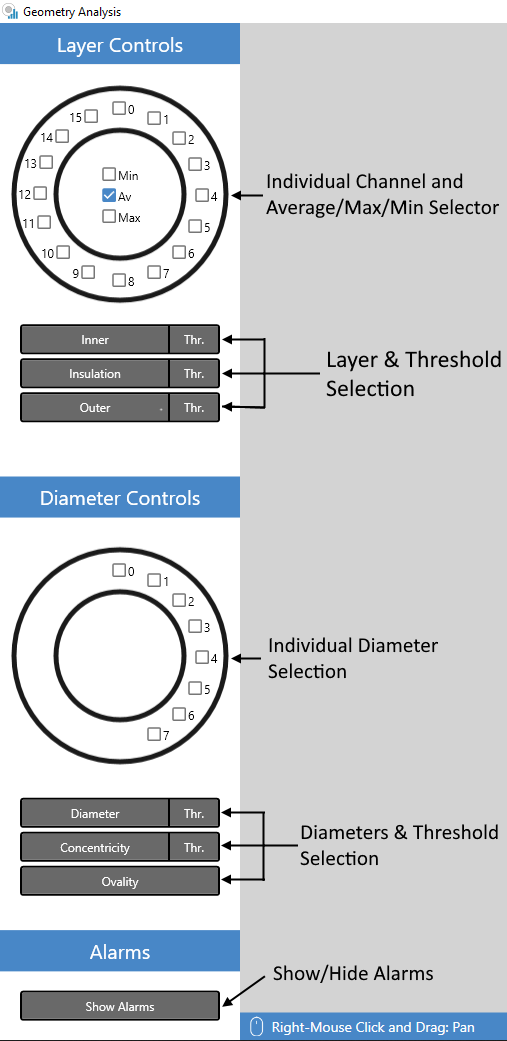


Figure - Diameter Controls

Individual cable diameters can be selected using the checkboxes. Selecting a diameter will draw a line demonstrating the slice of the cable being charted.

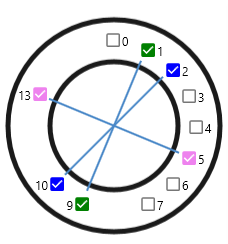


Figure – Diameters 1,2, and 5 are selected

Again, the diameter measurement charts can be enabled or disabled using the selection buttons.

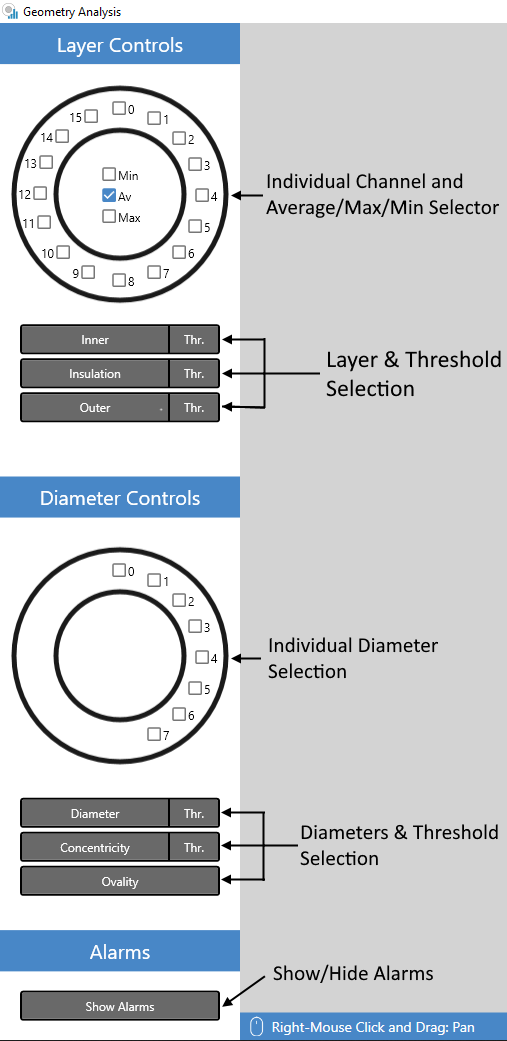


Figure - Diameter measurement selection

### Toggling Alarms

Alarms can be turned on or off using the ‘Show Alarms’ button.

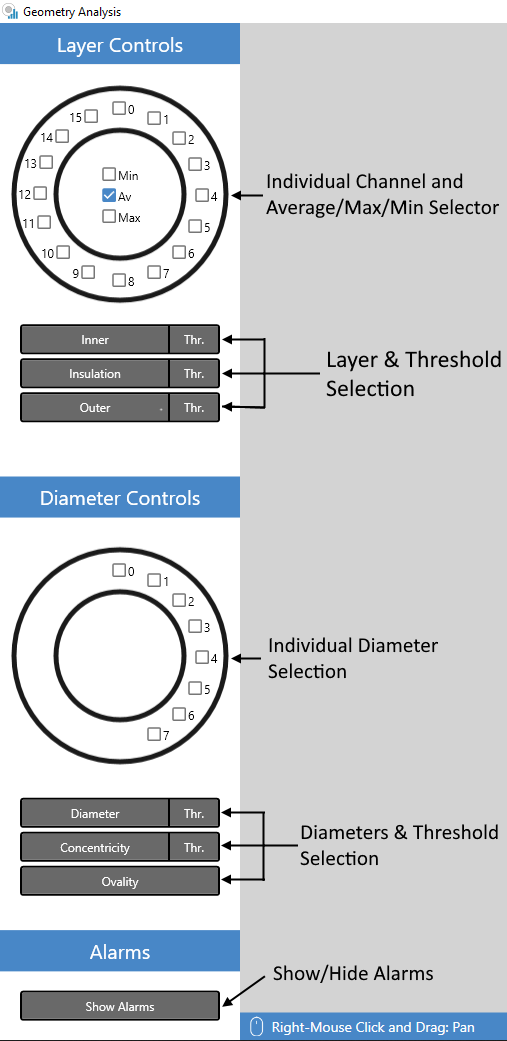


Figure - Show Alarms button

## Tooltip & Status Bar

Located at the bottom of the screen are tips for manipulating the charts with the mouse, and a status message.



Figure - Tooltip Bar

The status message is located on the right side of the status bar. The status message will change depending on the status of the application.

For example, if the geometry data is loading, the status bar will be as shown in *Figure 23*.



Figure - Loading Status Message

## Charting

## Caution and Warning templates.

Caution – Safety information to prevent damage to machinery

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Warning – Safety information to prevent operator injury or serious damage to the machinery.

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Caution Example

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| --- | --- |
|  | ***Always use the “Send to Load Position” control to send the scanning head to the cable load position. Do not attempt to load the cable with the scanning head in any other position. This could lead to the scanning head being out of alignment for the scan which could result in damage to the machine*** |

Warning Example

|  |  |
| --- | --- |
|  | ***As soon as the “GO” button is pressed the scanning head will begin to move. To prevent injury or damage to the machine, make sure the path of the scanning head is free from obstruction.*** |

Use both caution and warning at the same time if necessary.

