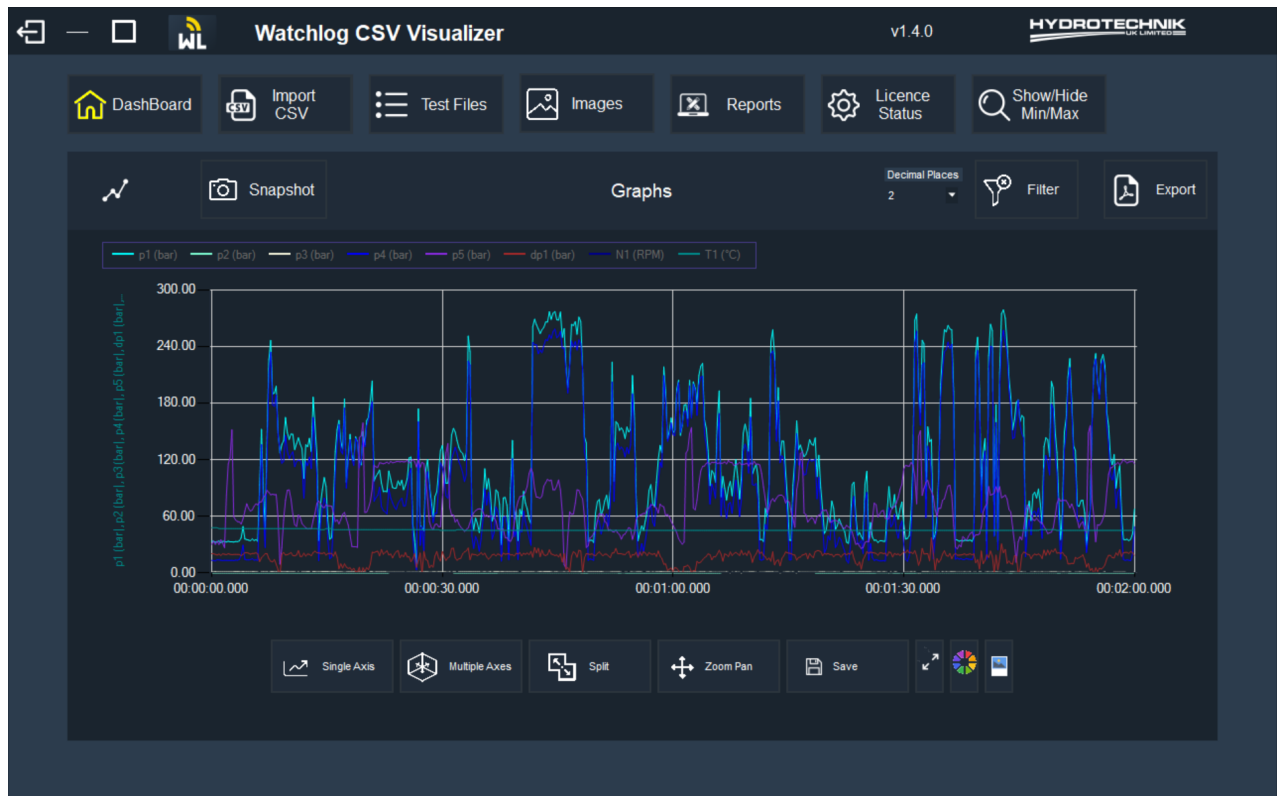


Hydrotechnik UK Watchlog CSV Visualizer User Manual



May 2022

VI.2

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Minimum PC Requirements

Specification	Detail
Supported OS	Microsoft Windows 7 or higher
CPU	Intel or AMD dual core processor
Memory	2 GB RAM
Connector	USB-A 2.0
Hard disk space	60 MB storage space for software installation
Display Resolution	1280 x 800

Prerequisites

- .NET Framework 4.6.2 or higher
- Latest version of Microsoft Edge

Watchlog CSV Visualizer Software Installation

Run the “Install” file with the new version of the software’s installer in the same folder. Then follow the onscreen instructions to complete installation. Following completion, a reboot isn’t necessary.

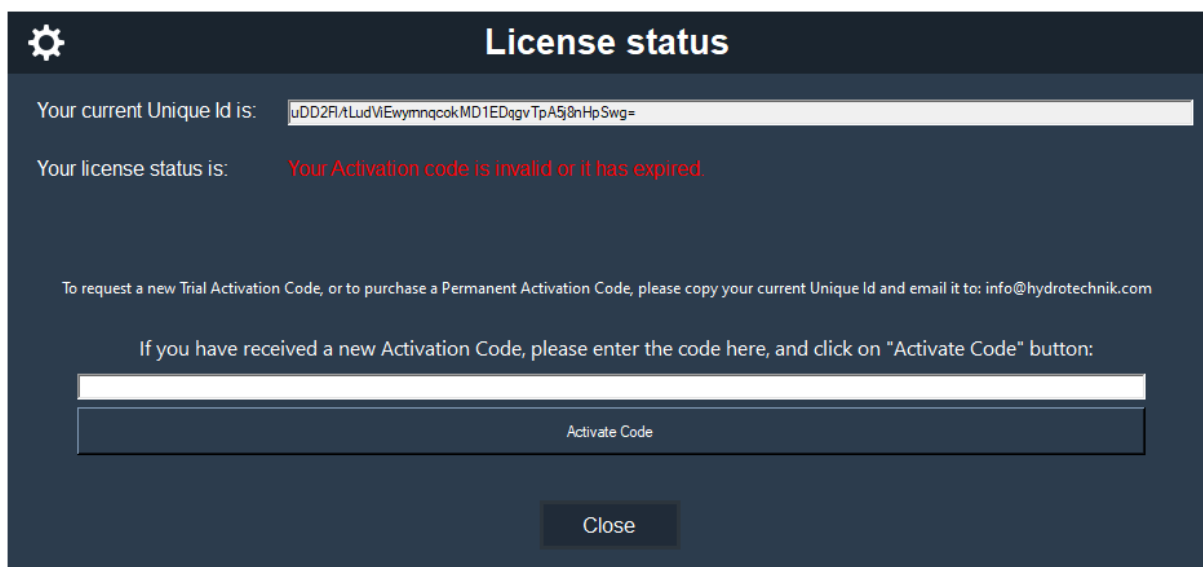
Opening Software

Software can be run from either the desktop icon or the Start Menu.

For quickly locating the app shortcut press the Windows button and begin typing “CSV Visualizer”.

Registering Licensing Details

When the software is first run the licencing status window will appear. This contains a unique code relevant to your machine which is used to generate an activation code.



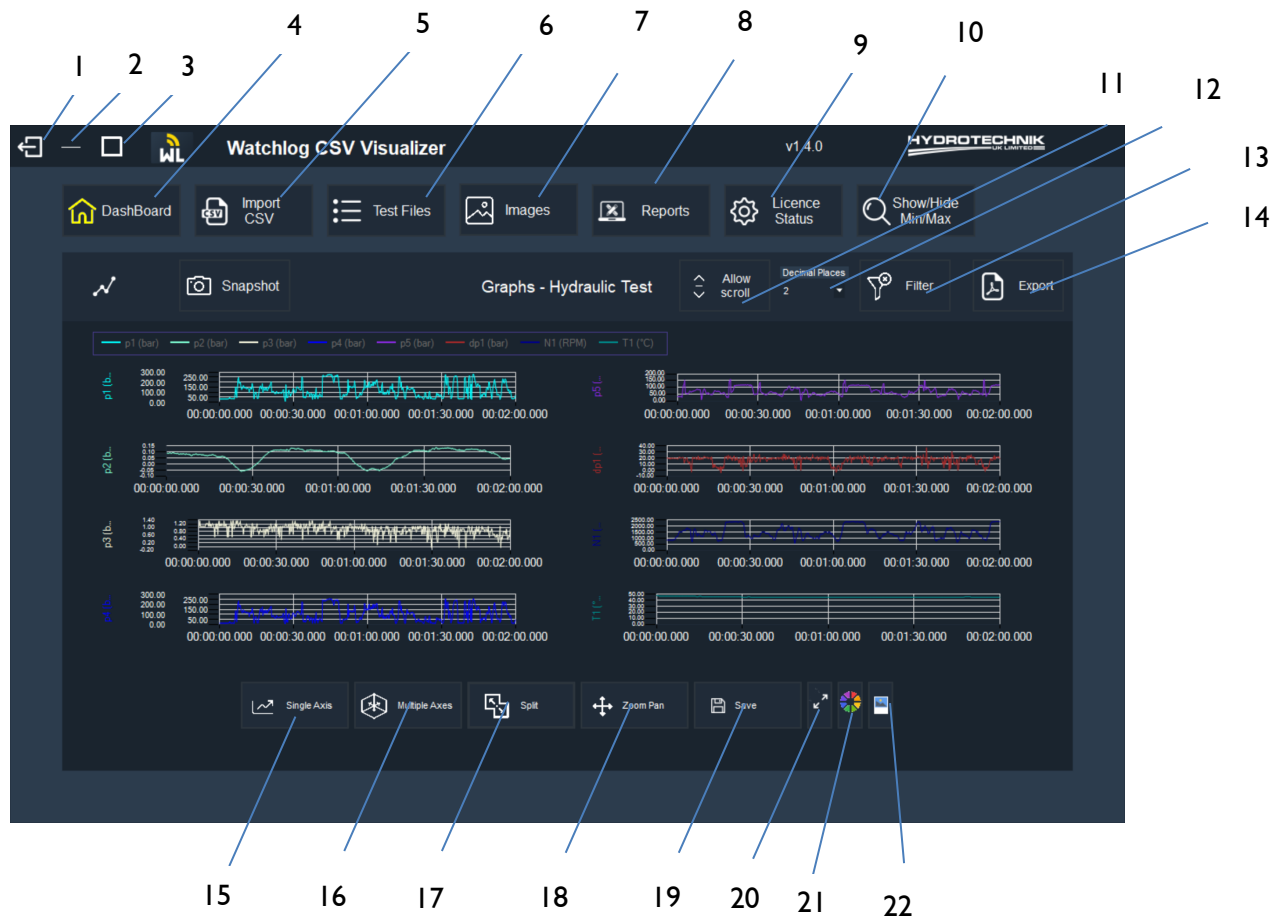
The screenshot shows a 'License status' window with a gear icon in the top left. It displays the 'Your current Unique Id' as 'uDD2R/tLudVtEwymnqocokMD1EDqgvTpA58nHpSwg=' in a text box. Below this, it states 'Your license status is: Your Activation code is invalid or it has expired' in red text. A message instructs the user to email the Unique Id to 'info@hydrotechnik.com' to request a new Trial Activation Code or purchase a Permanent Activation Code. There is a text input field for a new Activation Code and an 'Activate Code' button. At the bottom is a 'Close' button.

Please email your unique ID code to support@hydrotechnik.co.uk where an activation code can be provided.



Note that an activation code must be used on the same machine from which the unique ID was generated. For licences, please contact support@hydrotechnik.co.uk.

Main Screen Layout

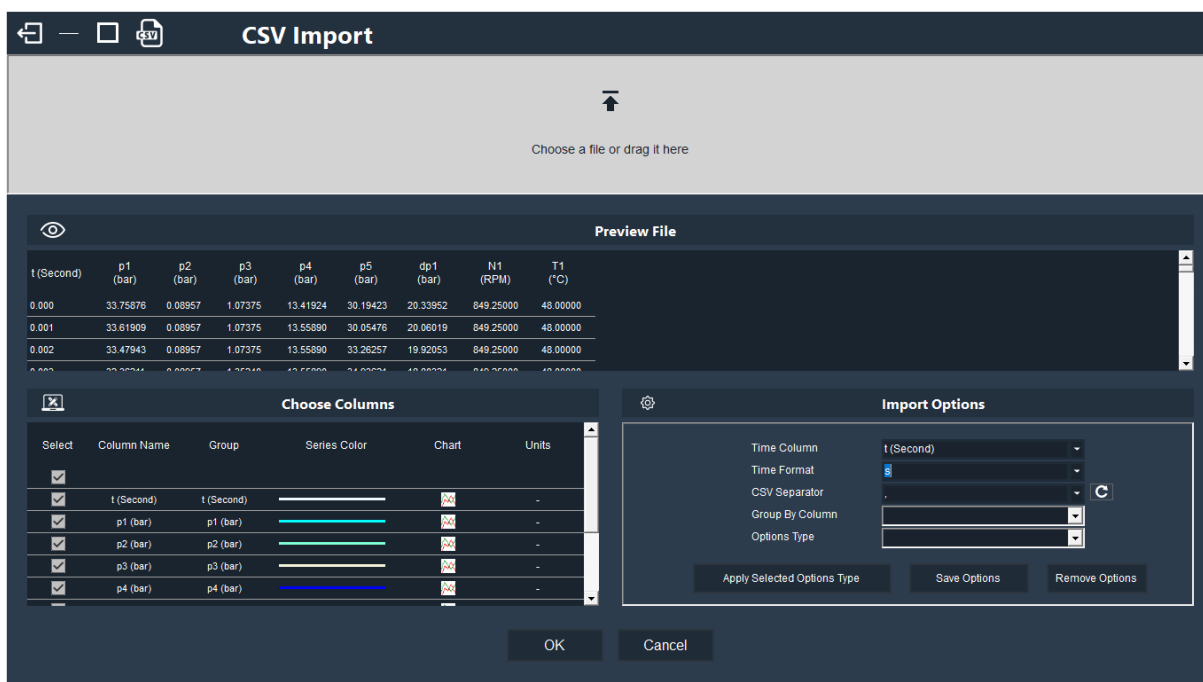


1. Exit – Closes the application.
2. Minimise – Hides the application to the taskbar.
3. Restore Down/Maximise – Changes the application from full screen to window mode.
4. Dashboard – Shows the application main screen which displays the charts when a CSV file is loaded.
5. Import CSV – Click to import a CSV file stored on the PC.
6. Test Files – Shows a historical list of previous CSV files loaded and saved within the application.
7. Images- Allows viewing on saved snapshots
8. Reports – Allows editing of report templates and choosing which template is used by default for exporting data. Also allows creation of custom reports and custom report templates
9. Licence Status – When clicked the licence status window will open, showing the PC's unique ID, license code and remaining days the licence is valid for.
10. Show/Hide – Used to show or hide the graph selection window to control what data is displayed.
11. Allow Scroll –When viewing data/charts in split mode selecting allow scroll will increase the size of charts and display a scroll bar for navigate the viewing window.
12. Decimal Places – Select the number of decimal places data is show to, ranging from 0 to 4.

13. Filter – Charts with many data points or noise can be smoothed using the filter feature. The filter can also be reset from here.
14. Export – Click to export data using the default template.
15. Single Axis – All data will be show on a single chart with a single axis.
16. Multiple Axis – All data will be shown on a single chart with multiple axes.
17. Split – Show data in multiple charts based on the predefined group name when using the CSV import feature.
18. Zoom Pan – Switch between zooming and panning around a chart when clicking and dragging.
19. Save – Saves the test and data for future recall from the “Test Files” tab.
20. Autoadjust Axes – Automatically returns to the full view of the test.
21. Chart Theme – Choose the colour of the background and main labels.
22. Custom Snapchat- Take snapshot of chosen area of the graph.

Import a CSV File

A CSV file can be imported in two different ways; either drag and drop the file from its location onto the import area or click browse for the file.



t (Second)	p1 (bar)	p2 (bar)	p3 (bar)	p4 (bar)	p5 (bar)	dp1 (bar)	N1 (RPM)	T1 (°C)
0.000	33.75876	0.08957	1.07375	13.41924	30.19423	20.33952	849.25000	48.00000
0.001	33.61909	0.08957	1.07375	13.55890	30.05476	20.06019	849.25000	48.00000
0.002	33.47843	0.08957	1.07375	13.55890	33.26257	19.92053	849.25000	48.00000

Select	Column Name	Group	Series Color	Chart	Units
<input checked="" type="checkbox"/>	t (Second)	t (Second)			-
<input checked="" type="checkbox"/>	p1 (bar)	p1 (bar)			-
<input checked="" type="checkbox"/>	p2 (bar)	p2 (bar)			-
<input checked="" type="checkbox"/>	p3 (bar)	p3 (bar)			-
<input checked="" type="checkbox"/>	p4 (bar)	p4 (bar)			-

Once imported data can be previewed and the relevant columns selected for displaying in charts.

Choosing and Customising Columns

It's possible to change how data is displayed including:

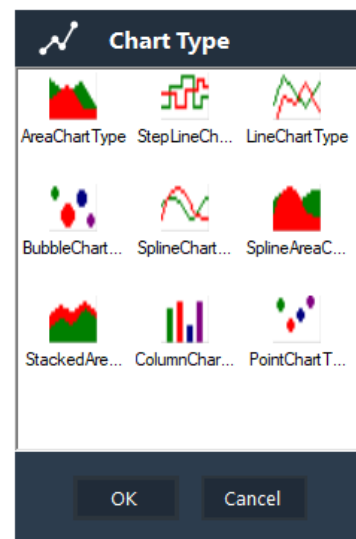
Column Name – This is pulled through as per the column name in the CSV file, but by double clicking the field the name can be changed.

Group – Group will initially match that of the column name. By placing columns into the same group, they will be shown together in a chart.

Series Colour – This is the line colour used in charts.

Chart – Data can be displayed on a chart in several different ways.

Units – By default this is left blank and may not be relevant to the data set, but if useful for data such as temperature, pressure etc.



Import Options

Time Column – The software will try and automatically detect which column contains the time data. In some cases a different column may be required for use as the common x-axis, but will still fall into this category.

Time Format – The software will try and automatically detect the format of the time but can also be manually specified.

CSV Separator – The CSV separator is automatically detected and is a comma or semi-colon.

Group by Column – This is used when importing a CSV file that has sensor names in one column and can be used to group sets of data together. When using this feature an additional window will open during import to arrange the data groups.

Options Type – The format, naming, and style of data in the “Choose Columns” section can be saved and applied during future imports. A name can be entered, and the “Save Options” button clicked, where this can be recalled from the drop-down menu. Clicking the “Apply Selected Options Type” will apply the customisations.

Once all data has been correctly formatted for import, click the “Ok” button to display the data graphically.

Common Import Problems

Blanks in data – Ensure each column of the CSV file is populated, if it is not populated, remove it from the CSV file.

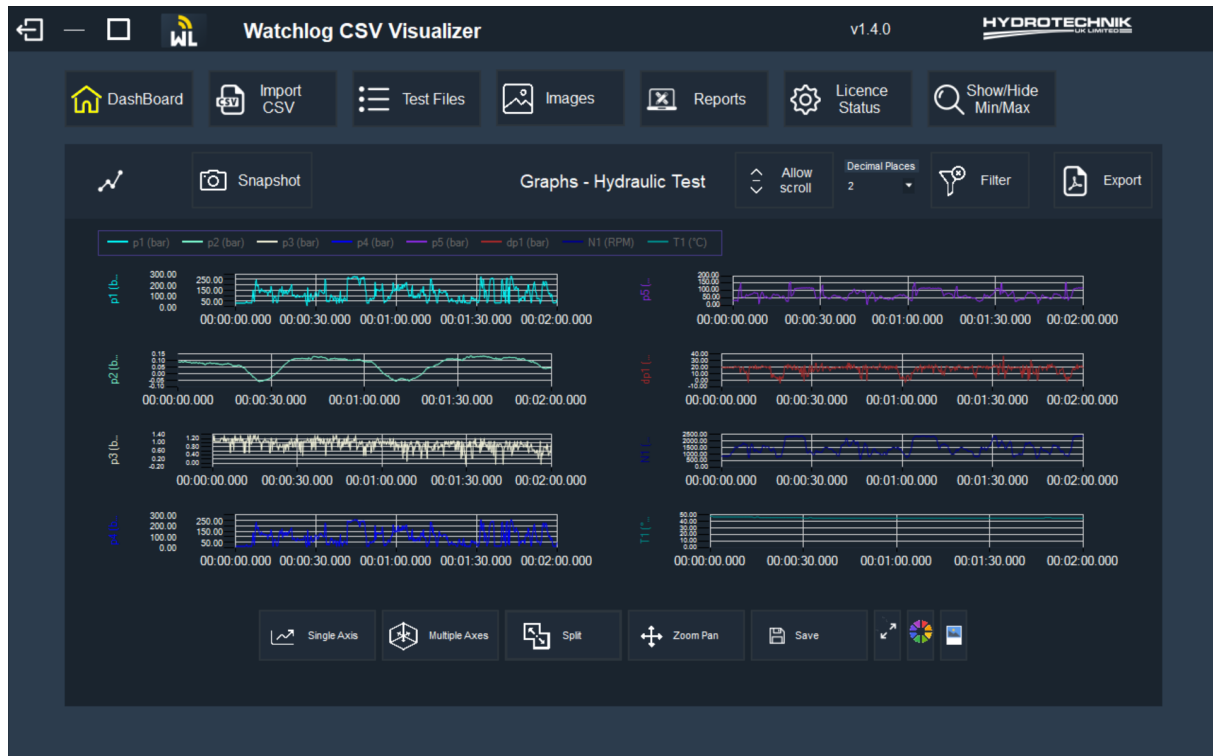
Columns not having headings – Ensure each column in the CSV file has a heading for what is contained in the column. If not, the software doesn’t know what each value represents.

Displaying Graphs

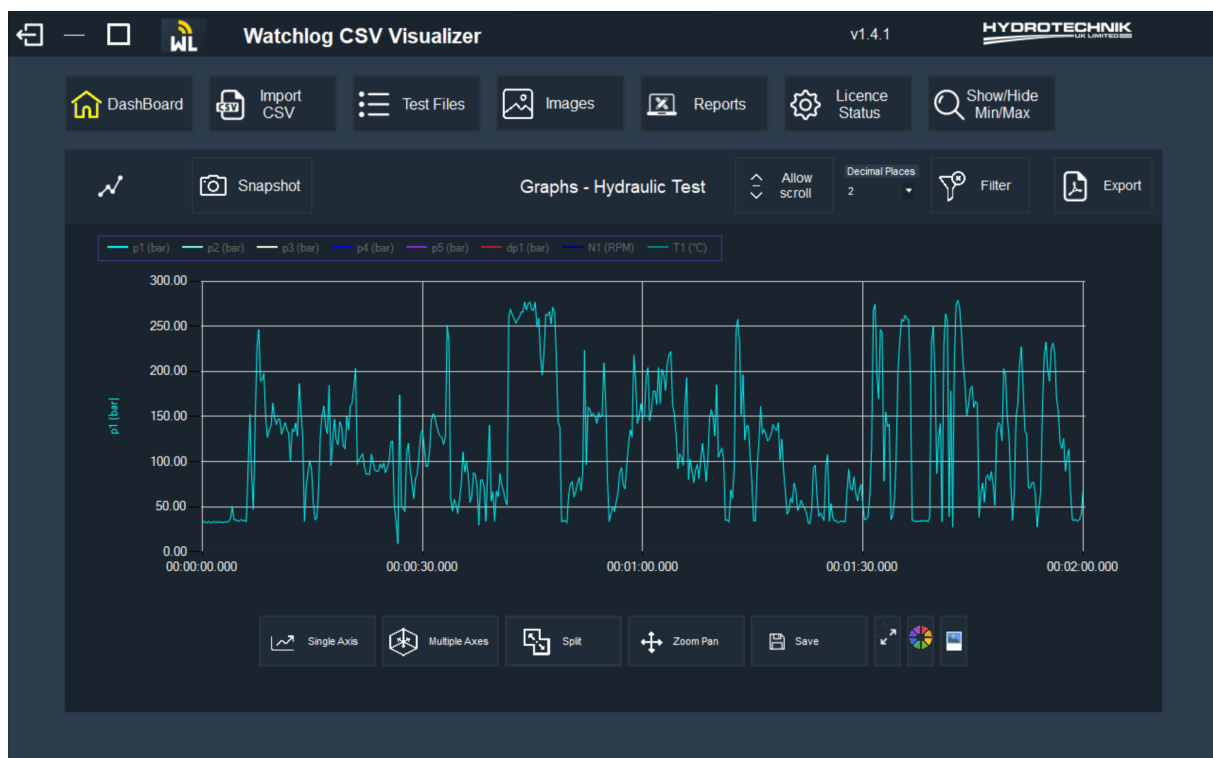
When first importing data, everything will be shown on a single chart with one axis. By clicking the button along the bottom row data can also be shown on a single chart with multiple axes. When clicking the “Split” button, data will be separated out into multiple graphs, categorised as per the



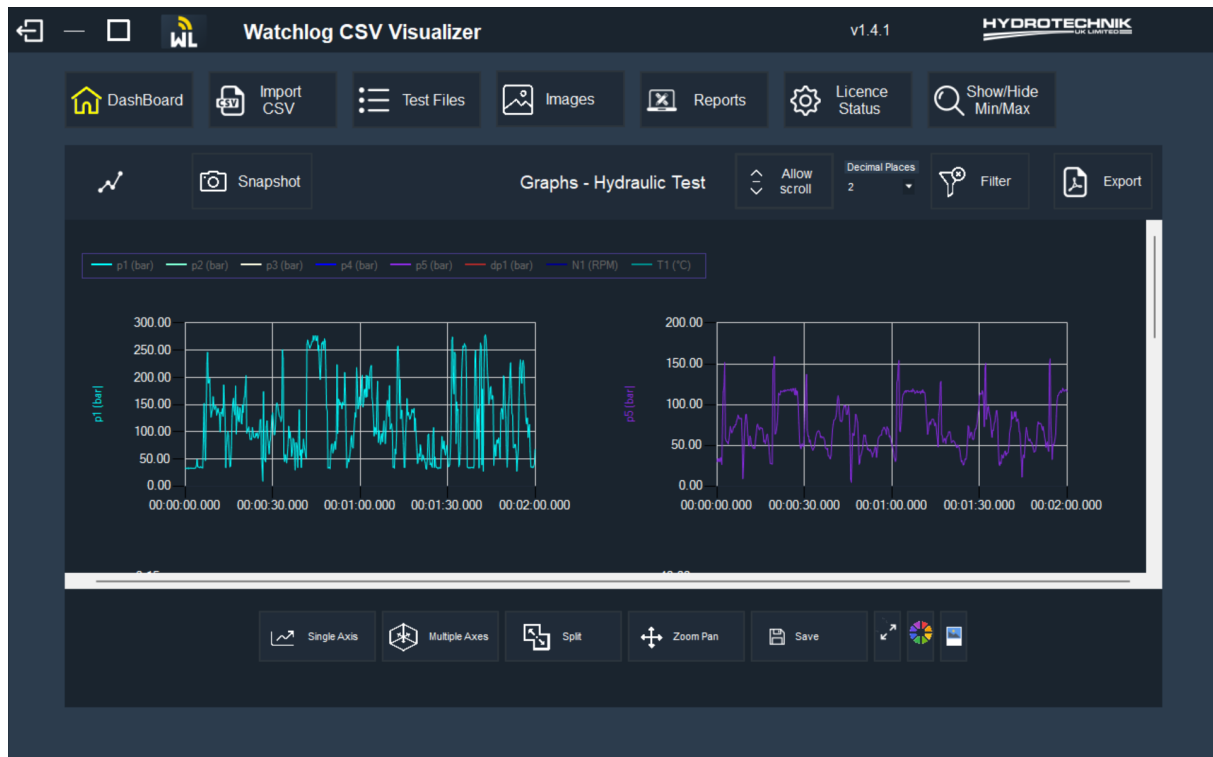
group names that we have specified in the “Choose Columns” section during import setup.



To view channel individually, double click on one of the channels.



Or, once on the split page, select “Allow Scroll”, which will allow you to scroll through the channels one after another.



Zooming/Panning

By clicking and dragging a chart you can zoom into specific areas. Once the “Zoom Pan” button is clicked you will switch from the zoom function to pan. Clicking the button again will then switch back to zoom mode. You can return all charts to their normal size by clicking the expand chart icon.

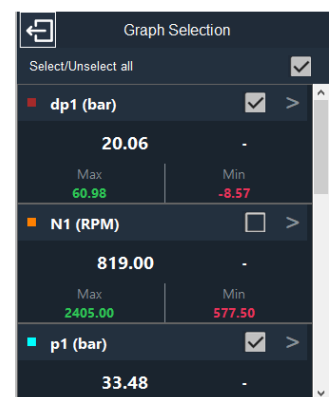


Saving & Viewing Test Files

Once a CSV file has been imported it can be saved. Saved tests are found by clicking the “Test Files” button along the top row, where they can be opened and exported to PDF.

Show/Hide Graph Items

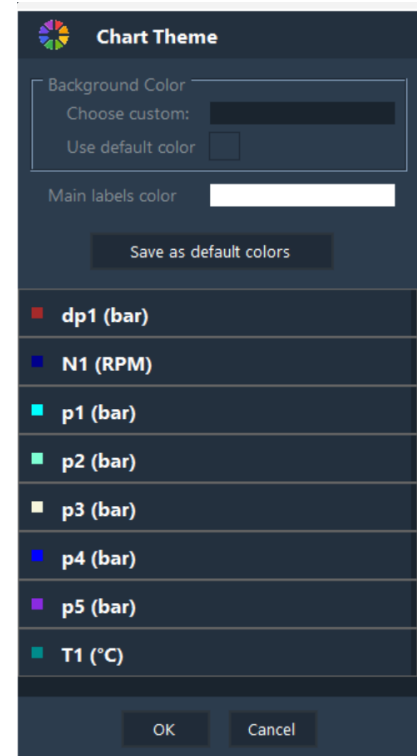
Clicking the “Show/Hide Min/Max” button at the top of the main screen will control displaying the Graph Selection Window. From here chart elements can be switched on and off, line colours edited, and values will automatically update when hovering the cursor over the charts.



Changing Chart and Line Colours

Clicking the colour wheel will open a window which allows changing the background colour of the chart, the main colour of the labels and each of the data categories.

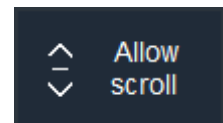
If you want to save the selected colours so that they are default and the software will load up with these colours pre-set, select “Save as default colours”. Also, if you want to get back to the original default blue colour, select “Use default colour”.



Additional Chart Controls

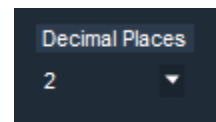
Allow Scroll

When in the graph split mode an “Allow Scroll” button will appear. When clicked this will increase the size of the graph and show a scroll bar to navigate the page.



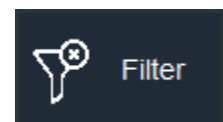
Decimal Places

Used to round data from 0 to 4 decimal places on all graphs



Filter

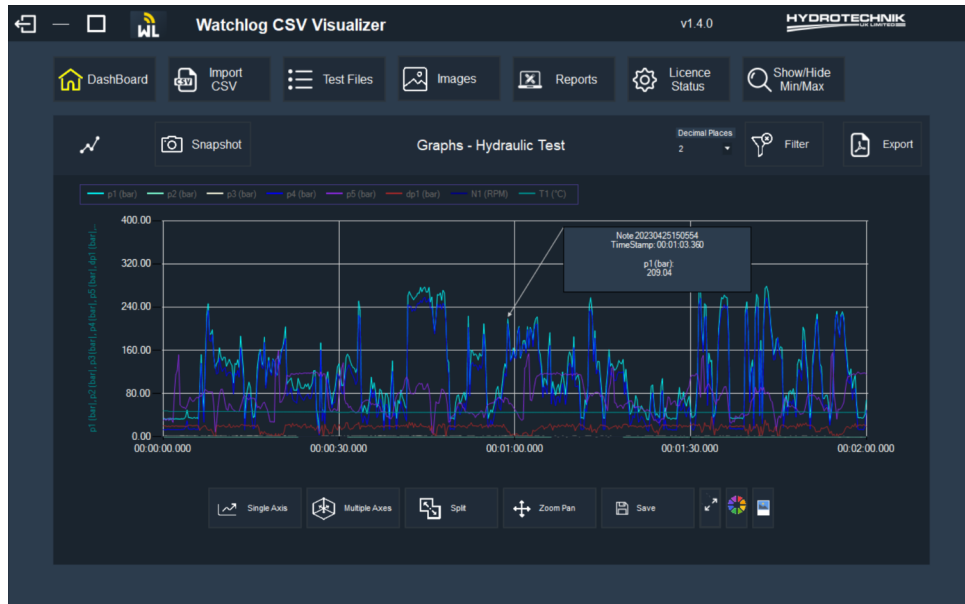
The “Filter” button will open a small window where a numerical value can be entered to smooth data based on an average number of samples. This is particularly useful when dealing with large volumes of data which may have a lot of noise.



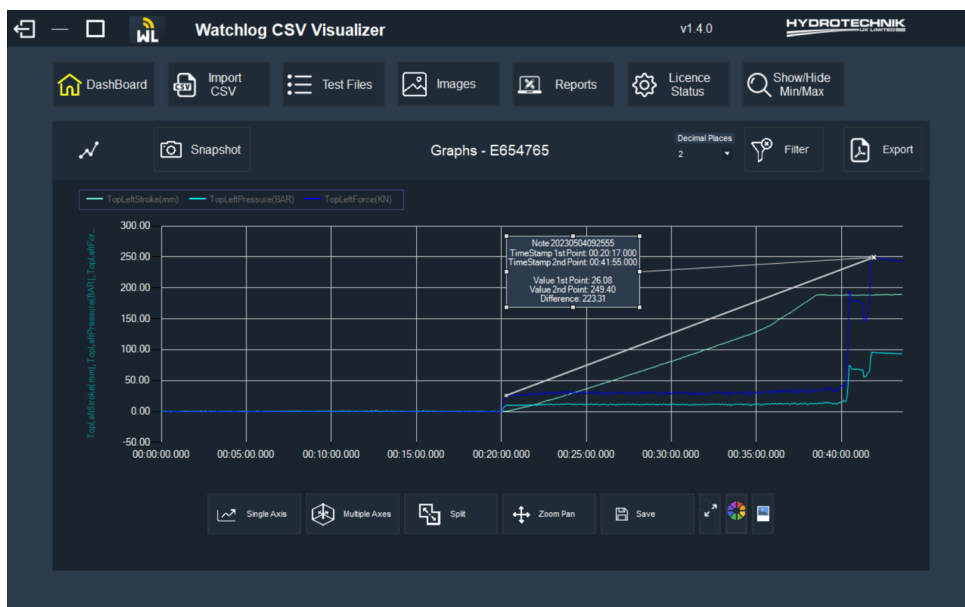
Annotations

By right clicking on the chart, allows you to select to place an annotation, or a point-to-point annotation.

An annotation allows you to point at a datapoint on the chart and write text about it. The annotation can be re-sized, re-coloured as well as the text being re-sized and coloured also.



A point-to-point works the same, however a point to point allows the annotation of two points, and the difference between them. Using the point-to-point annotation, the points can be dragged along the graph and the values in the annotation box will change accordingly.



Scaling

To scale the y-axis of the graph, double click on the y-axis, which will bring this menu up.

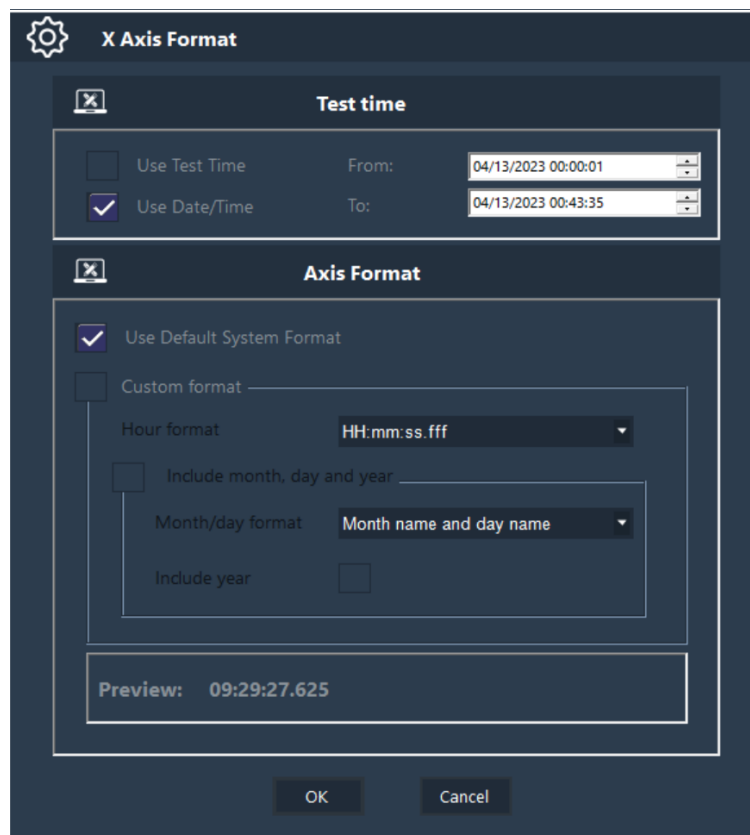


Chart Scale

Range Max.	2500.00
Range Min.	-500.00

The max and min of the range can then be inputted to adjust the y-axis scale.

To scale the x-axis of the graph, double click on the x-axis, which will bring up this menu.



X Axis Format

Test time

☐ Use Test Time From: 04/13/2023 00:00:01

☒ Use Date/Time To: 04/13/2023 00:43:35

Axis Format

☒ Use Default System Format

☐ Custom format

Hour format: HH:mm:ss.fff

☐ Include month, day and year

Month/day format: Month name and day name

Include year: ☐

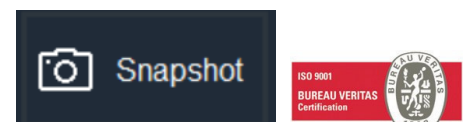
Preview: 09:29:27.625

OK Cancel

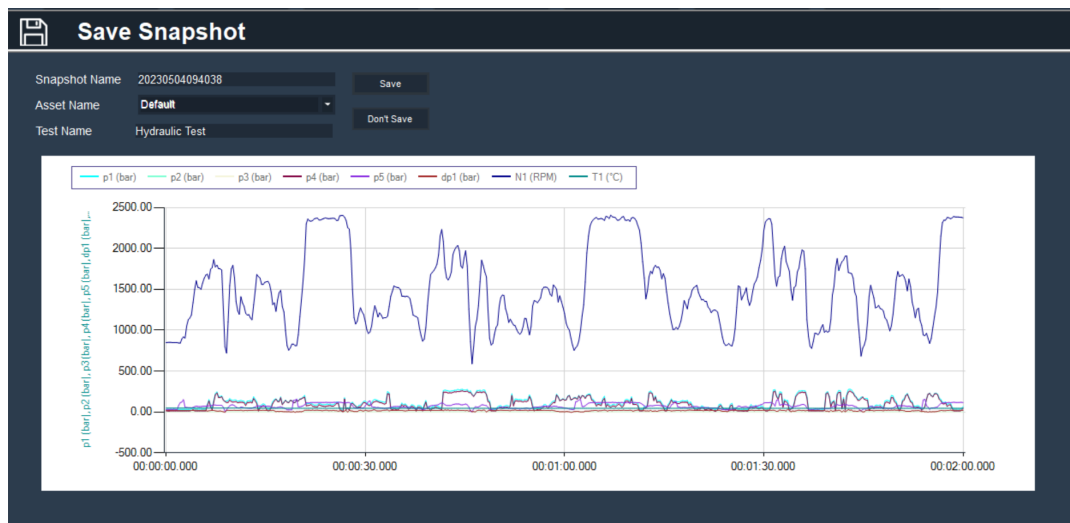
This menu allows you to toggle between a date/time scaling, and a test-time scaling. This can be used if a test time column was in date/time format, and you wanted to see the x-axis in the test time, it can be toggled at the top by selecting “Use Test Time”. To scale the axis, the time from and to can be input at the top. This will then adjust the scale of the axis to the input timings.

Snapshots/Images

Snapshots of charts, and sections of charts can be snapshotted, and placed into reports. To take a snapshot of the whole chart, select Snapshot.



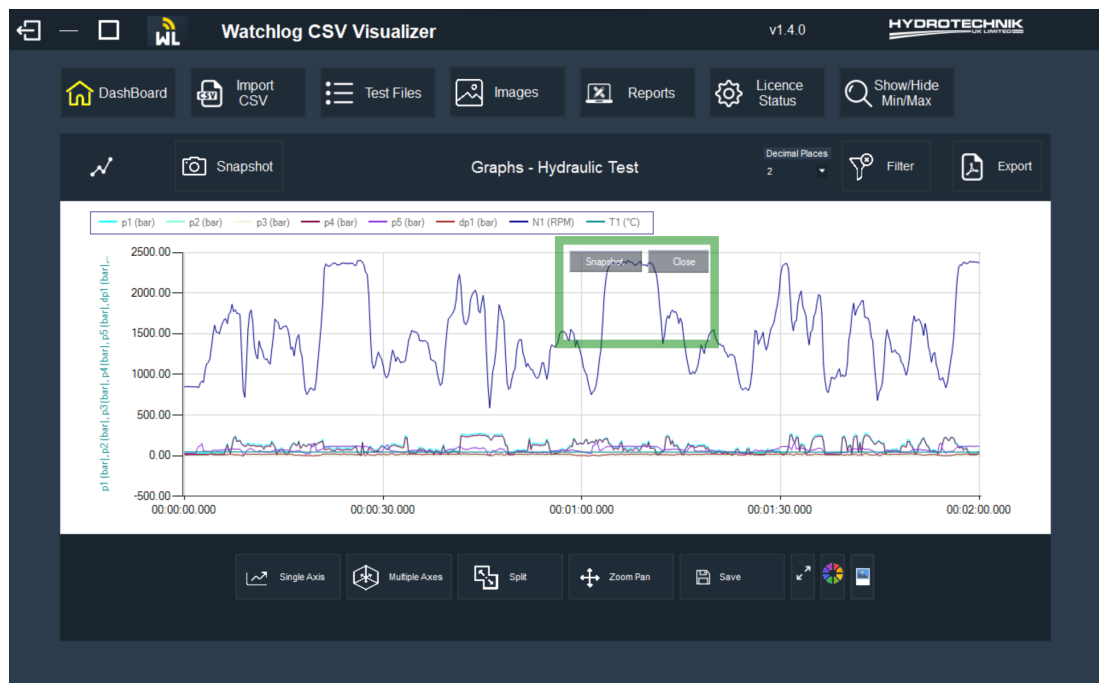
This snapshot can then be saved with a name and assigned to an asset. This snapshot can then be used in the custom reports builder later on.



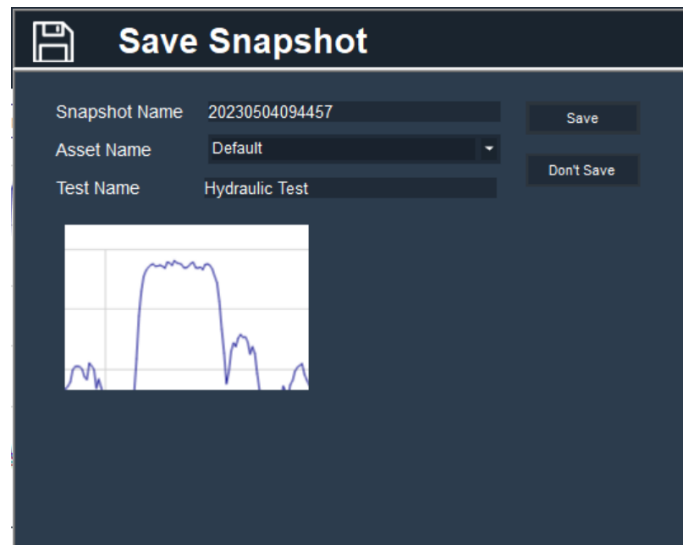
To take a snapshot of a section of the chart, select the image icon.



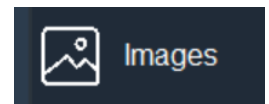
Once selected, a green box will appear. This box can be re-sized and moved to cover the area of interest. The snapshot button can then be selected to take an image of the covered area.



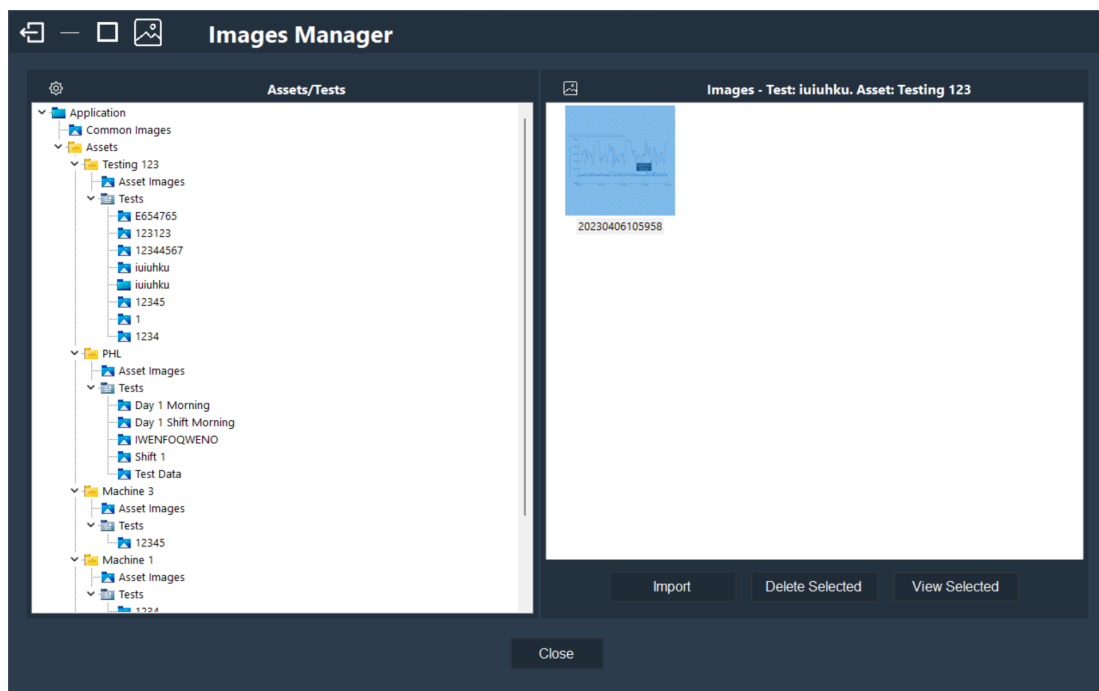
The snapshot can then be saved with a name and assigned to an asset for use in the custom reports builder later.



Images captured can then be accessed and viewed in the images section.

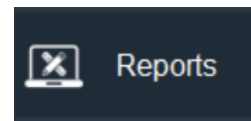


The images can be found in the left column by navigating through the asset names. They can then be viewed by selecting View Selected. Images can also be imported from your PC and then used in the custom report builder.

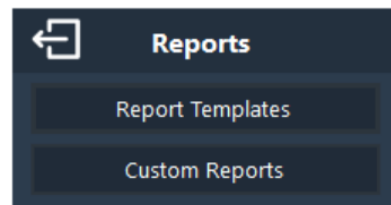


Reports

To access the reports section, select the Reports icon.



You can then select which report type to choose from.



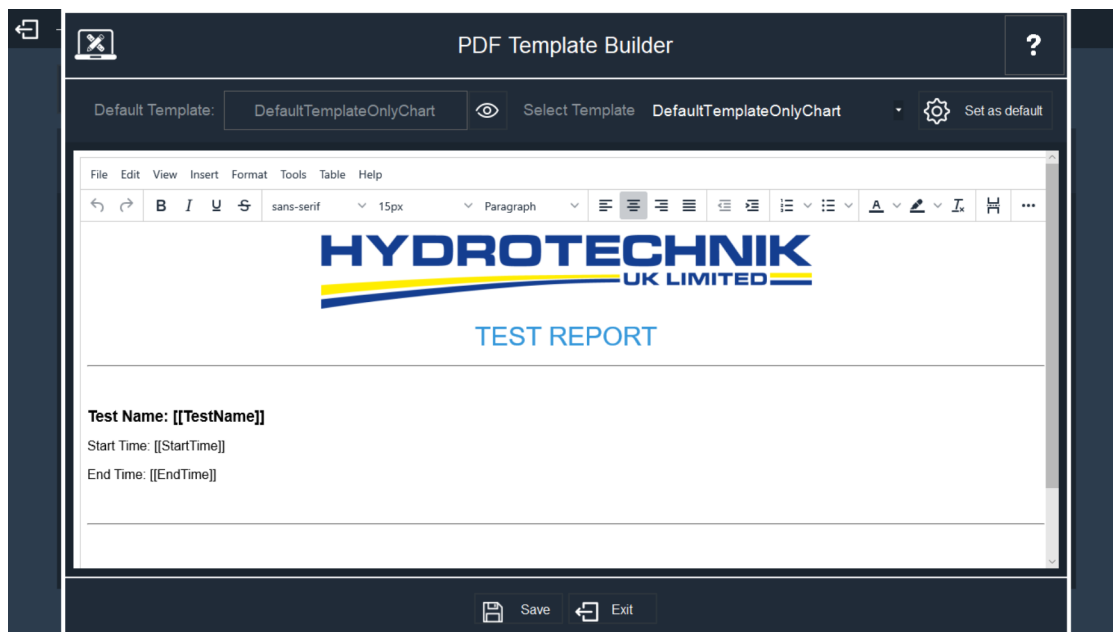
There are two types of reports in the CSV Visualizer software.

- Report Templates
- Custom Reports

The report templates section should be used when repetitive reports are required to be created. The custom reports builder should be used when a one-off report needs to be created with lots of custom text and images in the report.

Report Templates

If consistent reports with the same format are wished to be created, then report templates can be created. When new data is loaded into the Visualizer, it can be quickly exported onto the report template and the user is asked to fill out the variables added into the template.



The template builder can store multiple templates, found in the drop-down box at the top. When a template is selected and the “Set as default” button clicked, that template will always be used by

default for exporting reports to PDF.

The template builder works like a web-based version of Microsoft Word. Images can be inserted, resized and custom text entered throughout. The existing Hydrotechnik logo can be changed by right clicking, selecting “Image...” and choosing an alternative logo.

The templates can include items known as variables and when entered will pull through specific items to place inside the report. The list of variables includes:

[[TestName]] – Name of the test.

[[StartTime]] – Start time, of the first piece of test data.

[[EndTime]] – End time, of the last piece of test data.

[[Chart]] – Single chart with a single axis containing all data.

[[ChartMultiArea]] – Single chart with multiple axes containing all data.

[[ChartMultiAxes]] – Multiple charts separated as per the defined group names.

[[Table]] – Table showing all data.

[[Custom Text]] – Allows entering custom text into the report during the export process.

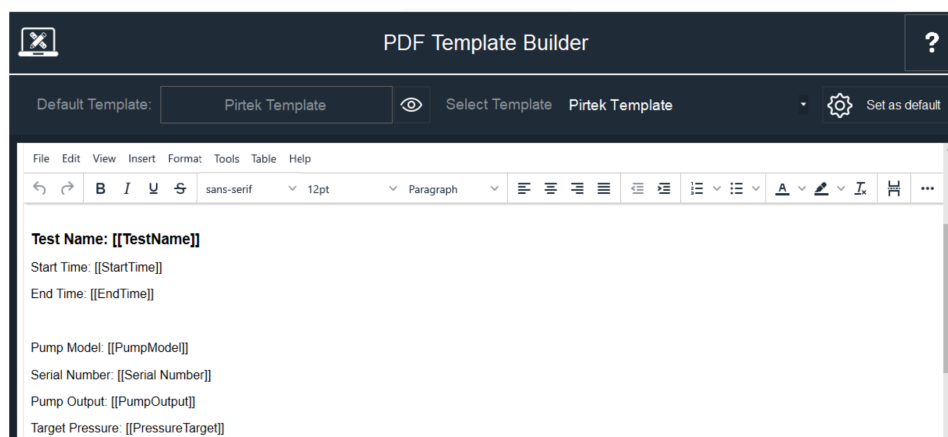
[[Chart-“Variable Name”]] – Chart with just the channel that the name is entered into “Variable Name”

[[Table-Summary]] – Table with summary of each channel (min, max, average)

[[Table-100]] – Table with 100 data points from each channel

[[Table-10]] – Table with 10 data points from each channel

Custom variables can then be added to the template. For example, if you were testing pumps and wanted to create reports that are the same, but change the data and the serial number of the pump, you could put on the report template [[PumpSerialNumber]]. When the test is exported later, it will ask for this to be filled in.



Saving a Test

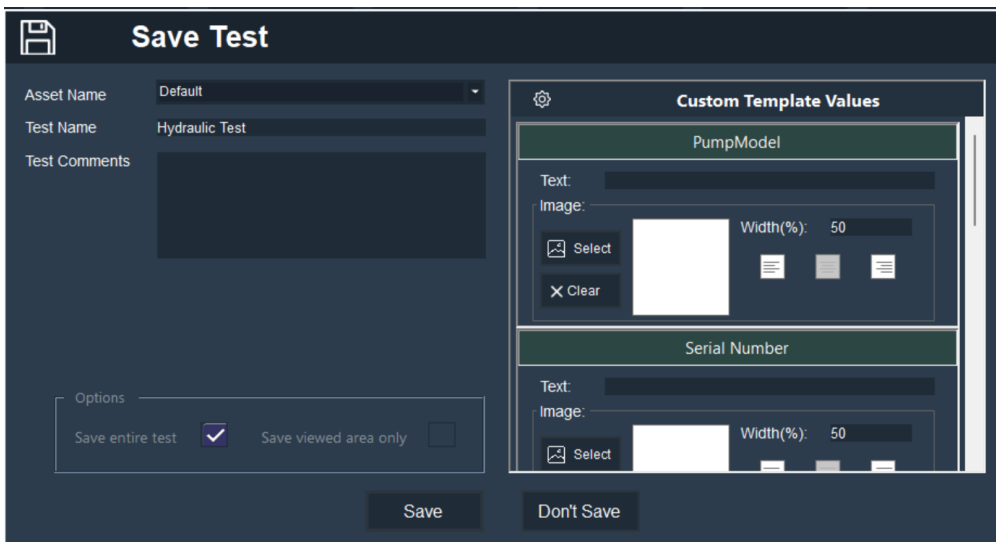
The same window will be displayed when saving a test to memory for future recall or for the final stage of export.

When saving a test for future recall, enter the test name which will be displayed in the “Test Files” category.

Comments can be entered in the “Test Comments” area, this is used to describe test files to help understand the test when re-visiting them, for example any events which occurred during the test.

Text entered the “Custom Text” area can be inserted onto reports that include [[CustomText]] in the template. This text area would be used to enter information regarding the test or equipment, for example the serial number of a vehicle which was tested.

Also, on the right, the variables added into the report templates are requested, for example “PumpSerialNumber”.



Each test file can be saved to an Asset. For example, an asset could be a machine that is regularly tested. This allows you to keep test files together and relative to each other. Another example would be a yearly service on a machine.

If you have zoomed into an event and want to save only the currently viewed graph, select “Saved viewed area only” and then “Save”. This will then only save whatever is on the visualizer now.

To save the entire test, select “Save entire test” and then “Save”.

Exporting a Report

Click the “Export” button to begin the export process, where data can be arranged for display in multiple tables/charts in a PDF report and additional comments included.

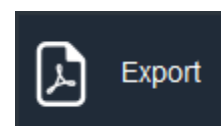
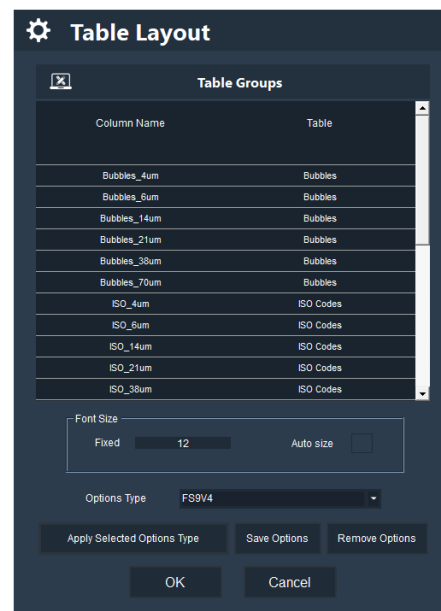


Table Layouts

After clicking the “Export” button a window will appear called “Table Layout” (this is only if there is a table to be exported in the current report template). Here you will find each set of data and be able to assign it to a specific table and set the font size for exported tables.

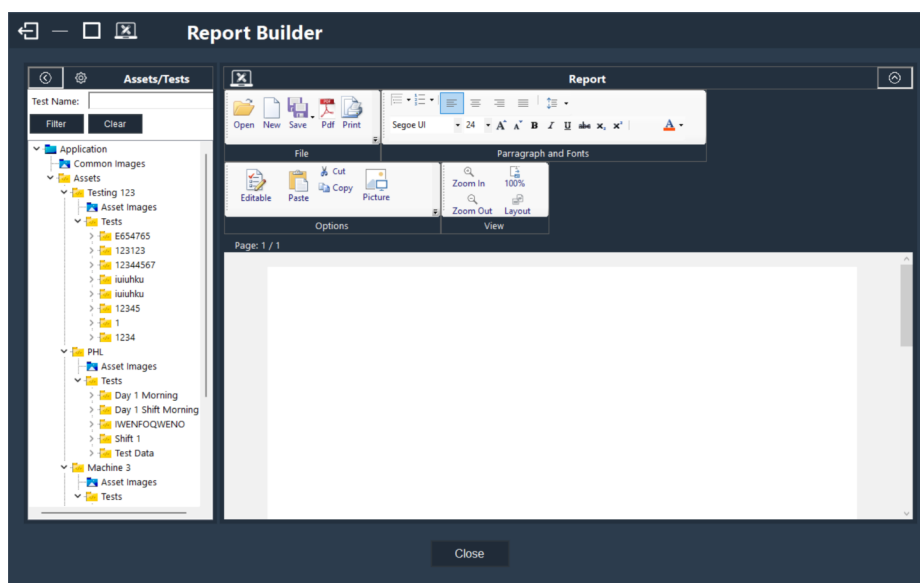
The purpose of the table layouts functions is to split data into multiple tables, rather than trying to fit all data into a single table on a page.

It’s possible to save and assign table group configurations which will speed up the exporting process. Saving a new configuration involves assigning the tables names, entering a description in the “Options Type” drop-down box and clicking the “Save Options” button. To apply a pre-saved options type, select this from the drop-down box and click “Apply Selected Options Type”.

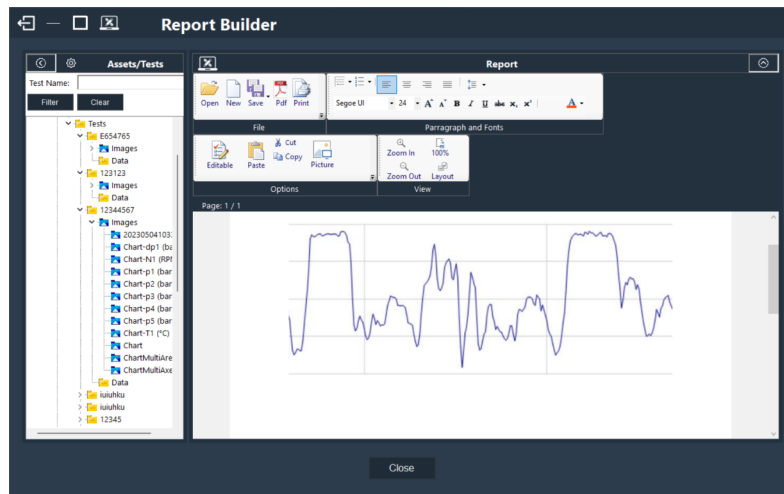


Custom Reports

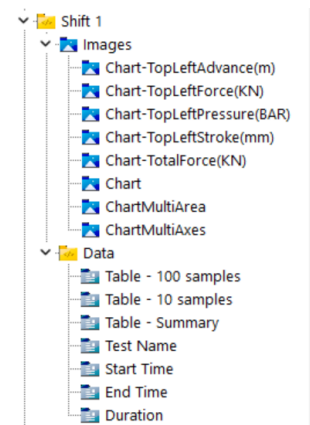
Once on the custom reports, the images and charts will appear in the left column.



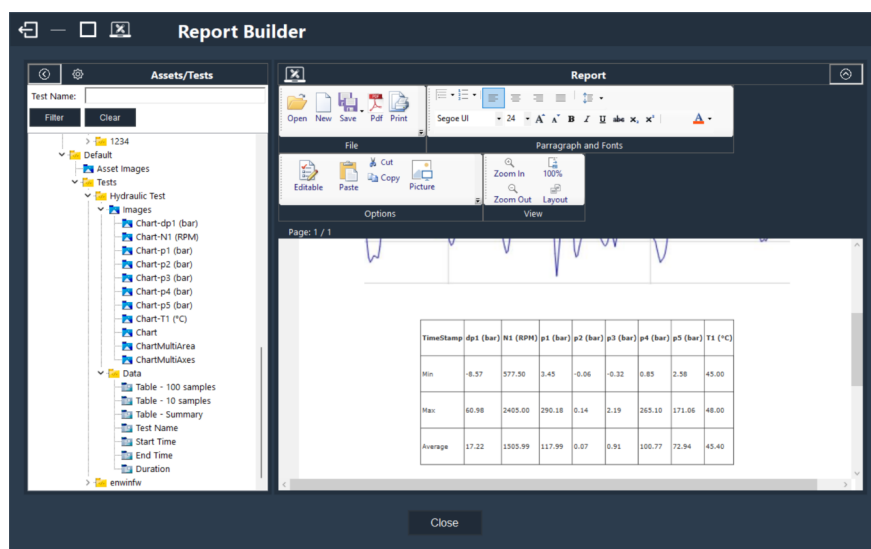
At the top of the page, the functions are similar to that of Word document, where text can be re-sized and made bold/underlined etc. Images can also be imported via the picture button, for example company logos. To add snapshots into the report, simply drag and drop an image from the left onto the report.



To add charts and tables to a report, find the test you want to do this with. Right click on the test name and select Open test data. This will then create all the charts and tables for that test automatically and list them.

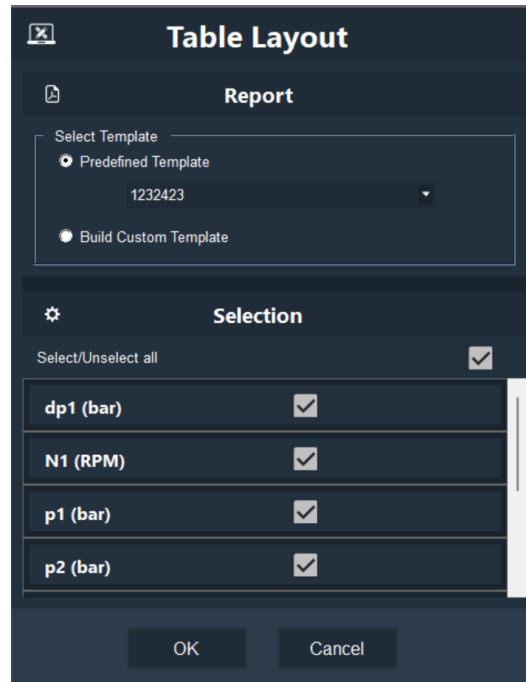


For example, a table was dragged across and onto the report below.



The report can then be saved as a PDF by selecting the PDF icon. And also, the report can be printed by selecting print.

If custom reports are used commonly, and certain text and images is used every time (for example, company logo) a template can be created and saved. To do this, select the save icon, then select save as Template. Then, when custom reports are loaded and it asks which template you wish to use, this template can be selected.



If a test has been loaded and saved, when the custom report builder is loaded, a column appears as “Current Test”, this has all of the charts already loaded and ready to drag and drop into the report builder.

