COOPER8 COMPUTER APPLICATION MANUAL

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1. Revision Log

Revision	Description	Initial	Date
1.0	Initial Release	JB	15 Mar 2024

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4. Introduction

This document was created to help an operator or service technician setup and use the new Cooper8 computer application.

The reason for the computer application is to give you the ability to remotely connect to the Cooper8 modules over an Ethernet connection. This allows you to remotely interact with the Cooper8's as if you were standing in front of them and using the touchscreen. We have also included the ability to upload all the data from heat cycles run on the Cooper8 and use it to generate a report for quality control or internal storage.

We have kept the software simple for you but have provided this manual to help you out.

5. Installing the Software

To use the software, we have provided an installer for you to use. Simply run the installer provided to you and follow through the standard steps to generate the correct files and settings on your computer. There are no special permissions required for this software, so you do not need to install it as an administrator.

Once the installation is complete, you will have two ways to start the software. You will be able to start it through the desktop icon created during the installation process, or from the start menu. It will be listed as Cooper8 Software.

6. Software license

Once you have installed the software and you first open it up, it will look like the image below.
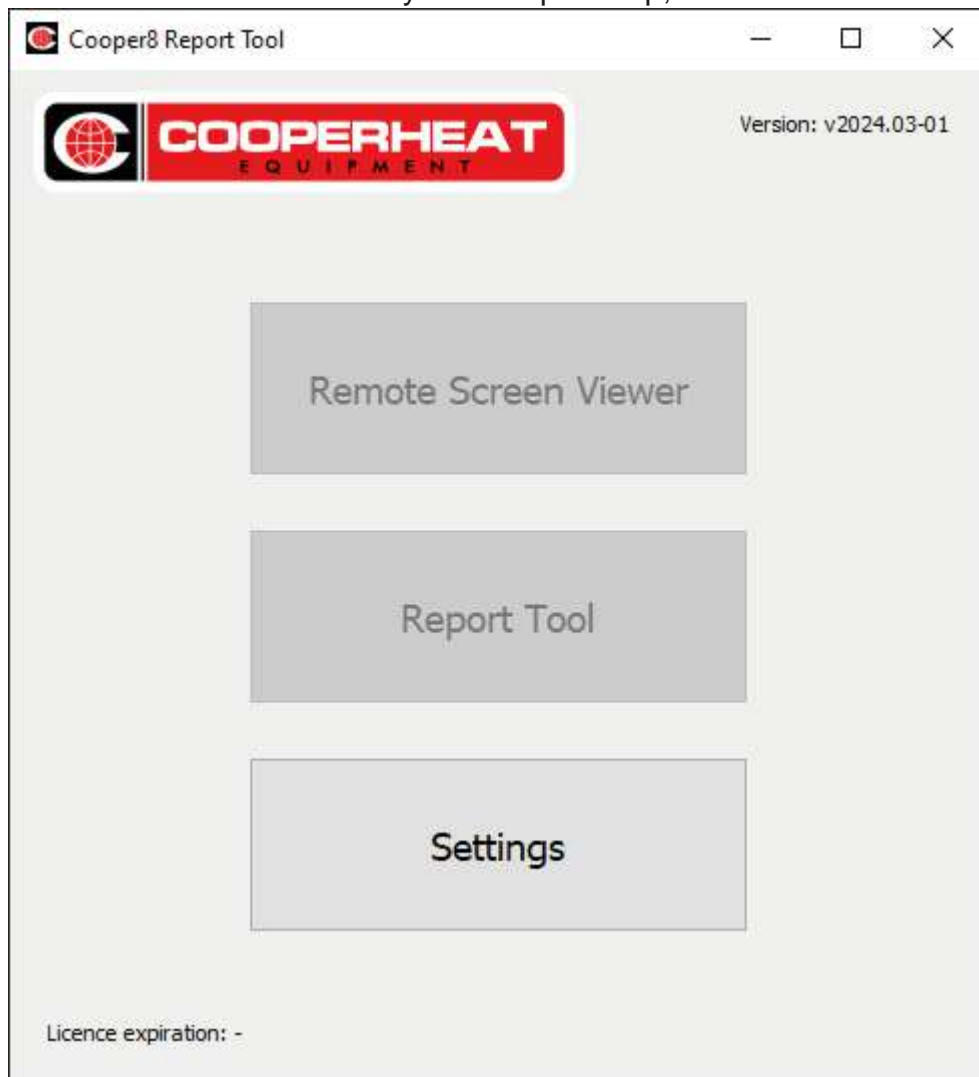
You will notice that the "Remote Screen Viewer" and the "Report Tool" buttons are both greyed out. If you look in the lower-left corner of the software, you will see that there is no valid license file for this. To enable the functionality, simply click on the "Settings" button and then click on the "Generate License Request file" button as shown in the image below.
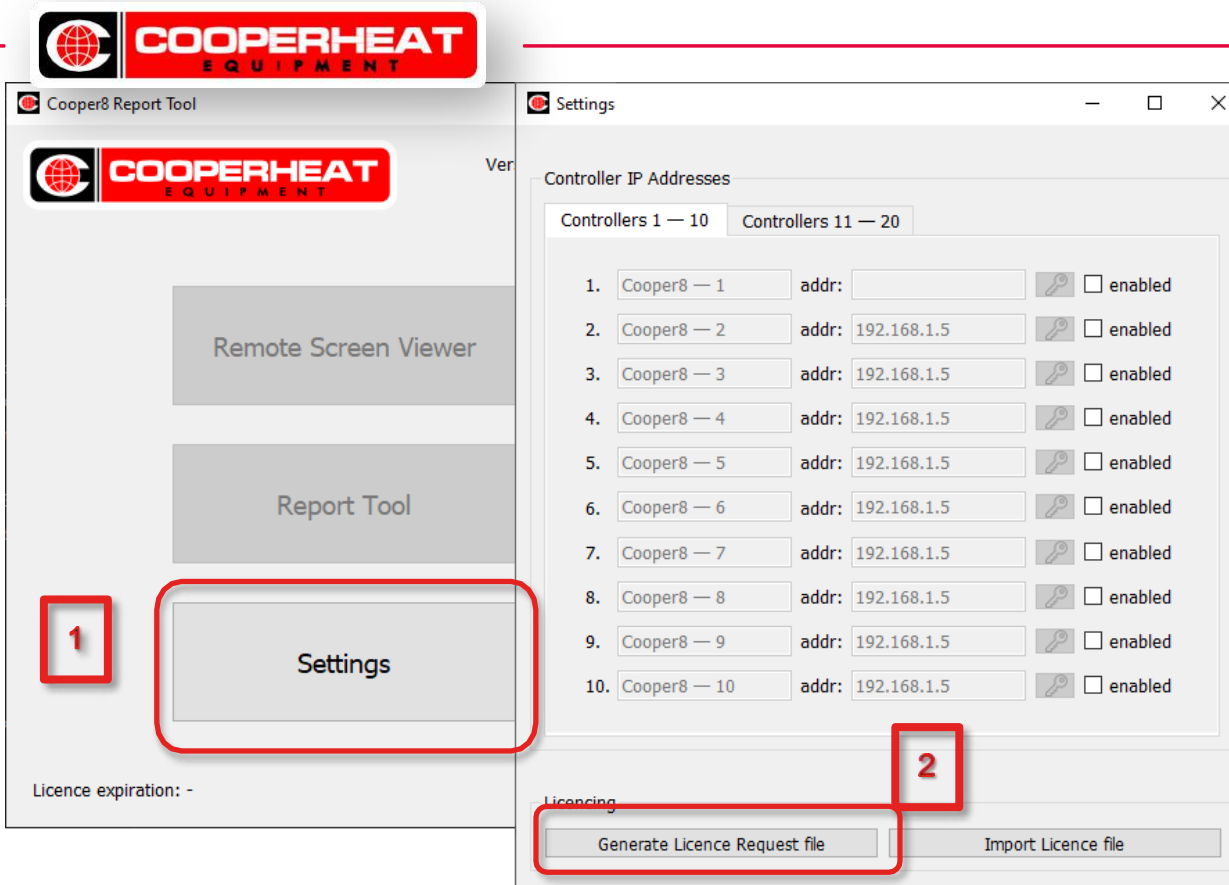
Figure 2: License request file generation steps

This document will explain the settings screen in more detail later on.

Once you have clicked the button to generate the license request file, it will bring up a window to ask you where you would like to save this file. This window will look similar to the image below.

Figure 3: Screen grab of the license request file saving screen.

Make sure you note where you save this file. You will then need to email this file to your Cooper8 distributor and they will then respond with a license response file.

Once you get the license response file, save it to your computer in a location that you can find again.

Now, in your software click on Settings again and then click the button "Import License file". This will bring up a window similar to the one as shown in Figure 3. Navigate to the file you received from your distributor, select it, and click open.

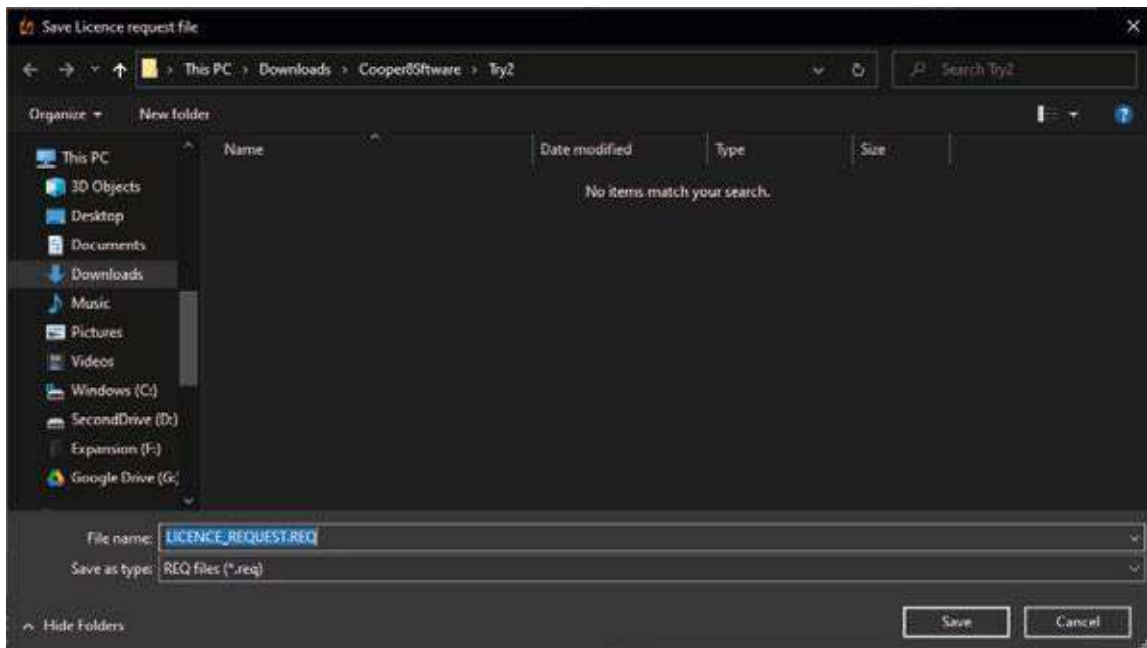Once the license file has been read, you will see the info box show up similar to the image below with the date that your license will be valid until.
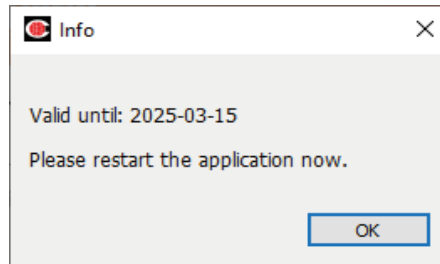
Figure 4: License response file confirmation information box.

Once you see this block the license has been confirmed and stored locally. You do not need the original file you received from your distributor anymore. But it is recommended that you keep a copy in case you delete this software and reinstall it on the same machine.

YOU WILL NEED TO RESTART THIS SOFTWARE ONCE YOU HAVE IMPORTED THE LICENSE FILE.

Simply close the application and re-open it. Once you re-open it, you will see that there is a valid license file and how long it will be valid for, as shown in the image below. You will also notice that all the functional buttons on the are not enabled.

Figure 5: Software now shown a valid license file.

7. Step 1: Setting up the Software

Once you have a valid license file has been installed as described in the previous section you can setup the software to run the way you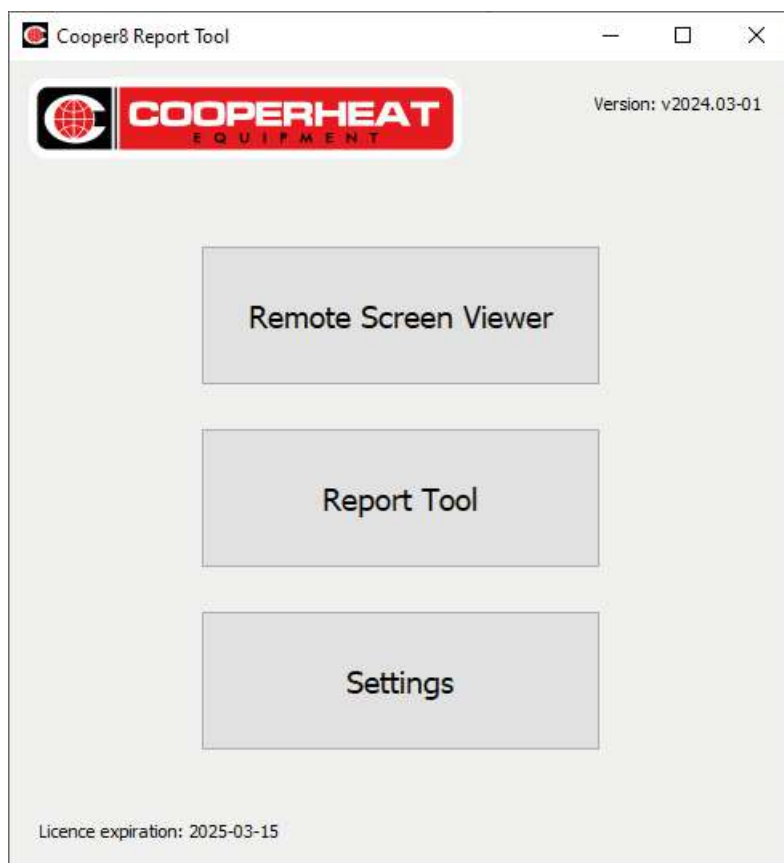 want it to. All the settings you really need to configure are the IP addresses of the Cooper8 devices you want to connect. The software is set up to connect to up to 8 Cooper8's at a time. The settings screen will look like the image below.
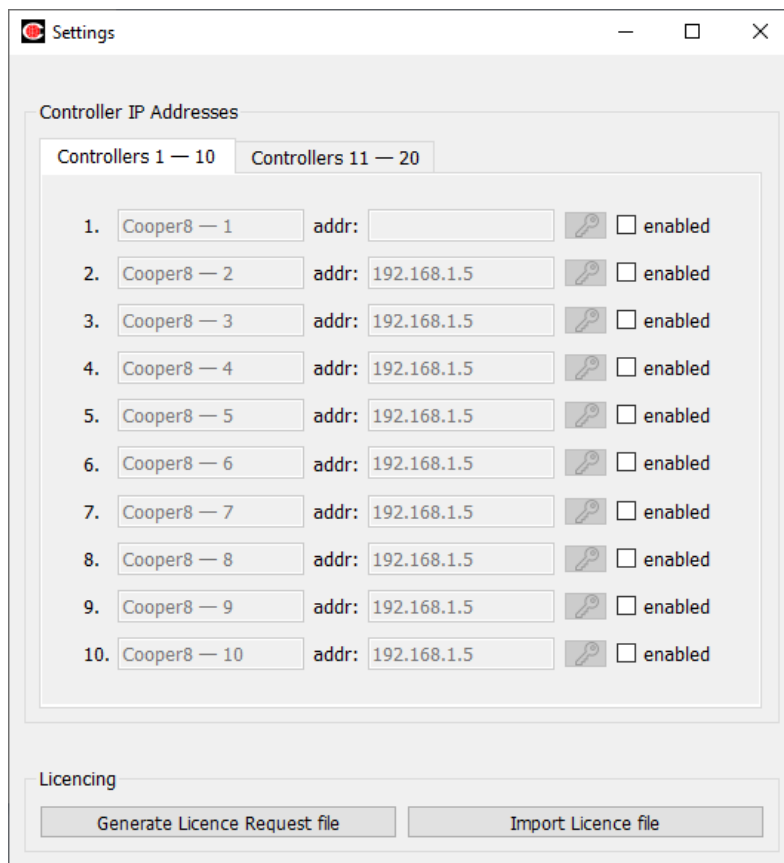
Figure 6: Settings window

All the possible connections start off as disabled. To enable connections to a specific Cooper8 modules simply click the "Enable" checkbox next to any of the possible connections. Once you have clicked enable you will see that the IP address and name boxes for the Cooper8 is now enabled. Simply type in the IP address of the Cooper8 you want to connect to and then give it a descriptive name of your choosing. You can keep the name as the default "Coop8 – 1" if you want, but we added the name functionality so you can easily identify the device you are connected to. When you go to the remote viewer screen or the report tool, then you will be able to select the specific Cooper8 based on the name you gave it here.

Figure 7: Settings screen with a Cooper8 enabled.
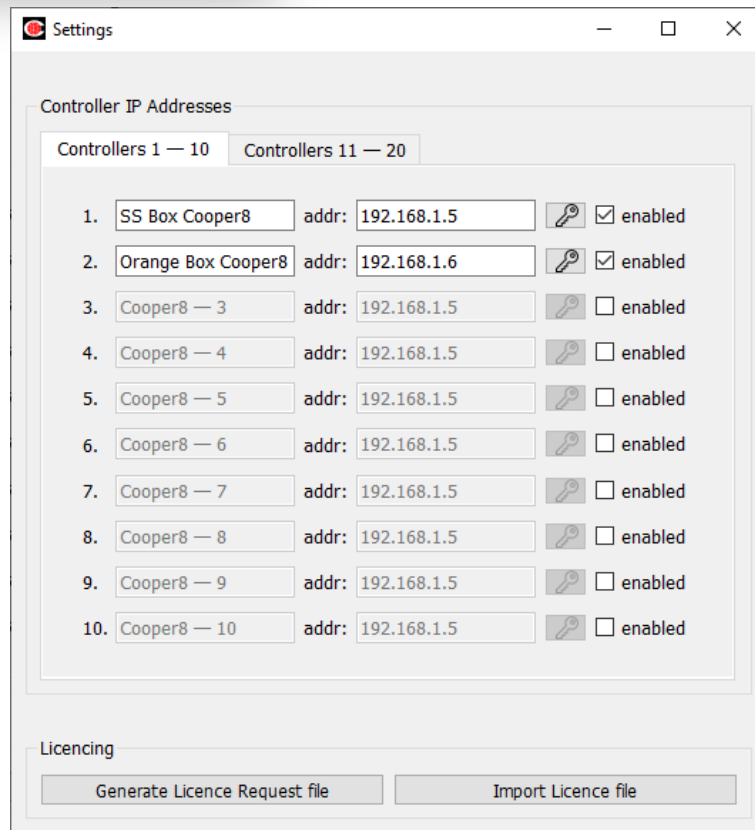
If you have set a password of your own for the Cooper8 VNC connection, you can set that password by clicking on the KEY icon button next to the IP address. This will bring up a password screen as shown below. (**We have added a chapter to this document showing how to change the password on the Cooper8.)**
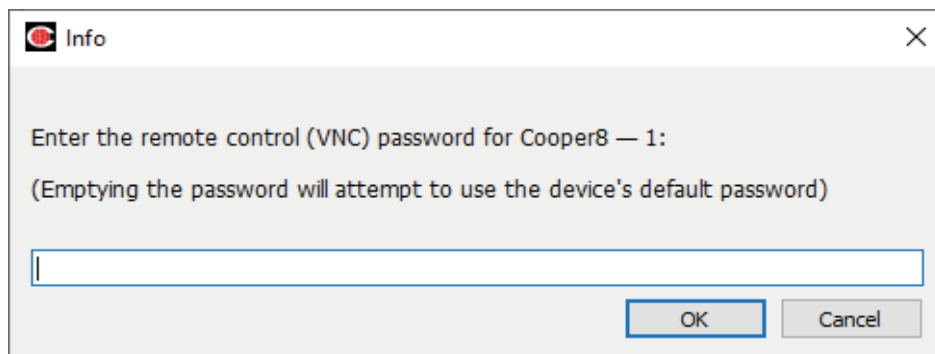
Figure 8: Remote connection password screen

If you have not set any password, leave this field blank and click "OK". If you have set your own password, enter it here and then click "OK".

You can repeat this process for all the Cooper8 connections.

PLEASE NOTE: You should not have 2 of the same IP addresses enabled at the same time in this setting screen. Make sure to change the IP address of the Cooper8 if needed. We have added and a chapter to show you how to do this.

8. Step 2: Remote Control of the Cooper8

Now that you have setup the software as described in Step 1, you can remotely connect to and view the Cooper8 Screens. This will allow you to control it as if you were standing in front of the device using the touchscreen.

To remotely connect to your Cooper8, click on the "Remote Screen: Viewer button as highlighted below.
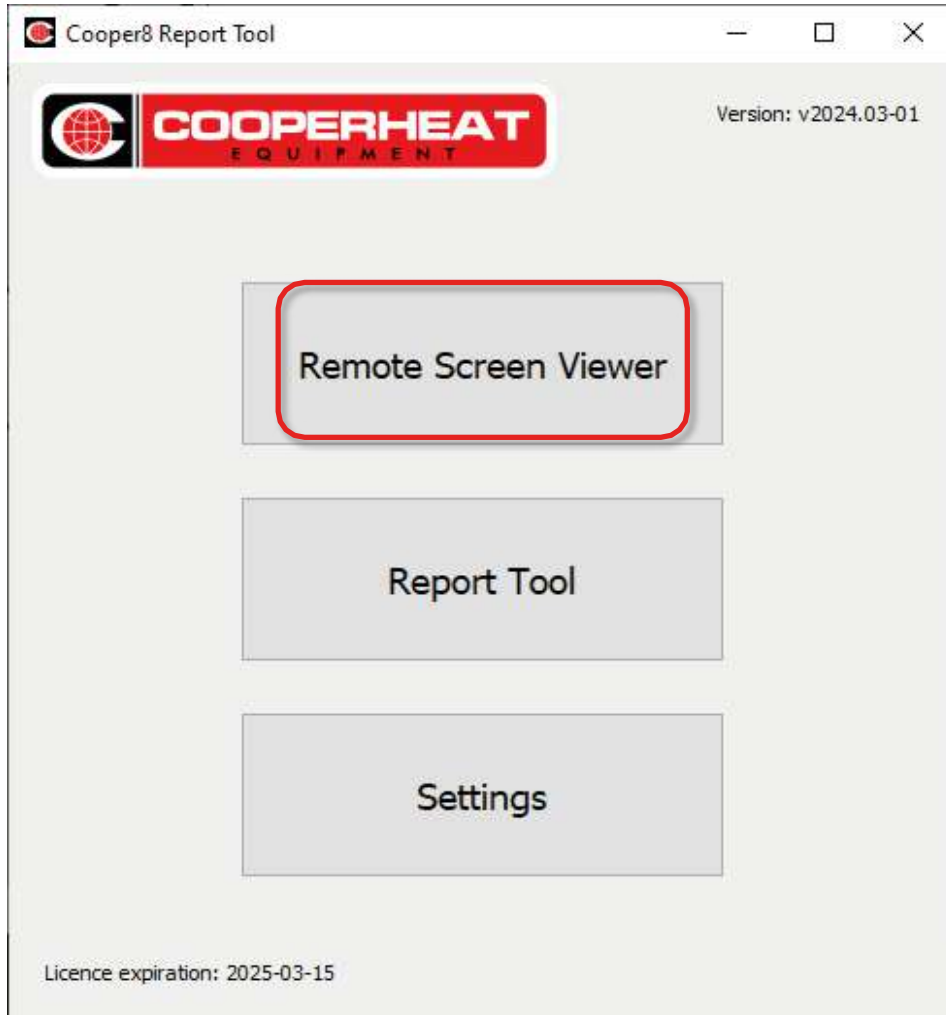

Figure 9: Remote viewer interface launching button.

This will bring up a multi connection window. It will automatically add all the tabs to this window for all the Cooper8's asset as "enabled" on the settings screen in Step 1 above. The remote viewer screen will look something like the image given below. Note that we have only enabled 2 Cooper8 connections for this manual. So, there are only two tabs available. If you want to see the screen of any of the other enabled Cooper8's simply click the corresponding tab at the top of the screen as highlighted in the image below and the software will try to connect.

The tab names will be the names of the Cooper8 connections you entered in the settings screen.
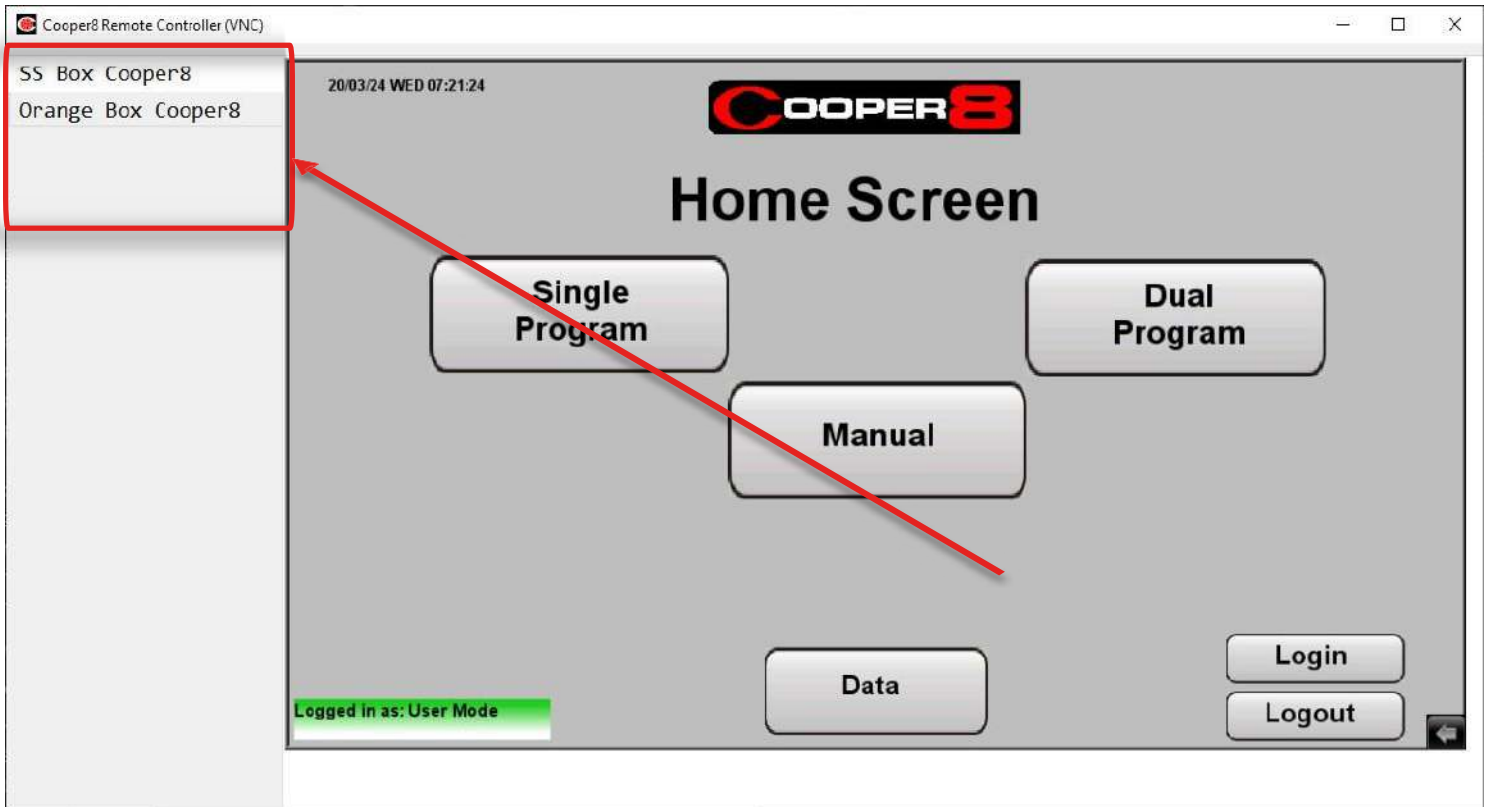
Figure 10: Cooper8 remote connection screen.

To switch between the different Cooper8's, simply click on the specific tab name on the left of the window.

PLEASE NOTE: This connection will only take your mouse inputs and no keyboard entries!

Once you have run a cycle on the Cooper8, you will be able to extract that data and create a report for Quality Control using the built in Reporting Tool. To launch the reporting tool, click on the "Report Tool" button as highlighted in the image below.
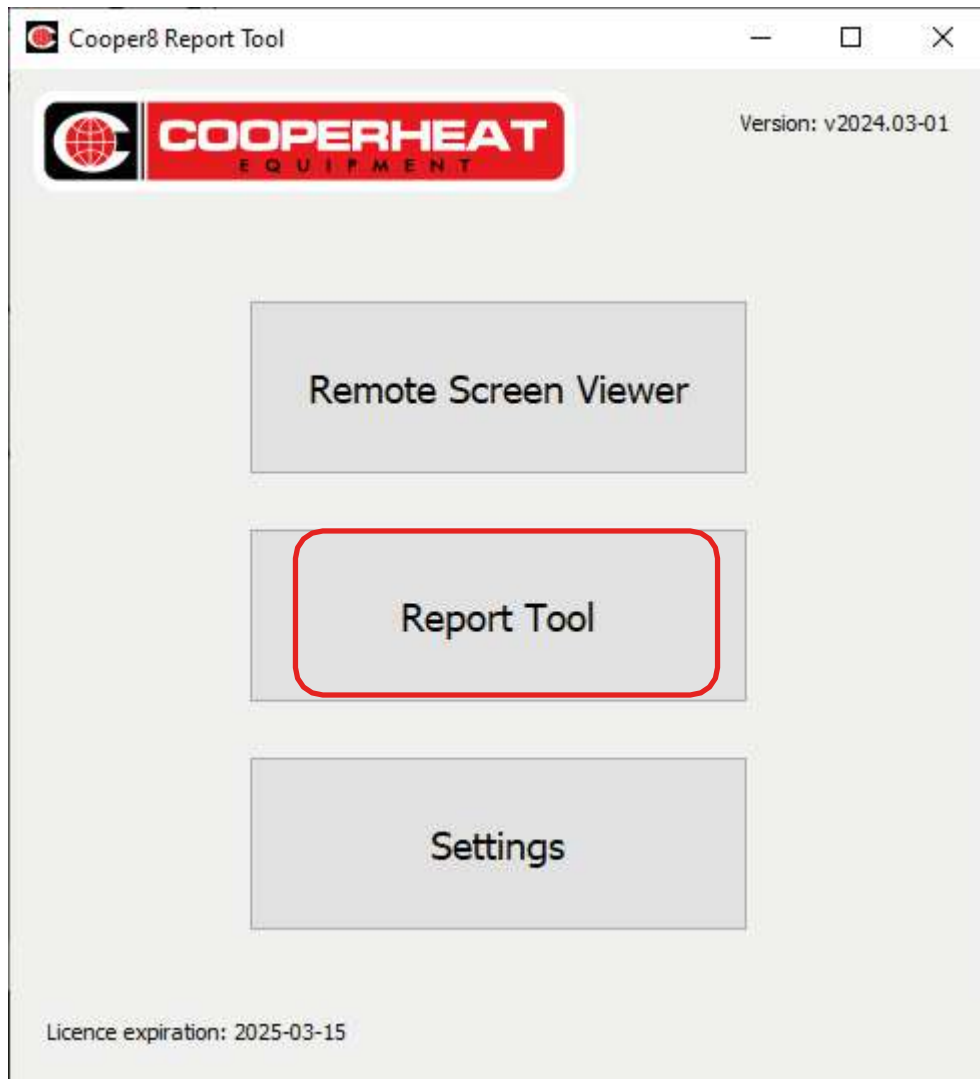

Figure 11: Remote viewer interface launching button.

Once you have clicked on this button, it will bring up the report tool and look like the image below.

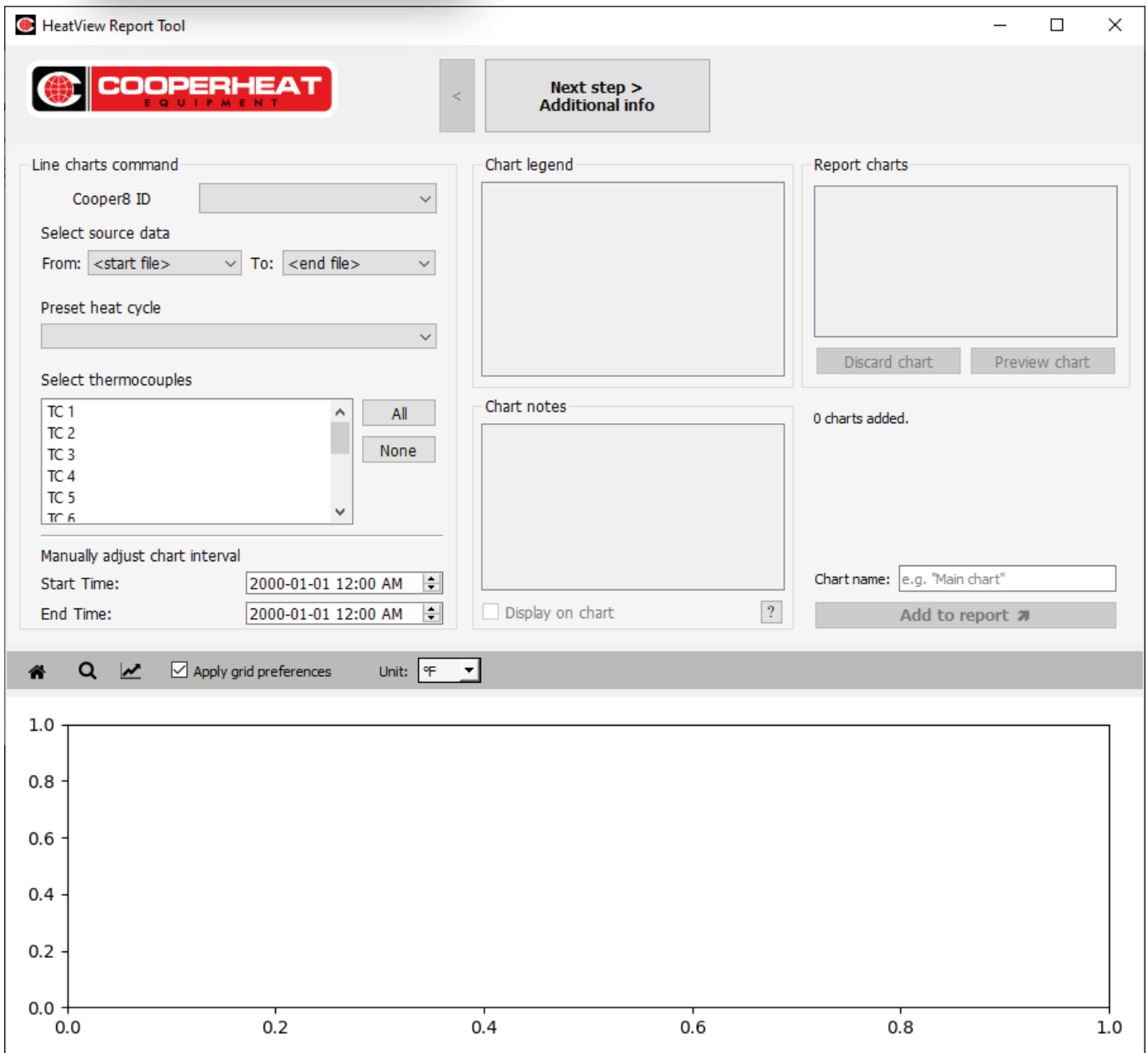Cooperheat Equipment Limited UK | 67A Compton Road, Southport, PR8 4EG

Figure 12: Report tool main window

Once the report tool window is open you can follow the following steps to generate a chart to add to the report. The step numbers correspond to the numbers listed in the image **below**.

1. Select the Cooper8 you would like to get data from.
2. Select the beginning date of the data you would upload.
3. Select the end date of the data you would like to upload. **Note that the larger the gap is between these dates the longer it will take to upload the data. If it will take a long time, then a progress bar will appear to show you what is happening.**
4. Select the heat cycle you would like to pull data for.
5. Select all the Thermocouples that apply to the heat cycle.
6. Finally, you can adjust the begin and end times for the chart.

Figure 13: Steps to follow to select the data for the report.

Once you have selected the data for your heat cycle you will see a chart appear at the bottom of the software. This is the data you will be using to generate a report. You can modify the chart to have the grid lines spaced the way you want by click on the button highlighted below and then making sure the check box (Apply grid preferences) is check next to this button. If you want the program to auto scale the chart, just uncheck the check box again.
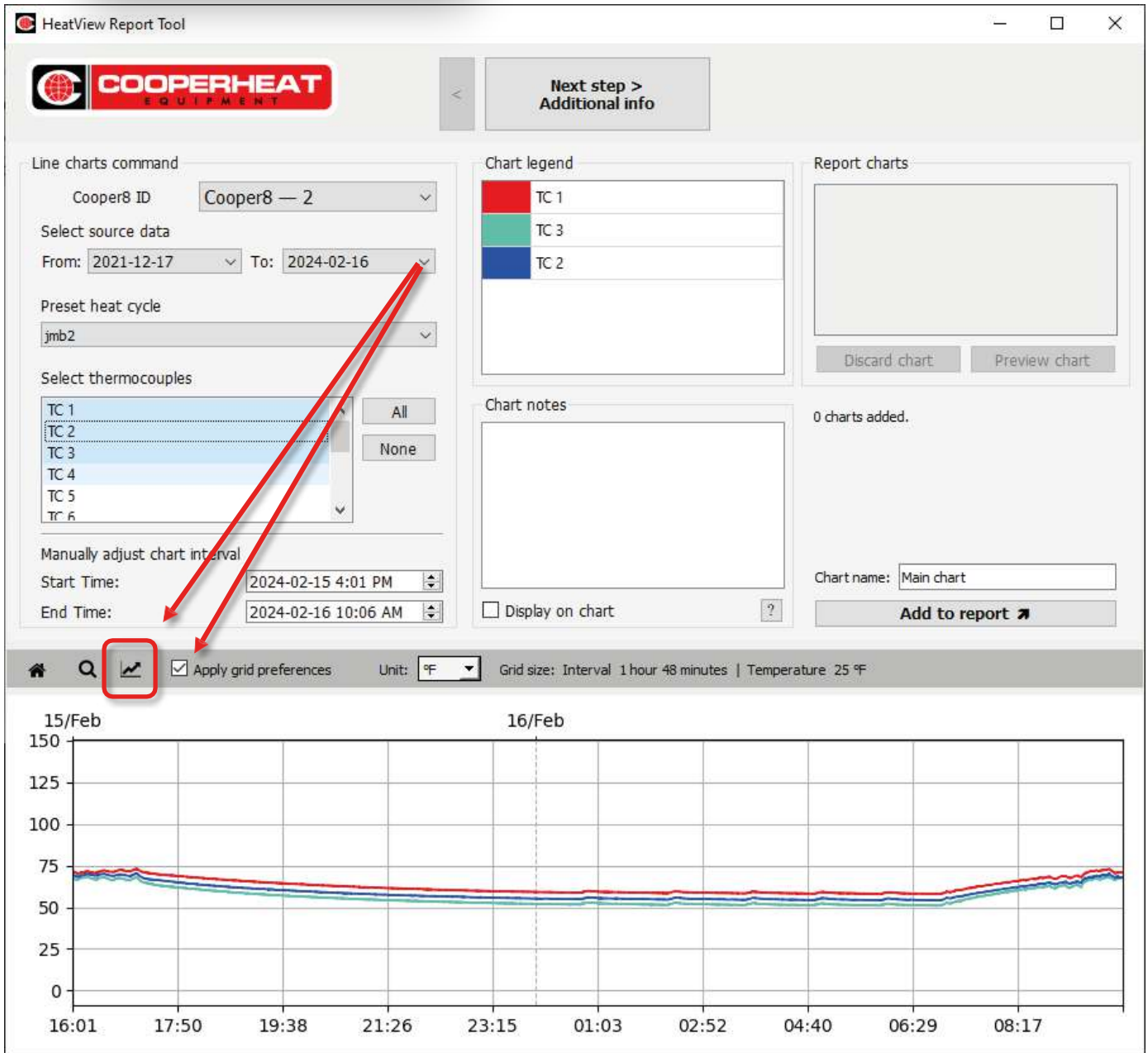
Figure 14: Button to setup the chart grid spacing.

After clicking the button to setup the grid spacing, you will see a window as shown in the image below.
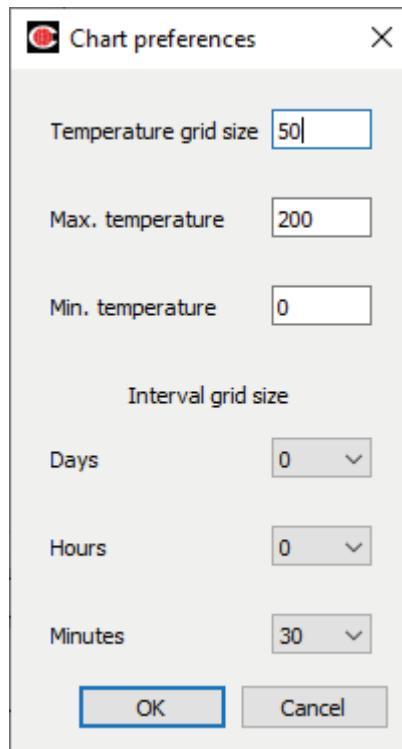
Figure 15: Report chart grid setup screen

In this document we have set the grid to range from 0 to 200 degrees and then we specified a grid line every 50 degrees. We also set the horizontal spacing to be in 30-minute increments. After these settings were entered the chart updated as shown in the image below.
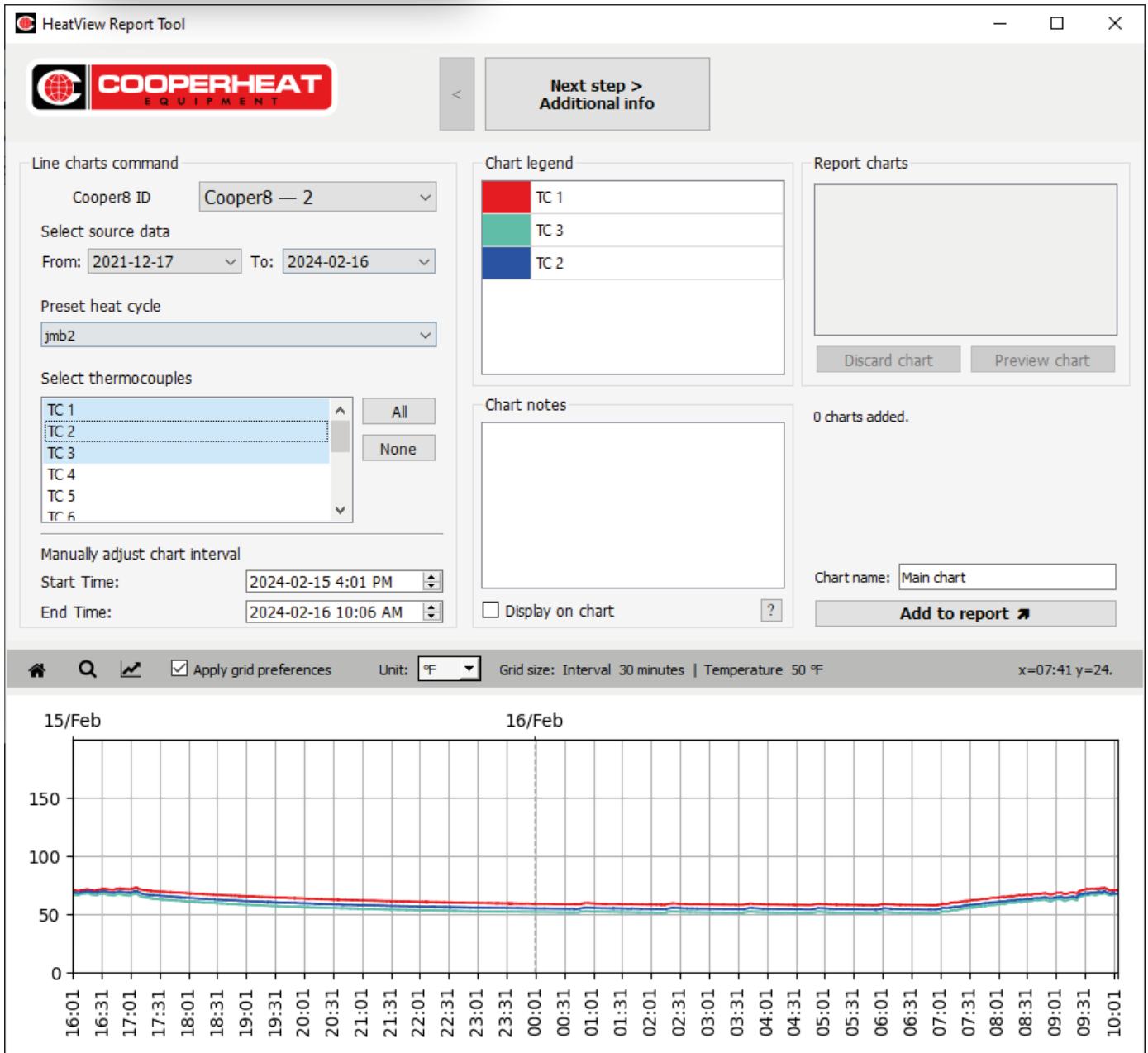
Figure 16: Updated chart grid based on settings just entered

The next vital bit of information you need to select is the units the heat cycle was run in. The cooper8 only stores the temperature value but does not save what units you cycle was run in, so you will need to set it for the report. The unit selection drop box is pointed to in the image below.
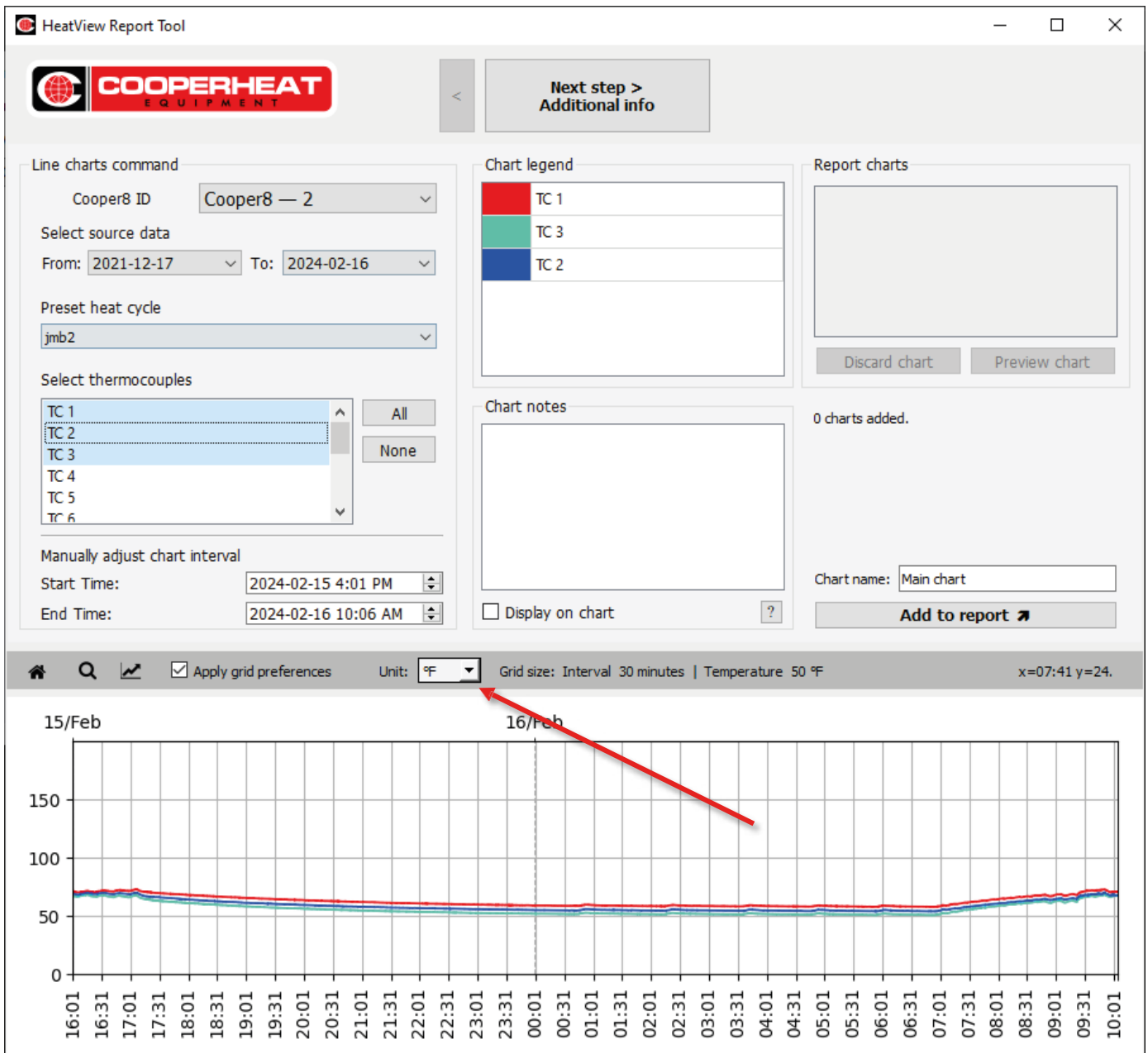
Figure 17: Chart unit selection

Once you have set the units for the chart, you can add notes to the chart by clicking on any line in the chart with you mouse pointer. Once you click on the chart you will get a pop-up window requesting to enter the note. This is shown in the image below.

If you want to delete a note, simply click on the note dot on the chart and it will ask if you are sure you want to delete the note. Simply click 'Ok' to delete it or click 'Cancel' to keep the note.
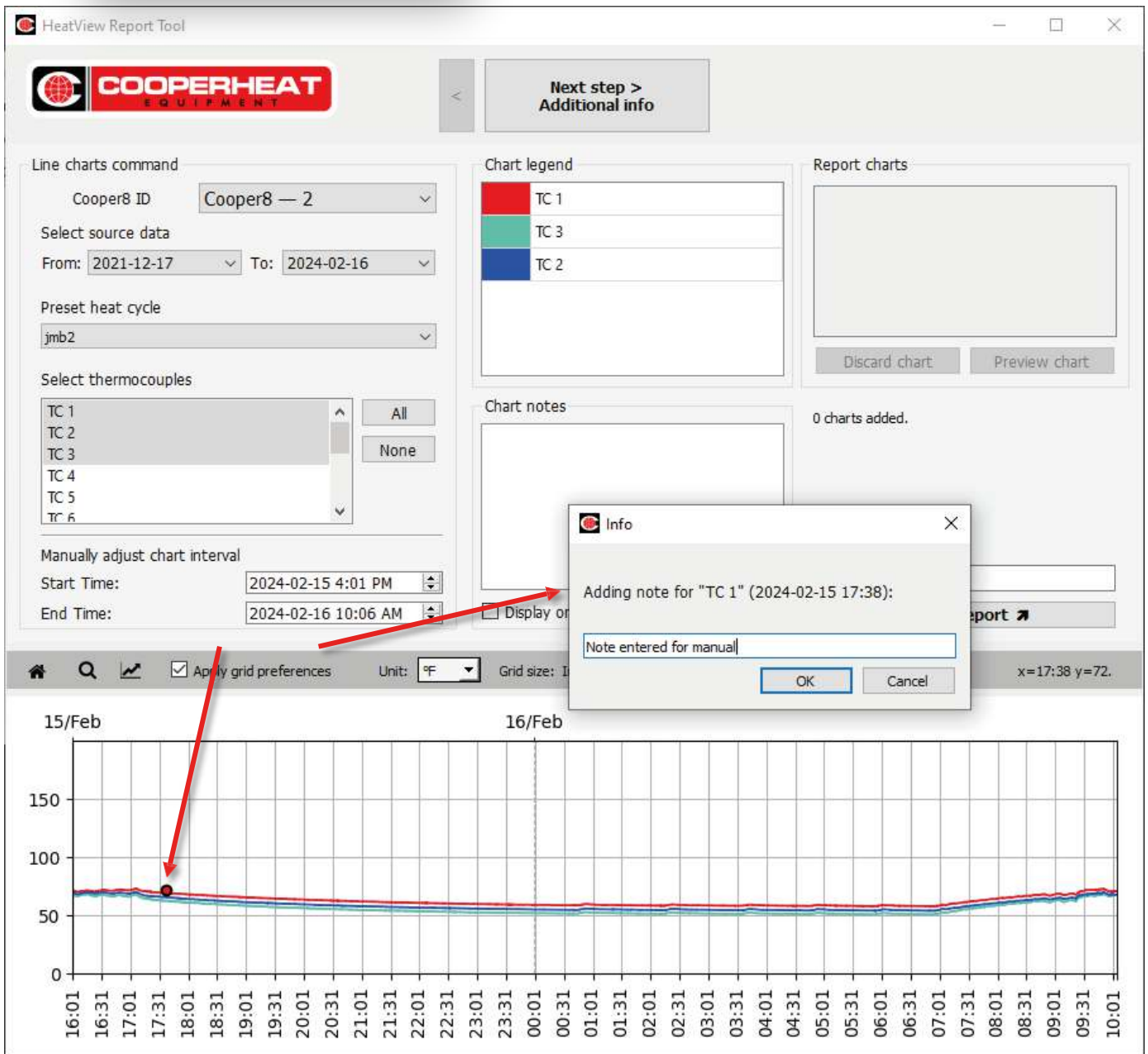
Figure 18: Chart note entry.

Once you type in your note and click on OK, the note will be added to the chart and the text for the note will be added to the "Chart Notes" section of the window.

The final step you need to adjust before adding the chart to the report is to setup you chart line colors and the legend text. To edit the text, simply click in the text box in the chart legend section and type in a new name for the line. To edit the line color, simply click in the color block next to the legend text and select a new color for the line in the color selection window that appears. The image below highlights the legend editing section.
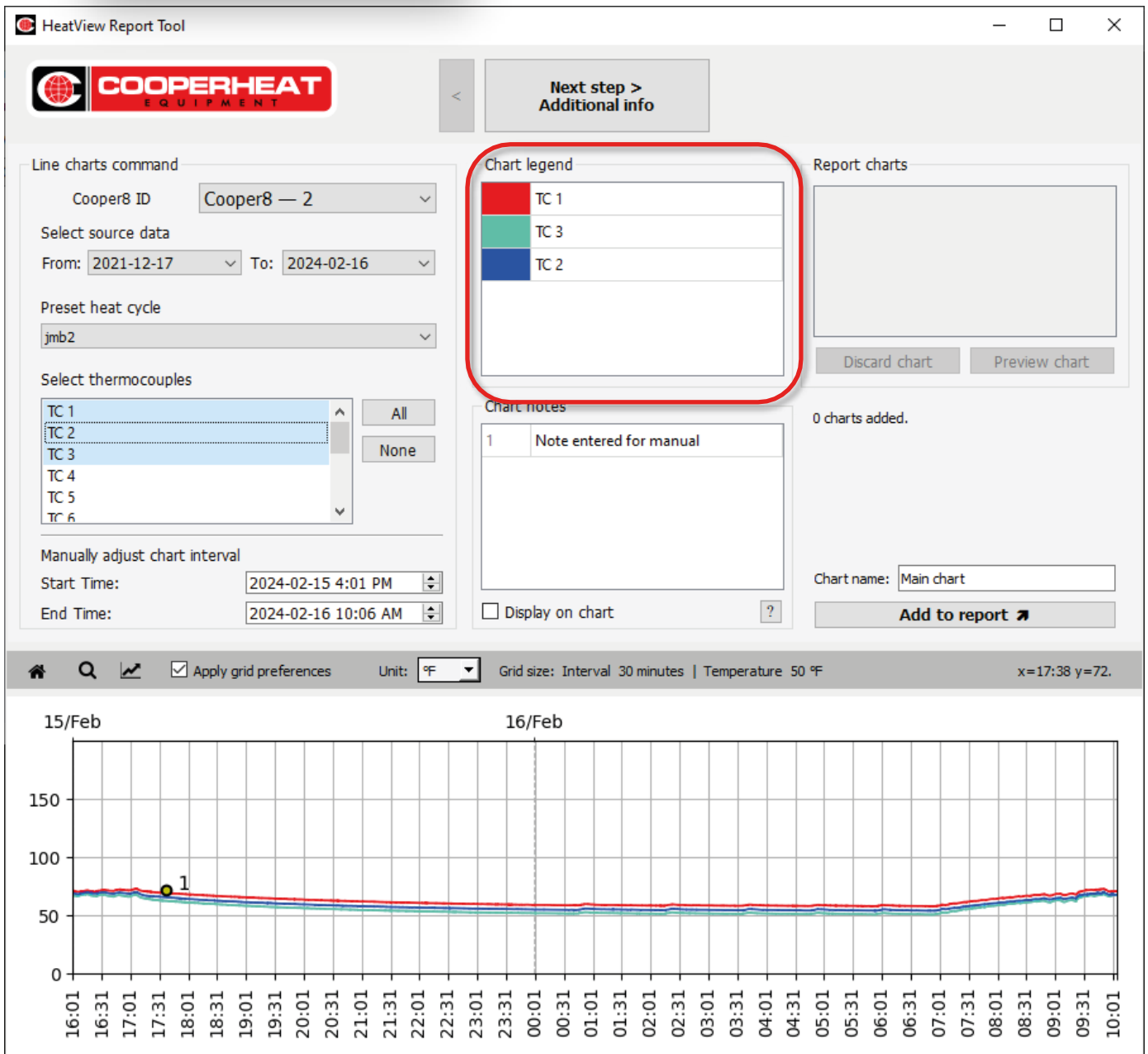
Figure 19: Chart legend editing location

Once you have setup the chart you want, you can now enter a name for the chart and then add it to the report by clicking the "Add to report" button as shown in the image below. This will add the chart name to the "Report charts" block. These are highlighted in the image below.
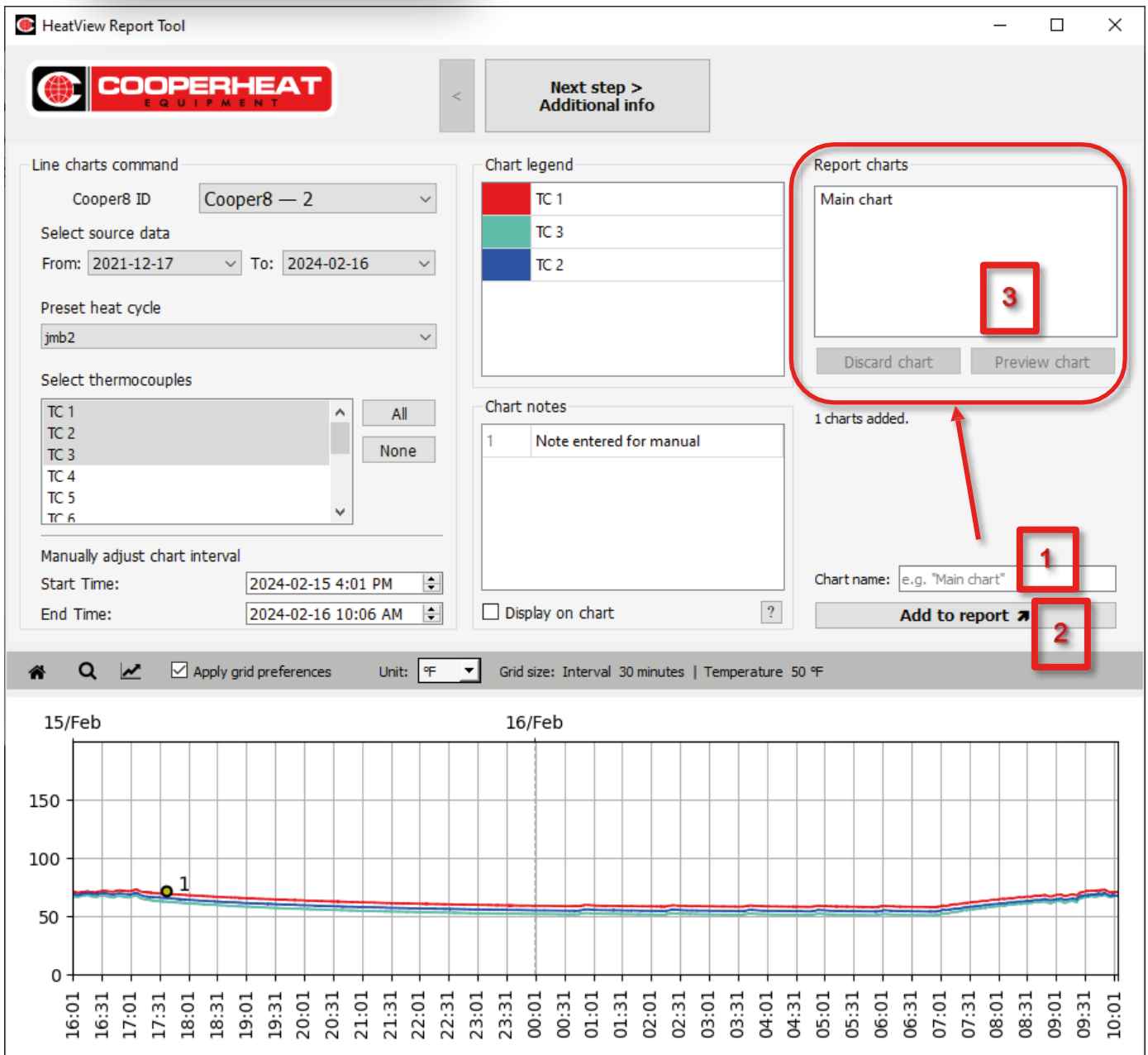
Figure 20: Adding a chart to the report.

The software was designed to add in multiple charts per reports. We recognize that quality control may be interested in specific locations or sections of the chart. So, you can zoom into the chart and add the zoomed in chart to the report too. On the chart at the bottom of the window, you can click the magnifying glass to enable the zoom feature. After clicking the magnifying glass, you can **click and drag** in the chart area to form a rectangle of the location you want to zoom into.
NOTE: once you zoom in the manually defined grid preferences are ignored.
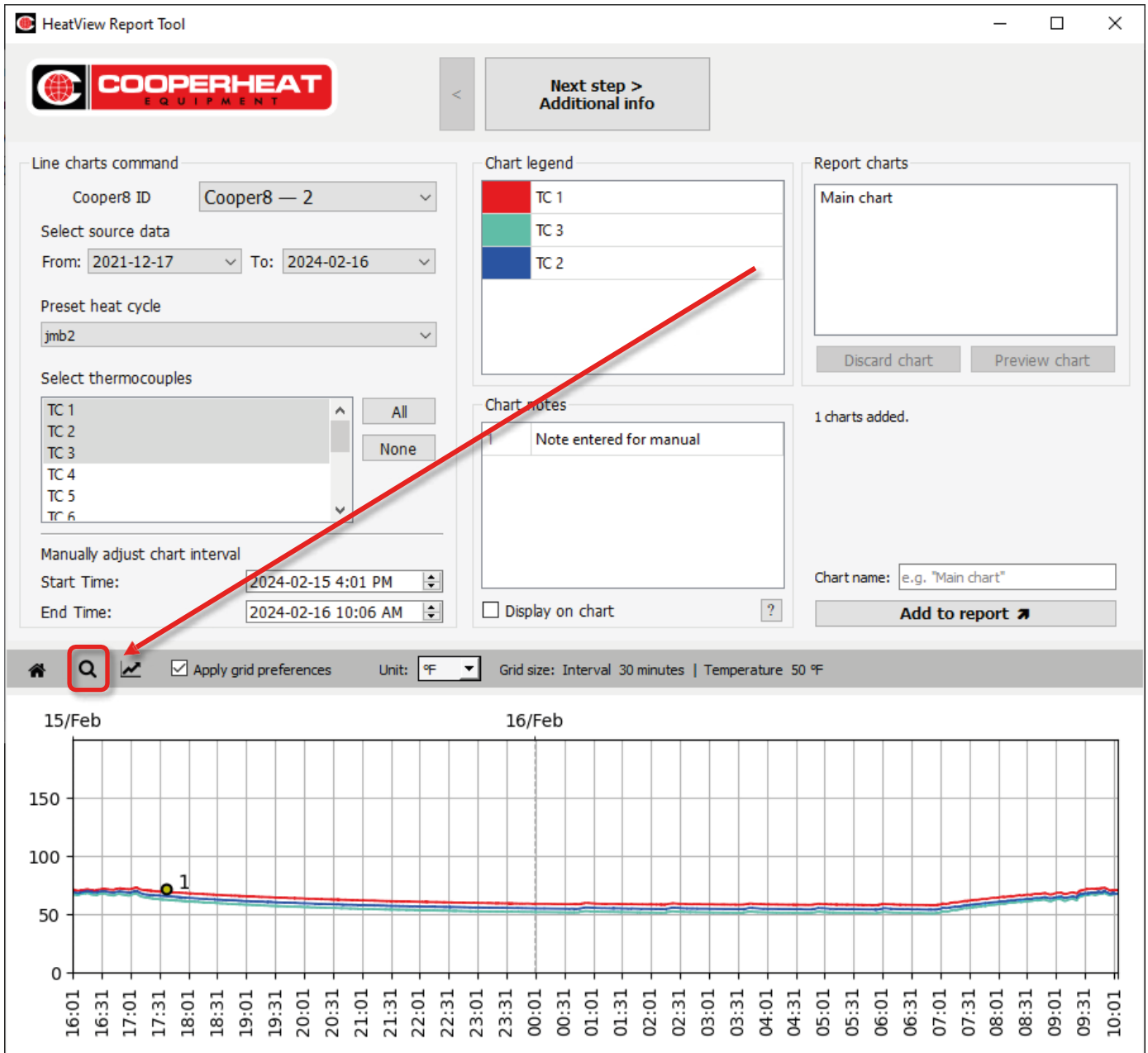Below is an image showing the magnifying glass to be clicked.

Figure 21: Location of the zoom tool for the report chart.

Once you have zoomed in to the location of the chart that you want to highlight, simply add a chart name and then click the button "Add to report" as was done before to add the Main chart to the report above.

You can then reset the view on the chart by clicking the image of a house next to the magnifying glass. You can zoom in and add as many charts as you want to the report.

Once you are done, you can then click on the button at the top of the window called "Next Step> Additional info". Clicking this button will bring up a new window.
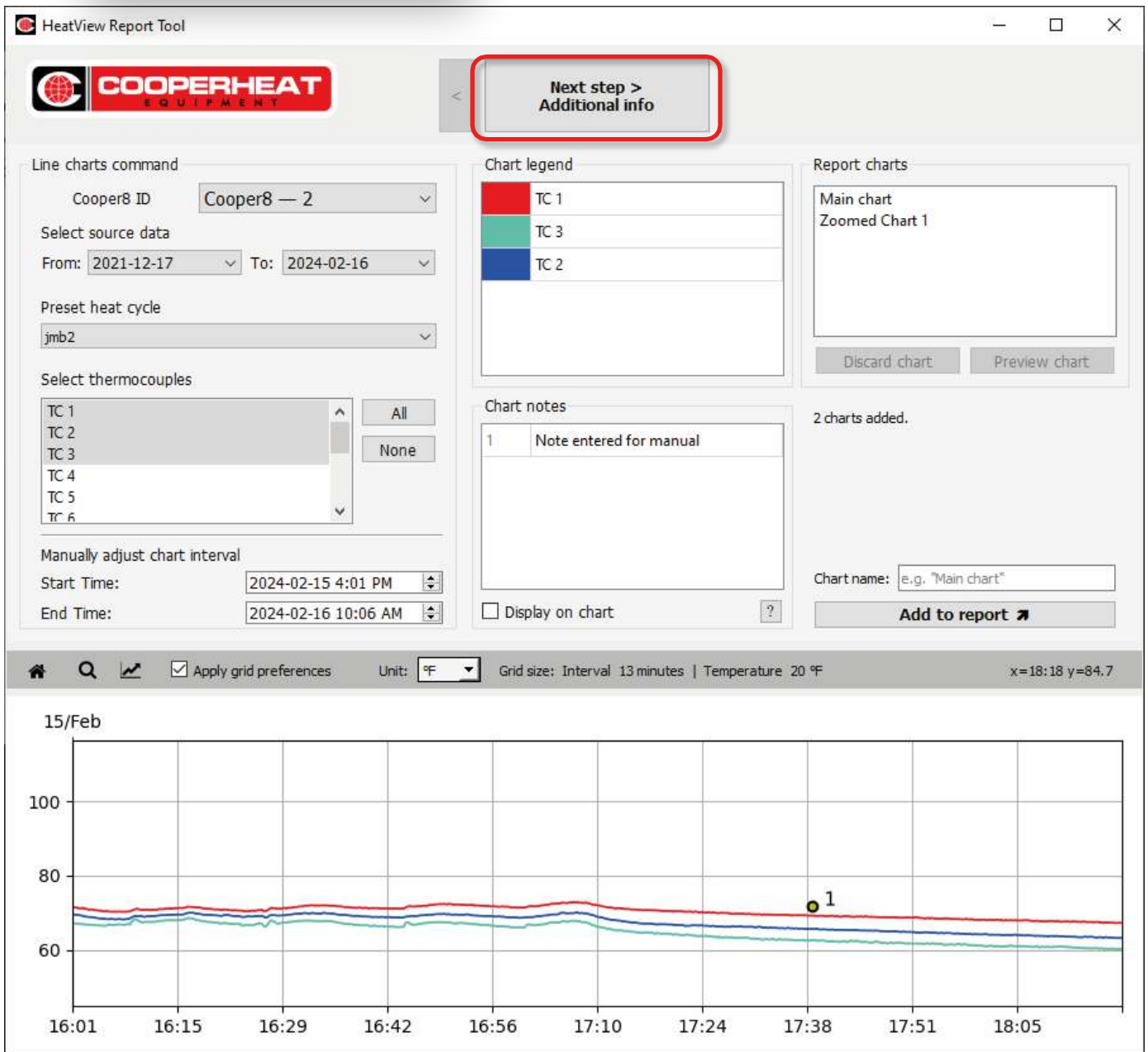
Figure 22: Next step - Additional info button

In the new window you can enter the cycle data on the left of the window. All the fields in this section are editable. You can add and delete rows using the corresponding buttons on the right of this section. If you have a different set of headers you want to record, you can modify this list and then click on the button "Set as defaults" to record these as your defaults. Then when you click the "Load defaults" button you will recall the defaults you stored.

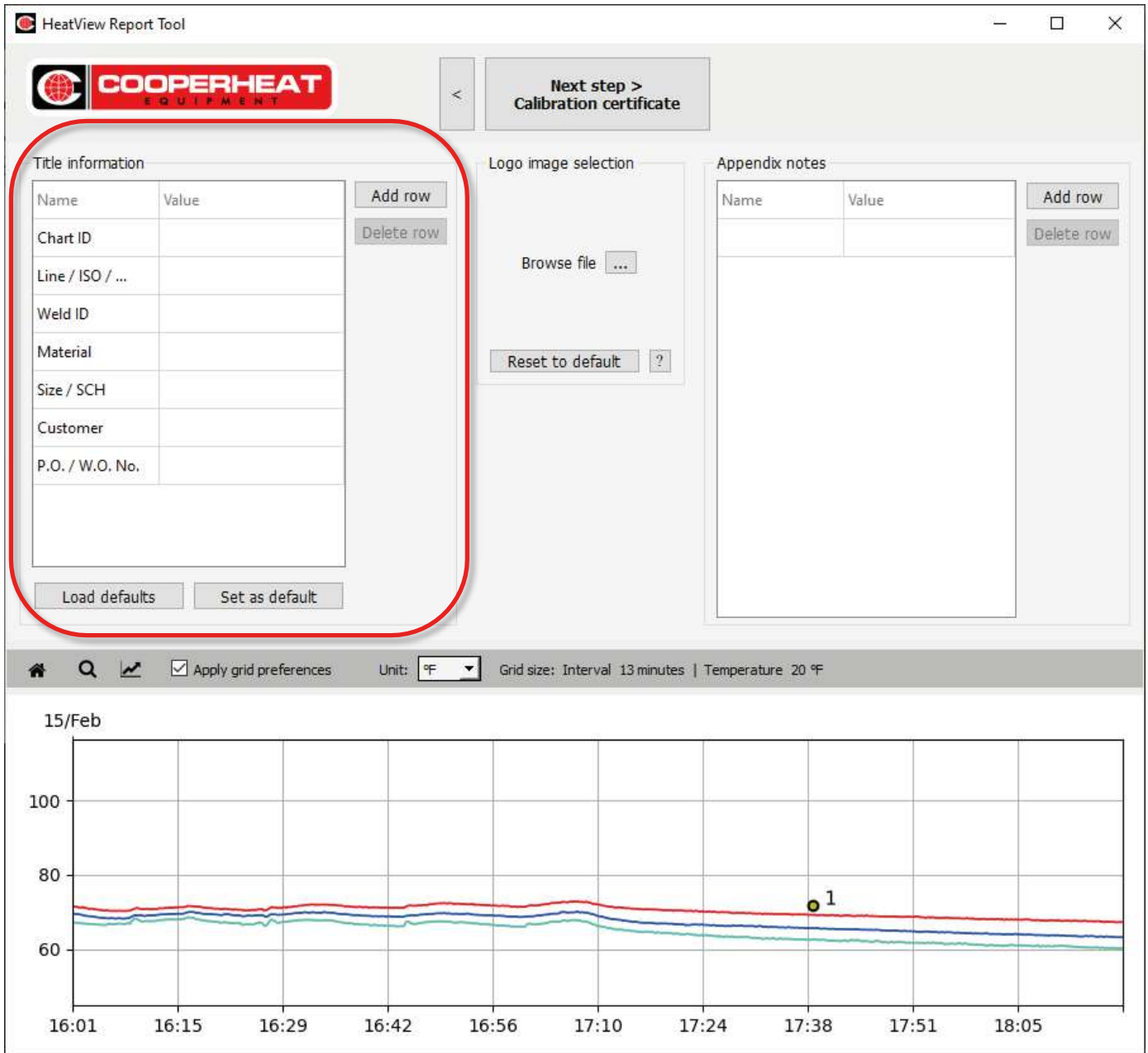Cooperheat Equipment Limited UK | 67A Compton Road, Southport, PR8 4EG

Figure 23: Title block values section of the report tool

Next, you can select your company's logo to put on the report to replace the one that is put there by default in the software. To select your logo, click the button with the three dots in the middle of the logo section navigate to your logo file on your computer and select it.

PLEASE NOTE: For the best resolution use an image with the resolution of 750x250. If your image has a different resolution, it could be blurred as it is scaled to fit on the report.

If you want to delete your logo and try again or to just remove your logo, click on the button "Reset to default" at the bottom of this section.
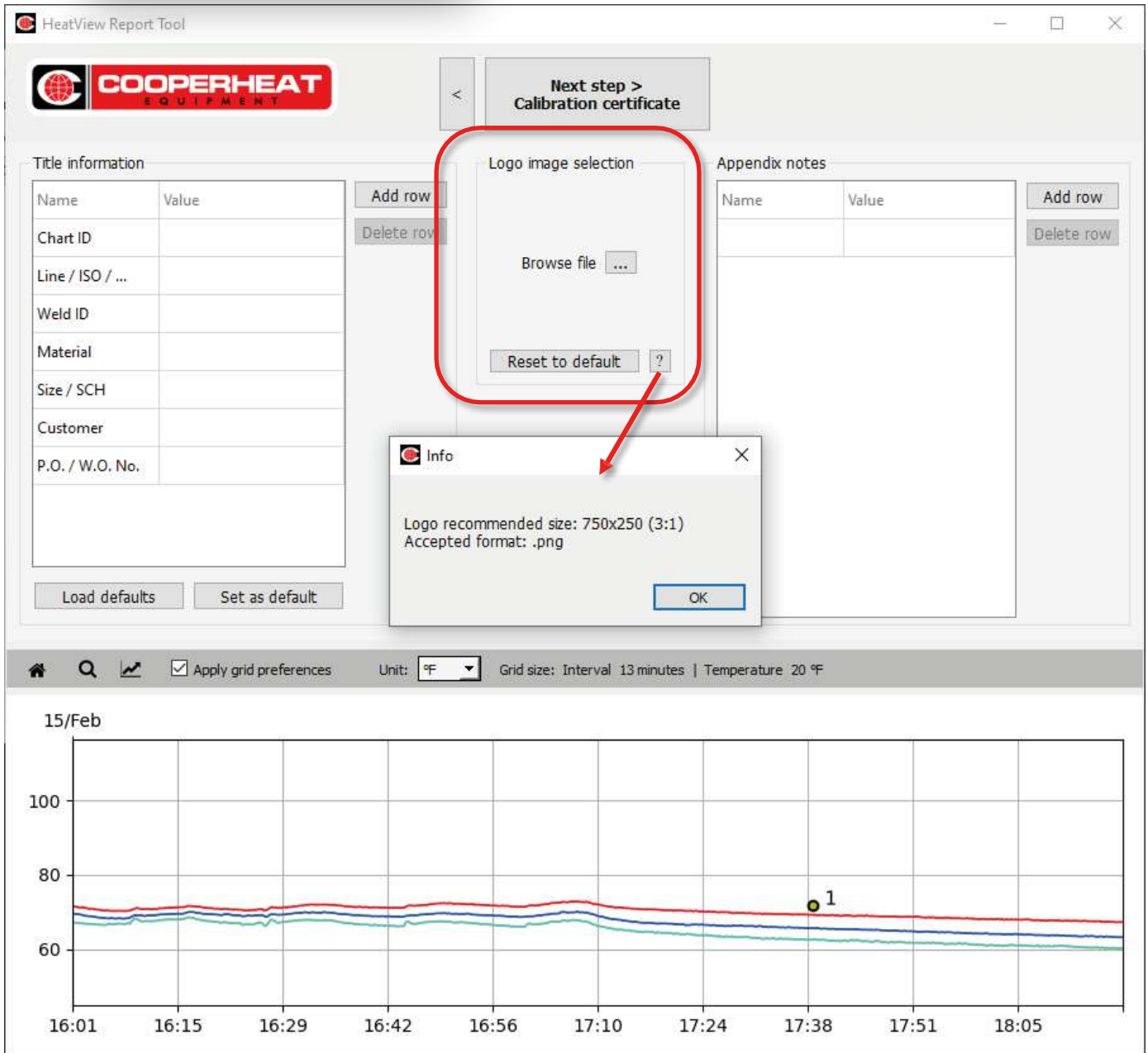
Figure 24: Logo selection section of the report tool.

Finally, if you want to add any extra notes to the report you can add them in the appendix notes section as highlighted below. To add a note just click in the table and type your note. The name column will act as a title for the note and the value column should be the text of your note. You can add or delete rows as necessary.

These notes will be written on a page added to the end of the report. If there are no notes then this page is not added to the report.
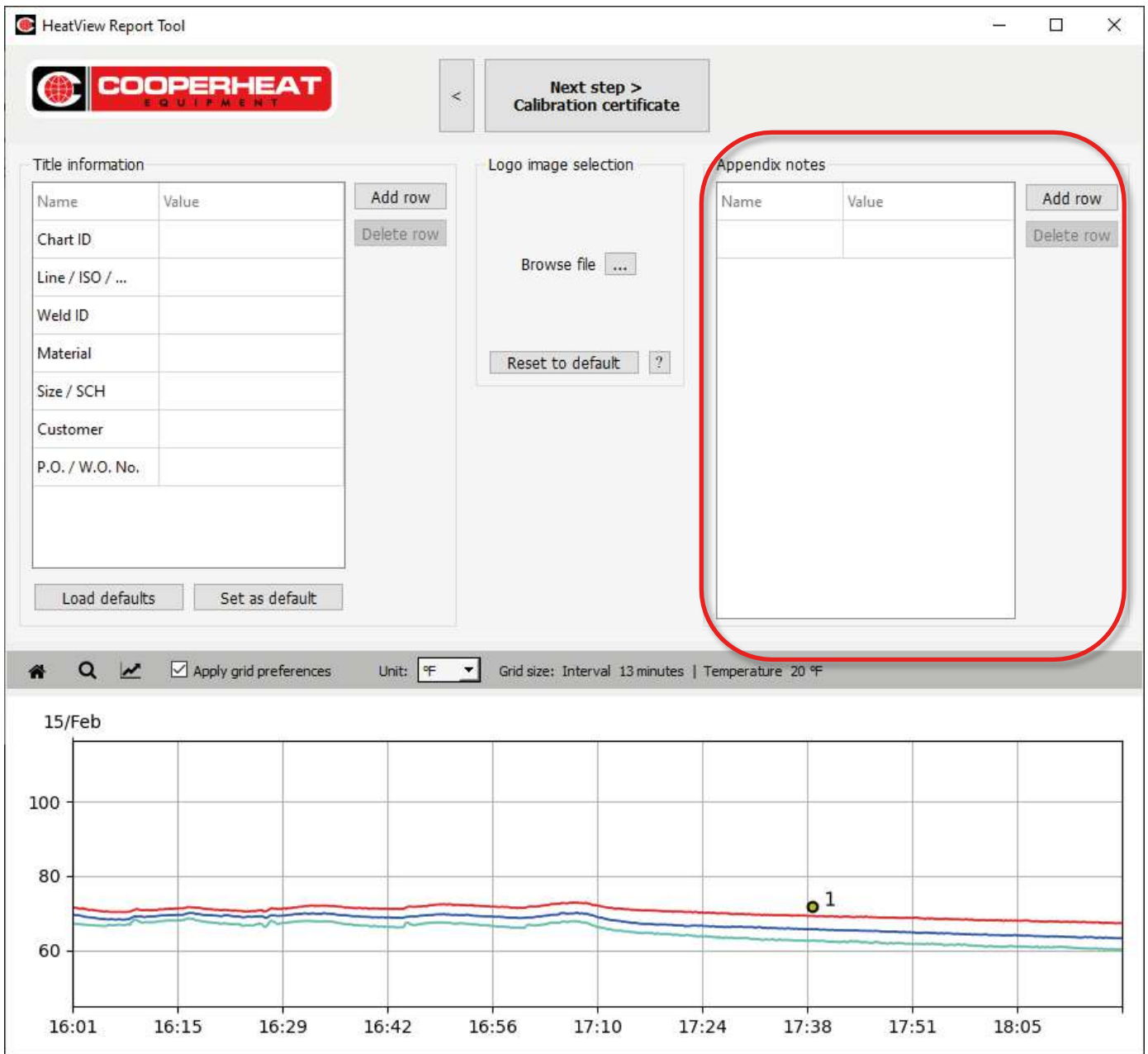
Figure 25: Appendix notes section of the report tool

Finally once this section is complete, you can click on the "Next Step > Calibration certificate" button to advance to the calibration certificate selection window.
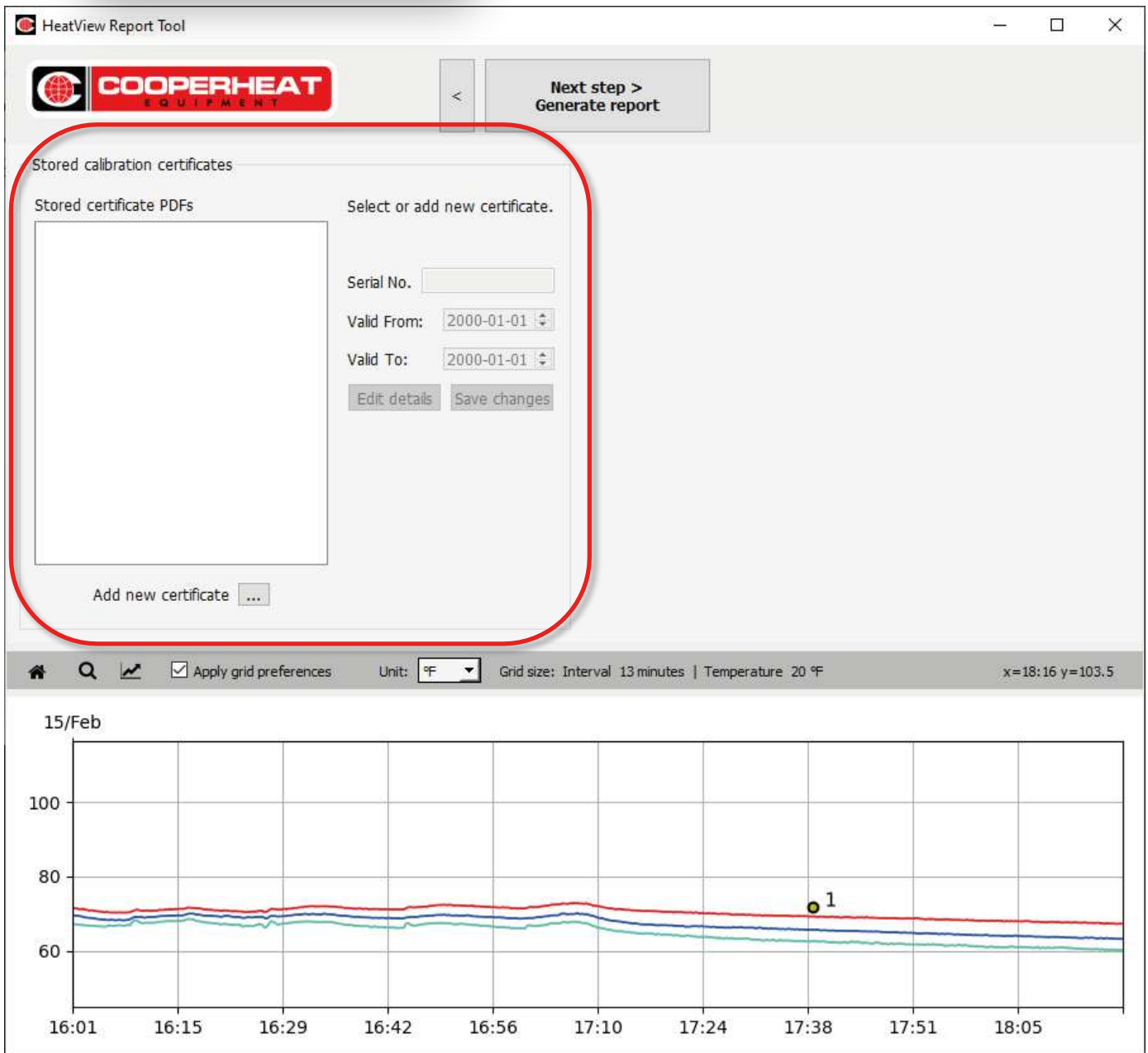
Figure 26: Calibration certificate section of the report tool

In this window you will be able to select a cal cert to be appended to the report. To select a cal cert, you will first need to append it to the local database. To do this, click on the button with the three dots at the bottom of the section and then finding the PDF version of your cal cert and then clicking OK. This will then add it to the data base. But then you need to assign a serial number of the Cooper8 to the certificate and assign the dates that the cal cert is valid from and to. Once done, you can click "Save Changes".

If you have made a mistake in the serial number or the valid dates, you can select the cal cert and then click the button called "Edit details" to modify this data. Make sure to click "Save changes". The image below is a screen grab after I have selected cal cert to upload to the DB and before you clicked "Save Changes". Note that I entered a valid serial number and the date from is before the date "valid to:" With all this info entered, you can click on the "save changes" button to save it.
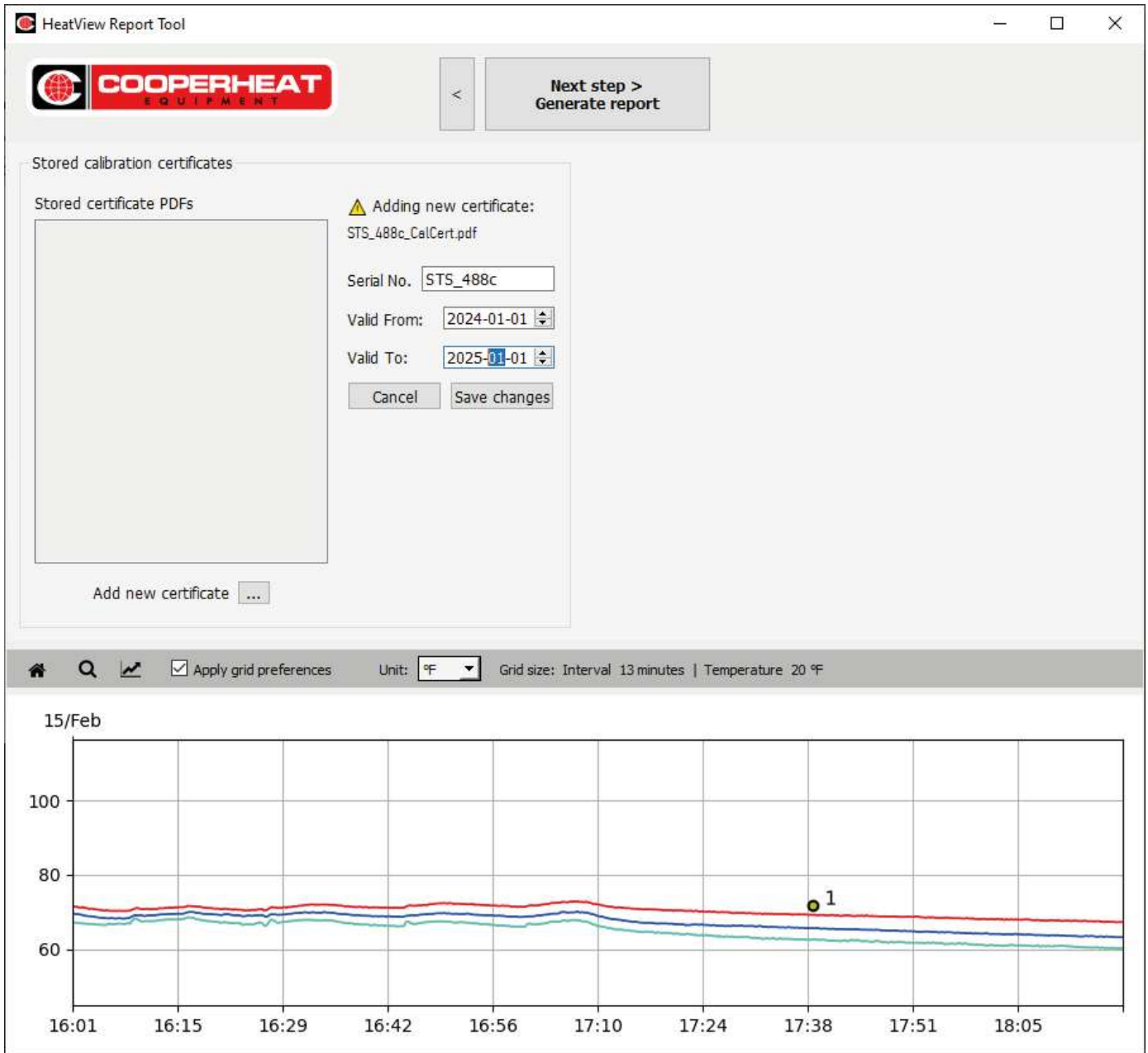
Figure 27: Adding a calibration certificate to the report tool.

Now you can select the cal cert you want added to the report by clicking the check box next to the cal cert in the list as shown in the image below.
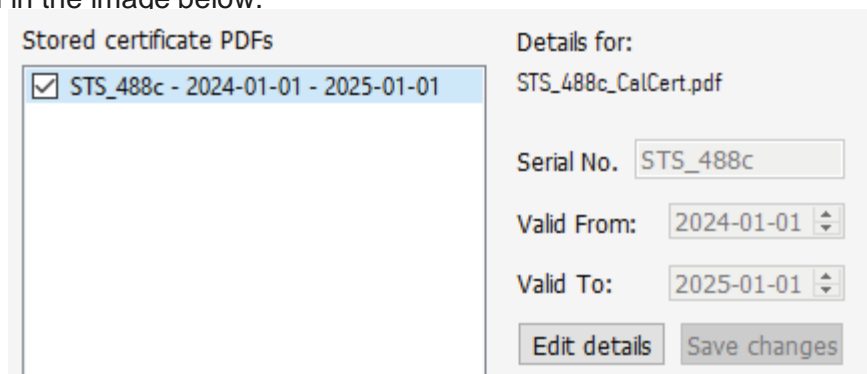

Figure 28: Calibration certificate selected in the report tool

You can select as many cal certs as you want to add to the report. Once you have selected all the cal certs you want added, click on the "Next Step > Generate report" button at the top of the window.

This will bring up the final confirmation window to make sure you have added all you want to the report before you generate it. The window is shown in the image below.

All the items to be added to your report are shown in the report contents of the left side of this window.

In future we will be adding in different report templates for you to choose from, but for now you will have to use "Template 1" for your report.

When you are ready to generate your report, click on the "Generate PDF" button on the top of the window. It will then as you where you want to save the pdf report to on your drive. Navigate to where you want to save it and give it a descriptive name and click 'OK'. This will save the file for you and try to open it on your computer for viewing.
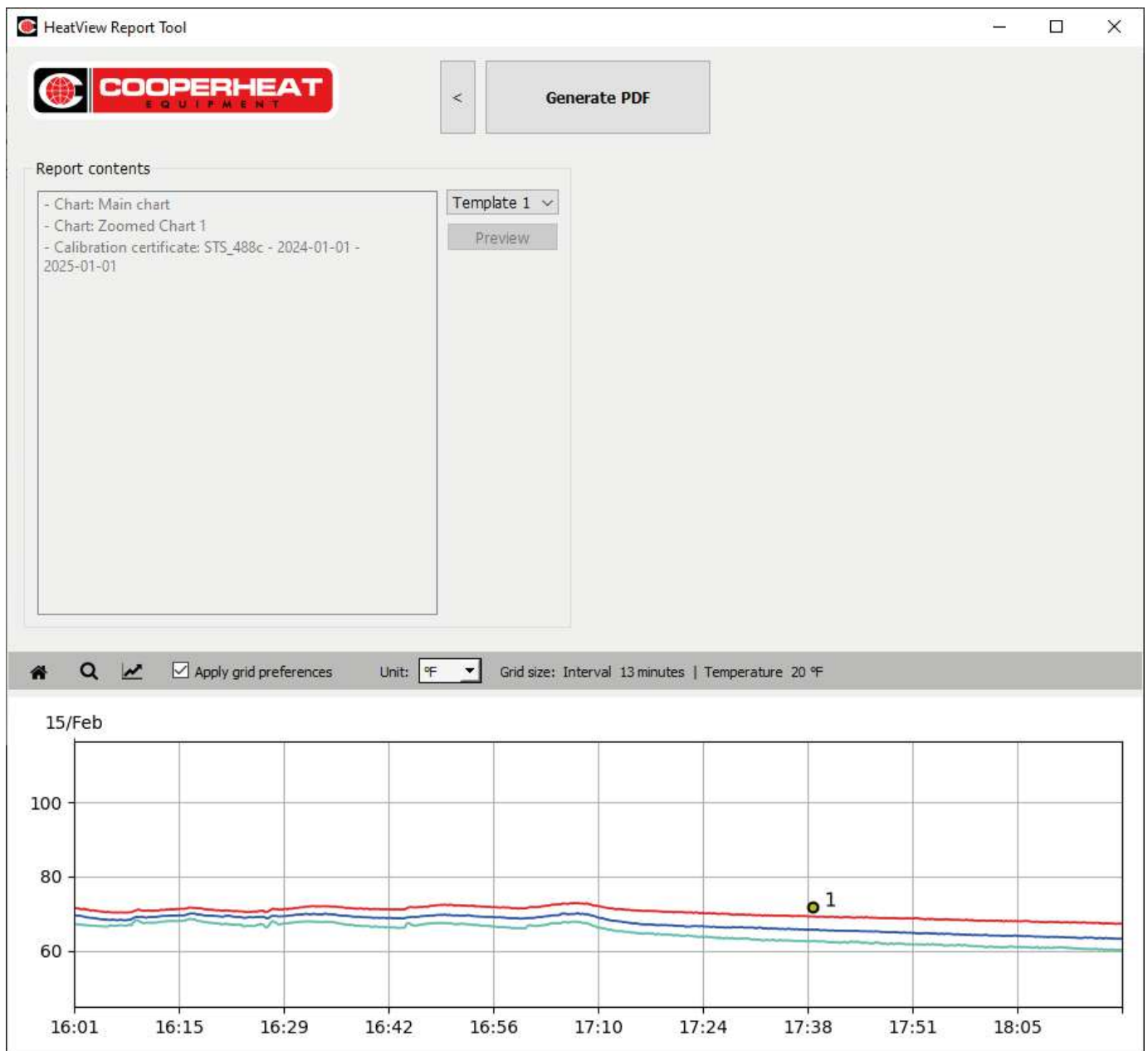

Figure 29: Confirmation window in the report tool.

10. Setting the IP address on your Cooper8 unit

There are 2 styles of Cooper8 units. One with a 10" touch screen and the other with a 15" touch screen. This section lists how to change the IP address if either one. You will need to do this on the physical touch screen if you cannot connect to it using the remote viewer.
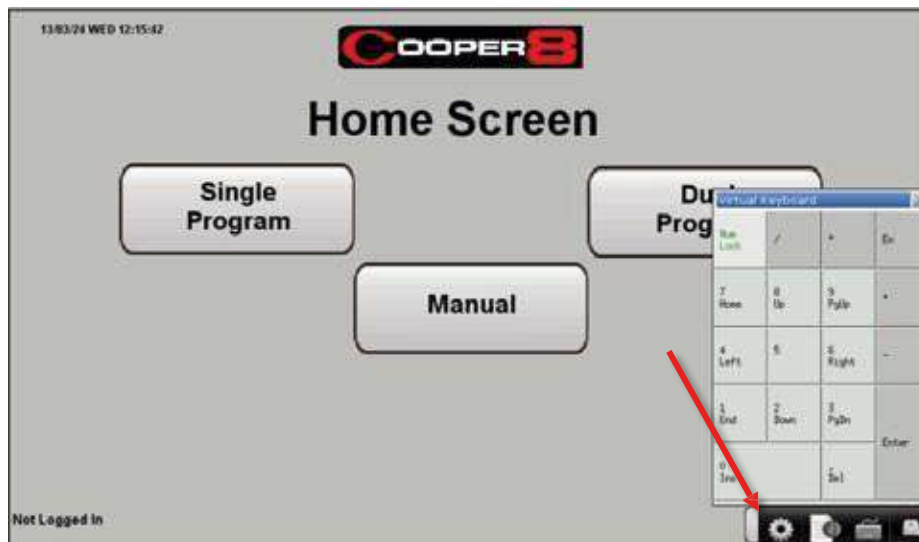
1. Cooper8 with 10" screen

If you have the unit with the 10" touch screen (these are usually in the stainless-steel enclosures) then you can set the IP address of the unit following these steps:

1. In the bottom right corner of the touchscreen, there is a small black arrow that can be pressed to show the screens settings button. Press this button as shown below.
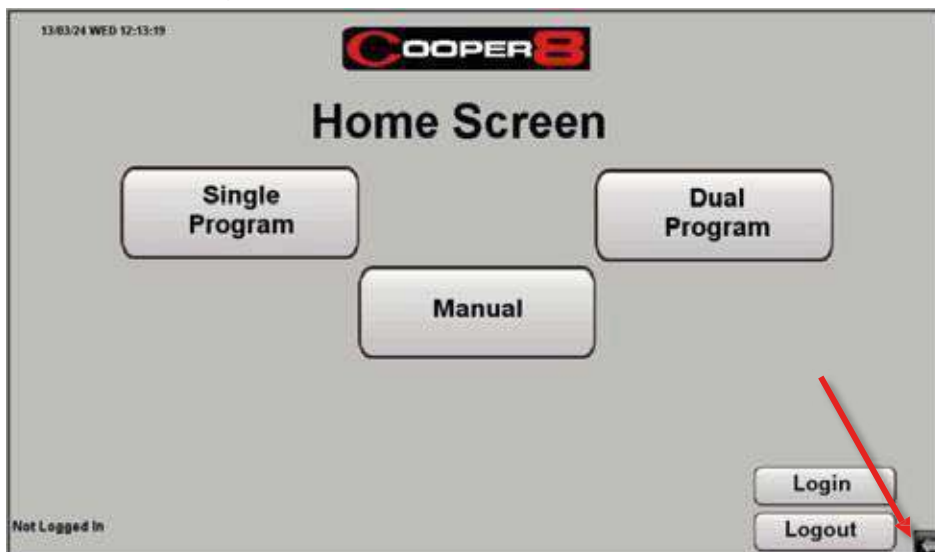

2. Now select the gear icon that appears.

3. It will then ask you for a password. Enter 111111 and press OK.
4. You can now enter the new desired IP address of your unit. It is recommended to only change the last number of the IP address If you need to change more than just the last number, please contact your distributor to discuss as the router inside the unit will need to be modified to suit.
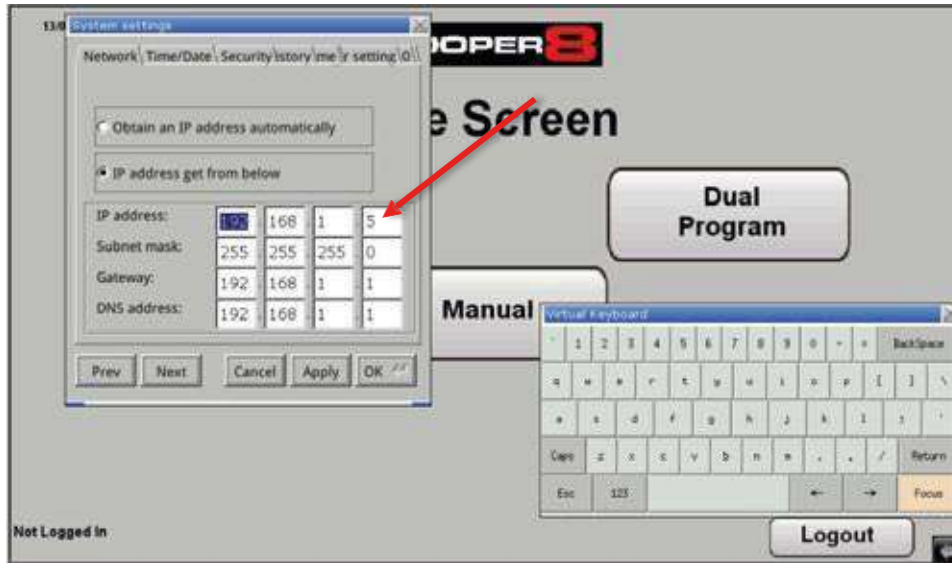
5. Once you have the IP address entered correctly, press the Apply button and then OK.
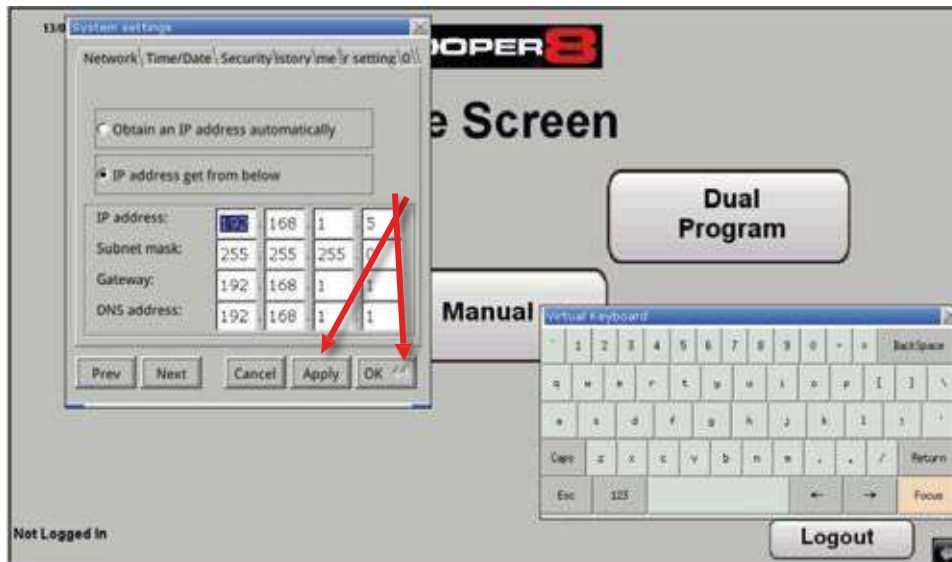
2. Cooper8 with 15" screen

If you have the unit with the 15" touch screen (these are usually in the plastic case style enclosure) then you can set the IP address of the unit following these steps:

- In the top left corner of the screen, there is a small round image. Press it to bring up the screen settings.

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- Next click on the lock icon to allow you to modify the settings. You will need to enter the password that is 111111 to continue.

- Next select the Network column that is now visible on the left.
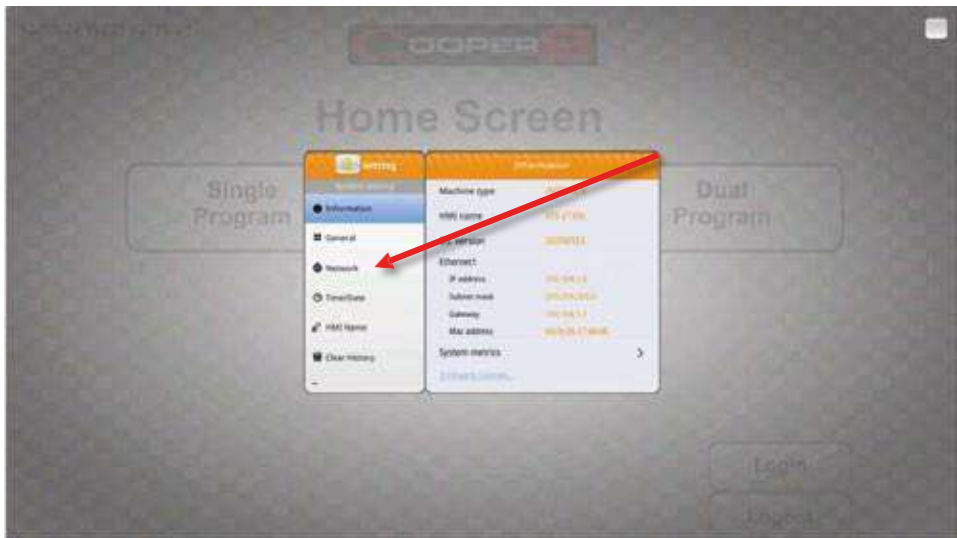
- Now select "Ethernet 1 (WAN/LAN) on the right.

- Now you can change the IP address of the unit in the IP address field. It is recommended to only change the last number of the IP address If you need to change more than just the last number, please contact your distributor to discuss as the router inside the unit will need to be modified to suit.

- When you are done, click on the OK button in the top right corner to apply the changes.

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11. Setting the remote control password on the touch screen

There are 2 styles of Cooper8 units. One with a 10" touch screen and the other with a 15" touch screen. This section lists how to change the IP address if either one. You will need to do this on the physical touch screen if you cannot connect to it using the remote viewer.
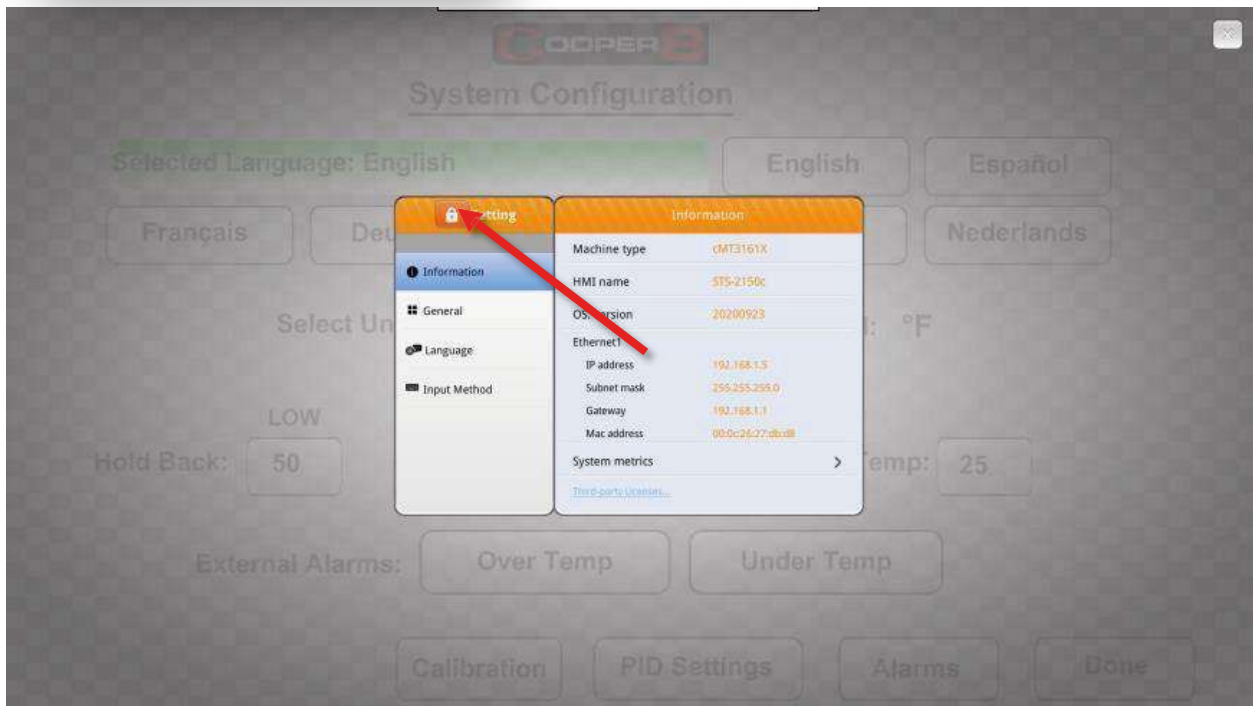
1. For the plastic case Cooper8 with the 15" touch screen

You can change the VNC password by following these steps:

Step 1: Click the HMI settings image on the top left of the screen to bring up the HMI settings (It looks like a DVD with an arrow pointing to its center and is very faint.)
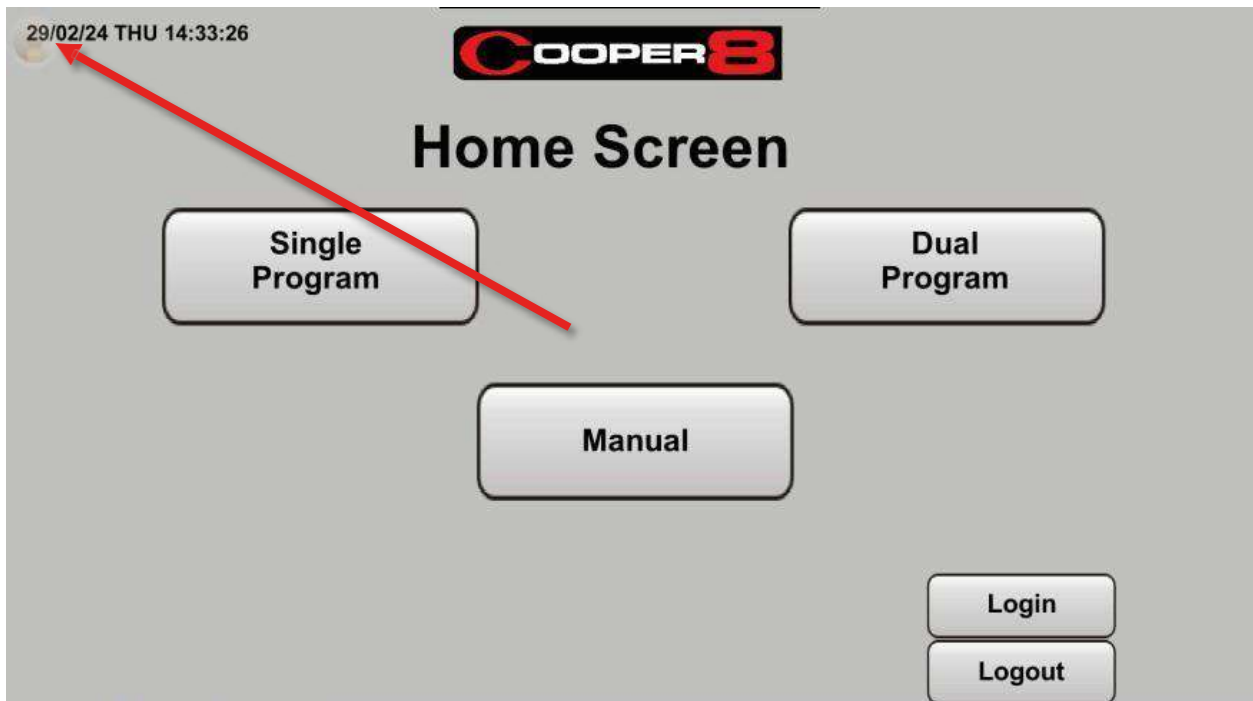
Step 2: Enter the screen's password. If you have not changed it yourself, it is default to 111111. To enter the password, click on the lock symbol next to the "Settings" heading.

Step 3: Now with all the extra HMI settings showing up, scroll down until you see VNC Settings. Click on it.
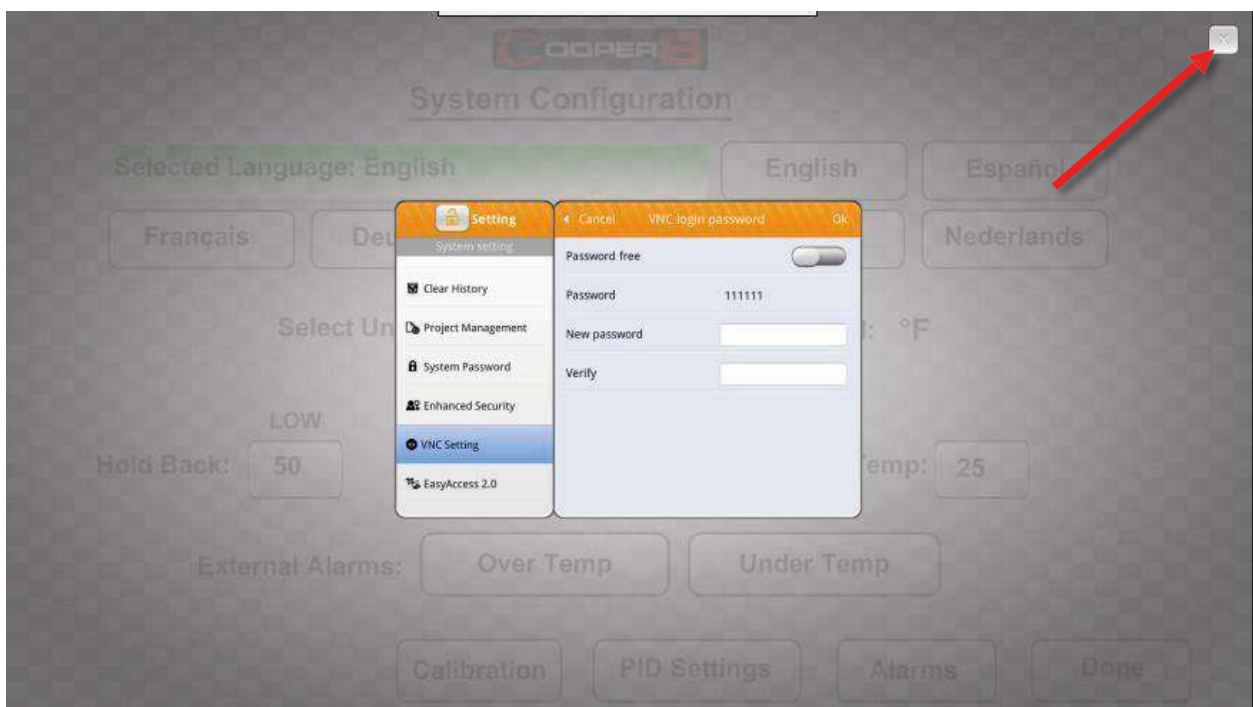

Step 4: Now click on the "VNC login password" option on the right.

Step 5: Enter your desired new password. And then re-enter it in the "Verify" field and click OK.
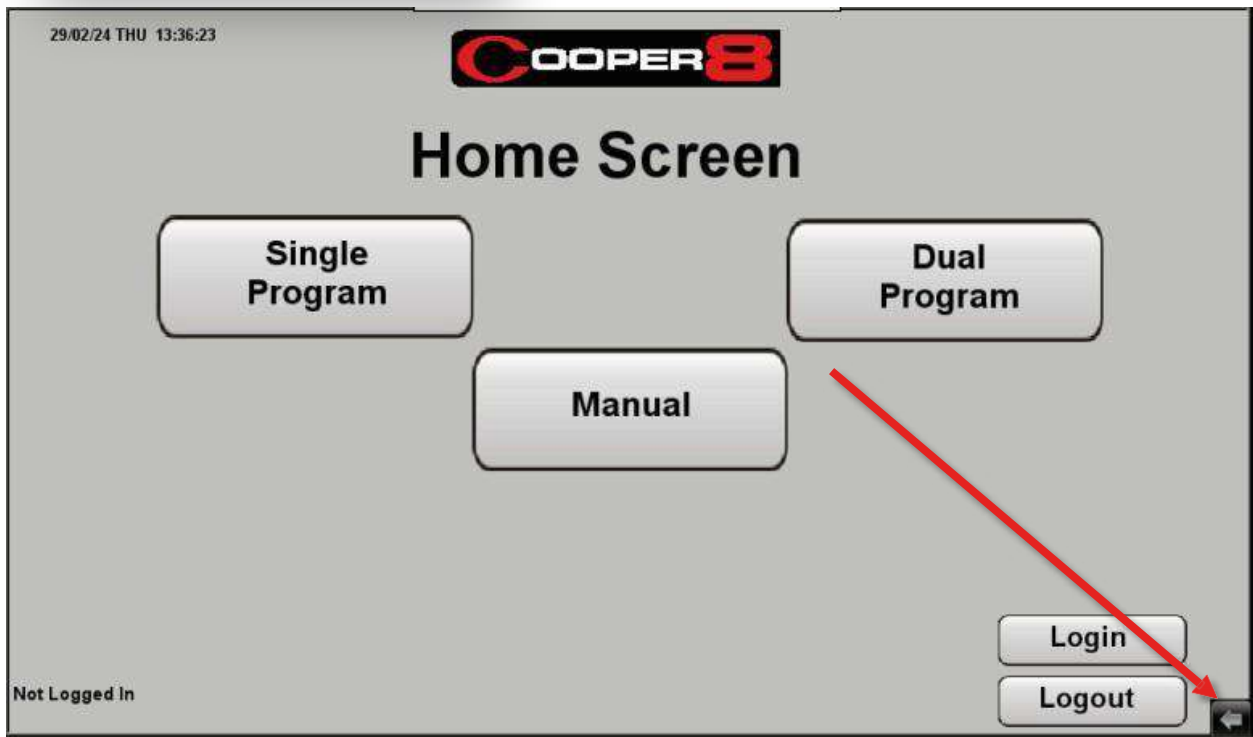
Step 6: When you are done, you can close the screen's settings by clicking on the top right of the screen.
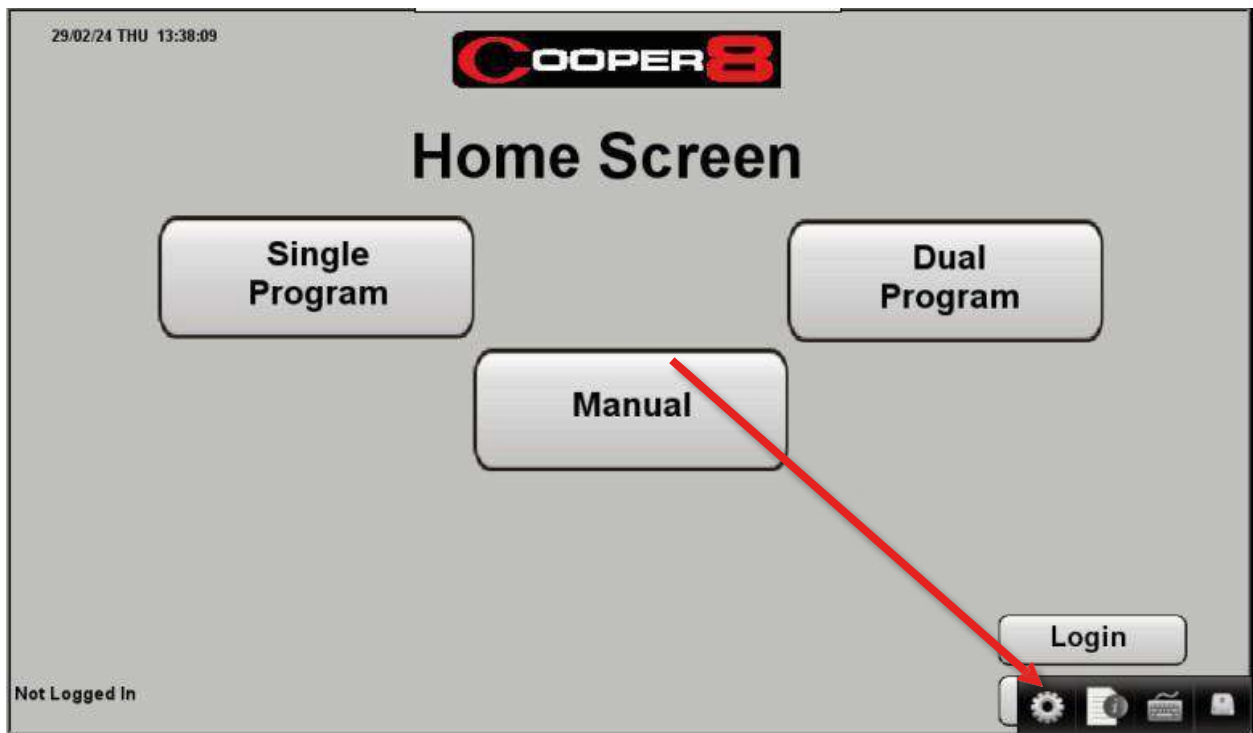

2. For the stainless steel cooper8 with the 10" touch screen:
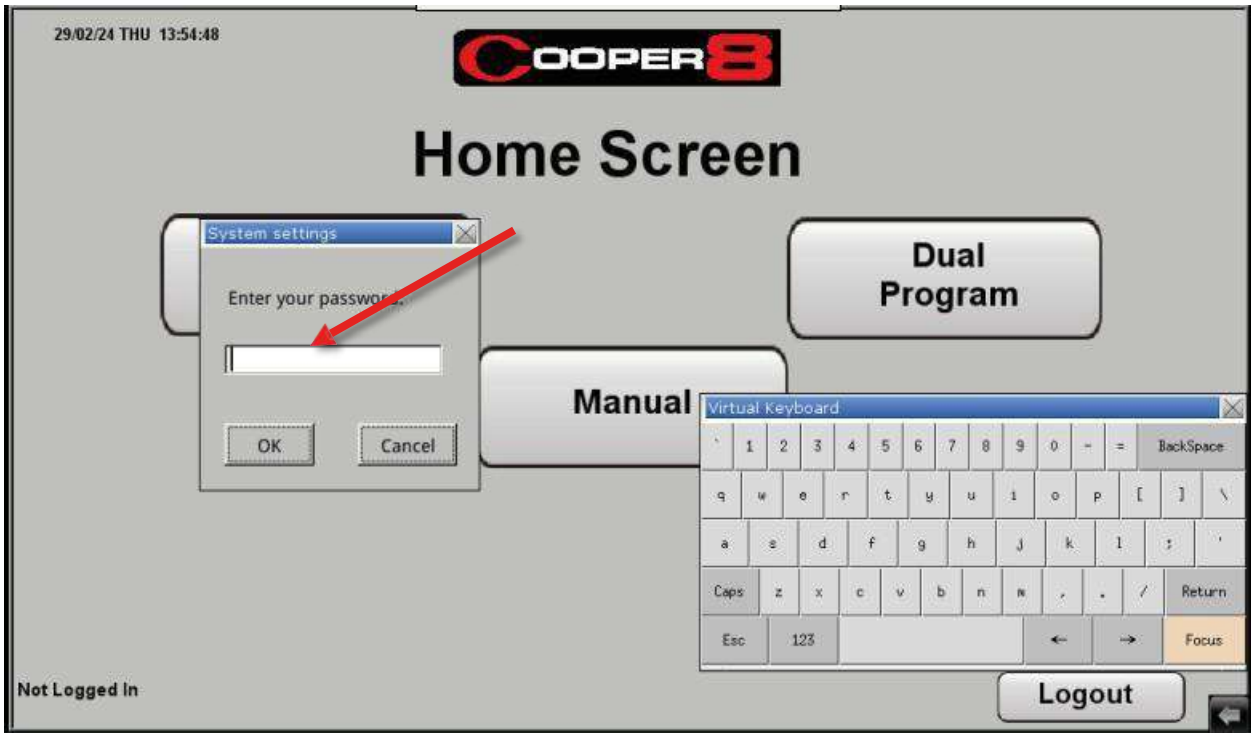
You can change the VNC password following these steps:

**Step 1**: click on the arrow in the lower left corner of the touch screen.

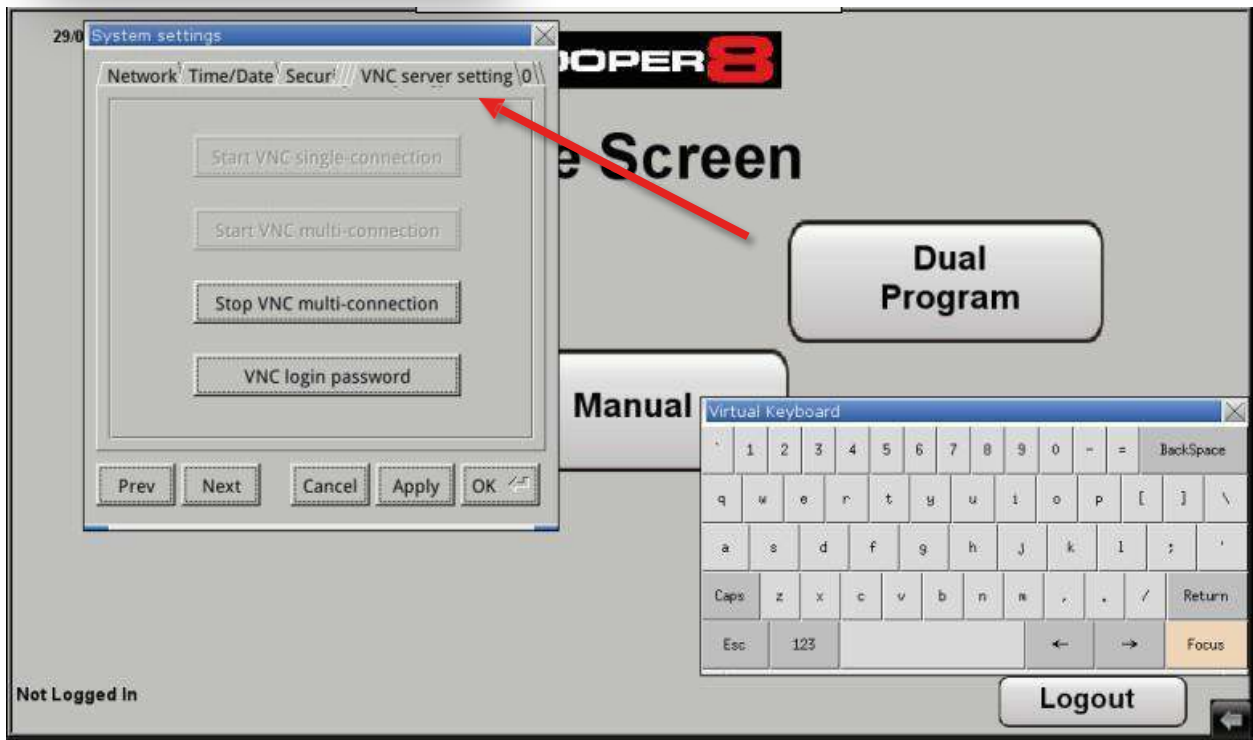**Step 2**: Click on the gear icon to set the in the small gear icon to bring up the HMI settings.

Step 3: Enter the HMI settings password. If you have never changed it then the default password is 111111.
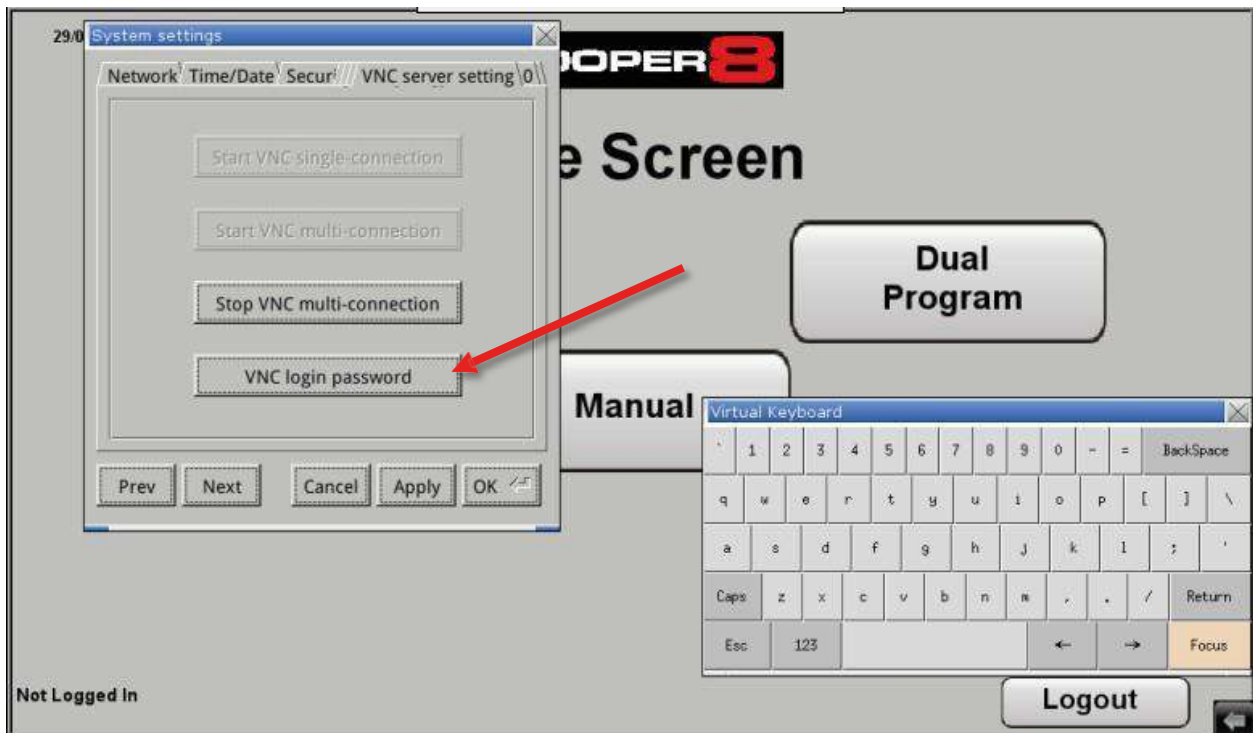
Step 4: On the new settings screen click on the "Next" button until you get to the tab titled "VNC server setting".
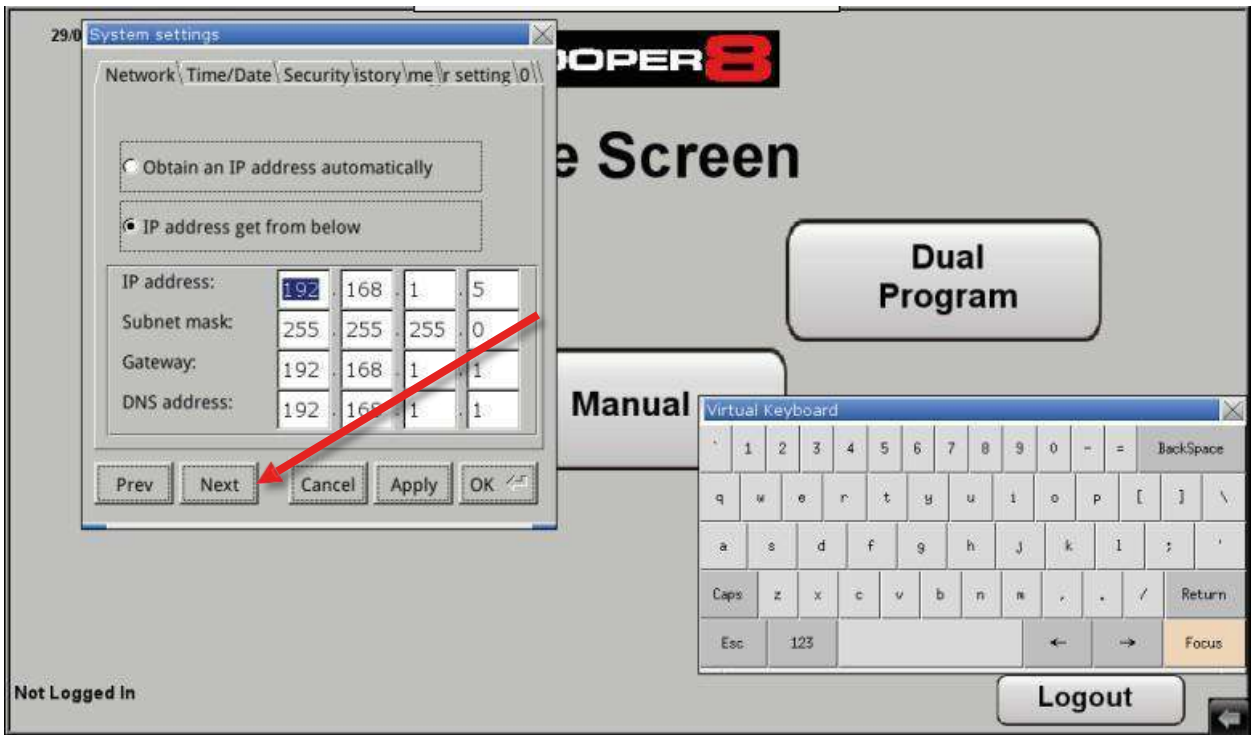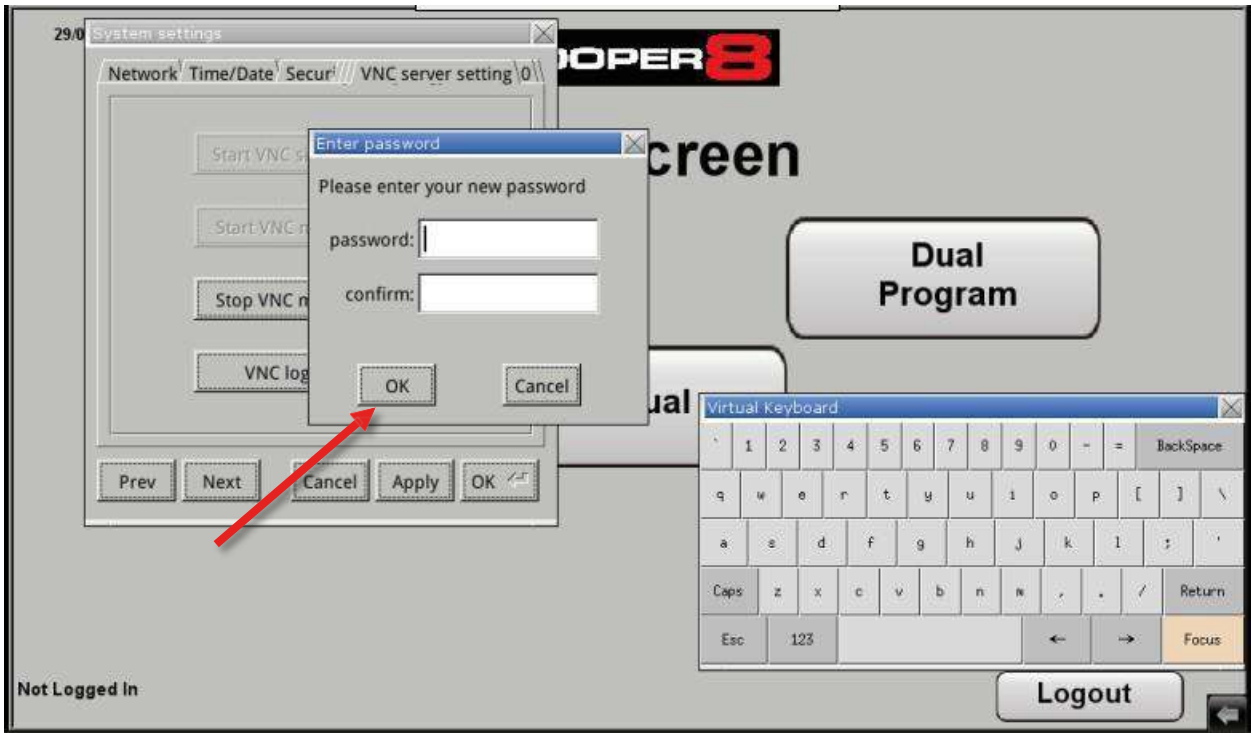
Step 5: Click on the VNC login password.

Step 6: Enter the new password in the password block and then re-enter it in the confirm box, then click on the "OK" button to apply button.

Step 7: Now you can close the settings screen by clicking on the "OK" button.