ECILCAL CMS – v1.2.3e

USER MANUAL

Summary

1. INTRODUCTION

EcilCal CMS is a complete software for managing and automating temperature and pressure calibrations in conjunction with Ecil instruments, fully integrated into the context of metrology 4.0.

This manual aims to guide users in using all the software's features, ensuring better user experience.

2. SAFE STORAGE RECOMMENDATIONS

To ensure that your files are stored securely and are always accessible when needed, follow these instructions:

- **Back-up:** Back up your data regularly by going to the **Main Screen > Settings > Back-up > Save data to folder.**
- **Choose a secure folder:** Use reliable storage devices or use reputable cloud storage services.
- **Keep your software up to date:** Using the option **Main Screen > Settings > Update > Check for updates**, make sure you are using the latest version of the software.
- **Keep your licenses:** The software licenses are in the "**licenca**" folder of the Software installed directory. It is recommended to make a copy of these files on another storage device or in the cloud.

3. MINIMUM REQUIREMENTS

For the software to work, you need a computer that meets the minimum requirements, which are:

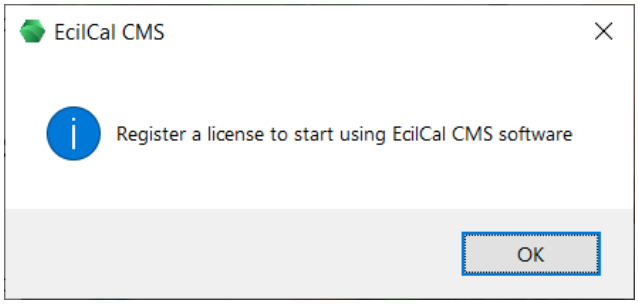
- **Operating System:** Windows 7, 8, 8.1, 10 or 11.
- **Processor:** i5-3470 or higher.
- **RAM:** 8 GB or higher.
- **Screen Resolution:** 1366x768px or higher.
- **Storage:** 500MB of free space.
- **Program:** PDF Viewer.
- **Bluetooth:** v4.0 or higher.

4. INSTALLATION

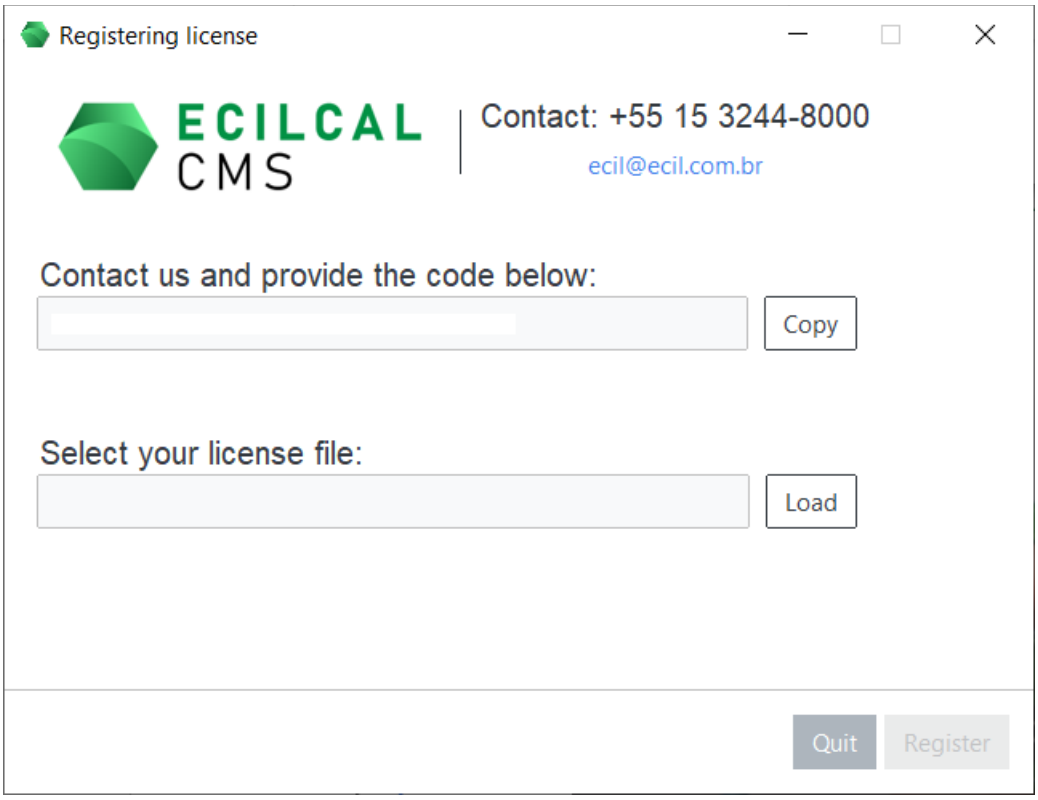
Unzip the "**Setup.zip**" file and open the executable, follow the on-screen steps until it is completed. The program will be installed by default in the "**C:\Ecil\CMSe**" folder. The user must have administrative access to the installed path for the program to work correctly. If the installation is on a server, make sure the folder is shared on the network so that other computers can access it.

5. ACCESSING THE SOFTWARE AND REGISTERING THE LICENSE

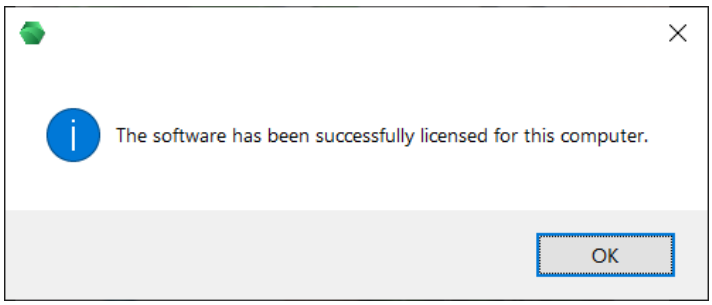
To access the software, click on the icon of the installed executable  , the following message will appear:



Click "**OK**" another screen will appear:



Contact Ecil and enter the code in the corresponding field. With the license file downloaded to your computer, click on "**Load**" and select the "**.key**" file, then click on the "**Register**" button. The following message should appear informing you that your software has been licensed:

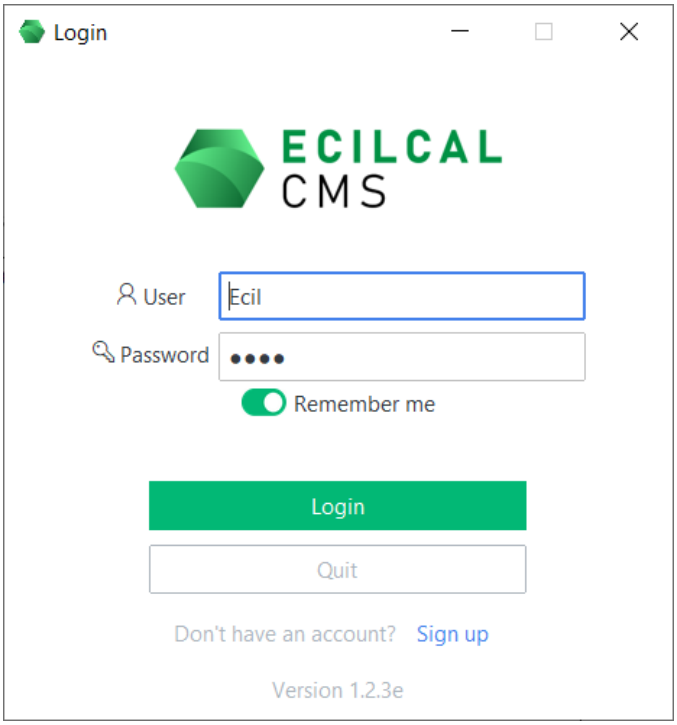


Just click "**OK**", you will be redirected to the login screen.

If the installation is on a server, the process must be repeated on all computers that have access to the software.

6. LOGIN SCREEN

After licensing the software, the user will have access to the login screen:



Logo: At the top of the screen, you will see the EcilCal CMS logo, which is a stylized hexagon in green.

Entry Fields: Below the logo, there are two fields to enter information:

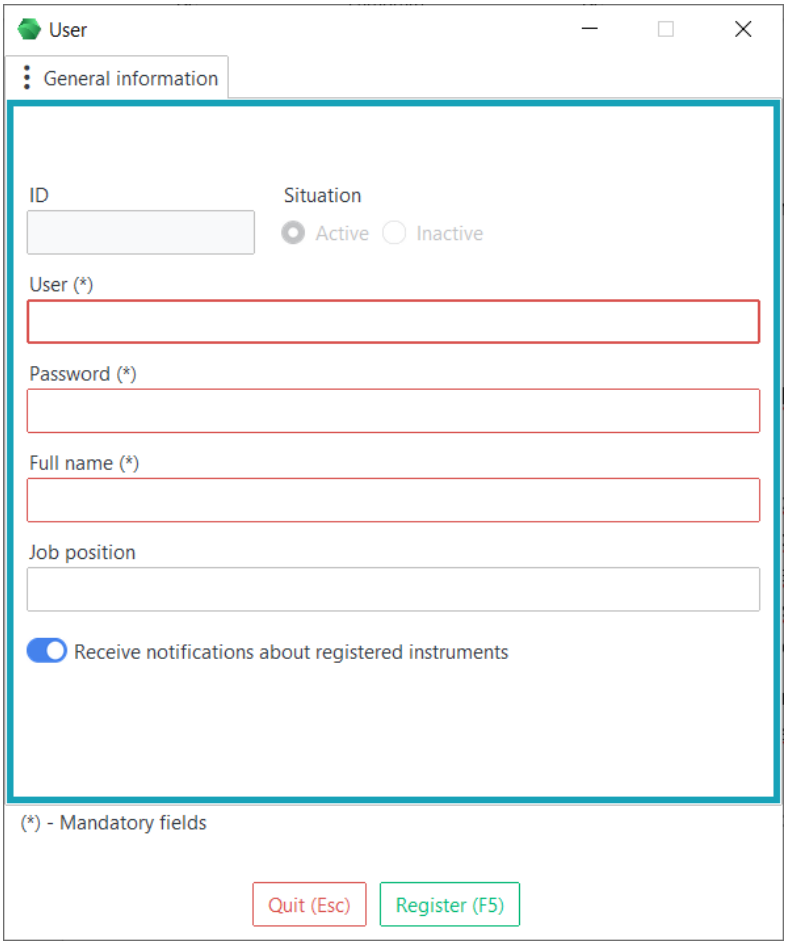
- User: Here you must enter the username.
- Password: In this field, you must enter the password.
- Remember me: Above the "**Login**" button, there is a "**Remember me**" option. You can enable this option if you want the system to remember your credentials for future logins. It is recommended to leave this option disabled if the software is installed on a server.
- Login button: After filling in the user and password fields, click on the green "**Login**" button to access the main screen.
- Quit button: If you decide not to log in, you can click the "**Quit**" button to close the login screen.
- Sign up: If you don't have an account yet, you can register by clicking the "**Don't have an account? Sign up**" link located at the bottom of the screen.

By default, the user is "**Ecil**", and the password is "**ecil**", but if you want to create an account, click on "**Don't have an account? Sign up**".

Please remember that it is important to keep your login credentials safe to ensure the security of your information within the EcilCal CMS software.

7. REGISTRATION SCREEN

If you are accessing the system for the first time, click on "**Don't have an account? Sign up**", the registration screen will appear:



Title: At the top of the screen, you will see the title " ⋮ **General Information**".

Entry Fields: There are several fields to enter information:

- ID: Here, the software will generate a user code after registration.
- User (*): Here you must enter the username.
- Password (*): In this field, you must enter the password.
- Full name (*): Here, you must enter your full name.
- Job position: In this field, you must enter your job position.

Receive notifications: There is an option to receive notifications about registered instruments. You can check this option if you want to receive these notifications.

Buttons: At the bottom, there are two buttons:

- Quit (Esc): If you decide not to create an account, you can click this button to quit.
- Register (F5): After filling in all the required fields, click this button to create your account.

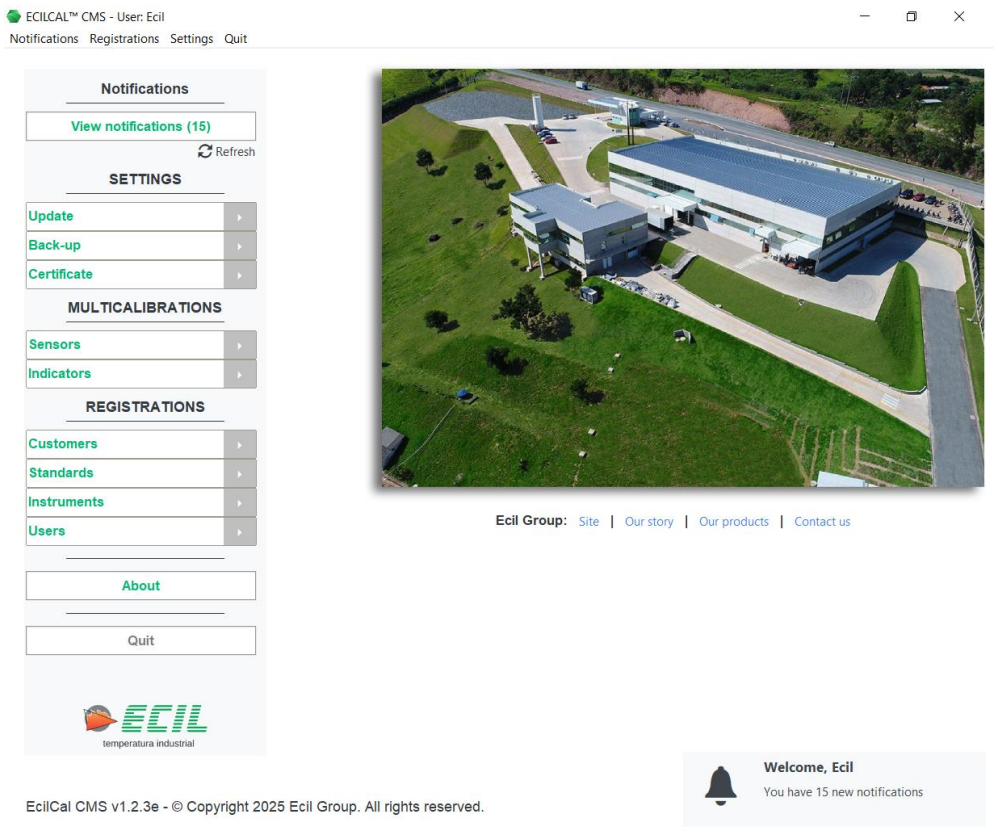
Fields marked with an asterisk (*) are required.

It is also possible to register a user through the **Main Screen > Registrations > Users > + Register user.**

If you want to edit your user data, go to **Main Screen > Registrations > ✎ Edit my user.**

8. MAIN SCREEN

On the login screen, click the "**Login**" button, the main screen will be displayed:



Side Menu: On the left side of the screen, you will see a menu with several options:

Notifications: Here you can see all notifications from registered test instruments and standards.

Settings:

- Update: Here you can check if there is a new version of the software available.
- Back-up: Here, you can save the current software data, restore saved data, set up backup folder, and open the folder.
- Certificate: This option allows you to change the Issuer (certificate footer data), the logo, the standard texts for each type of instrument, the composition of the certificate number, configure the folder where the certificates will be saved and open the folder.

Multicalibrations:

- Sensors: This option allows you to register and/or perform a multicalibration of sensors.
- Indicators: This option allows you to register and/or perform a multicalibration of indicators.
- See all: It is possible to see all registered multicalibrations through this option.

Registrations:

- Customers: You can register a customer or view all registered customers.
- Standards: This option allows you to register a standard that will be used in the calibration of test instruments or view all registered standard instruments.
- Instruments: Here, you can register a test instrument to be calibrated or view all registered instruments.
- Users: In this option, you can register the users who will have access to the software and will eventually perform the calibrations.

About: Contains author name, date and software version.

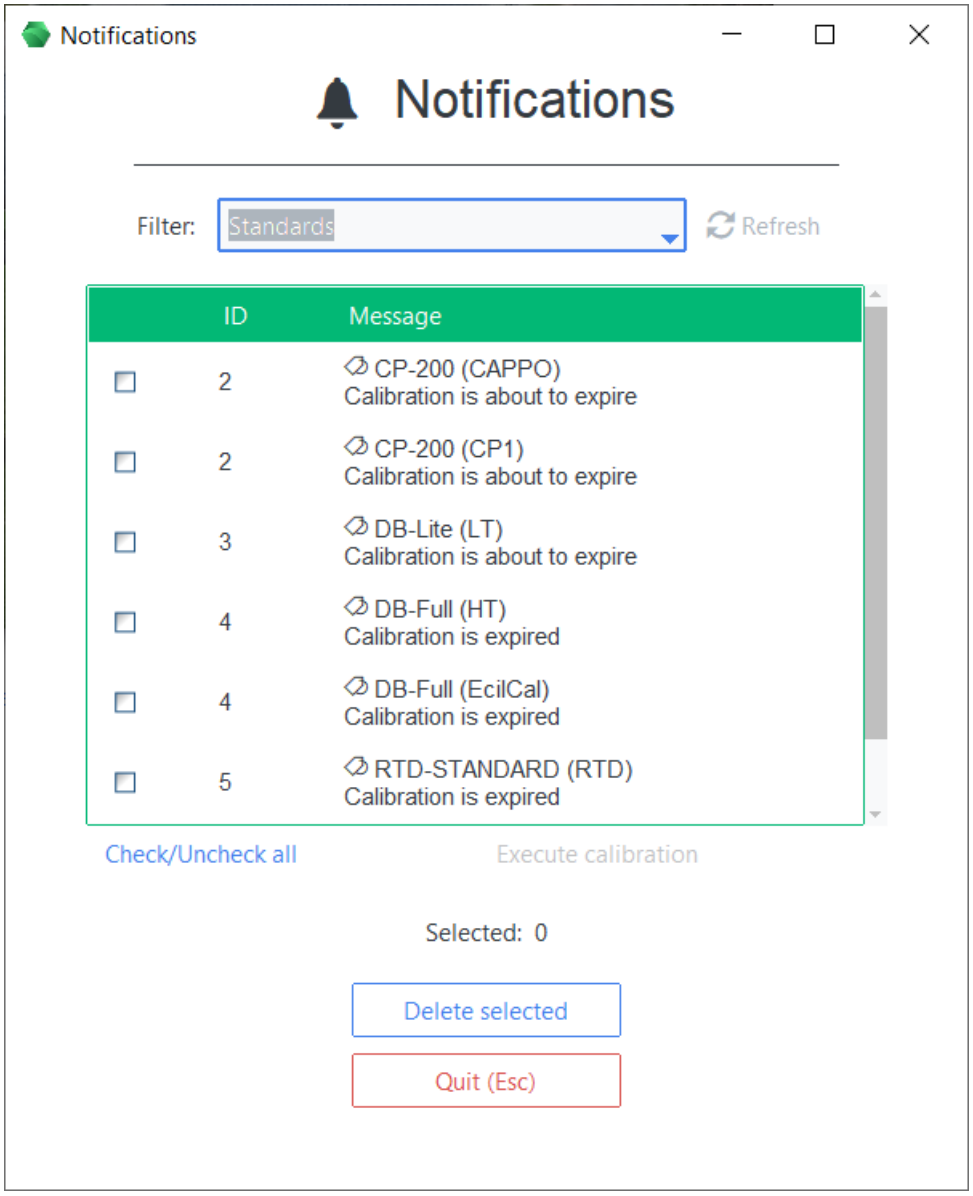
Quit: If you decide to quit the software, you can click this button.

Each time the user logs in, the number of new notifications will be displayed in the bottom right corner.

Interesting fact: The aerial photo on the main screen is of our manufacturing unit in Piedade-SP, which consists of three buildings and was opened in late 2016. The facilities are state-of-the-art, which allows us to produce in a cleaner and more efficient manner, with greater safety for our employees and ensuring the satisfaction of our customers, our top priority. Come visit us!

9. NOTIFICATIONS

On the **Main Screen > Notifications** click on **“View notifications”**, the screen below will be displayed:



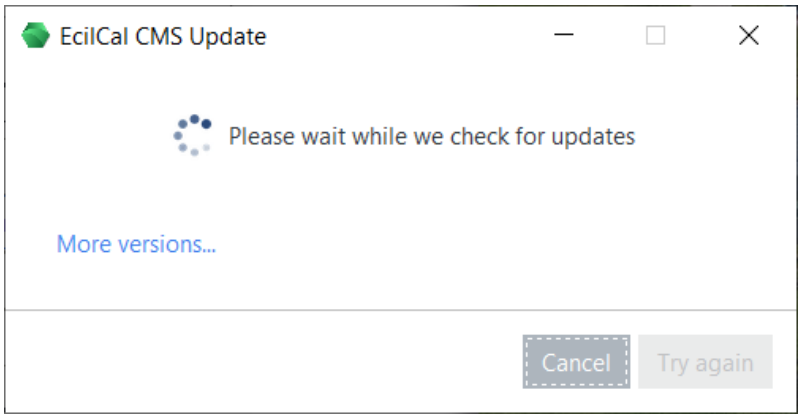
On this screen, you will have the following options:

- Filter: Select between “**Instruments**” and “**Standards**”, and the instruments that are due for calibration or have expired will be listed.
- Table: By double-clicking on the instrument, you can open the instrument registration, or you can check the box ☑ to select.
- Delete selected: Click this button to delete the notification for the selected instruments.
- Execute calibration: By clicking on “**Execute calibration**” you can update the calibration of the test instrument.

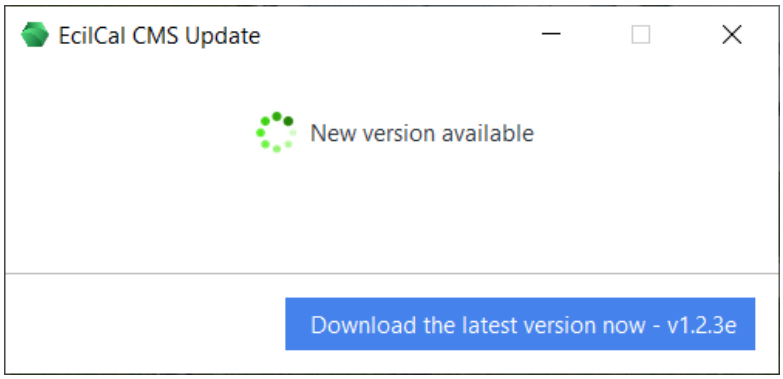
- Quit: If you want to close the screen, click “**Quit**”.

10.UPDATE

On the **Main Screen > Settings > Update > Check for updates** the screen below will be displayed:

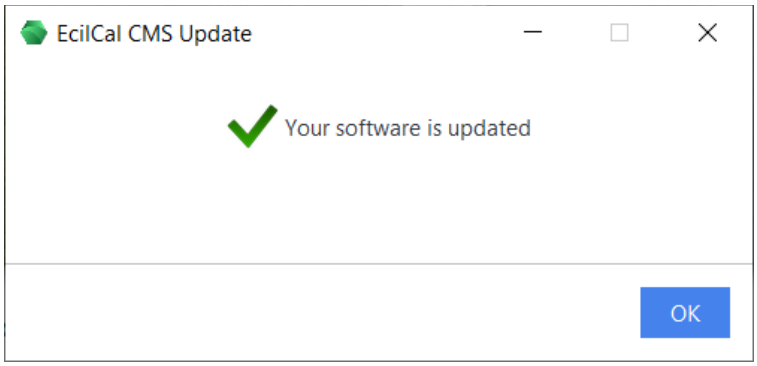


If a new version is available, the screen below will be displayed:



Click the blue button to update your software.

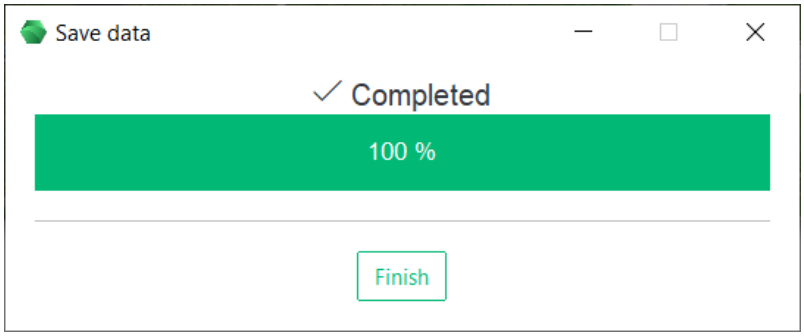
If the software is up to date, the screen below will be displayed:



11. BACKUP

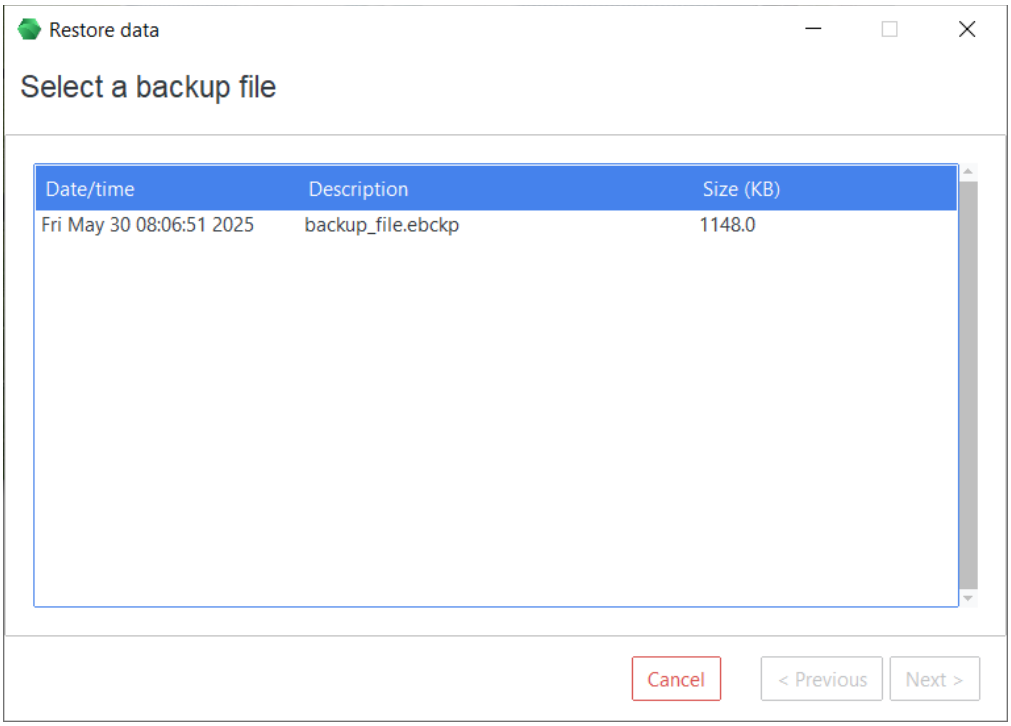
Open the "**Back-up**" menu, you can access one of the options below:

- 🖬 Save data to folder: You can save the software data here; a screen will appear asking for the file name. Just enter the name and click "**Save**", the screen below will be displayed:



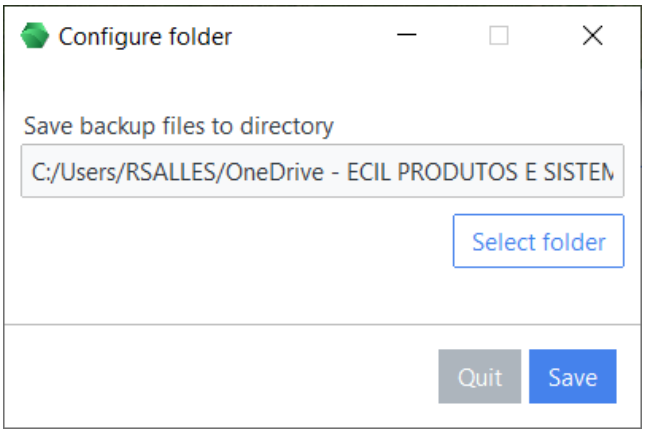
Click "**Finish**" to close this screen.

- ↻ Restore data: Accessing this option the screen below will be displayed:



Select the backup file and click “**Next**”, confirm the information and click “**Finish**”, the software will restart to apply the changes.

- ⚙ Configure folder: In this option you can define the path where the software data will be saved, as shown in the example below:



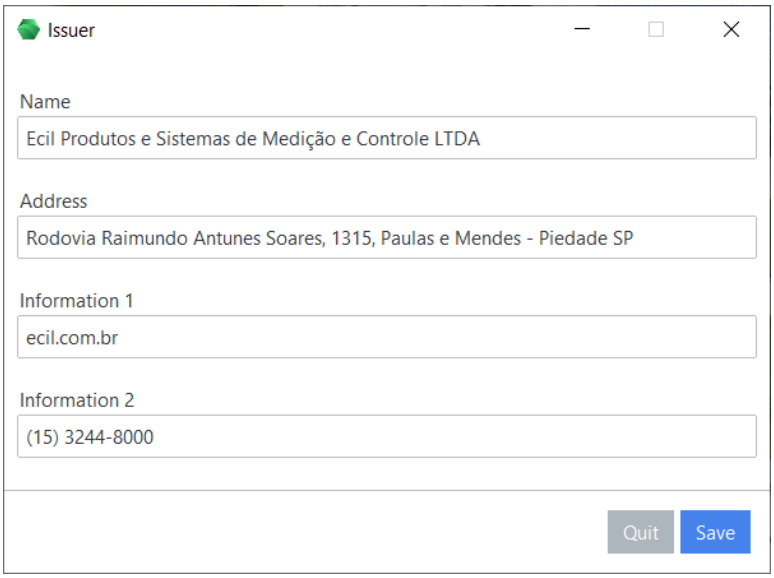
Click on “**Select folder**” and define the chosen folder, and then click on “**Save**”.

- Open folder: Click this button to view the saved databases.

12. CERTIFICATE

Open the "**Certificate**" menu to access the options below:

- Issuer: In this option, you can define the issuer data in the certificate as shown on the screen below:

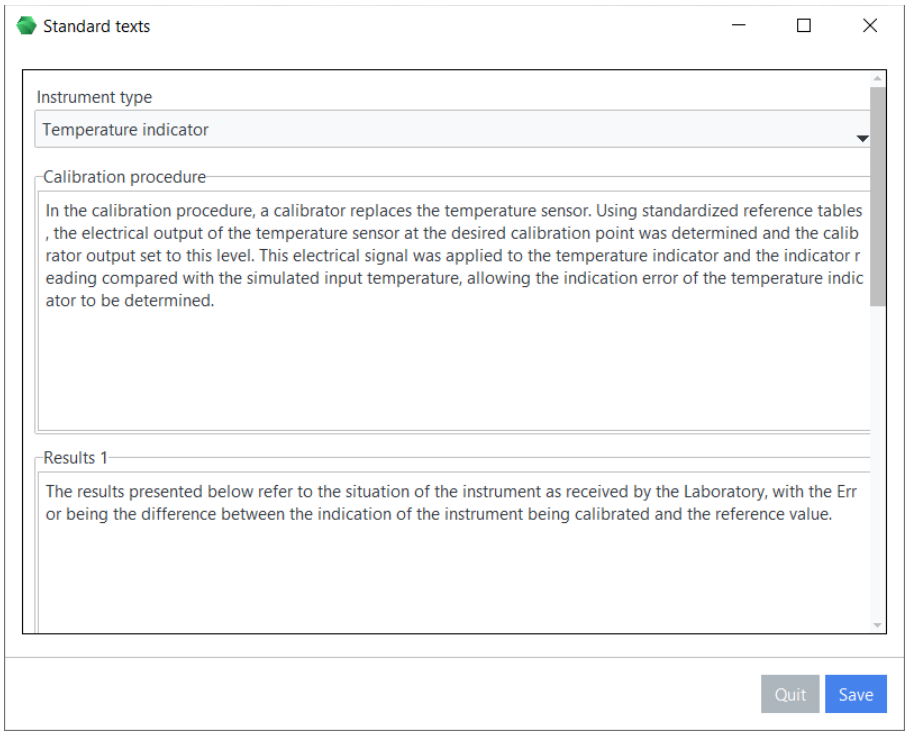


By clicking "**Save**", after calibrating the instrument, this data will appear in the footer of the certificate.

- Logo: Click this button and then click "**Add logo**" and select the chosen image, then click "**Save**". After the instrument is calibrated, the image will appear in the upper left corner of the issued certificate.

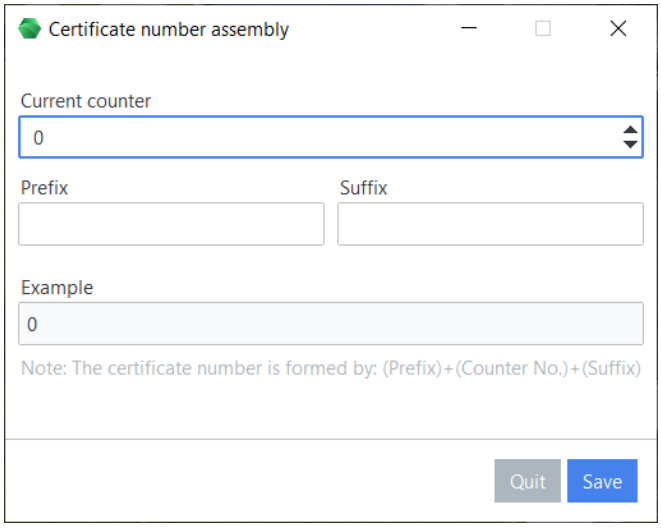
- Signature: Click this button and then click "**Add signature**" and select the chosen image, then click "**Save**". After the instrument is calibrated, the signature image will appear below the traceability table of the issued certificate.

- Standard texts: In this option, you can change the standard texts for each type of instrument that will appear on the issued certificate, as shown in the screen below:



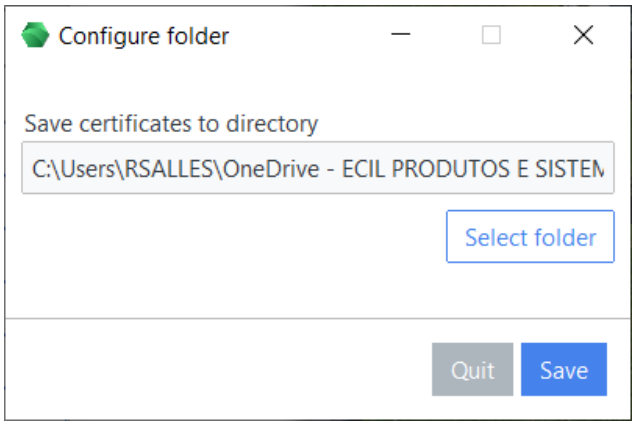
Select the chosen instrument type, and change the information, then click "**Save**". These texts will appear on the issued instrument certificate.

- # Certificate Number: Click this button and the screen below will be displayed:



Enter the prefix and suffix of the certificate number assembly in the corresponding fields, change the current counter if necessary. The certificate number is formed by: (Prefix) + (Counter No.) + (Suffix). Click "**Save**". The certificate number will appear in the certificate header on the issued certificate. Each time a certificate is issued, the counter will increase by one.

- ⚙ Configure folder: In this option you can define the path where the certificates will be saved, as shown in the example below:



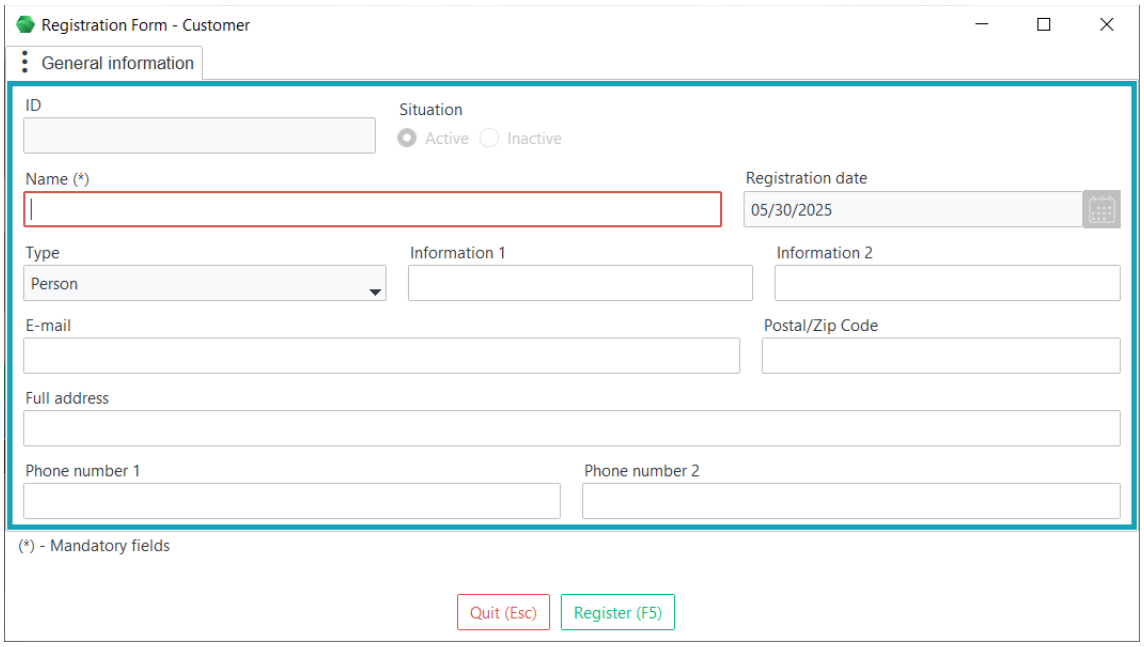
Click on "**Select folder**" and define the desired folder, and then click on "**Save**".

- Open folder: Click this button to view issued certificates.

13. CUSTOMERS

Open the "Customers" menu to access the options below:

- + Register customer: Click this button to access the screen below:

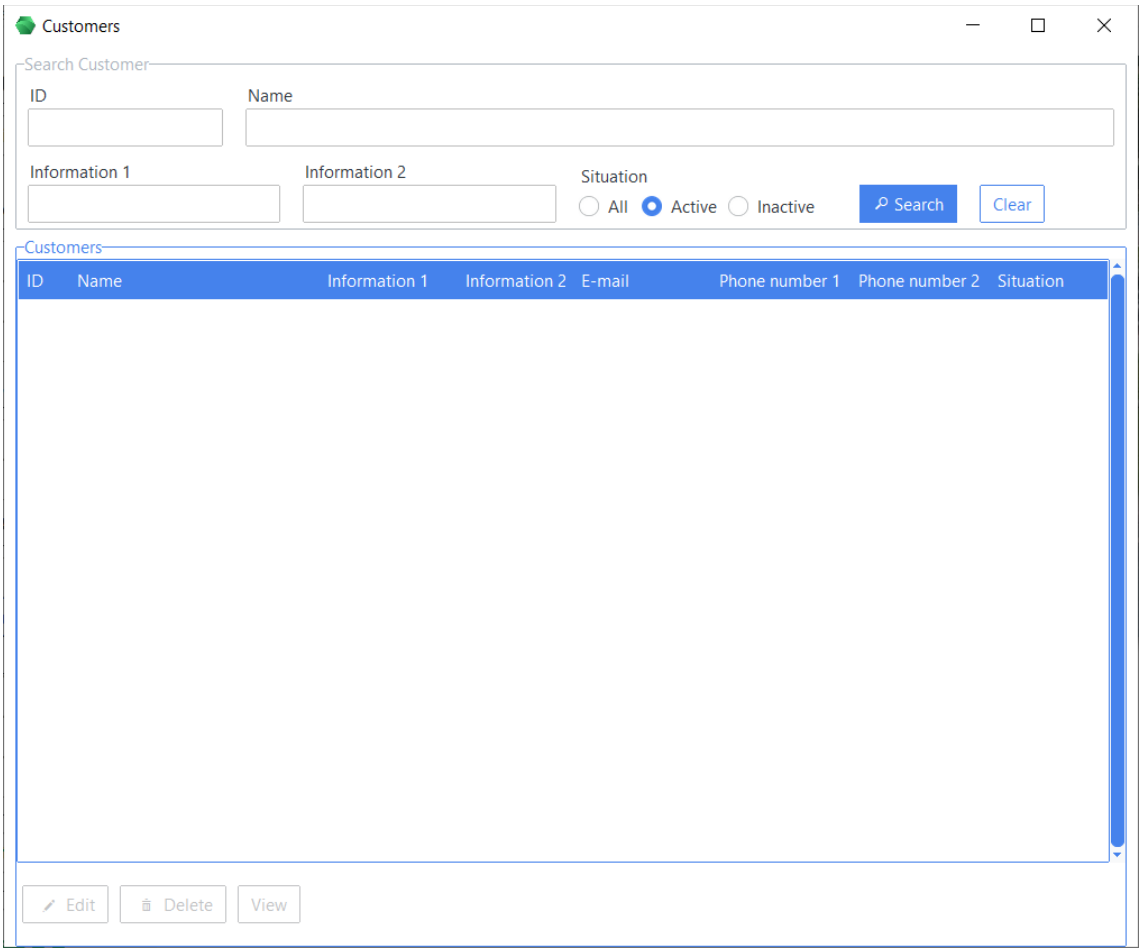


Fill in the customer information (external customer or department of your company) and click on "**Register**". You can change the customer registration through the option **Main Screen > Registrations > Customers > See all > Edit**

- See all: Click this option to access the customer screen.

13.1. Customers Screen

Selecting the option **Main Screen > Registrations > Customers > See all,** the screen will be displayed:

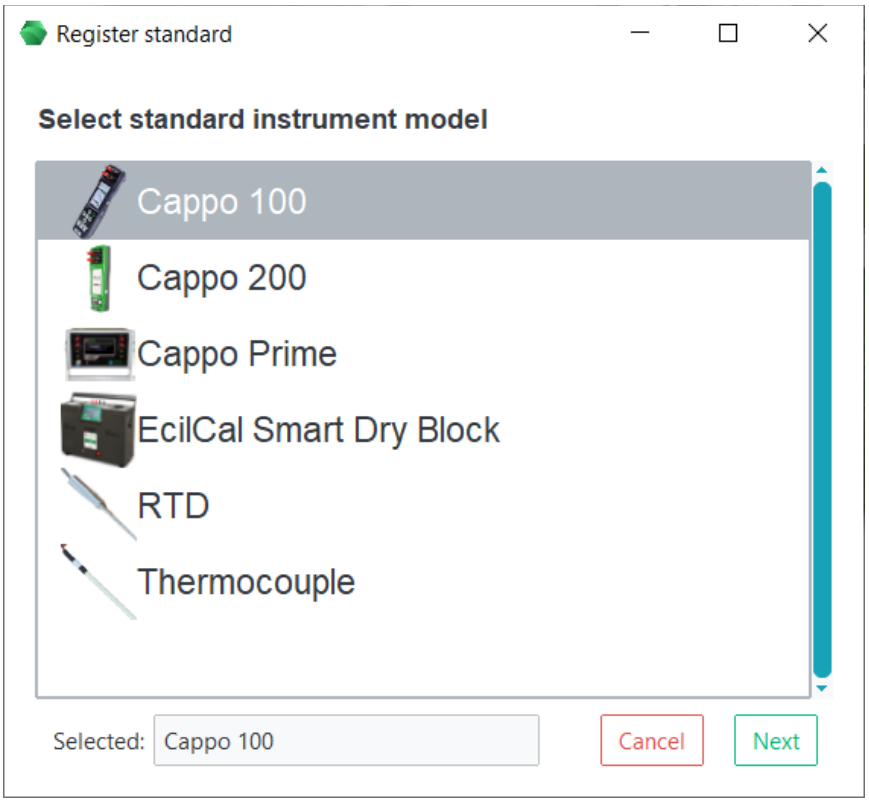


Enter the information to be filtered in the corresponding fields, click on "**Search"**, the customers will be listed in the table. To edit, delete and view the selected customer's registration, click on the corresponding buttons.

14. STANDARDS

Open the "**Standards**" menu to access the options below:

- + Register standard: Click this button to access the standard instrument registration screen:

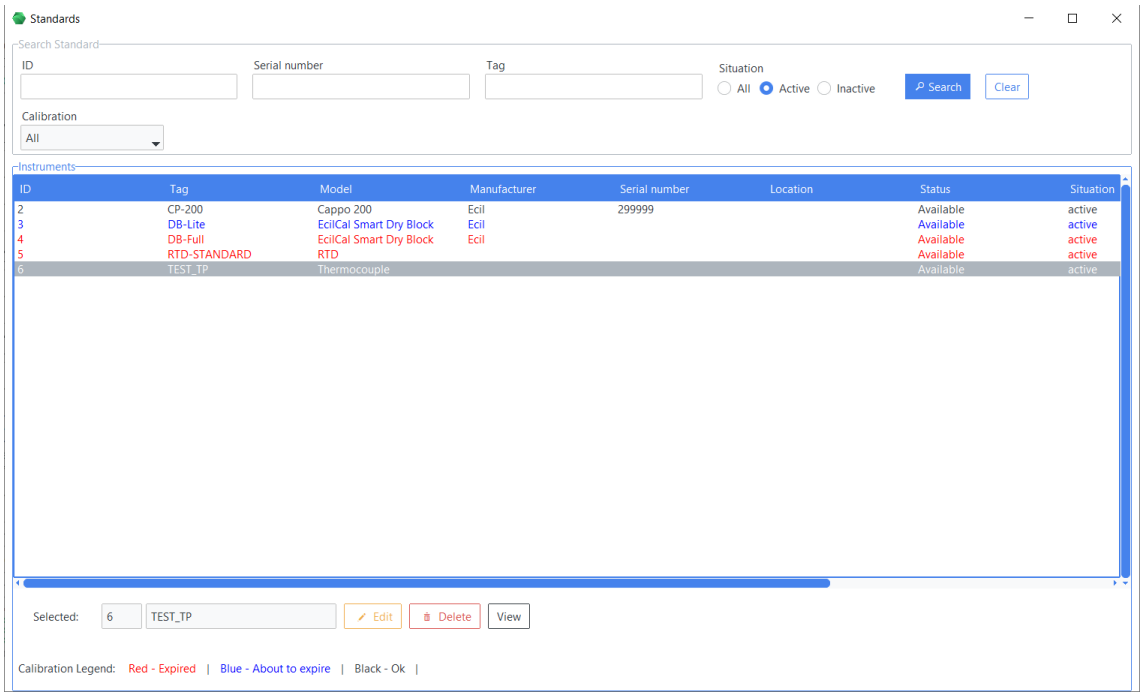


Select the desired standard instrument type and click "**Next**". Another screen will be displayed, filling in the following fields: ⋮ General information, ••• Specific information and 🔔 Notifications. Then click "**Register**". You can change the standard registration through the option **Main Screen > Registrations > Standards > See all >** ✎ **Edit**

- See all: Click on this option to access the standards screen.

14.1. Standards Screen

Selecting the option **Main Screen > Registrations > Standards > See all,** the screen will be displayed:



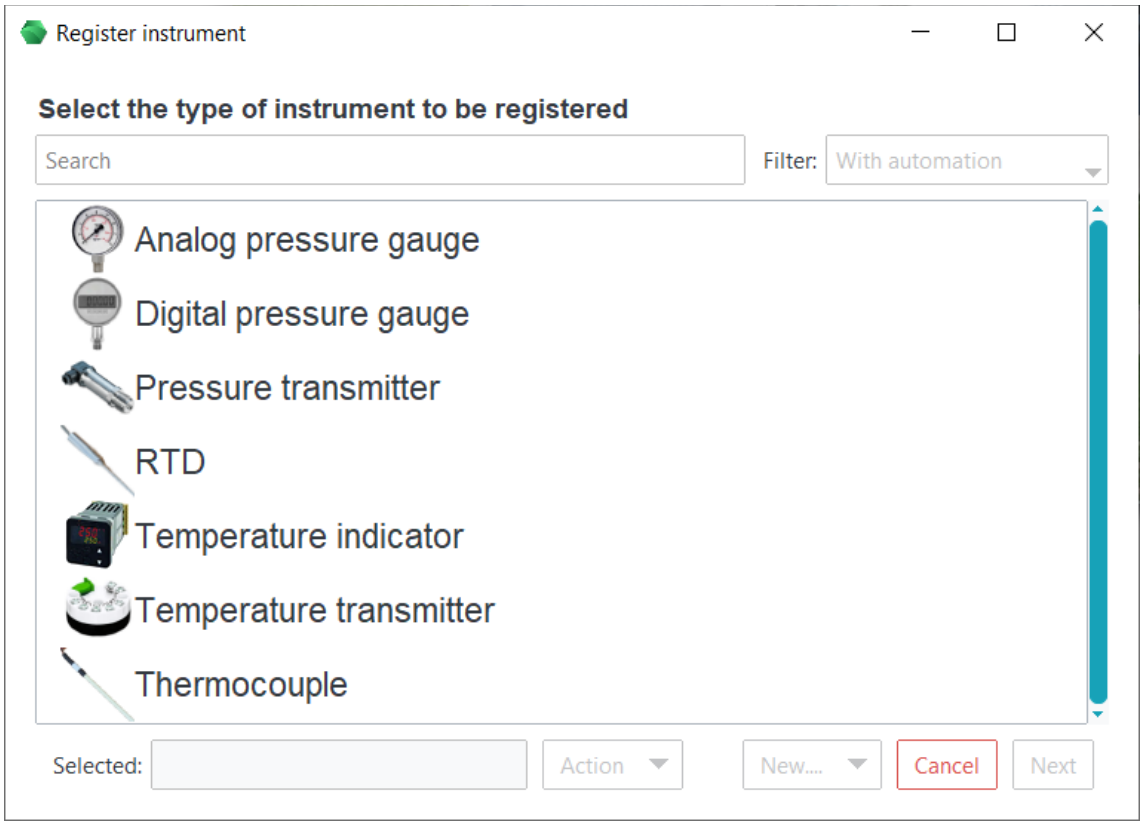
Enter the information to be filtered in the corresponding fields, click on "**Search**", the standard instruments will be listed in the table. To edit, delete and view the registration of the selected standard, click on the corresponding buttons.

If any standard instrument has expired calibration, it will be listed in red, if it is about to expire it will be in blue and if it is ok it will be in black.

15. INSTRUMENTS

Open the "**Instruments**" menu to access the options below:

- Register instrument: Click this button to access the instrument registration screen:

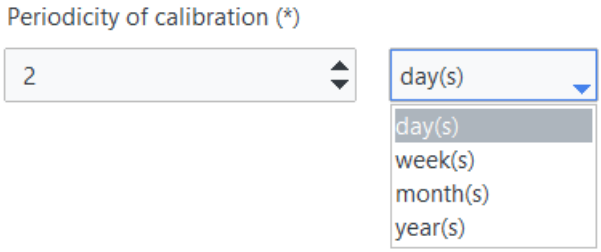


Select the desired instrument type and click "**Next**". Another screen will be displayed, follow the steps below according to each instrument type.

15.1. Temperature indicator

Step 1: ⋮ General information

- In the "⋮ **General information**" tab, fill in general information about the instrument, then define the calibration frequency using the "**Periodicity of calibration**" boxes, as shown in the image below:



Step 2: Customer (Optional)

- In the "**Customer (Optional)**" tab, select the customer by clicking the "**Select customer**" button.

Step 3: Calibration

- In the "**Calibration**" tab, choose "**Use standard calibrator**" or "**Link a multicalibration**", and then click "**Select registration**".

Step 4: Set the unit

- In the "**Ranges**", select the unit in the box next to "**Unit:**".

Step 5: Select the range

- In the "**Ranges**", select the range in the "**Ranges**" table by clicking on the box ☐ it will appear ☑ and the "**Selected range:**" field will be filled in.

Step 6: Set the reference joint or connection wire numbers

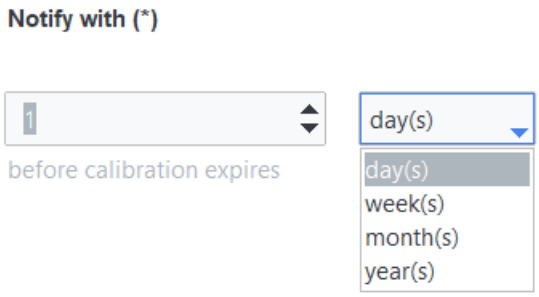
- In the "**Ranges**", double-click on the selected item in the table, a window will appear, enter the desired parameter. For thermocouple range, internal or external cold junction must be defined. For resistance thermometer range, the number of wires in the connection must be defined as 3 or 4 wires.

Step 7: Set the calibration points

- In the "**Ranges**", set the calibration points. You can add a new point by clicking the "**+ Add...**" button and then "**Point**" or distribute points by clicking "**+ Add...**" and then "**Distribute points**". On the displayed screen, you can also enter the "**Tolerance (±)**" and "**Resolution**". Reorder the points using the " ↓ " and " ↑ " buttons, if necessary.

Step 8: Notifications

- In the " **Notifications**" tab, define how many days, weeks, months or years you will be notified before the calibration expires using the "**Notify with**" boxes, as shown in the image below:

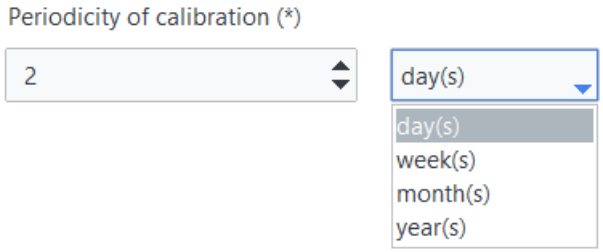


Click on the "**Register**" button located at the bottom of the screen.

15.2. Analog and digital pressure gauge

Step 1: ⋮ General information

- In the "⋮ **General information**" tab, fill in general information about the instrument, then define the calibration frequency using the "**Periodicity of calibration**" boxes, as shown in the image below:



Step 2: Customer (Optional)

- In the "**Customer (Optional)**", select the customer by clicking the "**Select customer**" button.

Step 3: Standard Calibrator Data

- In the "**Standard Calibrator**", select the standard calibrator by clicking the "**Select the standard**" button.

Step 4: Set the unit

- In the "**Ranges**", select the unit in the box next to "**Unit:**".

Step 5: Select the standard module range

- In the "**Ranges**", select the range in the "**Ranges**" table by clicking on the box ☐ it will appear ☑ and the "**Selected module:**" field will be filled in. This range refers to the standard module that will be used in the calibration.

Step 6: Set the test instrument range

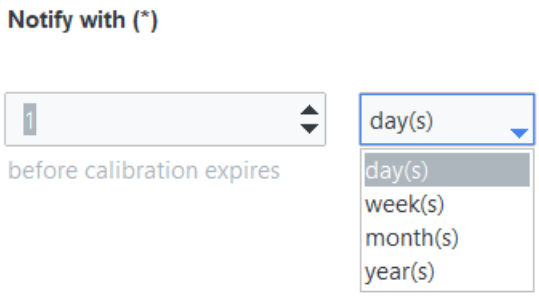
- In the "**Ranges**", double-click on the selected item in the table, a window will appear, inform whether the "**CP1**" or "**CP2"** input of the calibrator will be used. Set the initial and final value of the test instrument (range).

Step 7: Set the calibration points

- In the "**Ranges**", set the calibration points. You can add a new point by clicking the "**+ Add...**" button and then "**Point**" or distribute points by clicking "**+ Add...**" and then "**Distribute points**". On the displayed screen, you can also enter the "**Tolerance (±)**" and "**Resolution**". Reorder the points using the " ↓ " and " ↑ " buttons, if necessary.

Step 8: Notifications

- In the **" Notifications"** tab, define how many days, weeks, months or years you will be notified before the calibration expires using the "**Notify with**" boxes, as shown in the image below:

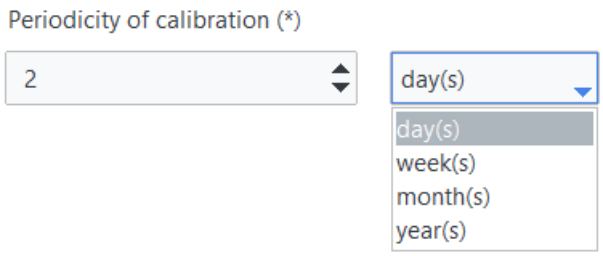


Click on the "**Register**" button located at the bottom of the screen.

15.3. Thermocouple and Thermoresistance

Step 1: ⋮ General information

- In the " ⋮ **General information**", fill in general information about the instrument, then define the calibration frequency using the "**Periodicity of calibration**" boxes, as shown in the image below:



Step 2: ••• Specific information

- In the "••• **Specific information**" enter specific information according to the sensor type in the corresponding fields.

Step 3: Customer Data (Optional)

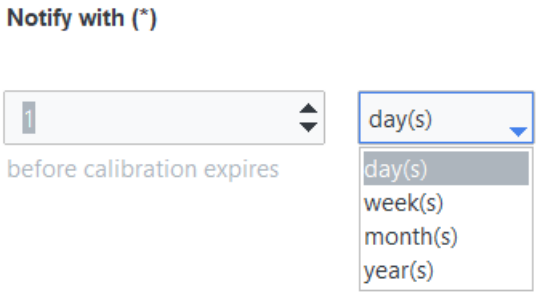
- In the "••• **Specific information**", select the customer by clicking the "**Select customer**" button.

Step 4: Calibration data

- In the " **Calibration**", choose "**Download Ecil Cal Smart full dry block results**" or "**Link a multicalibration**". If the chosen option is "**Link a multicalibration**", click on "**Select registration**" to select the multicalibration registration.

Step 5: Notifications

- In the " **Notifications"** tab, define how many days, weeks, months or years you will be notified before the calibration expires using the "**Notify with**" boxes, as shown in the image below:

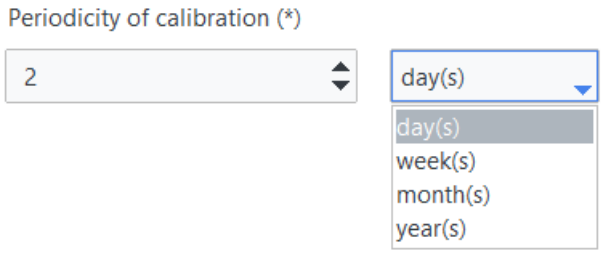


Click on the "**Register**" button located at the bottom of the screen.

15.4. Pressure transmitter

Step 1: ⋮ General information

- In the "⋮ **General information**" tab, fill in general information about the instrument, then define the calibration frequency using the "**Periodicity of calibration**" boxes, as shown in the image below:



Step 2: Customer (Optional)

- In the "**Customer (Optional)**", select the customer by clicking the "**Select customer**" button.

Step 3: Standard Calibrator Data

- In the "**Standard Calibrator**", select the standard calibrator by clicking the "**Select Standard**" button.

Step 4: Set the unit

- In the "**Ranges**", select the unit in the box next to "**Unit:**".

Step 5: Select the standard module range

- In the "**Ranges**", select the range in the "**Ranges**" table by clicking on the box ☐ it will appear ☑ and the "**Selected range:**" field will be filled in. This range refers to the standard module that will be used in the calibration.

Step 6: Set the test instrument range

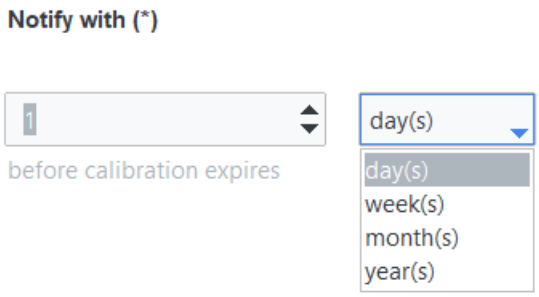
- In the "**Ranges**", double-click on the selected item in the table, a window will appear, inform whether the "**CP1**" or "**CP2"** input of the calibrator will be used. Set the current loop type "**Passive**" or "**Active**" and inform the values of "**4 mA**" and "**20 mA**" of the transmitter range.

Step 7: Set the calibration points

- In the "**Ranges**", set the calibration points. You can add a new point by clicking the "**+ Add...**" button and then "**Point**" or distribute points by clicking "**+ Add...**" and then "**Distribute points**". On the displayed screen, you can also enter the "**Tolerance (±)**" and "**Resolution**". Reorder the points using the " ↓ " and " ↑ " buttons, if necessary.

Step 8: Notifications

- In the **" Notifications"** tab, define how many days, weeks, months or years you will be notified before the calibration expires using the "**Notify with**" boxes, as shown in the image below:

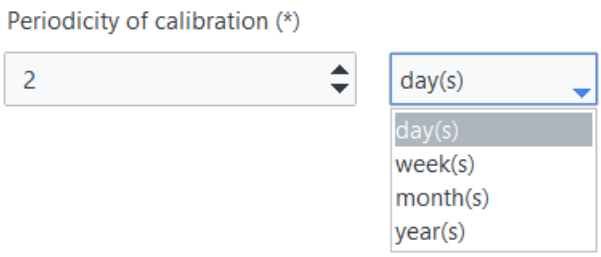


Click on the "**Register**" button located at the bottom of the screen.

15.5. Temperature transmitter

Step 1: General information

- In the " **General information**" tab, fill in general information about the instrument, then define the calibration frequency using the "**Periodicity of calibration**" boxes, as shown in the image below:



Step 2: Customer (Optional)

- In the "**Customer (Optional)**", select the customer by clicking the "**Select customer**" button.

Step 3: Standard Calibrator Data

- In the "**Standard calibrator**", select the standard calibrator by clicking the "**Select Standard**" button.

Step 4: Set the unit

- In the "**Ranges**", select the unit in the box next to "**Unit:**".

Step 5: Select the range

- In the "**Ranges**", select the range in the "**Ranges**" table by clicking on the box ☐ it will appear ☑ and the "**Selected range:**" field will be filled in.

Step 6: Set the reference joint or connection wire numbers, current loop and 4-20mA

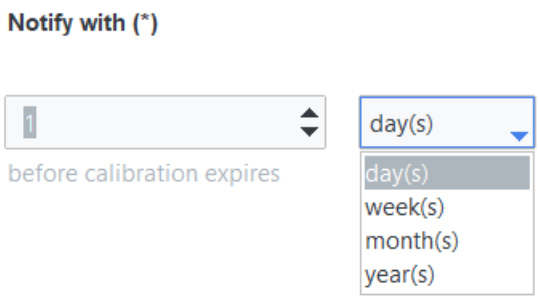
- In the "**Ranges**", double-click on the selected item in the table, a window will appear. For thermocouple range, internal or external cold junction must be defined. For resistance thermometer range, the number of wires in the 3- or 4-wire connection must be defined. Define the current loop type as "**Passive**" or "**Active**" and inform the values of "**4 mA**" and "**20 mA**" of the transmitter range.

Step 7: Set the calibration points

- In the "**Ranges**", set the calibration points. You can add a new point by clicking the "**+ Add...**" button and then "**Point**" or distribute points by clicking "**+ Add...**" and then "**Distribute points**". On the displayed screen, you can also enter the "**Tolerance (±)**" and "**Resolution**". Reorder the points using the " ↓ " and " ↑ " buttons, if necessary.

Step 8: Notifications

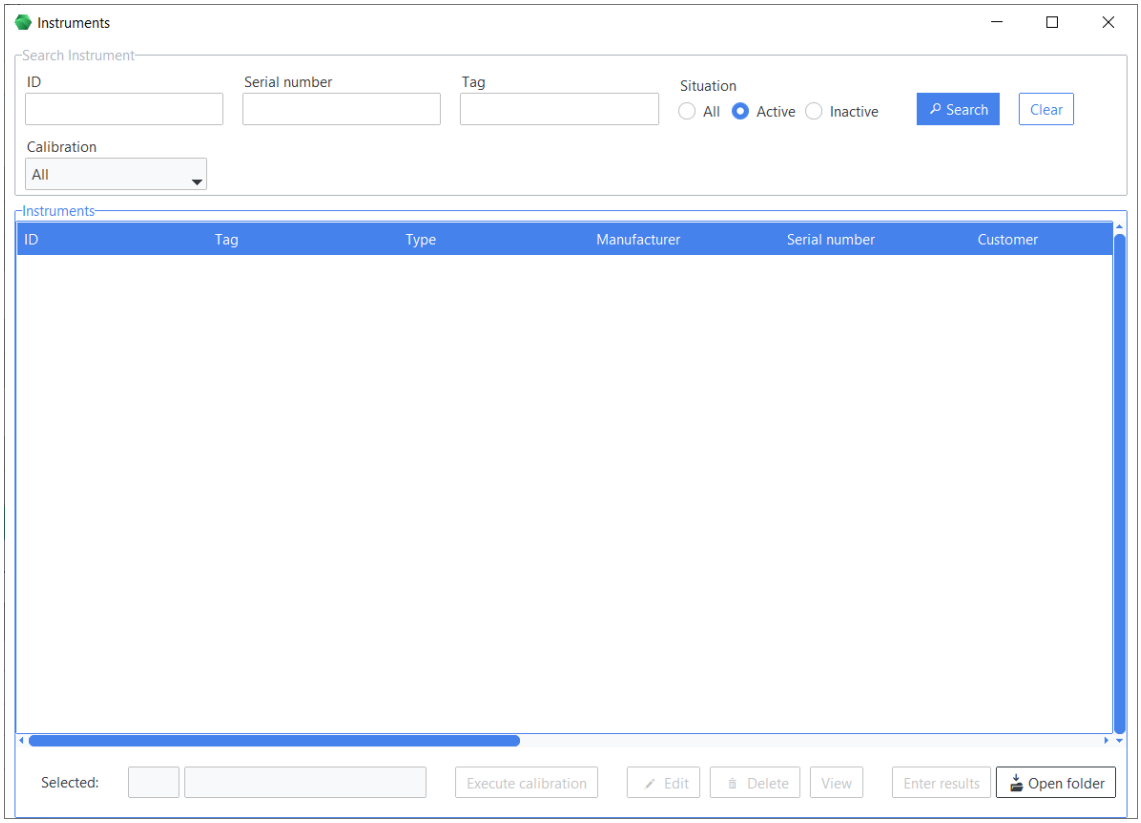
- In the “ 🔔 **Notifications”** tab, define how many days, weeks, months or years you will be notified before the calibration expires using the “**Notify with**” boxes, as shown in the image below:



Click on the “**Register**” button located at the bottom of the screen.

15.6. Instrument Screen

Selecting the option **Main screen > Registrations > Instruments > See all**, the screen will be displayed:



Enter the information to be filtered in the corresponding fields, click on "**Search",** the standard instruments will be listed in the table. To edit, delete and view the registration of the selected instrument, click on the corresponding buttons.

If any instrument has expired calibration, it will be listed in red, if it is about to expire it will be in blue and if it is ok it will be in black.

- To open the certificates folder, click "**Open folder**".
- To enter calibration results, click "**Enter Results**".
- To perform a calibration, click "**Execute Calibration**".

16. CONNECTION AND CONFIGURATION (USB AND BLUETOOTH)

Turn on the standard instrument and initialize it by clicking on the screen. Follow the steps below according to the connection type.

16.1. Connection via USB cable (Calibration bench and Smart Dry Block)

Locate the USB port. On the Smart dry block it is located next to the "**On/Off**" button. On the calibration bench is located below the Cappo Prime calibrator.

With the supplied USB 2.0 Type B cable in hand, connect one end to the dry block/ calibration bench and the other to the computer.

16.2. Connection via Bluetooth (Cappo 100 and Cappo 200)

With the instrument started, click on the icon if available, check if the Bluetooth adapter on the computer is connected and follow the steps below, depending on the operating system version:

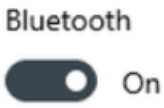
16.3. Bluetooth Configuration - Windows 10

Step 1: Settings

- On the taskbar, click the icon and then the icon.

Step 2: Devices

- Click on "**Devices**" and check if Bluetooth is activated, as shown in the image below:



Step 3: + Add Bluetooth

- Click on "**+ Add Bluetooth or other device**", then "**Bluetooth**", wait. Select the device "**Cappo 200/100**" to connect. Enter the password, by default it is "**1234**". Click "**Connect**", the message "**Your device is ready to go!**" will appear, click "**Done**".

16.4. Bluetooth Setup - Windows 11

Step 1: Settings

- On the taskbar, click on the icon and then on "**Settings**".

Step 2: Bluetooth and devices

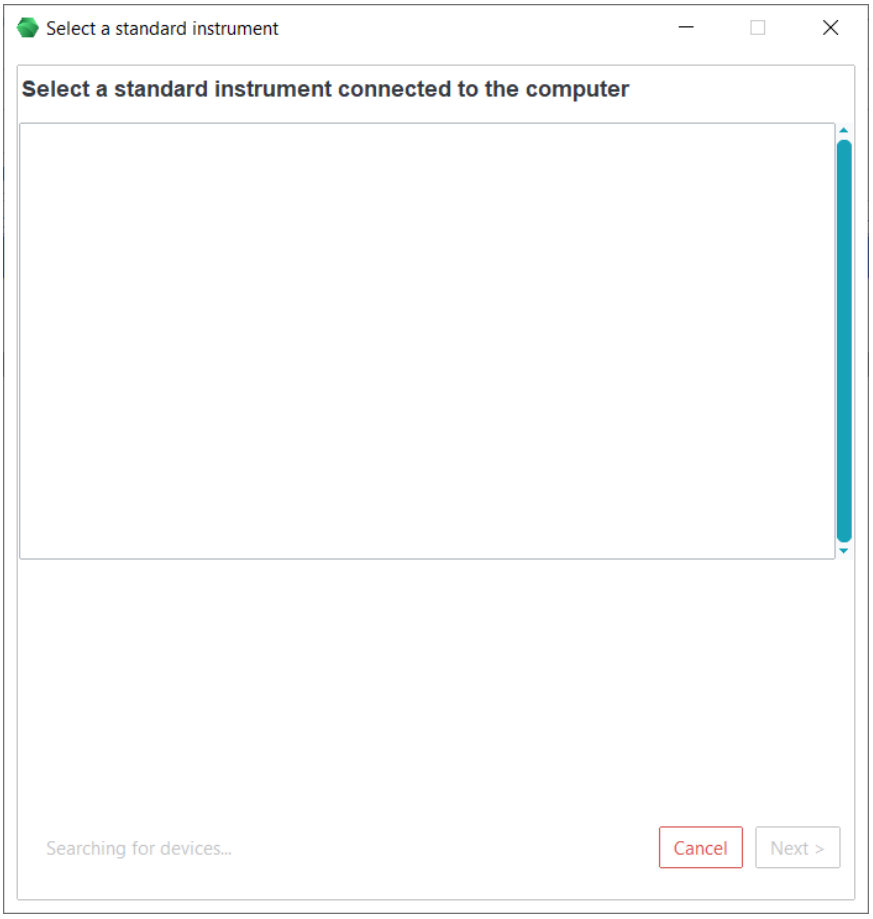
- Click on "**Bluetooth and devices**" and check if Bluetooth is activated, as shown in the image below:

Step 3: Add device

- Click on "**+ Add Bluetooth or other device**", then "**Bluetooth**", wait. Select the device "**Cappo 200/100**" to connect. Enter the password, by default it is "**1234**". Click "**Connect**", the message "**Your device is ready to go!**" will appear, click "**Done**".

17. CALIBRATION

Selecting the option **Main screen > Registrations > Instruments > Execute calibration,** the screen will be displayed:

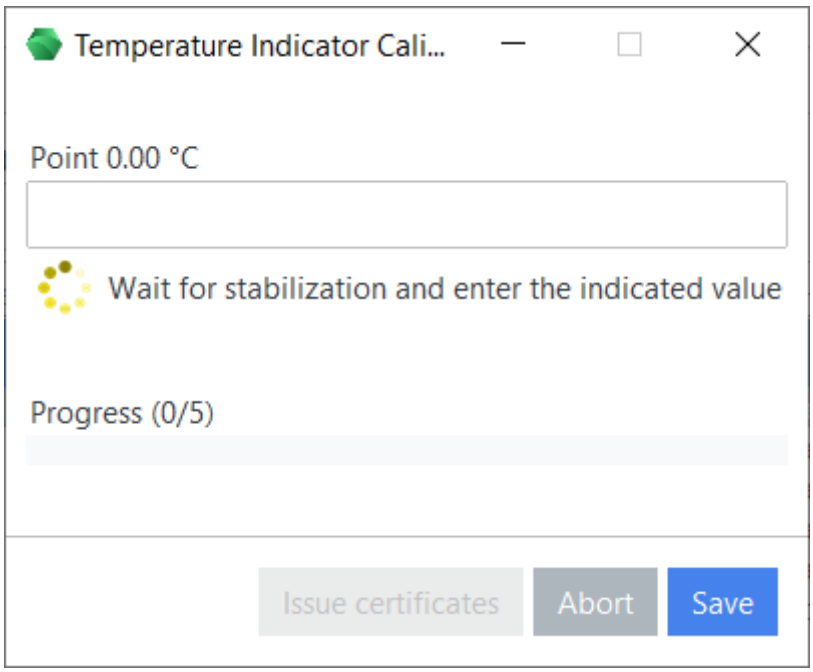


At this point the software will try to locate the instrument via Bluetooth or USB cable. If it does not appear, make sure the standard instrument is turned on and that the instrument is connected to the computer. To update the list, click "**Refresh list**".

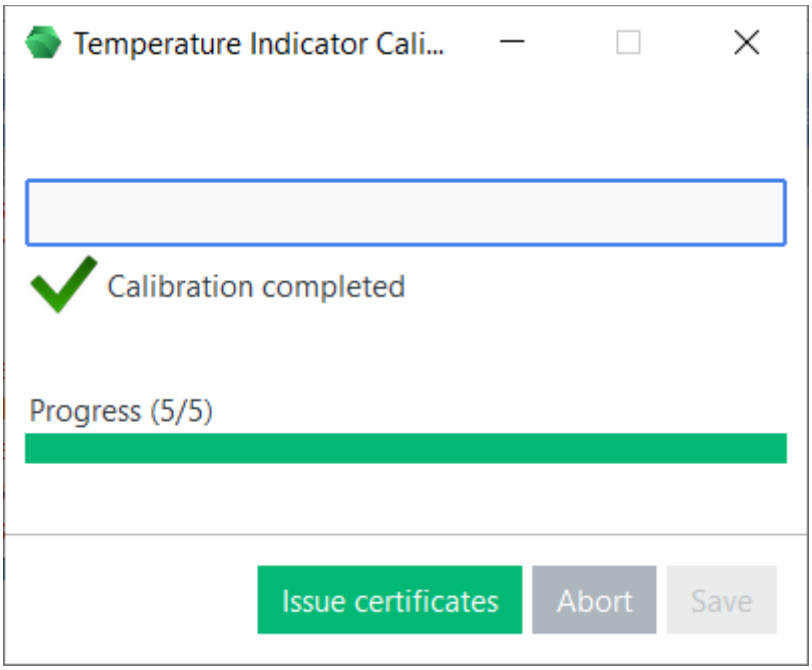
Select the standard instrument and click "**Next >**". A confirmation screen will appear, follow the instructions below according to each type of instrument.

17.1. Temperature Indicator Calibration

Connect one end of the wires to the output channel of the calibrator and the other to the temperature indicator. Click "**Execute**".



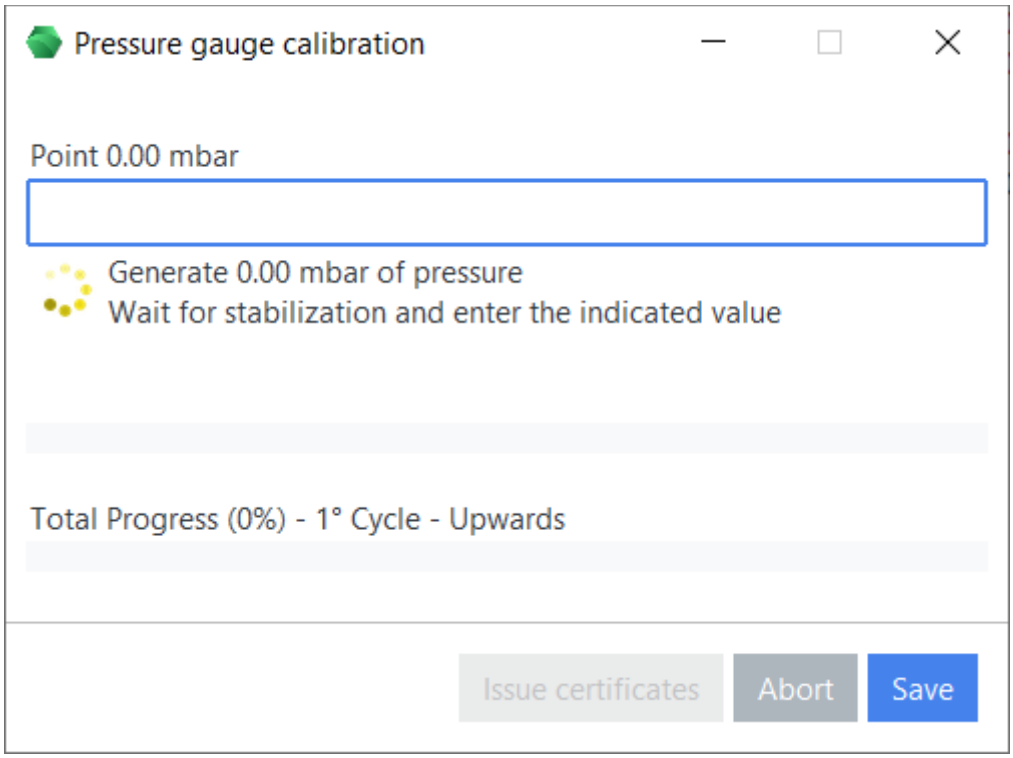
The first calibration point will be requested, just wait for stabilization and enter the value that appears on the temperature indicator screen in the field below "**Point".** Click **"Save**". Repeat the same procedure for all points.



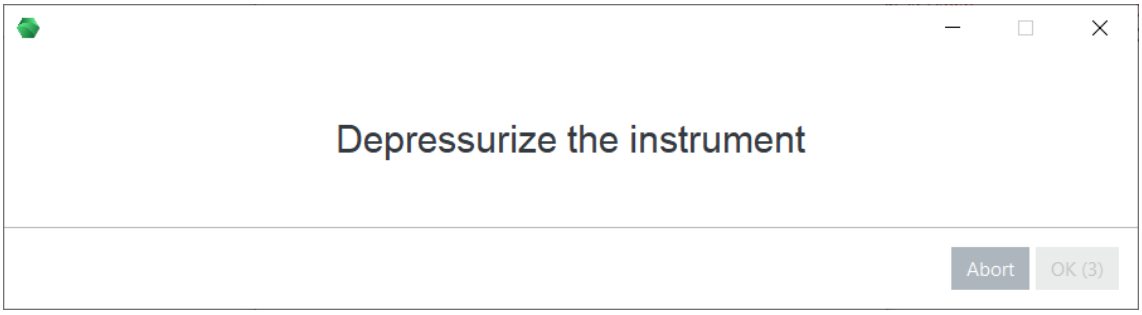
After the process, a screen will appear informing you that the calibration has been completed, just click on "**Issue certificates**".

17.2. Analog/Digital Pressure Gauge Calibration

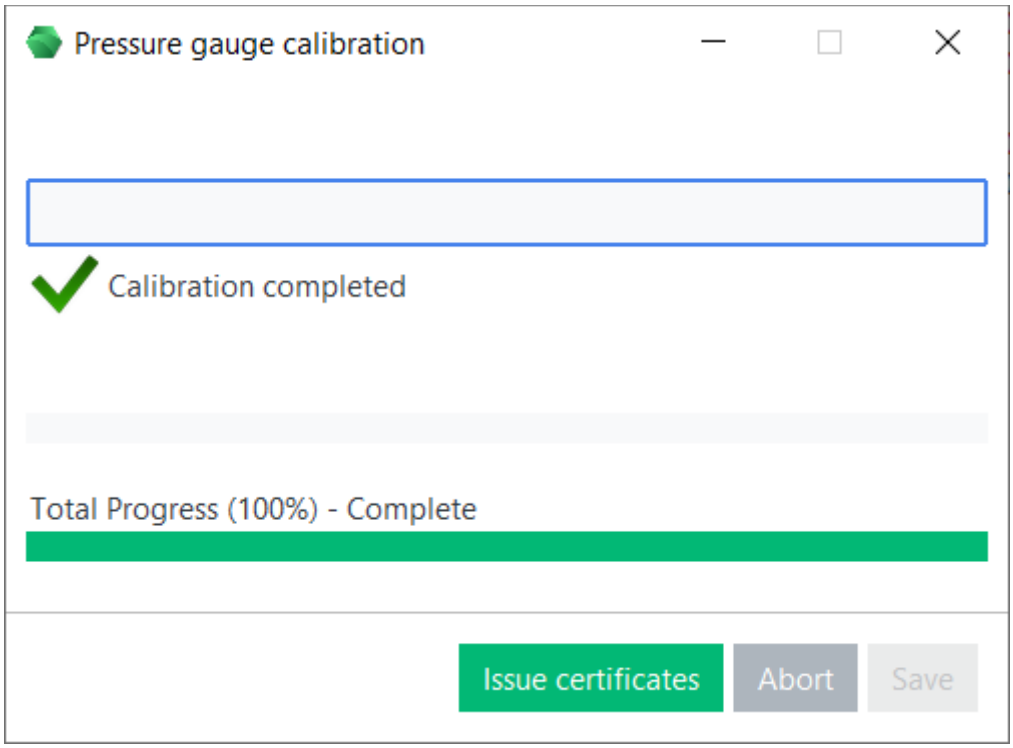
Using a hose, connect the pressure module inlet to the pressure generating pump. Using another hose, connect the pressure generating pump to the pressure gauge. Make sure the pressure module is connected to the calibrator. Click "**Execute**".



The first calibration point will be requested, just generate the pressure, wait for stabilization, enter the value indicated on the pressure gauge and click "**Save**".



After the first cycle, you will be asked to depressurize the instrument, simply depressurize and click "**OK**".

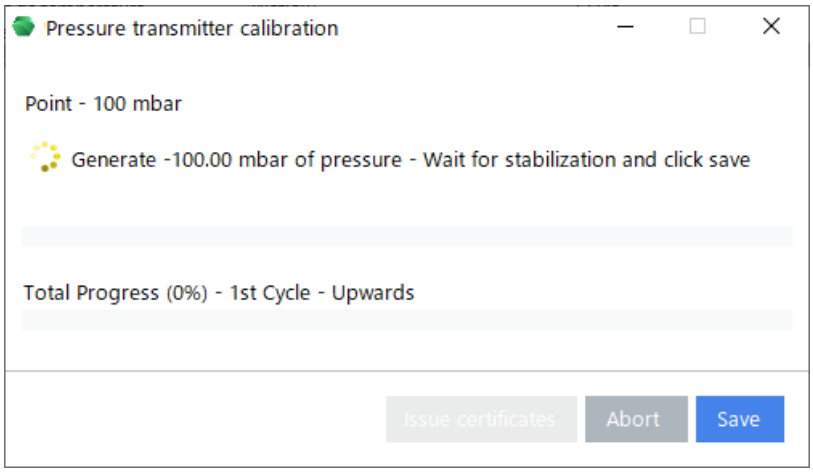


After the process, a screen will appear informing you that the calibration has been completed, just click on "**Issue certificates**".

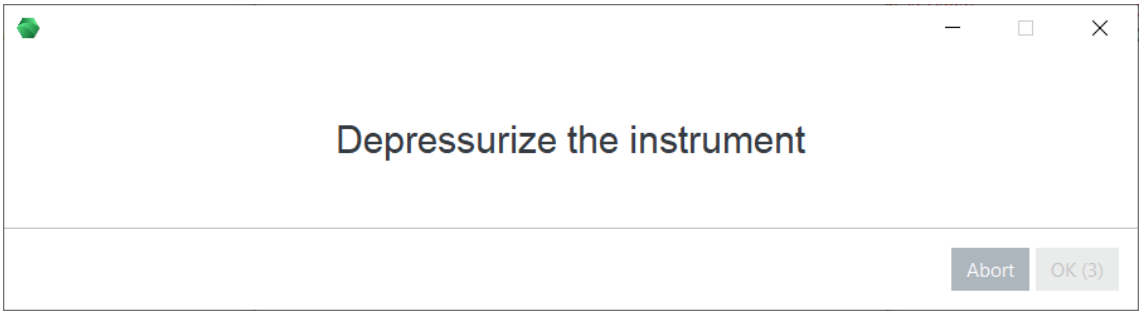
17.3. Pressure Transmitter Calibration

Using a hose, connect the pressure module inlet to the pressure generating pump. Using another hose, connect the pressure generating pump to the pressure transmitter. Make sure the pressure module is connected to the calibrator.

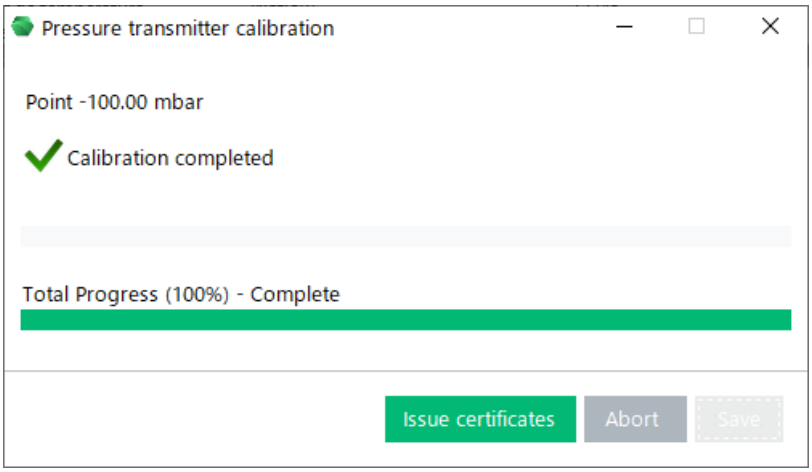
Connect one end of the wires to the output channel of the calibrator and the other to the pressure transmitter. Make sure the circuit is powered with 24v. Click "**Run**".



The first calibration point will be requested, just generate the pressure, wait for stabilization and click “**Save**”.



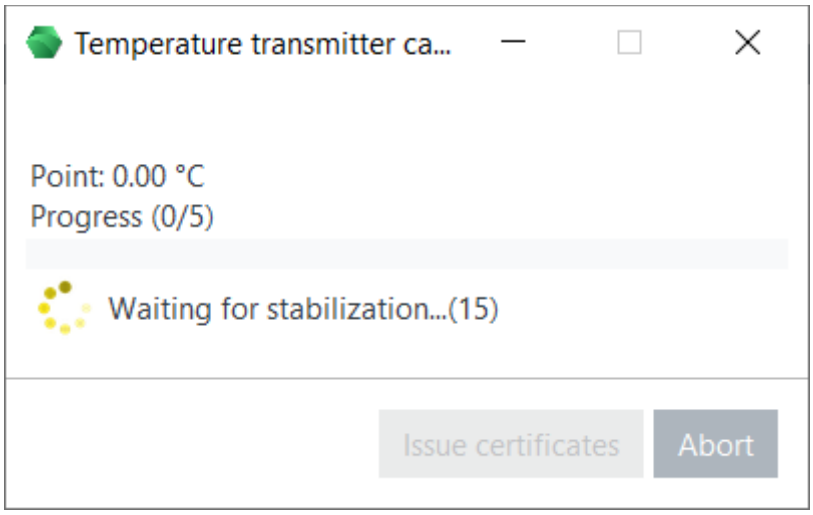
After the first cycle, you will be asked to depressurize the instrument, simply depressurize and click “**OK**”.



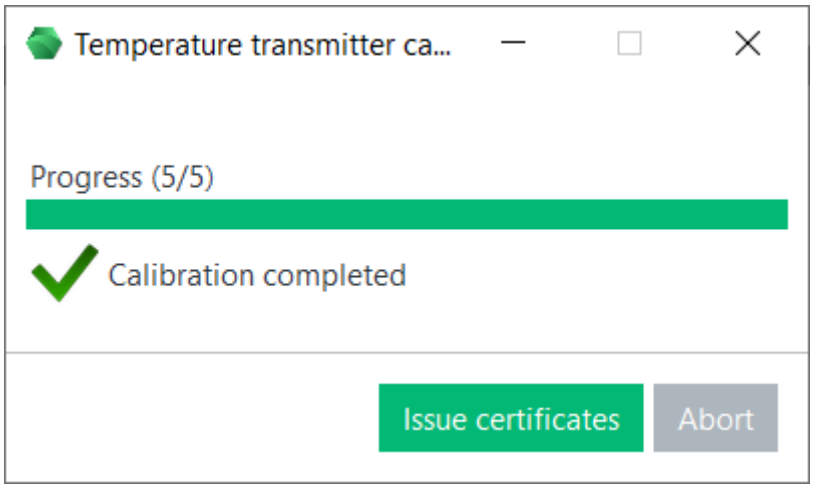
After the process, a screen will appear informing you that the calibration has been completed, just click on “**Issue certificates**”.

17.4. Temperature Transmitter Calibration

Connect one end of the wires to the output channel of the calibrator and the other to the temperature transmitter. Make sure the circuit is powered with 24v. Click “**Run**”.



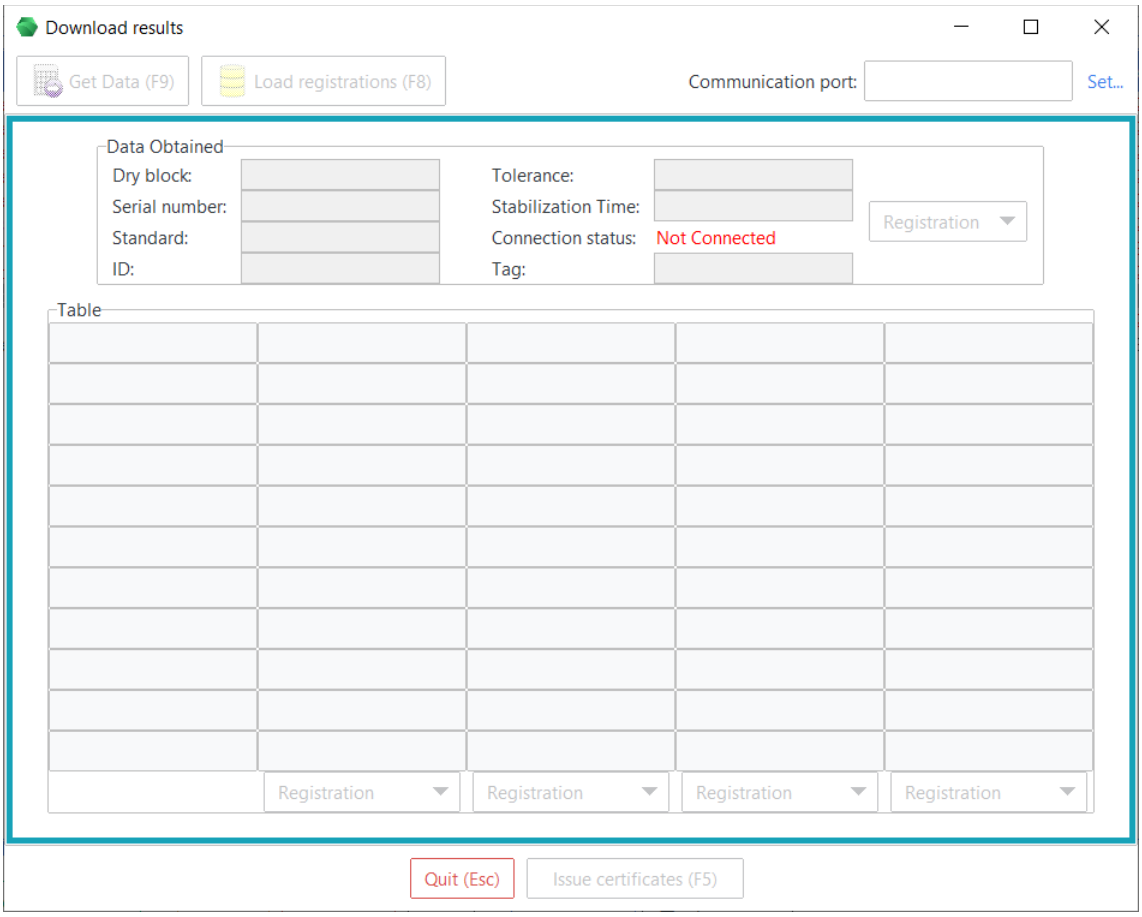
The process will be fully automated, just wait until the screen appears informing you that the calibration is complete.



Click on "**Issue certificates**".

18. DOWNLOAD RESULTS SMART FULL DRY BLOCK

Selecting the option **Main screen > Registrations > Instruments > Download results,** the screen will be displayed:



Follow the steps below:

Step 1: Set the Communication Port

- Make sure the dry block is connected to the computer via the USB cable. Click on "**Set...**", a window will appear, select the standard dry block and click on "**Add**". Check that the "**Connection status**" field shows "**Connected**".

Step 2: Get Data

- With the dry block started, click on "**Get Data (F5)**". The table will be populated.

Step 3: Upload records

- Click on "**Load registrations (F8)**", the instrument registration in the software will be loaded and the "**Registration**" boxes will turn green. If you want to load the record manually or change it, click on "**Select/Change**" and on the screen displayed select the desired instrument. To remove, click on "**Registration**" and then on "**Remove**".

Step 4: Issue certificates

- Click "**Issue Certificates (F5)**" to issue calibration certificates.

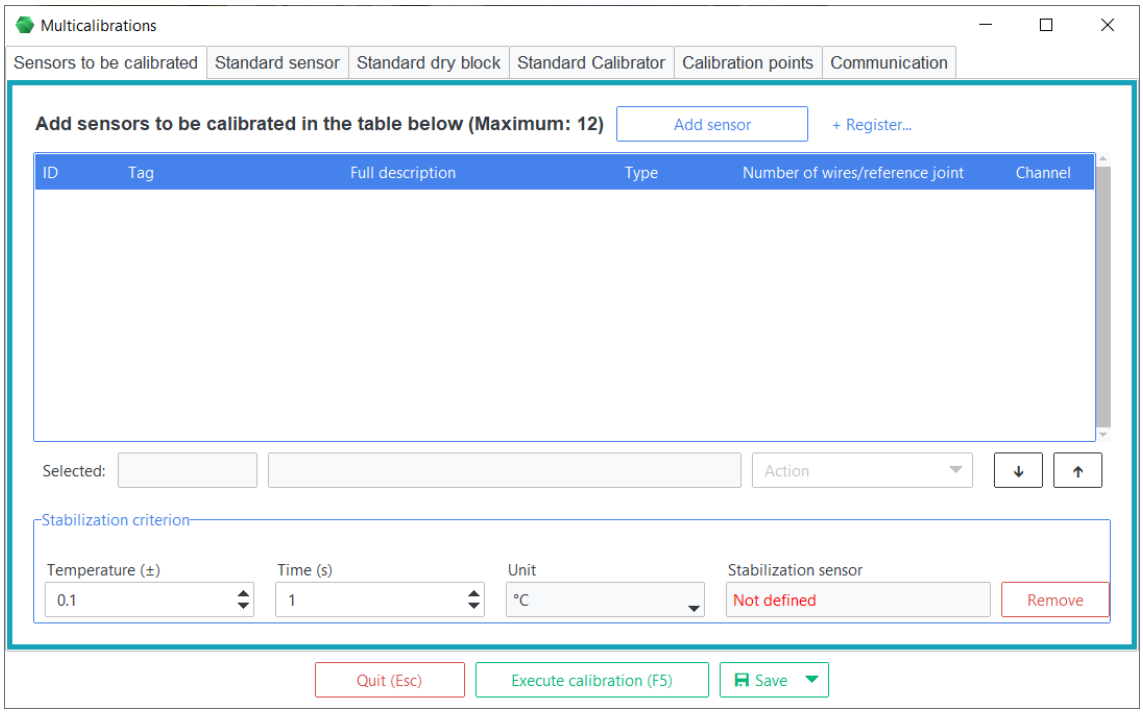
19. MULTICALIBRATIONS

Open the "**Multicalibrations**" menu to access the options below:

- + New multicalibration: Click this button to access the multicalibration registration screen.
- See all: Click this option to access the multicalibration screen.

19.1. Sensor Multicalibration Registration Screen

Selecting the option **Main Screen > Multicalibrations > Sensors > + New multicalibration** , the screen will be displayed:



Follow the steps below:

Step 1: Add Sensors

- In the **“Sensors to be calibrated”** tab, start by defining the sensors that will be calibrated. Click “**Add sensor**” to insert them into the table. You can add up to 12 sensors.

Step 2: Define Stabilization Criterion

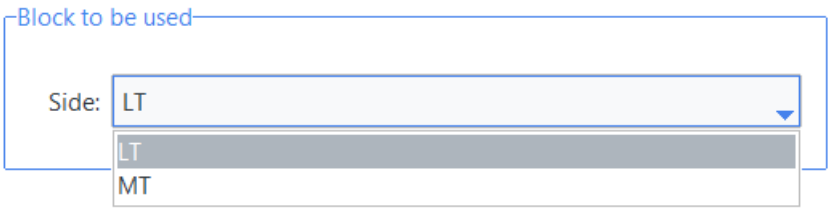
- In the same tab, define the temperature variation, the stabilization time and the unit of measurement. If you want one of the test instruments to be the stabilization sensor, click on “**Action**” and then “**Set stabilization criterion**” and proceed to Step 4.

Step 3: Set the Standard Sensor

- In the “**Standard Sensor**” tab, select the standard sensor for calibration by clicking the “**Select...**” button. If this is not defined, the user must indicate which of the test sensors will be the stabilization sensor.

Step 4: Set the Standard Dry Block

- In the “**Standard dry block**” tab, select the standard dry block for calibration by clicking the “**Select...**” button. If the dry block is double, define the side to be used by clicking the box below:



Step 5: Set the Standard Calibrator

- In the **“Standard Calibrator”** tab, select the standard calibrator for calibration by clicking the “**Select...**” button. If a Standard version Smart Dry Block is used and you want the selector switch to be used as the reading standard, skip this step.

Step 6: Add Calibration Points

- In the “**Calibration Points**” tab, define the calibration points. You can add a new point by clicking on the “**+Add...**” button and then “**Point”** or distribute points by clicking on “**+Add...**” and then “**Distribute Points**”. You can set the end point to “**off**” or “**set**” a specific value.

Step 7: Configure Communication

- In the “**Communication**” tab, configure communication with the dry block and/or calibrator. Enter the communication port for each device by clicking the “**Add...**” button.

Step 8: 🖬 Save

- After setting all the parameters, you can save by clicking the “🖬 Save”, located at the bottom of the screen.

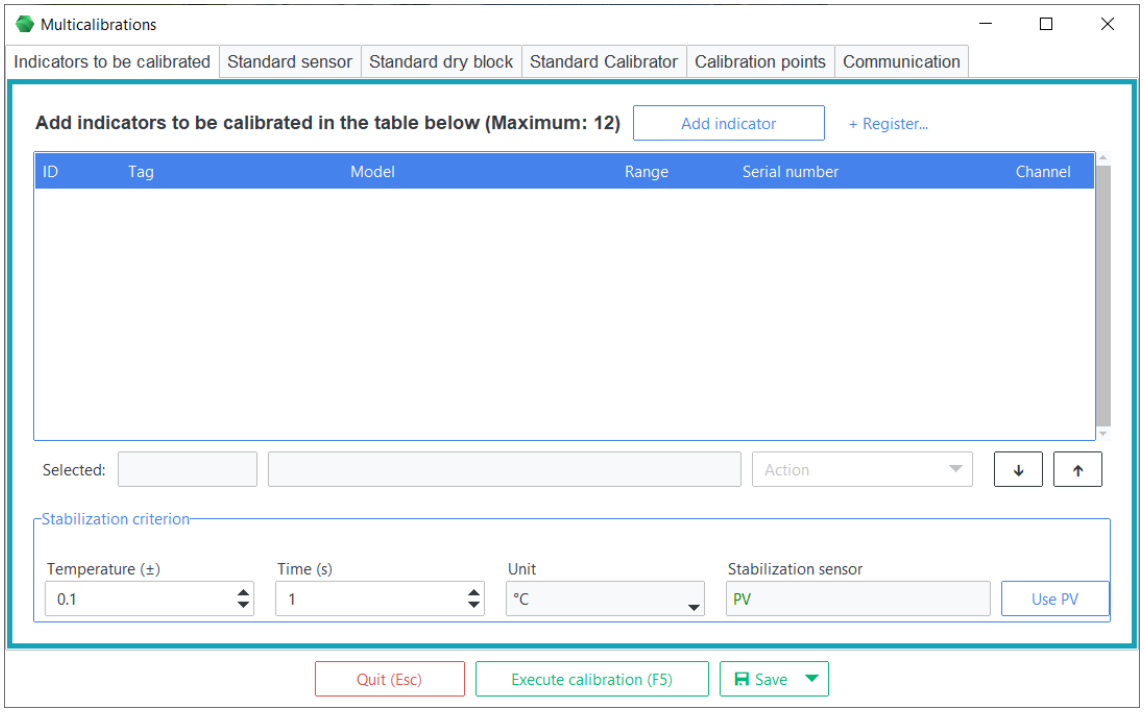
Step 9: Execute Calibration

- After setting all parameters, you can perform calibration by clicking the "**Execute Calibration (F5)**" button.

Follow the calibration steps until complete.

19.2. Indicator Multicalibration Registration Screen

Selecting the option **Main Screen > Multicalibrations > Indicators > + New multicalibration**, the screen will be displayed:



Follow the steps below:

Step 1: Add Indicators

- In the "**Indicators to be calibrated**" tab, start by defining the indicators that will be calibrated. Click on "**Add indicator**" to insert them into the table. You can add up to 12 indicators. If you want to copy the registered points of an indicator, click on "**Action**" and then "**Copy registered points**".

Step 2: Define Stabilization Criterion

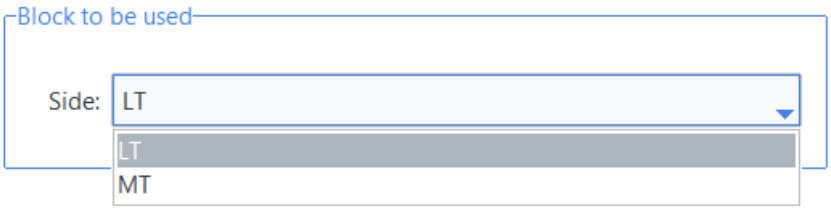
- In the same tab, set the temperature variation, stabilization time and unit of measurement. If you want to use the dry block PV as a stabilization sensor, make sure that the "**Stabilization sensor**" field indicates the "**PV**" value.

Step 3: Set the Standard Sensor

- In the "**Standard sensor**" tab, select the standard sensor for calibration by clicking the "**Select...**" button. If this is not defined, the dry block internal sensor will be used as stabilization.

Step 4: Set the Standard Dry Block

- In the "**Standard dry block**" tab, select the standard oven for calibration by clicking the "**Select...**" button. If the dry block is double, define the side to be used by clicking the box below:



Step 5: Set the Standard Calibrator

- In the **"Standard Calibrator"** tab, select the standard calibrator for calibration by clicking the "**Select...**" button. If you are using a Standard Smart Dry Block and want the selector switch to be used as the reading standard or are using the PV as stabilization, skip this step.

Step 6: Add Calibration Points

- In the “**Calibration Points**” tab, define the calibration points. You can add a new point by clicking on the “**+ Add...**” button and then “**Point**” or distribute points by clicking on “**+ Add...**” and then “**Distribute Points**”. You can set the end point to “**off**” or “**set**” a specific value.

Step 7: Configure Communication

- In the “**Communication**” tab, configure communication with the dry block and/or calibrator. Enter the communication port for each device by clicking the “**Add...**” button.

Step 8: 🖬 Save

- After setting all the parameters, you can save by clicking the “🖬 Save”, located at the bottom of the screen.

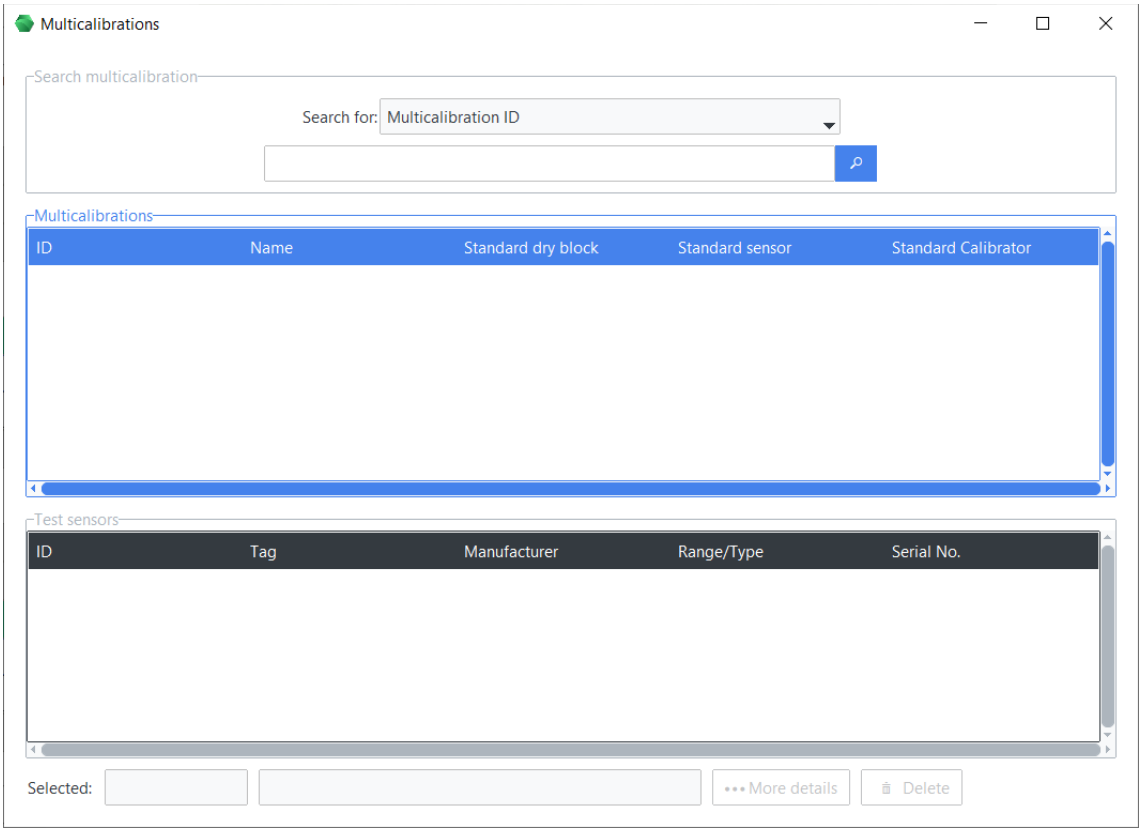
Step 9: Execute Calibration

- After setting all parameters, you can perform calibration by clicking the "**Execute Calibration (F5)**" button.

Follow the calibration steps until complete.

19.3. Multicalibration Screen

Selecting the option **Main Screen > Registrations > Multicalibrations > See all** , the screen will be displayed:



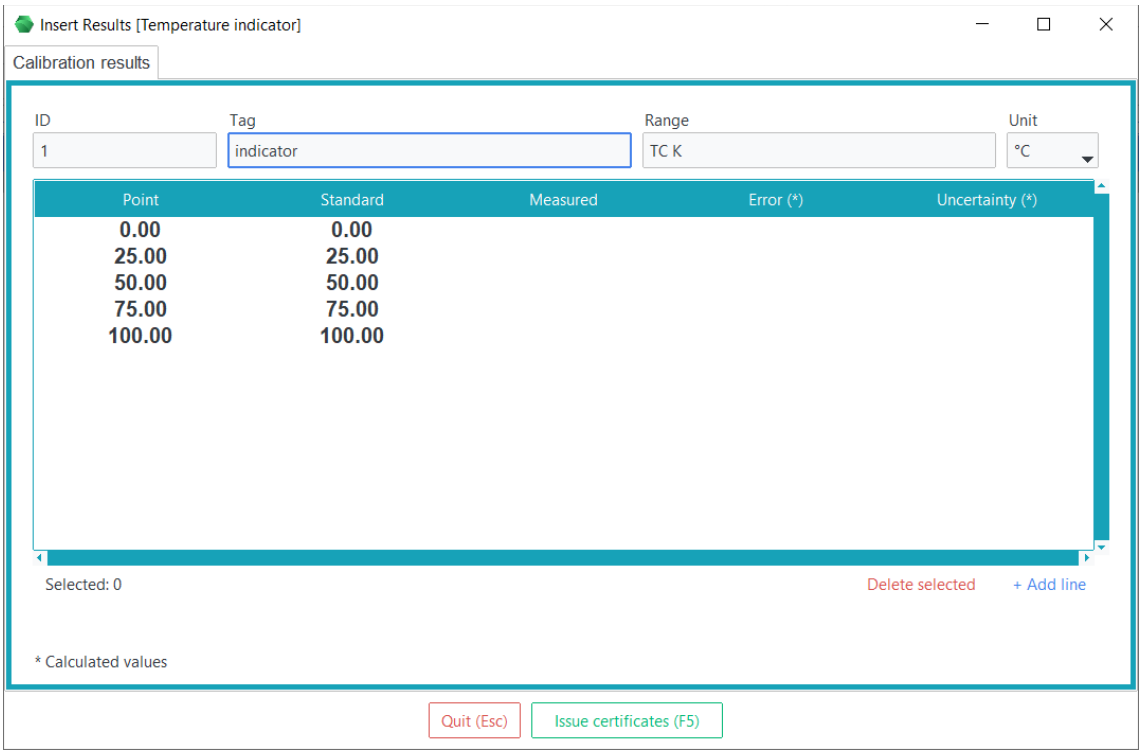
Select the information to be filtered by clicking on the box next to "**Search for:**", and type the information to be searched in the field, click on "🔎", multicalibrations will be listed in the table. To edit or view click on "••• **More details**", and to delete click on " 🗑 **Delete**".

20. INSERT RESULTS

It is possible to generate a certificate in the software from the recorded results, to do this follow the steps below for each type of measuring instrument.

20.1. Temperature indicator, transmitter and sensors

Selecting the option **Main Screen > Registrations > Instruments > Enter results,** the screen will be displayed:



If the instrument registration already has registered points, they will be loaded, in which case it is only necessary to fill in the fields "**Measuring**", "**Error**" and "**Uncertainty**".

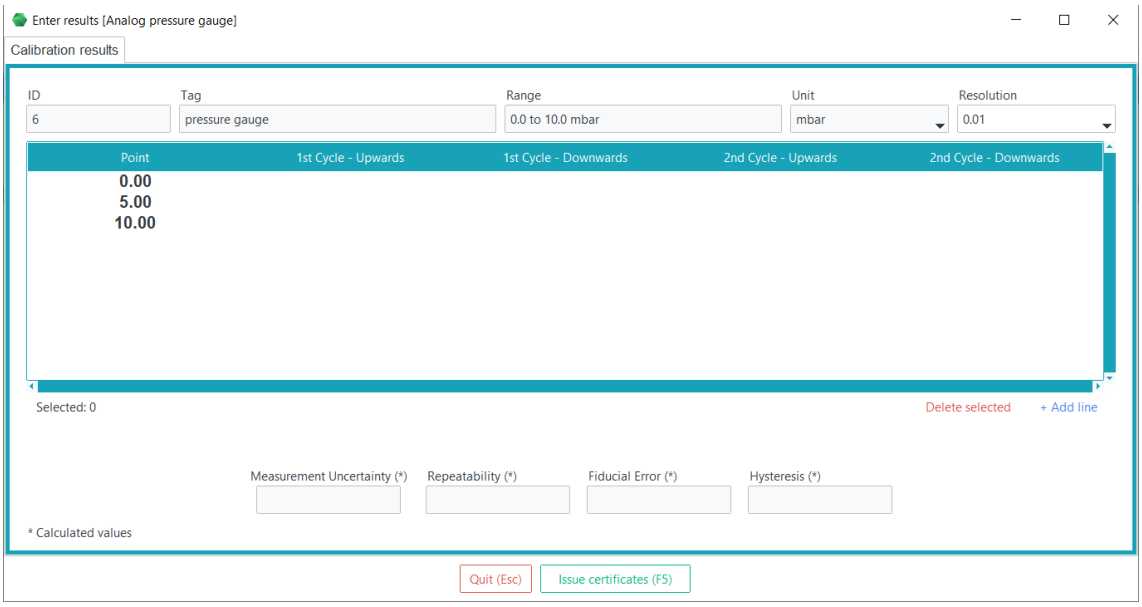
To add points, click on the "**+ Add line**" button and then enter the values of "**Point**", "**Standard**", "**Measurement**". The values of "**Error**" and "**Uncertainty**" will be calculated automatically.

If the instrument type is thermocouple or resistance thermometer, the standards must be added. To do this, simply click on the tab corresponding to the standard and click on the "**Select...**" button.

After adding all the points, just click on "**Issue certificates (F5)**" to generate the certificate.

20.2. Pressure gauge and pressure transmitter

Selecting the option **Main Screen > Registrations > Instruments > Enter results,** the screen will be displayed:



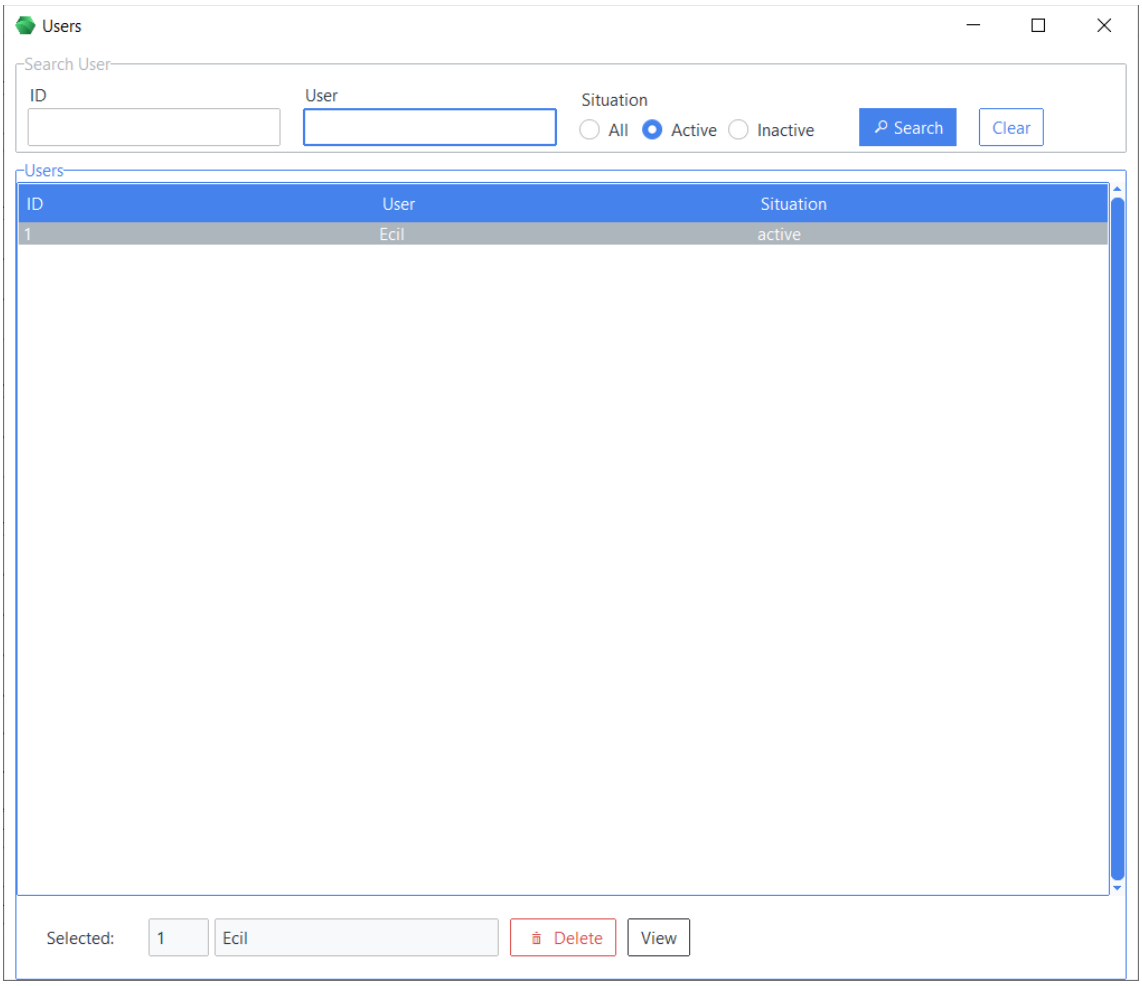
If the instrument registration already has registered points, they will be loaded, in which case it will be necessary to fill in the loading and unloading values for both cycles.

To add points, click on the "**+ Add line**" button and then enter the values for "**Point**", "**1st Cycle - Upwards**", "**1st Cycle - Downwards**", "**2nd Cycle - Upwards**" and "**2nd Cycle - Downwards**". The values in asterisk will be calculated automatically.

After adding all the points, just click on "**Issue certificates (F5)**" to generate the certificate.

21. USER SCREEN

Selecting the option **Main Screen > Registrations > Users > See all** , the screen will be displayed:



Enter the information to be filtered in the corresponding fields, click on "🔎 **Search"**, the users will be listed in the table. To delete and view the registration of the selected user, click on the corresponding buttons. To edit your user, select the option in **Main Screen > Registrations > Users >** ✎ **Edit my user.**