

# Elastocon®

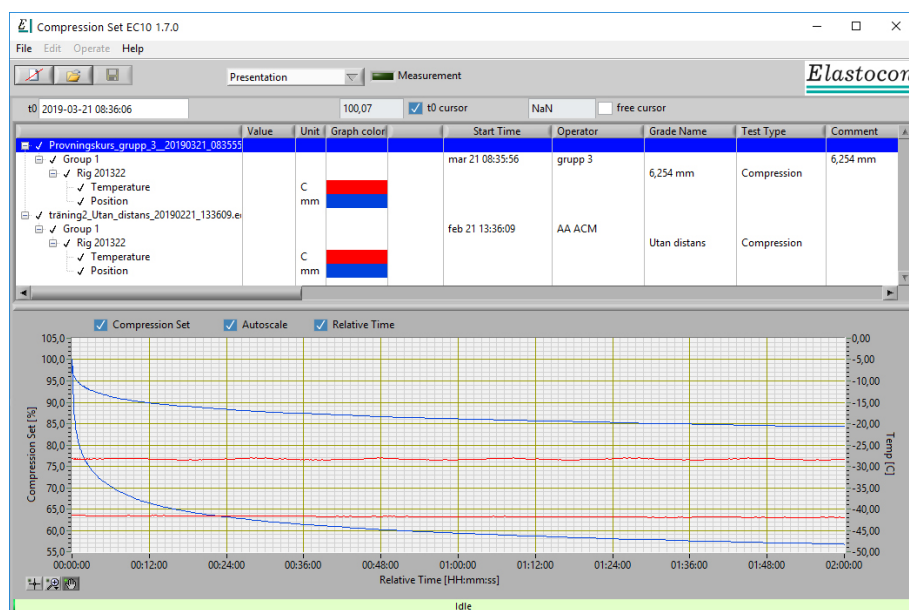
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## Manual

# Low Temperature Compression Set

**Software EC 10, Rig EV09, Lab Freezer ET03 with ET03.01 Conversion kit**

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**Technical documentation supplied  
on USB flash drive**



# 1. Setting up the equipment

Place the freezer on a level surface and connect it to a grounded mains outlet of 220–240 VAC having a 10 A fuse.

The freezer should not be placed where it might be splashed with water, in extreme humidity or in direct sunlight. The side with the ventilation grill should have a clearance of at least 100 mm. Connect the temperature sensors to the amplifier box and the thickness gauges to the Mitutoyo box.

## 1.1 Setting up the computer

Connect the computer and its accessories to each other and the power source (preferably to an UPS).

## 1.2 Setting up the amplifier box, EV 09.05

Connect the amplifier box to the computer and the power source (preferably to a UPS).

The amplifier box for data connection consists of WAGO-modules for temperature sensors.

The box has a network output and can be connected directly to the network connection on your PC or to your local network.

The box is assigned to the IP-address 192.168.10.91 at delivery. If you are already using this IP-address in your network, the address must be changed. To change the IP-address, install the WAGO Setup software from the USB flash drive, then run the “Wago ethernet settings” application. In the application, select Settings and change the connection type to Ethernet and enter the IP-address of the amplifier box. Newer amplifier boxes has a web server which can be used instead. To access the web server, just enter the IP-address in the address bar of your web browser. Be sure to label the box with the new IP-address since the only way to connect to it is by knowing the correct IP-address.

If troubleshooting connection issues, it may be helpful to be aware of the following:

- The amplifier box does not have a power indicator, but it is possible to look through the box vent holes and see if any lights (LEDs) are lit.
- The amplifier boxes have a web server which can be accessed by entering the IP-address in a web-browser. Newer web servers also allow the user to modify settings such as a static IP number directly in the web browser. If this is allowed no other WAGO software is needed.

### Alternative 1



**Computer**

Obtain an IP address automatically

**Switch/Hub**



**EV 09.05**

IP address: 192.168.10.91

### Alternative 2



**Computer**

IP address: 192.168.10.90



**EV 09.05**

IP address: 192.168.10.91

## 2. Running the freezer

Switch on the power and set the temperature preferably a day prior but at least 5–6 hours prior to loading the freezer.

Please note that the suggested minimum time of 5–6 hours for pre cooling the freezer, is only the time for the freezer to cool down. Preferably the freezer is started one day prior to the test to give the temperature enough time to stabilize properly. The actual test temperature will be shown in the application on the computer from the temperature sensor in the rig. The rig shall have room temperature when the test sample is mounted in the rig.



Figure 2.1

### 2.1 Set the temperature

Set the temperature on the freezer temperature controller.

Press the *Set* key for more than 2 seconds to change the set point value. The set point value will be displayed and the LED starts flashing. Set the desired temperature by pressing the arrow keys up and down. To save the new setting press and immediately release the *Set* key again.

To see the set point, press and immediately release the *Set* key again. The display will now show the set point value.

After setting the temperature on the freezer check what temperature you get in the rig when it is in the freezer.

## 3. Temperature calibration

The indicator is at the delivery calibrated according to the attached calibration certificate. The calibration applies to the sensor in the test rig and shown in the program. The sensor can be removed for calibration in a block calibrator.

Calibration should be done annually.

## 4. Service and maintenance

Keep the test rig clean. Wipe the rig dry after each test when the frost has molten with a soft cloth.

## 5. Troubleshooting

**Freezer:** See User instructions for the freezer.

To silence an active audible alarm on the freezer, press any key on the freezer temperature display

## 6. Technical specification

### Low Temperature Compression Set Rig, EV 09

Range, mm:	12,7
Accuracy, mm:	± 0,003
Resolution, mm:	0,001
Dimensions, dia × h, mm:	120 × 450
Weight, kg:	approx 6
Material:	stainless steel
Temperature sensor:	PT 100, 1/3 DIN
Standard:	ISO 815-2

The test rig is equipped with a digital gauge connected to a PC for recording of the creep.

**EV 09 is by default for smaller sized sample, ISO 815-2 sample B** (thickness 6,3 mm ± 0,3 mm, diameter 13,0 mm ± 0,5 mm)

**For testing with sample A** (thickness 12,5 mm ± 0,5 mm, diameter 29,0 mm ± 0,5 mm) from ISO 815-2 you will need the following accessories:

- **EV 09.03** – spacer 9,375 mm
- **EV 09.06** – larger, upper compression plate and necessary weight.

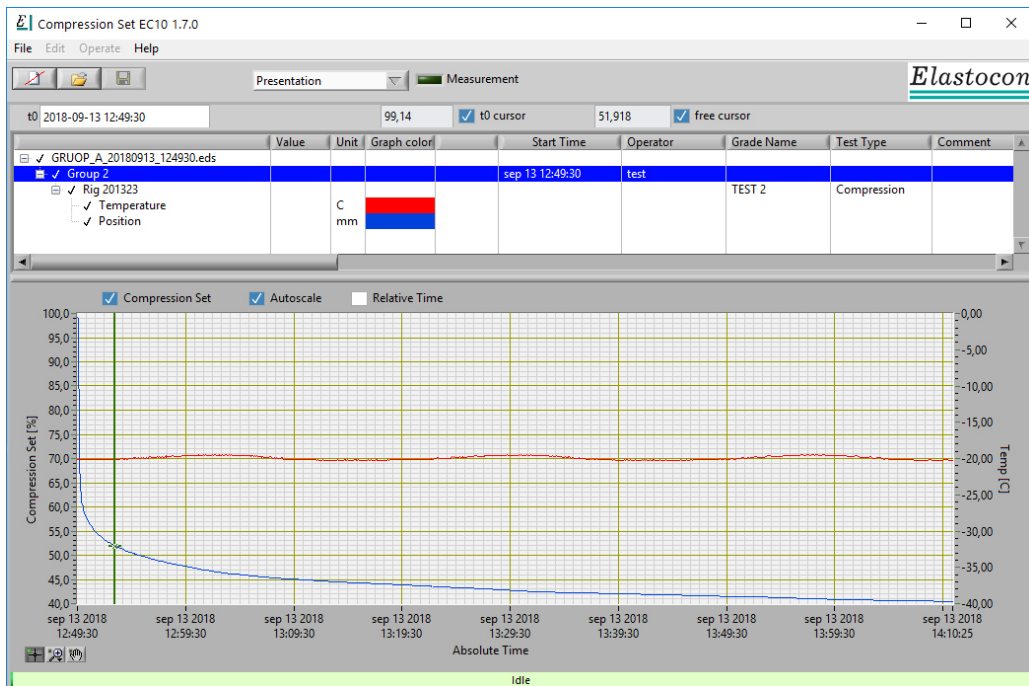
### Lab Freezers with ET03.01 Conversion kit

	<b>ET 03 (11 LT) -45°C</b>	<b>ET 07 (11 VLT) -60°C</b>	<b>ET 04 (11 ULT) -85°C</b>
Temperature, °C:	-10 to -45	-30 to -60	-50 to -85
Ambient temperature, °C:	+10 to +30	+10 to +30	+10 to +30
Net volume, l:	130	130	130
External dimensions (w × d × h):	725 × 655 × 865	725 × 655 × 865	725 × 655 × 865
Internal dimensions (w × d × h):	520 × 450 × 650	520 × 450 × 650	520 × 450 × 650
Insulation thickness, mm:	100	100	100
Net weight, kg:	46	56	56
Voltage, V:	220–240 V/50 Hz	220–240 V/50 Hz	220–240 V/50 Hz
Power, W:	210	375	480
Energy consumption/24 h, kWh:	3,4	4,3	5,8
Type of cooling:	Static	Static	Static
Type of defrost:	Manual	Manual	Manual
Thermostat:	Digital	Digital	Digital
Refrigerant:	R404a	Mix of 2 Hydro Carbons	Mix of Hydro Carbons

### Common specifications for Lab Freezers:

- Acoustic alarm
- Large temperature display
- Digital temperature controller 0,1 °C
- Handle with key lock
- Defrost water drain hole
- One stage compressor ensures high level of reliability
- Environmentally friendly HC refrigerant
- 100 mm high performance insulation
- CE -marked

## 7. Low Temperature Compression Set Software EC 10

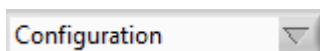


This is a quick guide for using a pre-installed version of the EC 10 software. This guide will only describe how to record events in a Low Temperature Compression Set rig.

The software is divided into three different sections.

- Configuration
- Log
- Presentation

The different sections can be accessed by the navigation drop list box. This drop list box is located in the main window and will display *Configuration* after software launch.



### Configuration

In this section all compression set rigs can be arranged into different groups by the user of the software.

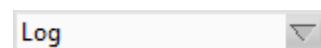
In the configuration view a hardware profile has been setup at delivery. This setup will collect data from all rigs included in the system.

The arranged number of rigs is NOT possible to change. This is a fix setup and was made up by the supplier, except for a few operations described in chapter 7.2.

Expanding the system with more rigs does require contact with the supplier.

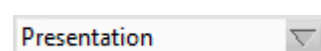
If the setup includes more than one compression set rig from the supplier, these rigs can be arranged by the user to record data into one file. This is usually done if the same material under test must be carried out as parallel tests (multiple tests). One group with a number of rigs will be recorded into the same data file and then presented with statistics in the presentation view.

To create this group or groups, go to chapter 7.2.



### Log

In this section, groups created in the configuration view can be used for recording events from the compression set rigs. Test setup and preparations before all tests must be made from this section.



### Presentation

In this section, any recording can be opened and viewed. Printouts, exports and evaluations are made in this section.

## 7.1 Starting

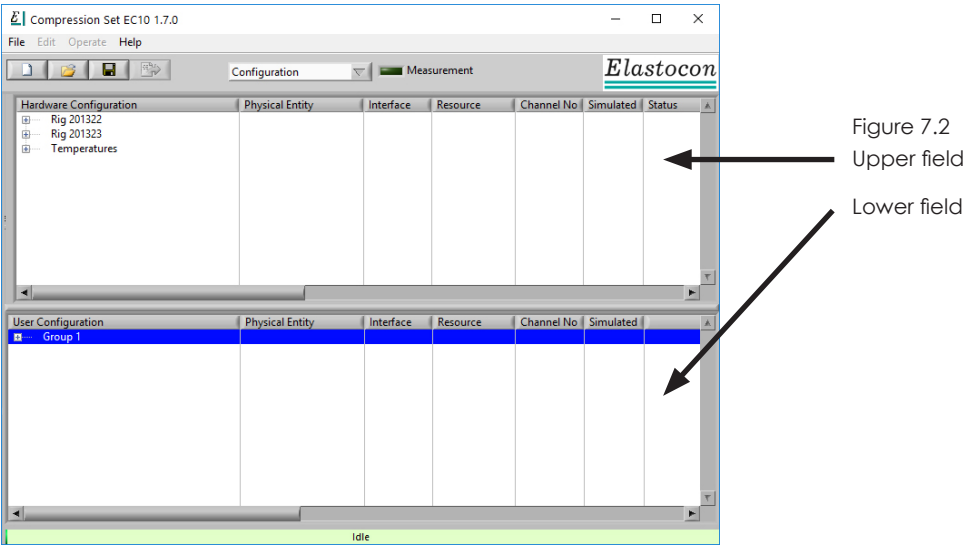
Start the software.

The last user set-up used will be loaded. If this is the correct set-up to use, continue to chapter 7.3. **Log (Run a test).**

If non or a wrong set-up is loaded, go to chapter 7.2. **Configuration** to open or create a user set-up.

## 7.2 Configuration

The configuration window is divided into two fields, an upper and a lower field.



The 'Expanded view' shows the 'Hardware Configuration' tree on the left with 'Rig 201322', 'Rig 201323', and 'Temperatures' expanded. The 'Physical Entity' and 'Interface' columns are visible.

Hardware Configuration	Physical Entity	Interface
Rig 201322		
Temperature	Temperature	WAGO
Position	Position	MitutoyoDM
Rig 201323		
Temperature	Temperature	WAGO
Position	Position	MitutoyoDM
Temperatures		
Temperature rig 201322	Temperature	WAGO
Temperature rig 201323	Temperature	WAGO

Expanded view.

The 'Collapsed view' shows the 'Hardware Configuration' tree on the left with 'Rig 201322', 'Rig 201323', and 'Temperatures' collapsed. The 'Physical Entity' and 'Interface' columns are visible.

Hardware Configuration	Physical Entity	Interface
Rig 201322		
Rig 201323		
Temperatures		

Collapsed view.

The Configuration view allows the user to do changes to the hardware setup such as changing communication address, refresh connection with the hardware and view sensor properties.

It will also allow the user to arrange the rig(s) into groups in the user configuration.

Descriptions for each field of the Configuration view will follow.

### 7.2.1 Hardware Configuration

**– The setup made by the supplier can be found in the upper field.**

Operations that can be made to the upper field are listed below.

- *Change address to a rig*

If the hardware address does not match the setup on site, it is possible to change address for each rig. However, this requires that all the sensors attached to the rig shares the same hardware. Left click on a rig in the hardware list and select *Change address*. For a mix of different hardware in the same rig, go to *Change address to a sensor*.

- *Connect*

Left click on a rig in the hardware list and choose *Connect* to connect any hardware that was not switched on when the EC 10 software was launched. Status will change to *Connected* in the hardware list for that rig, if a communication could be established.

- *Change address to a sensor*

Left click on a sensor right under any of the rigs in the hardware list and select *Change address*. If the hardware address does not match the setup on site, it is possible to change address for each sensor. This is normally made when the hardware is attached to a TCP/UDP-IP local or public network and the pre-set address cannot not be used. Local communication such as serial ports may also have to be re-directed with a new address.

- *View sensor properties*

Left click on a sensor right under any of the rigs in the hardware list and select *Sensor properties*. A new window will appear with all information about this sensor. Linearization, alternative sensor, offset- and gain factor.



## 7.2.2 User Configuration

### – The setup made by the user is found in the lower field.

Changes that can be made to the lower field are listed below.

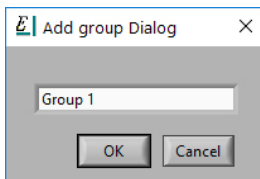
- *Create new group(s)*

If this setup was done earlier, that user configuration will be loaded automatically after software launch. If the user configuration already is loaded with a setup, this setup will also be loaded to the Log view. A setup file can be opened from the file menu. Go to File and choose open.

If a correct setup is loaded, **go to chapter 7.3 Log view** to continue with a test setup.

To create a new setup in the user configuration field follow the description below.

- Go to the menu File and choose New.
- Then click anywhere in the white area in the column *User Configuration* and choose *New Group*. A new dialog window will appear. Choose a name for the new group and press enter or click on the *OK* button.



- Now left click on any of the rigs in the upper field (Hardware configuration). Hold the button pressed and then drag and drop it to the new group in the lower field. Another rig can be selected with the same procedure. Click, drag and drop it to the new group in the lower field. More than one rig can be selected at the time. Simply hold down the *Shift* key on the computer keyboard and click on more rigs to select them, then drag and drop them all at once to the new group.
- If wanted, a new group can be created next to the already created group in the *User configuration* field. Repeat procedure from point b) to create another group. The one and same rig can only be dragged and dropped to one group. That rig will then be occupied.

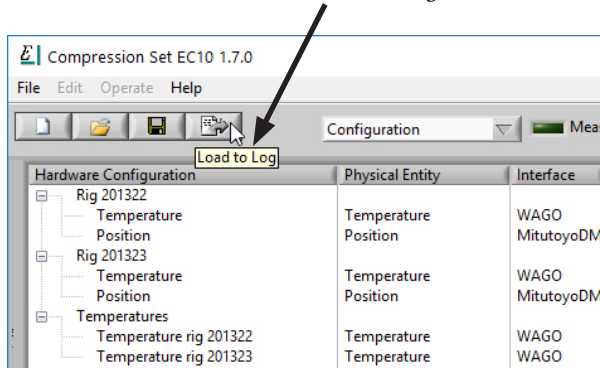
If wanted, a separate temperature group can be created, which can be used for logging the temperature before the actual test start. This is to log the temperature during the freezing time for the sample.

To do this, choose to configure a separate group (suggestion; give it the name *Temperatures* or anything of your choice) and include all temperature sensors in that group. In the upper part of the configuration window (hardware configuration) you will find all temperature sensors in one group, almost like a separate rig, with only the temperature sensors. Put this group of temperature sensors in the separate group in the lower configuration field.



- e) When the setup is complete with groups and rigs, go to the menu *File* and choose *Save*. Give this setup a file name.
- f) This setup is now ready to be used with the test setup in the Log view.

Load this setup now to the Log view. Go to the menu *File* and choose *Load to log*.



## Important!

This setup is now saved and will automatically be loaded to both Hardware configuration and Log view on the next software launch.

Once a setup has been loaded to the Log view, it cannot be modified in the Configuration view.

To get access to the setup for modifications, create or open another setup file from the file menu and do the procedure *Load to log*. This setup is now loaded instead and the file that requires modifications is disconnected.

Now open the setup file to modify in the Configuration view. Make the necessary changes, save the modified file and then load it with *Load to log*.

A setup file that has been modified might not work with the resume function for test data files (Log file). That is, if a log file has been paused or interrupted caused by power failure to the system and the setup file is modified, all compatibility with the paused log file might be corrupt and the log file cannot be continued. To avoid this problem, make sure to modify a setup file only when all running tests are finished.

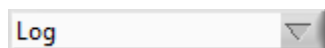
- *Remove group(s)*

To remove a group from the setup file, right click on the group name and choose *Remove Group/s*. More than one group can be removed simultaneously. To do so, hold down the *Shift* key on the computer keyboard and click on each group.

- *Rename group(s)*

To rename a group, right click on the group name and choose *Rename Group*. Type in a new name for the group. Then click on the *OK* button.

## 7.3. Log (Run a test)



Click on the drop list box and choose *Log*.

A user setup must be loaded in the Configuration view. An empty Log view will appear if no setup is loaded. Go through chapter 2 if no setup was loaded.

To set up the temperature logging, make sure that the pre-set status is as in the figure, where only the Group set up is necessary.

If this is not the case, go back to configuration view, retrieve your configuration file and load to log again, when you go back to Log view the status should be as in figure 7.3.a.

Group 5	Temperatures DEMO	115,7	°C				Idle
	Temperature 1	594,3					Setup
	Temperature 2	1051,7	°C				
	Temperature 3	1488,4	°C				
	Temperature 4						

Figure 7.3.a

Right click on the group with only temperature sensors, choose set up, fill in operator, file identifier, optional comments and the logging intervals.

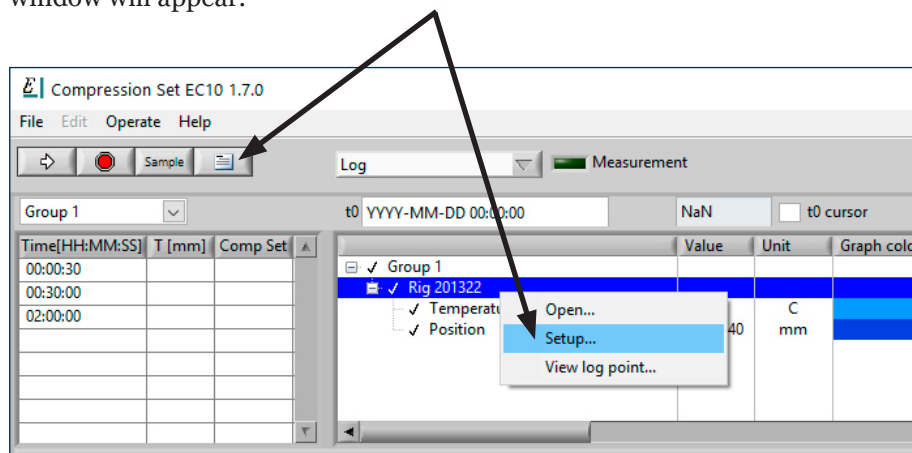
Recommended logging intervals is found in figure 7.3.b.

Logging intervals	
Minutes	Log every nth sample
3	1
120	3
Inf	12

Figure 7.3.b

### 7.3.1 Setup

Right click on the first rig right under the group and choose *Set up* or click on the button *Setup selected group/Station*. The station setup dialog window will appear.



- a) Fill in the necessary sample parameters for this rig.  
A grade name must always be typed in.

- *Sample thickness.*  
This is the height of the sample.  
See chapter 7.3.4 Start the test, to measure the sample thickness.
- *Sample diameter* (only as information).
- *Compression %.*  
Leave this field if spacers are mounted on the compression top plate in the rig.
- *Spacer height.*  
Type in the spacer height. The compression % input box will re-calculate when the spacer height is changed. The spacer height will also be pre-set in the dial gauge in the rig. The spacer height can be found on the calibration certificate for the rig. It is normal that the spacer height deviates from the calibrated height as the rig is decent into the freezer. The deviation is described further into this chapter.
- *Grade name.*
- *Comment.*

- b) Click on the button *OK*.

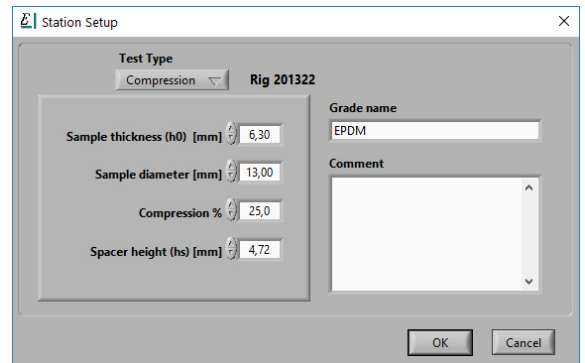
- c) Repeat the same procedure for all rigs,  
if there is more than one rig in that group.

- d) Right click on the group and choose *Setup*.

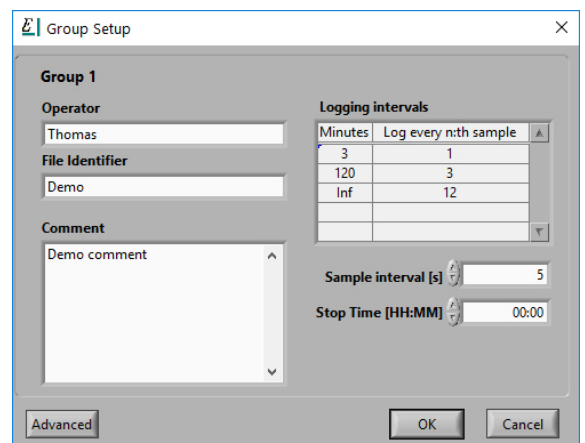
- e) The group setup dialog window will appear.  
Fill in the necessary sample parameters for this group.

- *Operator.*
- *File identifier.*  
In addition to the typed file name here, the software will automatically add date and time to the file name when the test starts.
- *Comment.*
- *Logging intervals & Sample interval [s].*

Column *Minutes* is the upper break point for the log interval to step over to the next log interval. Column *Log every n:th sample* is the multiple value for the next input control *Sample interval [s]*. The value typed in *Log every n:th sample* will be multiplied with *Sample interval [s]*. The sum of this is the log interval.



The **Station Setup** dialog box is shown. It has a title bar with a close button. Inside, there's a 'Test Type' dropdown set to 'Compression' and a 'Rig' field set to '201322'. Below these are four input fields with spinners: 'Sample thickness (h0) [mm]' (6,30), 'Sample diameter [mm]' (13,00), 'Compression %' (25,0), and 'Spacer height (hs) [mm]' (4,72). To the right, there's a 'Grade name' text field containing 'EPDM' and a 'Comment' text area. At the bottom right are 'OK' and 'Cancel' buttons.



The **Group Setup** dialog box is shown. It has a title bar with a close button. Inside, there's a 'Group 1' section with an 'Operator' text field (Thomas), a 'File Identifier' text field (Demo), and a 'Comment' text area (Demo comment). To the right is a 'Logging intervals' table with two columns: 'Minutes' and 'Log every n:th sample'. The table contains three rows: (3, 1), (120, 3), and (Inf, 12). Below the table are 'Sample interval [s]' (5) and 'Stop Time [HH:MM]' (00:00) fields. At the bottom left is an 'Advanced' button, and at the bottom right are 'OK' and 'Cancel' buttons.

Minutes	Log every n:th sample
3	1
120	3
Inf	12

## Example of logging intervals:

### Minutes: 3 minutes

Log every n:th sample: 1

Sample interval: 5 seconds.

From test start and 3 minutes ahead, the recording data will be recorded with 5 second steps.

### Minutes: 120 minutes

Log every n:th sample: 3

Sample interval: 5 seconds.

From 3 minutes into the recording and 120 minutes ahead, the recording data will be recorded with 15 second steps.

### Minutes: Inf

Log every n:th sample: 12

Sample interval: 5 seconds.

From 120 minutes into the recording and to infinity, the recording data will be recorded with 1 minute steps.

### Stop time [HH:MM]

The software will notify the user after this stop time.

An information dialog will pop up when this time is elapsed with two alternatives. Stop and Continue.

Recordings will continue with the last sample interval if none of the buttons are pressed by the user.

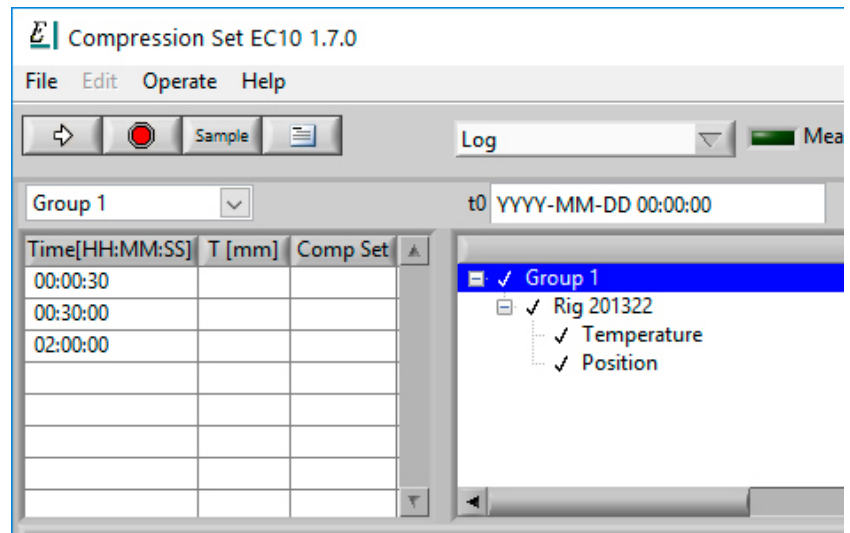
Stop time 00:00 mean it is not active.

## 7.3.2 Evaluation points

The evaluation point table control is located in the upper left field of the Log view section. The evaluation points are typed in as time stamps from start ( $t_0$ ).

Type in a suitable number of time stamps in this table control. Each time stamp in the table control will calculate an evaluation point from the recorded data and present the results in the *Presentation* section.

**Note:** Once the test has started and the group is recording, changes in this table control is not possible.



### 7.3.3 Pre-set the measuring gauge

The measuring gauge must be pre-set in order to get the correct thickness of the sample.

The pre-set value is the distance of the spacers between the compression plates in the rig.

A correct value of spacer distance can be found in the calibration certificate for the rig.

The procedure is done as follow:

1. Tighten the compression plates properly **without** sample. The level indicator is now in its upper position (see figure 7.3.3.a).
2. If the measuring gauge is new and/or has not got a correct pre-set value stored, follow description *Store a pre-set value*. If the value is correct just follow the description *Pre-set value*.

#### Store a pre-set value

1. Press the *SET* key on the measuring gauge one time. The display changes to +000.000 (see figure 7.3.3.b). A capital letter “P” will start to blink.
2. Press and hold the *SET* key for about 3 seconds. The +sign starts to blink.
4. Step forward to the next digit with a press on the *SET* key one time.
5. The first digit will start to blink. The spacer distance is normally 4.72 mm high. Step forward with the *SET* key to the digit on the left side next to the decimal separation symbol.
6. Increase the value of this digit with a press on the *MODE* key.
7. Step forward with the *SET* key to the next digit.
8. Increase the value of this digit with a press on the *MODE* key.
9. Repeat until the right value is shown e.g. + 004,720 or a spacer distance value according to the calibration certificate for the rig (see figure 7.3.3.c).
10. Press the *SET* key on the last digit and the capital letter “P” will start to blink.
11. To save the new settings press the *SET* key again.

The new spacer distance is now stored in the measuring gauge and can be restored as described in the description Pre-set value.

#### Pre-set value

1. Press the *SET* key one time. The display changes to +00X.xxx.
2. Again press the *SET* key one time and the display changes to X.xxx, where X.xxx means a value according to what was stored in the measuring gauge. For a standard test piece of 6,3 mm 25 % compression gives 4,72 mm spacer.

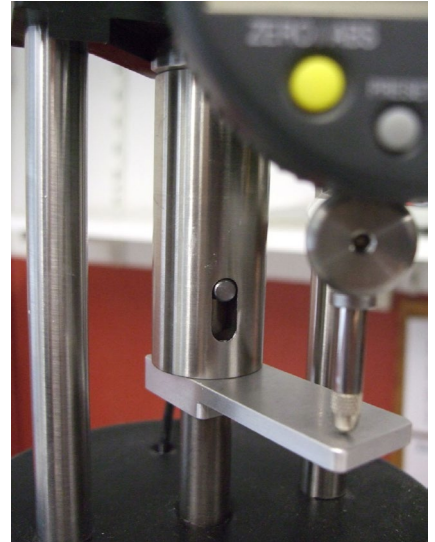


Figure 7.3.3.a



Figure 7.3.3.b



Figure 7.3.3.c



### 7.3.4 Start the test

When the software setup and rig setup is done the test can be started.

If not already done, start the freezer and adjust the temperature set point to the test temperature. Please note the recommendations in chapter 2 to start the freezer minimum 5–6 hours, but preferably one day prior to test start.

Measure the thickness of the sample with a thickness gauge and note the value of the thickness.

Wait for the freezer to reach the set point.

Preparation of the rig(s).

Clean the compression plate surfaces at standard laboratory temperature. Apply a thin coating of lubricant to the faces of compression plates that will come in contact with the test piece.

Release the compression plates until the level indicator is in its lower position. Do not lift the rod by hand. Make sure that the distance between the platens is enough to fit the sample.

Put the sample between the compression plates. Make sure to place the sample as centred as possible to the centre of the compression plates.

In the Compression Set software, in the station setup dialog, type in the previously measured sample thickness in the input box *Sample thickness* (chapter 7.3.1 Setup).

Tighten the compression apparatus until the spacer distance reaches the bottom plate **and the measuring gauge shows the pre-set value again.**

Tighten too hard and the rig will start to flex, causing the measured value to decrease.

Do the same with the other rigs in the group.

Without delay, place the test rig(s) in the freezer, operating at the test temperature.

If separate temperature logging during the freezing time before the actual logging starts of the samples is chosen, please start the temperature group now. Mark the group, and either click on the arrow far up to the left in the Log view or right click on the group and choose *Start*.

Since the rig temperature drops once placed in the freezer, the rig will begin to shrink due to its thermal expansion coefficient. The measure gauge will begin to rise in value.

Decrease of volume in the lower part of the rig will cause the thread shaft of the rig to rise. The lever inside the measure gauge will get pushed up. The result will be a higher value on the measure gauge.

**Wait for the condition time according to the standard for low temperature compression set.**

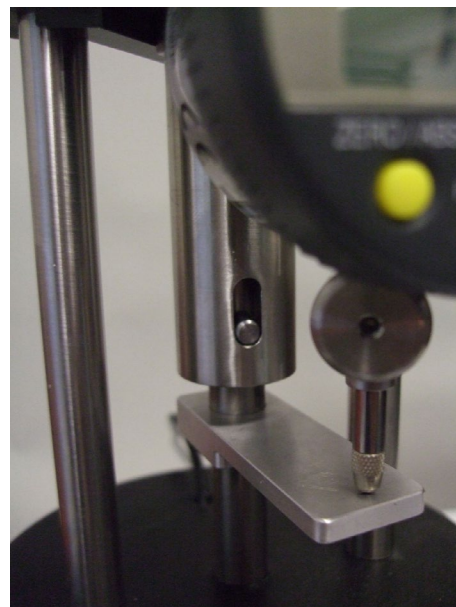


Figure 7.3.4.a

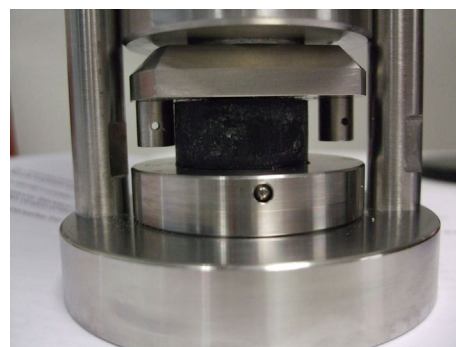


Figure 7.3.4.b

### 7.3.5 Run the test

After the specified time in the freezer it is time to measure the recovery and calculate compression set.

Pre-set the spacer distance again on the measure gauge according to chapter 7.3.3 to compensate for the deflection in the rig.

To start the recording of the test rig(s), click on the group and choose *Start* or click on the *Start selected group* button.

Release the compression as quickly as possible (until the level indicator is approximately in the middle). This is done without removing the rig from the freezer.

The test is now started, and the results can be seen on the graph. The size of the graph can be adjusted by dragging the split bar between configuration and graph.

To change the graph settings, right click on the graph.

When all rigs in a group have been released, set  $t_0$  as described in chapter 7.3.6.



### 7.3.6 Set $t_0$

For an automatic calculation of compression set,  $t_0$  must be set.

Click the first rig in the group to highlight it. Tick the tick box for the  $t_0$  Cursor.

A black cursor will be attached to the plot for the selected rig. Click and drag the cursor to the position closest to where the thickness value starts to rise. Figure 7.3.6 displays where the  $t_0$  cursor shall be placed.

Do the above for all rigs in the group (set  $t_0$ ).

The  $t_0$  Cursor will be the new start point from when the rig was released.

When the  $t_0$  Cursor is ticked for all rigs, calculations of all evaluation points will be made from the point at  $t_0$  Cursor.

The  $t_0$  Cursor can be moved only when the test is running. When the test is stopped,  $t_0$  cursor will be written to the test data file, and cannot be changed.

A free cursor is available, that will display the value of the selected sensor. The free cursor will snap to the sensor that is currently highlighted.

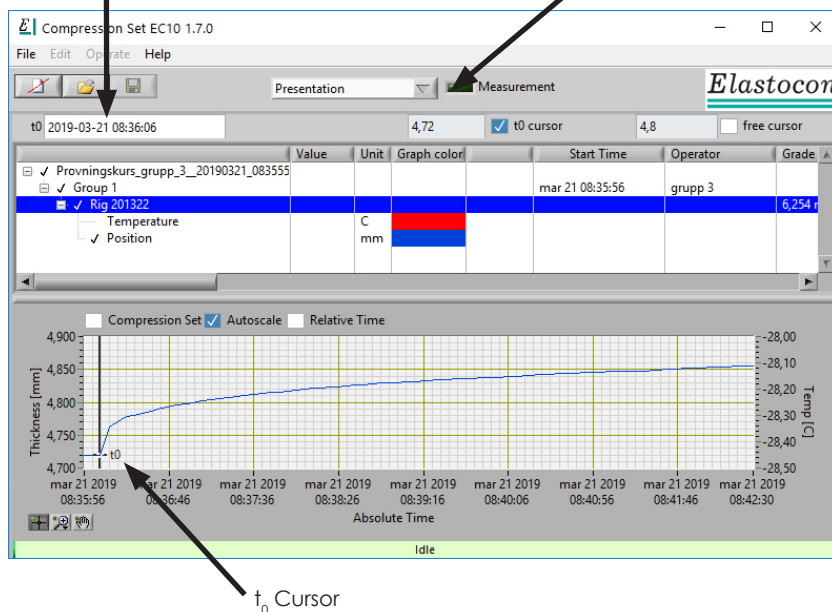
To change the plot colour, left click on a sensor to access the colour selector.

Right click on a highlighted sensor to set other properties for the plot, such as line width and point style.

**Figure 7.3.6**

Enter time  $t_0$

Enable  $t_0$  cursor



## 7.4. Presentation

In the presentation view it is possible to open historical data and view graphs. An on-going test in the *Log* view can also be opened in here in the *Presentation* view.

- To compare different tests, go to the menu *File* and choose *Open*.
  - Select a file to open. It is possible to open multiple test files by repeating the same.
  - Tick the box *Relative Time above the graph*. The time at the X-axis will now change from absolute to relative and show the test with a relative time axis instead of the absolute time.

### Change graph properties

- To change the graph properties:
  - Right-click anywhere in the graph.
  - Choose X- or Y axis.
 All properties that can be set can then be found in the sub menus of X- or Y axis.
- View the logged data as calculated compression set:
  - Tick the box *Compression Set* above the graph.
- Look at data file set up or evaluation points:
  - Right click on the group and choose *Settings or Evaluation points*.
- To change the Y-or X-axis range:
  - Click on any of value at the end of the axis and type in a new value.

### 7.4.1 Export the data

Open a data file and right click on the open file. Choose *Export data* to export the selected file.

The text file can then be opened in a spreadsheet software such as Excel or any other text editor.

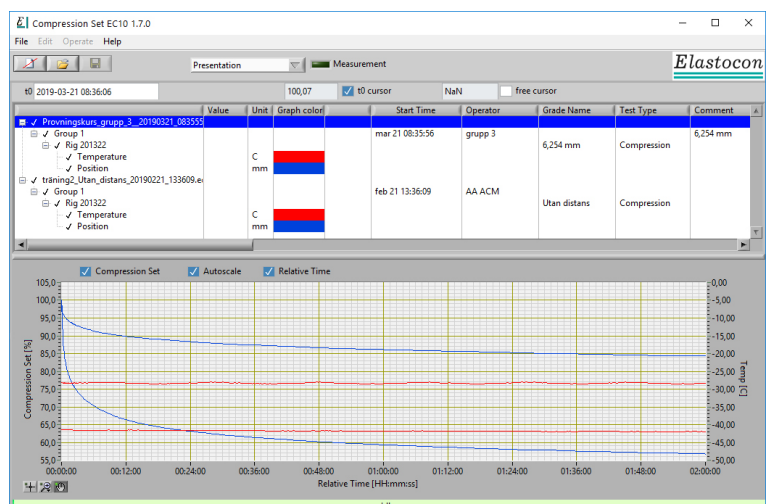
## 7.5. Test Report

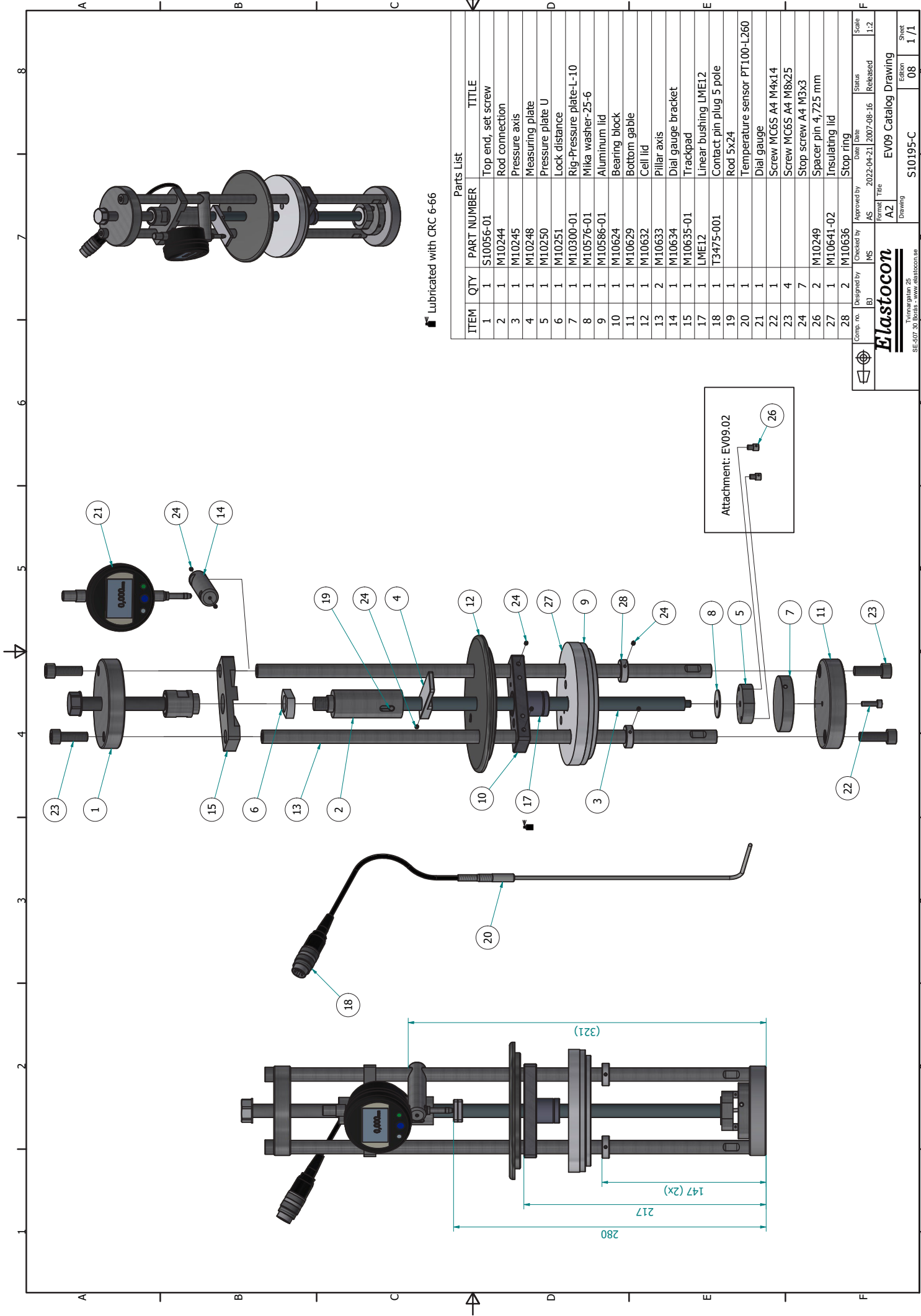
To print a test report or the graph, select one or more files and go to the *File* menu and select *Print...* or press CTRL+P.

You will be presented with two choices: *Table & Graph* or *Graph*.

**Table & Graph** will print the evaluation points and the curves for one file with up to 3 test stations.

**Graph** will print the curves shown on the graph in the software. In this way, tests run at different times can be compared. A test report can be sent to a printer.





Lubricated with CRC 6-66

Parts List			
ITEM	QTY	PART NUMBER	TITLE
1	1	S10056-01	Top end, set screw
2	1	M10244	Rod connection
3	1	M10245	Pressure axis
4	1	M10248	Measuring plate
5	1	M10250	Pressure plate U
6	1	M10251	Lock distance
7	1	M10300-01	Rig-Pressure plate-L-10
8	1	M10576-01	Mika washer- 25-6
9	1	M10586-01	Aluminum lid
10	1	M10624	Bearing block
11	1	M10629	Bottom gable
12	1	M10632	Cell lid
13	2	M10633	Pillar axis
14	1	M10634	Dial gauge bracket
15	1	M10635-01	Trackpad
17	1	LME12	Linear bushing LME12
18	1	T3475-001	Contact pin plug 5 pole
19	1		Rod 5x24
20	1		Temperature sensor PT100-L260
21	1		Dial gauge
22	1		Screw MCGS A4 M4x14
23	4		Screw MCGS A4 M8x25
24	7		Stop screw A4 M3x3
26	2	M10249	Spacer pin 4,725 mm
27	1	M10641-02	Insulating lid
28	2	M10636	Stop ring

Trivnäsgräslan 25  
SE-507 30 Borås - www.elastocon.se

Comp. no. [ ]  
Designed by [BJ]  
Checked by [MS]  
Approved by [AS]  
Date [2022-04-21]  
Status [Released]  
Scale [1:2]

Formal [A2]  
Title [EV09 Catalog Drawing]  
Drawing [S10195-C]  
Edition [08]  
Sheet [1/1]



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