

Quick Start Degutron® eco

Dear customer:

We would like to ask you to perform a final check once you have installed the unit as per our Instructions for use:

Double-check the connections:



- Supply voltage: Make sure the device has been plugged in.
 - Cooling water: Make sure you did not confuse the Water In and Water Out connectors.
 - Vacuum: Make sure that the vacuum pump has been properly installed and connected.
 - Compressed air: Make sure the compressed air line has been connected to the Gas In connector and delivers 4–6 bar of pressure? Make sure that no other connected devices can interfere.
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Melting and casting:

Are the crucible and its protective quartz crucible undamaged?

The crucible must be seated lightly on the quartz fleece, while the collar of the crucible must be level with the protective quartz crucible.

General recommendations:

- The minimum amount of material to be placed in the crucible is 10 g for the graphite crucible and 15 g for the ceramic crucible.
- Glaze the ceramic crucible with flux powder before using it for precious alloy is the first time. The addition of flux is generally recommended for all precious alloys to be melted in the ceramic crucible.
- Ingots or cubes of the alloy should be distributed flat on the bottom of the crucible to enable an easy coupling of the induction field.
- If the material does not fit into the crucible once, a pre-melting step is recommended. Pre-melting means that the “Stop” key is pressed once the initial material has collapsed and new material is added subsequently. The muffle will not be inserted until during the main melting step.
- The standard casting pressure setting is 2 bar.
- In the case of alloys that tend to spatter, press the “Start” button at any time to alternate between a full vacuum and a reduced vacuum (the latter reduces the incident of spattering).
- After each casting, remove all alloy residues from the crucible to prevent spattering.

General procedure:

- Turn on the cooling water supply/circular cooling.
- Turn on the air pressure.
- Turn on the vacuum pump.
- Turn on the main switch.
- If the self-test was performed successfully, the display will show “Power” “---”, indicating that the device is ready.
- Once the device has been turned on, the pressure test will be performed during the first melting procedure. If the pressure test fails (e.g. because the lid of the casting chamber was not properly closed), an error message will be displayed (e.g. “E081”).

To avoid the cooling down of the muffle during extended melting procedures, this test can be performed as follows:

- Insert the empty graphite crucible – complete with quartz crucible – into the induction coil.
- Close and lock the lid.
- Press “Start” to begin the pressure test. The pressure test is completed successfully once a vacuum has been built up and the heating process starts (“Pxxx” will be shown on the display).
- Press “Stop” to terminate the pressure test. The respective crucible can now be inserted.
Caution! Crucible is hot!
- Insert the graphite crucible containing the material to be processed – complete with quartz crucible – into the induction coil.
- Select the muffle tray according to the size of the muffle and adjust.
- Use the “+” and “-” on the “Power” display to select the respective heating power (0% to 100% in steps of 10%).
- Place the muffle into the muffle tray.
- Close and lock the lid.
- Press the “Start” key once. The casting chamber will be evacuated.
- Once a vacuum of < -0.98 bar has been achieved, the pressure display changes to timer mode.
- Repeatedly pressing the “Start” key will alternate between a full and a partial (reduced) vacuum.
- Once the casting point has been reached (see the alloy manufacturer’s recommendations), press the button on the handle and rotate the unit continuously to the right to the stop. Once in the final position, allow the button on the handle to snap into its locked position. When it is rotated, the unit automatically builds up pressure in the casting chamber. The “Pressure” indicator on the display includes an automatic timer calibrated in seconds.
- Once the desired holding time (at least one minute) is over, press the button on the handle to unlock the unit and rotate the casting chamber back to its horizontal position. The casting chamber will be ventilated automatically.
- Open the casting chamber and remove the muffle.