

**The wire saw is a potentially dangerous machine and any user has to be trained before using it by a responsible:
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In case of any doubts during operation, ask a responsible.

Wire Saw short manual:

Before start:

1) **Turn on the pressure.**

This will produce some tension on the cutting wire when the machine is switched on. **Without pressure, the wire does not have enough tension and will slip over the guiding wheels.**

2) **Check that there is sufficient cooling water**, i.e. the pump (12 V) should work. **The pump should never run dry !** Check the cooling water sink.

3) Switch on the wire saw using the "Main" button.

4) Make a note in the log-book so that we can track the materials treated. You can produce hazardous waste and we need to know what stuff might be in the cooling water.

Mounting the sample:

The sample must have a solid mount. One method is to glue it on the support using Crystalbond or similar materials. Note that Crystalbond gets slowly dissolved by the oil of the cooling water. If long cutting times are expected, one method is to use nail cover on top (found to be stable) or, if possible, just wrap up things in plastic foil.

If you do oriented cuts with samples mounted on a goniometer, protect the mechanics against the cooling water. It leads to corrosion and close to the cutting wire it carries a lot of dirt from the cutting. Good protection can be achieved by wrapping things up with plastic household foil (to be found in one of the drawers).

Orientation of the mounting plate can be achieved when the edge of the plate is aligned against the wire. The precision is better than 0.2° when the wire is parallel to a 10 cm long edge.

Position sample and wire:

Go through the menu points with operation mode set to "MANUAL": Adjust the table, height of the wire, rotation etc... . Bring the wire close to the position where the cut should start.

Note: Do not rely on the positions given in the display. The position system easily loses steps, in particular in the rotation and translation modes ! Measure positions instead. A special microscope for the saw is available, if needed.

Start cutting:

Go to the mode setting "AUTOMATIC". Choose there the wire speed, cut depth, the feed etc. A wire speed setting around 50% is usually OK. Normally you should only change the depth of the cut. The feed determines the surface quality.

START the cooling water and make sure it hits the cut line.

CLOSE the saw for safety reasons ! The wire is sharp and runs very fast, 30-60 M/min, you don't want it wrapped around you in case of failure !

Start cutting using the RESET button.

Stopping the saw:

In "Automatic" mode the saw stops when the cut depth is reached.

A manual / emergency stop is achieved by going back to the MANUAL mode.