

MEC SPL Electrical Turn Off Procedure

9/9/21

OVERVIEW

This procedure will include the necessary steps to completely turn off the SPL laser electrical components in preparation for a full lab power turn off.

System Turn Off

Legend regenerative amplifier/EVO-30 Legend pump laser

The Evo-30 laser and laptop used to control the Legend regenerative amplifier and Evo-30 laser are located in the northwest corner of the hutch, behind the split mode curtain



Access the GUI on the laptop and press the OFF button to turn off the EVO-30 laser. This will stop all laser activity past SHUTTER 2 on the LSS. The Vitara laser will be the only remaining laser on after this STOP button is pressed unless the GAIA laser is still operating.



Evo-30 Laptop

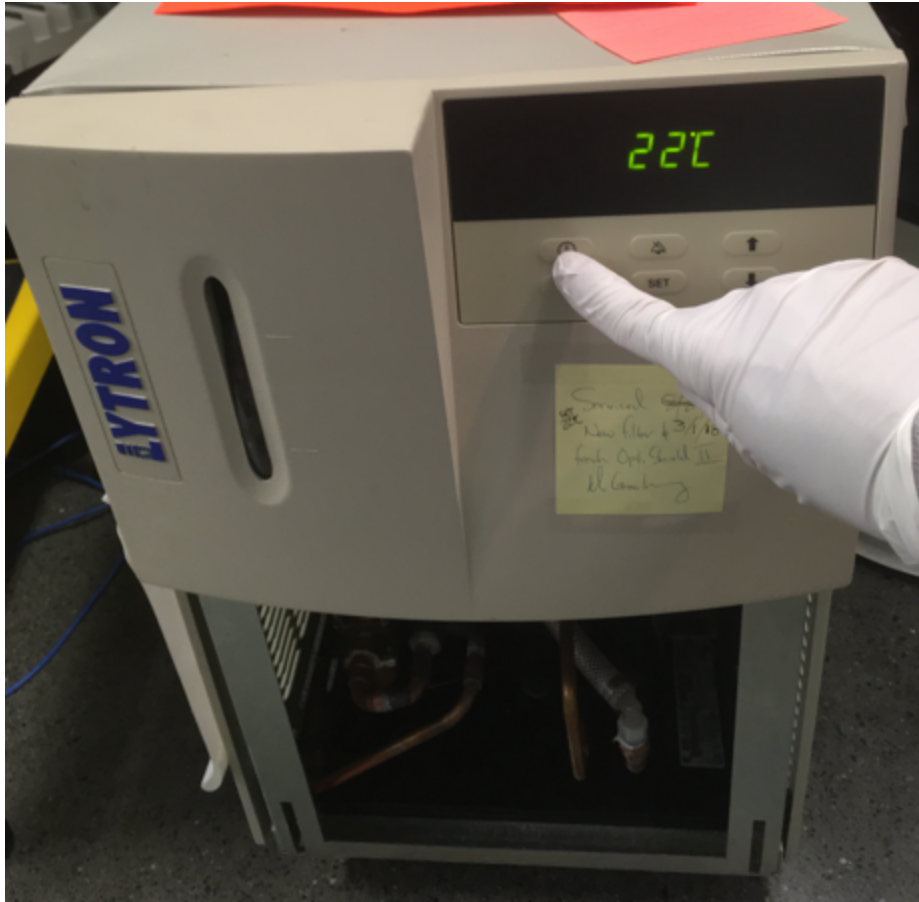
LBO ramp down



1. Access the Evolution GUI "FACTORY" tab .If a password is necessary, enter 1142ff1. Toggle the " SHUTDOWN: Set LBO to 75 DEG" switch to the "UP" position. This begins the ramp down process from approx 325 DEG to 75 DEG. The process takes approx 30 minutes.
2. Close GUI by clicking the exit button and shut down the laptop. Note: turning off the laptop will not cease the LBO ramp down procedure.

Chiller-the chiller is located near the Vitara laptop

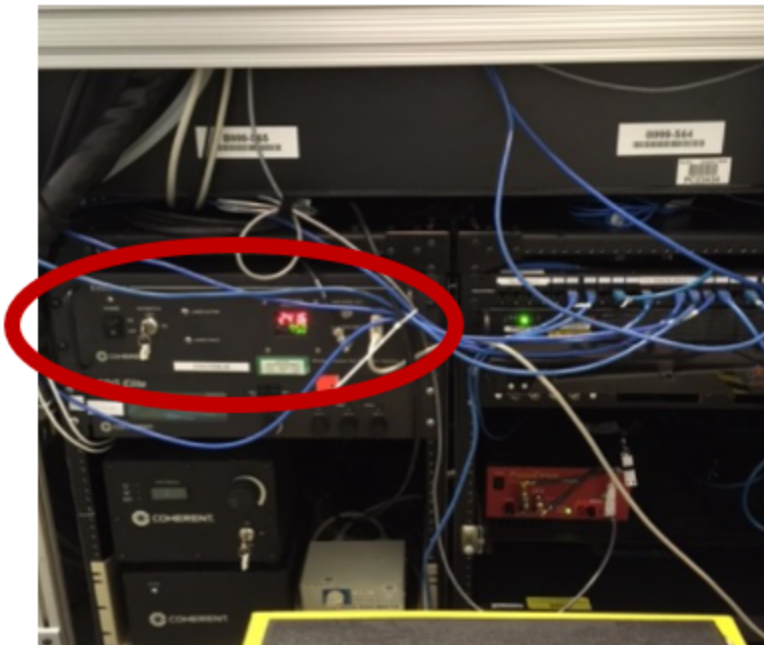




Press the top-left button to turn off the Evo-30 chiller

EVO-30 Power Supply

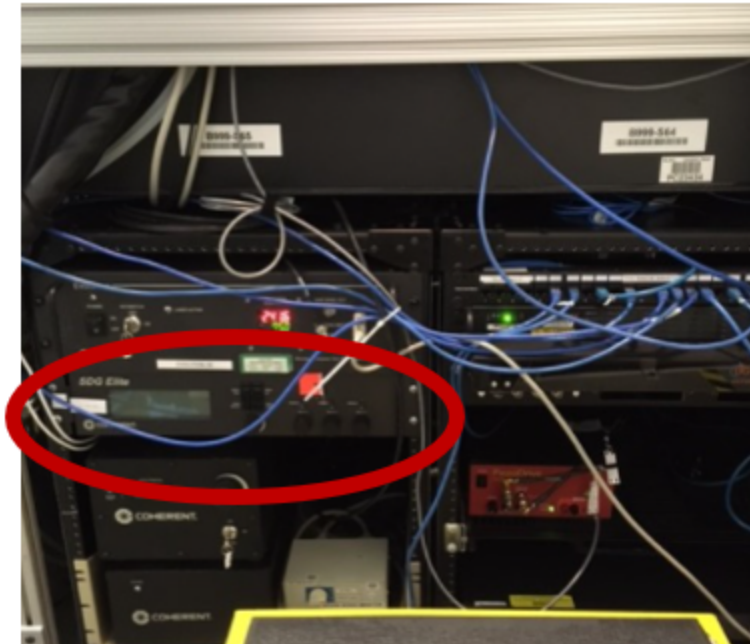
Evo power supply is located in the rack in the NW corner of lab in front of the Split Mode curtain



Turn the key switch to “OFF” and POWER circuit breaker to “OFF”. The LBO temp indicators remaining on are normal.

SDG

SDG is located in the rack in the NW corner of lab in front of the Split Mode curtain





Turn rocker power switch to “OFF” on rear panel of SDG

Piezo driver



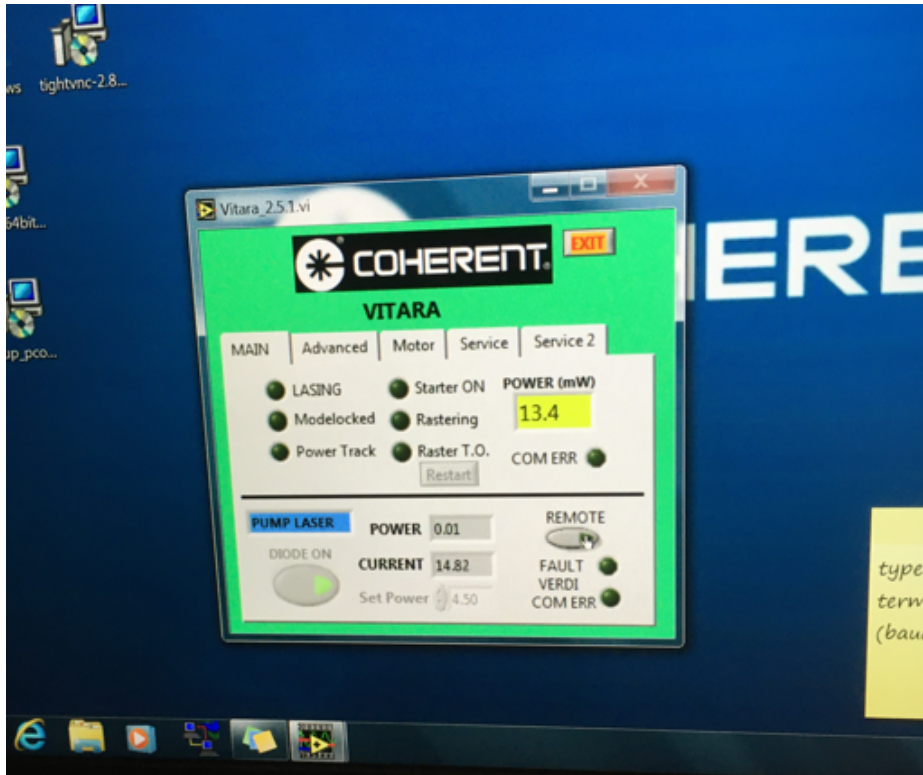
Locate the piezo driver (next to SDG). Turn power to OFF

Vitara laser

The Vitara laser is located in the northwest corner of the hutch



Vitara Laptop



1. Press the "REMOTE" button to disable the current to the Vitara power-if current is zero
2. Close GUI by clicking exit button and shut down laptop

Vitara Power Supply



1. Turn key switch to "OFF"
2. Both top and bottom modules have a circuit breaker on the rear panel. Reach around and turn off both circuit breakers (top unit breaker located in rear-left-top and bottom unit located in rear-right-center of back panels when facing the front panels).



Vitara Top PS unit



Vitara Bottom PS unit

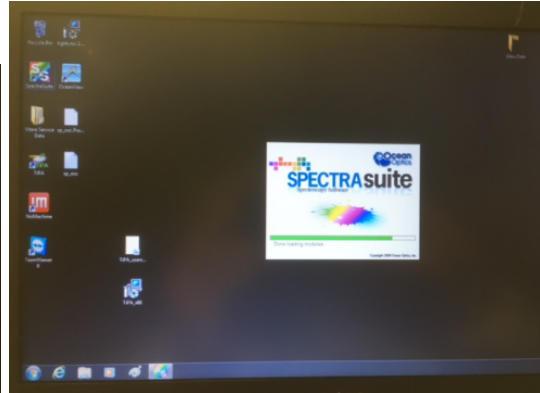
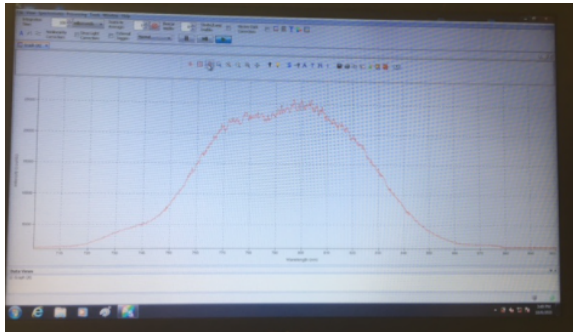
Chiller



The main circuit breaker to turn off the chiller is located on the right-side panel of the chiller. Turn the breaker to the off position.

Spectral monitoring laptop-located above Vitara laptop

Close Spectra Suite GUI and turn off laptop used for Vitara spectral monitoring



Topas

This device is within the roll up door areas. Do not open doors unless in LASER OFF on the LSS/MCP

Topas Power



Open the rollup door in the southwest corner of the hutch closest to the Topas and turn the rocker switch to the “OFF” position

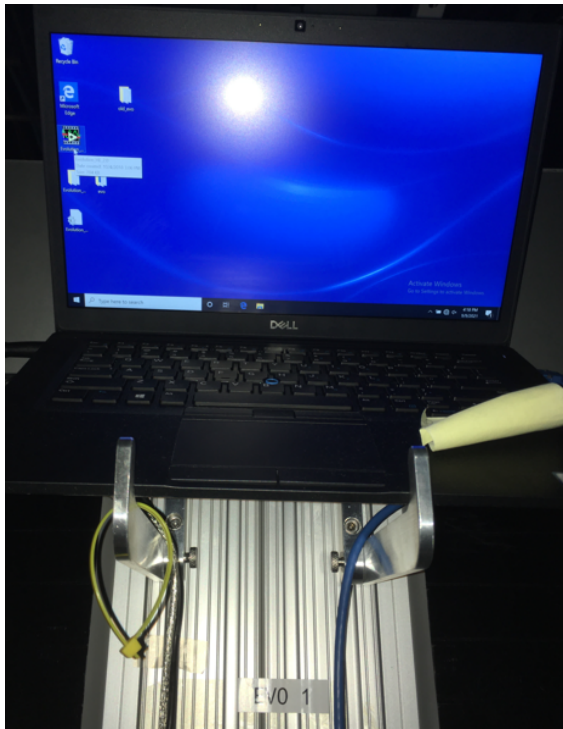
Laptop



Locate the Topas laptop (next to Topas). Close the Topas Prime GUI and shut down the laptop

EVO-HE Laser (MPA1)

Laptop 1 and Laptop 2 used to control EVO-HE Laser used for pumping MPA1 are mounted high on the far south wall as shown below



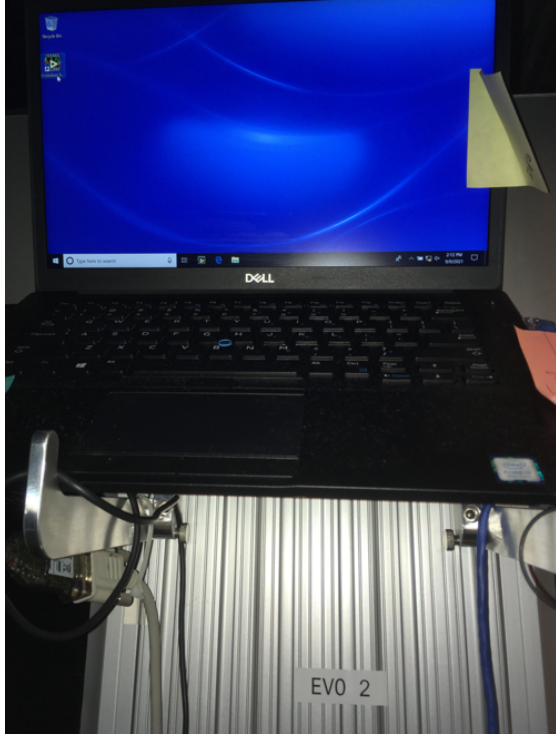
Evo 1 laptop mounted towards the East end of the SPL laser. If password is needed, type PCDS4mec

LBO ramp down



1. Access the Evolution HE GUI "FACTORY" tab. Toggle the " SHUTDOWN: Set LBO to 75 DEG" switch to the "UP" position. This begins the ramp down process from approx 325 DEG to 75 DEG. The process takes approx 30 minutes.
2. Close GUI by clicking exit button and shut down laptop

Laptop 2



Evo 2 laptop mounted towards the West end of the SPL laser. If password is needed, type PCDS4mec

LBO ramp down



1. Access the Evolution HE GUI “FACTORY” tab. Toggle the “ SHUTDOWN: Set LBO to 75 DEG” switch to the “UP” position. This begins the ramp down process from approx 325 DEG to 75 DEG. The process takes approx 30 minutes.
2. Close GUI by clicking exit button and shut down laptop

Evo HE power supply rack

The rack for both EVO HE power supplies is located in the left-middle section of the lab between the laser tables and the target chamber





Evo HE power supply rack

Evo-HE #1 Power Supply



Turn the key switch to “OFF” and POWER circuit breaker to “OFF”. The LBO temp indicators remaining on are normal.

Evo-HE #2 Power Supply



Turn the key switch to “OFF” and POWER circuit breaker to “OFF”. The LBO temp indicators remaining on are normal.

Evo-HE Chiller 1



Press the top-left button to turn off the Evo-HE chiller 1

Evo-HE Chiller 2



Press the top-left button to turn off the Evo-HE chiller 2

Gaia

Power Supply Rack

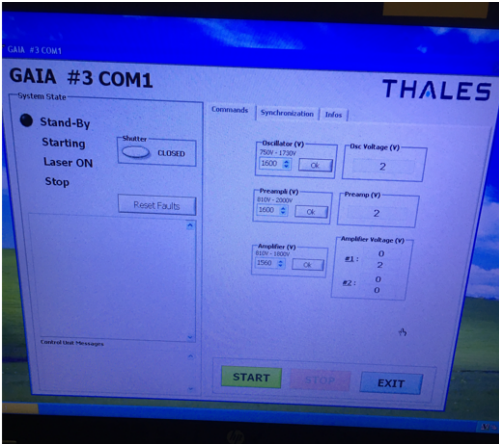


Turn the key switch to the “OFF” position



Find the electrical power box for the Gaia on the South wall, towards the East end of the aisle and lower the large switch handle to the “OFF” position.

Gaia Laptop-located next to Gaia power supply

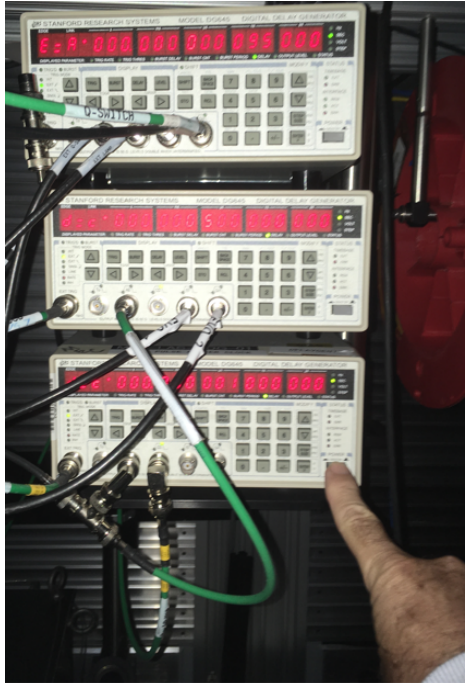


Close GUI for Gaia, if open, and shut down laptop

Other devices-inside roll up doors

These devices are within the roll up door areas. Do not open doors unless in **LASER OFF** on the LSS/MCP

DG-645's



Roll up door in front of Gaia laser head/MPA1 bench access and press “POWER” button to off on each of the three DG-645's

Moletron Power Meters



Roll up door in front of Gaia laser head/MPA1 bench access and press rocker power switch to “OFF” on each of the two Molectron power meters

Uniblitz shutter power supplies



Roll up door in front of Gaia laser head/MPA1 bench access and press rocker power switch to “OFF” on each of the three Uniblitz shutter power supplies

Other devices-under optical tables



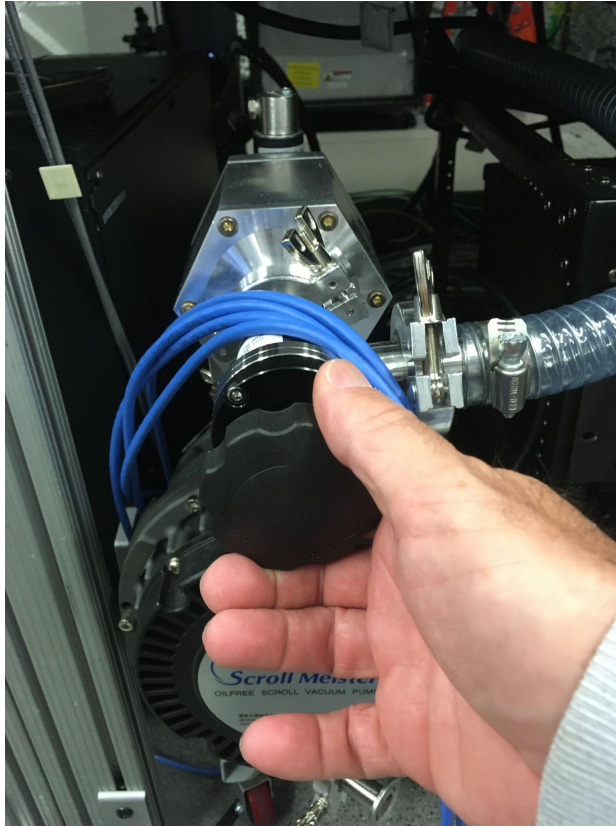
The following devices are located in the alleyway shown above between the laser table and the x-ray path table

Smaract power supplies



Located under the SPL optical table in the alleyway between the laser systems and the X-ray path.

SPL relay tube roughing pump



Located under the SPL optical table in the alleyway between the laser systems and the X-ray path on the left side as you walk towards the U. If the pump is on, close the valve by turning the valve knob full clockwise.

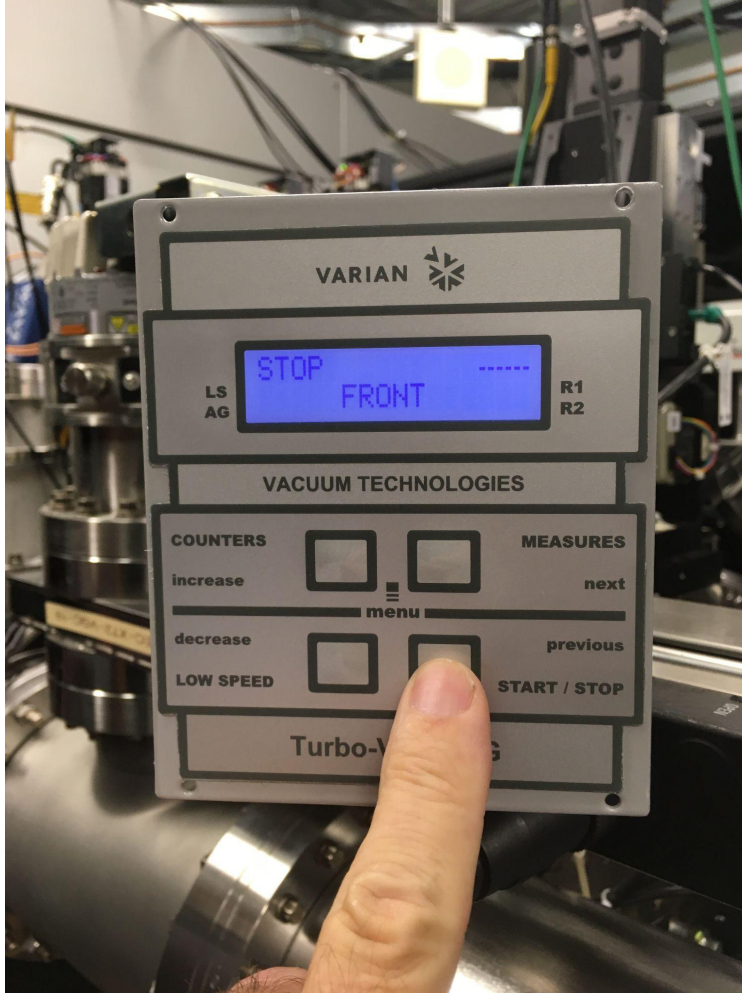


If the pump is on, locate the 110V power cord and pull it from the terminal strip to turn the pump off

Compressor vessel vacuum system

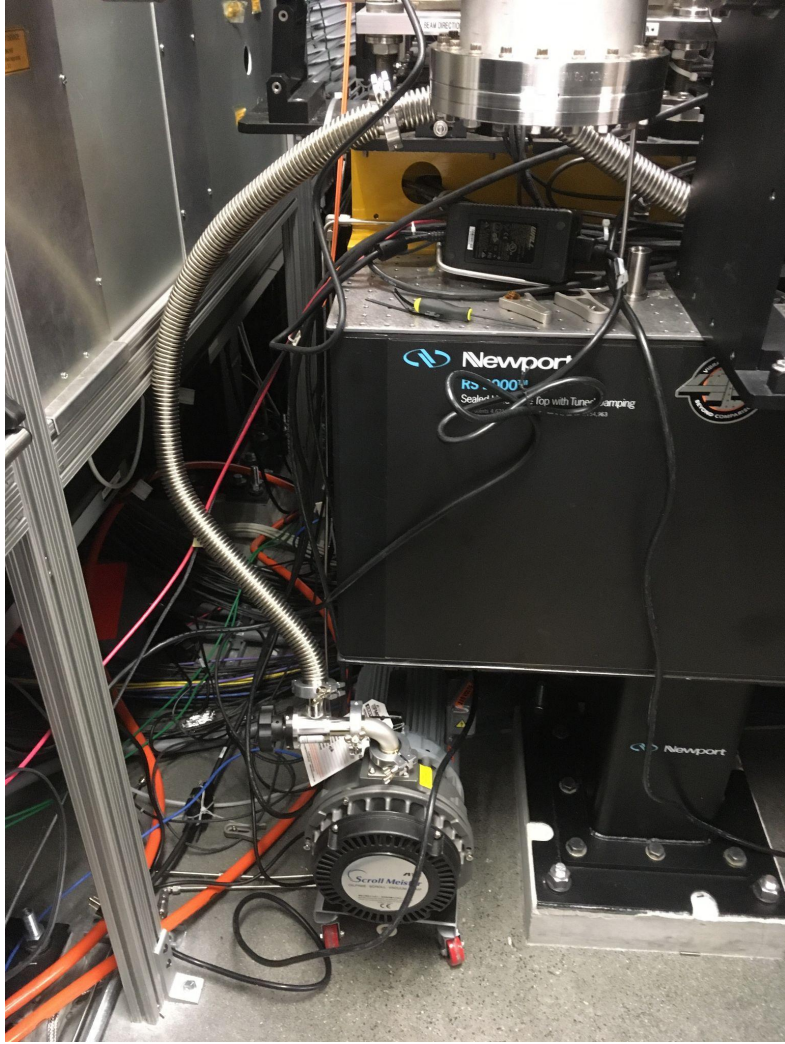
Important:The turbo pump must be turned off before the mechanical roughing pump is turned off

Turbo pump



Access control gauge: Located about “eye” level in the alleyway between the laser systems and the X-ray path on the right side as you walk towards the U. Press STOP button. You should be able to hear the turbo pump spin down.

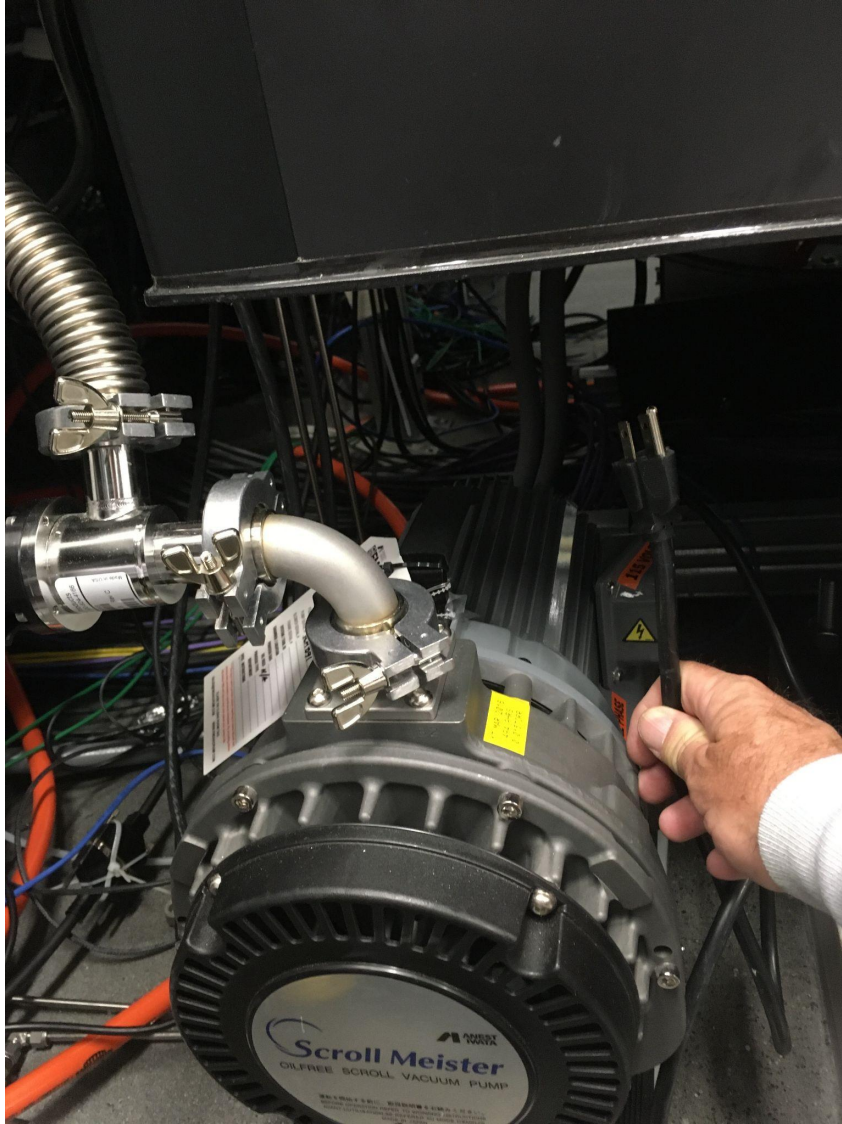
Roughing pump



Roughing pump location towards end of alleyway between laser systems and x-ray path on right side.



After the turbo pump has been turned off, close the roughing pump valve by turning the valve knob fully clockwise.



If the pump is on, locate the 110V power cord and pull it from the terminal strip to turn the pump off