

Before following these procedures, familiarize yourself with the controls via the online tutorial

Start-Up Procedures

- ✓ Turn the cooling water ON (valve on the wall at the rear of the unit)
- ✓ Turn on the compressed air supply (also on the wall at the rear of the unit)
- ✓ Turn on the main tank valves on the nitrogen and argon supply tanks
- ✓ Switch the main power shutoff on the wall beside the unit ON
- ✓ Open the left rear cover of the unit and turn the main breaker ON
 - ✓ If a 'COM ERROR' (on the touchscreen) occurs:
 - ✓ Cycle the touchscreen MODE switch (left switch) on the controller off (middle) then on (top)
 - ✓ Controller MODE (right switch) must be cycled on before the touchscreen is cycled on
- ✓ Load substrates into the chamber using the mounting clips
- ✓ Ensure the mounting platen is locked and close the chamber door

Pump-Down/Gas Control Procedures

- ✓ On the vacuum screen set the turbo speed (TS SP) to 100%
- ✓ Press PUMP DOWN to start the vacuum cycle
 - ✓ The WRG will show pressure decreasing from 760 to 5×10^{-5} torr
 - ✓ Expected pumpdown time is 20 minutes
 - ✓ The vacuum screen will display 'PUMPDOWN COMPLETE' when done
- ✓ Set the turbo speed (TS SP) to 60%
- ✓ Select the gas screen
- ✓ Set MFC#2 MODE to 2
- ✓ Set pressure set point (SP, upper left) to the target pressure (e.g. 3e+00 mTorr)
- ✓ Select GAS ON by pressing the main valve ("red X") - it will turn green
- ✓ Wait for the CAPMAN (Capacitance Manometer) to show target pressure

Deposition Procedures

- ✓ Turn the platen rotation on
- ✓ Select the deposition screen
- ✓ Ensure the gas pressure (CAPMAN) is stable and at the target pressure
- ✓ For the DC target (aluminum, #2):
 - ✓ Set the DC supply to 15W
 - ✓ Start the DC supply
 - ✓ SLOWLY ramp the power to 300W over the course of one minute
 - ✓ Open the shutter (#2) by pressing the appropriate button
 - ✓ Time the deposit (or use the Maxtek 360)
 - ✓ Close the shutter
 - ✓ STOP the DC supply
 - ✓ Turn the DC power to zero
- ✓ For the RF targets (SiO, ZnO, MgF₂ dielectrics, #1 & #3):
 - ✓ Set the appropriate RF supply to 15W
 - ✓ START the RF generator
 - ✓ If the target does not light (normal with an RF target):
 - ✓ Set the DC supply (target #2) to 15W
 - ✓ Open then close the shutter (#1 or #3) to light the target
 - ✓ STOP the DC supply and set to zero
 - ✓ SLOWLY ramp the power to 300W over the course of one minute
 - ✓ Open the shutter (#1 or #3) by pressing the appropriate button
 - ✓ Time the deposit (or use the Maxtek 360)
 - ✓ Close the shutter
 - ✓ STOP the RF generator
 - ✓ Turn the RF power to zero
- ✓ Ensure the DC supply and RF generators are both off and set to zero

Vent and Opening Procedures

- ✓ Select the gas screen
- ✓ Turn the main gas valve off (the valve will turn red)
- ✓ Select the vacuum screen
- ✓ Select VENT
- ✓ The turbo will slow (in about 7 minutes) and the chamber will automatically purge with dry gas