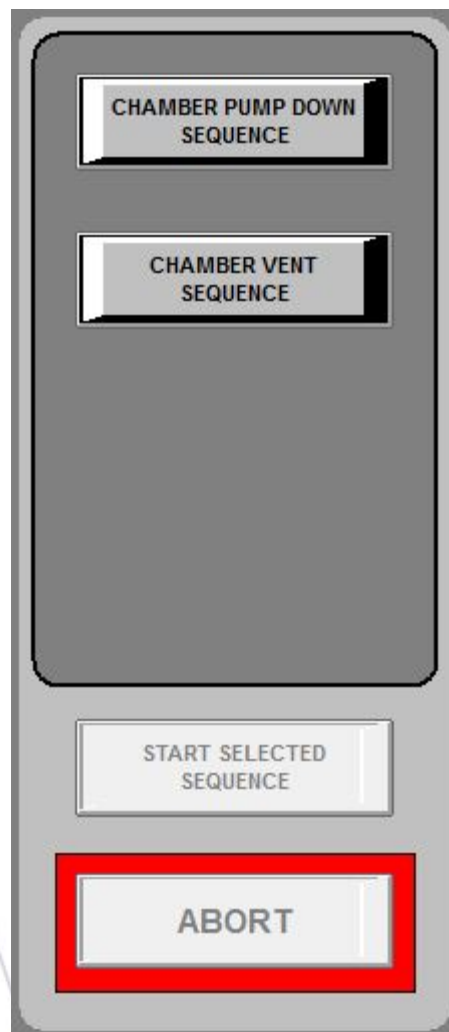


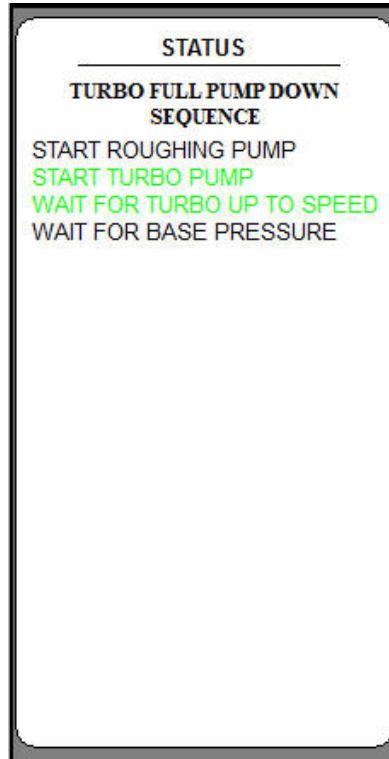
## Chapter 6 – Automatic Sequences

This section of the main screen shows the buttons that initiate the automatic sequences. These sequences can be executed by pressing the desired sequence button to select the sequence, and then pressing the 'start selected sequence' button outlined in flashing green below. If Radak sources or substrate heating is an option then a warning may be shown when the chamber vent sequence is selected. Manual operation of items on the main page is only available to users logged in at the Supervisor level or higher. Users logged in at the Operator level will find most buttons grey and inoperable; however they have access to the two automated sequences. Only one sequence can execute at a time.



### Status Bar

During an auto sequence the status is displayed in the status bar. The current step in the sequence is highlighted in green. A banner indicates a Process Running in flashing green when the Inficon software is running a deposition.



### Chamber Pump Down Sequence

Interlocks required to start a chamber pump down include the emergency stop button not pushed, the pneumatic pressure interlock met and chamber door closed. If any of the required interlocks are lost during the execution of the sequence an alarm is raised and the sequence is cancelled.

This sequence is used to pump down the chamber to high vacuum after it has been vented to atmosphere.

When the mode is started the rough pump is turned on, the foreline valve is opened and the turbo pump is started. The system then pumps to the base pressure. The turbo up to speed time delay setpoint times from when the turbo pump is started. If the turbo does not achieve 85% of its maximum rotational speed before this timer ends an alarm is raised, the mode ends, the turbo and rough pump are turned off and the foreline valve is closed.

The time it takes for the chamber to pump to the chamber base pressure setpoint must be less than the chamber base pressure achieved timeout setpoint. If this timer elapses before the chamber base pressure achieved timeout setpoint is achieved, an alarm is raised and the sequence is aborted.

A banner is shown at the successful completion of the sequence. Clicking on the banner acknowledges that the sequence has ended and clears the banner from the screen.

### Chamber Vent Sequence

The chamber vent sequence is used to vent the chamber to atmosphere from vacuum. Interlocks required to allow an auto vent cycle to start include the emergency stop button not pushed, the pneumatic pressure interlock met and chamber door closed. If any of the required interlocks are lost during the execution of the sequence an alarm is raised and the sequence is cancelled.

The user will also be warned that the heater stage may still be hot and recommended to not continue with the vent process until they see the temperature on the Watlow controller is less than 250 Celsius.

When the sequence is started the ion gauge is turned off in the chamber and a hard coded 7 second delay occurs to allow the ion gauge filament to cool. The turbo pump is then turned off, the foreline valve is closed and the rough pump is turned off. The vent valve in the turbo will open and vent the turbo. The vent valve in the turbo remains open until the turbo reaches a “zero frequency” state determined by the frequency reading from the turbo pump. Once this occurs the chamber vent valve will open and stay open until the timer has elapsed or the chamber door has been opened.

CHAMBER VENT

LOAD DEFAULT VALUES

4 - CHAMBER VENT TIME DURATION SETPOINT  
(Minutes)

0 - CHAMBER VENT START DELAY TIME SETPOINT  
(Minutes)

START SELECTED SEQUENCE

CANCEL