# Cryomodule Conditioning sequence

Conditioning is done using the HNOSS’s Sequence 0 and 1. HNOSS should be in Cryomodule mode. Sequence 0 can be started in any state of the cryomodule and should be performed first. Sequence 1 can be started only when the Cryomodule is in Conditioning state (S2).

To start the cryomodue conditioning follow these steps:

1. Make sure all CM’s valves are in Auto mode
2. On the “He Conditioning” screen (“Conditioning Control” panel)
   1. Reset Error (if “Grafcet Error” is set)
   2. Press the button for transition from Initial State (S1) to Conditioning (S2). The “Grafcet Error” will show (this is normal; I don’t know why the Frenchmen have done it this way but I have left it so far). Just press “Reset Error” and the status should change to “Grafcet OK”. You have the possibility to go back to Initial State by pressing Proceed (ERR).
3. When in Conditioning state open the Sequence 1 control panel
4. Select the required parameters and start the sequence. CV101-103 and CV552 will be closed, CV104-CV105 and CV550-CV551 will be set to the values set in the control panel when the sequence be in step >= 4
5. When Sequence 1 is in state 4 start the vacuum pump P000 (manual operation)
6. After finished conditioning press “Proceed (OK)” to continue or “Proceed (ERR)” to go back to the Initial State.
7. After pressing “Proceed (OK)” the CM will be in the Pausing (S3) state ready for starting the the thermal screen cooling

Sequence actions in the CM:

1. Open CV03, CV02, CV01, CV07, CV01, CV04 (CV04 is open even in Initial State)
2. Turn off the PID regulation of MKS2 (CV550) (command sent to HNOS PLC)