SQ12 – Cavity in operation at 4K

**Sensors and actuators used:**

- Pressure: PT660

- Flow rate: FT581

- Valve: FV642, FV643

- Control valve: CV602, CV581

- Level: LI660 (LT660+LT661), LI670 (LT670+LT671)

|  |  |
| --- | --- |
| **The user chooses:** | **Initial conditions:** |
| - Level: LI660setpoint, LI660mini, LI660Maxi, LI670setpoint, LI670mini, LI670Maxi | - Liquid or Vacuum insert selected  - Sequences from 1 to 3 stopped  - Sequences 10 and 13 stopped  - Sequence 8 in operation |
| - Pressure: PT660setpoint (Patmospheric<P<1.5 bar) |
| - Flow: FT581limit |
| - Control valve: CV602%opening, CV581%opening |
| - Mode: regulation or intermittent |

## Vacuum mode

B

Stop

Intermittent

FV643, FV641 opened

CV602 opened and controlled

FT581<FT581limit

CV581 regulated

PT660=PT660setpoint

Stop

Intermittent& LI660 < LI660mini

Regulation

Regulation

LI660 > LI660Maxi OR Stop

End of

Filling

FV643, FV641 opened

Close CV602

CV581 regulated

PT660=PT660setpoint

A

Regulation

Regulation

mode

FV643, FV641 opened

CV602 regulated

LI660=LI660setPoint

CV581 regulated

PT660=PT660setpoint

Start

Filling

(FV643 & CV602) closed

Filling ready

Open FV643, FV641

Stop

4K

Close FV643, FV641

Close CV602

CV581 regulated

PT660=PT660setpoint

Intermittent & (LI660 < LI660mini OR Stop)

)

Waiting for level

Close CV602

Regulation OR Stop

LI660 < LI660mini

## Liquid mode

Start 4K & Vacuum

A

B

Stop

Start 4K & Liquid

Stop

Intermittent

FV642, FV640 opened

CV602 opened and controlled

FT581<FT581limit

CV581 regulated

PT660=PT660setpoint

Stop

Intermittent& LI670 < LI670mini

Regulation

LI670<LI670mini OR Stop

Regulation

LI670>LI670Maxi OR Stop

End of

Filling

FV642, FV640 opened

Close CV602

CV581 regulated

PT660=PT660setpoint

Regulation

Filling Ready

Open FV642, FV640

Stop

Cooling

Close FV642, FV640

Close CV602

CV581 regulated

PT660=PT660setpoint

Start

Filling

Regulation

mode

FV642, FV640 opened

CV602 regulated

LI670=LI670setPoint

CV581 regulated

PT660=PT660setpoint

(FV642 & CV602) closed

Waiting for Level

Intermittent

Waiting for level

Close CV602

Regulation OR Stop

LI670<LI670mini