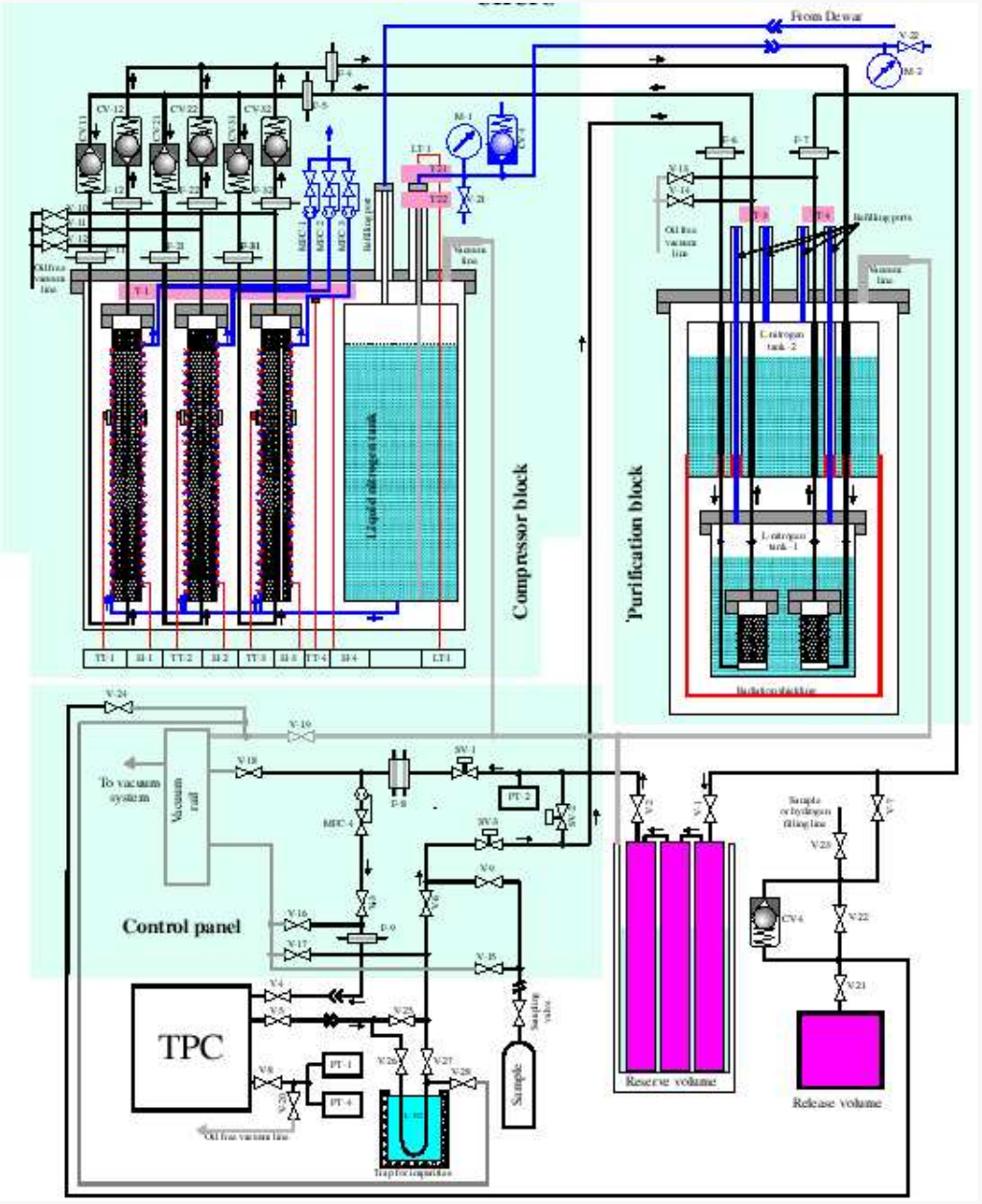
CHUPS Upgrade 2005

Françoise Mulhauser

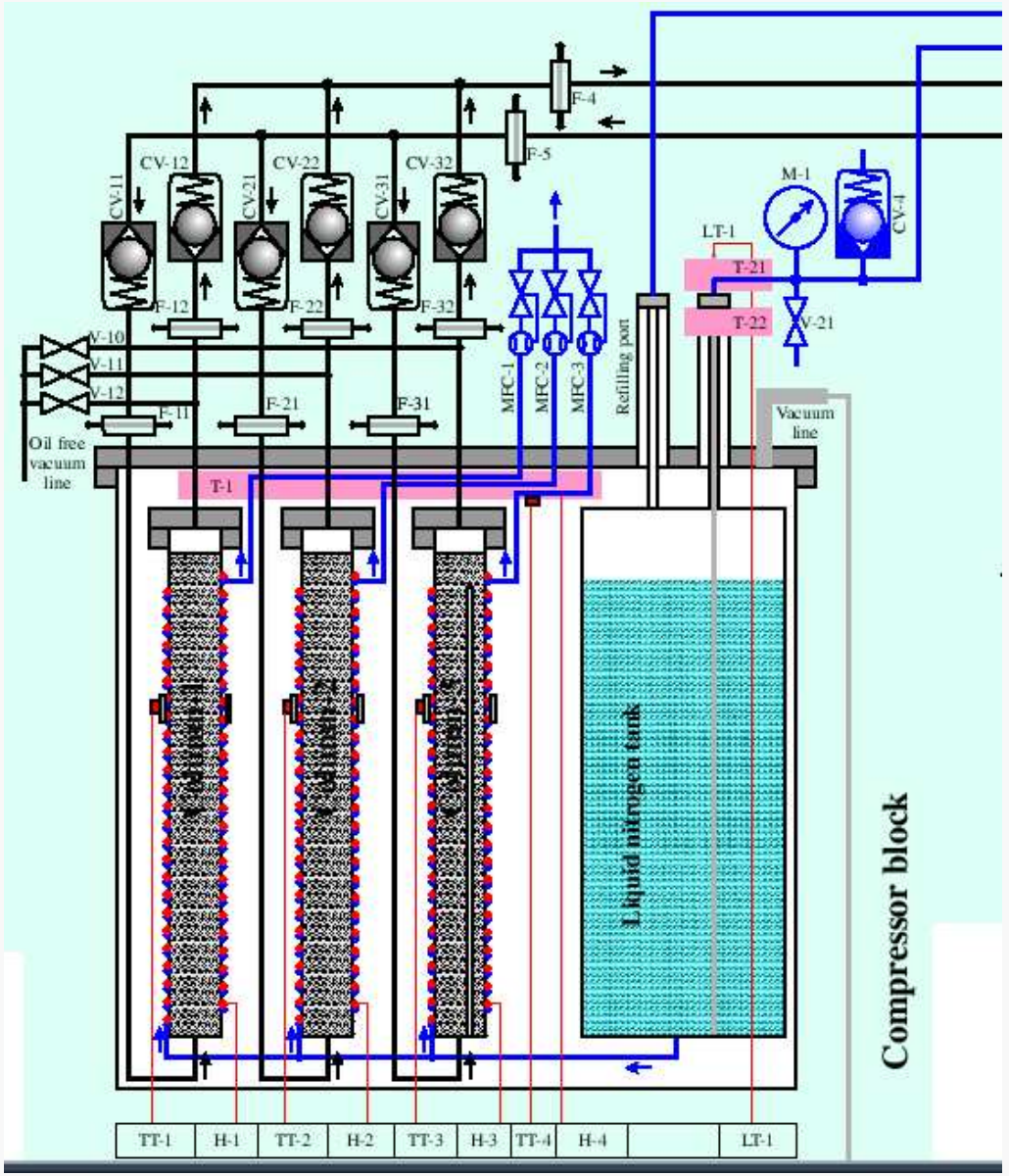
Outline

- ✓ CHUPS During Run 2004
- ✓ Upgrade in 2005

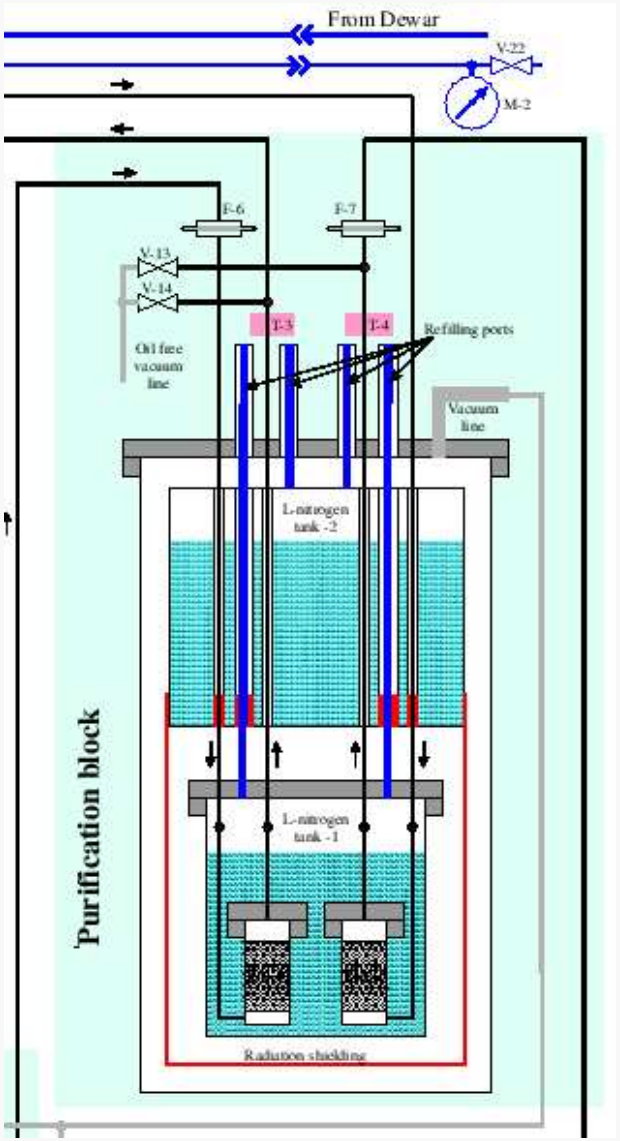
CHUPS in 2004



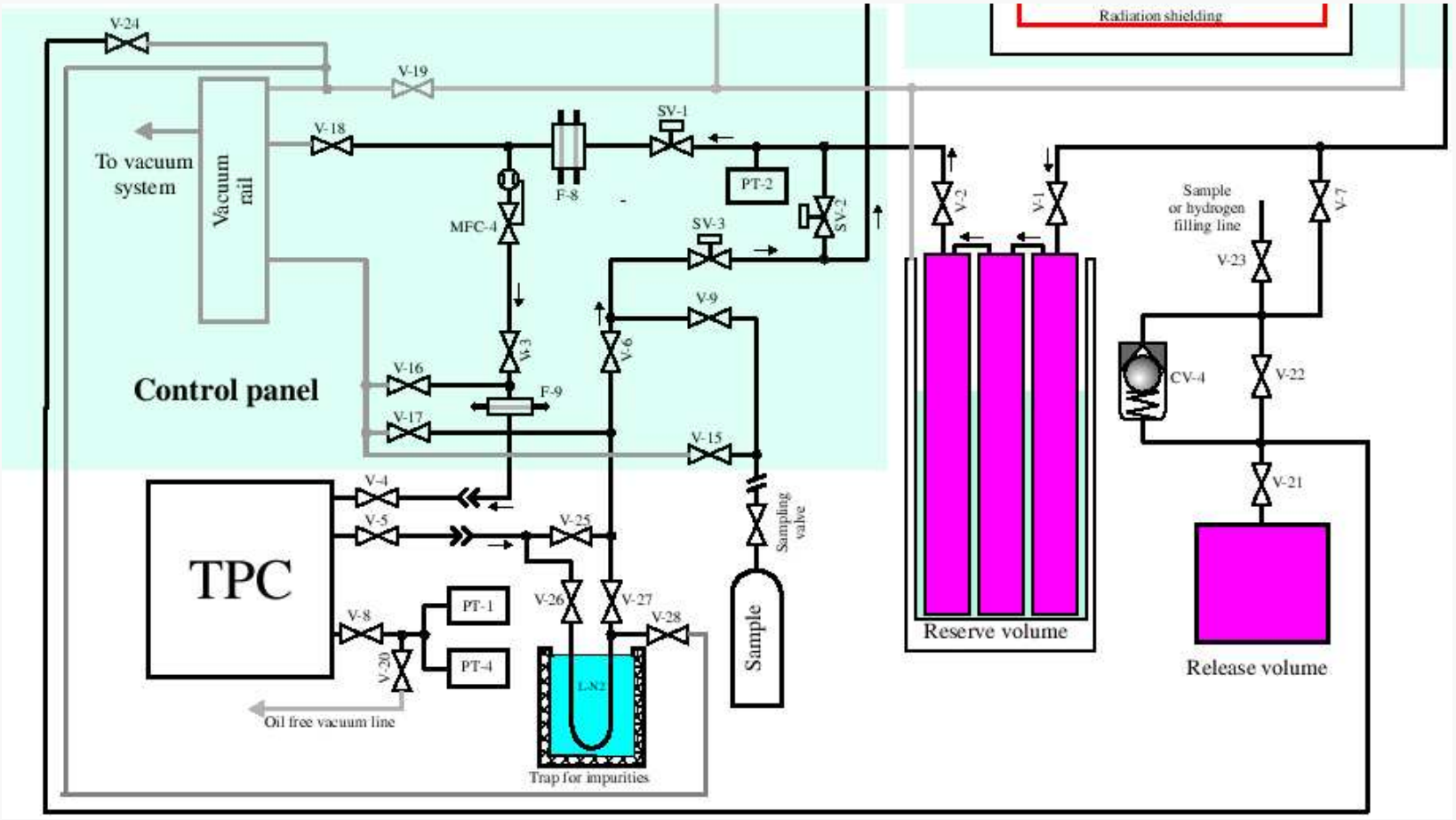
Compressor in 2004



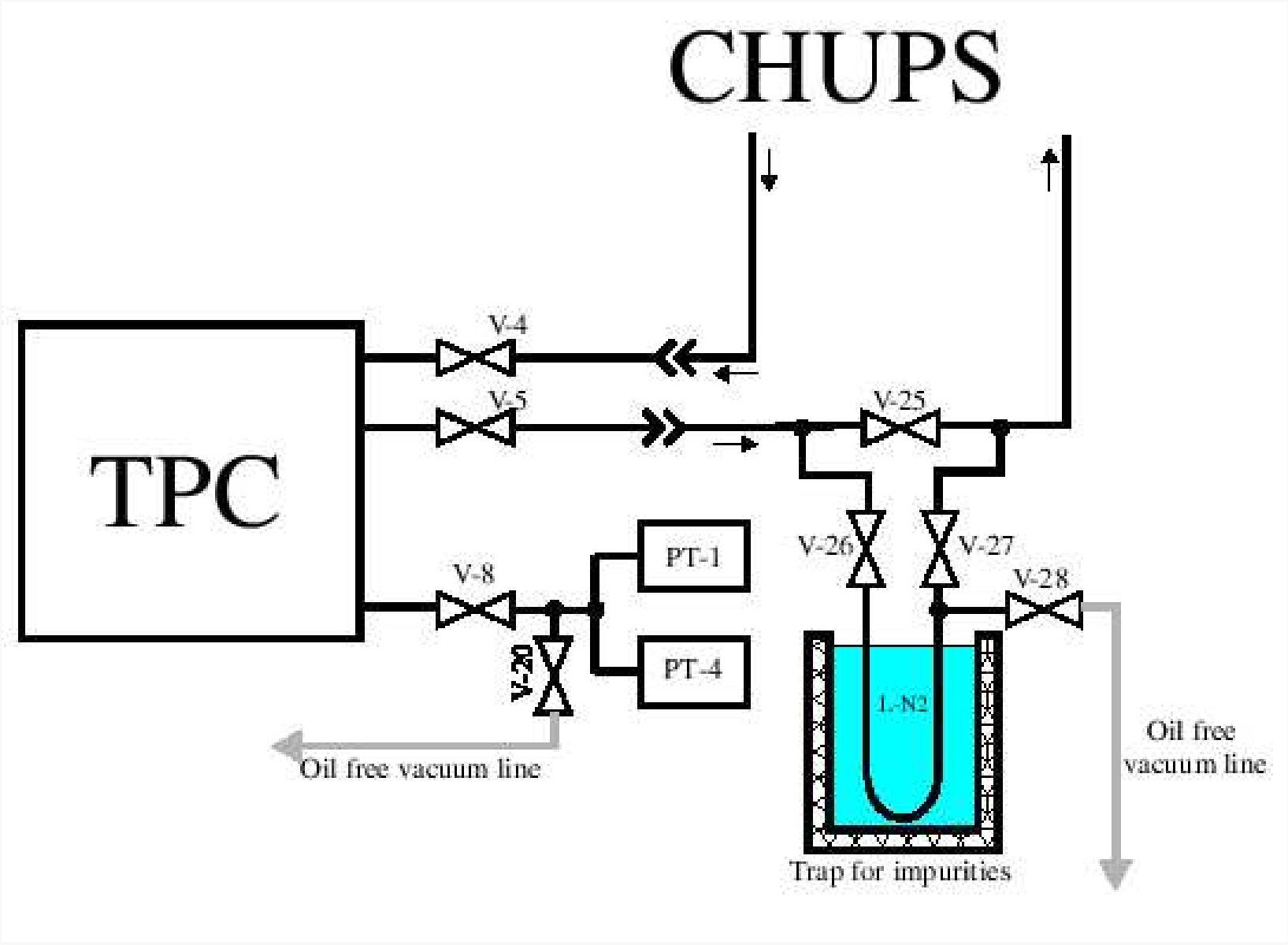
Purifier in 2004



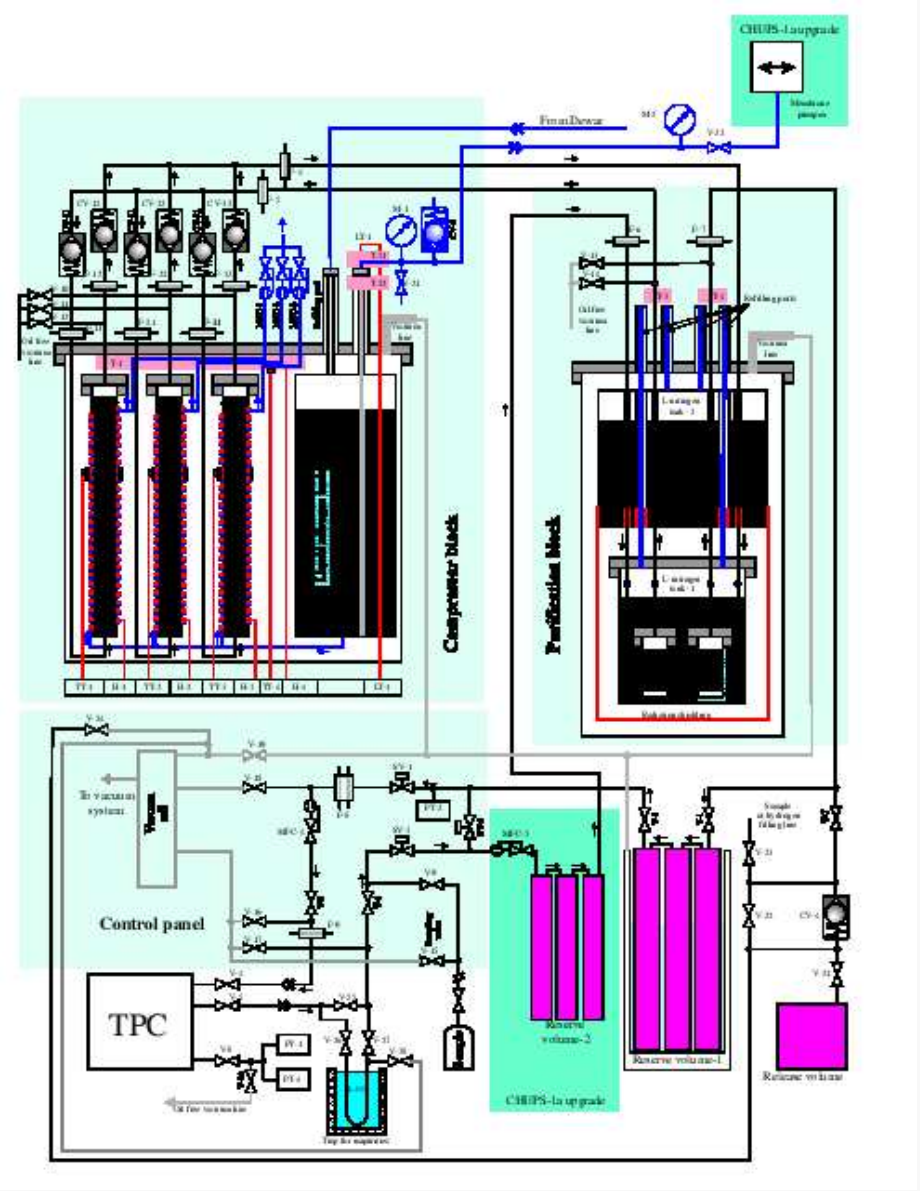
TPC in 2004


Radiation shielding
V-24
V-19
V-18
To vacuum system
Vacuum rail
SV-1
PT-2
F-8
MFC-4
SV-3
SV-2
V-9
V-3
V-6
Control panel
V-16
F-9
V-17
V-15
V-4
V-5
V-25
TPC
Sampling valve
V-26
V-27
V-28
V-8
PT-1
PT-4
V-20
Oil free vacuum line
L-N2
Trap for impurities
Sample
V-2
V-1
Reserve volume
Sample or hydrogen filling line
V-7
V-23
CV-4
V-22
V-21
Release volume

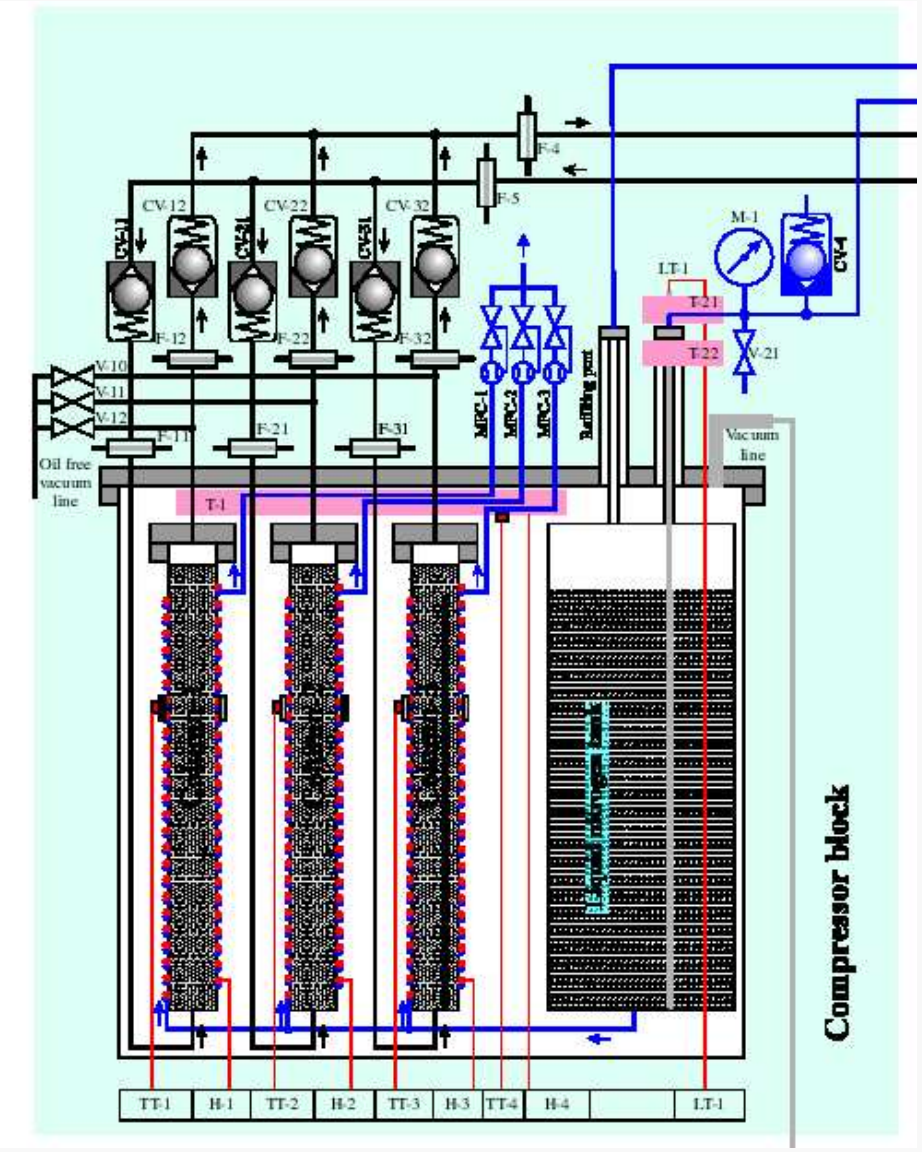
Online Humidity in 2004



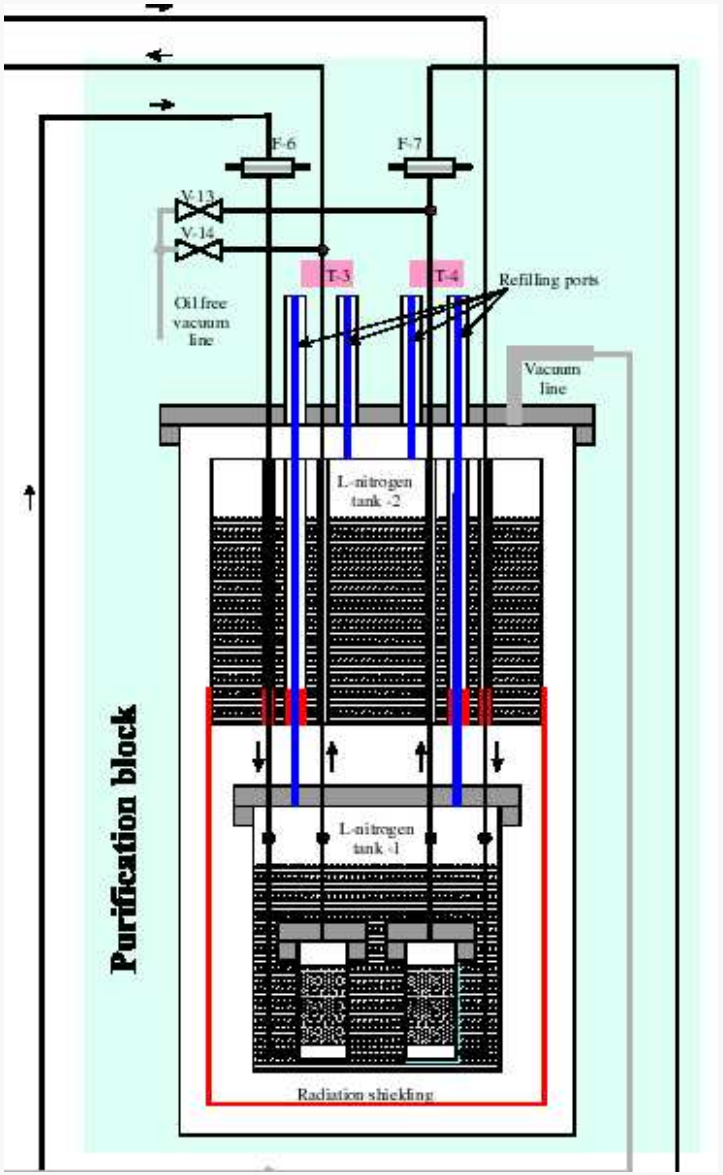
CHUPS in 2005



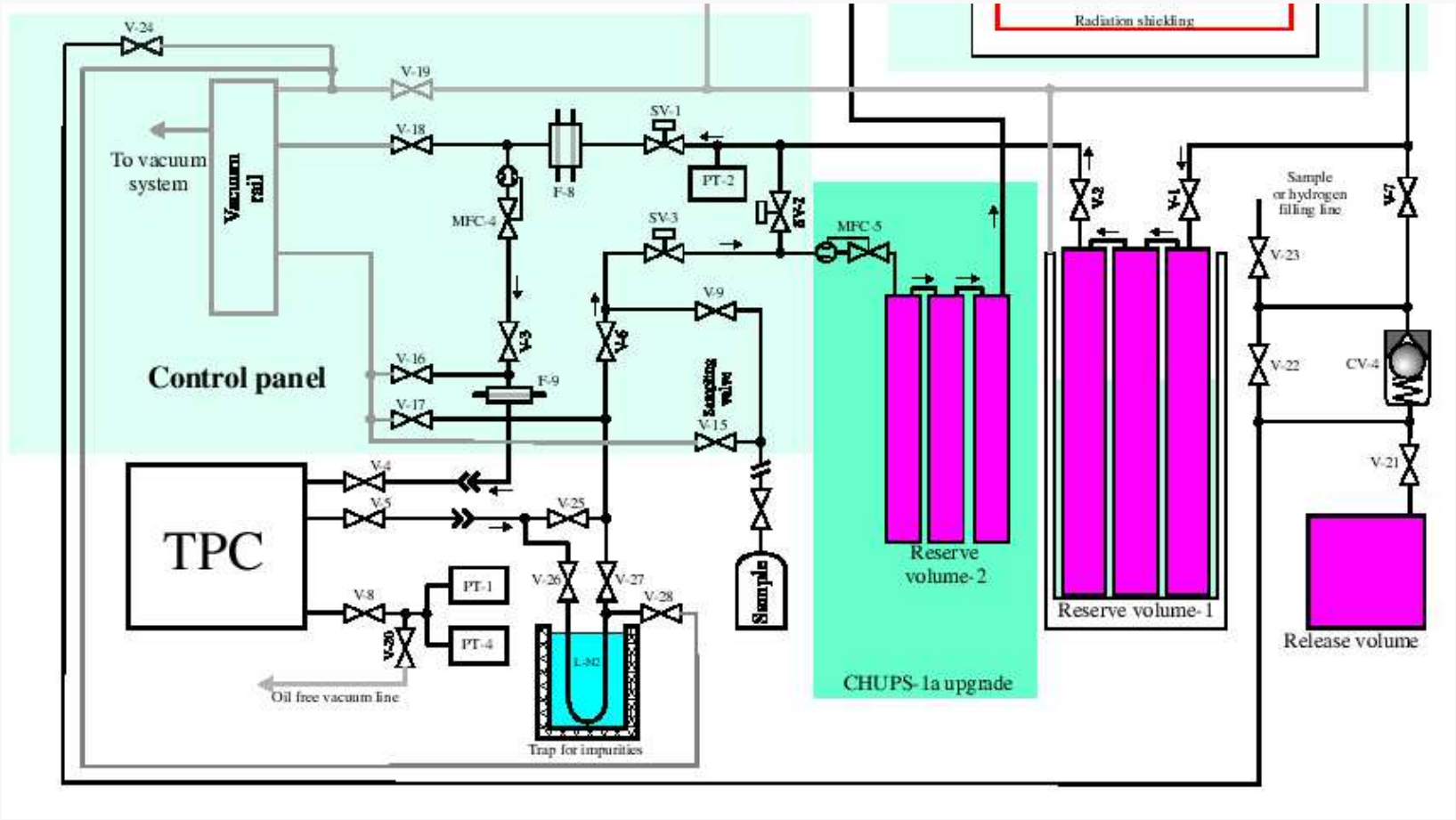
Compressor in 2005: Same



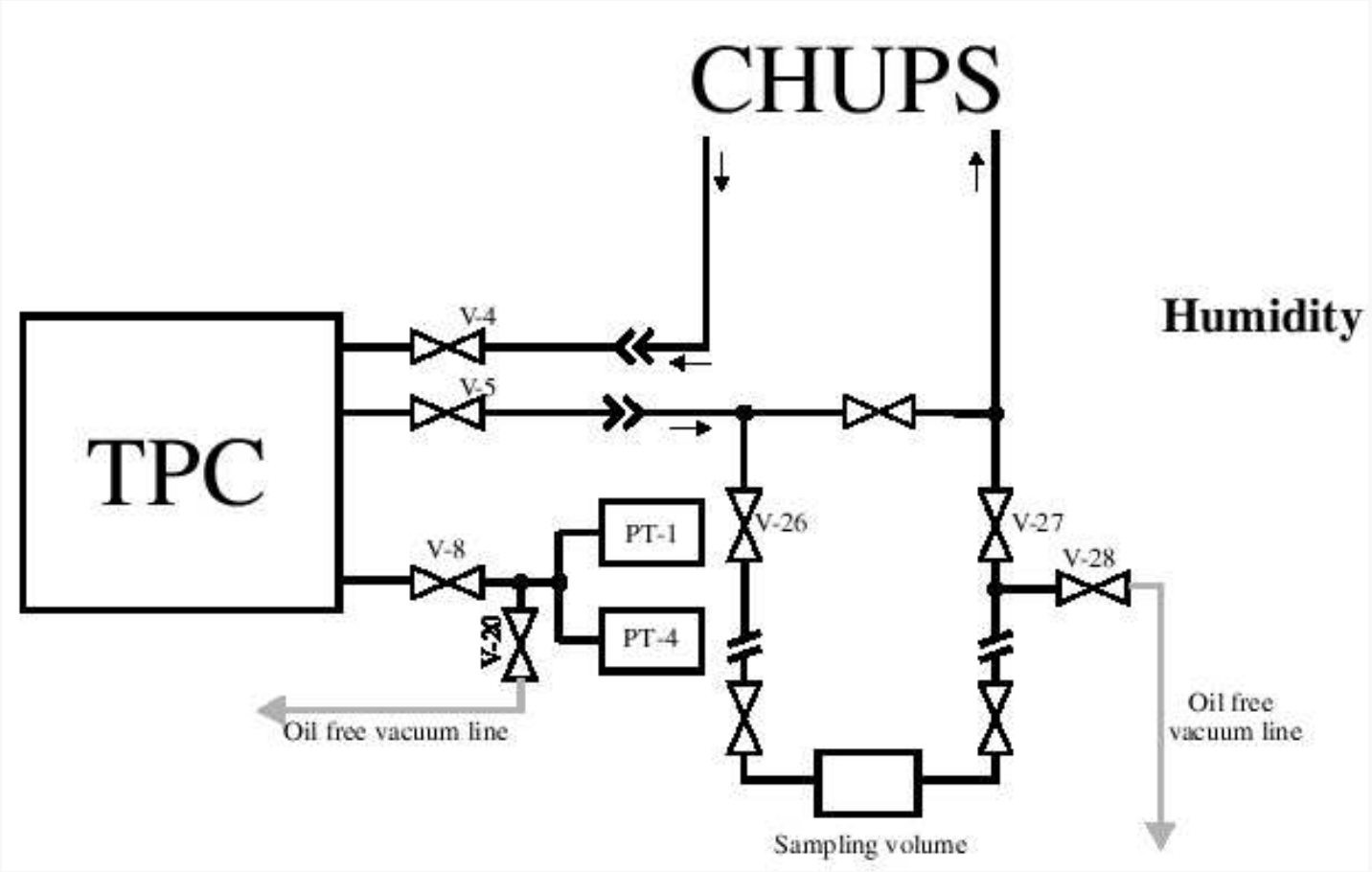
Purifier in 2005: Same



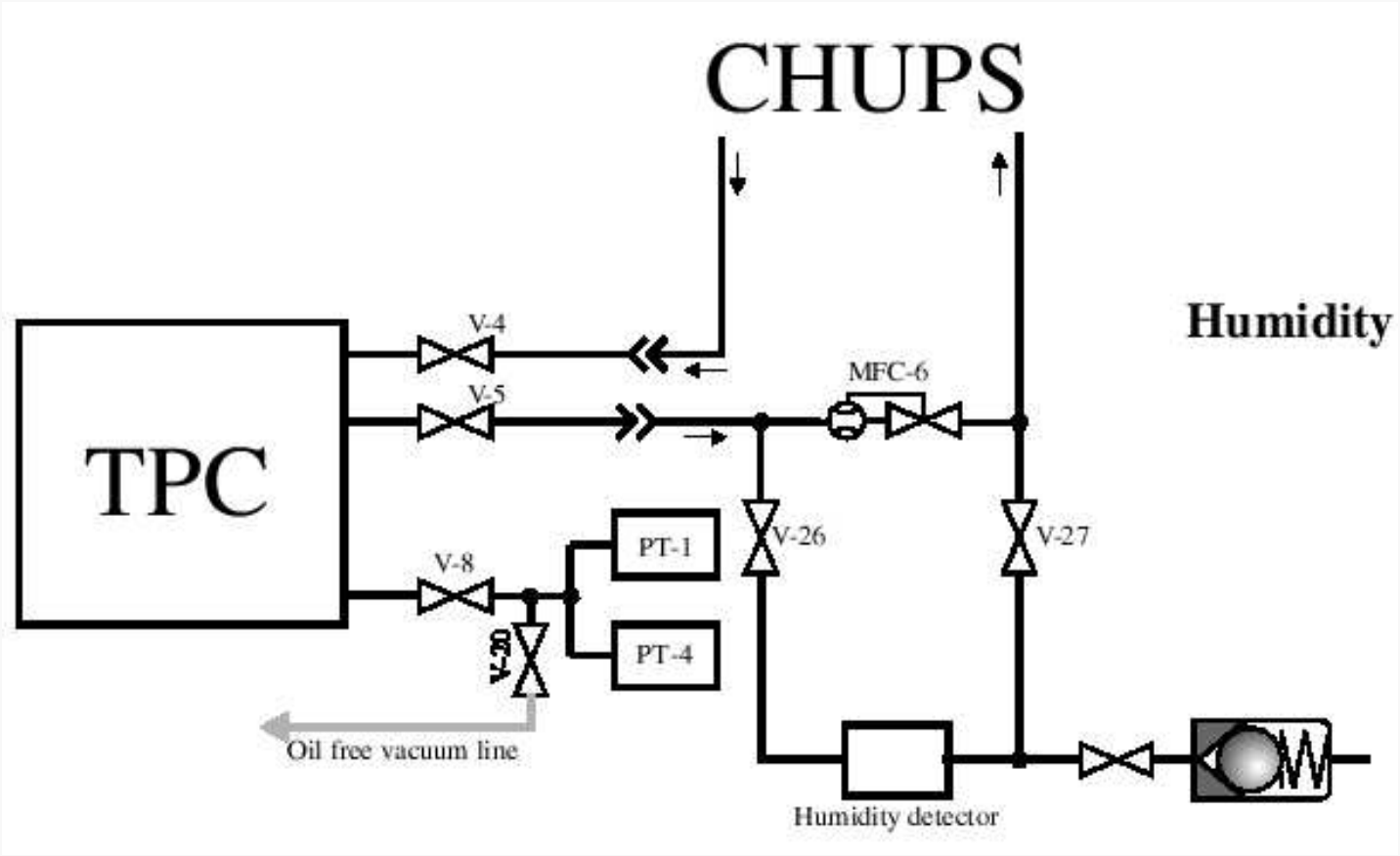
TPC in 2005: Some Changes



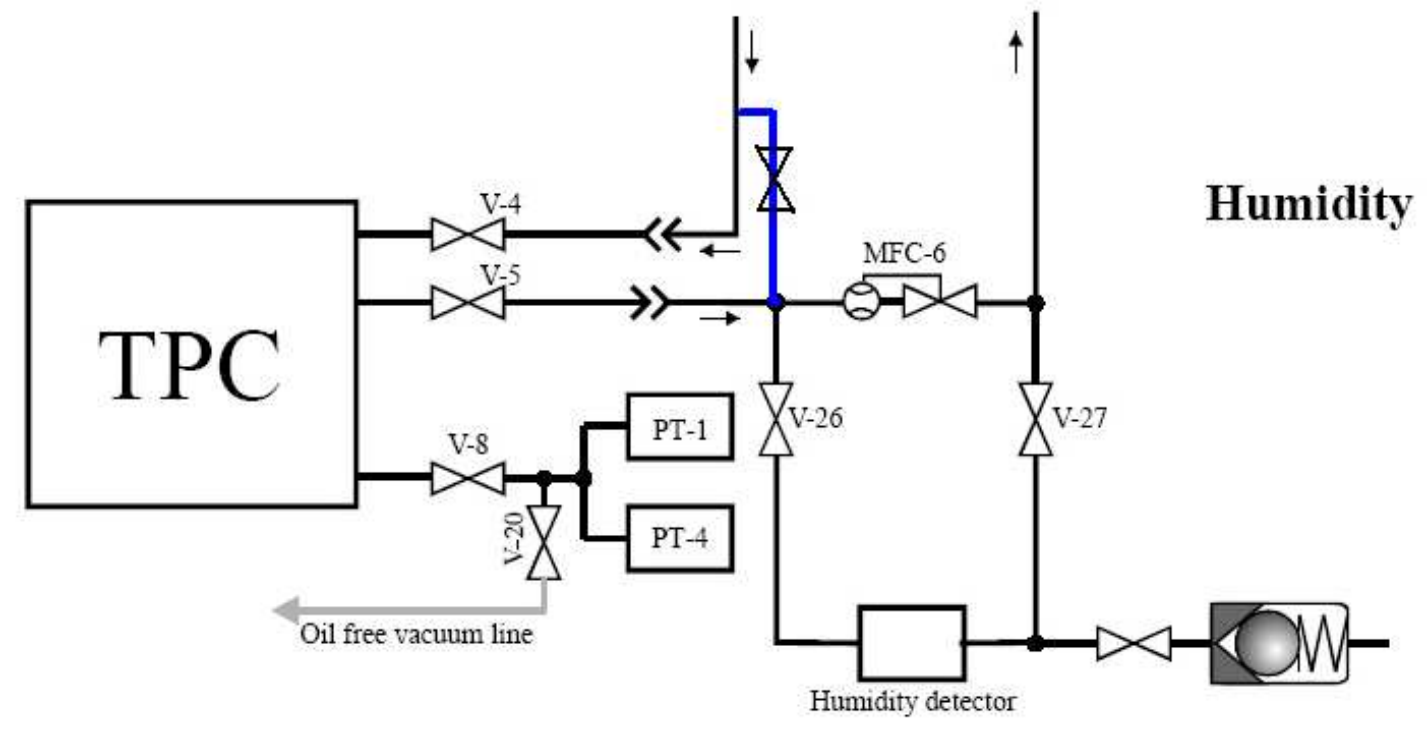
Offline Humidity in 2005



Online Humidity in 2005: Sacha



Online Humidity in 2005: Kammel



June Work

- ✓ Believe: The main admixture in TPC is water
  $\Longrightarrow$ Decrease the water level in TPC.
- ✓ Believe: Not ONLY measure the water level by any method.
  $\Longrightarrow$ We have to understand the water source in the system.
- ✓ It will be too late to do something with water during the beam experiment.

June Work: Continue

1. We have to exclude CHUPS as a source of the water.
   $\Longrightarrow$ include water measurements by ONLINE and OFFLINE method.
   This gives the possibility to:
   - $\surd$ Compare results of ONLINE and OFFLINE methods water measurements.
   - $\surd$ Understand sensitivity of water detector.
   - $\surd$ If we add getter (as it was during the experiment) we can estimate the zero set point of the water detector (only in online mode).

   For this we have to assemble CHUPS with a fake TPC volume and start circulation.
2. We have to answer on the basic question: the main water source is
   - $\surd$ the permanent flux of water from outside (diffusion).
   - $\surd$ we have an outgasing of the internal structure of TPC.
     (a) we make circulation through the empty TPC vessel and measure the exponent of the water level decreasing.
     (b) we heat the vessel during circulation and measuring after cooling the level of water.
     $\Longrightarrow$ Need the empty TPC vessel!