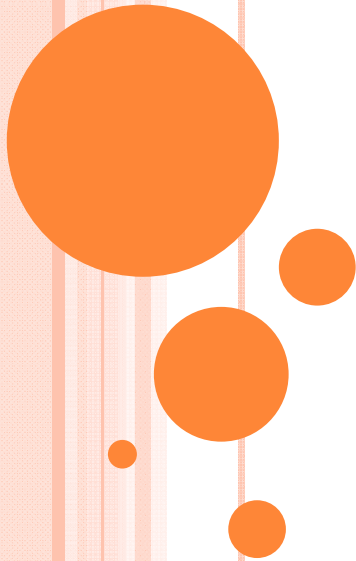




SPL



CERN Niobium EP Status November/2010



SPL

Niobium EP

Content

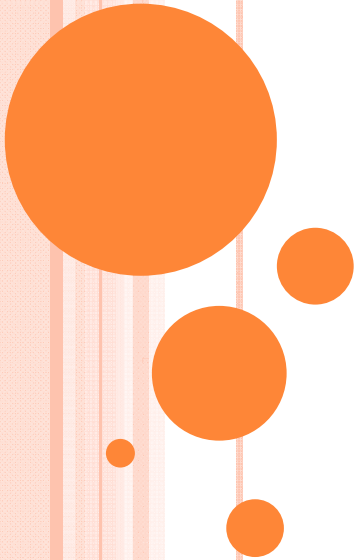
Site

Installation status

EP R&D status (laboratory scale)

Still missing... (Equipment)

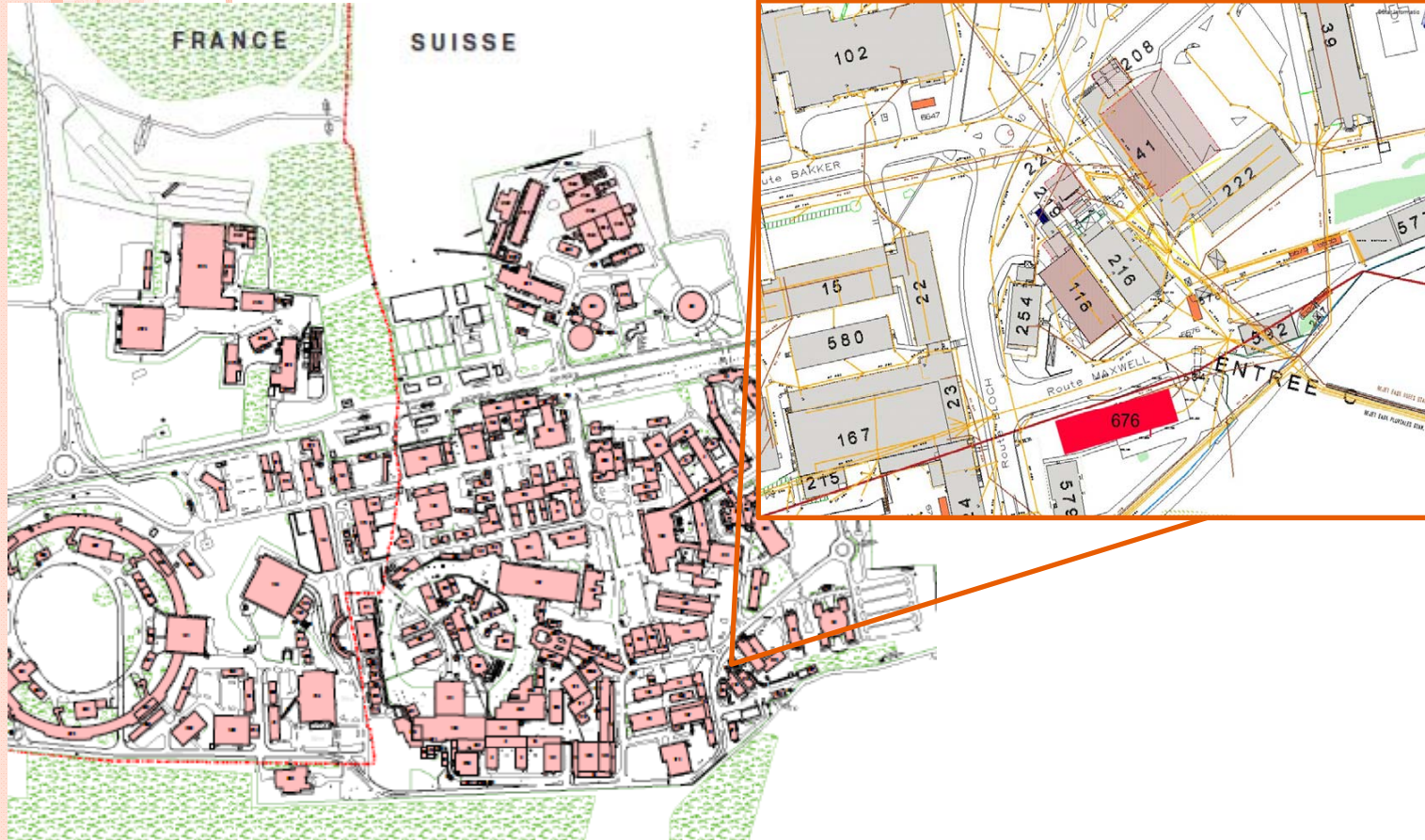
Cost





SPL

Niobium EP



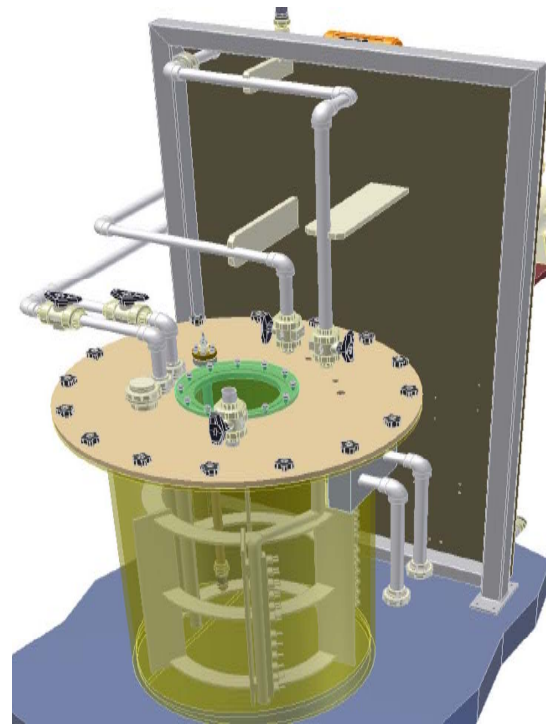
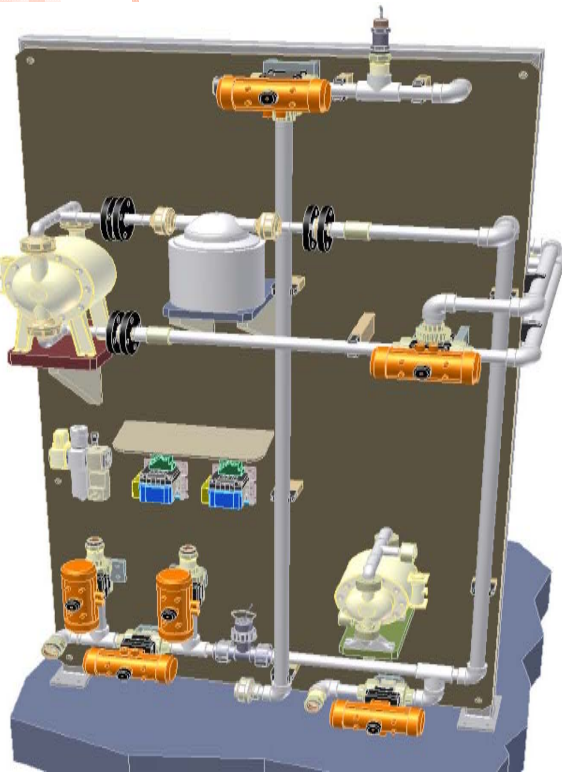


SPL

Niobium EP

Installation Status / Conception

3D drawing of the circuit



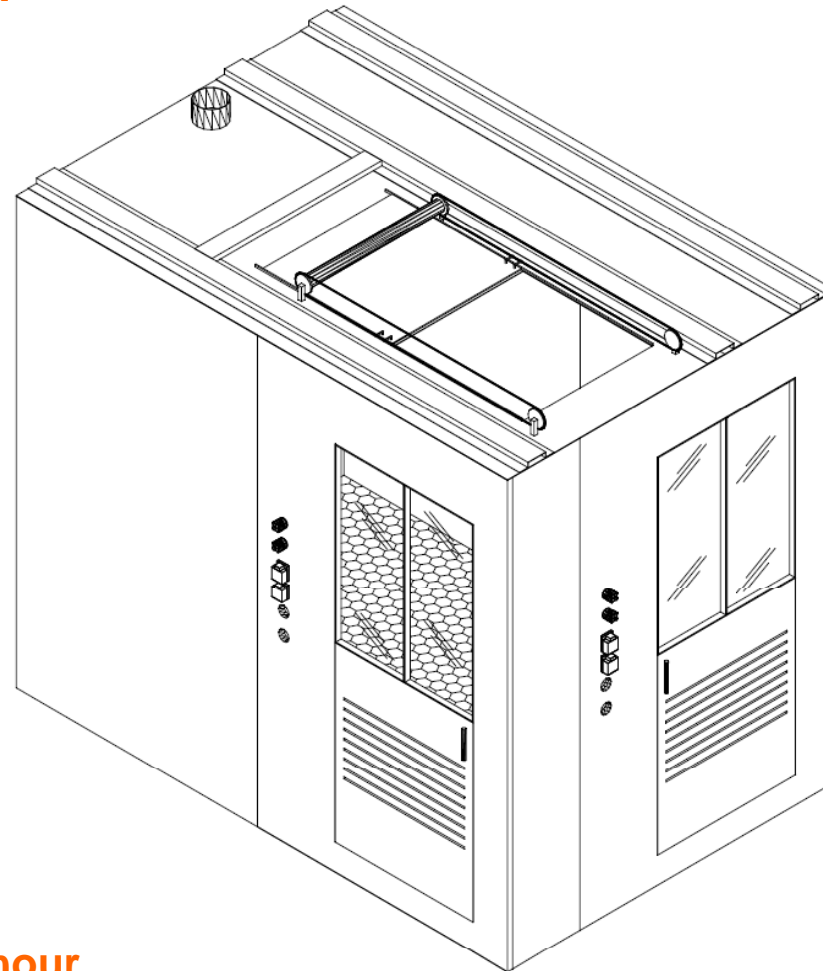
All materials are compatible with standard baths (CP/EP)



SPL

Niobium EP

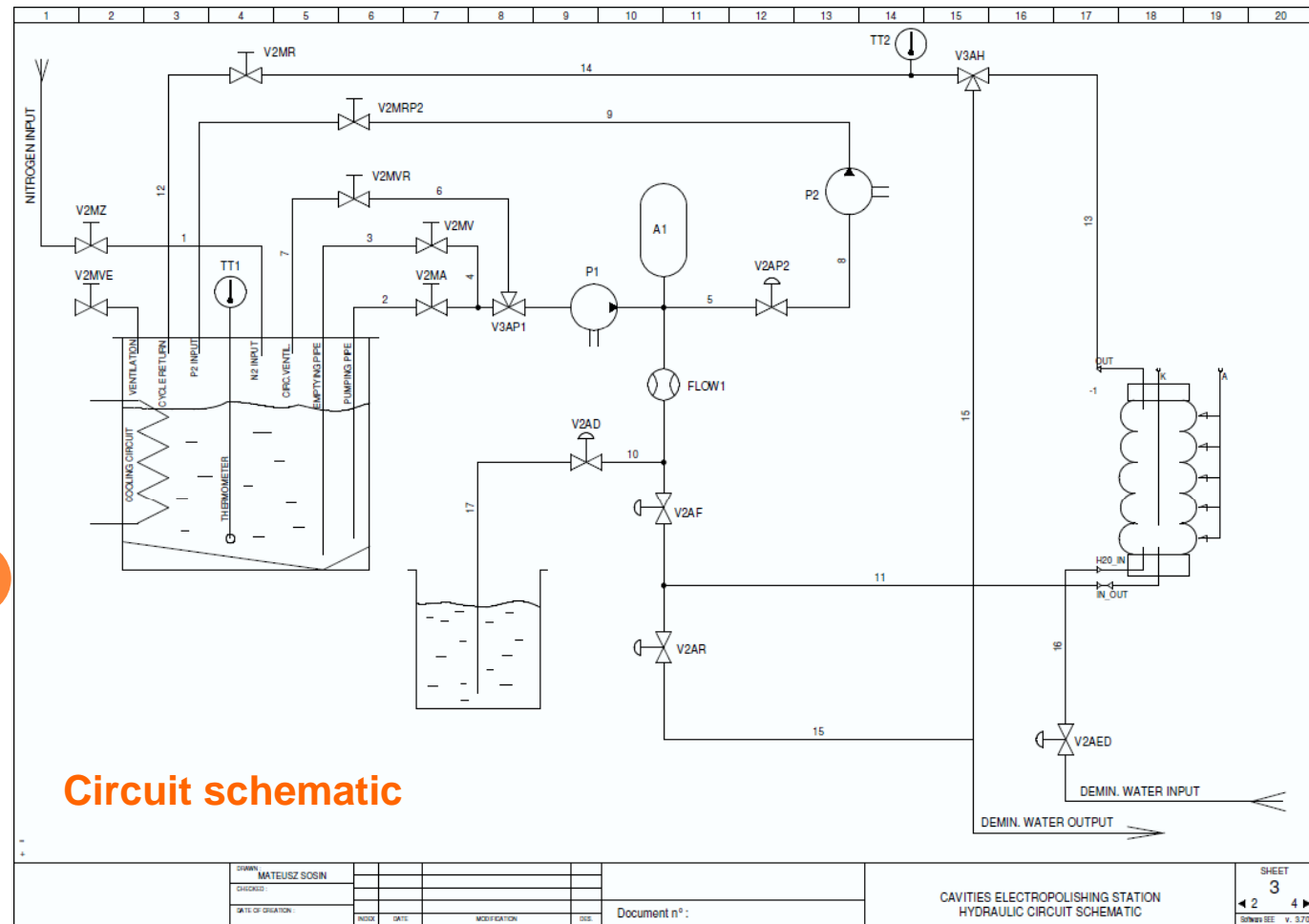
Installation Status / Conception



- Walk-in booth:**
- ~500 m³/h
 - ~40 volumes/hour



Installation Status / Conception





SPL

Niobium EP

Installation Status / At CERN



EP installation





SPL

Niobium EP

Installation Status / At CERN

Walk-in booth



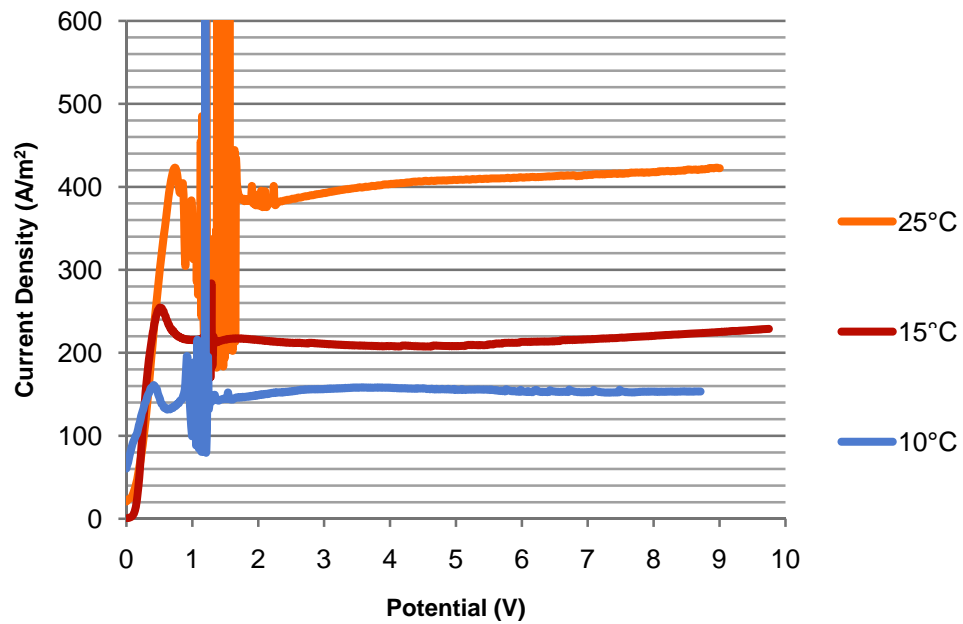


EP R&D Status

Niobium EP

Working parameters

Temperature-effect on polarization curve Nb



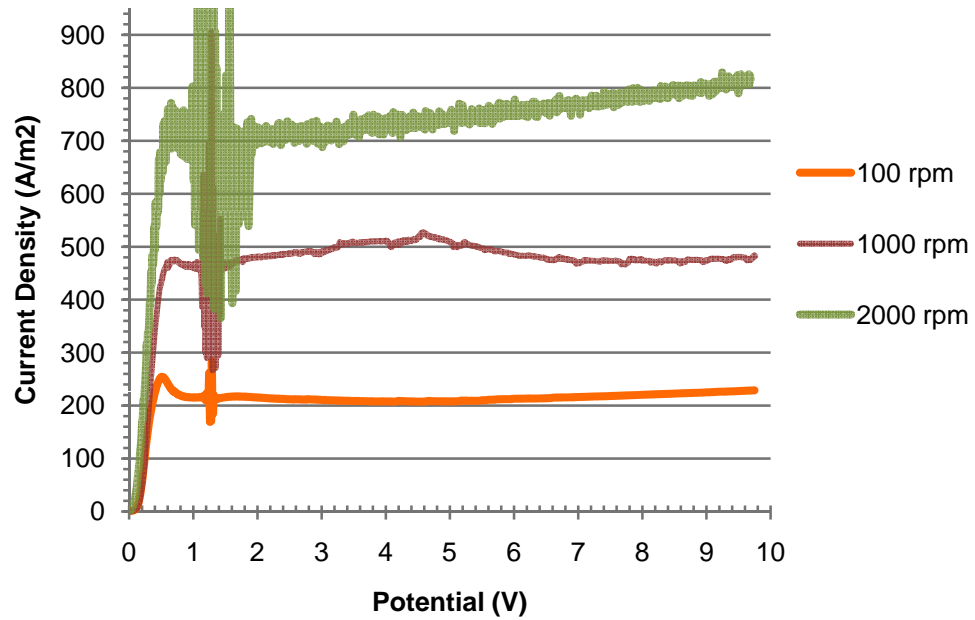


EP R&D Status

Niobium EP

Working parameters

Agitation effect on polarization curve Nb

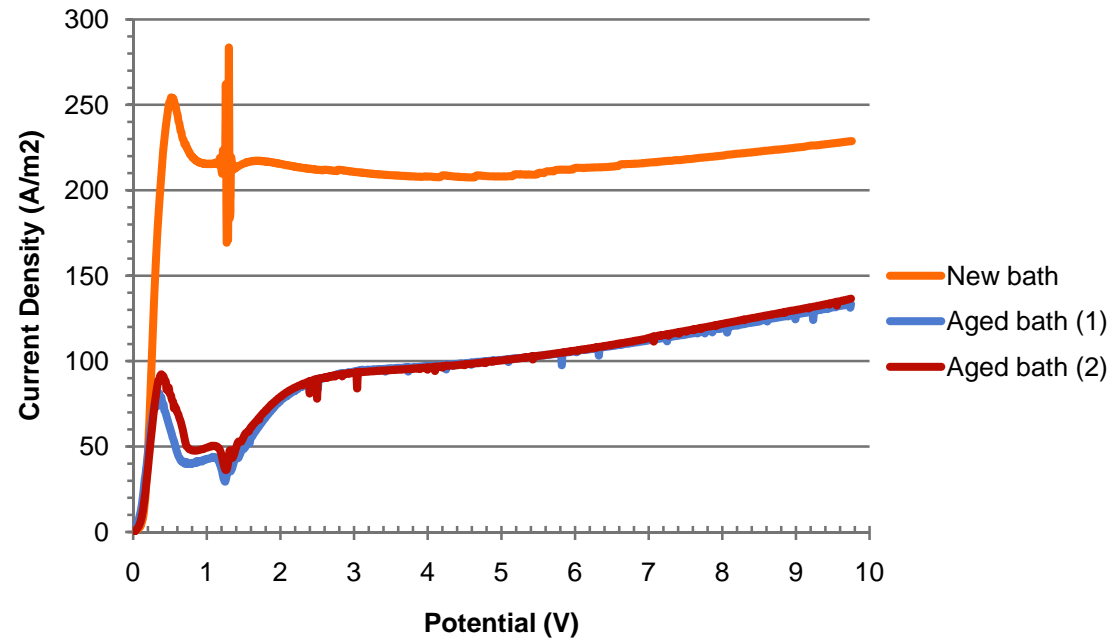




EP R&D Status

Working parameters

Aging-effect on polarization curve

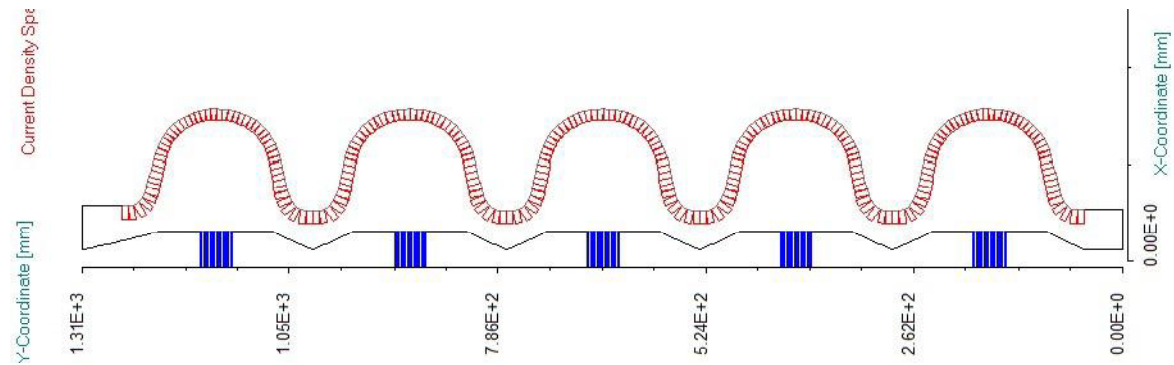




EP R&D Status

Niobium EP

Cathode geometry

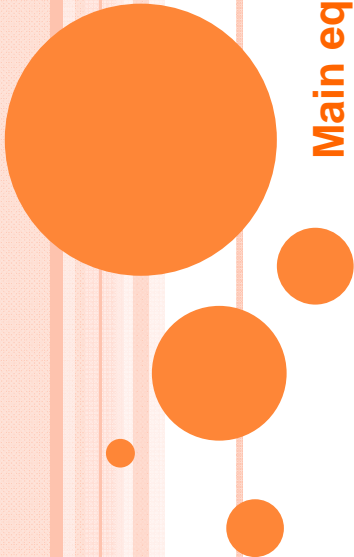


- Current distribution optimised:
 - ↳ bigger cell/cut-off diameter ratio
 - ↳ Higher power input (22.5 V)
- Bath flow to be optimised...



SPL

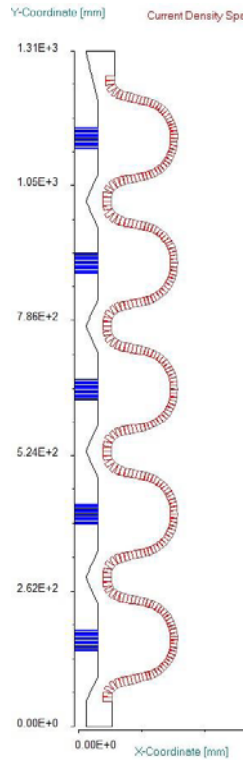
Still missing...



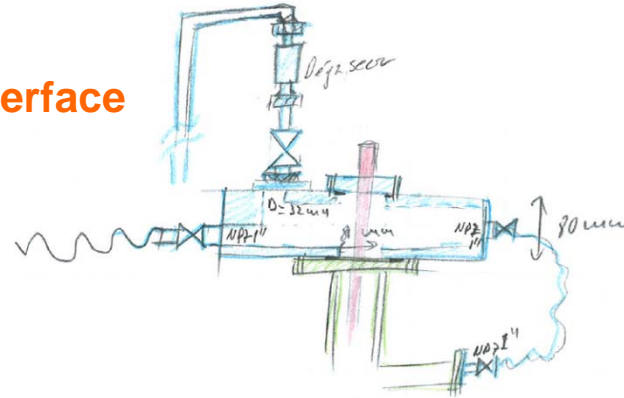
Main equipment

Niobium EP

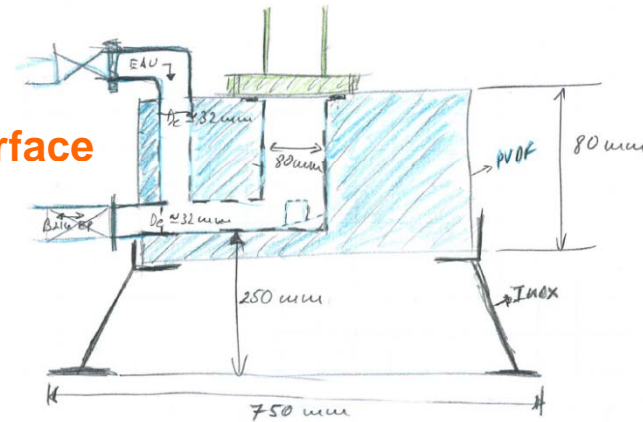
Cathode(s)



Top interface



Bottom interface



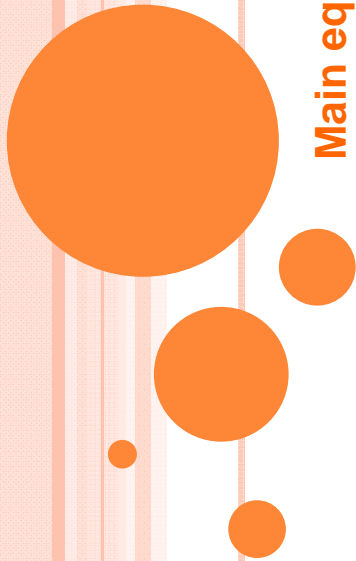
Interface point b2s



SPL

Niobium EP

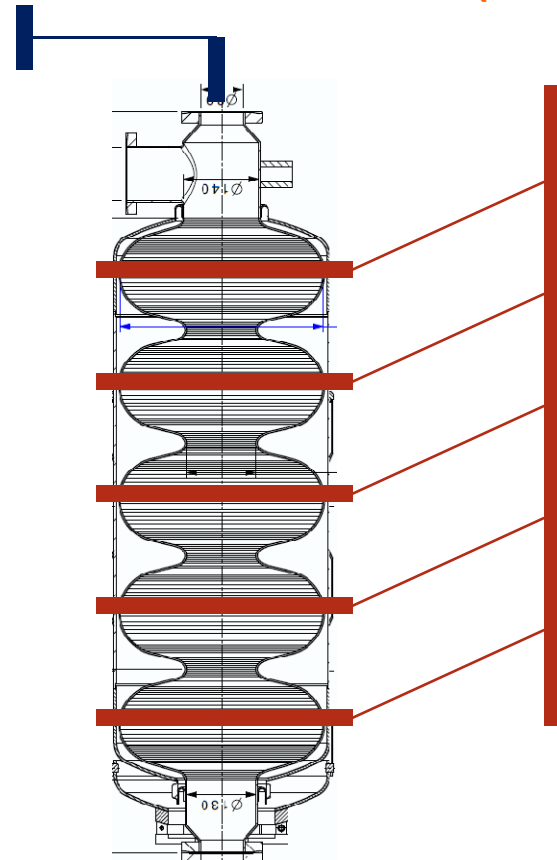
Still missing...



Main equipment

Electrical contacts

... To cathode ... To anode (cavity)





SPL

Niobium EP

Still missing...

Facility integration

Power supply

Cooling

Demineralised water

Compressed

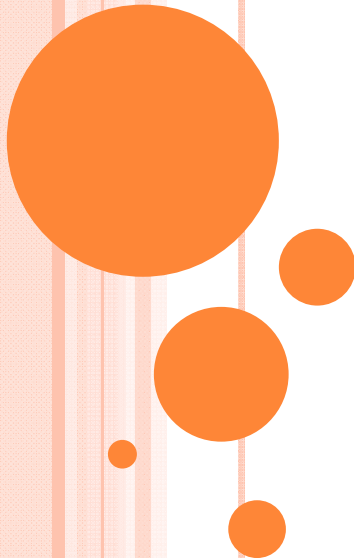
Nitrogen

Air and water treatment

HES authorisation

Safety file

Auxiliary equipment





SPL

Niobium EP

Cost follow-up

Estimated: 200 kCHF (Material without power supply)

Cost at October 2010: 170 kCHF

Expected expenses to completion: 45 kCHF

