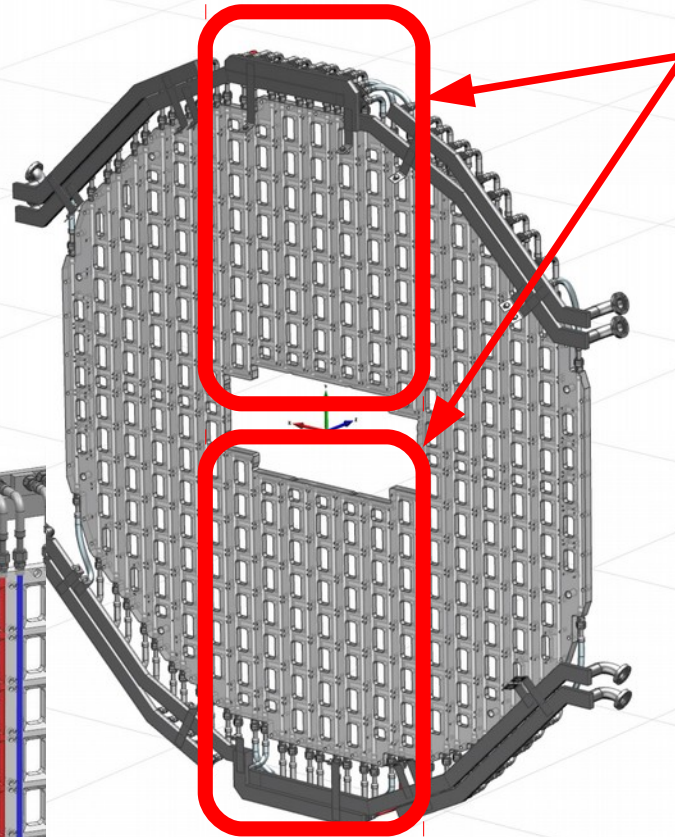
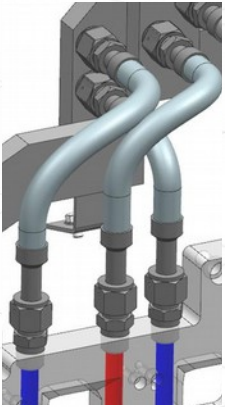


Mounting Plate Cooling

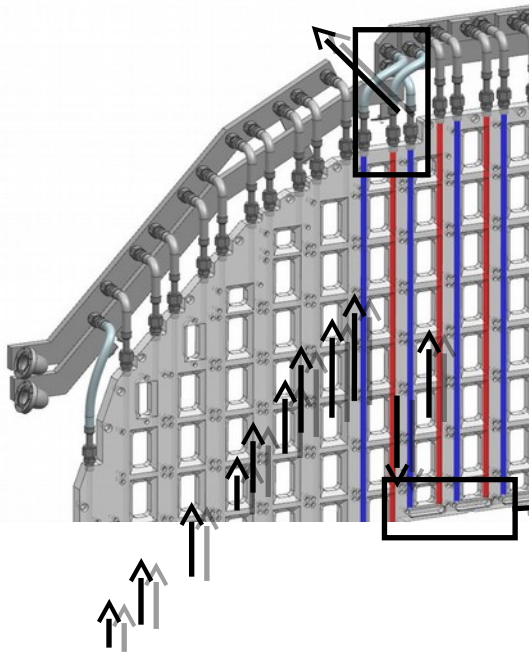
Swagelok
FJ series metal hose $\frac{1}{2}$ "



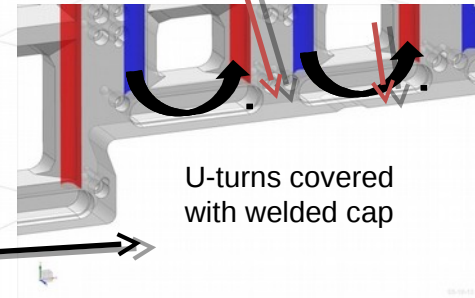
Danger of
pipe-blocking by air
bubbles



Tests are required

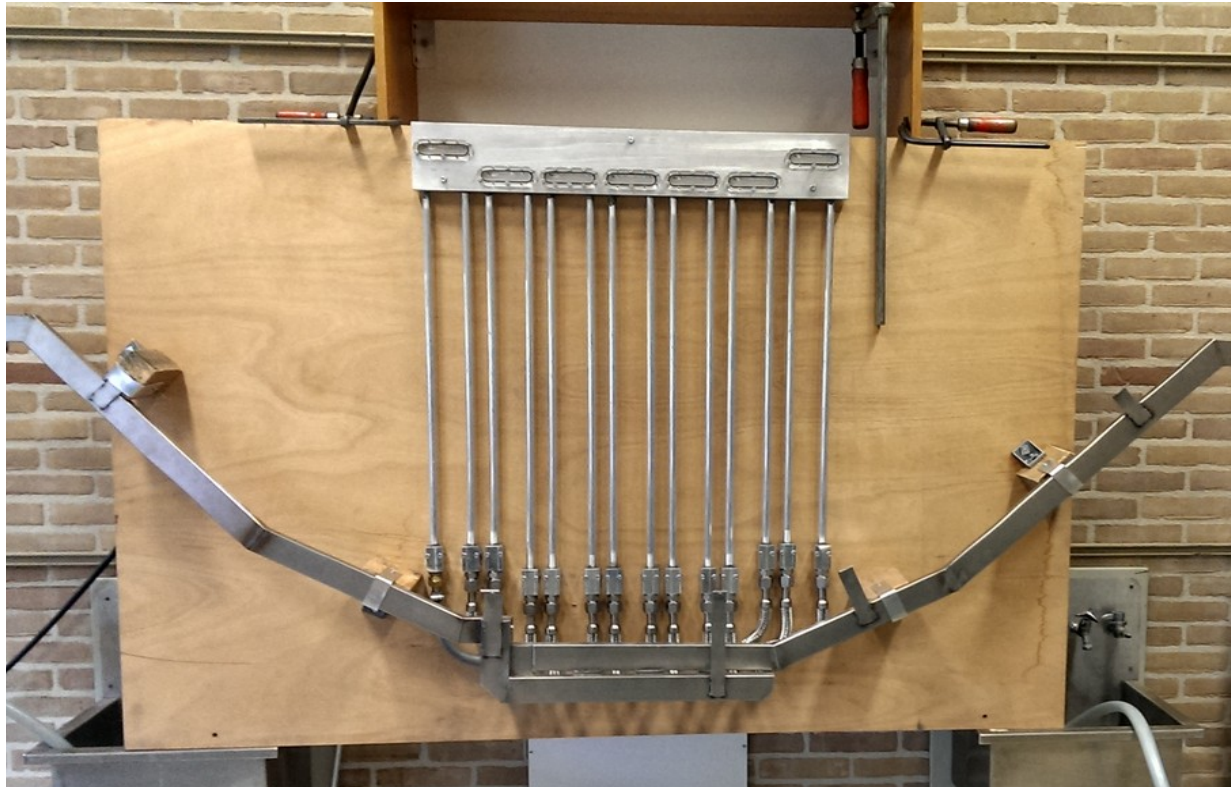


Holes 13mm



U-turns covered
with welded cap

Cooling-Circuit Test Set-up



- Monitoring of the liquid flow
- Monitoring of presence of air-bubbles
- Tests of individual U-turns
- Test of a complete cooling circuit

Results of tests:

- Air bubbles in a single U-turn are removed at a liquid flow >25 cm/s (~ 70 cm/s is nominal for cooling)
- Some U-turns always remain blocked by air bubbles in a complete cooling circuit

Cooling of the Central Part of the Endcap

Individual supply for each U-turn is possible →

External control on the flow in each line →

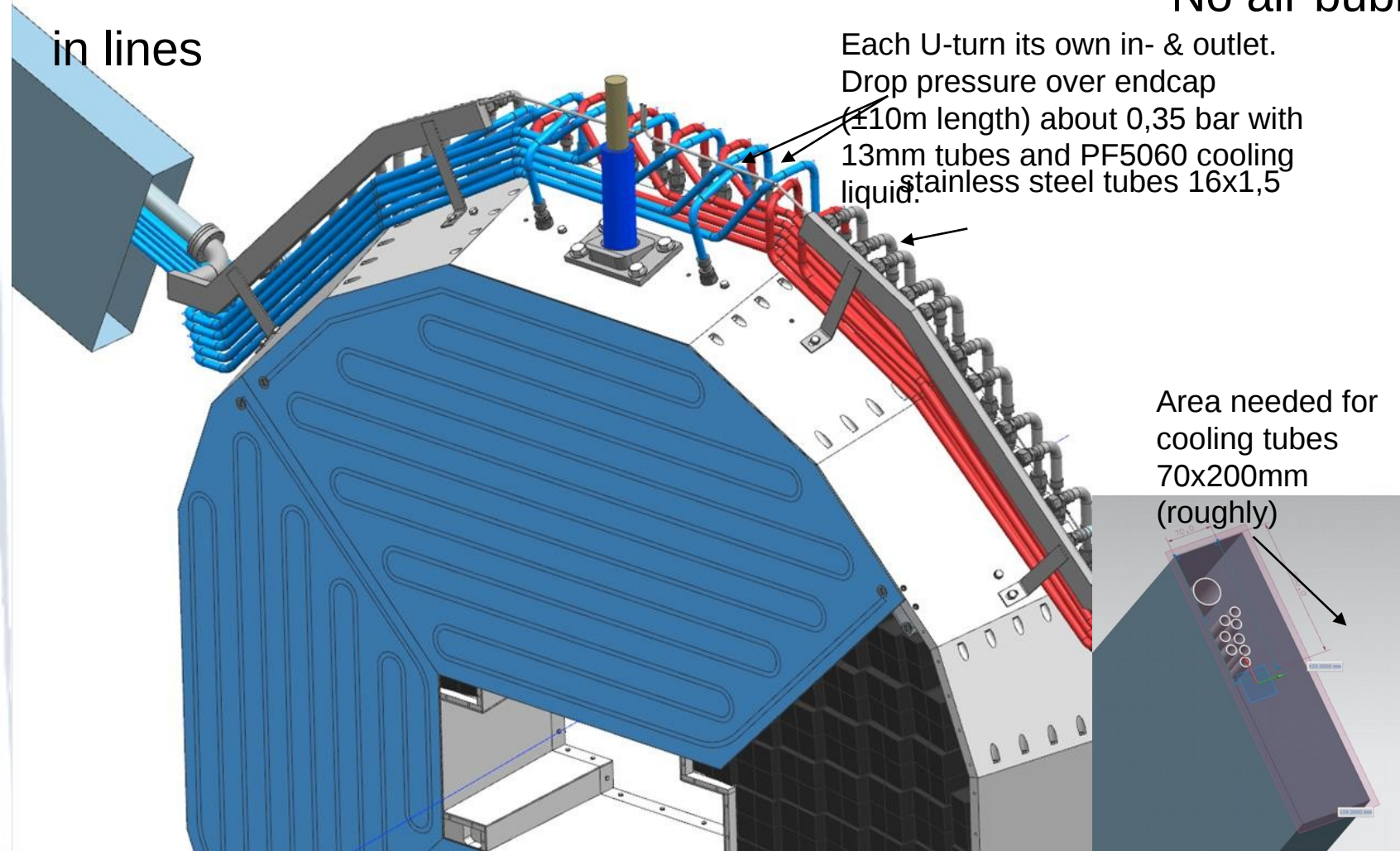
No air bubbles

in lines

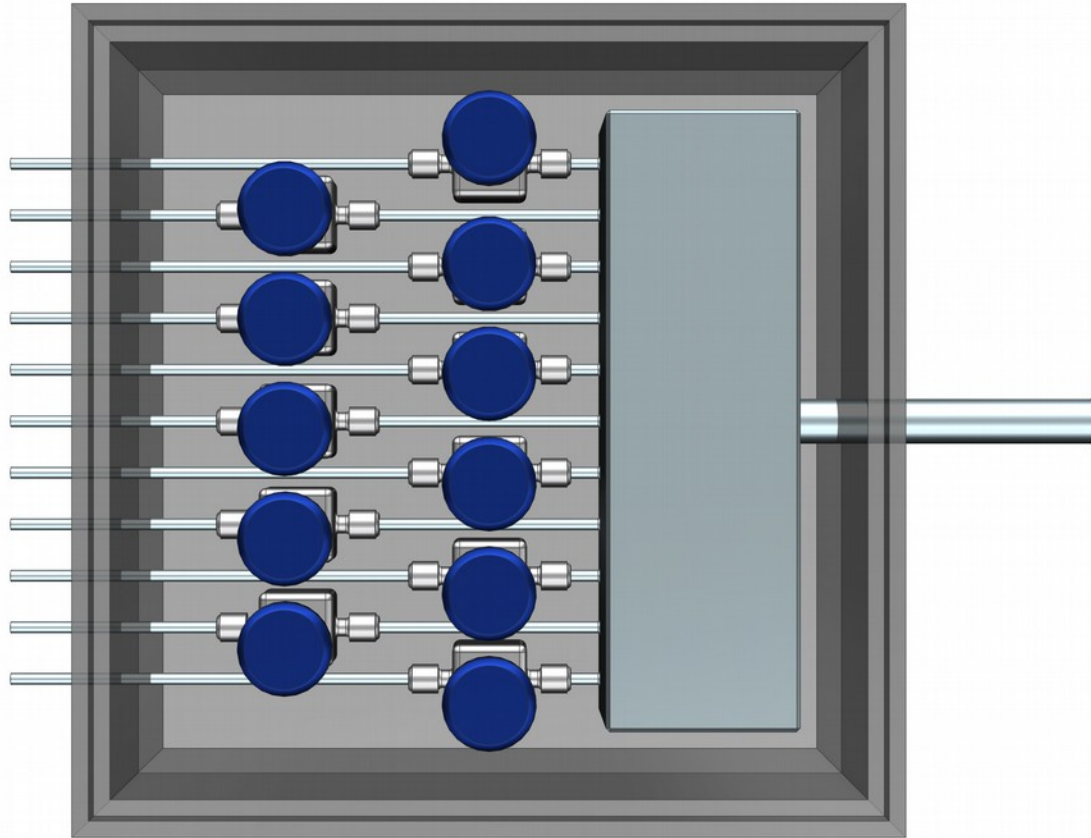
Each U-turn its own in- & outlet.
Drop pressure over endcap
(±10m length) about 0,35 bar with
13mm tubes and PF5060 cooling
liquid.

stainless steel tubes 16x1,5

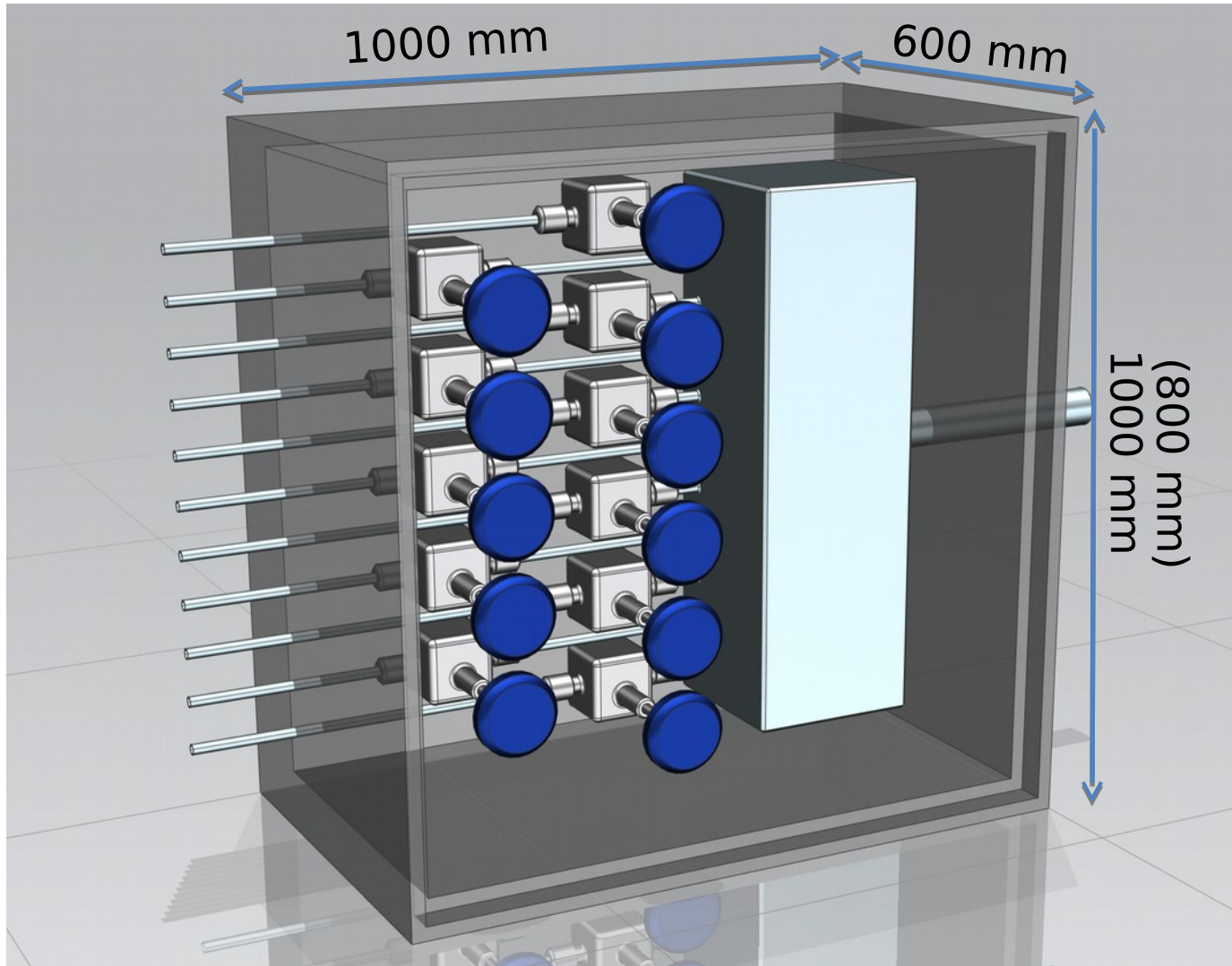
Area needed for
cooling tubes
70x200mm
(roughly)



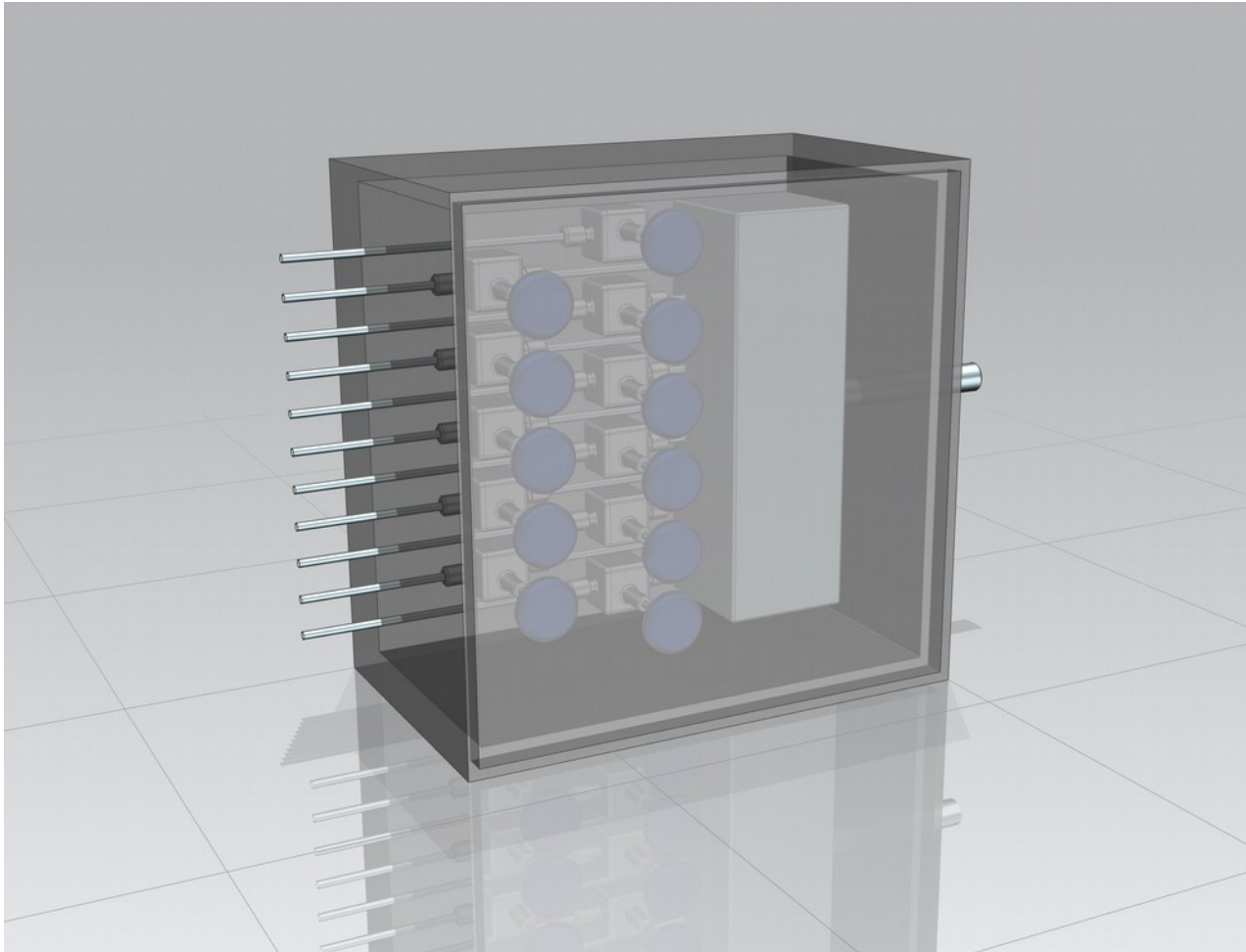
FwEndcap EMC Cooling Junction Box



FwEndcap EMC Cooling Junction Box 2 with 11 (+ 2 with 7) valves

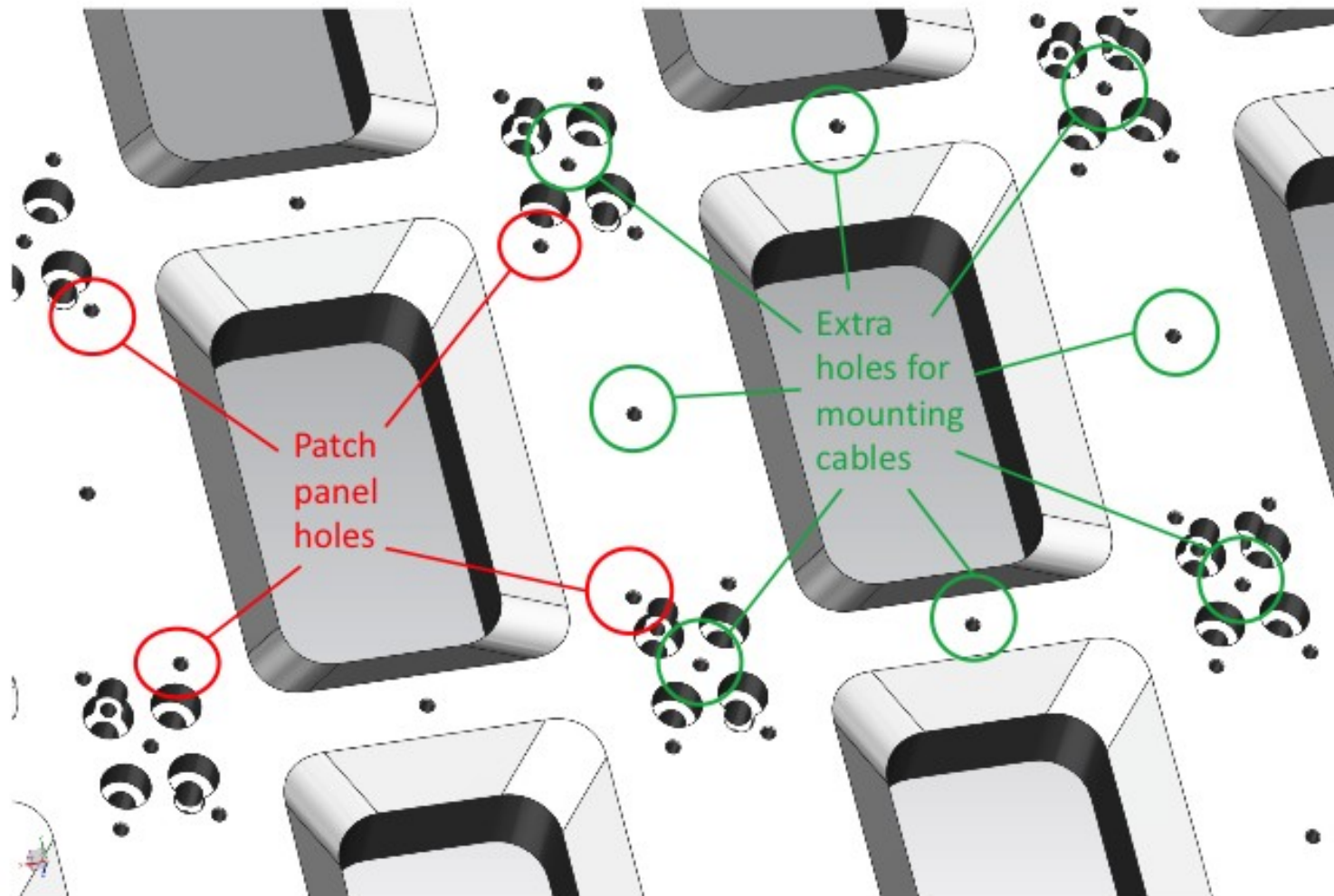


FwEndcap EMC Cooling Junction Box



Mountingplate: final changes

05-12-2013



For Information Only 05-12-2013



(Shower and desk set) Item: 4000-001001 Desc: Tuff Aire Mfg: 4000-0000 General Parameters: Item: 4000-0000 & 0 Desc: Tuff Aire Mfg: 4000-0000 Part wanted counts: Item: 4000-0000 Desc: Tuff Aire Mfg: 4000-0000	Material: Polypropylene 501001 Quantity: 179 (179.0000) lb Price: \$14000 Address: 6000000 Item: 4000-0000 Desc: Tuff Aire Mfg: 4000-0000 Part wanted counts: Item: 4000-0000 Desc: Tuff Aire Mfg: 4000-0000	Project: F.W. Ewing Job: 4000-0000 Name: Mounting plate 4 covers 100 Drawing number: 3-0702-1000-01_dwg  No required assembly material Assembly or other material	Scale: A0 Unit: mm Sheet List: Designed:
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