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D1, Q8 and C8 interface description

Magnet interfaces

- ✓ Mechanical interfaces
  - Support plate for installation on a dedicated girder
  - Fiducials for magnet alignment
  - Eyelift(s) for magnet handling
- ✓ Electrical interfaces
  - Connections to the relevant Power Converter
  - Connections to the Machine Protection System
  - Connection to electrical ground
- ✓ Hydraulic interfaces
  - Connections to the main cooling distribution

Mechanical interfaces

- ✓ Support plate will be designed in agreement with the Supplier and STFC Daresbury.
- ✓ The mechanical arrangement of the fiducials will be defined with the Supplier as well.
- ✓ Eyelifts will be placed in a suitable position to be defined with the Supplier. Expected magnet weights:
  - D1 5000 – 5500 kg
  - Q8 2400 – 2500 kg
  - C8 120 – 150 kg

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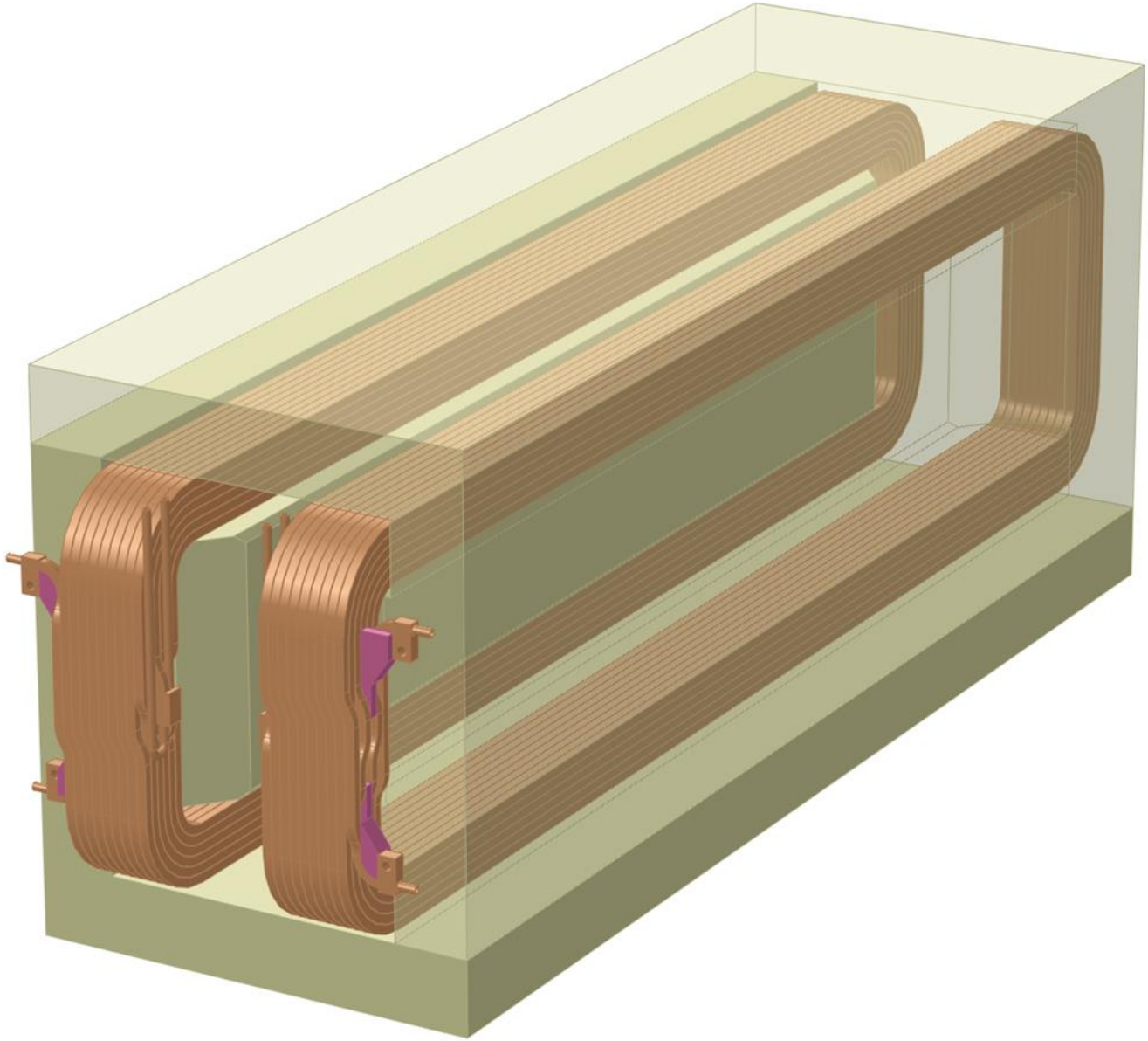
D1 conceptual model

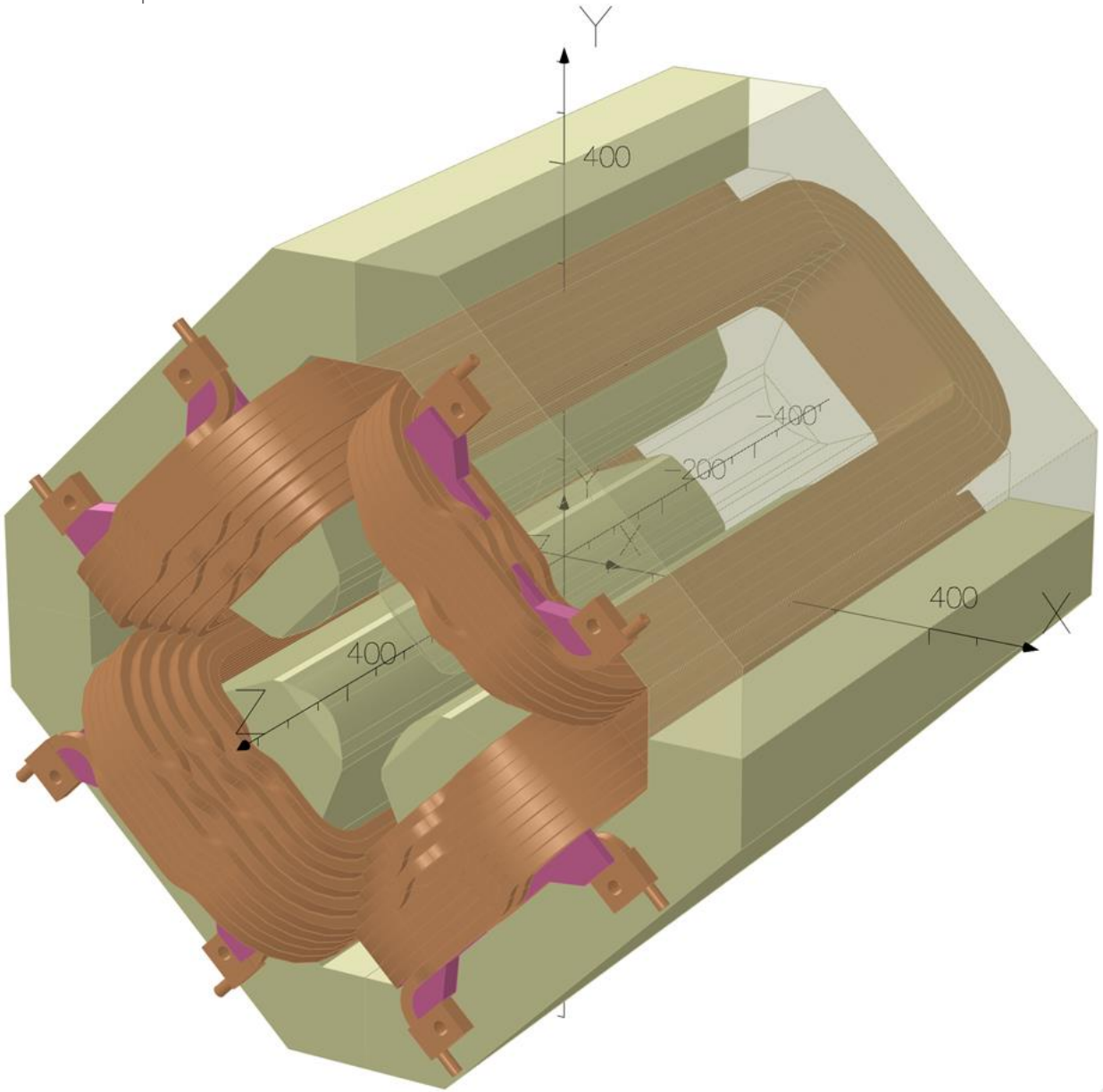


D1 electrical, cooling and mechanical parameters

- ✓ Electrical and cooling
  - Imax = 400 A
  - Max. flow = 12 l/min
  - ΔT = 14 deg C
  - P drop = 4.5 bar

- ✓ Mechanical
  - Overall width x height: 606 x 742mm
  - Yoke length: 1792 mm
  - Expected weight 5000 – 5500 kg
  - Both D1s will be tilted in the vertical direction by 2 deg (total deflection is 4 deg)

Q8 conceptual model



Q8 electrical, cooling and mechanical parameters

- ✓ Electrical and cooling
  - Imax = 400 A
  - Max. flow = 8.7 l/min
  - ΔT = 13 deg C
  - P drop = 3.8 bar

- ✓ Mechanical
  - Overall width x height: 800 x 800 mm
  - Overall length: 930 mm
  - Expected weight 2400 – 2500 kg

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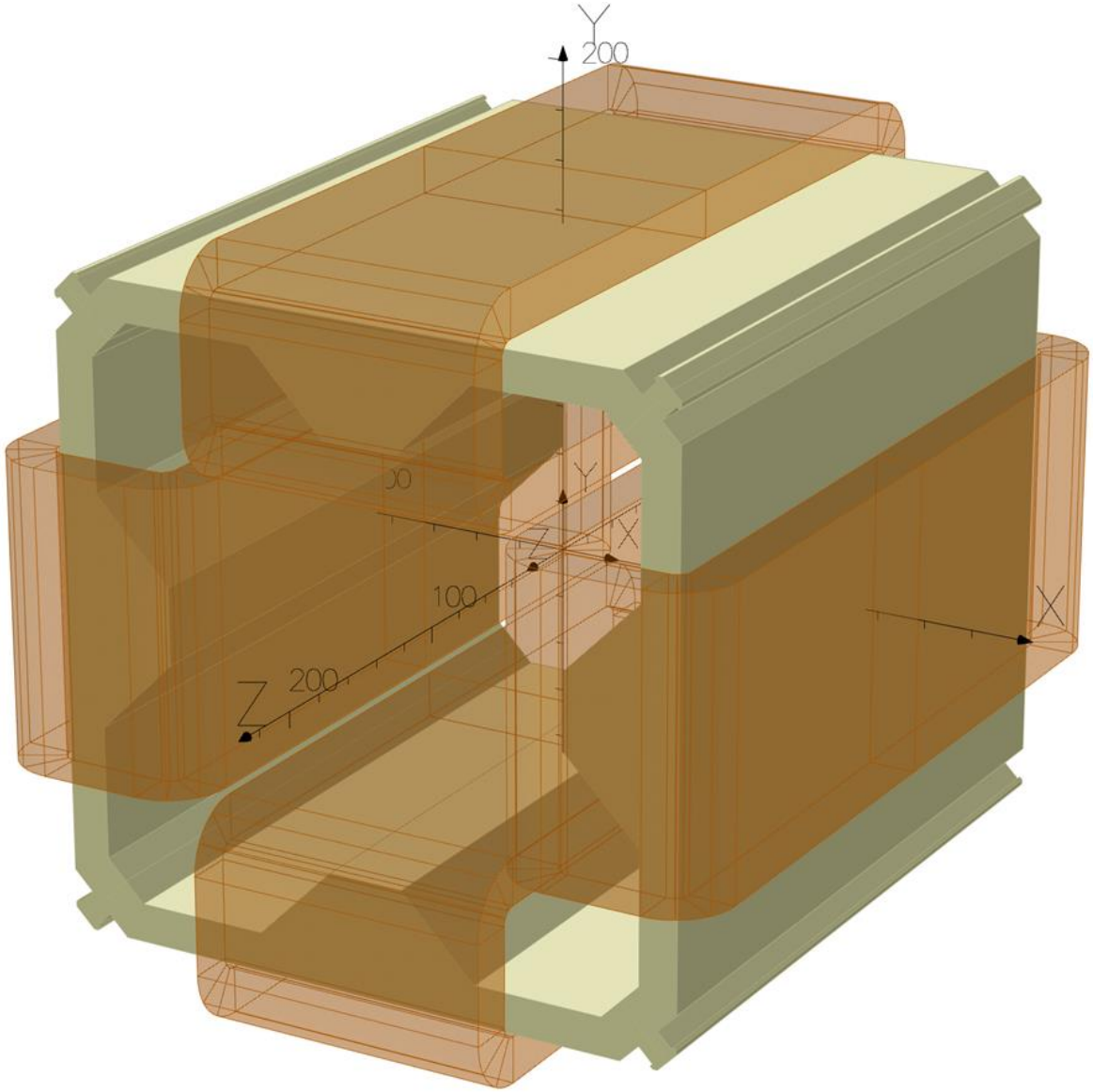
C8 conceptual model



C8 electrical, cooling and mechanical parameters

- ✓ Electrical and cooling
  - Imax = 16 A
  - Max. flow = NA (air cooled)
  - ΔT = 13 deg C
  - P drop = NA (air cooled)

- ✓ Mechanical
  - Overall width x height: 320 x 320 mm
  - Yoke length: 300 – 350 mm
  - Expected weight 120 – 150 kg

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Thank you

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