

# Large 3D coils of high homogeneity

## Preliminary information 1

### Square coils of three and four coils per axis, of *Merritt* type (\*)

(\*) Reference: Merritt, Purcell and Stroink; "Uniform magnetic field produced by three, four, and five square coils", *Rev. Sci. Instrum.* 54 (7), July 1983. This is the original paper describing the properties of these coil-sets.

- Replaces with advantages systems of circular coils, as Braunbek ones.
- These sets can be crated dismantled, to ship in a standard sea-freight container.
- These can be supplied also in versions of one or two axes.
- Modular elevated flooring is available.
- Larger dimensions to 4 or 5 metres, or more, can be considered.
- DUT stands of variable height, including versions with rotary table, are available.

The images in below do not depict many details, as wiring, joining pieces, etc. More detailed images would be provided attached to any formal quotation previous to a supply.

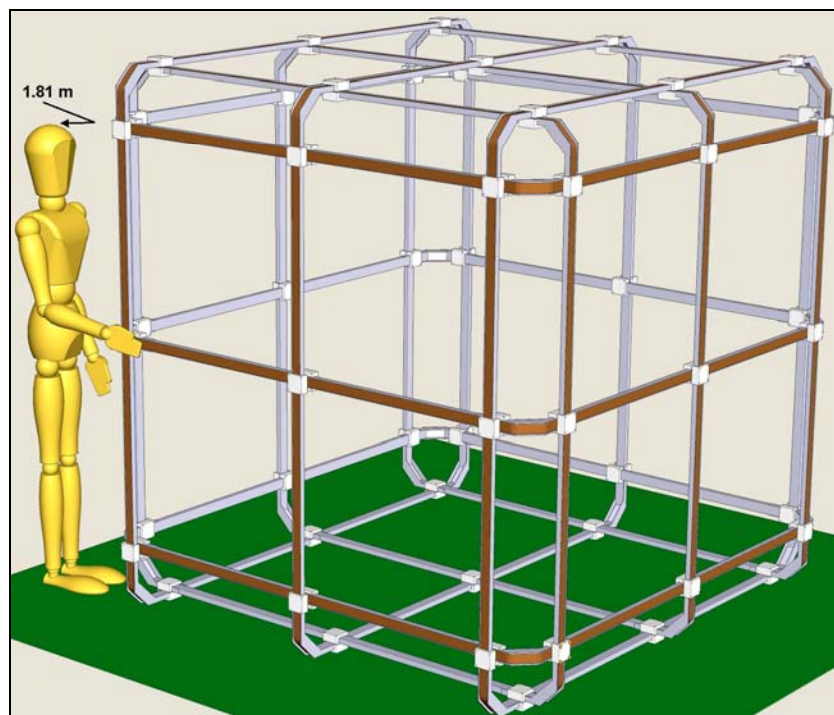
The dummy included in the figures, as a size reference, is 1.81 m tall.

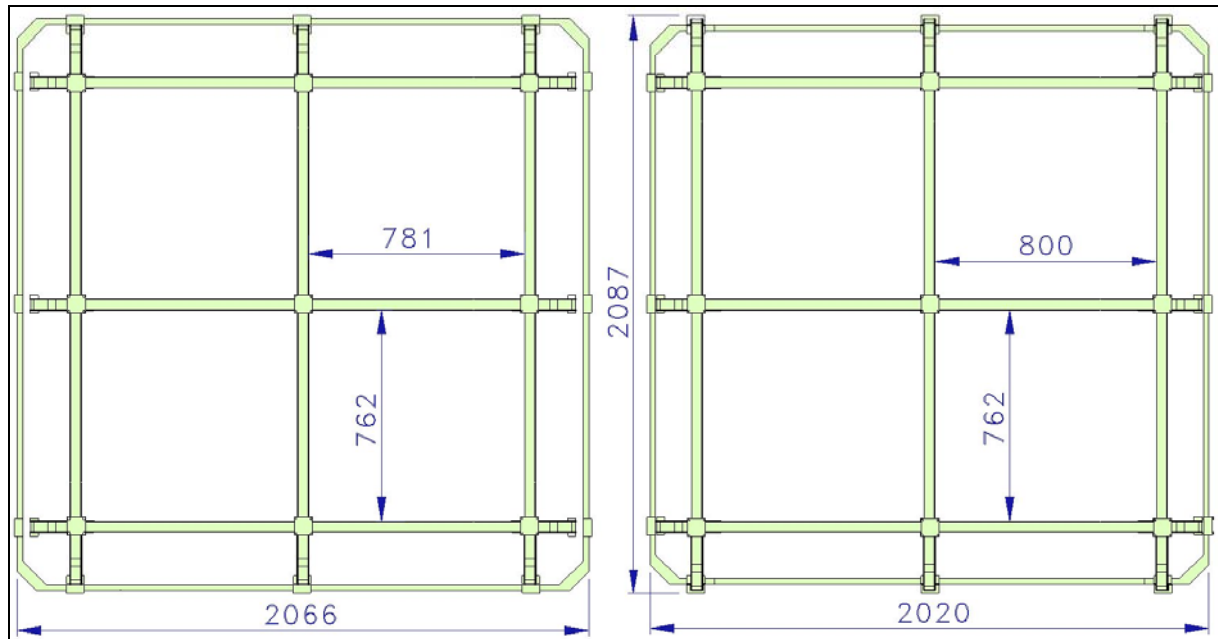
### \_\_\_ Sets of two metres of side (nominal dimension)

#### - Model: **BM3-2000-3A (three coils per axis)**

This is an evolution of our standard *BHC2000-3-A/B* Helmholtz set.

- Maximum steady field: around 1 mT (10 G). Versions for higher fields could be considered.
- Field homogeneity:  $\pm 1$  % in a cube of side around 800 mm.
- Resistance and operating current/voltage, to be yet determined. Several options can be considered.

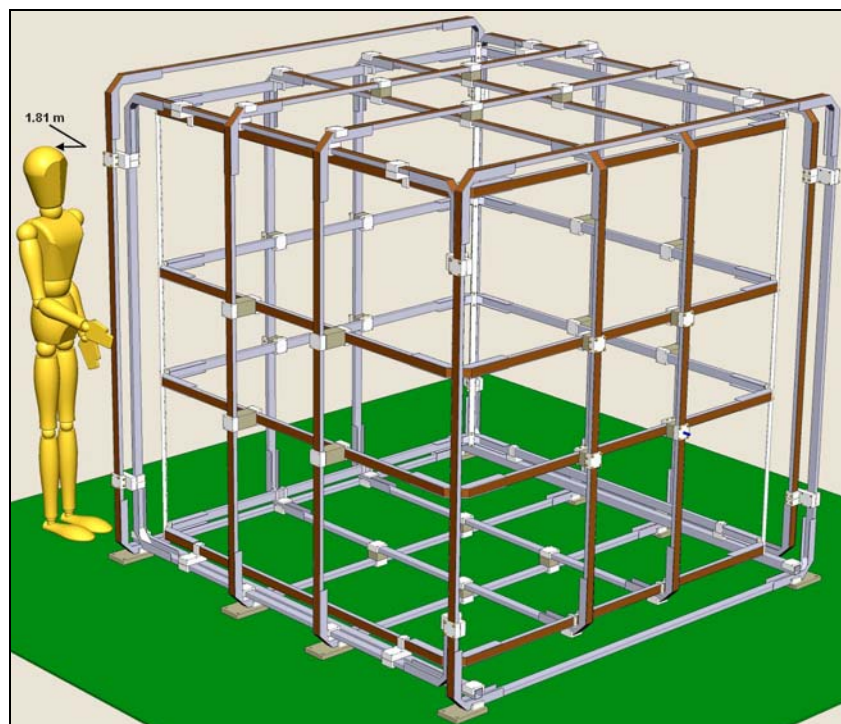




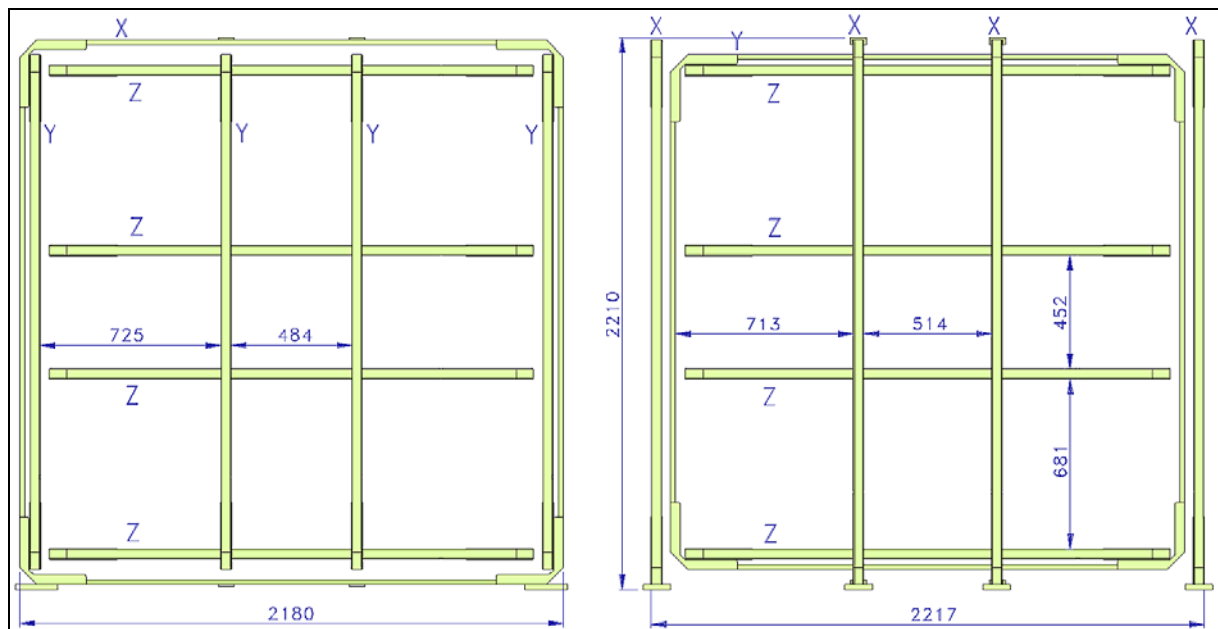
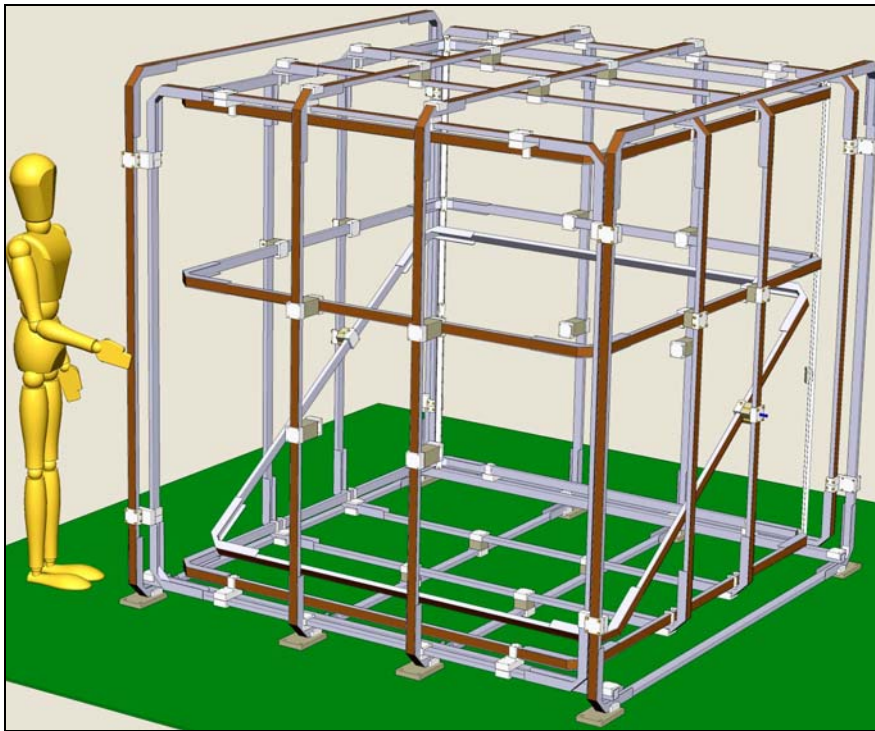
- Model: **BM4-2000-3A (four coils per axis)**

This is also an evolution of our standard BHC2000-3-A/B Helmholtz set.

- Maximum steady field: 0.9 mT (9 G). Versions for higher fields could be considered.
- Field homogeneity:  $\pm 1$  % in a cube of side around 1,000 mm.
- Resistance and operating current/voltage, to be yet determined. Several options can be considered.



The following image shows an option to facilitate Operator's access. The lower Z-coil can be tilted to increase the access space.



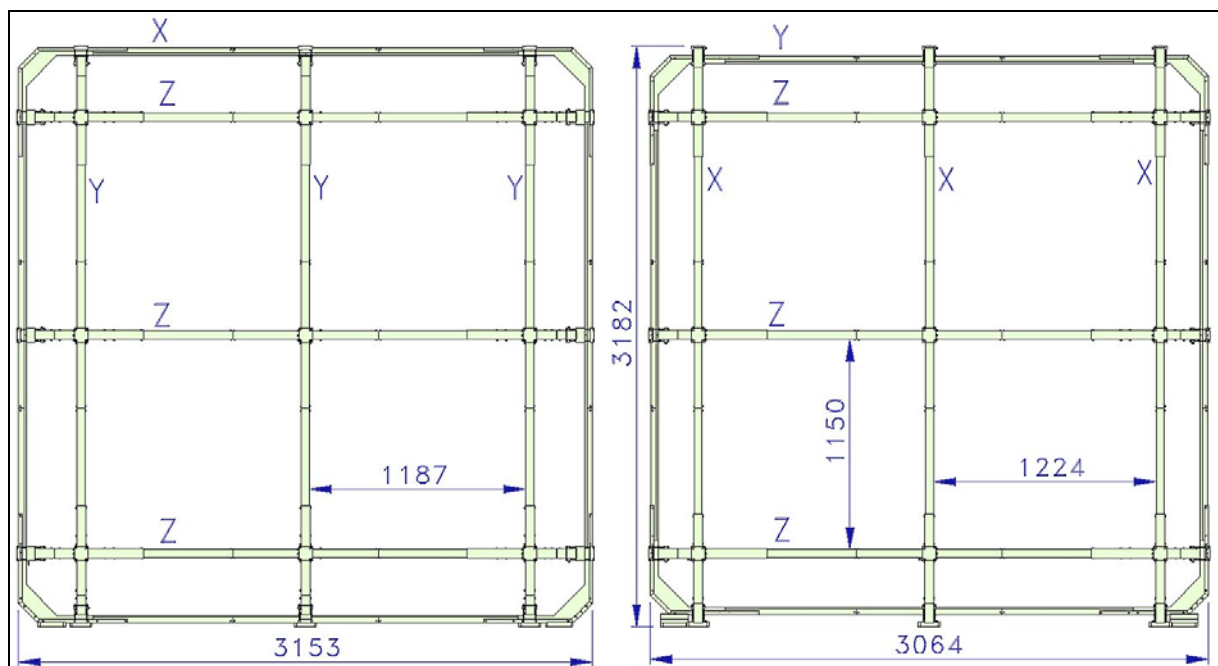
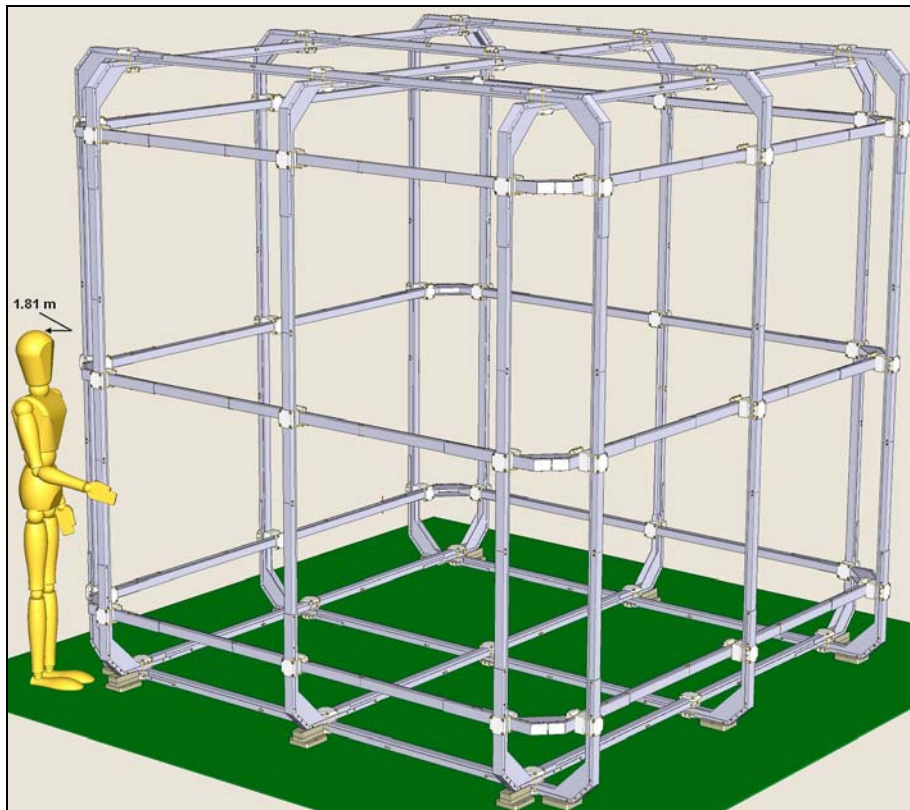
## \_\_\_\_\_ Sets of three metres of side (nominal dimension)

***After system testing, each coil is dismantled in several parts for an easier transportation, including its flexible and foldable winding, to be assembled at the final installation site.***

- Model: **BM3-3000-3A (three coils per axis)**

This is an evolution of our *BHC3000-3-A* Helmholtz set.

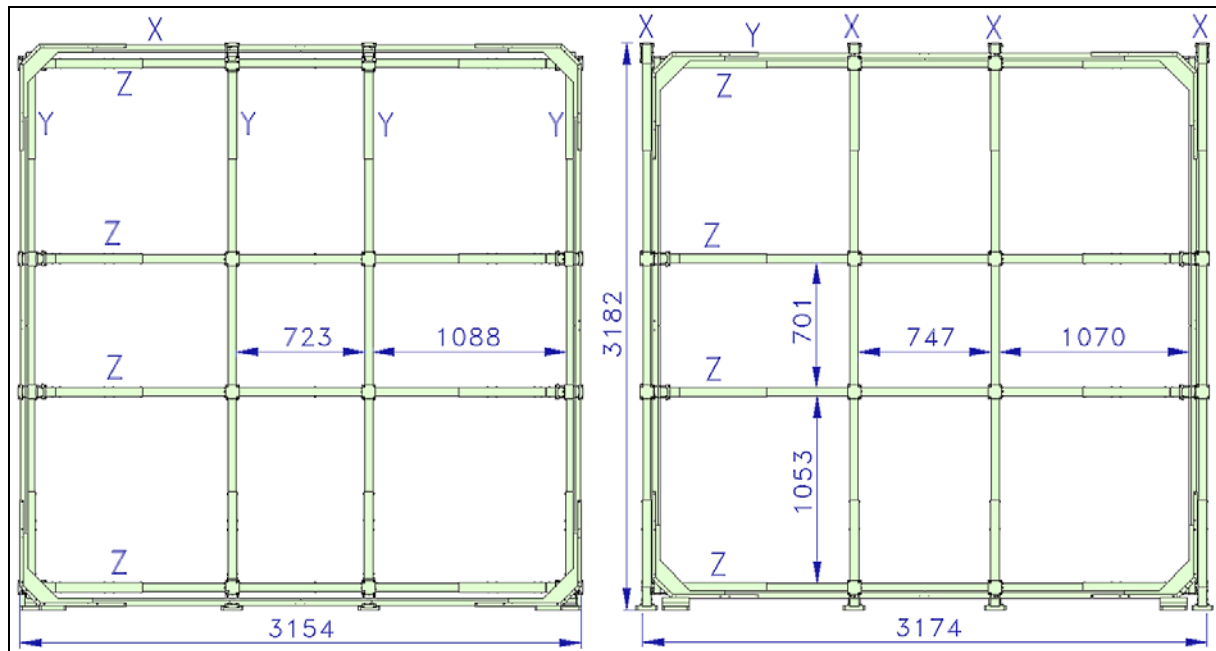
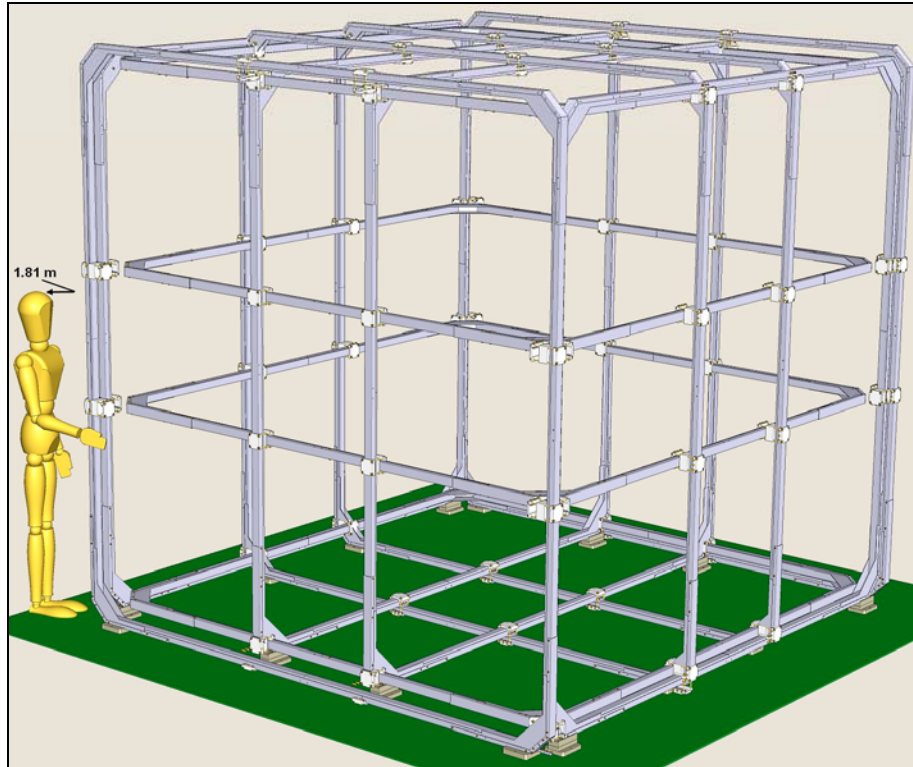
- Maximum steady field: 0.63 mT (6.3 G). Versions for higher fields could be considered.
- Field homogeneity:  $\pm 1\%$  in a cube of side around 1,200 mm.
- Resistance and operating current/voltage, to be yet determined. Several options can be considered.



- Model: **BM4-3000-3A (four coils per axis)**

This is also an evolution of our *BHC3000-3-A* Helmholtz set.

- Maximum steady field: 0.55 mT (5.5 G). Versions for higher fields could be considered.
- Field homogeneity:  $\pm 1\%$  in a cube of side around 1,500 mm.
- Resistance and operating current/voltage, to be yet determined. Several options can be considered.



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