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: ±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: ±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: ±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: ±1 % in a cube of side around 1,500 mm.
- Resistance and operating current/voltage, to be yet determined. Several options can be considered.