

## Braunbek and Barker coils

Our procedures for winding on aluminium forms and coils fixing allow the manufacture of coil systems more complicated than the Helmholtz pairs. When a high magnetic field homogeneity in a bigger volume than the provided by Helmholtz pairs is wanted, it is possible to resort to four coils per axis coil-sets, for what the following ones are two of the best known.

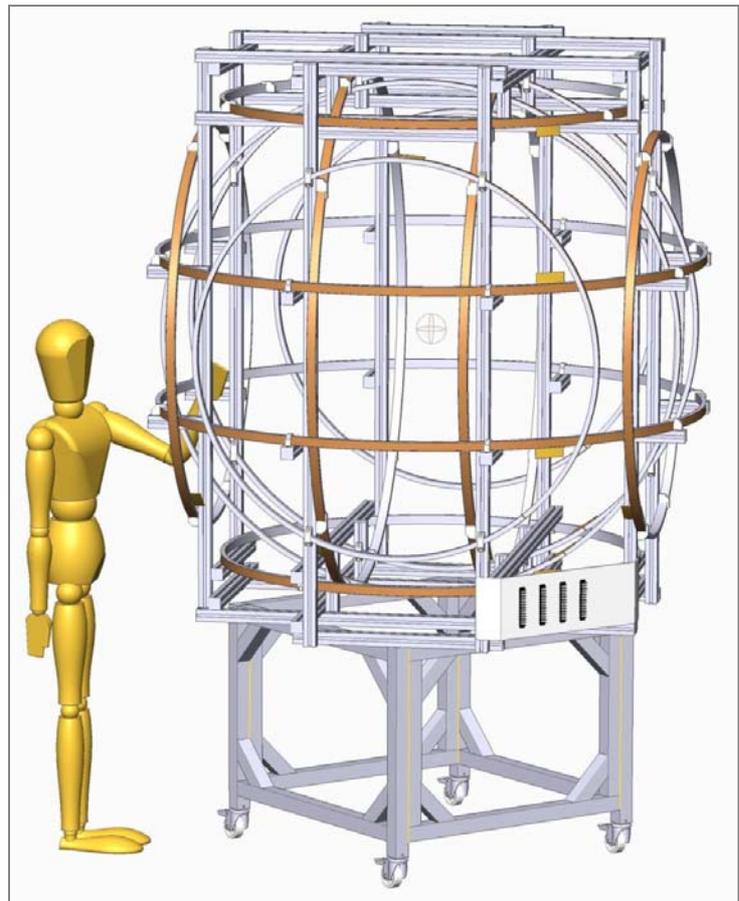
The images are views from our 3D CAD models. These do not include such details, as wiring.

### Braunbek coils

The outer coils of an axis are of smaller diameter than the two central coils. The *Nr of turns•current* figure is the same for the four coils of each axis.

It is shown the so named **BBR1800-3A** model. It is a three axes unit, with a nominal diameter of 1800 mm (approximately corresponding to the larger coils one). It has a total height of 1900 mm, without the pedestal. It can work in DC and AC. Its field/current ratio is of 167  $\mu\text{T/A}$  (1.67 Gauss/A).

Self-standing. Structure made of aluminium alloy. The pedestal as shown is optional. It can be supplied with other types of pedestals.



### Barker coils

The four coils on an axis have same diameter. The *Nr of turns•current* figure is larger for the two outer coils than for the two inner coils on an axis. We can construct these in a very similar way than the Braunbek coils in above.

For same homogeneity, these coils provide a spherical volume approximately double in diameter than a Helmholtz coil-set of same diameter.

The Braunbek coil-sets have some small advantages in respect to the Barker coil-sets

*Please, do not hesitate in asking us about these coils, or similar versions, if the homogeneity from a Helmholtz pair is not enough for your application.*