

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.

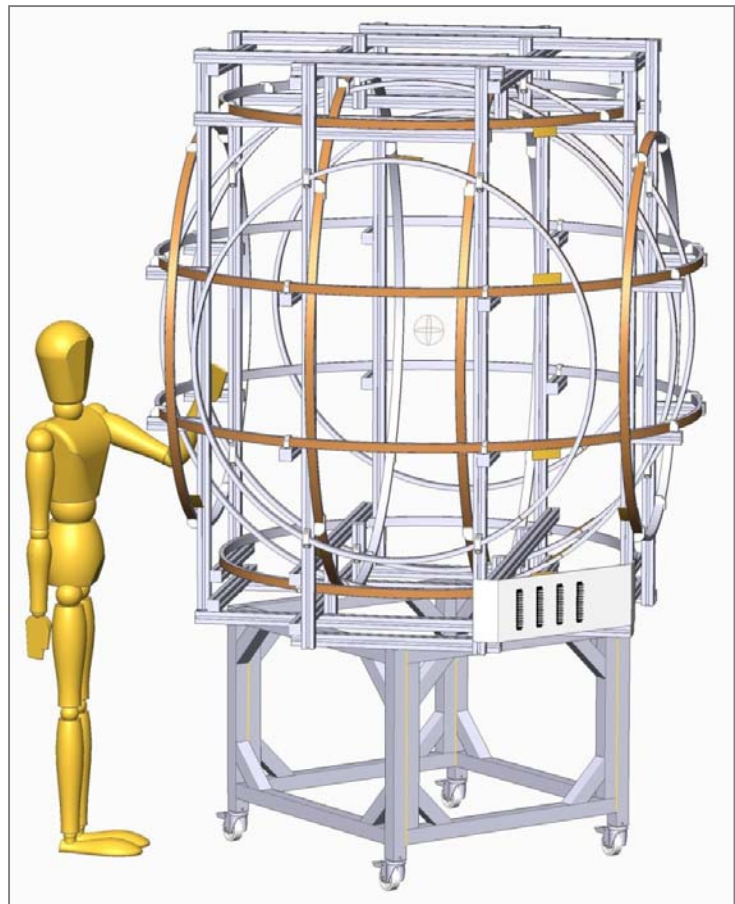
The images are views from our 3D CAD models. These do not include such details, as wiring.

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.