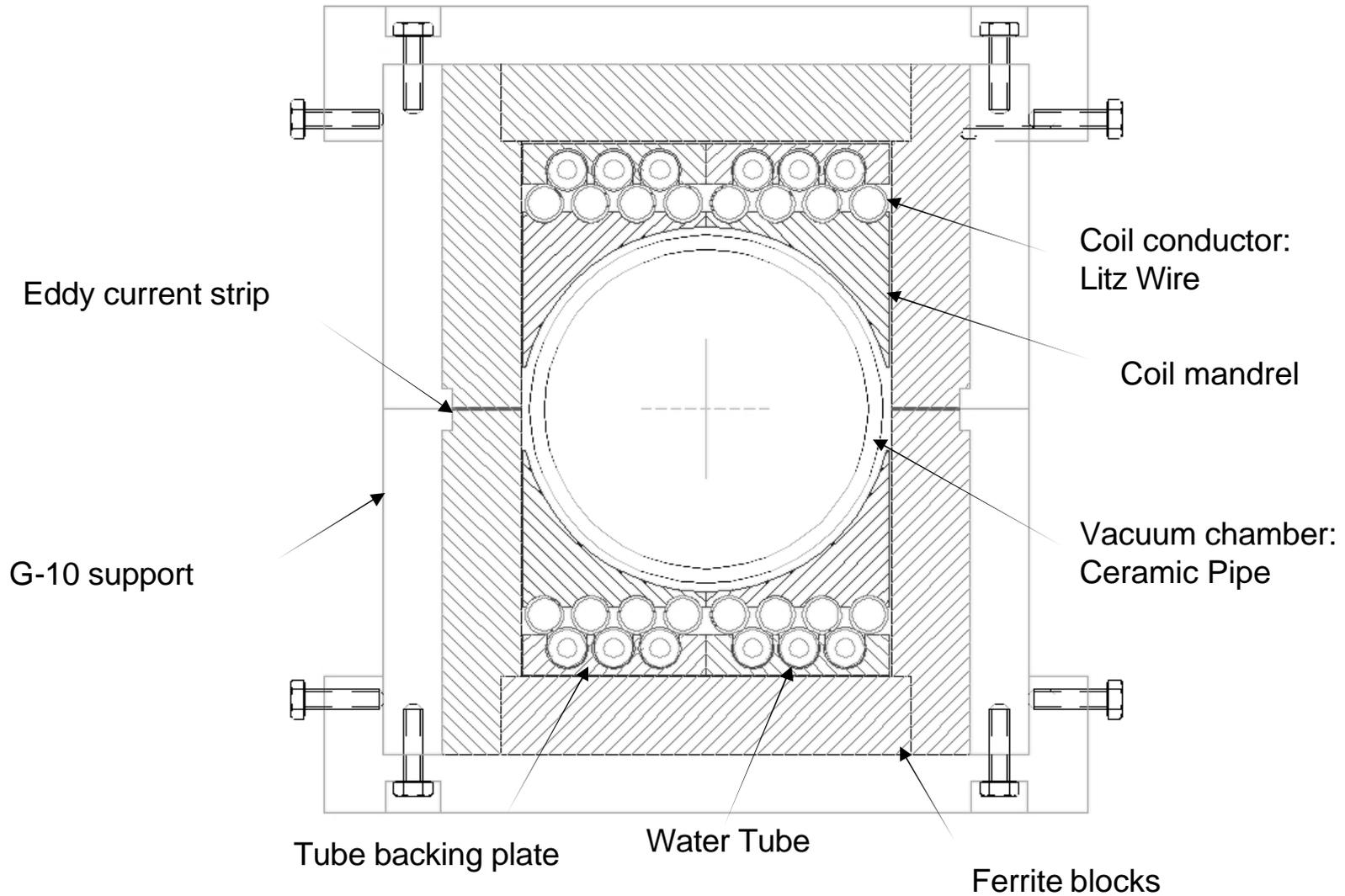


RHIC AC dipole design

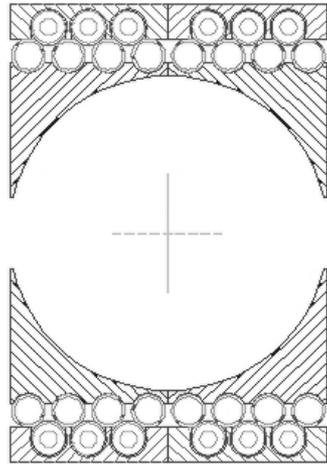
C. Pai

4-4-2008

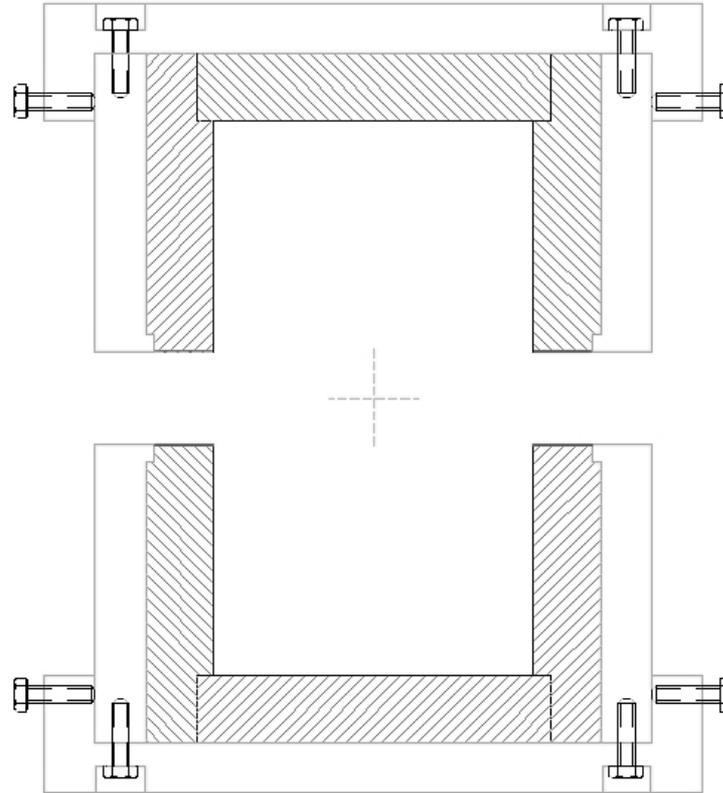
AC dipole Magnet Cross section



AC dipole Magnet components

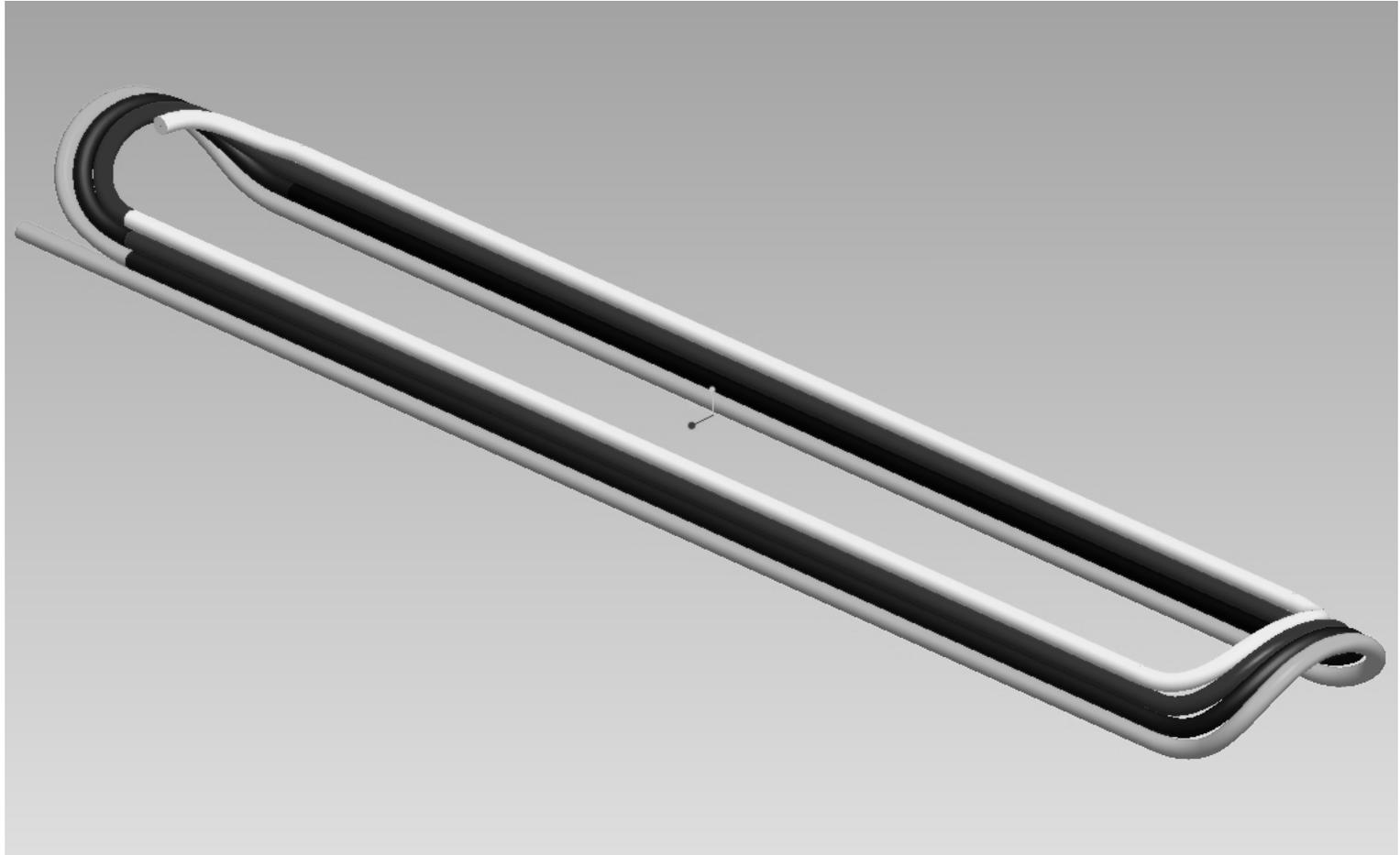


Epoxy bounded coil section includes
Mandrel, conductor and water tubes

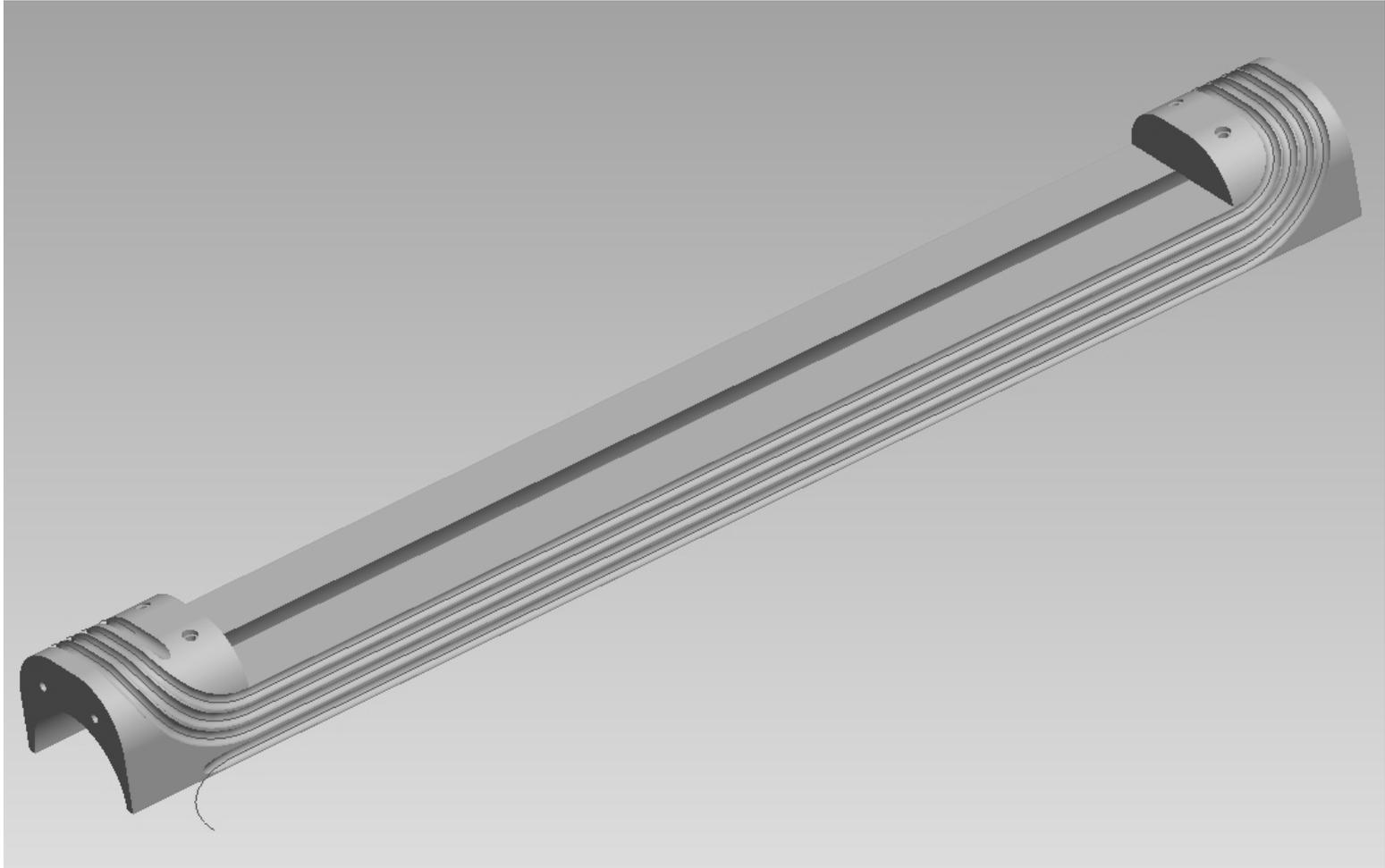


Ferrite blocks and G-10 support, 4
sections

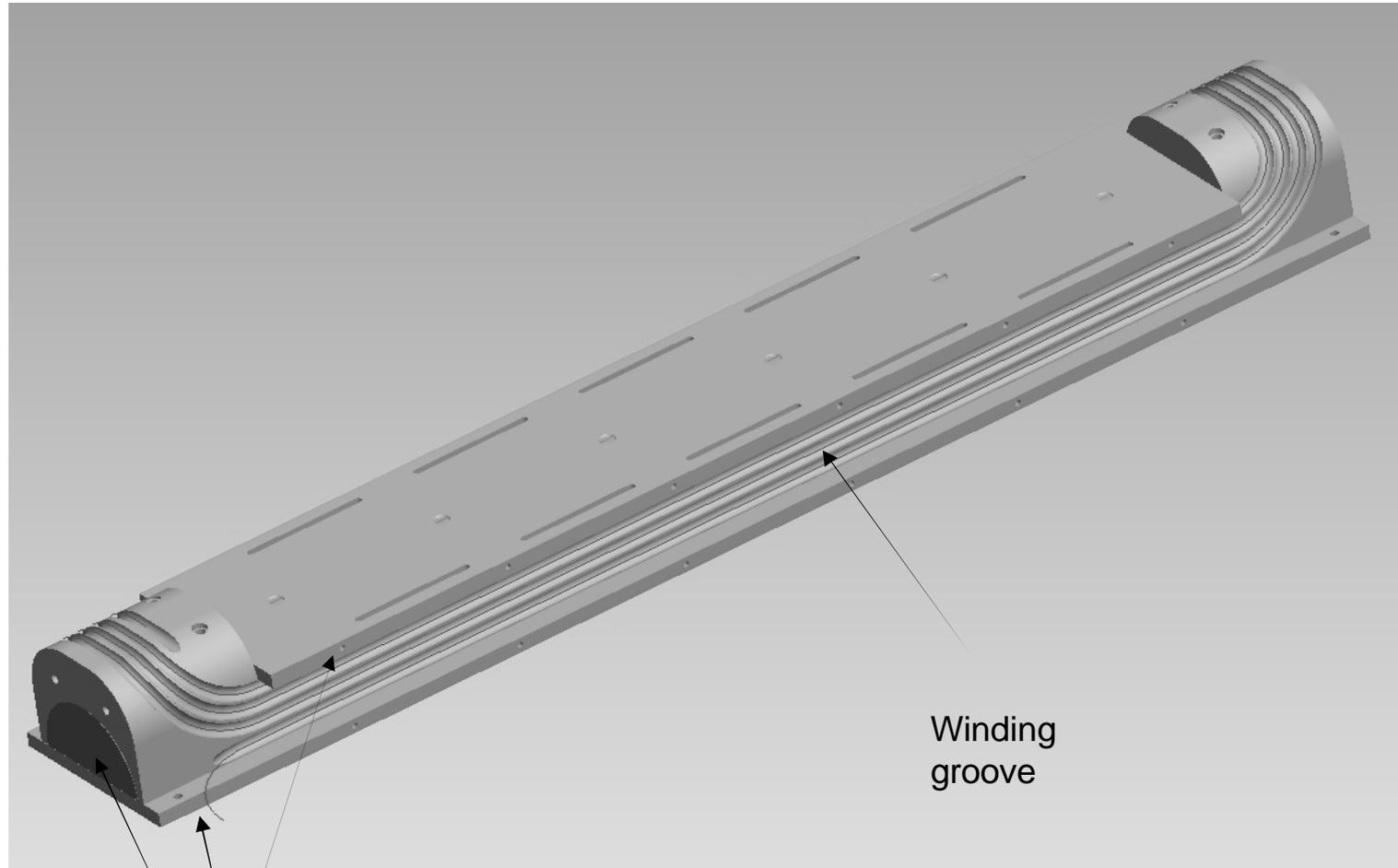
Coil Winding, total 8 turns, 4 turns each in half coil



AC dipole coil Mandrel



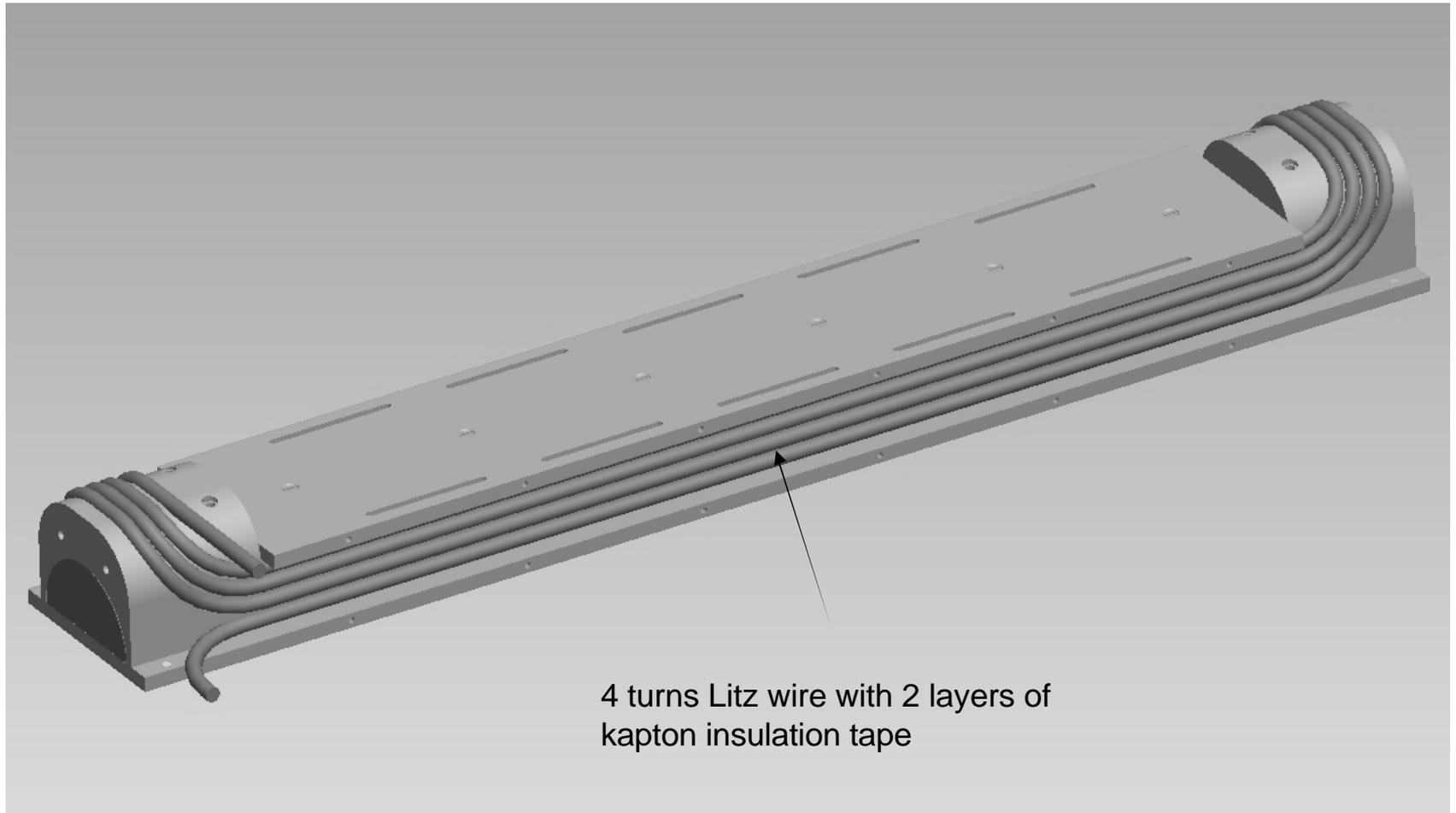
AC dipole Coil Mandrel with support plate for machining and winding



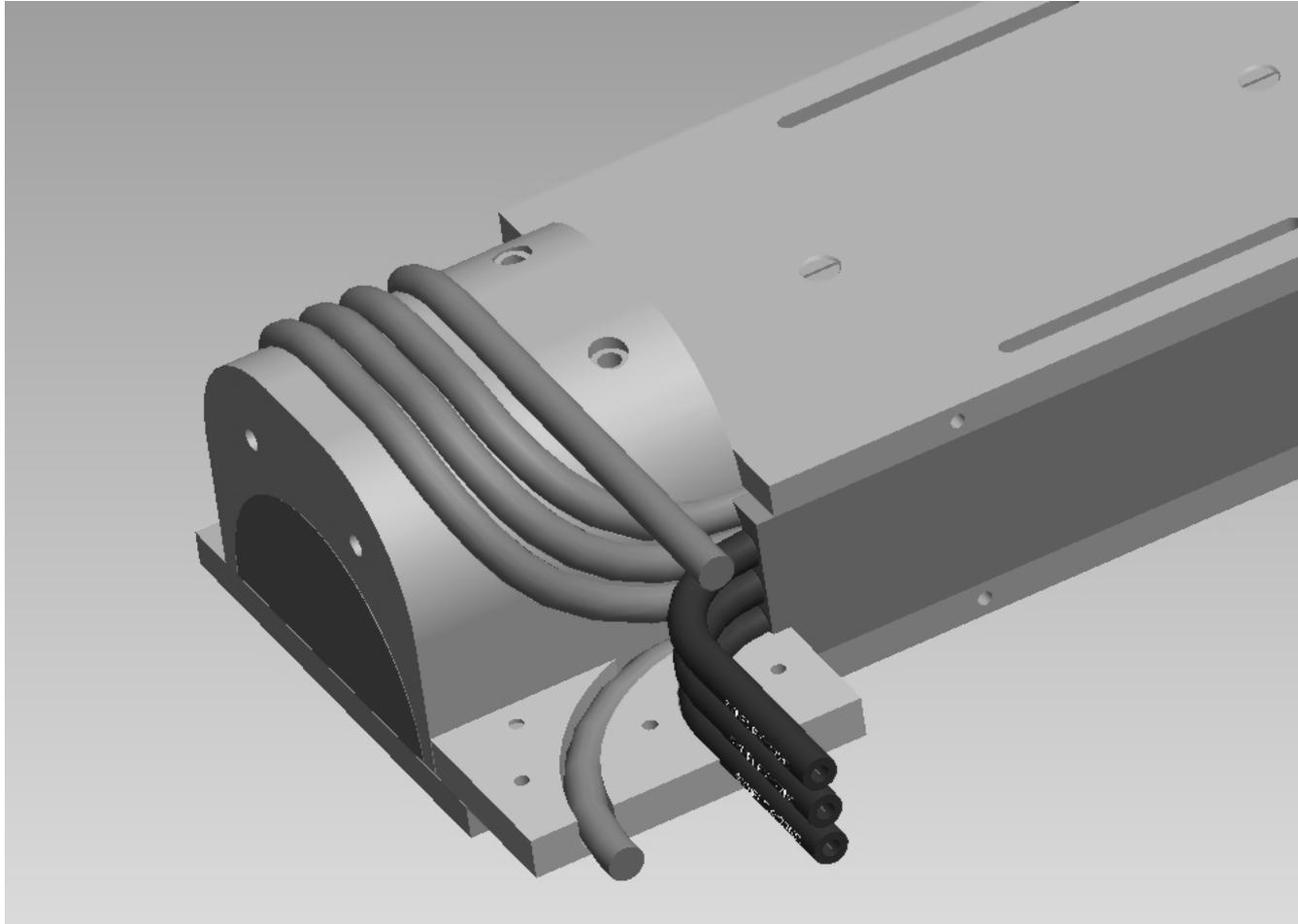
Support plates

Winding groove

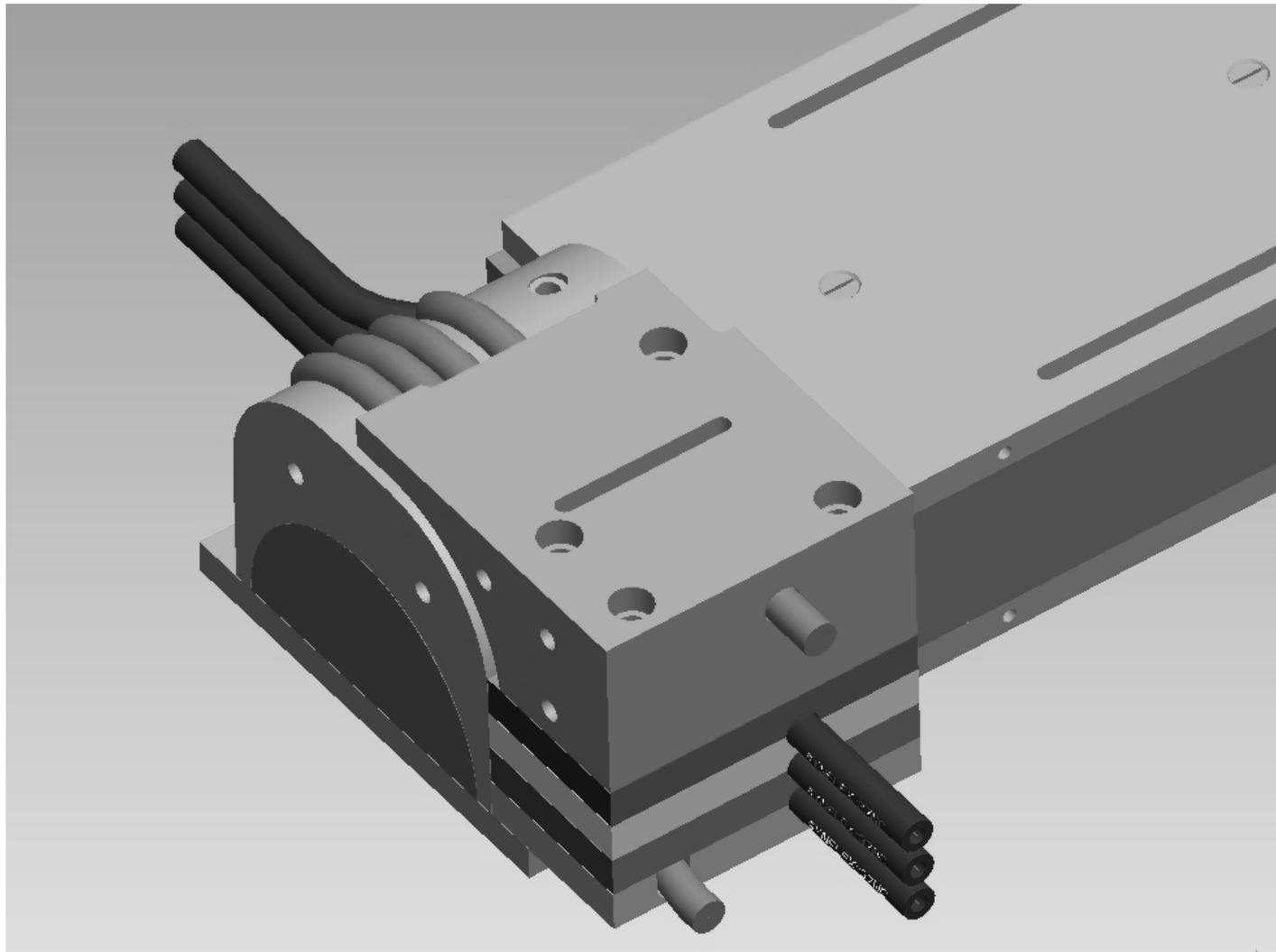
AC dipole Wound Coil



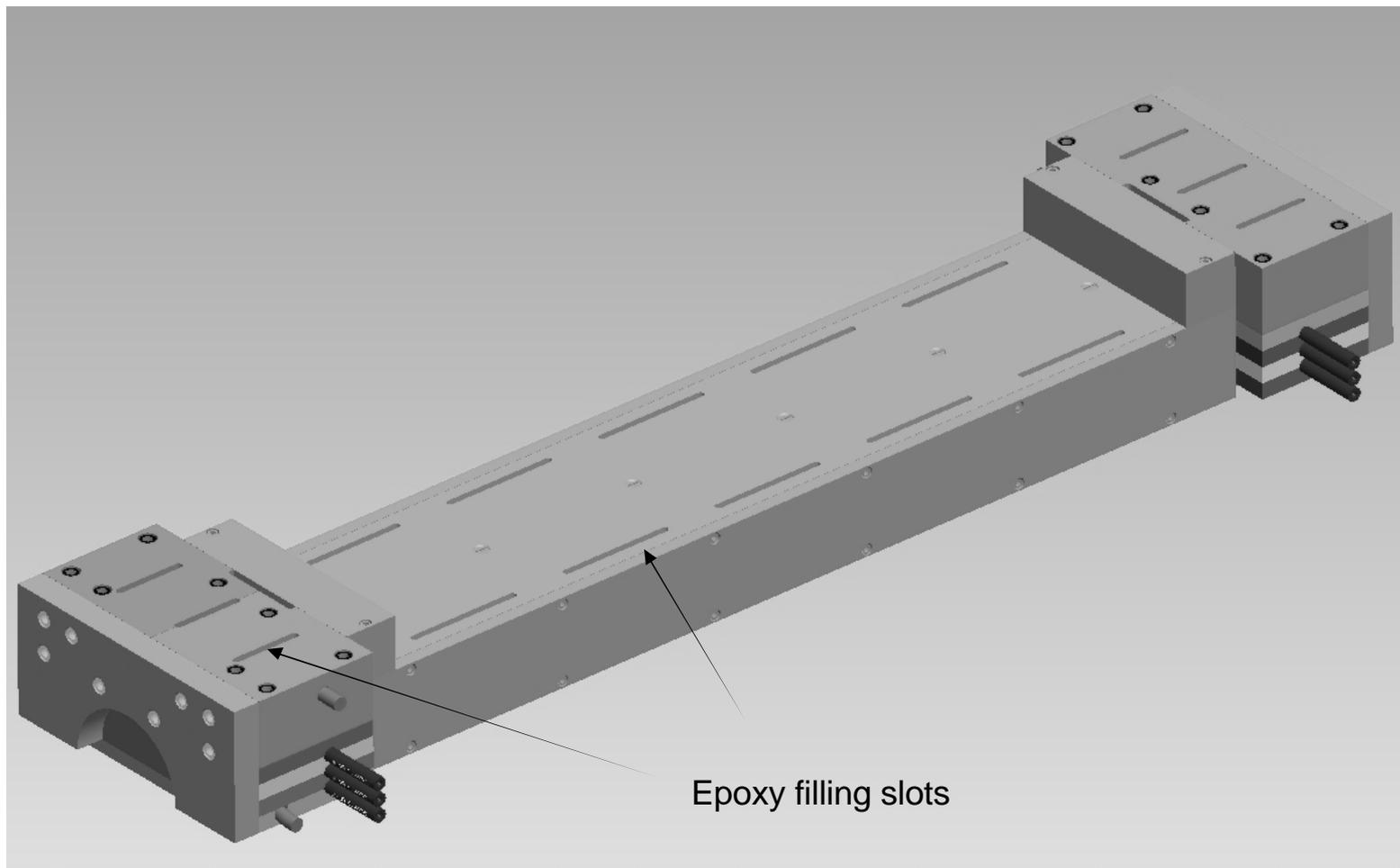
Cooling water hoses



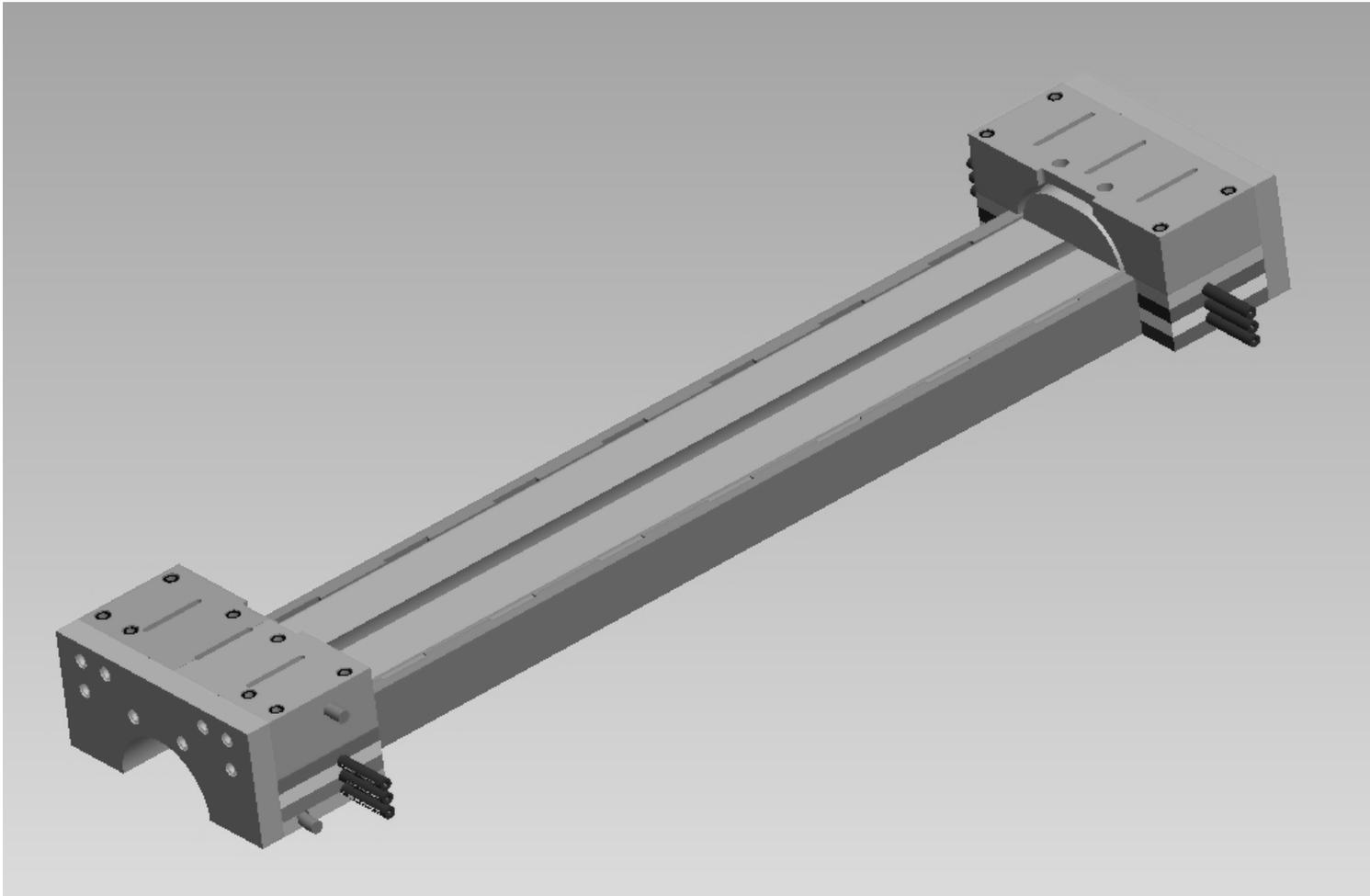
AC dipole Coil End support



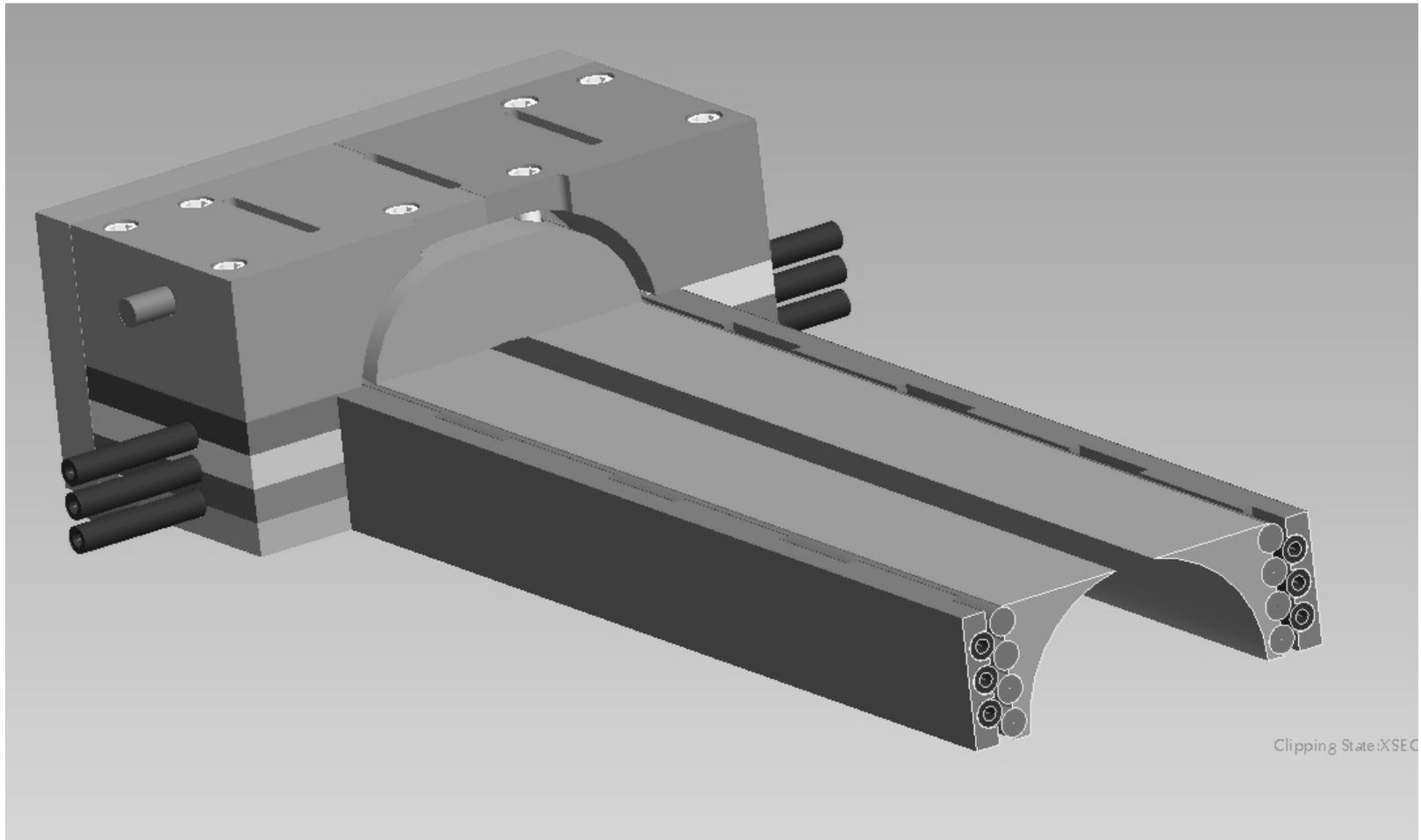
Epoxy potting fixture for AC dipole Coil



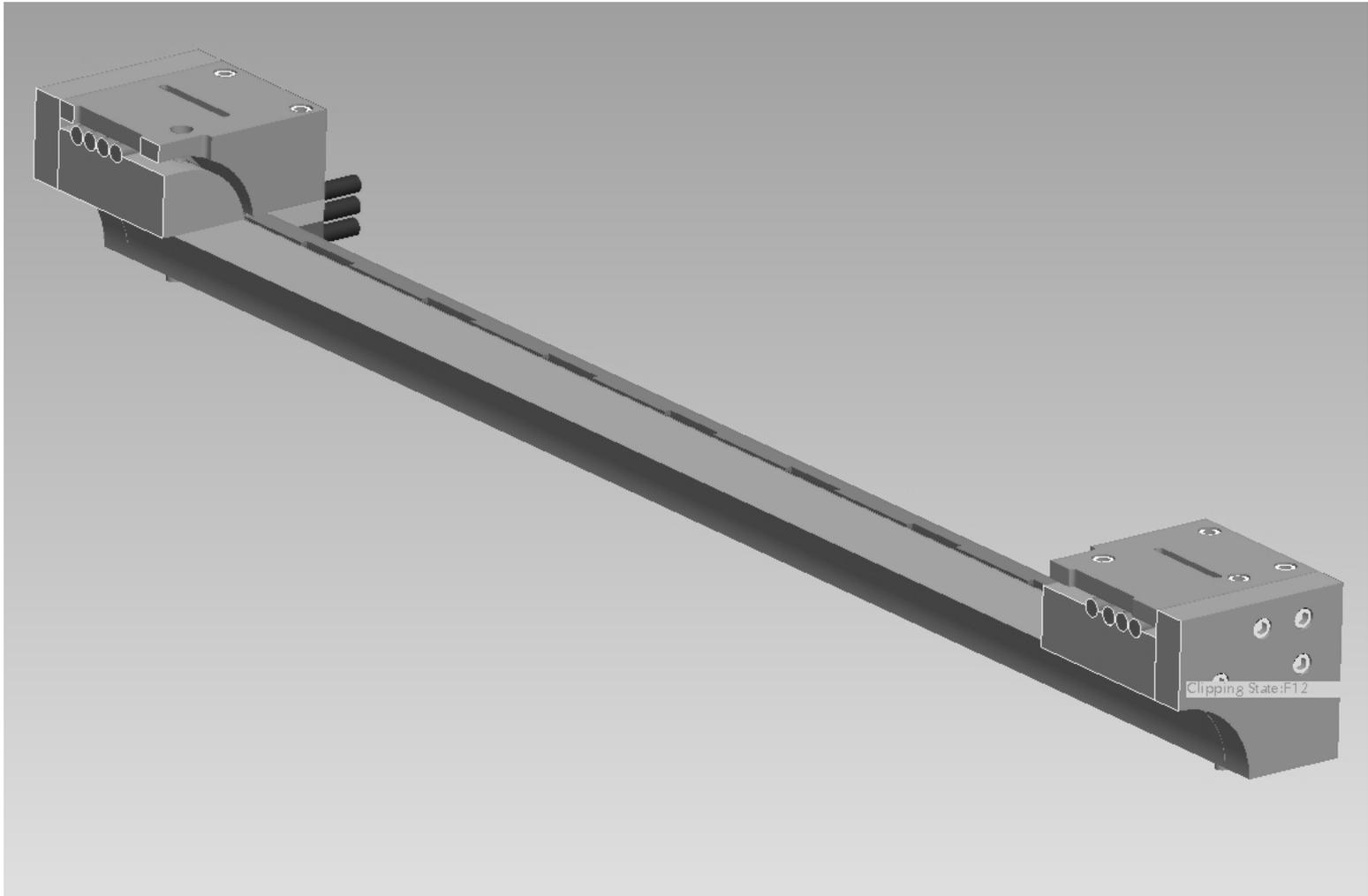
Complete AC dipole Coil (Cured without fixyure)



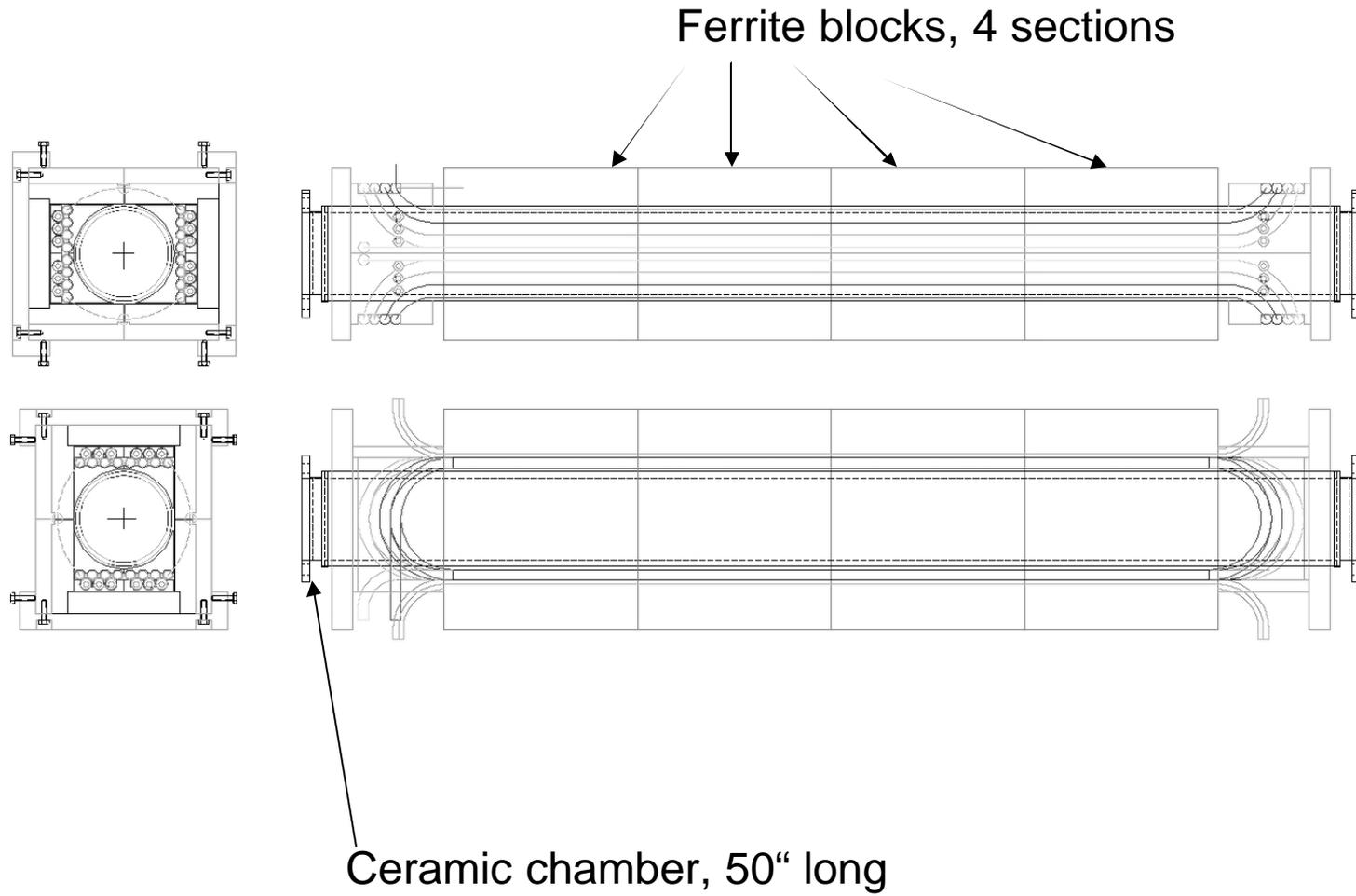
Cross section view of Complete AC dipole Coil



Cross section view of Complete AC dipole Coil



Magnet assembly



AC dipole with support stand



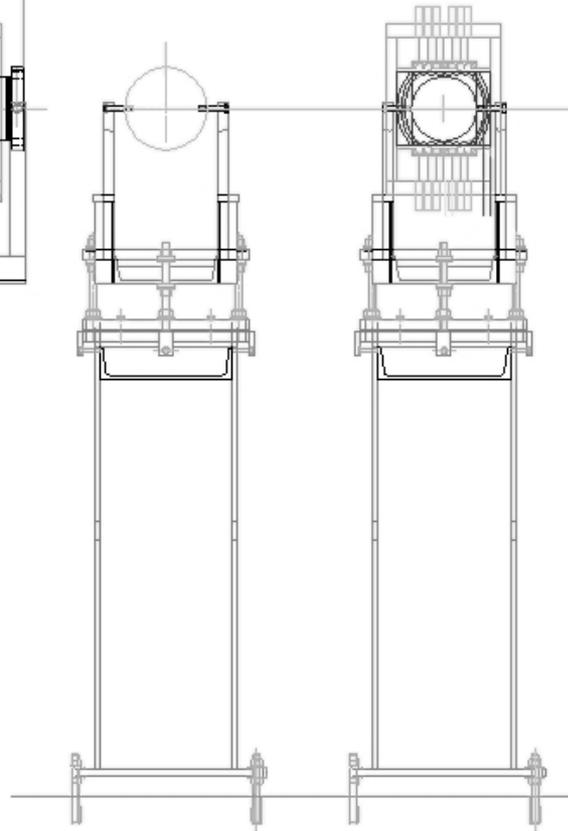
Chamber support

Coil support

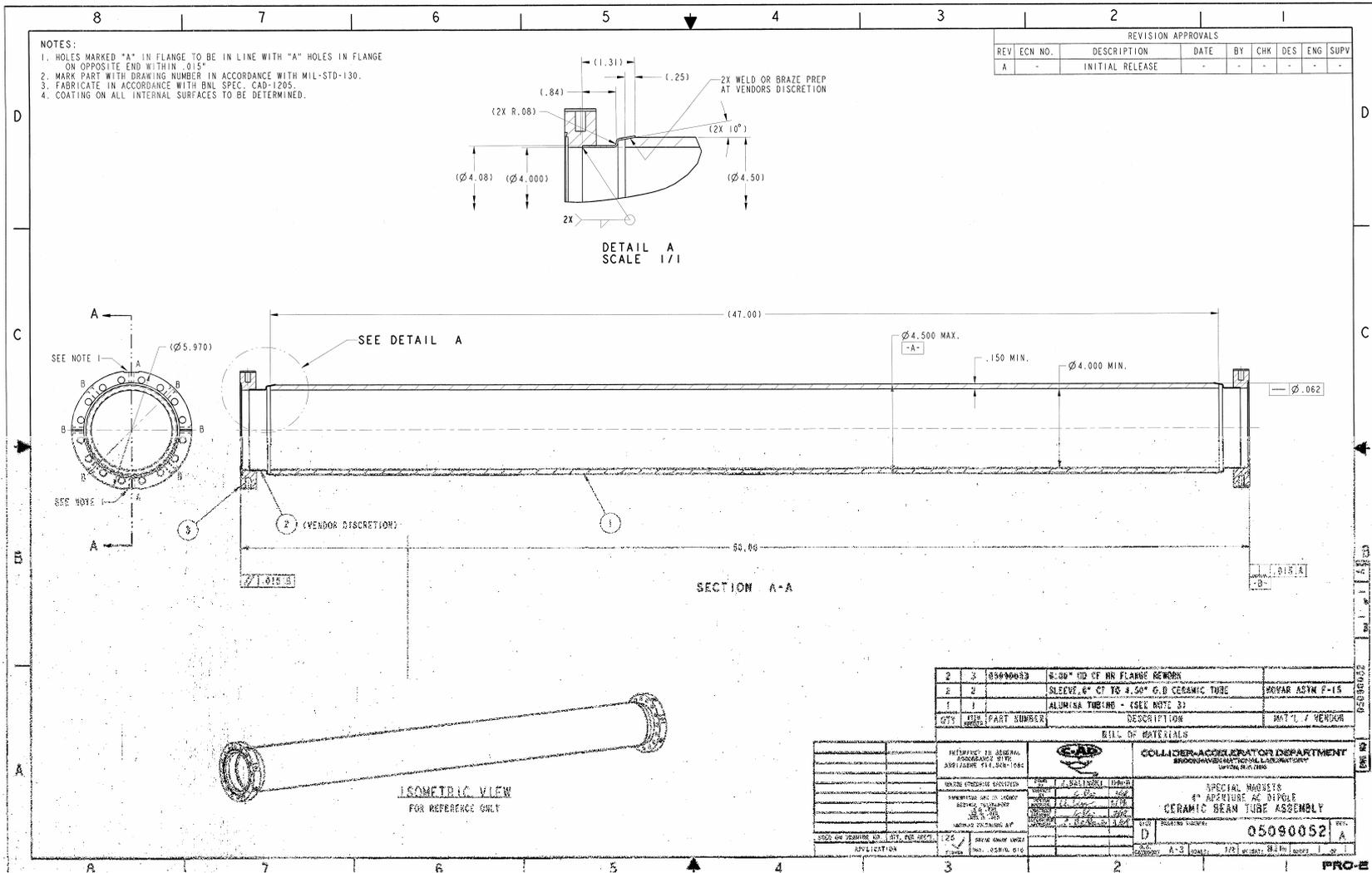
Ferrite support

Installation Sequences:

1. Support stand
2. Ceramic chamber and bake out
3. Coil assembly
4. Ferrite blocks



Ceramic Beam pipe



AC Dipole Status

1. Ceramic Pipe:

The procurement department has started the bidding process. 3 quotes have been received. Some questions were sent to lowest bidder for clarification.

2. Coil Design

Designer is working on modeling and part drawings of the coil and wing fixture. The coil assembly will be ready for procurement soon.

3. Magnet assembly

Design layouts of ferrite and support stand are ready for detailing.