

Corrector Quadrupole Assemblies



MAGNETS
FOR FUSION



MAGNETS FOR HIGH
ENERGY PHYSICS



MAGNETS FOR
MEDICAL
APPLICATIONS



SYSTEMS
FOR ENERGY



SERVICES & REPAIRS

The contract required the manufacturing and testing of 2.1 T (nominal field at 17 mm radius) corrector quadrupole assemblies for the Large Hadron Collider, having 56 mm of aperture.

Each magnet assembly consists of two superconducting quadrupole modules mounted in a twin-aperture support structure. Prior delivery from the factory, each magnet module is trained at liquid helium temperature and its magnetic field measured at room temperature.

The coils are wound using a rectangular conductor composed by 3 superconducting 1.25 x 0.73 mm wires glued together by a thin film of epoxy resin; each wire is a NbTi/Cu matrix insulated by PVA enamel.

The wound coil, consisting of 6 x 20 turns, is VPI resin impregnated. The magnets are fed in operation by a current of 550 A at a working temperature of 1.9 K.



MQT during test at CERN



MQTs cold test in HERA cryostat



MQT coils inserted in the yoke

	MQT/MQS	MQTL
Overall length [mm]	380	1400
Total mass/mag. [Kg]	250	1850
Number of Magnets	160/40	56