Quadrupole, Sextupole and Bending Magnets for ELETTRA Project

MAGNETS FOR FUSION

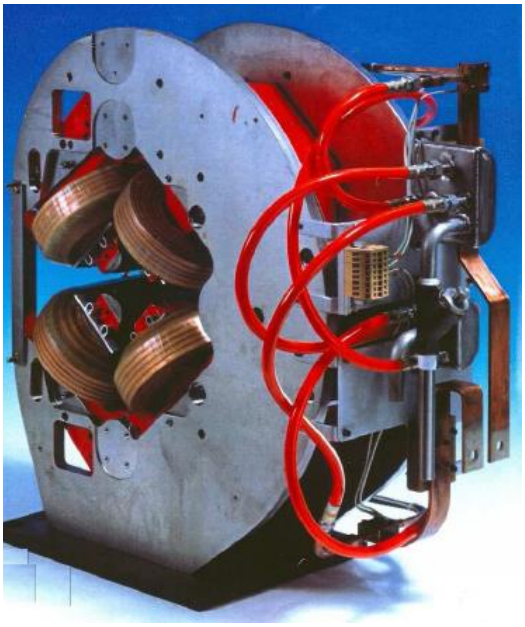
MAGNETS FOR HIGH ENERGY PHYSICS

MAGNETS FOR MEDICAL APPLICATIONS

SYSTEMS FOR ENERGY

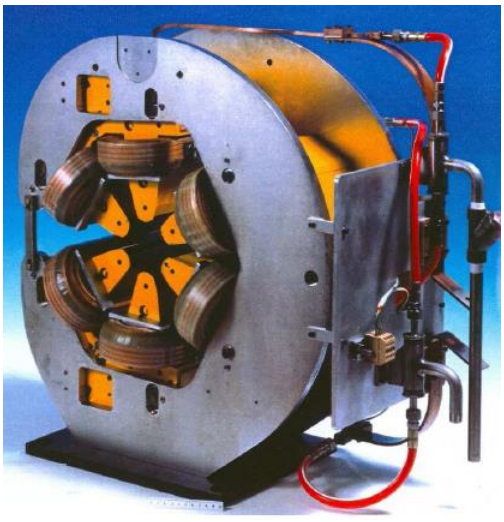
SERVICES & REPAIRS

114 quadrupole, 76 sextupole and 26 dipole resistive magnets were delivered to the consortium SINCROTRONE Trieste in 1991. These magnets are now working in the ELETTRA Project to produce synchrotron light to be used for industrial and research applications.



Type:	**Laminated Yoke - Quadrupole**
Yoke:	**low carbon steel**
Conductor:	**OFHC copper**
Energy	2 GeV
Gradient	20 T/m
Magnet Bore Diameter	75 mm
Field Quality	$< 10^{-3}$
Magnetic Length	470 – 230 mm
Ampere-Turns per Pole	12800
Current	320 A
Conductor Size	9 x 6.8 mm^2
Coolant Hole Diam.	4.6 mm
Power	8.6 – 5.4 KW
Water Circuits per Magnet	4
Magnet Weight	1400 – 840 Kg

Type:	**Laminated Yoke - Sextupole**
Yoke:	**low carbon steel**
Conductor:	**OFHC copper**
Energy	2 GeV
Gradient	264-230 T/m
Magnet Bore Diameter	90 mm
Field Quality	$< 5\ 10^{-4}$
Magnetic Length	240 – 125 mm
Ampere-Turns per Pole	7536
Current	314 A
Conductor Size	9 x 6.8 mm^2
Coolant Hole Diam.	4.6 mm
Power	4.9 – 3.6 KW
Water Circuits per Magnet	3
Magnet Weight	835 – 490 Kg



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MAGNETS FOR FUSION

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Type:	**Laminated Yoke - Dipole**
Yoke:	**Low carbon steel**
Conductor:	**OFHC copper**
Energy	2 GeV
Maximum field in center	1.455 T
Bending radius	5500 m
Type of winding	double pancake
Nominal current	1,950 A
Type of cooling	forced flow water cooling
Field Quality	$< 7\ 10^{-4}$
Magnetic Length	1370 mm
Magnet Weight	5800 Kg

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