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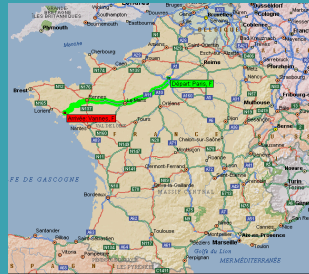


SIGMAPHI 20 years of development in magnets for particle accelerators P.I.B.S. Rue louis de Broglie CP N°47 56038 VANNES Cedex FRANCE

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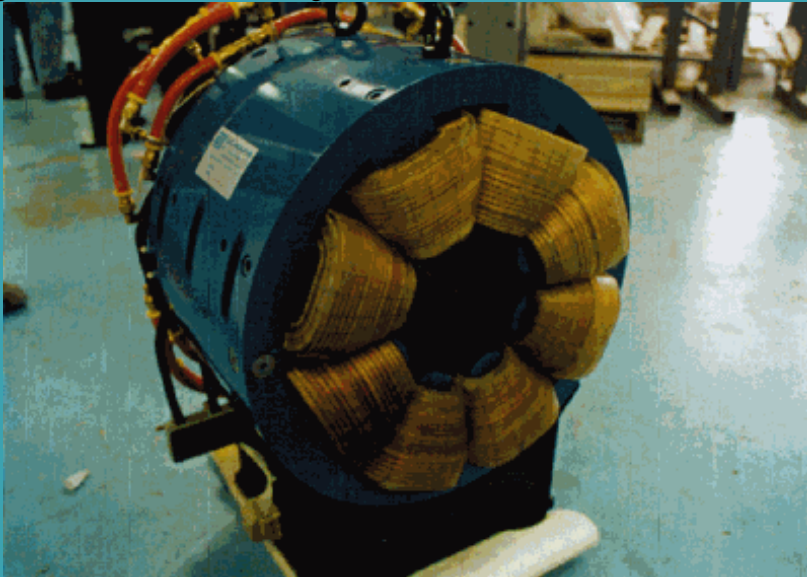
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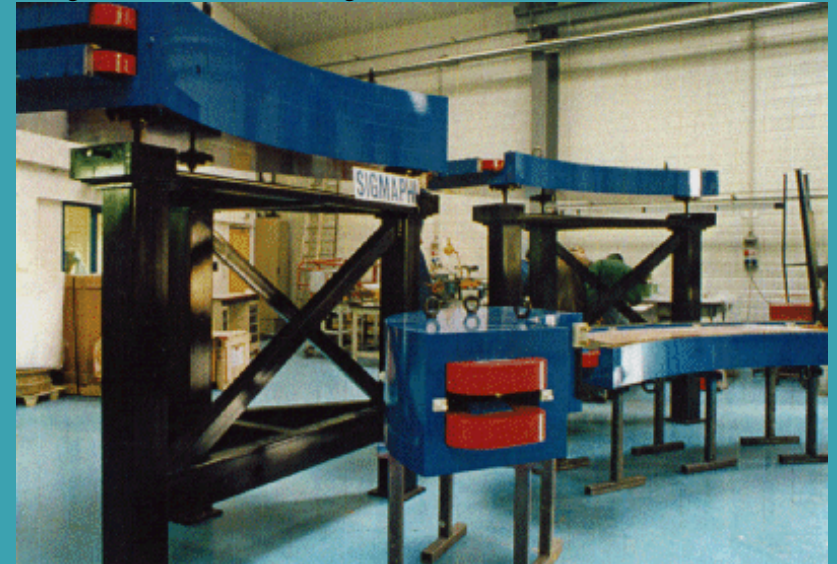
OCTUPOLE MAGNETS BNL BIRC LINE

Customer	BROHKAVEN Nat.Lab.
Plant	UPTON - USA
Delivery date	1996
Maximum field grad.	1450 T/M ³
Type of winding	Conical layers
Nominal current	170 A
Conductor	Hollow copper 5x5x hole Ø 3 mm
Type of cooling	Forced water cooling
Coil weight	8x10 Kg
Steel weight	300 Kg



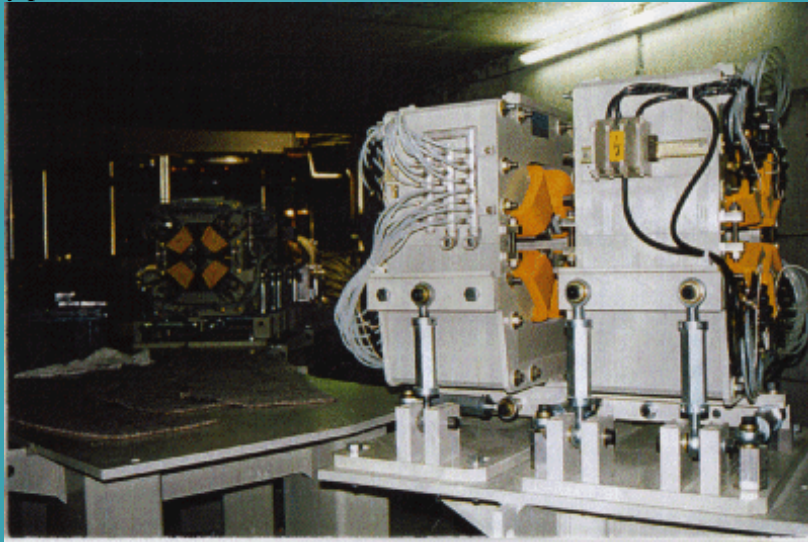
SECOND STAG MASS ANALYZING MAGNET ORNL. RADIOACTIVE PROJECT

Customer	MARTIN MARIETTA Energy systems
Plant	Oak Ridge USA
Delivery date	1995
Maximum field	0.54T
Power dissipation	20KW
Type of winding	Doubles Pancakes
Nominal current	330 A
Conductor	Hollow copper square 10 mm hole Ø 6 mm
Type of cooling	Forced water cooling
Coil weight	400 Kg
Steel weight	7200 Kg



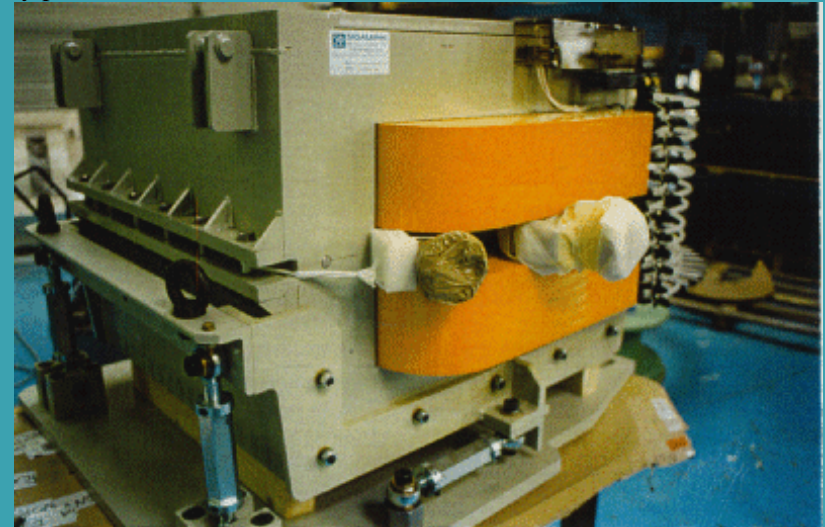
LAMINTED QUADRUPOLE FOR PROTON THERAPIE BOSTON HOSPITAL

Customer	GENERAL ATOMICS-SAN DIEGO
Plant	BOSTON HOSPITAL- USA
Delivery date	1996
Maximum fielf grad.	25 T/m
Power dissipation	7.5 KW
Type of winding	Conical layers
Maximal current	150 A
Conductor	Hollow Copper
Type of cooling	Forced water cooling
Coil weigth	500 Kg coated laminations 1 mm thick
Quantity produced	50



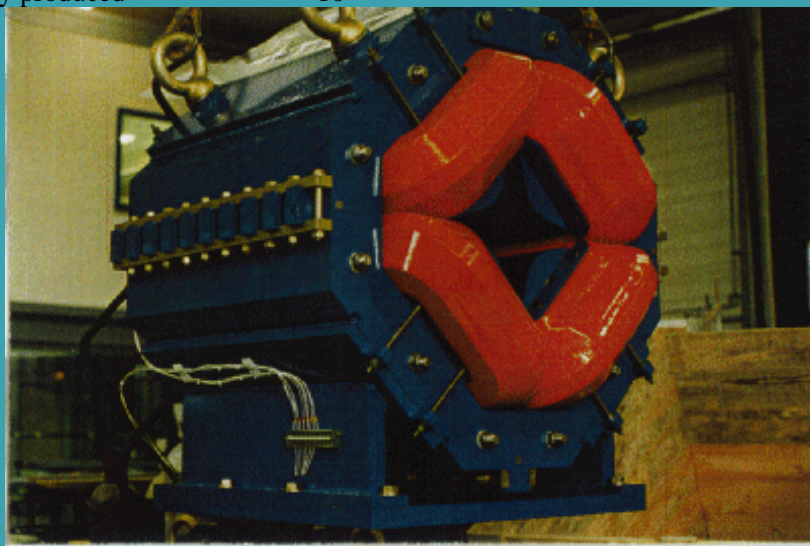
LAMINTED QUADRUPOLE FOR PROTON THERAPIE BOSTON HOSPITAL

Customer	GENERAL ATOMICS-SAN DIEGO
Plant	BOSTON HOSPITAL- USA
Delivery date	1997
Maximum fielf grad.	1.65 T/m
Power dissipation	9 KW
Type of winding	Doubles pancakes
Maximal current	360 A
Conductor	Hollow Copper
Type of cooling	Forced water cooling
Coil weigth	4000 Kg coated laminations 1 mm thick
Quantity produced	10



NIRS LAMINATED QUADRUPOLE MAGNET

Customer	MELCO KOBE JAPAN
Plant	NLHEP
Delivery date	1997
Bore raduis	75 mm
Maximum field	8 T/m
Power dissipation	17 KW
Maximal current	625 A
Conductor	Hollow Copper 16x16xØ9 mm
Type of cooling	Forced water cooling
Coil weigth	6200 Kg coated laminations 1 mm thick
Quantity produced	10



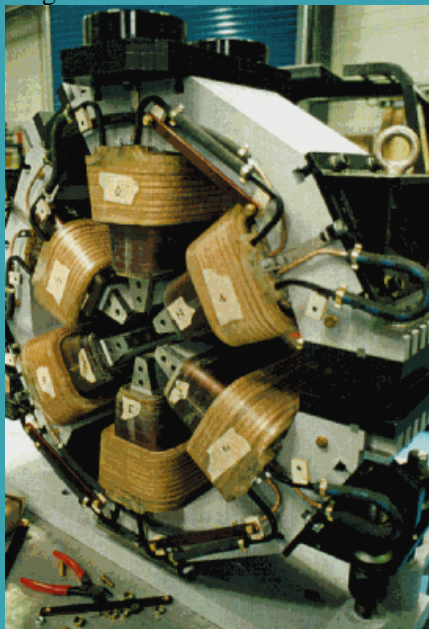
NLHEP MASSIVE SEXTUPOLE MAGNET

Customer	MELCO KOBE JAPAN
Plant	NLHEP
Delivery date	1997
Bore raduis	26 mm
Maximum field	255 T/m
Power dissipation	75 W
Maximal current	23 A
Conductor	Enamelled copper
Type of cooling	Air free
Coil weigth	105 Kg
Quantity produced	8



N°112 SEXTUPOLE LAMINATED MAGNETS BERLIN Electroenspeicherring

Customer	BESSY II
Plant	BERLIN GERMANY
Delivery date	1996
Stored energy	1.6 GeV
Type of winding	Layers
Nominal current	250 A
Conductor	Hollow copper 7.5x7.5xØ4.5 mm
Type of cooling	Forced water cooling
Coil weight	6x30 Kg
Steel weight	800 Kg Coated laminations 1 mm thick



N°46 CORRECTOR H/V LAMINATED MAGNETS STORAGE RING DAØNE

Customer	INFN
Plant	Lab. Nazionali di Frascati - ITALIA
Delivery date	1996
Maximum field in the center	176 G
Type of winding	364 Turn winding
Power dissipation	70.5 W
Nominal current	7.3 A
Conductor	Copper wire Ø2.6
Type of cooling	Air free
Coil weight	4x30 Kg
Steel weight	50 Kg Coated laminations 1 mm thick

