THE QUEEN'S AWARDS
FOR ENTERPRISE
2000

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IN MAGNET TECHNOLOGY

UNDERWRITERS LABORATORIES INC.

CERTIFICATE OF REGISTRATION

ISO 9000

Tesla Engineering Limited

Water Lane
Storrington
Sussex, RH20 3EA
United Kingdom

with an off-site facility located at:

Churchill Industrial Estate
Blenheim Road
Lancing
West Sussex, BN15 8UQ
United Kingdom

Underwriters Laboratories Inc.® (UL) issues this certificate to the Firm named above, after assessing the Firm's quality system and finding it in compliance with:

ISO 9001:2000

EN ISO 9001:2000; BS EN ISO 9001:2000; ANSI/ASQ Q9001:2000

for the following scope of registration:

3679 (US) : Electronic Components, Not Elsewhere Classified

The design and manufacture of magnets and coil systems.

The off-site facility at Lancing, West Sussex performs the following function: manufacturing.

Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2000 requirements may be obtained by consulting the organization.

This quality system registration is included in UL's Directory of Registered Firms and applies to the provision of goods and/or services as specified in the scope of registration from the address(es) shown above. By issuance of this certificate the firm represents that it will maintain its registration in accordance with the applicable requirements. This certificate is not transferable and remains the property of Underwriters Laboratories Inc.®.

File Number: A7147
Volume: 1 of 2
Original Certification Date: October 9, 1998
ISO 9001:2000 Issue Date: December 3, 2002
Revision Date: January 18, 2006
Renewal Date: October 8, 2008

Sejeev Jesudas
Chief Operating Officer

UKAS

UL REGISTERED FIRM

INVESTOR IN PEOPLE

This certificate
records that

***tesla* Engineering Limited**

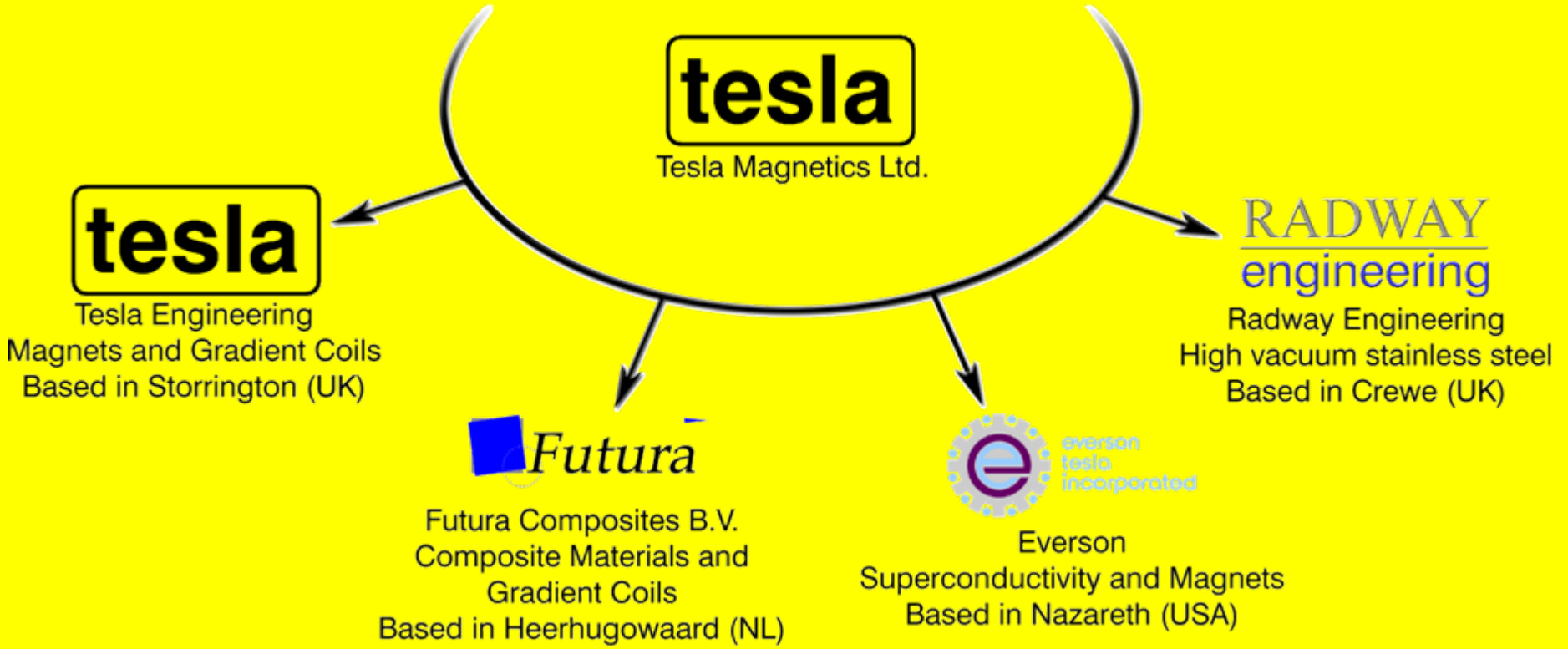
Is recognised as meeting
the national Standard
for effective
Investment in People

CHAIRMAN

DATE. 26th March 1998

CERTIFICATE No. 43342

Company Structure



Company Overview

- Founded 1973. Producer of precision electromagnets.
- 200 employees (still growing).
- Sales ~ € 30 million. Mostly export.
- Mixture of project based & medium volume work.
- All key processes in-house. Vertical integration.
- MRI, Accelerators, Proton Therapy, Fusion, Semi-con.
- Exports to Europe, U.S.A., Canada & Asia.
- Highly customer focussed.

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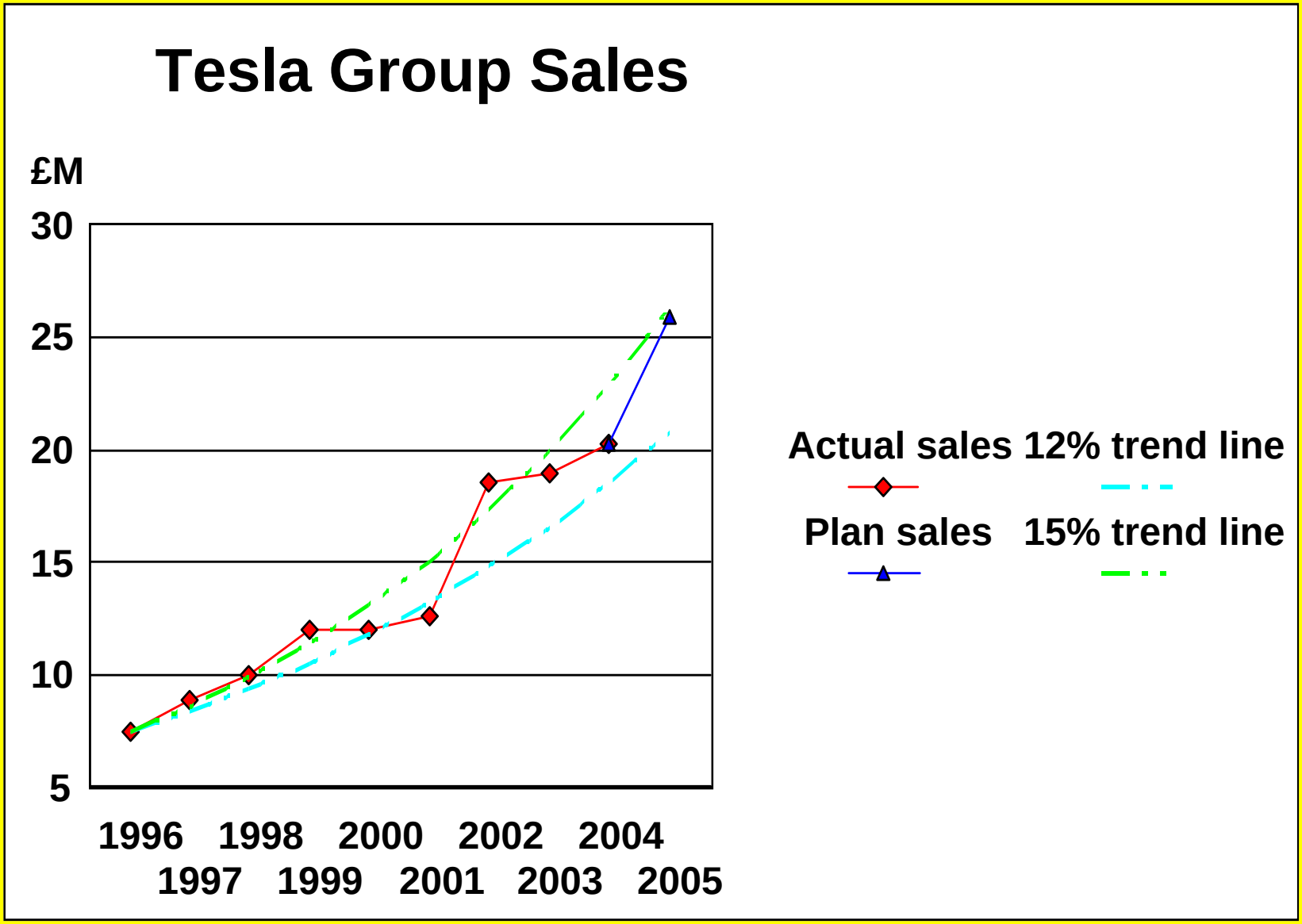
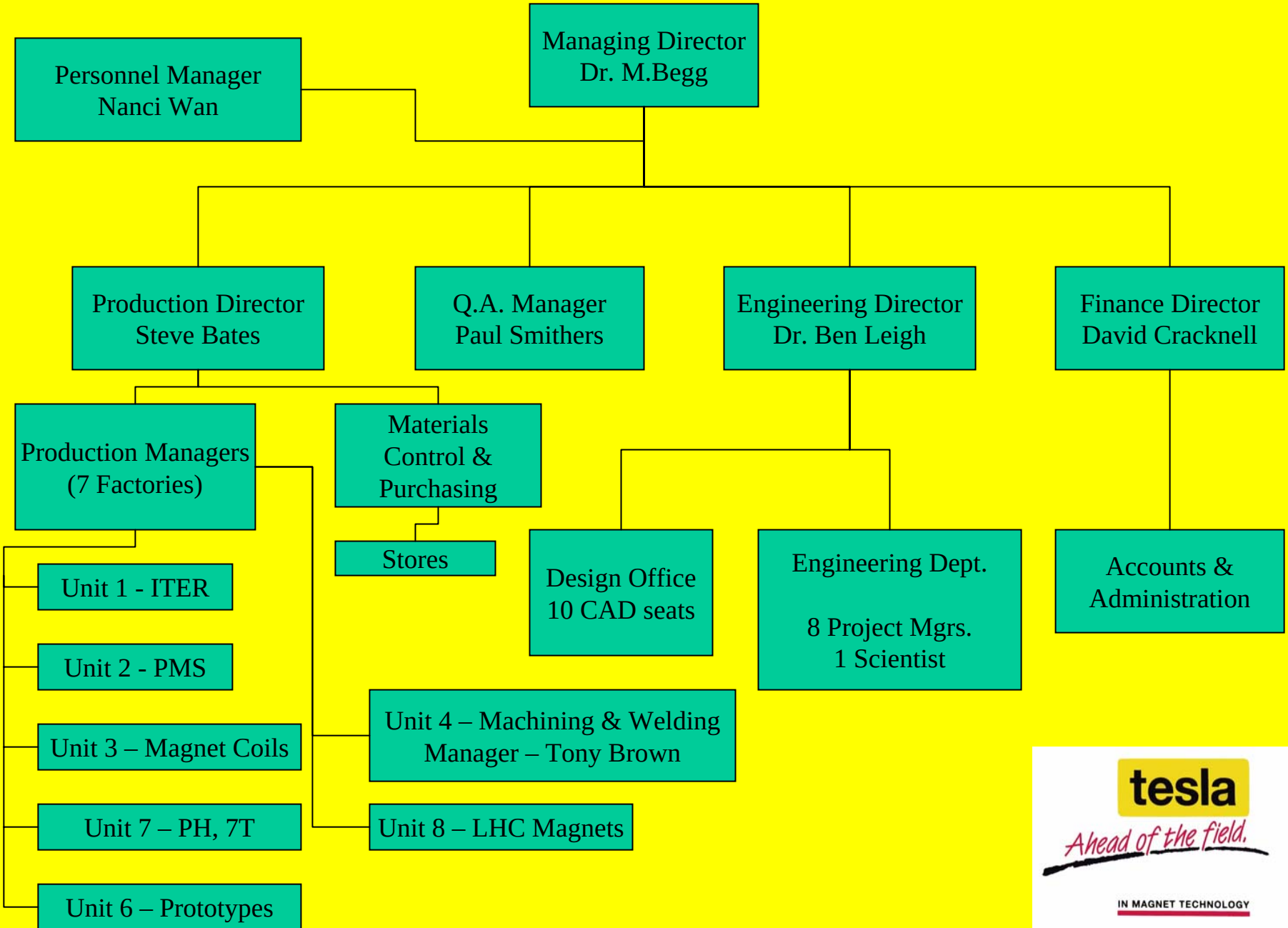
Sustained Growth



Tesla Engineering Ltd. Organisational Chart.



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Manufacturing Facilities, UK

Unit	Details	Size (ft^2)	Size (m^2)	Crane (tonnes)
1	**ITER & Clean Assy**	6,400	576	2
2	**MRI Coil Assembly**	9,600	874	2 & 2
3	**Magnet Coil Factory**	19,300	1,758	10 & 10
4	**Machine Shop & Magnet Fabrication**	24,000	2,184	5 & 15
6	**Special Projects**	2,000	188	1
7	**MRI & Magnet Assembly**	14,000	1,265	2 & 16
8	**CERN LHC s/c Magnets**	17,600	1,600	8

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Design Capabilities

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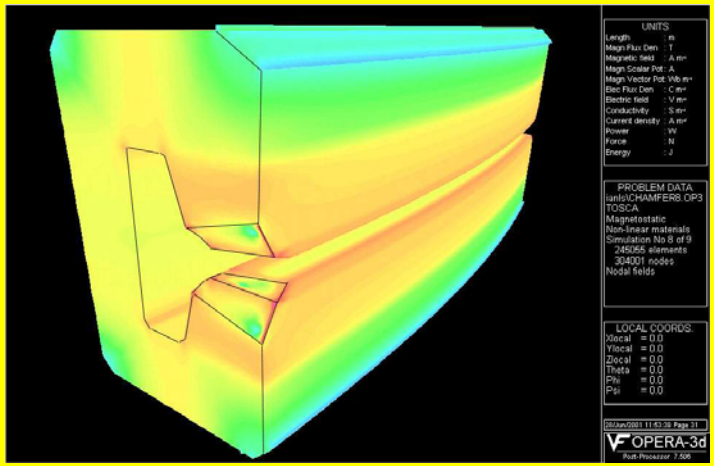
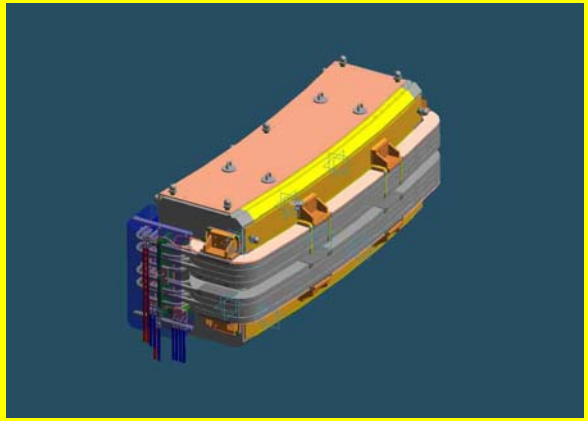
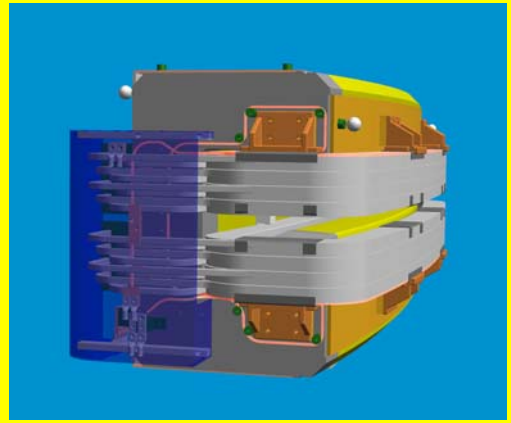
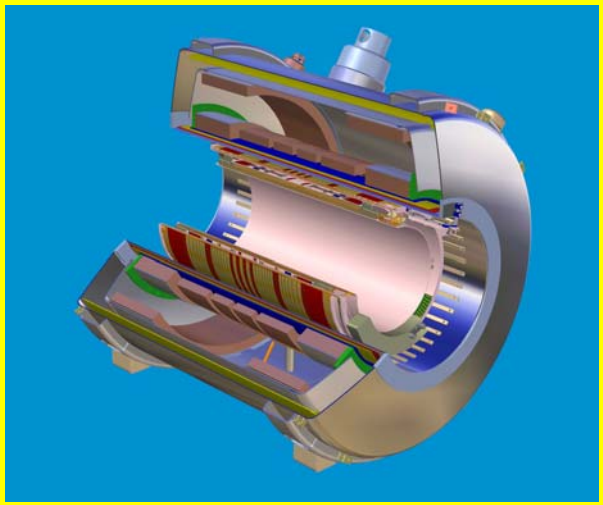
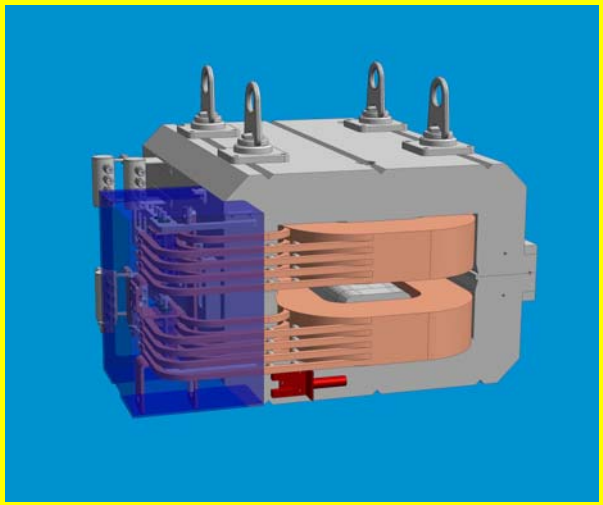
Opera 3-D finite element s/w.

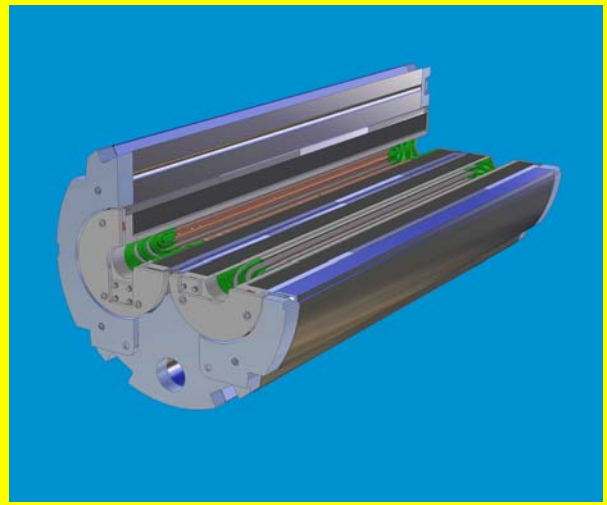






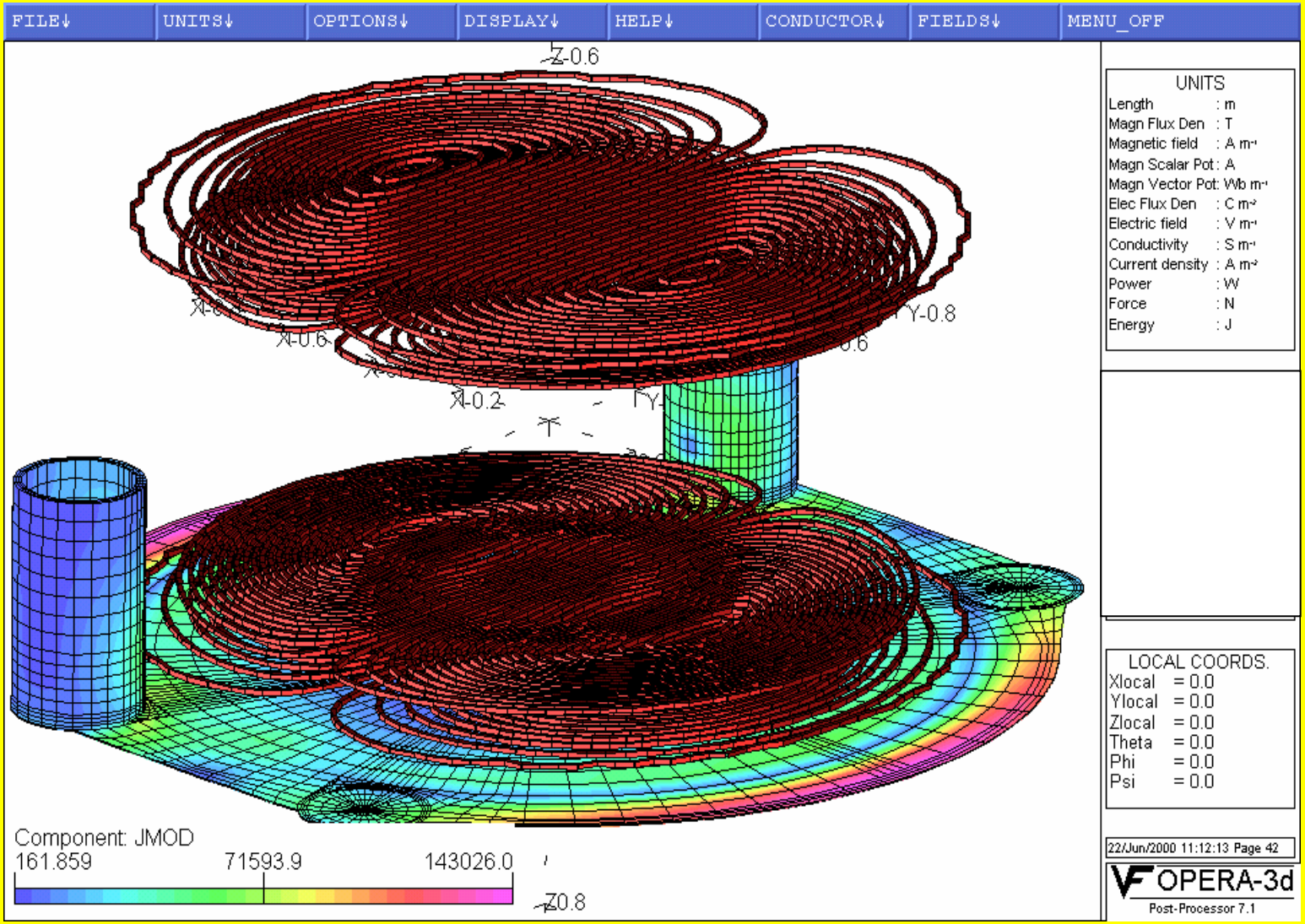






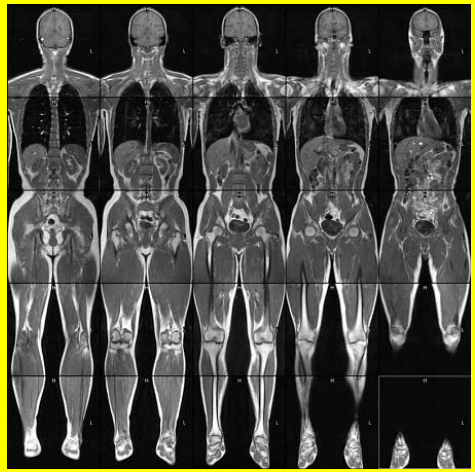
Solid Edge 3-D CAD s/w.

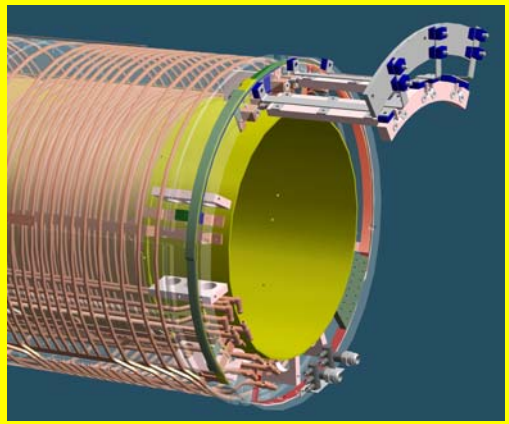
Magnetic Design



+ Gradient optimiser, thermal design.

MRI Cylindrical Gradient Coils





~ 650 per annum, various types

Panorama 1T Open

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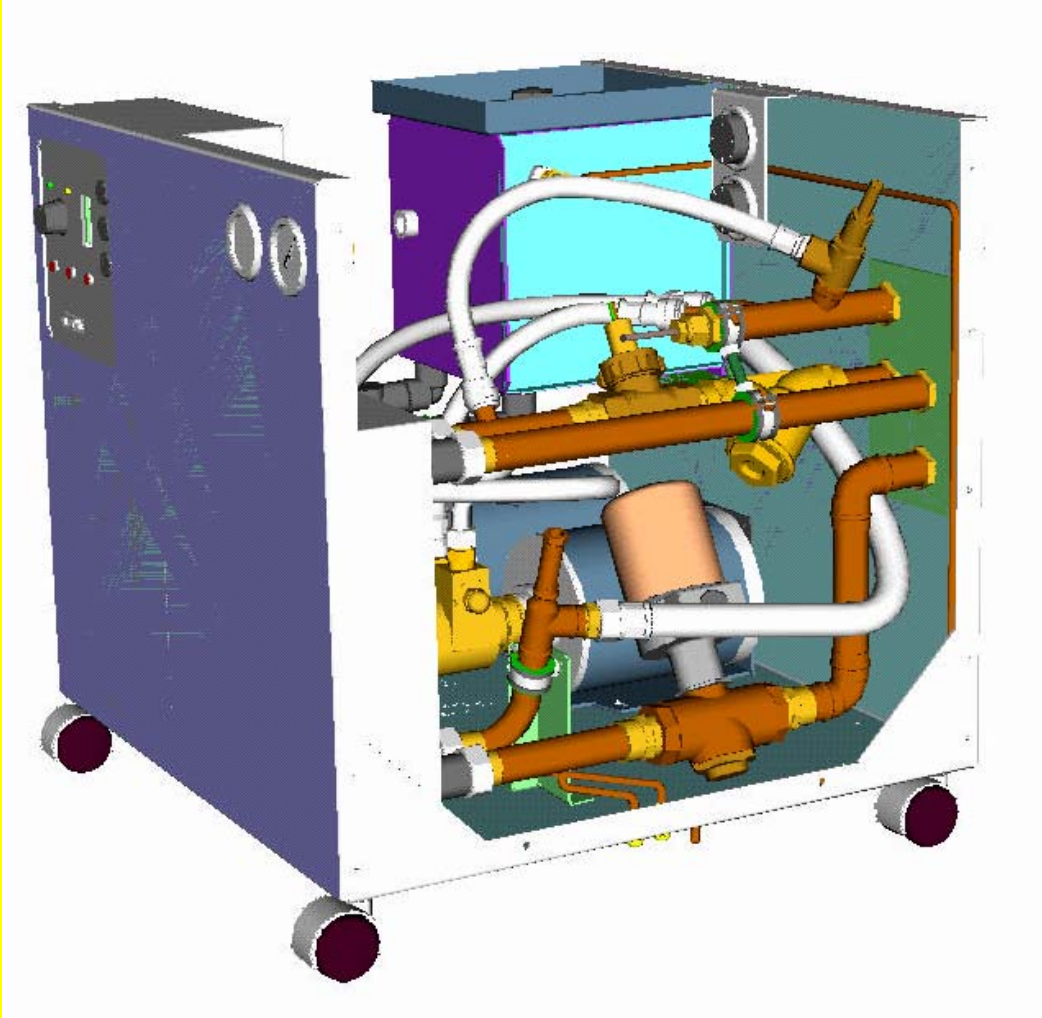
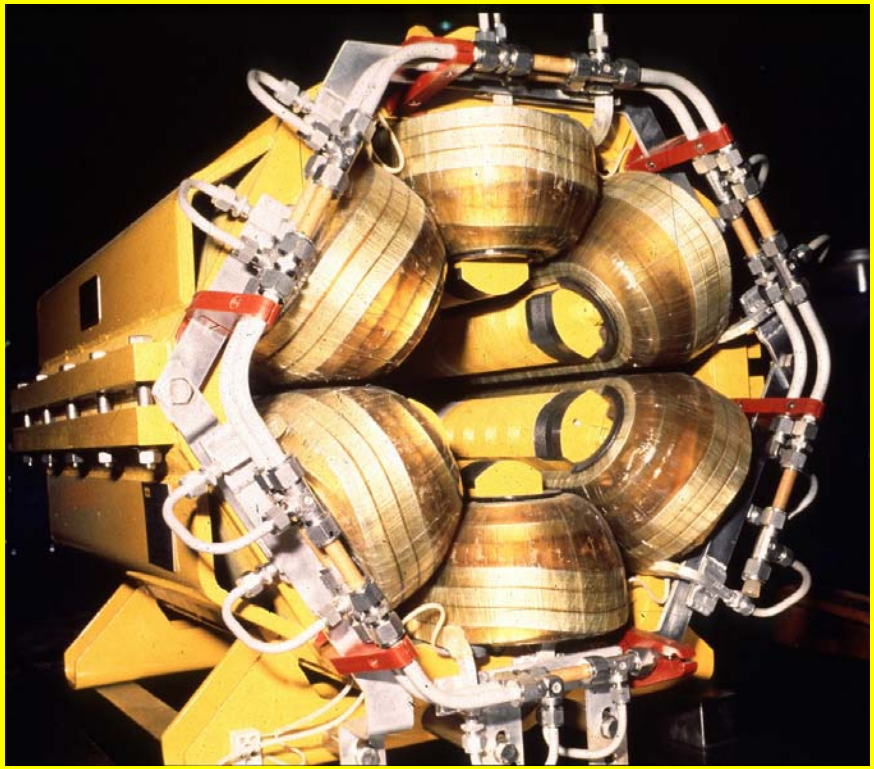
Heat Exchanger

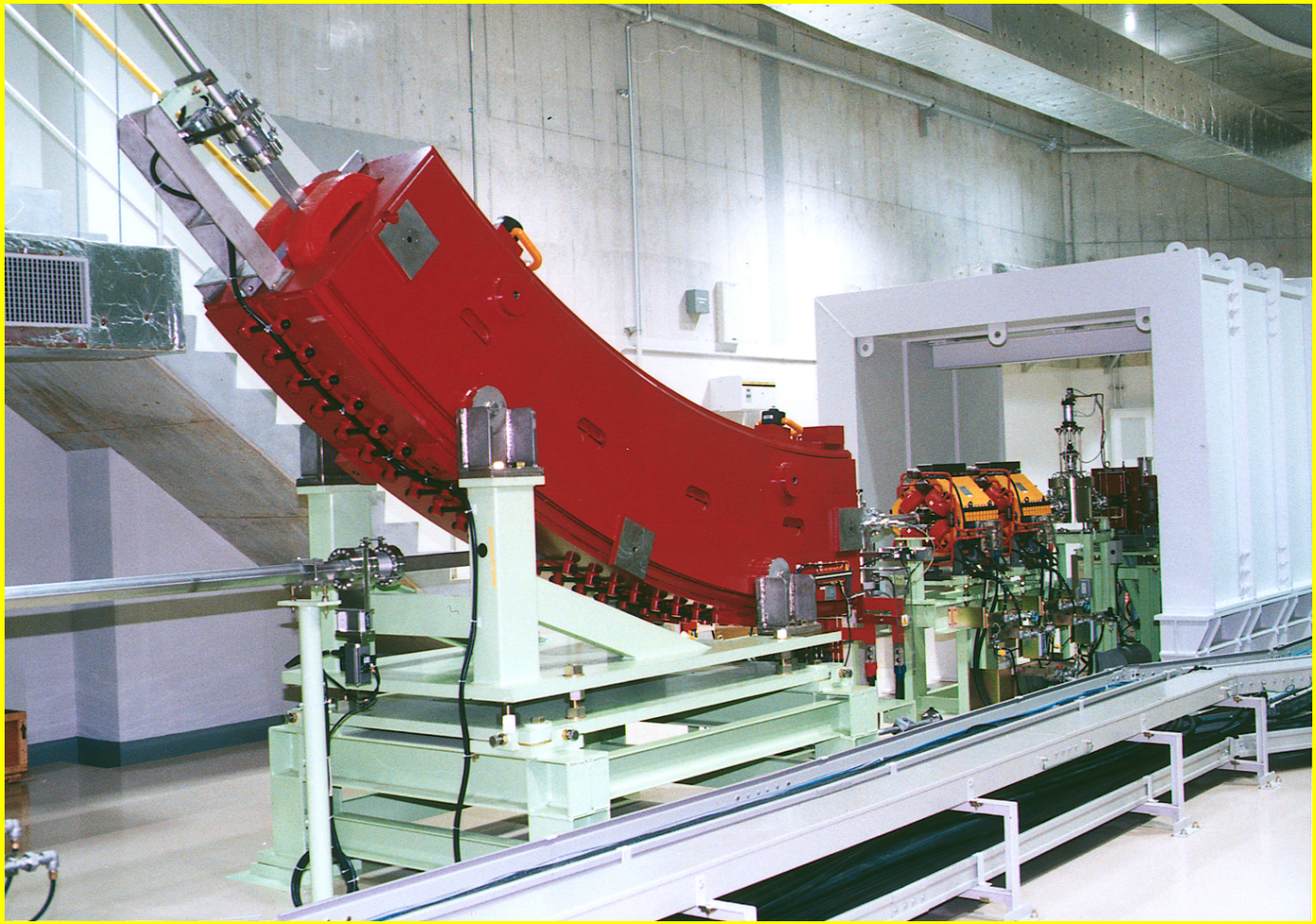


~ 3000 shipped

Accelerator Magnets

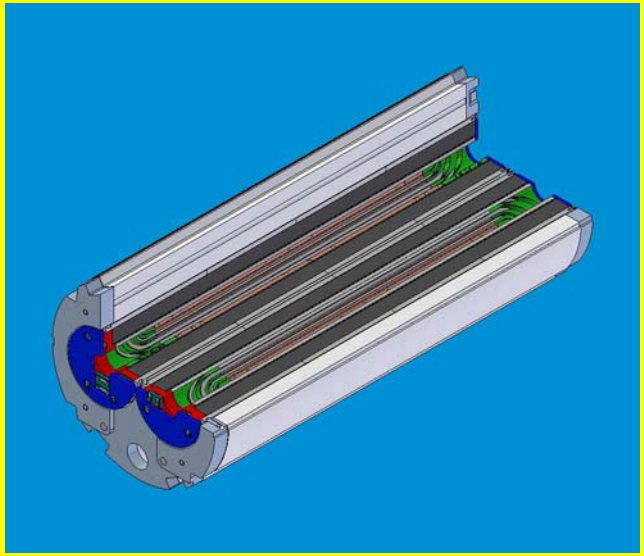


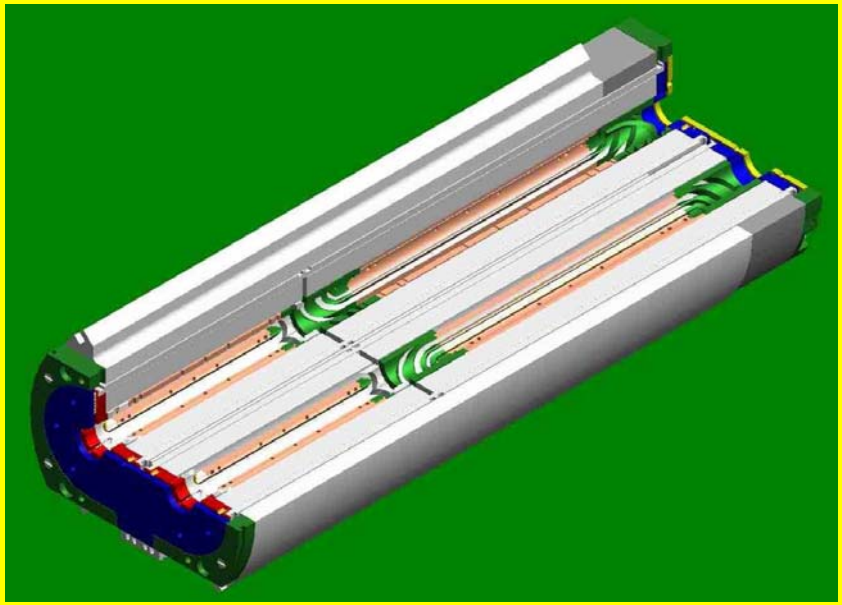
Proton Therapy Magnets



Ion Implanter Magnets

Superconducting Magnets for CERN LHC

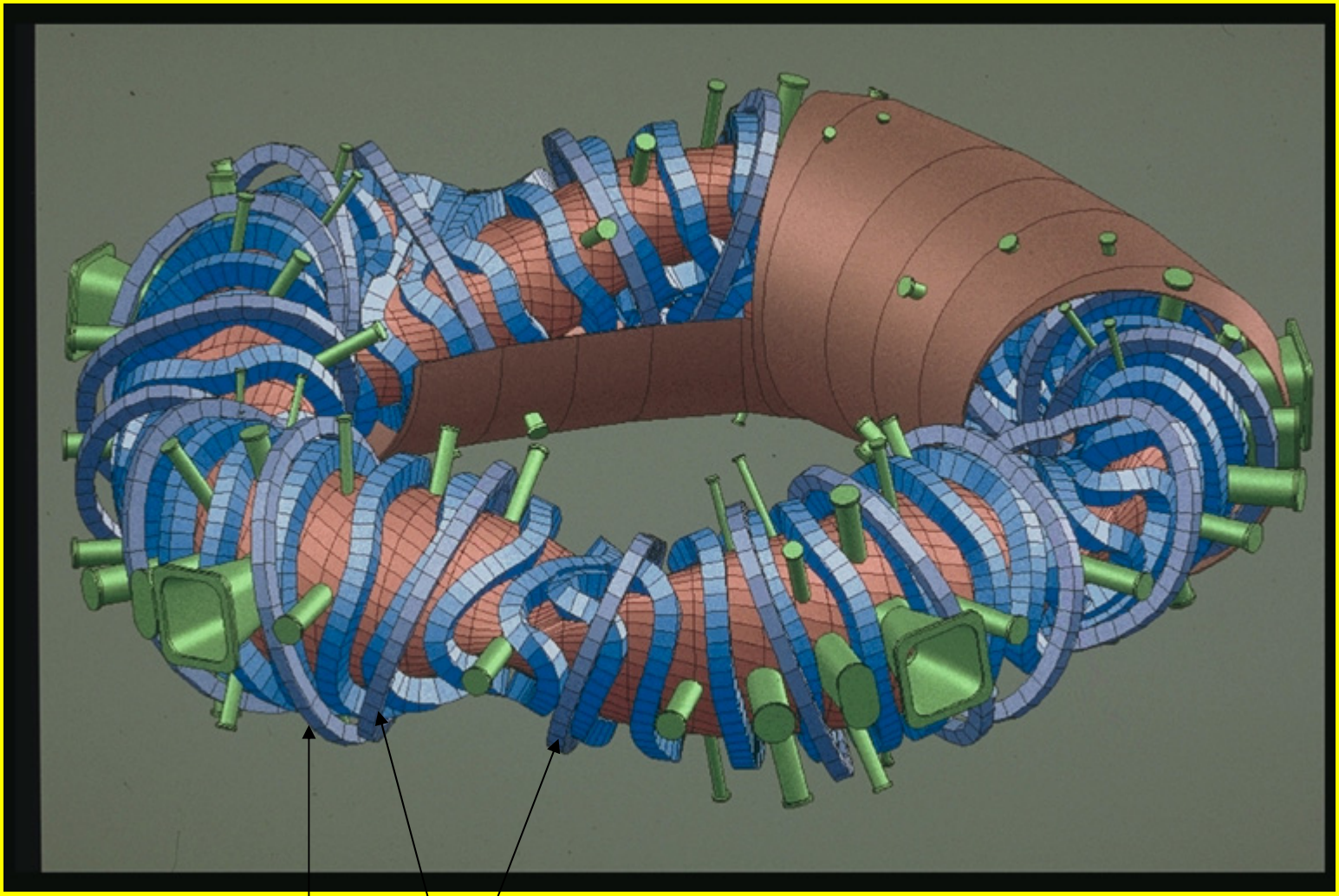




Currently making ~ 3000

Superconducting Coils for Fusion (W7X)

W7X Stellerator (Fusion)



20 Planar Coils being made by Tesla

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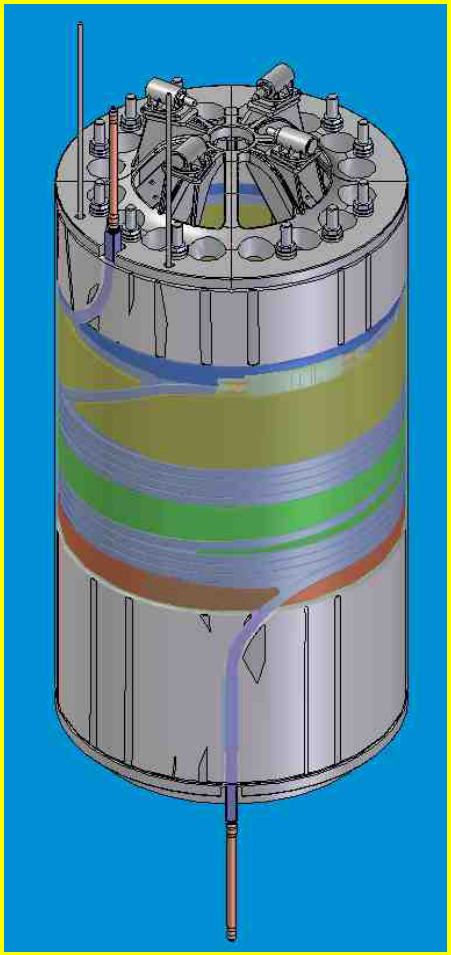
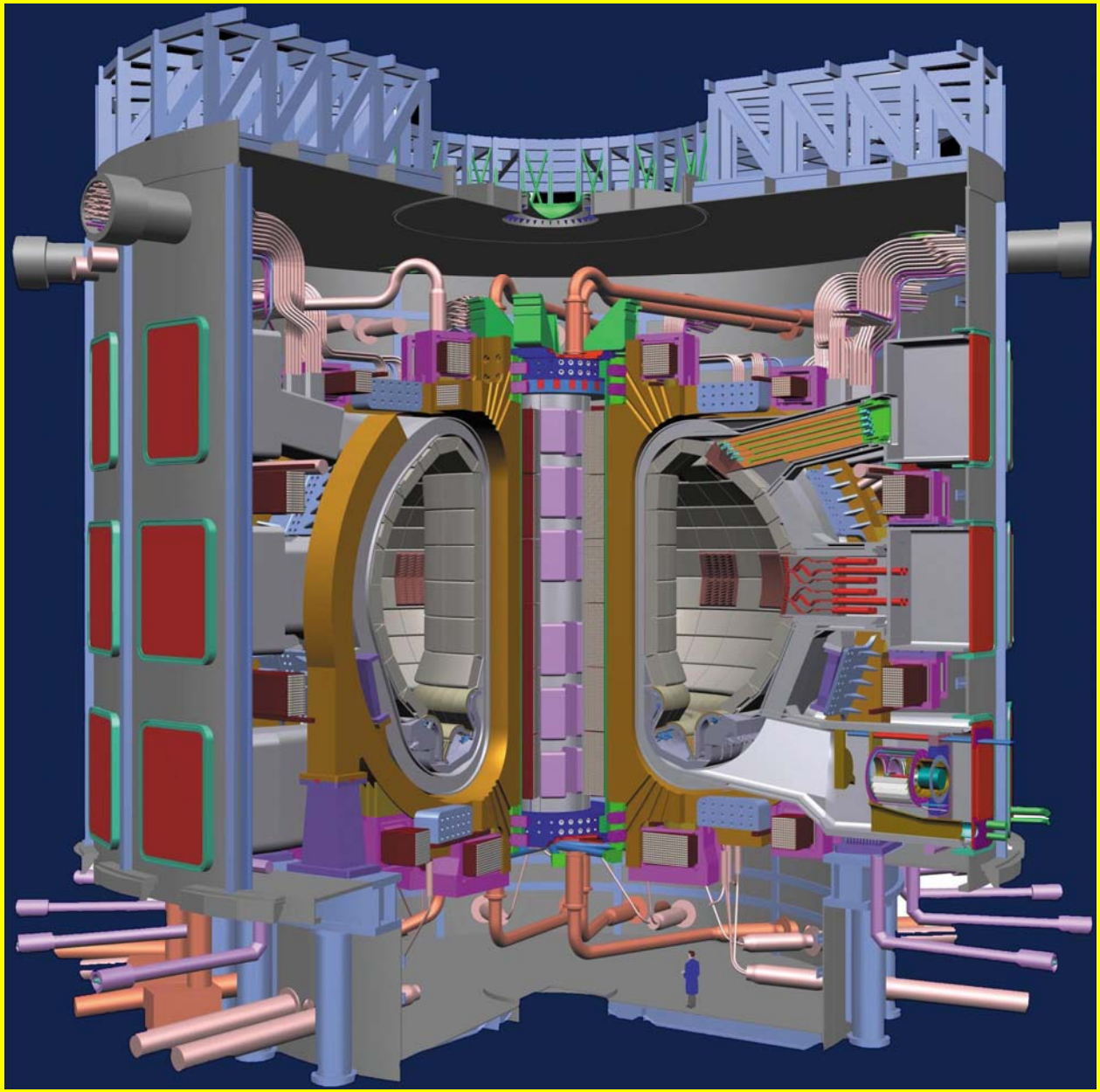
Superconducting Coils for Fusion (ITER)



Computer Aided Design model of the Poloidal Field Conductor Insert coil (right) & PFCI coil (left) during manufacture at Tesla Engineering Ltd.

ITER



EFDA EUROPEAN FUSION DEVELOPMENT AGREEMENT

Design and Manufacture of a Full Size Joint Sample (FSJS) for the Qualification of the Poloidal Field Insert Coil (PFCI)

F.H. Hurd[1], C. Sborchia[1], E. Salpietro[2], D. Duglue[2], C. Keefe[3], S. Bates[3], P. Pesenti[4], A. Della Corte[5], P.L. Bruzzone[6], M. Polak[7]

[1]Institute for Plasma Physics, Max Plank Institute, Garching, Germany (formerly with EFDA)
[2]EFDA Close Support Unit, Garching, Germany
[3]Tesla Engineering Ltd., Storrington, United Kingdom
[4]Ansaldo Superconduttori, Genoa, Italy
[5]ENEA Frascati Research Centre, Superconductivity Division, Frascati, Italy
[6]EPFL-CRPP, Fusion Technology, Villigen, Switzerland
[7]Institute of Electrical Engineering, Slovak Academy of Sciences, Bratislava, Slovakia

SCOPE OF THE WORK

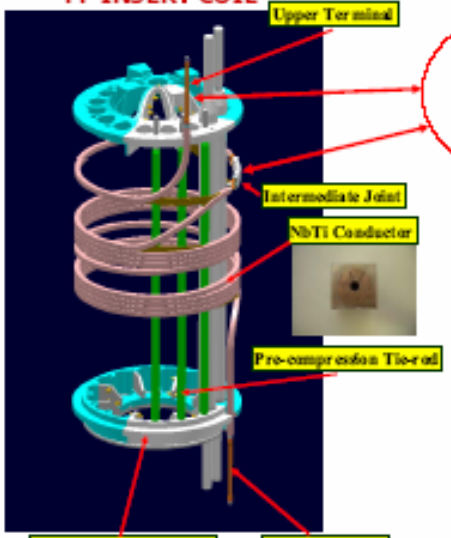
The objective of the PF Conductor Insert coil is the testing in relevant conditions of full-scale Nb conductors and joints for the ITER Poloidal Field system. The test will be performed in the CSMC test facilit at JAERI, Naka. The purpose of the PFCI-FSJS has been the qualification of the conductor basic design an the manufacturing procedures for the joints. The sample has been tested at Sultan in Villigen (CH).

Within the framework of the European Fusion Programme the FSJS has been designed and manufactured b European Industry using a NbTi superconducting cable supplied by the Russian Federation.

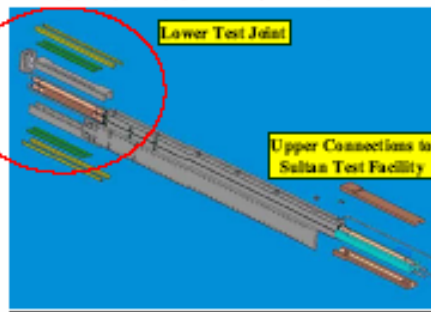
In addition to the superconductor, the sample contains a number of unique features.

- The overlap joints feature CuCrZr sleeves swaged onto the cable, similar to the CSMC overlap joints.
- One leg of the FSJS has the conductor and sub-petal stainless steel wraps removed before jacketing.
- The sample has been instrumented with more sensors than any other previous European sample, thes include several pairs of temperature sensors, a large number of voltage taps for quench detection an characterization and Tcs measurements, quadrupoles to detect the uneven voltage distribution across th jacket and conductor, hall arrays for current distribution measurements and saddle coils.

PF INSERT COIL



PFCI FULL SCALE JOINT SAMPLE

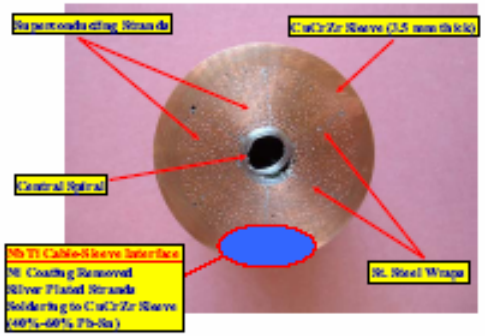


PFCI NbTi Conductor Design

Jacket Material	AISI 316 LN (Yelow)
Cabling Pattern	(3x4x4x5)x6
Number of Superconducting Strands	3840
Strand Diameter (Nf-content), Cu:non-Cu Ratio	0.73mm, 1.4
Cable Outer Diameter (before compacting)	36.7mm
Cable Outer Diameter (after compaction)	~35.2 mm
Conduit Tube (slit cut)	39 x 39 mm
Conductor Retained Dimensions (after compaction)	35.5x 35.5 mm
Conduit Annular Area	~1221 mm²
Wraps Area + Empty Corner	~35 + 11 mm²
Actual Cable Area in Annulus	~974 mm²
Nominal Void/Void Fraction	~34 %
Last Cabling Stage Twist Pitch Length	450 mm

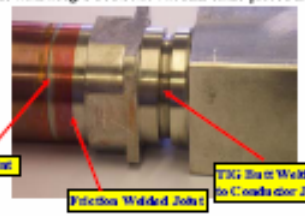
MANUFACTURE OF THE PFCI-FSJS

Before jacketing of the RF cable the steel wraps were removed from the left leg. The twist pitch and the compaction ratio were carefully maintained during this operation.



In order to reduce the risk of buckling of the sleeves, a two-stage swage operation was carried out, first with a reduction of 80%, followed by a second swaging to the required diameter. The swaging machine developed by the ITER US Team for the CSMC joints was used.

The joint sleeves have been manufactured from a CuCrZr alloy with Cu stainless steel transition pieces vacuum brazed at each end. The transition pieces are friction welded and the brazed joint is made with a Ag/Cu eutectic vacuum braze procedure.

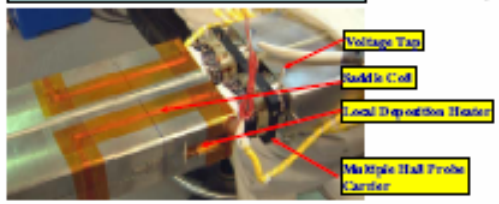


ASSEMBLY OF THE PFCI-FSJS

Sensors used in PFCI-FSJS

Cernox Temperature Sensors (cold finger type)	2
Cernox Temperature Sensors (canister type)	10
Voltage Taps	32
Multiple Hall Probe Carrier	8 (432) Probes
Make-up Coil (joint magnetization)	1
Make-up Saddle Coils (conductor magnetization)	2
Local Deposition Heaters	2
Quench Heaters	2

Following the swaging, the two legs were assembled and the instrumentation added. The two test joint halves were heated to 220°C for soldering of the cable. The joint between the two legs was formed by Cu saddle pieces. The outer surface of the joint was Ag plated and the gap between saddles and terminations was filled with indium wire pre-loaded by thick clamps.



CONCLUSIONS

In terms of an engineering exercise the construction of the PFCI-FSJS was a success. During testing at Sultan the resistance of the joint was larger than expected (10 nΩ). The reasons for the relatively high resistance were due to poor bonding at the soldered interface between strands and sleeve and the low RRR of the unaged CuCrZr used for the sleeve. For the PFCI intermediate joint additional solder will be added to the contact region and an active protective gas introduced during soldering. The CuCrZr sleeves will be precipitation age-hardened to increase their RRR value. A new joint mock-up is being manufactured to verify that these actions are effective to reduce the electrical resistance at 4 K.

Solid Edge 3-D CAD.

- **Feature based Part modelling.**
- **Sheetmetal Part modelling.**
- **Large Assembly creation.**
- **Weldment environment.**
- **2D drafting to world standards, with direct linked updates from 3D parts / assemblies.**
- **Fully integrated document management.**
- **Foreign data input, including DWG, DGN, STEP, IGS, ProE, & I-DEAS data files.**
- **Full parametric modelling capabilities.**
- **Xpress Route piping module.**
- **Photo rendering.**
- **Surfacing environment.**
- **Web based Part & Assembly publishing.**
- **Standard part libraries.**

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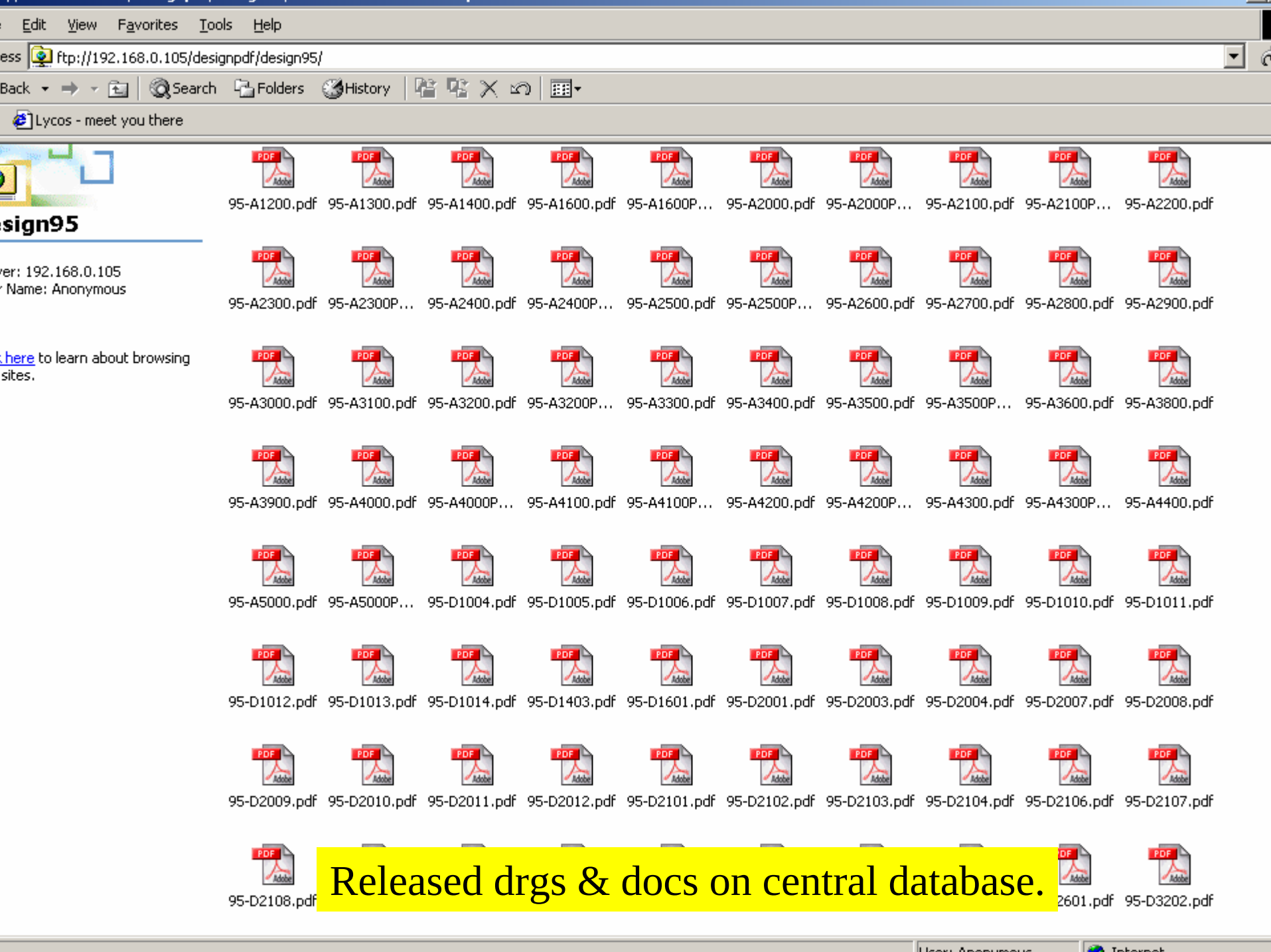
Edit View Favorites Tools Help
ftp://192.168.0.105/designpdf/design95/
Back Search Folders History
Lycos - meet you there
sign95
ver: 192.168.0.105
Name: Anonymous
here to learn about browsing sites.
95-A1200.pdf 95-A1300.pdf 95-A1400.pdf 95-A1600.pdf 95-A1600P... 95-A2000.pdf 95-A2000P... 95-A2100.pdf 95-A2100P... 95-A2200.pdf
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95-A3000.pdf 95-A3100.pdf 95-A3200.pdf 95-A3200P... 95-A3300.pdf 95-A3400.pdf 95-A3500.pdf 95-A3500P... 95-A3600.pdf 95-A3800.pdf
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95-D2009.pdf 95-D2010.pdf 95-D2011.pdf 95-D2012.pdf 95-D2101.pdf 95-D2102.pdf 95-D2103.pdf 95-D2104.pdf 95-D2106.pdf 95-D2107.pdf
95-D2108.pdf
Released drgs & docs on central database.
2601.pdf 95-D3202.pdf

Coil Factory Equipment

- 5 Magnet Coil Winding Lines with In-line Tape Wrapping & Sand Blasting (optional).

Coil Factory Equipment

- 7 Vacuum Impregnation Chambers up to 4m dia x 8m long. High current power supplies for ohmic heating.

- Autoclave 4m dia x 6m long. Pressure to 6 bar, temp^{re} to 200^{o}C.

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Yoke Lamination Punching

200 tonne sheet feed press.

200 tonne coil feed press.

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Yoke Lamination Stacking

Location & compression fixture for bonding Stabolit 70 steel laminations (2 curing ovens in background.)

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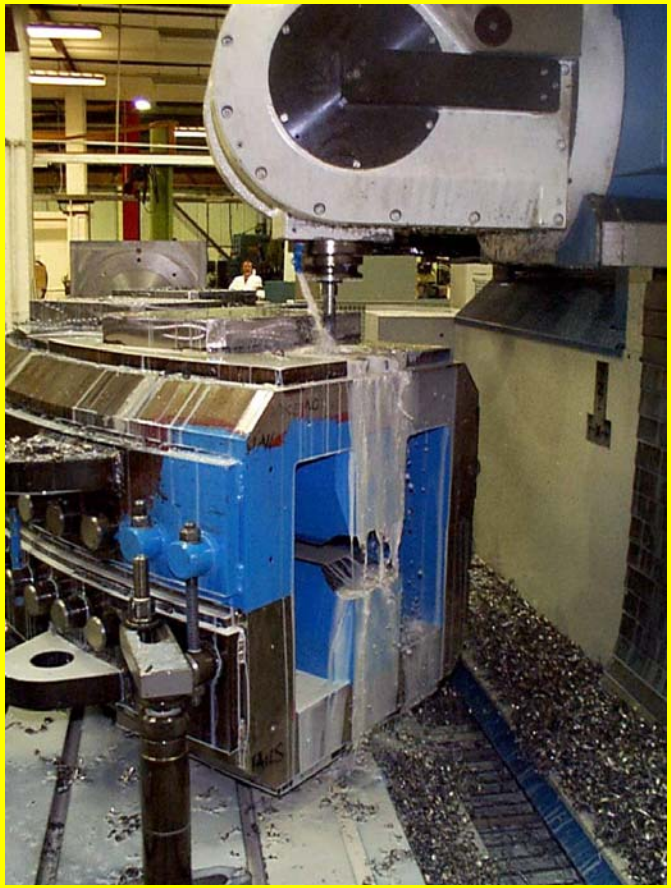
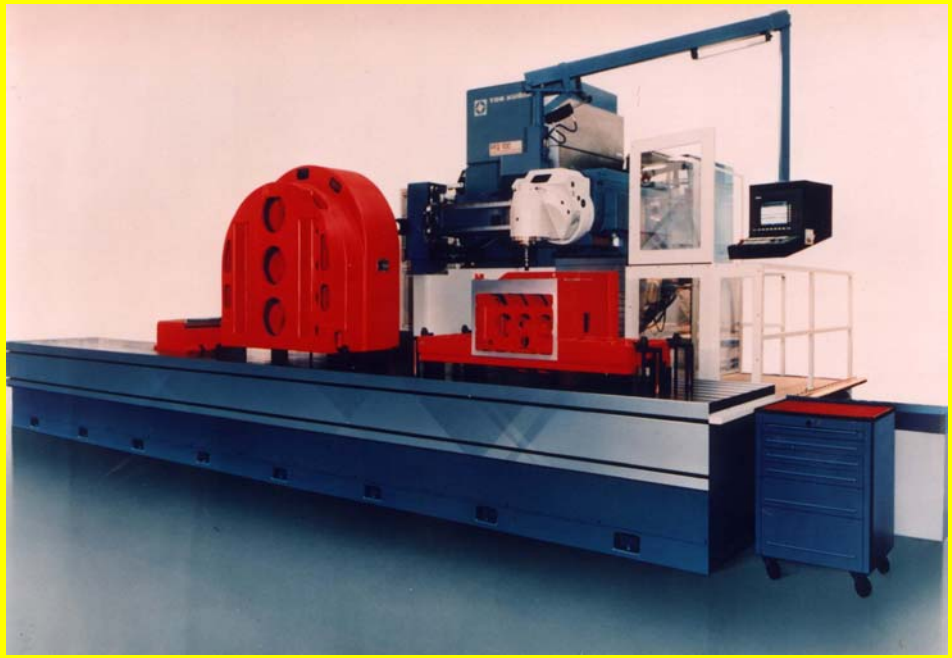
MACHINE SHOP PLANT LIST

MACHINE TOOL		Axes in mm				
		X	Y	Z	A	B
COLCHESTER CENTRE LATHE AND TOOLING	Manual	850	n/a	1600		
HARDINDGE TOOL ROOM CENTRE LATHE AND TOOLING 15YRS	Manual	200	n/a	600		
4/10 PROTURN CNC CENTRE LATHE	Programable	350	n/a	1250		
CUT OFF CIRCULAR SAW	Manual	1250	n/a	300		
UNIVERSAL MILL 3 AXIS	Manual	750	250	350		
UNIVERSAL MILL 3 AXIS	Manual	750	250	350		
UNIVERSAL MILL 3 AXIS	Programable	750	250	250		
MACHINING CENTRE YANG 4 AXIS	CNC. Probing	1000	450	400	Int' Axis	
HITACHI VA40 VERTICAL MACHINING CENTRE 4 AXIS	CNC	800	400	300		
HITACHI VA50 VERTICAL MACHINING CENTRE 4 AXIS	CNC.	1000	500	400	Int' Axis	
HITACHI VA65 + TOOLING 4 AXIS	CNC.	1200	650	550	Int' Axis	
TOS KURIM UNIVERSAL MILL 5 AXIS	CNC. Probing	6000	1250	1500	Full Axis	Full Axis
BUTLER ELGA MILL UNIVERSAL M/C CENTRE 5 AXIS	CNC.	6000	1250	1950	Full Axis	Manual

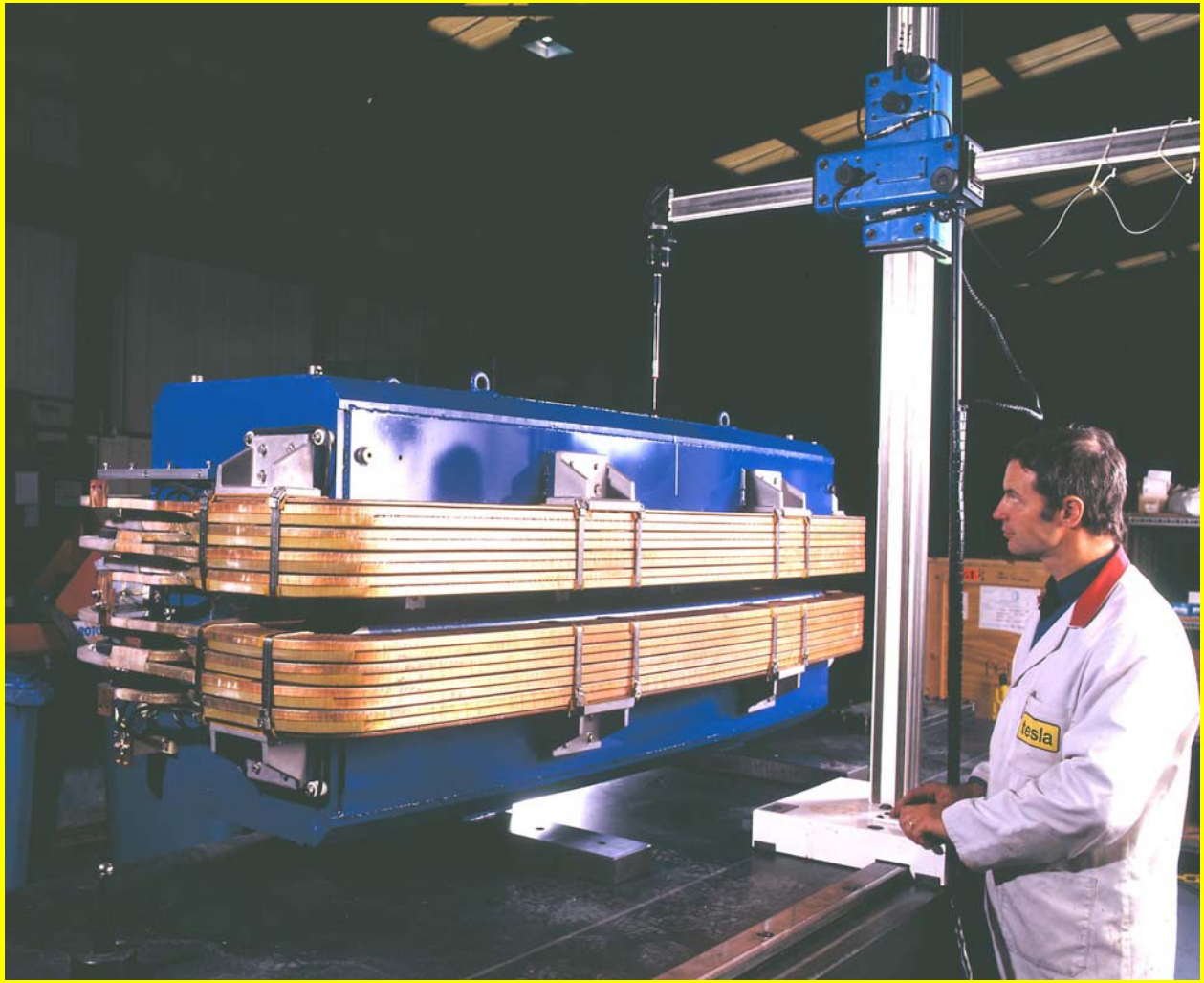
Machining





5 Axis CNC Mill.
Table length 8m.
X = 6m, Y = 1m, Z = 1.5m
Accuracy better than 10 μm for all axes.
(Certificates available on request)

Measurement



3 AXIS CMM

X = 3200mm

Y = 1300mm

Z = 1000mm

Resolution 1 μm

Accuracy 40 μm

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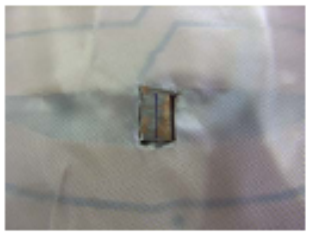
PROCESS CONTROL

- TRAVELLERS USED TO INSTRUCT OPERATORS.

7.4 Wrap the Z tail with Vidatape AS, and pack the outside edge with Vidatape AS. Mark out a centre line on each of the outer most conical coil eye tails, using a scribe. Carefully lower the mould over the assembly and once the blocks are being held in place by the mould, cut and remove the elastic band and continue to lower the mould. Align the mould on both split lines by shining a torch in the slot and viewing the scribed lines on the coil tails. Apply extra RTV at the split line. Progressively clamp the mould halves together from both sides, ensuring it does not rotate away from the scribed line location. When the mould is closed, check the fit of the removable Ø 10 mm dowel in the keyway slot on the Crown and that the mould located correctly on the Crown. Figure 20



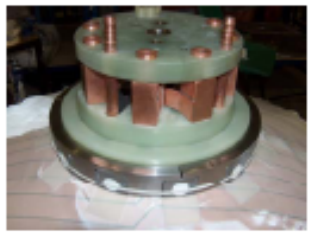


Figure 20.

These pages to be photocopied and sent with coil

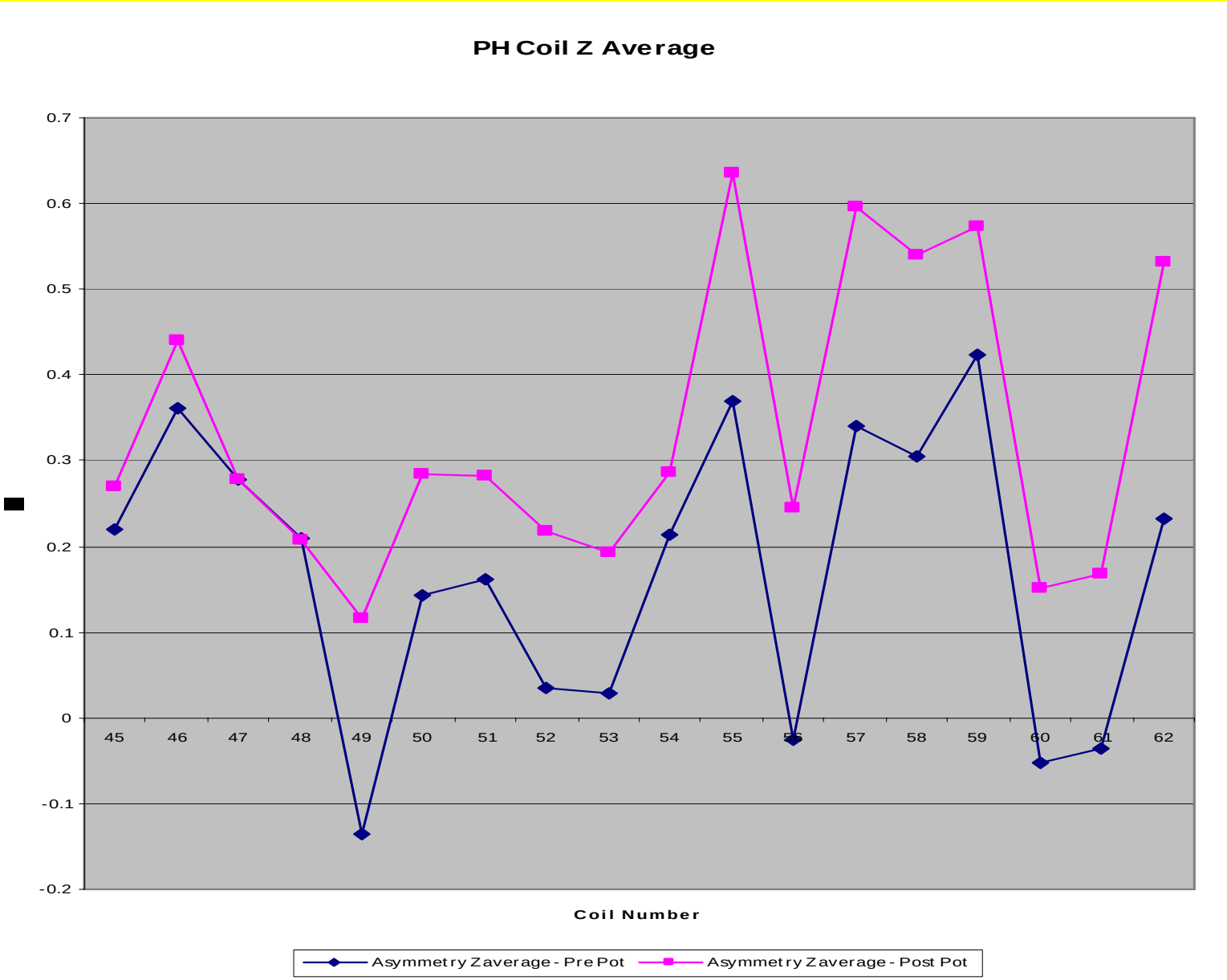
12 Mechanical Inspection

12.1 Perform the following mechanical inspections using the CMM and gauges. Dimensions as taken from drawing 55-A1100

Drawing Dimension	Measured						Pass / Fail
	0°	90°	180°	270°			
172.5mm MAX							Pass / Fail
157.5± 0.2mm							Pass / Fail
202.6 ± 0.5mm Use Pedestal Gauge	X-	X+	Y-	Y+	Z-	Z+	
							Pass / Fail
376.0 max							Pass / Fail
Ø 224± 0.5mm							Pass / Fail
Ø 229.8+0 -0.3mm	Use Gauge						Pass / Fail
Ø 870 ± 0.5mm							Pass / Fail
Ø 226.5± 0.5mm	Use Gauge						Pass / Fail
Ø 278± 0.5mm							Pass / Fail
Dowel – Key ± 0.25mm							Pass / Fail
Conical surface< 0.5mm from gauge	Use Gauge						Pass / Fail
Support mount assembly locations ± 0.15° (Anti-clockwise from dowel-key slot)	23.3°	55°	83.4°	113.3°			
							Pass / Fail
	145°	173.4°	203.3°	235°			
							Pass / Fail
	263.4°	293.3°	325°	353.4°			
							Pass / Fail
Power Connectors Location	Use Gauge (with key fitted)						Pass / Fail
Sign & Date							

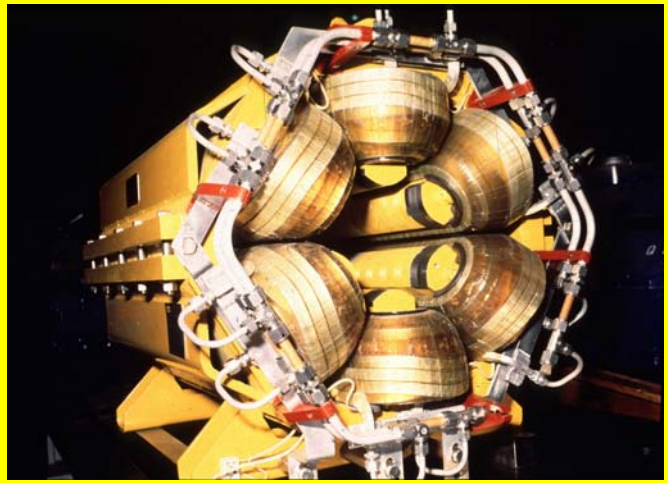
Serial Number	

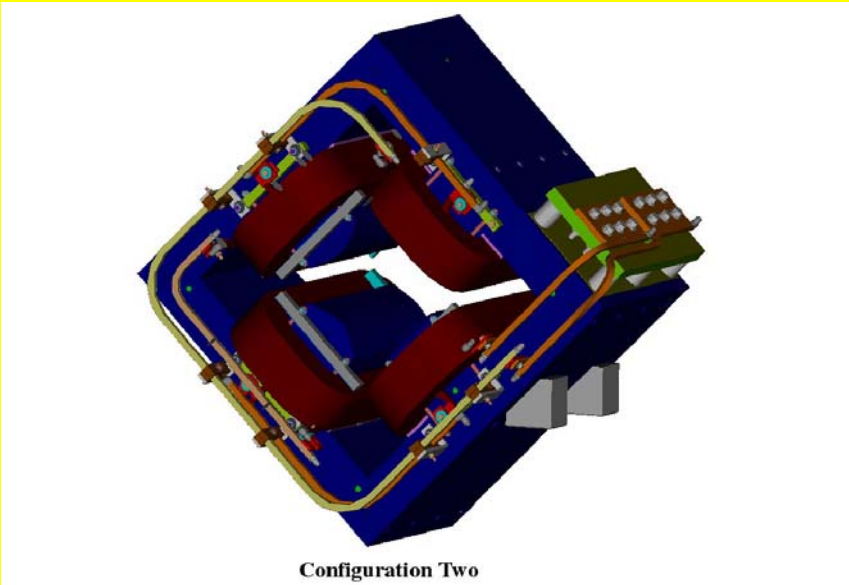
PROCESS CONTROL



Typical Electromagnets made by Tesla.

CERN
LEP Sextupole Magnets – 550 off

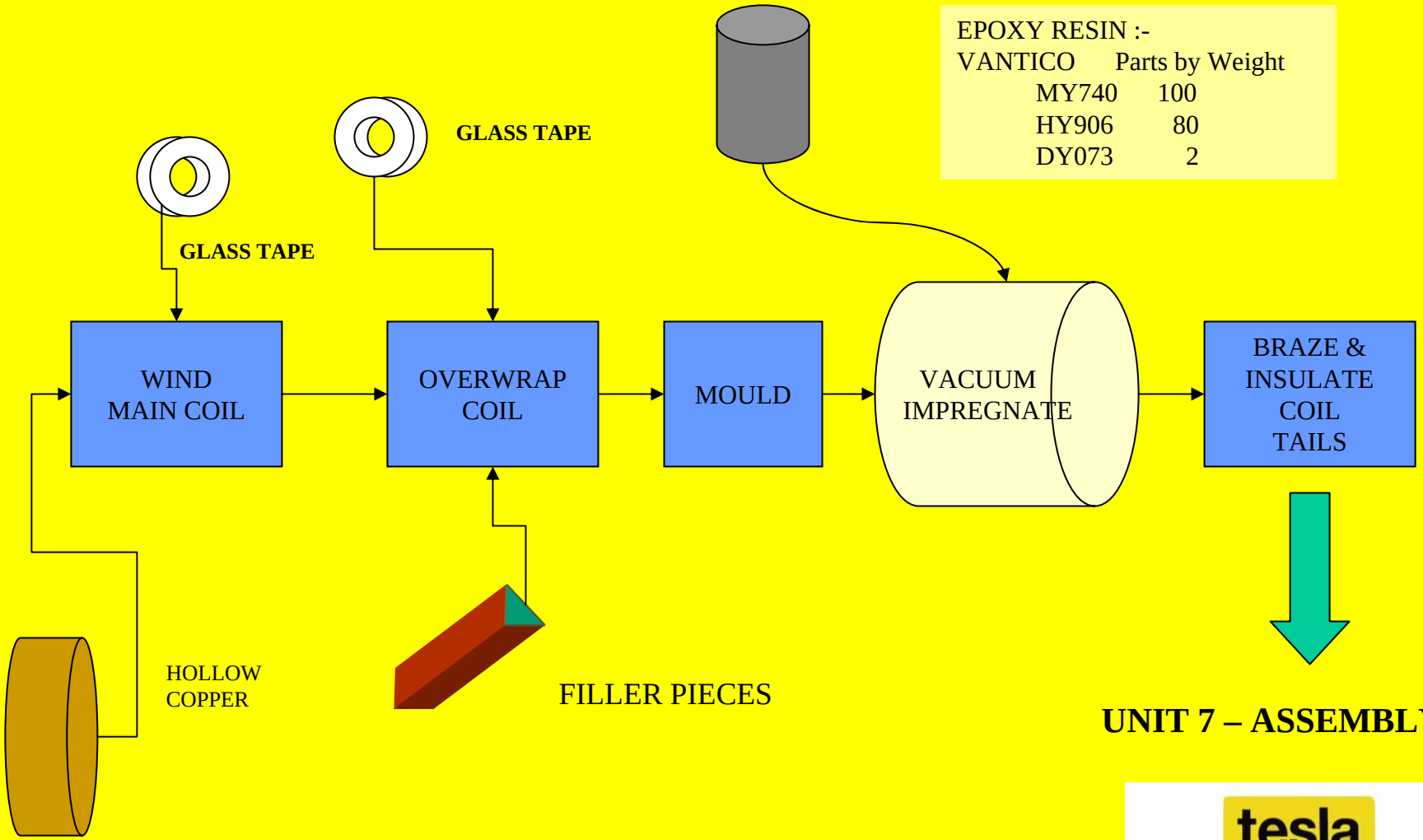




Brookhaven National Lab
SNS Quadrupole Magnets 59 off

Mitsubishi Heavy Electric
Proton Therapy Quadrupole Magnets 139 off

QUADRUPOLE COIL WORKFLOW DIAGRAM



UNIT 7 – ASSEMBLY

tesla
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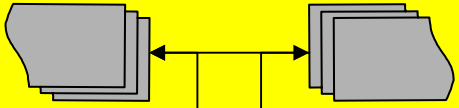
IN MAGNET TECHNOLOGY

QUADRUPOLE YOKE WORKFLOW DIAGRAM



Shuffle Laminations **(Around 640 tonnes steel)**

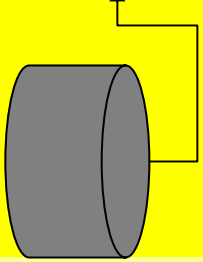
PUNCH LAMINATIONS

YOKE STACKING

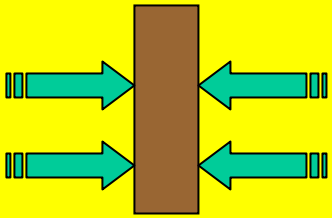
QUADRANT MILLING

HALF YOKE ASSEMBLY WITH END PLATES

Tool for :-
- **Compression**
- **Location**



1200-100A STABOLIT 70 STEEL COIL

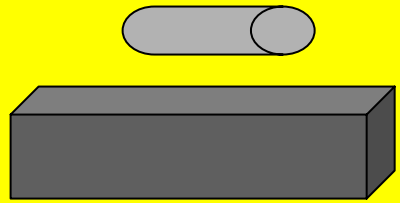


300 N/cm^2
200 ^{o}C.

Compression Stacking Fixture

DRILL & PIN YOKE HALVES CNC PROBE

Alignment Mandrel



Granite Table

FULL YOKE ASSEMBLY

DRILL & PIN YOKE + FINAL M/C

INSPECTION PROBE ON CNC M/C

PAINTING

UNIT 7 ASSEMBLY

Note – All magnet yokes assembled prior to fitting coils.

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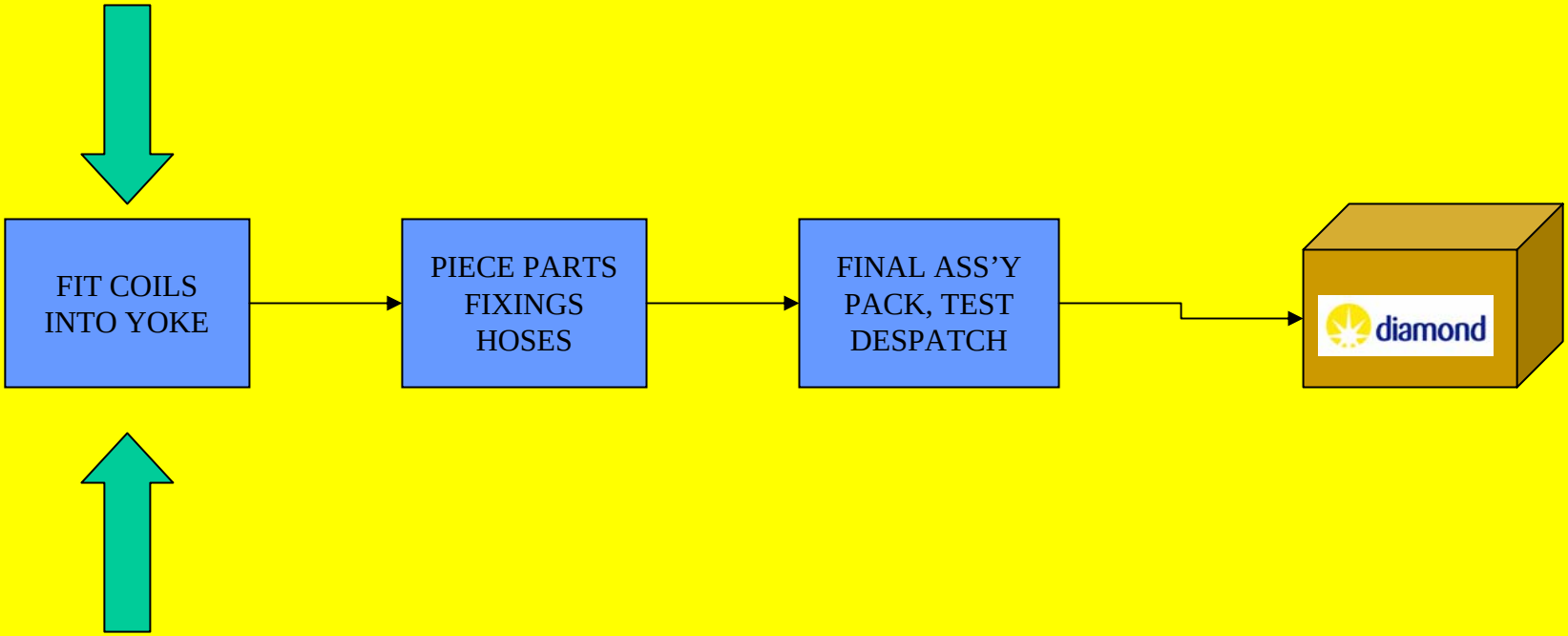
QUADRUPOLE MAGNET WORKFLOW DIAGRAM

COILS from Unit 3 Factory



YOKES from Unit 4 Factory

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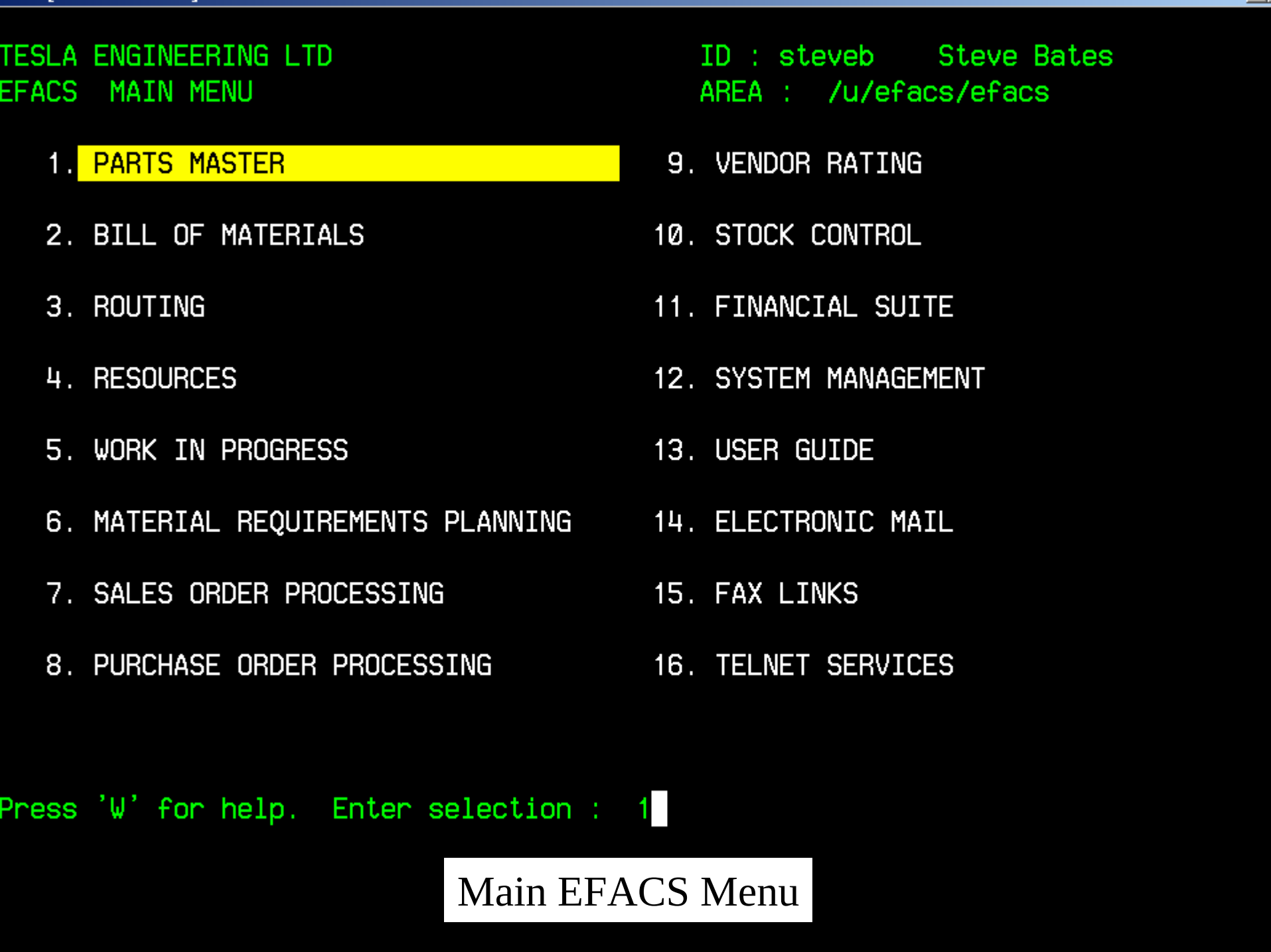
IN MAGNET TECHNOLOGY

Production Control System

- ERP system called “efacs” used by Tesla.
  - Bills of Material.
  - Purchasing database.
  - Stock control.
  - Accounts. Invoicing.
  - Sales orders.
  - Cost control.
  - Can use customer part numbers.
  - Fully networked.

tesla
Ahead of the field.
IN MAGNET TECHNOLOGY



Main EFACS Menu

EFACS REPORT: First Previous Next Last Goto Code Output Exit

Sample BOM

Page : 1

BILL OF MATERIALS DETAILS TESLA ENGINEERING LTD

Based on CURRENT COSTS as of 11/08/04

Level	Part	Method	Issue	Sequence	P/M	Qty	UOM	Description
.1	4522 131 80021		1		X	1.0000	EACH	GRADIENT COIL LC-TNF2
..2	19-A1100		5	00005	X	1.0000	EACH	INTERFACE DRAWING.
..2	19-A5000		4	00010	M	1.0000	EACH	OUTLET MANIFOLD.
...3	12-D5006		5	1010	M	3.0000	EACH	WATER CONNECTION
....4	12-D5006R01	N/A	2	1010	P	0.1050	MTR	5/8" X 10 SWG 316 ST STL TUBE.
...3	19-D5001		1	1030	M	1.0000	EACH	MANIFOLD
....4	19-D5001R01	N/A	1	1010	P	1.0000	EACH	30MM X SQUARE BOX X 3MM WALL 316 ST STL CUT TO 92 MM LONG.
...3	19-D5002	N/A	1	1040	P	1.0000	EACH	END CAP 29 X 29 X 5MM THK & 16.3MM HOLE THRO, ST/STL 316L.
...3	19-D5003	N/A	1	1050	P	1.0000	EACH	END CAP 29 X 29 X 5MM THK ST/STL 316L. IGNORE DRG 4MM THI
...3	19-D5004	N/A	2	1060	P	1.0000	EACH	SUPPORT PLATE,75 X 68 X 2MM THK 316 ST STL PROFILE.
...3	19-D5005	N/A	2	1070	P	1.0000	EACH	OUTLET TUBE 16 MM DIA X 1.5 MM WALL X 38 MM LONG 316 ST S
...3	19-D5006	N/A	2	1080	P	1.0000	EACH	CLEVIS PIN 6 MM DIA WITH LOW HEAD A4 & NO CROSS HOLE.
..2	19-A5100		4	00020	M	1.0000	EACH	INLET MANIFOLD.
...3	12-D5006		5	1010	M	4.0000	EACH	WATER CONNECTION

EFACS REPORT: First Previous Next Last Goto Code Output Exit

Purchase Order Report

PURCHASE ORDERS by WORKS ORDER 11/08/04 11:05:05 TESLA ENGINEERING LTD

Part Number	P.O. No	Supplier	Qty Ord	Qty Rec	Value	Due Date	Description
WORKS ORDER AC29* - LEDGER CODE AC29 PHILIPS - 80 OFF TNF2							
19-D2585	68795/3	ISOLA COMP	360.0	360.0	2786.40	07/04/04	INNER Z WINDING COMB
19-D2585	68795/4	ISOLA COMP	360.0	360.0	2786.40	11/05/04	INNER Z WINDING COMB
19-D1002	68795/6	ISOLA COMP	280.0	280.0	943.60	07/04/04	SPACER BLOCK.
19-D1002	68795/7	ISOLA COMP	280.0	280.0	943.60	11/05/04	SPACER BLOCK.
19-D1110	68795/9	ISOLA COMP	320.0	320.0	889.60	07/04/04	SPACER BLOCK,DRILLED, SANDED 100 X 20
19-D1110	68795/10	ISOLA COMP	320.0	320.0	889.60	11/05/04	SPACER BLOCK,DRILLED, SANDED 100 X 20
19-D2514	68795/12	ISOLA COMP	40.0	40.0	363.60	07/04/04	MANIFOLD LOCATION PLATE
19-D2514	68795/13	ISOLA COMP	40.0	40.0	363.60	11/05/04	MANIFOLD LOCATION PLATE
19-D2016	68795/15	ISOLA COMP	40.0	40.0	303.60	07/04/04	MANIFOLD LOCATION PLATE
19-D2016	68795/16	ISOLA COMP	40.0	40.0	303.60	11/05/04	MANIFOLD LOCATION PLATE
4522 131 40473	68795/21	ISOLA COMP	40.0	40.0	1152.80	07/04/04	FIXATIEVEER GRAD-QBC-PZN2
4522 131 40473	68795/22	ISOLA COMP	40.0	40.0	1152.80	11/05/04	FIXATIEVEER GRAD-QBC-PZN2
9507-34	68795/24	ISOLA COMP	160.0	160.0	32.00	07/04/04	INSULATION SHEET 0.2MM X 15MM X 1100MM FR4 DRG X01-D120
9507-34	68795/25	ISOLA COMP	160.0	160.0	32.00	11/05/04	INSULATION SHEET 0.2MM X 15MM X 1100MM FR4 DRG X01-D120
9507-35	68795/27	ISOLA COMP	960.0	960.0	422.40	07/04/04	INSULATION SHEET 0.2MM X 45MM X 1070MM FR4 DRG X01-D120
9507-35	68795/28	ISOLA COMP	960.0	960.0	422.40	11/05/04	INSULATION SHEET 0.2MM X 45MM X 1070MM FR4 DRG X01-D120

EFACS REPORT: First Previous Next Last Goto Code Output Exit

Goods Received

Page : 1

RECEIPTS by PURCHASE ORDER NO 11/08/04 11:07:33 TESLA ENGINEERING LTD

PO NUMBER 68795 SUPPLIER ISOLA COMP

GRN	Date Recd	Iten	Quantity	UOM	State	Part Number	Description	Advice Note
215257	26/03/04	1	1280.0	EACH	DONE	26-A1000P41	FR4 STRIP 1MM THK X 9 MM X 1 MTR LONG.	31171
	Total		1280.0					
214504	12/03/04	2	360.0	EACH	DONE	19-D2505	INNER Z WINDING COMB	31133
	Total		360.0					
215611	05/04/04	3	360.0	EACH	DONE	19-D2505	INNER Z WINDING COMB	31137
	Total		360.0					
217080	17/05/04	4	360.0	EACH	DONE	19-D2505	INNER Z WINDING COMB	31138
	Total		360.0					
214507	12/03/04	5	280.0	EACH	DONE	19-D1002	SPACER BLOCK.	31133
	Total		280.0					
216030	16/04/04	6	280.0	EACH	DONE	19-D1002	SPACER BLOCK.	31137

Sales Order

EFACS REPORT: First Previous Next Last Goto Code Output Exit

Sales Orders By Customer 11/08/04 11:11

Criteria selection : Customer <ELEKTA>, Between <01/01/03>, and <99/99/99>, Outstanding <N>

Order number	Item	Works Order	Order date	Part number	Order quantity	Quantity delivered	UOM	Due date	Status	Value	Customer order number	Descript
5542	1	AC46	28/06/04	N/A	1.000	0.0000	EACH	25/01/05	NS	24472.00	LF05988	ALIGNMEN
5542	2	AC46	28/06/04	N/A	10.000	0.0000	EACH	25/01/05	NS	3550.00	LF05988	MAGNETIC

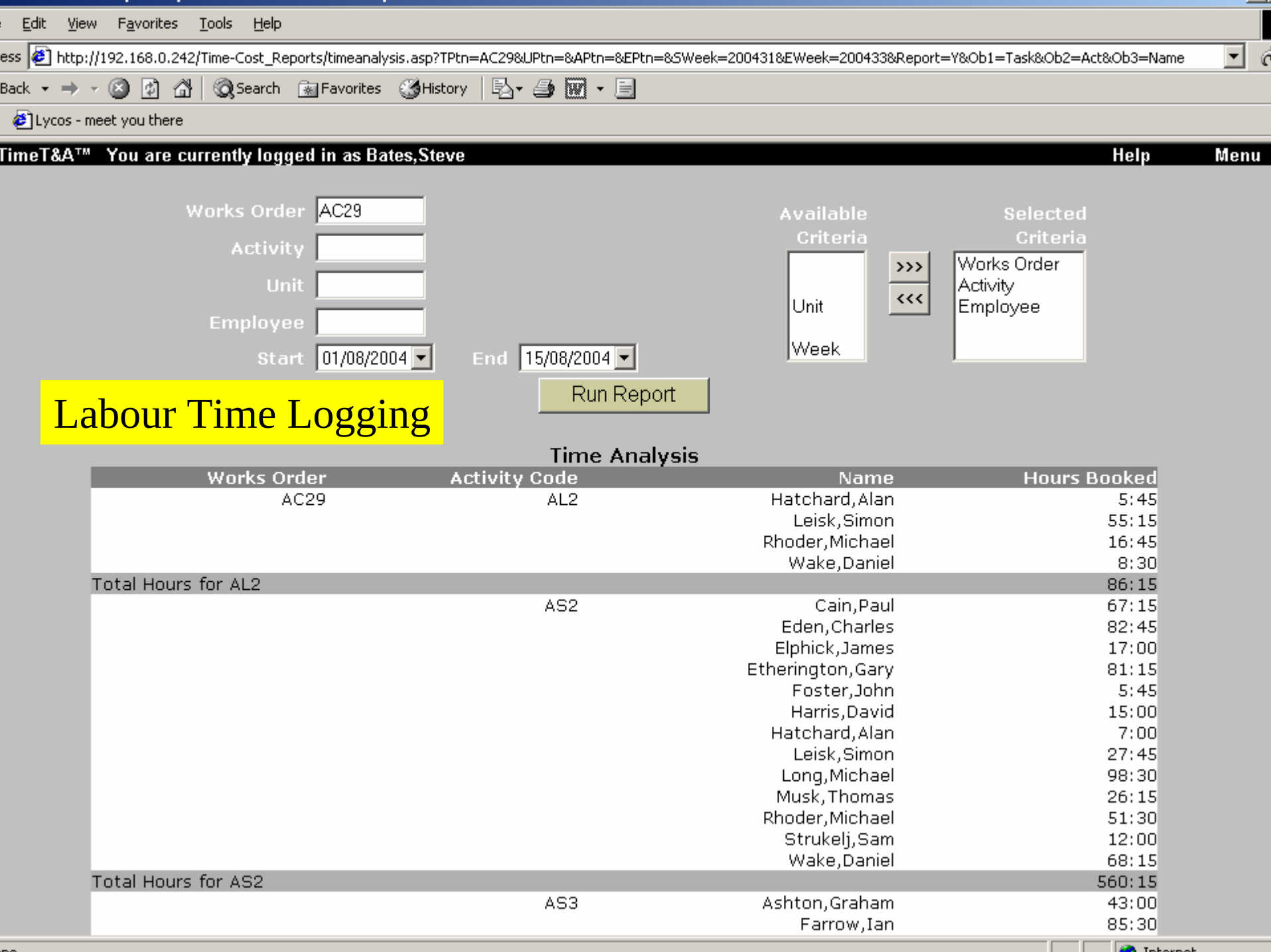
Customer : ELEKTA ELEKTA LIMITED Currency : # POUNDS STERLING

Ack address : 1 : LINAC HOUSE, FLEMING WAY, CRAWLEY, WEST SUSSEX, RH10 9RR

Total sales order value for customer ELEKTA (Address 1) 28022.00

Total sales order value 28022.00

END OF REPORT


Edit View Favorites Tools Help
http://192.168.0.242/Time-Cost_Reports/timeanalysis.asp?TPtn=AC29&UPtn=&APtn=&EPtn=&SWeek=200431&EWeek=200433&Report=Y&Ob1=Task&Ob2=Act&Ob3=Name
Back Search Favorites History
Lycos - meet you there
TimeT&A™ You are currently logged in as Bates,Steve
Help
Menu
Works Order AC29
Activity
Unit
Employee
Start 01/08/2004
End 15/08/2004
Run Report
Available Criteria
Unit
Week
>>>
<<<
Selected Criteria
Works Order
Activity
Employee
Labour Time Logging
Time Analysis
Works Order
Activity Code
Name
Hours Booked
AC29 AL2 Hatchard,Alan 5:45
Leisk,Simon 55:15
Rhoder,Michael 16:45
Wake,Daniel 8:30
Total Hours for AL2 86:15
AS2 Cain,Paul 67:15
Eden,Charles 82:45
Elphick,James 17:00
Etherington,Gary 81:15
Foster,John 5:45
Harris,David 15:00
Hatchard,Alan 7:00
Leisk,Simon 27:45
Long,Michael 98:30
Musk,Thomas 26:15
Rhoder,Michael 51:30
Strukelj,Sam 12:00
Wake,Daniel 68:15
Total Hours for AS2 560:15
AS3 Ashton,Graham 43:00
Farrow,Ian 85:30