



JHE GROUP

# Machining Capabilities

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## QUALITY APPROVALS

- ISO 9001:2008, ASEN9100
- AIRBUS UK
- A.P. PRECISION HYDRAULICS LTD.
- AGUSTA WESTLAND
- AIRCELLE
- ASCO INDUSTRIES
- BAE SYSTEMS
- BOMBARDIER SHORTS
- FOKKER AEROSTRUCTURES
- GE AVIATION HAMBLE
- GKN AEROSPACE
- MAGELLAN AEROSPACE
- MESSIER-DOWTY
- RUAG
- SMITHS AEROSPACE
- SPIRIT AEROSYSTEMS
- TERMA
- THALES AIR DEFENCE LTD.



## INSTALLATIONS 2009 - 2010

Installed January 2009

- 3 off Chiron M2000 High Speed 5-Axis Production Centre, 22000 Rpm 60Kw Spindle
  - Axis movement X2000, Y820, Z700
  - A +/- 110 Deg, C 360 Deg Continuous
- Makino MAG 1 High Speed 5-Axis Horizontal Production Centre, 33000 rpm, 80Kw Spindle

Installed July 2009

- 2 off DMG DMC 125U 5 Axis High Powered Machining Centre – 8000 rpm, 750 Nm Torque Spindle with 120 tool carousel

Installed January 2010

- Makino MAG 1 High Speed 5-Axis Horizontal Production Centre, 33000 rpm, 80Kw Spindle

## MACHINING CAPACITY

- A total of 79 **CNC** Machine Tools are currently available for Aerospace related component manufacture.
- 57 off CNC MACHINING CENTRES AS FOLLOWS
  - 19 off Machining Centres (5 axis) 1000mm to 4000mm (1850 m/c hrs/wk)
  - 7 off Machining Centres (5 axis) < 1000mm (675 m/c hrs wk)
  - 8 off Machining Centres 1000mm to 3000mm (800 m/c hrs/wk)
  - 23 off Machining Centres < 1000mm (2100 m/c hrs/wk)
- 10 off CNC TURNING CENTRES (875 m/c hrs/wk)
- 9 off CNC TURN/MILL CENTRE (810 m/c hrs/wk)
- 2 off CNC CYLINDRICAL GRINDER (180 m/c hrs/wk)
- 1 off CNC WIRE EROSION (90 m/c hrs/wk)

### CAD/CAM

- 3 off CATIA CAD/CAM WORKSTATION V5.19 SP 3
- 1 off CATIA CAD/CAM WORKSTATION V4.2.4
- 4 off VERICUT NC ELECTRONIC VERIFICATION STATION V6.2.2
- 8 off MASTERCAM 3D CAD/CAM WORKSTATIONS VX4

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**Plant List - CNC MILLING 5 - AXIS**

		X	Y	Z	AXIS
4 OFF	MAKINO MAG3 EX HIGH SPEED HORIZONTAL PRODUCTION CENTRE – 33000 rpm 80Kw Spindle	4000	1500	1000	5
1 OFF	MAKINO MAG3 HIGH SPEED HORIZONTAL PRODUCTION CENTRE – 33000 rpm 80Kw Spindle	3000	1500	1000	5
1 OFF	MAKINO MAG3 HIGH SPEED HORIZONTAL PRODUCTION CENTRE – 30000 rpm 60Kw Spindle	3000	1500	1000	5
2 OFF	MAKINO MAG1 HIGH SPEED HORIZONTAL PRODUCTION CENTRE – 33000 rpm 80Kw Spindle	1520	1100	1350	5
1 OFF	CINCINNATI AUTOMAX II HIGH SPEED HORIZONTAL PRODUCTION CENTRE - 24000 rpm 70Kw Spindle	3400	1340	750	5
2 OFF	AB MARWIN AUTOMAX II HIGH SPEED HORIZONTAL PRODUCTION CENTRE - 27000 rpm 70Kw Spindle	3400	1340	750	5
3 OFF	CHIRON M2000 HIGH SPEED 5 AXIS PRODUCTION CENTRE – 22000 rpm 60Kw Spindle	2000	820	700	5
1 OFF	MAZAK MTV-815/120-5X VERTICAL MACHINING CENTRE - 10000 rpm 37Kw SPINDLE	3048	810	610	5
2 OFF	UNISIGN UNIPRO 5P VERTICAL 5 AXIS MACHINING CENTRE – 25000 rpm 100Kw SPINDLE	1000	800	500	5
1 OFF	DMG 125U 5 AXIS HIGH POWERED MACHINING CENTRE - 12000 rpm 55Kw SPINDLE	1250	1000	1000	5
1 OFF	DECKEL MAHO DMC 70 EVOLUTION HIGH SPEED TWIN PALLET MACHINING CENTRE - 18000 rpm 37Kw SPINDLE	750	600	520	5

**Plant List - CNC MILLING**

		X	Y	Z	AXIS
1 OFF	CORREA 2000 BRIDGE MACHINING CENTRE	2000	1250	650	3
1 OFF	CORREA CF22 UNIVERSAL CNC BED MILL	2500	800	800	3
1 OFF	HASS VF4 VERTICAL MACHINING CENTRE	1250	508	635	5
3 OFF	HASS VF-0E VERTICAL MACHINING CENTRE	760	400	500	4
1 OFF	BRIDGEPORT VMC 1000 VERTICAL MACHINING CENTRE	1000	500	525	3
2 OFF	BRIDGEPORT VMC 800 VERTICAL MACHINING CENTRE	800	450	525	3
3 OFF	TONGIL TNV 80 VERTICAL MACHINING CENTRE	750	400	500	3

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**Plant List - CNC TURNING**

		X	Y	Z	AXIS
2 OFF	DAEWOO PUMA 2MX2000ST 9 AXIS TURN-MILL CENTRE	555	+/-80	1095	9
1 OFF	DAEWOO PUMA TT1500 8 AXIS TURN-MILL CENTRE	165	+/-50	490	8
1 OFF	DAEWOO PUMA TT1800 8 AXIS TURN-MILL CENTRE	165	+/-50	720	8
2 OFF	COLCHESTER TORNADO 200 TURNING CENTRE	250		400	2
1 OFF	CHURCHILL CTC 4 TURNING CENTRE	300		1000	2
1 OFF	HERBERT AL20 TURNING CENTRE	300		1000	2
1 OFF	MHP 65 TURNING CENTRE	250		500	2
1 OFF	MIYANO BND 42S TWIN SPINDLE TURNING CENTRE	125		230	5
1 OFF	MIYANO 20S TWIN SPINDLE TURNING CENTRE	100		120	2
1 OFF	TORNOS ENC163 SLIDINGHEAD TURN-MILL CENTRE	50		195	5

**Plant List - CNC WIRE & SINK EROSION**

		X	Y	Z	AXIS
1 OFF	AGIECUT CHALLENGE 3	500	350	250	5

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**Plant List - INSPECTION**

		X	Y	Z	AXIS
1 OFF	LK G90C CNC CO-ORDINATE MEASURING MACHINE	4000	1200	1000	3
1 OFF	LK G90C CNC CO-ORDINATE MEASURING MACHINE	1500	1000	800	3
1 OFF	MITUTOYO B241 CO-ORDINATE MEASURING MACHINE	1000	750	400	3
1 OFF	DEA SWIFT CO-ORDINATE MEASURING MACHINE	600	400	300	3
1 OFF	AVERY HARDNESS TESTER				
1 OFF	MAGNAFLUX CONDUCTIVITY TESTER				
1 OFF	PRYOR CNC VIBRO PART MARKER	150	75	100	4

**Plant List - MANUAL MACHINES**

1 OFF	NEWALL 2443 VERTICAL JIG BORER
4 OFF	BRIDGEPORT TURRET MILLS
1 OFF	COLCHESTER TRIUMPH 2000
1 OFF	COLCHESTER MASTIF 1400
1 OFF	GER HORIZONTAL SURFACE GRINDER
1 OFF	LUMSDEN VERTICAL SURFACE GRINDER
2 OFF	CHURCHILL CYLINDRICAL GRINDER
1 OFF	SUNNEN HONE

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**Plant List - CNC MILLING 5 - AXIS**

		X	Y	Z	AXIS
1 OFF	DECKEL MAHO DMF 250 LINEAR 5 AXIS HIGH SPEED MACHINING CENTRE - 18000 rpm 35Kw Spindle	2500	920	800	5
2 OFF	DECKEL MACHO DMC 125U 5 AXIS HIGH POWERED MACHINING CENTRE - 8000 rpm 750 Nm Spindle	1250	1000	1000	5
3 OFF	DECKEL MAHO DMC 70 EVOLUTION HIGH SPEED TWIN PALLET MACHINING CENTRE - 18000 rpm 35Kw Spindle	750	600	520	5
1 OFF	DECKEL MAHO DMC 70 EVOLUTION HIGH SPEED TWIN PALLET MACHINING CENTRE - 18000 rpm 37Kw Spindle	750	600	520	5

**Plant List - CNC MILLING**

		X	Y	Z	AXIS
6 OFF	KITAMURA HX400 HORIZONTAL MACHINING CENTRE -13000 RPM SPINDLE 22KW	600	610	560	4
1 OFF	KITAMURA HX500 HORIZONTAL MACHINING CENTRE	870	710	660	4
1 OFF	KITAMURA H-400 HORIZONTAL MACHINING CENTRE	610	510	510	4
1 OFF	HURCO BMC 6434 VERTICAL MACHINING CENTRE	1620	820	760	3
4 OFF	HURCO BMC 4020HT VERTICAL MACHINING CENTRE	1000	508	500	3
1 OFF	HURCO BMC 3017 VERTICAL MACHINING CENTRE	760	430	500	3
1 OFF	HURCO BMC 2416 VERTICAL MACHINING CENTRE	610	400	460	3
4 OFF	HURCO BMC 30 HTM VERTICAL MACHINING CENTRE	760	430	500	3
2 OFF	HURCO PARTSMAKER VERTICAL MACHINING CENTRE	760	430	500	3
2 OFF	HURCO BMC 10 VERTICAL MACHINING CENTRE	760	400	450	3
1 OFF	HURCO MB2 VERTICAL MACHINING CENTRE	600	300	400	3

**CNC TURNING**

		X	Y	Z	AXIS
4 OFF	NAKAMURA TOME WT 300 MMY TURN-MILL CENTRE	195	60 +/-	789	8
1 OFF	DAEWOO PUMA 230MSB TWIN SPINDLE TURN-MILL CENTRE	205		580	5
1 OFF	COLCHESTER TORNADO 200 TURNING CENTRE	250		400	2
1 OFF	TAKISAWA TF2	200		300	2

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**CNC GRINDING**

		X	Y	Z	AXIS
1 OFF	STUDER S21 LEAN CNC UNIVERSAL CYLINDRICAL GRINDER INCLUDING INTERNAL GRINDING	125		400	3
1 OFF	STUDER S40 CNC UNIVERSAL CYLINDRICAL GRINDER INCLUDING INTERNAL GRINDING, TAPER GRINDING, OUT OF ROUND GRINDING	175		1000	5

**Plant List - INSPECTION**

		X	Y	Z	AXIS
1 OFF	LK G90C CNC CO-ORDINATE MEASURING MACHINE	1500	1000	800	3
1 OFF	LK G90C CNC CO-ORDINATE MEASURING MACHINE	800	700	600	3
1 OFF	MITUTOYO B241 CO-ORDINATE MEASURING MACHINE	1000	750	400	3
1 OFF	ROCKWELL HARDNESS TESTER				
1 OFF	MAGNAFLUX CONDUCTIVITY TESTER				
1 OFF	PRYOR CNC VIBRO PART MARKER	150	75	100	4
1 OFF	PROPEN CNC VIBRO PART MARKER	320	320		2

**Plant List - MANUAL MACHINES**

1 OFF	SMA NOVARA OMEGA 2 VERTICAL JIG BORER
2 OFF	BRIDGEPORT TURRET MILLS
1 OFF	PARKINSON HORIZONTAL MILL
1 OFF	COLCHESTER CENTRE LATHE
1 OFF	DEAN SMITH & GRACE TYPE 17 CENTRE LATHE
2 OFF	WARD 2 CAPSTAN LATHE
2 OFF	JONES & SHIPMAN CYLINDRICAL GRINDER
2 OFF	JONES & SHIPMAN SURFACE GRINDER
1 OFF	DELAPENA HONE