



Engineering

# PLANT LIST



# OVERVIEW

BEL Engineering provides turnkey project solutions; supporting customers from initial concept, through material selection and sourcing, to manufacturing and test. We manufacture 3mm diameter to 50-tonne components for customers in a wide variety of sectors, including oil and gas, civil nuclear, defence, aerospace, naval and power generation.

Operating from a secure, integrated manufacturing facility in Newcastle-upon-Tyne, BEL Engineering offers an extensive range of services including multi-axis turning, boring, milling, grinding, lapping, wire erosion and tungsten carbide coating.

- 3** Small machines
- 13** Medium machines
- 25** Large machines
- 36** Extra large machines
- 38** Grinding machines
- 49** CMM machines
- 54** Thread rolling
- 56** Training School

# SMALL MACHINES

## Small Multi Axis

- 4** Mazak Integrex 200IV ST
- 5** Mori Seiki NTX2000

## CNC Mill Turn

- 6** Mori Seiki NL3000Y
- 7** Mori NLX2500/1250

## CNC Turn

- 8** Mori Seiki NL3000

## CNC Mill

- 9** Mori Seiki NV5000
- 10** Mori Seiki NVX5100
- 11** Mazak VTC200

## Small 5 axis

- 12** Makino D300



# MAZAK INTEGREX 200IV ST

The Mazak Integrex 200IV ST has five-axis capabilities with Y-axis travel, allowing for the machining of more complex components.

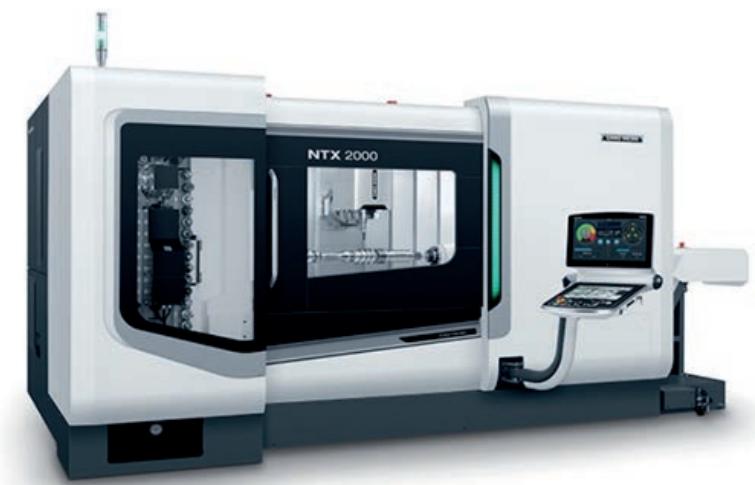
Machine specification	Metric	Imperial
Quantity of machine type	2	
Distance between chuck faces	1,100mm	43.5"
Chuck diameter (main spindle)	254mm	10"
Chuck diameter (sub spindle)	254mm	10"
Maximum machining diameter	254mm	17"
B-axis travel	225°	
Tool magazine	40	



# MORI SEIKI NTX2000

The Mori Seiki NTX2000 machine allows for five-axis high precision machining of complex parts.

Machine specification	Metric	Imperial
Quantity of machine type	2	
Distance between chuck faces	1,842mm	72.5"
Chuck diameter (main spindle)	203mm	8"
Chuck diameter (sub spindle)	203mm	8"
Maximum machining diameter	660mm	26"
Maximum turning length	1,540mm	61"
Maximum bar work capacity	80mm	3"
B-axis travel	240°	
Tool magazine	76	
Number of tool stations in turret	10	



# MORI SEIKI NL3000Y

The Mori Seiki NL3000Y allows for the turning and milling of components up to 11" in diameter.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Chuck diameter	304mm	12"
Maximum machining diameter	280mm	11"
Maximum turning length	705mm	27.75"
Maximum bar dia through spindle	90mm	3.5"
Tool turret	12 station	
Tooling type	Capto C6	



# DMG MORI NLX2500/1250

This machine is equipped with driven tooling and C and Y axis capability. Steady and tailstock allows for support of longer workpieces.

Machine specification	Metric	Imperial
Quantity of machine type	2	
Chuck diameter	254mm	10.0"
Maximum machining diameter	460mm	18.11"
Maximum workpiece length	1255mm	49.40"
Maximum barr diameter through spindle	80mm	3.15"
Steady range	12mm - 152mm	
Y axis travel	100mm	3.94"
Tooling type	Capto C4	
Number of tool stations in turret	12	



# MORI SEIKI NL3000

The Mori Seiki NL3000 is a turning machine, which has the capability of machining long components due to the tailstock and steady attachments.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Chuck diameter	381mm	15"
Maximum machining diameter	280mm	11"
Maximum turning length (without centre drill)	1,260mm	49"
Maximum turning length (with centre drill)	1,016mm	40"
Maximum bar dia through spindle	90mm	3.5"
Steady device	20mm - 165mm	0.79" - 6.5"
Tool turret	12 station	
Tooling type	Capto C6	



# MORI SEIKI NV5000

The Mori Seiki NV5000 uses various works holding devices including a vice with a maximum billet size of 8", a chuck with a maximum billet diameter of 12" and a micro lock system.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Table size	1,100mm x 600mm	43.3" x 23.62"
Max table load	1,000kg	2,204lbs
Tool carousel	30 tool +1	
Tool shank	ISO 50	



# MORI SEIKI NVX5100

The Mori Seiki NVX5100 is a CNC milling machine with numerous work holding devices available including a fourth axis attachment head with a maximum diameter of 3.75" and maximum length of 30".

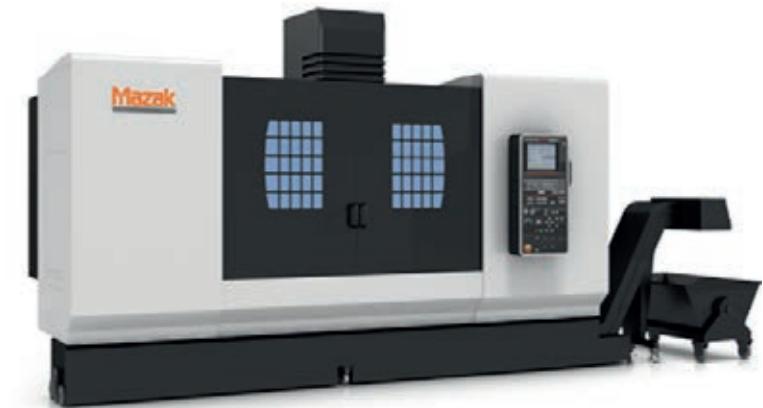
Machine specification	Metric	Imperial
Quantity of machine type	1	
Table size	1,350mm x 600mm	51.18" x 23.62"
Max table load	1,200kg	2,645lbs
Tool carousel	30 tool +1	
Tool shank	ISO 40	



# MAZAK VTC200

The Mazak VTC200 vertical machining centre features a 40 taper spindle with travelling column, allowing for the machining of long and heavy work pieces. The machine comes with an optional table centre partition so that the machine can be transformed into two separate work areas.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Table size	2,000mm x 510mm	79" x 20"
Max table load	997kg	2,200lbs
Tool carousel	30 tool magazine	
Tool shank	ISO40	



# MAKINO D300

The Makino D300 is a five-axis machine, which is ideal for high speed machining applications.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Table diameter	300mm	12"
Max table load	120kg	264lbs
Maximum work piece	450mm dia x 240mm	18" dia x 9"
Tool carousel	120 tool magazine	
Tool shank	HSK – A63	



# MEDIUM MACHINES

## CNC Mill Turn

- 14** Okuma Multus U4000
- 15** Puma 700XLY

## CNC Turn

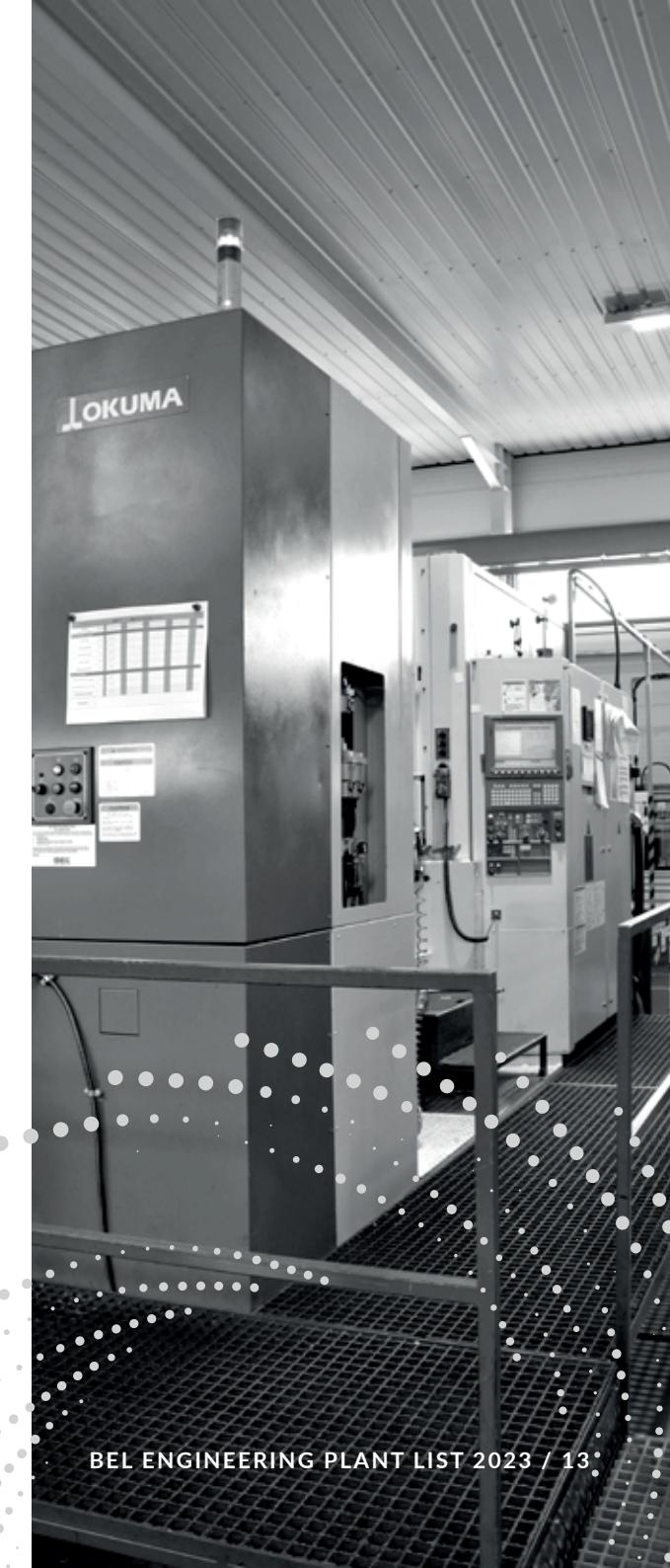
- 16** Mori Seiki SL603
- 17** Mazak ST60N
- 18** Okuma 2SP-V80

## CNC Mill

- 19** Okuma MB8000-H
- 20** Okuma MA600-H
- 21** Mazak FH-6800
- 22** Mazak Vortex 1400
- 23** Mori Seiki NVX7000

## Vertical 5-axis

- 24** Makino D800Z



# OKUMA MULTUS U4000

The Okuma Multus U4000 has high performance turning spindles with 36 million increments per revolution allowing for ultra-high precision machining, including gear skiving.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Distance between chuck faces	1,500mm	59"
Chuck diameter (main spindle)	305mm	12"
Chuck diameter (sub spindle)	305mm	12"
Maximum machining diameter	650mm	26"
Tool magazine	80 tools	
Tooling type	Capto C8	



# PUMA 700XLY

The Puma 700 has two programmable steady attachments giving the capability of machining long components, with C and Y axis milling capability.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Chuck diameter	600mm	24"
Maximum machining diameter	750mm	29.52"
Maximum machining length	5050mm	198.82"
Steady range	75mm-430mm	
Y axis travel	200mm	7.87"
Turret	12 station	
Tooling type	Capto C6/C8	



# MORI SEIKI SL603

The Mori Seiki SL603 has a programmable steady attachment ranging from 76mm to 457mm diameter.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Chuck diameter	610mm	24"
Minimum billet diameter	116mm	4.6"
Maximum machining diameter	660mm	26"
Maximum machining length	2,800mm	110"
Turret	10 station	
Tooling type	Capto C8	



## MAZAK ST60N

The ST60N is a high torque, heavy duty, big bore turning centre allowing for turning of large parts using Mazatrol controls.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Chuck diameter	610mm	24"
Maximum machining diameter	710mm	28"
Maximum machining length	1,778mm	70"
Turret	15 station	
Tooling type	Capto C8	



# OKUMA 2SP-V80

The Okuma 2SP-V80 is a twin spindle, vertical lathe featuring a rigid machine structure that delivers powerful, high accuracy cuts.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Chuck diameter (three jaw)	812mm	32"
Chuck diameter (four jaw)	800mm	31.5"
Maximum work piece diameter	718mm	28.26"
Turret	12 station	
Tooling type	Capto C8	



# OKUMA MB8000-H

The Okuma MB8000-H is a milling machine with a fully programmable A and B-axis with a 450mm diameter rotary attachment. The MB8000-H also has Renishaw probing.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Pallet size	800mm x 800mm	31" x 31"
Maximum work piece size		Max work piece diameter is limited by the required tool length.
Maximum tool length	600mm	24"
Tool holder	ISO50	
Tool magazine	81 tools	



# OKUMA MA600-H

The Okuma MA600-H has a programmable B-axis and Okuma turn cut capabilities (orbital turning), as well as Renishaw probing.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Pallet size	630mm x 630mm	24.8" x 24.8"
Maximum work piece size	1,000mm x 1,000mm	39.37" x 39.37"
Tool holder	ISO50	
Tool magazine	171 tools	
Work holding devices available:		
Tomb-stone	550mm(W) x 700mm(H) x 200mm(D)	21.65"(W) x 27.5"(H) x 7.85"(D)
Riser table	320mm(W) x 320mm(H) x 200mm(H)	12.59"(W) x 12.59"(H) x 7.85"(H)



# MAZAK FH-6800

The Mazak FH-6800 machine has a programmable B-axis with a one degree increment, and Renishaw probing.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Pallet size	630mm x 630mm	24.8" x 24.8"
Tool holder	ISO50	
Tool magazine	60 tools	
D'Andrea head attachments	U centre 180	



# MAZAK VORTEX 1400

The Mazak Vortex 1400 is a five-axis vertical machining centre, which features a large table for the machining of large, complex work pieces.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Pallet size	2,240mm x 1,250mm	88.19" x 49.21"
Maximum work piece diameter	1,250mm	49.21"
Maximum work piece length	4,000mm	157.48"
Tool holder	ISO50	
Tool magazine	30 tools	
Travel limits		
Maximum X travel	4,200mm	165.35"
Maximum Y travel	1,400mm	55.12"
Maximum Z travel	610mm	24.02"



# MORI SEIKI NVX7000

The Mori Seiki NVX7000 is a vertical machining centre with large axes travels, suitable for medium and large machining.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Pallet size	1,700mm x 760mm	67" x 30"
Maximum table load	2,000kg	4,409lb
Maximum work piece length	600mm	24"
Tool holder	BT50	
Tool magazine	30 tools	
Travel limits		
Maximum X travel	1,540mm	61"
Maximum Y travel	760mm	30"
Maximum Z travel	660mm	26"



# MAKINO D800Z

The Makino D800Z is a five-axis machine, which is ideal for high speed machining applications.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Table diameter	800mm	31"
Maximum table load	1,000kg	
Maximum work piece	1,000mm x 550mm	39" x 22"
Tool magazine	117 tools	
Tool shank	HSK-A100	



# LARGE MACHINES

## CNC Mill

- 26** Giddings and Lewis RT1600
- 27** Giddings and Lewis RT1250
- 28** Union TC130
- 29** Mazak FH10800

## CNC Turn

- 30** Giddings and Lewis VTC2000
- 31** Toshulin Forceturn 3000
- 32** Giddings and Lewis VTC1000

## CNC Mill Turn

- 33** Pietro Carnaghi Flexturn 25W

## Vertical Multi-Tasking

- 34** Toshulin Powerturn 1600APC
- 35** Hermle C62U MT



# GIDDINGS AND LEWIS RT1600

The Giddings and Lewis RT1600 machine has a fully programmable B-axis. It uses ITS out feed bars, as well as facing and right angled heads to allow for more complex machining of components.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Pallet size	2,000mm x 1,600mm	79" x 63"
Travel X - Y - W	2,500mm / 2,000mm / 2,420mm	98" / 83" / 95"
Quill travel	1,250mm	49"
Tool holder	ISO50	
Tool magazine	60 tools	
Attachments		
Right angled milling head	1,003mm 1,308mm	51.5" 39.5"
Facing head	CH8 - CH16	
ITS out feed bars	S12, S20, S40, S70	



## GIDDINGS AND LEWIS RT1250

The Giddings and Lewis RT1250 has a fully programmable B-axis (0.001°) and utilises Renishaw probing.

Machine specification	Metric	Imperial
Quantity of machine type	3	
Pallet size	1,250mm x 1,600mm	49" x 63"
Travel X - Y - W	2,500mm / 2,100mm / 1,500mm	98" / 82" / 59"
Quill travel	1,250mm	49"
Tool holder	ISO50	
Tool magazine	60 tools	
Attachments facing head	CH8-CH16	
ITS out feed bars	S12, S20, S40	



# UNION TC130

The Union TC130 machine has a programmable B-axis along with centreline right angled milling heads.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Pallet size	1,250mm x 1,600mm	49" x 63"
Travel X - Y - W	2,000mm / 2,000mm / 1,500mm	78" / 78" / 59"
Quill travel	750mm	29"
Tool holder	ISO50	
Attachments facing head	CH16	



# MAZAK FH10800

The Mazak FH10800 machine has a fully programmable B-axis and uses a Renishaw probing system.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Pallet size	1,000mm x 1,000mm twin pallet	39" x 39" twin pallet
Travel X - Y - Z	1,700mm / 1,400mm / 1,525mm	67" / 55" / 60"
Tool holder	ISO50	
Tooling magazine	120 tools	
Attachments D'Andrea head	TAC200	



## GIDDINGS AND LEWIS VTC2000

The Giddings and Lewis VTC2000 machine has a programmable crossrail and uses a Renishaw probing system.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Chuck diameter	2,000mm	79"
Maximum throw	2,540mm	100"
Length of RAM	1,750mm	69"
Tooling carousel	24 station	
Tool type	32mm/ 40mm section Capto C8	



## TOSHULIN FORCETURN 3000

The Toshulin Forceturn 3000 machine has a programmable crossrail and boasts an impressive 3,000mm chuck and RAM travel of 2,500mm.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Chuck diameter	3,000mm	118"
RAM travel	2,500mm	98"
Tooling magazine	40 tools	
Tool type	Capto C10	
Height under rail	3500mm	
Maximum machining diameter	3700mm	



## GIDDINGS AND LEWIS VTC1000

The Giddings and Lewis VTC1000 has a number of cross-slide positions which can accommodate a wide range of parts. It also uses a Renishaw probing system.

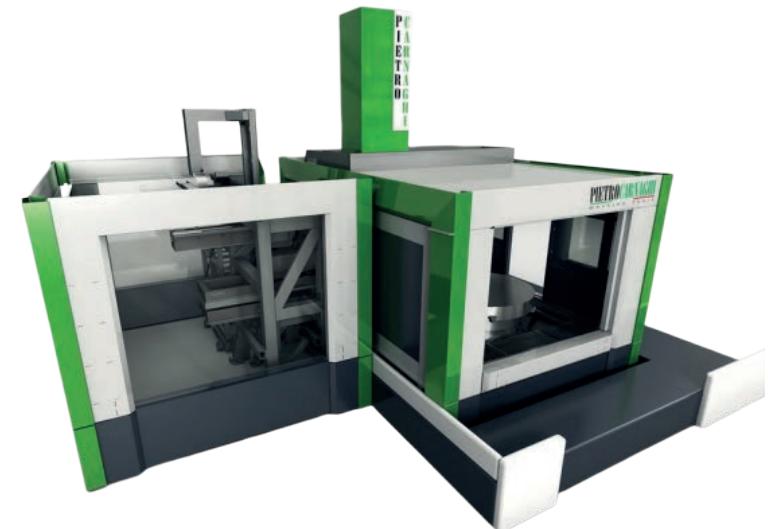
Machine specification	Metric	Imperial
Quantity of machine type	1	
Chuck diameter	1,000mm	39"
Maximum throw	1,320mm	52"
Length of RAM	1,000mm	39"
Height under bridge	1,200mm	47"
Tooling carousel	25 station	
Tool type	Capto C8 32mm/40mm section	



# PIETRO CARNAGHI FLEXTURN 25W

The Pietro Carnaghi Flexturn 25W comes with a six pallet FMS system. It also has a full 2,100mm Y-axis stroke with a continuous B-axis milling head, giving the machine full five-axis capability. The machine uses Renishaw probing for both work piece and tool.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Envelope	Ø2,500mm x 1,700mm	Ø98" x 67"
Chuck diameter (four jaw)	1,600mm (3 off)	63" (3 off)
Maximum job load	8,000kg	17,637lbs
Pallet	1,600mm x 1,800mm (3 off)	63" x 71" (3 off)
RAM travel	1,100mm	43"
Crossrail travel	1,000mm	39"
D'Andrea head	UT 5-500 x 2	
Tool magazine	252 tools with Balluff tool ID	
Tool type	Capto C8	



# TOSHULIN POWERTURN 1600APC

The Toshulin Powerturn 1600APC allows for the milling and turning of high accuracy components. The machine comprises of a programmable crossrail and uses the Renishaw probing system.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Chuck diameter	1,600mm	63"
Maximum throw	2,000mm	79"
Length of RAM	1,500mm	59"
Height under bridge	1,845mm	73"
Tooling carousel	95 station	
Tool type	Capto C6 Capto C8	
Attachments	Radial mount D'Andrea u-tronic 360 contouring head Radial mount driven spindle Radial mount driven spindle Y-axis +/- 200mm Axial mount driven spindle	



# HERMLE C62U MT

The Hermle C62U MT is capable of machining 2,500kg with a collision circle of up to 1,400mm diameter. This machine can also mill and turn five-axes simultaneously.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Rotary table	1,200mm	47.24"
Tooling carousel	128 tool pockets	
Tool type	HSK-T100	
Working area	X 1,200mm Y 1,300mm Z 900mm	X 47.24" Y 51.18" Z 35.43"



## EXTRA LARGE MACHINES

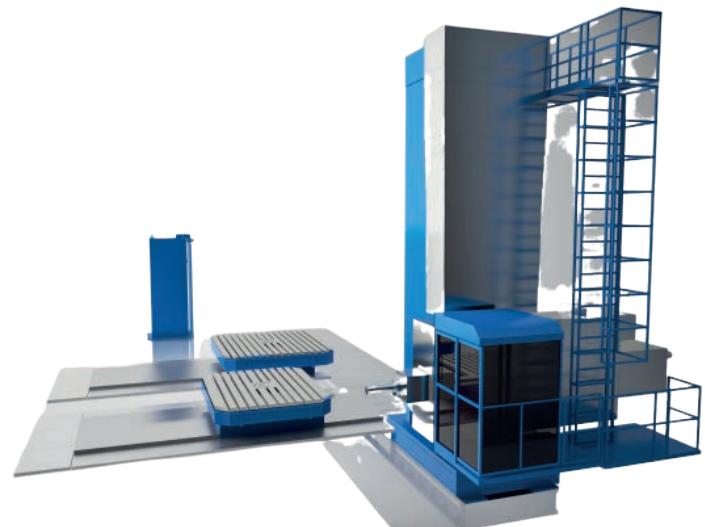
37 Skoda HCW2 Floor Boring Mill



# SKODA HCW2 FLOOR BORING MILL

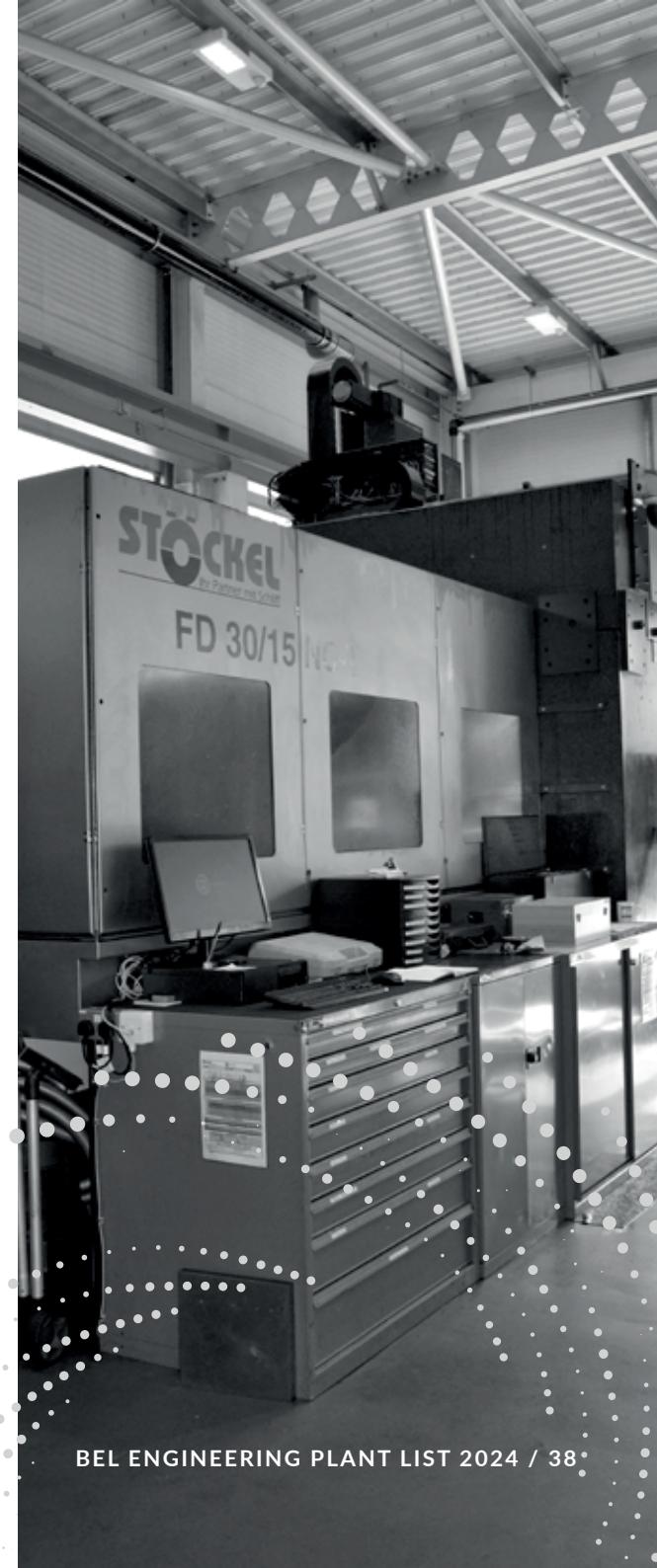
The Skoda HCW2 floor boring machine has a fully programmable B-axis on each table. The two tables can be synchronised and used together as one fixed table.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Envelope	X 10,000mm Y 4,000mm Z 3 000mm	X 39" Y 157" Z 118"
Table 1	3,000mm x 3,000mm	118" x 118"
Table 2	2,500mm x 2,000mm	98" x 79"
RAM travel	1,300mm	51"
Quill travel	1,200mm	47"
Tooling carousel	80 station	
Tool type	ISO60	
Attachments	Skoda IWD700 turning attachment Skoda IFVW101 right angled milling head Prepared for ITS out feed bars	



## GRINDING/EDM MACHINES

- 39** Schaudt PF81 Cylindrical Grinder
- 40** Studer S41 Cylindrical Grinder
- 41** Studer S33 Cylindrical Grinder
- 42** Stokel FD 30/15 NC-T Surface Grinder
- 43** Stokel FD 1060 NC-T Surface Grinder
- 44** Taiyo Koki Vertical Grinder
- 45** Cleveland Lapping Machine
- 46** Kemet 24 Lapping Machine
- 47** AgieCharmilles Cut P 800 Machine



## SCHAUDT PF81 CYLINDRICAL GRINDER

The Schaudt PF81 has diatonic in-cycle measurement and contouring capability. A small slotting attachment can be added to the machine in order to grind splines.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Envelope	Ø1,000mm x 3,000mm	Ø39" x 118"
Maximum grinding diameter	700mm	28"
Maximum grinding length	3,000mm	118"



## STUDER S41 CYLINDRICAL GRINDER

The Studer S41 is a universal cylindrical grinding machine for the machining of large components. It has a distance of 1,600mm between centres and can machine components up to 250kg in weight. It also has a C-axis for the work head, enabling form and thread grinding, and the capability to grind polygons.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Maximum travel X	350mm	14"
Maximum travel Y	100mm	4"
Maximum travel Z	1,150mm	45"
Maximum work piece diameter	Ø549mm	Ø22"
Maximum work piece length	1,600mm	63"
Maximum work piece weight	250kg	551lbs



# STUDER S33 CYLINDRICAL GRINDER

The Studer S33 uses part probing for component set up and has two external grinding spindles with the capability to thread grind.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Max travel X	370mm	14.56"
Max travel Z	1150mm	45.27"
Envelope	254mm	10.0"
Maximum workpiece diameter	349mm	13.74"
Maximum workpiece length	1000mm	39.37"
Maximum workpiece weight	150kg	330lbs



# STÖKEL FD 30/15 NC-T SURFACE GRINDER

The Stokel FD 30/15 NC-T surface grinder has a high stability granite table, with an accuracy of 0.001mm.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Envelope	X 3,250mm Y 1,500mm Z 700mm	X 128" Y 59" Z 28"
Table	3,000mm x 1,500mm	118" x 59"
Maximum load	7,000kg	15,432lbs



# STÖKEL FD 1060 NC-T SURFACE GRINDER

The Stokel FD 1060 NC-T surface grinder has a high stability granite table, with an accuracy of 0.001mm.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Envelope	X 1,200mm Y 600mm Z 500mm	X 47" Y 24" Z 20"
Table	1,000mm x 600mm	39" x 24"
Maximum load	750kg	1,653lbs



## TAIYO KOKI VERTICAL GRINDER

The Taiyo Koki vertical grinder allows for the high accuracy of grinding internal diameter (ID), outside diameter (OD) and face. The chart below shows the maximum grinding length but this is restricted by the size of the inner diameter.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Range of grinding ID	Ø50mm - Ø800mm	Ø2" - Ø31.4"
Range of grinding OD	Ø800mm	Ø31.4"
Maximum grinding length	500mm	19.6"



# CLEVELAND LAPPING MACHINE

The Cleveland machine automatically dispenses lapping fluid.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Table	Ø2,000mm Ø790mm bore conditioning rings	Ø79" Ø31" bore conditioning rings



## KEMET 24 LAPPING MACHINE

The Kemet 24 machine automatically dispenses lapping fluid.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Table	Ø310mm Ø240mm bore conditioning rings	Ø12" Ø9" bore conditioning rings



# AGIECHARMILLES CUT P 800 MACHINE

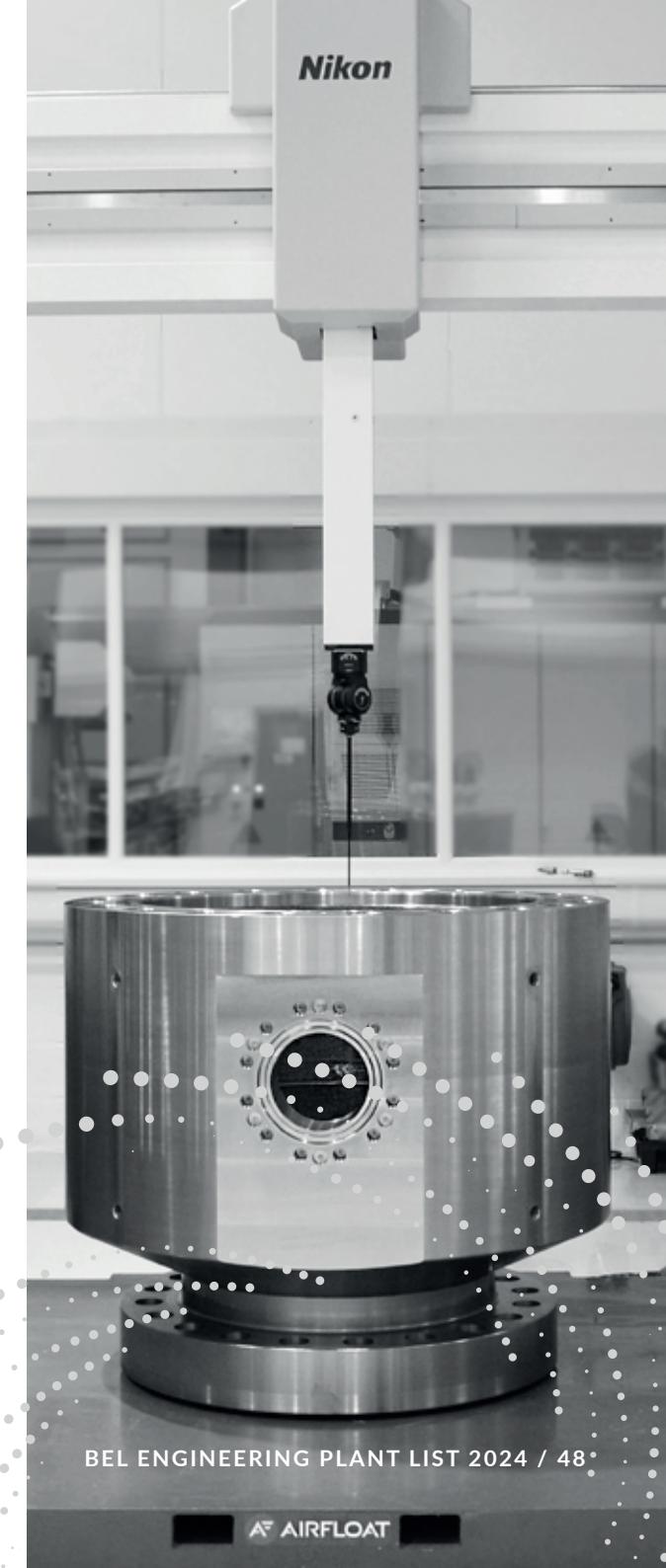
With reliable mechanics, advanced technology features and a new HMI, the CUT P 800 delivers unmatched precision and performance for EDM application.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Envelope	X 2,670mm Y 2,870mm Z 2,645mm	X 105" Y 113" Z 104"
Maximum workpiece dimensions	X 1,300mm Y 950mm Z 510mm	X 51" Y 37" Z 20"
Maximum load	3,000kg	6,614lbs
Travel	X 800mm Y 550mm Z 510mm	X 31" Y 22" Z 20"



## CMM MACHINES

- 49 Jenoptik Opticline C914 machine
- 50 LK Altera 8.7.6 machine
- 51 Nikon Evolution 20.15.15 machine
- 52 Nikon Ultima 50.35.25 machine



# JENOPTIK OPTICLINE C914 MACHINE

The Opticline C series shaft measuring systems offer maximum gauge repeatability and reproductability from 1 µm. An individual camera offers bidirectional measurement for workpiece diameters of up to 80 mm.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Envelope	X 700mm Y 840mm Z 1,655mm	X 28" Y 33" Z 65"
Machine limits	X 150mm Y 900mm Z 600mm	X 6" Y 35" Z 24"
Measuring capacity	140mm dia 900mm length	309" 1984"



## LK ALTERA 8.7.6 MACHINE

One machine with accuracy of  $1.5\mu\text{m}$  and repeatability of  $1.5\mu\text{m}$ , plus a high accuracy machine with accuracy of  $0.7\mu\text{m}$  and repeatability of  $0.5\mu\text{m}$ , both machines are capable of surface scanning.

Machine specification	Metric	Imperial
Quantity of machine type	2	
Envelope	X 1,673mm Y 1,460mm Z 2,705mm	X 66" Y 58" Z 107"
Machine limits	X 813mm Y 711mm Z 610mm	X 32" Y 28" Z 24"
Maximum load	378kg	833lbs



## NIKON EVOLUTION 20.15.15 MACHINE

With accuracy of 2.2 $\mu$ m and repeatability of 2.0 $\mu$ m, the machine is capable of surface scanning with a thermally stable ceramic bridge.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Envelope	X 3,225mm Y 2,347mm Z 4,525mm	X 127" Y 92.4" Z 178"
Machine limits	X 2,032mm Y 1,525mm Z 1,525mm	X 80" Y 60" Z 60"
Maximum load	1,650kg	3,638lbs



# NIKON ULTIMA 50.35.25 MACHINE

With accuracy of 4.5 µm and repeatability of 4.5 µm, the machine is fitted with a Renishaw Revo head for 5 axis measuring capability.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Machine limits	X 4,064mm Y 3,556mm Z 2,540mm	X 160" Y 140" Z 100"
Maximum load	10,000kg	22,046lbs



## THREAD ROLLING CAPABILITY

54 Evirt Italia Planar 80 Machine



## EVIRT ITALIA PLANAR 80 MACHINE

Controlled with two dies and two sliding heads, this machine is equipped with two rolling heads used for rolling or forming.

Machine specification	Metric	Imperial
Quantity of machine type	1	
Maximum die diameter	305mm	12"
Maximum rolling diameter	180mm	7.08"
Maximum infeed rolling length	300mm	11.8"



# TRAINING SCHOOL

56 Okuma M460-5AX  
DMG Mori M1  
Kitamura HX250G  
Mori Seiki NL2500  
Mori Seiki NL2500Y  
Studer S20-12  
Manual Machines



## OKUMA M460-5AX

The Okuma M460-5AX is a vertical 5 axis milliing machine.

## DMG MORI M1

The DMG Mori M1 is a vertical 3-axis milling machine equipped with a 4th axis rotary table.

## KITAMURA HX250G

The Kitamura HX250G is a twin pallet horizontal 4-axis milling machine.

## MORI SEIKI NL2500

The Mori Seiki NL2500Y is equipped with a 2-axis lathe with a programme tailstock.

## MORI SEIKI NL2500Y

The Mori Seiki NL2500Y machine is equipped with programmable tailstock and driven tooling giving the machine C and Y-axis capabilities.

## STUDER S20-12

The Studer S20-12 machine is a universal cylindrical grinding machine.

## MANUAL MACHINES

Jones and Shipman 540 Surface Grinding Machine

XYZ 1550 Centre Lathe

Harrison V390 Centre Lathe

XYZ 3000 Turret Mill



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