



HEAVY MACHINING

CNC Kolb Cubimat

CNC Okuma MCM-B

CNC G.A. Gray Boring Mill, 8 in. Spindle

Niles Planer, 23 ft.



**See Reverse Side
For Specifications**

BORING

CNC Devlieg Jigmill, 6 in. Spindle

CNC Devlieg Jigmill, 5 in. Spindle

CNC Devlieg, 4 in. Spindle



HEAVY MACHINING & BORING EQUIPMENT & SPECIFICATIONS

Item	English	Metric
<u>Kolb Cubimat 1000 Machining Center</u>		
Maximum 'X' travel limit	236.3 in.	6000 mm
Maximum 'Y' travel limit	137.8 in.	3500 mm
Maximum 'Z' travel limit	49.2 in.	1250 mm
Maximum rail travel limit	78.7 in.	2000 mm
Table dimensions	197 in. x 98 in.	5000 mm x 2500 mm
Maximum part weight	132300 lbs.	60,000 kg
Motor rating (power)	67 hp	50 kW
<u>CNC Okuma MCM-B 20E</u>		
Maximum 'X' travel limit	157.48 in.	4000 mm
Maximum 'Y' travel limit	106.3 in.	2700 mm
Maximum 'Z' travel limit	31.50 in.	800 mm
Maximum rail travel limit	48.03 in.	1220 mm
Table dimensions	149.61 in. x 59.06 in.	3800 mm x 1500 mm
Maximum part weight	35,200 lbs.	16,000 kg
Motor rating (power)	30 hp	22 kW
<i>*Machines have a fully indexable spindle rotary head attachment with incremental resolution. These machines are capable of 5-axis machining, 4-axis simultaneously. 40-ton overhead crane service.</i>		
<u>G.A. Gray - CNC 8" Spindle Horizontal Boring Mill - Floor Type</u>		
Maximum 'X' travel limit	34 ft.	10363 mm
Maximum 'Y' travel limit	13 ft. 4 in.	4064 mm
Ram travel 'Z' limit	48 in.	1219 mm
Spindle travel 'W' limit	84 in.	2134 mm
Ram size	22 in. x 31 1/2 in.	559 mm x 800 mm
Floor Plate	30 ft. x 40 ft.	9144 mm x 12,192 mm
<i>*Machine is equipped with angle head attachment and indexable tables. Overhead crane capacity is 150 tons.</i>		
<u>Devlieg 4" 5" 6" Horizontal Boring/Jig Mills</u>		
Maximum 'X' travel limit	72 in. to 168 in.	1829 mm 4267 mm
Maximum 'Y' travel limit	48 in. to 108 in.	1219 mm to 2743 mm
Maximum 'Z' travel limit	21 in. to 36 in.	533 mm to 914 mm
Maximum 'W' travel limit	15 in. to 67.5 in.	381 mm to 1714 mm
Maximum table length	72 in. to 144 in.	1829 mm to 3658 mm
Maximum table width	48 in. to 70 in.	1219 mm to 1778 mm
Motor rating (power)	7.5 hp to 20 hp	6 kW to 15 kW
Maximum weight on table	3500 lbs. to 60,000 lbs.	1600 kg to 27,000 kg
<i>*5 in. and 6 in. machines are capable of 3-axis machining plus have an N.C. head attachment for additional axis.</i>		
<u>Planer - Dbl. Housing Niles</u>		
Table width	12 ft.	3657 mm
Table length	26 ft.	7924 mm
Maximum distance between columns	22 ft. 10 in.	6959 mm
Maximum height under rail	15 ft.	4572 mm

NM Contract Manufacturing, 161 Greenfield St., Tiffin, Ohio USA 44883-2471

Telephone: +1 (419) 443-4825 Fax: +1 (419) 443-2199

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HORIZONTALS

Makino MC65

Makino MC1210

Makino MC1513

Makino A88

Makino A100E

CNC Heller

VERTICALS

CNC Heller

CNC Leblond Makinos

CNC Matsuura

CNC Mazak AJV

**See Reverse Side
For Specifications**



CNC MACHINING CENTERS EQUIPMENT & SPECIFICATIONS

Horizontals	English	Metric
<u>Makino A100E</u>		
Axis travel X, column longitudinal	66 in.	1700 mm
Axis travel Y, spindle vertical	53.1 in.	1350 mm
Axis travel Z, table cross	55.1 in.	1400 mm
Spindle drive motor (duty rated)	40 hp AC	30 kW AC
<u>Makino A88 Machining Center</u>		
Maximum 'X' travel limit	35.4 in.	900 mm
Maximum 'Y' travel limit	31.4 in.	800 mm
Maximum 'Z' travel limit	38.1 in.	970 mm
<u>Makino MC65 Machining Center</u>		
Maximum 'X' travel limit	25 in.	635 mm
Maximum 'Y' travel limit	22 in.	560 mm
Maximum 'Z' travel limit	20 in.	508 mm
Maximum part weight	2200 lbs.	1000 kg
<u>Makino MC1210 Machining Center</u>		
Maximum 'X' travel limit	47.2 in.	1200 mm
Maximum 'Y' travel limit	39.3 in.	1000 mm
Maximum 'Z' travel limit	31.5 in.	800 mm
Maximum 'W' travel limit	11.8 in.	300 mm
Motor rating (power)	30 hp	22 kW
<u>Makino MC1513 Machining Center</u>		
Maximum 'X' travel limit	59 in.	1500 mm
Maximum 'Y' travel limit	51.2 in.	1300 mm
Maximum 'Z' travel limit	39.3 in.	1000 mm
Maximum 'W' travel limit	11.8 in.	300 mm
Maximum part weight	6600 lbs.	3000 kg
Verticals		
<u>Matsuura Vertical Machining Center</u>		
Maximum 'X' travel limit	41.3 in.	1050 mm
Maximum 'Y' travel limit	20 in.	510 mm
Maximum 'Z' travel limit	17.7 in.	450 mm
Maximum part weight	2200 lbs.	1000 kg
<u>Mazak AJV Vertical Milling Center</u>		
Maximum 'X' travel limit	59.0 in.	1500 mm
Maximum 'Y' travel limit	27.5 in.	700 mm
Maximum 'Z' travel limit	19.7 in.	500 mm



**NM Contract
Manufacturing**

Turning

CNC G & L Vertical Turning Center

CNC Mazak Integrex 35

CNC Mazak QT35

CNC Mazak QT40

CNC Mazak SL50

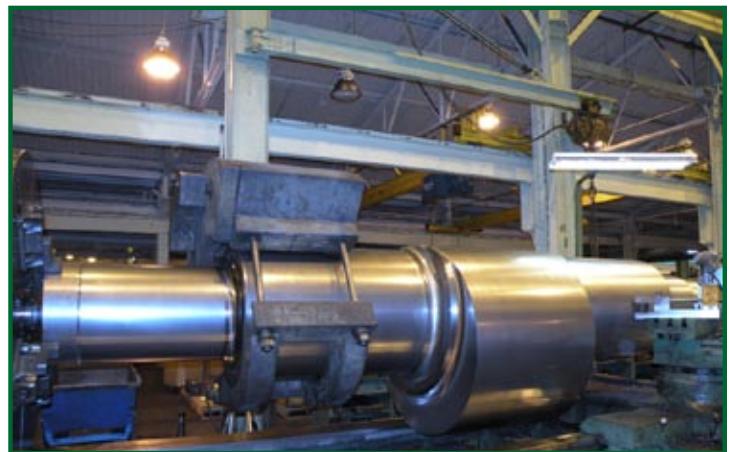
CNC Mazak Integrex 70

Engine Lathes up to 32 in.

Betts 74 in. diameter

King 100 in. diameter

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TURNING

EQUIPMENT & SPECIFICATIONS

Item	English	Metric
<u>G & L VTC 1600</u>		
Magnetic chuck diameter	63 in.	1600 mm
Maximum swing	78.75 in.	2000 mm
Maximum part weight	70,000 lbs.	
Maximum RPM	400	
ATC capacity	26 Tools	
Parts probe	Yes	
<u>Mazak Integrex 70 Turning Center with Power Tools</u>		
Maximum chuck diameter	22.6 in.	575 mm
Maximum length between centers	106.3 in.	2700 mm
Motor rating (power)	70 hp	52.2 kW
<u>Mazak SL50 Turning Center</u>		
Maximum chuck diameter	24.8 in.	630 mm
Maximum swing over bedways	26 in.	660 mm
Maximum length between centers	116 in.	2946 mm
Motor rating (power)	50 hp	37 kW
<u>Mazak QT35 Turning Center</u>		
Maximum chuck diameter	14.5 in.	368 mm
Maximum swing over bedways	15.75 in.	400 mm
Maximum length between centers	60 in.	1524 mm
Motor rating (power)	35 hp	26 kW
<u>Mazak Integrex 35 Turning Center with Power Tools</u>		
Maximum chuck diameter	9.8 in.	250 mm
Maximum length between centers	50 in.	1270 mm
Maximum barfeed diameter	3 in.	76.2 mm
Maximum barfeed length	12 in.	305 mm
Motor rating (power)	35 hp	26 kW
<u>Engine Lathes</u>		
American	41 in. dia. x 15 ft. length	1041 mm dia. x 4572 mm length
Betts	74 in. dia. x 20 ft. length	1880 mm dia. x 6096 mm length
<u>Vertical Boring Mill</u>		
King	100 in. dia. x 72 in. length	2540 mm dia. x 1829 mm length



CYLINDRICALS

CNC REFORM™ Non-Round Cylindrical Cam Grinder/Mill

CNC Studer S40 Non-Round Cylindrical Grinder

Wontan I.D. Grinder

Unison U-12 Centerless Grinder

SURFACE

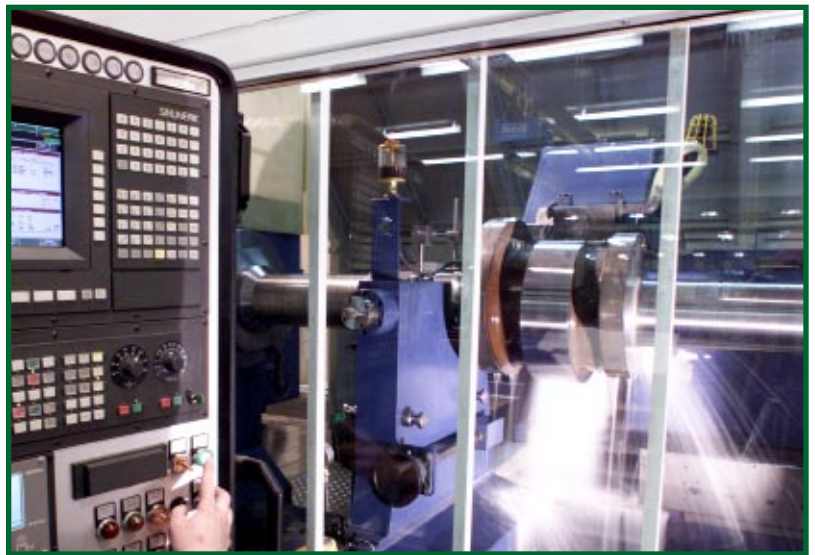
CNC ELB B10

CNC ELB D20

ROTARY SURFACE

Mattison 84 in. diameter

Blanchard 36 in. diameter



**See Reverse Side
For Specifications**



GRINDING EQUIPMENT & SPECIFICATIONS

Item	English	Metric
<u>REFORM™ Non-Round Cylindrical Cam Grinder/Mill</u>		
Maximum diameter	39.4 in.	1000 mm
Maximum length	118.1 in.	3000 mm
Maximum part weight	10,000 lbs.	4536 kg
Motor rating (power)	50 hp	37 kW
Other information: 9 programmable axes, 3 grinding heads, & 1 milling head		
<u>CNC Studer S40</u>		
Maximum part diameter	15.75 in.	400 mm
Maximum length	63 in.	1600 mm
Maximum weight	290 lbs.	130 kg
Grinding capabilities: external, internal, C-axis, B-Axis .001-degree increments		
Studer form high-speed software allows programming and grinding of non-round geometries and cams.		
<u>Wontan I.D. Grinder</u>		
Maximum I.D.	18 in.	457.2 mm
Maximum length	12 in.	304.8 mm
<u>Unison U-12 Centerless Grinder</u>		
Maximum diameter	3.0 in.	76.2 mm
Minimum diameter	0.125 in.	3.2 mm
Maximum length	36.0 in.	914 mm
<u>ELB B10 Surface Grinder</u>		
Maximum length	39.4 in.	1000 mm
Maximum width	19.7 in.	500 mm
Maximum height	23.6 in.	600 mm
<u>ELB D20 Surface Grinder</u>		
Maximum length	78.7 in.	2000 mm
Maximum width	39.4 in.	1000 mm
Maximum height	37.4 in.	950 mm
<u>Blanchard No. 18 Rotary Surface Grinder</u>		
Chuck diameter	36.0 in.	914.4 mm
Maximum height	30.0 in.	762.0 mm
<u>Mattison No. 84 Rotary Surface Grinder</u>		
Chuck diameter	84.0 in.	2133.6 mm
Maximum height	30.0 in.	762.0 mm