

REASONS FOR MORRIS AND OKUMA

○ Okuma America Corporation

- Largest Publicly Traded Machine Tool Company in the World
- 2,200+ Employees, APPROACHING \$2B Annual Sales, FINANCIALLY SECURE
- \$125M+ Spare Parts Inventory including nearly \$50M in North America
- Q24 FedEx Based Quick-Ship Program for Unique Parts from Japan
- 30+ Year relationship with Morris Group, Inc.
- Okuma "ONE-SOURCE" - Machine, Control, Motors, Drives all manufactured & Supported by Okuma
- Charlotte, NC headquarters with significant Support Infrastructure
- 175+ USA based employees, established in late 1970's

○ Okuma LB3000EX-// Series CNC Turning Center

- Rigid, Slant-Bed, Box-Way Construction
- OKUMA Thermo Friendly Concept
- Less than 5µm dimensional change over time
- Small floor footprint
- Large Spindle Thru Hole Diameter
- New High-Power, High-Torque PREX Motors
- Top Rotation Speed, Horsepower, and torque in its class
- P300L THiNC Control common across the product line
- Windows Operating system with 160 GB internal hard drive
- Designed for the ultimate in precision parts
- Never a need to home the machine

MACHINE INVESTMENT SUMMARY

Qty (1) Okuma LB3000EX-// MYW x 800– CNC Turning Center

- o Standard USA Machine configuration per specifications
- o 2-Axis Lathe with Sub-Spindle, 800 mm Bed, Milling Function, and Y-Axis
- o Includes the following key features and options

A. Key Capacities & Sizes

- o Swing over Bed: 22.83"
- o Swing over Saddle: 18.50"
- o Distance Between Centers (no chuck, spindle nose to spindle nose): 42.72"
- o Max Recommended Turning Diameter: 13.39"
- o Max Recommended Turning Length between Spindles: 32.18"
- o X-Axis Travel: 10.24"
- o Y-Axis Travel: 4.72" (+2.76/-1.97)
- o Z-Axis Travel: 39.76"
- o W-Axis Travel (Sub-Spindle): 35.24"
- o Rapid Travels IPM: : X (984); Y (492); Z (1,181)
- o Axis Thrust lbs.: X (1,506); Z (1,258)
- o Coolant Tank: 68.7 gallons
- o Floor Space (W x D x H): 133" x 80" x 89" (without conveyor)
- o Weight: 15,070 lbs.

B. Controller – OSP P300L THiNC

- o 15" Color LCD Screen Included
- o 160GB Hard Disk Included
- o Windows XP Pro Operating System Included
- o Ethernet + 4 (USB Ports) Included
- o 0.1 Micron Control (1 micron is standard) 1,860
- o C-Axis Synchronize Function (Synch Main and Sub when Milling) 6,400
- o Collision Avoidance System (CAS) – M Version 10,620
- o Common Variables (200 sets) Included
- o Helical Cutting Function for MY 1,120
- o Inch/Metric Switchable Included
- o LAP-4 (canned lathe cycles and subroutine calling) Included
- o Load Monitor Included
- o Message Function 560
- o NC Work Counter Included
- o Off Center Turning Function (Y-Axis) 1,800
- o Pitch Error Compensation Included
- o Rapid Traverse Override Switch (separate work feed and rapid controls) 2,040
- o Signal Tower Included
- o Synchronized Tapping, M-Spindle Included
- o Tool Life Management Included
- o Tool Offsets (32) Included
- o Tool Wear Compensation Included

C. Accuracy

- o Thermal Active Stabilization - Casting (TAS-C) Included

D. Main Turning Spindle (Left)

- o Standard Bore configuration (with Actuator, No Chuck) Included
 - Prex 2-Speed Motor by Winding, Integral Spindle Type
 - Spindle nose A2-6
 - 45-5000 RPM range
 - 30/20 HP, 258/176 ft-lbs torque, 15 min/continuous

- Spindle bearing ID 4.72", spindle bore 3.15"
 - Kitagawa Standard-Bore Chuck Actuation System (SS1770 Actuator with drawtube)
 - 2.598" draw tube ID
- o Big Bore configuration (With 10" Chuck / Actuator Package)..... 19,700
 - Prex 2-Speed Motor by Winding, Integral Spindle Type
 - Spindle nose A2-8
 - 42-4200 RPM range
 - 40/30 HP, 515/379 ft-lbs torque, 30 min/continuous
 - Spindle bearing ID 5.51", spindle bore 3.58"
 - Kitagawa Big-Bore Chuck Actuation System (SS1881 Actuator with drawtube)
 - 3.188" draw tube ID
 - Kitagawa BB210 Chuck, 10" Diameter, 3-Jaw Hydraulic Kitagawa Chuck
- o Royal Quick Grip Accu-Length Collet Chuck (QG-65 2.625" Capacity) with A2-8 Mount.....3,960
 - Royal Quick Grip QG-65 Installation Tool550
 - Qty. (3) Royal Quick Grip QG-65 Collet...293 Each879
- o C-Axis BrakeIncluded
- o Liquid cooled headstockIncluded

E. Sub - Spindle (Right)

- o Standard Bore configuration (with Actuator, NO Chuck).....Included
 - Prex 2-Speed Motor by Winding, Integral Spindle Type
 - Spindle nose 140mm Flat Nose
 - 45-6000 RPM range
 - 15/10 HP, 80/55 ft-lbs torque, 20 min/continuous
 - Spindle bore 2.44"
 - Kitagawa SS1243 Actuator with 1.69" Drawtube ID
- o Kitagawa B206 Chuck, 6" Diameter, 3-Jaw Hydraulic Kitagawa Chuck2,300
- o Chuck Air Blow Included
- o Royal Quick Grip Accu-Length Collet Chuck (QG-65 2.625" Capacity) with 140mm Mount3,960
- o Qty. (3) Royal Quick Grip QG-65 Collet...293 Each879
- o C-Axis Brake Included
- o Liquid cooled headstockIncluded
- o Fully Programmable W-Axis Motion Included

F. Turret

- o 12 Station Turret, Radial Type..... Included
 - Bolt-on Tool Holders
 - Non-lift hydraulic turret clamping, 13,488 lbf-ft clamping force
 - 9.76" curvic coupling
- o Milling-Function Spindle Included
 - 9.6/5.5 Hp, 45-6,000 RPM
 - ER32 Collet Capacity
 - C-axis control, 0.001 degree for turning spindle
 - Synchronized tapping function
- o Turret Middle Index Function (Mid-Stations cannot be used with High Press Coolant) Included

G. Tooling

- o Optional Velocity Static Tooling Package5,225
 - (2) 14.910.0.0208.0 OD 1.5" Main / Sub Tool holders
 - (1) 14.910.0.0212.0 Double OD 1.0" Main / Sub Tool holders
 - (1) 14.910.0.0231.0 Y Axis Double 1" Main / Sub Tool holders
 - (1) 14.910.0.0207 Cut-Off Holder
 - (3) Turret Plugs
- o (5) OKU0311132 ERA32 Live Z Offset Main or Sub Ext. Coolant19,475
- o (2) ER-32 Live Face Holder Main or Sub- Ext. Coolant (14.801.0.0046.0).....10,050

H. Probing

- o Tool Touch Setter – Manual Type Swing Down from Firewall..... Included

I. Coolant / Conveyor / Mist

- o Okuma High Output Flood Coolant System (.8 kW) Included

J. Miscellaneous Machine Options

- o Multi-Tap Transformer – 220 to 480V incoming line power / 208V output..... Included

K. Applications Engineering Assistance

- o At Customer:Included
 - Setup machine, options, work holding, tooling & accessories
 - Demonstrate all machine tool and accessory functions
 - Provide Training – Up to three (3) days on site
 - Life Long Learning at Windsor CT
 - Customer to sign final acceptance
 - Additional seven (7) days on site

L. Service Department Assistance

- o Full installation and commissioning at customer. Included
- o Two (2) Year Parts and (1) Year Labor Warranty (from date of machine installation) Included
- o Okuma 7/24/365 Response Program from Windsor, CT Included

M. Freight & Rigging

- o Transportation from Port to Morris Windsor or Local RiggerBy Portal
- o Transportation and Rigging to Final Location on Customer FloorBy Portal

*Note: All freight and rigging to be paid for by the customer

Total Investment for Above.....\$ 283,958