

# CLEVELAND

## VERTICAL MACHINING CENTER MODEL: M1600 / M1600L

### MACHINE FEATURES:

- Centroid M400 control with 15" LCD
- 24 tools ATC arm type
- 25 HP spindle motor, BT50 or CAT50 spindle taper
- 4,500 rpm spindle speed with spindle oil cooler
- Hardened & ground with Turcite-B coating guide way
- Double nut precision ball screws hardened & ground for high accuracy and long lasting
- FC30 Meehanite casting main frame with annealed & stress relieved for long term reliability
- 100% laser tested for positioning accuracy & repeatability
- 4 Box ways design on Y axis to provide maximum rigidity & stability
- Telescopic steel way covers on all three axes
- Tool box & tools
- Coolant system and air blast system
- Central lubrication system
- Built-in Quartz work light
- Rigid tapping (opt)
- **Portable hand wheel (opt)**



### **Specification**

|   |   |
|---|---|
| X / Y / Z travel: .....                   | 63" / <b>31.5"</b> / 31.5" (M1600)<br>63" / <b>39.3"</b> / 31.5" (M1600L) |
| Distance from spindle to column: .....    | <b>33.8"</b> (M1600)<br><b>41.7"</b> (M1600L)                             |
| Distance from spindle to table top: ..... | 6.7" ~ 38.1"  |

### **Working Table**

|                      |                 |
|----------------------|-----------------|
| Size (X / Y): .....  | 70.8" / 31.5"   |
| T-slot: .....        | 0.7" x 5 x 6.5" |
| Load capacity: ..... | 5500 lbs        |

### **Spindle**

|              |              |
|--------------|--------------|
| Motor: ..... | 25 HP        |
| Speed: ..... | 4,500 rpm    |
| Taper: ..... | CAT50 / BT50 |

### **Feed Rate**

|                        |                     |
|------------------------|---------------------|
| Rapid X / Y / Z: ..... | 420 / 420 / 360 ipm |
| Cutting: .....         | 240 ipm             |

### **ATC**

|   |                 |
|---|-----------------|
| Tool magazine capacity: .....             | Arm 24          |
| Max. tool dia. / adj. pocket empty: ..... | Ø 4.1" / Ø 8.6" |
| Max. tool length: .....                   | 13.7"           |
| Max. tool weight: .....                   | 33 lbs          |

### **General**

|  |                              |
|--|------------------------------|
| Power requirement: .....                 | 48 KVA                       |
| Pneumatic tank requirement (min.): ..... | 5 ~ 8 (5) kg/cm <sup>2</sup> |
| Coolant tank capacity: .....             | 74 gal                       |

### **Dimension & Weight**

|                  |                    |
|------------------|--------------------|
| L X W X H: ..... | 181" x 126" x 123" |
| Weight: .....    | 30,800 lbs         |

### Standard Accessories

|                            |                                 |                             |
|----------------------------|---------------------------------|-----------------------------|
| Booster (unclamp) cylinder | Auto lube                       | Air gun & spindle air blast |
| Full enclosure             | Coolant system                  | Halogen work light          |
| Telescoping way cover      | Power chain                     | Operation manual            |
| Tools & box                | Spindle chiller                 | Encoder set                 |
| Screw type chip auger      | Electric cabinet set w/ bracket | Arm type 24 tool atc system |

### Optional Machine Accessories

|          |   |
|----------|---|
| CK-105   | 52pcs Clamping Kit slot: 0.71" (18mm); stud: 5/8-11 |
| CP-MIST  | Mist Coolant System                                 |
| UG-MT15  | Upgrade to high torque Y and Delta Motor            |
| WISE-6   | 6" Angle Vise W/ Swivel Base (Import)               |
| C40RK-45 | Retention Knob Cat40, 45degree 20pcs                |
| CP-SP    | Coolant Through Spindle                             |

### Optional Software Accessories

|                                     |  |
|-------------------------------------|--|
| 10620                               | Compression tapping  |
| 10610                               | User definable Macros and sub programs [M98 & G65]             |
| 10851                               | Cutter compensation  |
| 10360                               | 4th axis software  |
| 10630                               | Unlimited part program size                                    |
| 10730                               | Intercon off-line conversational program (for your desktop PC) |
| 10810                               | Rigid tapping [G74 & G 84] (includes 10620)                    |
| 10850                               | Coordinate system rotation (CSR)                               |
| 10625                               | Scaling and mirroring [G50 & G51]                              |
| 10814                               | DXF in, CAD drawing input software                             |
| 10660                               | BCD tool change output   |
| 10740                               | Engraving software   |
| <hr/> Digitizing & Probing          |  |
| 10405                               | DP-4 probing package w/ CSR (10850)                            |
| 12486                               | DP-7 probing package w/ CSR (10850)                            |
| 10770                               | 2D & 3D digitizing software (requires 10405)                   |
| 10220                               | TT-1; Tool touch off kit                                       |
| 12468                               | TT-2; Tool touch off kit                                       |
| 10772                               | Tool room package (10405 & 10220 & 10600 work coordinate)      |
| <hr/> Manual Pulse Generators (MPG) |  |
| 11069                               | 100 Step MPG   |

**\*\* WE RESERVE THE RIGHT TO CHANGE DESIGN, COLOR, SPECIFICATIONS, OR PRICE WITHOUT NOTICE \*\***

# CLEVELAND MACHINERY SALES INC.

5000 BROOKPARK ROAD  
CLEVELAND, OHIO 44134

PHONE: 216-741-8900  
FAX: 216-741-8995

WEBSITE: [www.clevelandmachinery.com](http://www.clevelandmachinery.com) EMAIL: [sales@clevelandmachinery.com](mailto:sales@clevelandmachinery.com)