

VMC 500/750/1000 VERTICAL MACHINING CENTER



DURABLE
FLEXIBLE
POWERFUL



Each VMC machine begins with precision ground heavy-duty casting mated together to the highest standards.

VERTICAL MACHINE CENTER

Phoenix Machine Tool Corporation offers the highest quality machine in the market today. Because of our stringent quality control standards our company ensures consistent product performance. Our doors open without obstruction which ensures easy and complete access for stock loading.

Let the size of your part dictate which VMC machine to purchase instead of what features are available. Our standard equipment is everyone else's options. Every VMC machine is designed from the castings up with all of

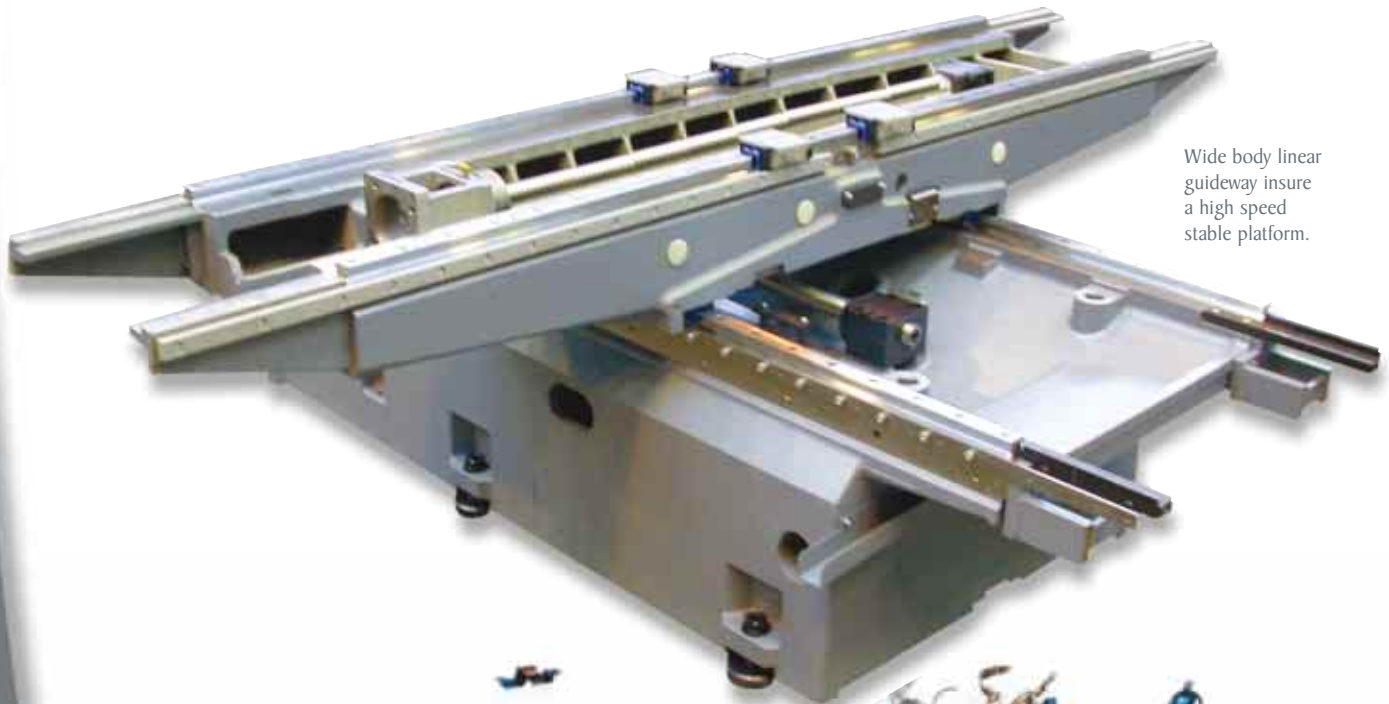
the customer desired features engineered as standard equipment.

Our philosophy is that no machine shop should be an island. All of your machines should have the capability to become one, and not be separated from the front office. Using our "Standard" Ethernet communications enables all of your business functions to be linked together. Phoenix machines meet and exceed all your part requirements. We stand behind our products ensuring they measure up to your expectations and ours.

STANDARD FEATURES

- ◆ PC-based 256Mb RAM and 4 Gig Hardened Hard Drive (easily expandable)
- ◆ 15" High Resolution LCD Color Display
- ◆ Linear Guide ways for High Speed Performance
- ◆ 700 inch per minute contouring
- ◆ Coolant through Spindle -700 PSI (field installed)
- ◆ Remote Handheld Pendant
- ◆ 500 Block Minimum feed forward and look-ahead for high speed or 3-D milling
- ◆ Networking with Ethernet Interface
- ◆ Carousel tool changer (20 tool or 40 tool options)
- ◆ High Speed Rigid Tap
- ◆ Auto Import of Files
- ◆ Programmable Wash Down

"2-YEAR WARRANTY"



Wide body linear guideway insure a high speed stable platform.



MACHINE CONTROL SYSTEMS

Phoenix machine control system features multi-processor architecture. The combination of a PC processor and our motion card's 32/64 bit floating point DSP CPU meets –and in many cases exceeds –the high performance operational functionality that was only on the world's best proprietary industrial grade machine tool controls. A true 32-bit native Windows 2000 applications, includes all necessary drivers and DLL's. Our controllers offer your operator the ability to download

programming files seamlessly using Ethernet connectivity to your company network. Our VMC models offer diagnostic features that allow your operator to monitor the I/O status, PLC flags and alarm/message logs. Programming allows rapid positioning in either, linear, or circular. We support third party software for creating status reports, blueprints, SPC documentation and printing reports.



STANDARD FEATURES

- ◆ 105 Work/Fixture Offsets
- ◆ Single Block & Block Skip
- ◆ Intuitive Error Messages
- ◆ Easy to Use Fanuc® Style Screens
- ◆ Supports Fanuc® Nurb Splines
- ◆ Easy to Connect LAN & Wan Networks
- ◆ 23 Defined M-Codes plus 37 Assignable M-Codes
- ◆ 42 G-Codes (Canned cycles, Coordinate Rotation, Coordinate System & Settings, Work Coordinates



- ◆ Tool Management Capabilities
- ◆ Optional Stop
- ◆ Feed Rate Override



- ◆ Rapid Override
- ◆ Jog Override
- ◆ Load Meter
- ◆ Multi-Lingual

CNC PROGRAMMING SIMPLIFIED... 3 STEPS

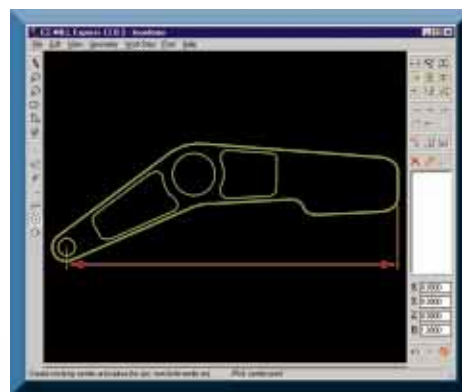
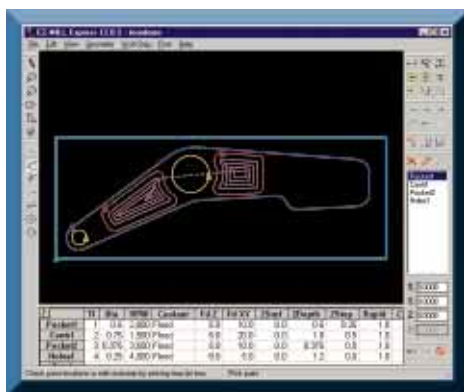
1... Create or Import Geometry

- ◆ Over One Hundred Supported Construction Cases
- ◆ Import IGES, DXF, and DWG Files



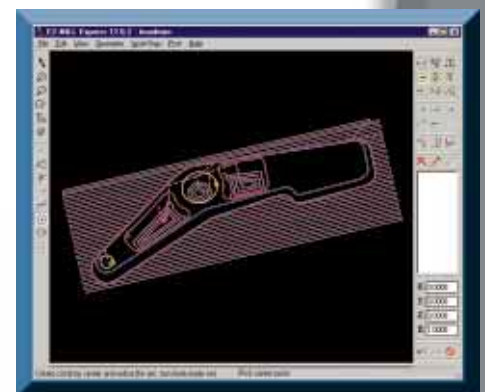
2... Set Parameters & Select Path

- ◆ Automatic Chaining
- ◆ Lettering
- ◆ Pocketing with Unlimited Islands



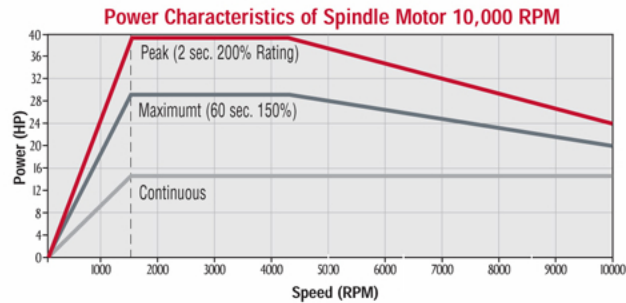
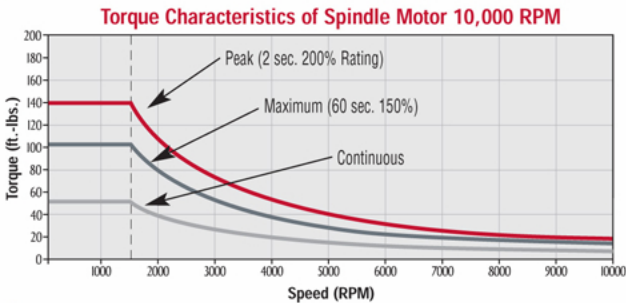
3... Verify Toolpath & Post G-Code

- ◆ 3-D Tool Path Simulation
- ◆ Check Estimated Cutting Times
- ◆ Solid Modeling



TORQUE AND POWER CHARACTERISTICS

| ISO (Metric) Units | | | | | |
|-------------------------------------|--------|-------------------------------------|---------|---------------------------|---------|
| Continuous Output Power (kW) | 11.0 | Maximum Output Power (kW) | 22.0 | Peak Output Power (kW) | 29.6 |
| Torque at Rated Speed (Nm) | 70.0 | Maximum Torque (Nm) | 140.1 | Peak Torque (Nm) | 188.4 |
| Rated Speed (RPM) | 1500.0 | Maximum Spindle Speed (RPM) | 10000.0 | Motor Maximum Speed (RPM) | 10000.0 |
| Maximum Power at Maximum Speed (kW) | 20.1 | Maximum Torque at Taper (Nm) | 50.2 | Speed at Taper (RPM) | 4185.0 |
| ISO (English) Units | | | | | |
| Continuous Output Power (HP) | 14.8 | Maximum Output Power (HP) | 29.5 | Peak Output Power (HP) | 39.7 |
| Torque at Rated Speed (lb. - ft.) | 51.7 | Maximum Torque (lb. - ft.) | 103.3 | Peak Torque (lb.-ft.) | 139.0 |
| Maximum Power at Maximum Speed (HP) | 20.1 | Maximum Torque at Taper (lb. - ft.) | 37.0 | Second Base Speed (RPM) | 4500.0 |



SPECIFICATIONS

| Technical Data | MCV 500 | MCV 750 | MCV 1000 |
|---|---|--------------------------------|--------------------------------|
| Table | | | |
| Clamping Surface | in. (mm) 31.5 x 19.7 (800 x 500) | 39.4 x 19.7 (1000 x 500) | 51.2 x 23.6 (1300 x 600) |
| T-Slots (number x width x spacing) | in. (mm) 3 at .71 x 4.9 (3 at 18 x 125) | 3 at .71 x 4.9 (3 at 18 x 125) | 5 at .71 x 4.9 (5 at 18 x 125) |
| Maximum Weight on Table | lbs. (kg) 900 (400) | 900 (400) | 1570 (700) |
| Working Range | | | |
| X-axis Travel | in. (mm) 19.7 (500) | 27.6 (750) | 40 (1016) |
| Y-axis Travel | in. (mm) 19.7 (500) | 19.7 (500) | 24 (610) |
| Z-axis | in. (mm) 19.7 (500) | 19.7 (500) | 26 (660) |
| Distance from Spindle Nose to Top Table | in. (mm) 5.9-25.6 (150-650) | 5.9-25.6 (150-650) | 5.9-31.9 (150-810) |
| Distance from Spindle Nose to Top Table | in. (mm) 20 (510) | 20 (510) | 25 (635) |
| Spindle | | | |
| Taper Size | ISO 40 | ISO 40 | ISO 40 |
| Speed Range | rpm 10 - 10,000 | 10 - 10,000 | 10 - 10,000 |
| Speed Control | vector drive dual winding | vector drive dual winding | vector drive dual winding |
| Feedrates | | | |
| Working X, Y, Z | in.-m. / min. 700 / 17.78 | 700 / 17.78 | 700 / 17.78 |
| Rapid X, Y, Z | in.-m. / min. 1100 / 27.94 | 1100 / 27.94 | 1100 / 27.94 |
| Tool Magazine | | | |
| Capacity | # of tools 20 (40) | 20 (40) | 20 (40) |

| Technical Data | MCV 500 | MCV 750 | MCV 1000 |
|----------------------------------|---------------------------|------------------|------------------|
| Tool magazine (cont.) | | | |
| Max. Tool Length | in. (mm) 10 (250) | 10 (250) | 11.8 (300) |
| Max. Tool Dia. | in. (mm) 3.15 (80) | 3.15 (80) | 3.15(80) |
| Max. Tool Dia.- 1 Empty Position | in. (mm) 6.3 (160) | 6.3 (160) | 6.3 (160) |
| Tool Change Time | sec 8 | 8 | 8 |
| Maximum Tool Weight | lb. (kg) 13.5 (6) | 13.5 (6) | 13.5 (6) |
| Motor | | | |
| Spindle Motor Output | HP 15/30/40 | 15/30/40 | 15/30/40 |
| Input | kVA 40 | 40 | 40 |
| Accuracy (VDI/DGQ 3441) | | | |
| X,Y,Z Measuring System | direct | direct | direct |
| Positioning Accuracy | in. (mm) .0001 (0,003) | .0001 (0,003) | .0002 (0,005) |
| X, Y, Z Measuring System | direct | direct | direct |
| Coordinate Setting Accuracy | in. (mm) .0006 (0,010) | .0006 (0,010) | .0008 (0,012) |
| Positioning Accuracy | in. (mm) .0002 (0,005) | .0002 (0,005) | .0003 (0,008) |
| Accuracy JIS B 6336 | | | |
| X, Y, Z Measuring System | direct | direct | direct |
| Accuracy | in. (mm) .00010 (±0,0025) | .00010 (±0,0025) | .00012 (±0,0030) |
| Repeatability | in. (mm) .00006 (0,0015) | .00006 (0,0015) | .00008 (0,0020) |
| X, Y, Z Measuring System | indirect | indirect | indirect |
| Accuracy | in. (mm) .00016 (±0,0040) | .00016 (±0,0040) | .0002 (±0,0050) |
| Repeatability | in. (mm) .00008 (0,0020) | .00008 (0,0020) | .00010 (0,0025) |
| Operating Air Pressure | psi (MPa) 87 (0,6) | 87 (0,6) | 87 (0,6) |

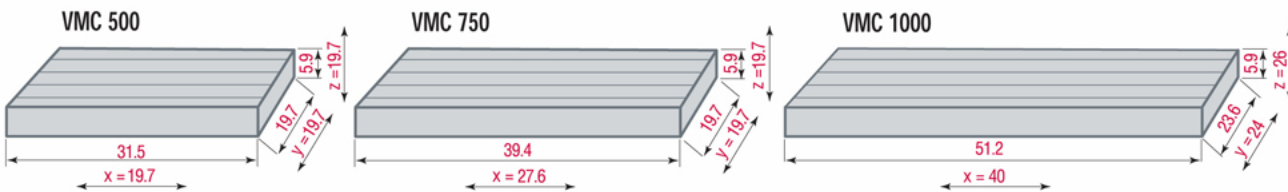
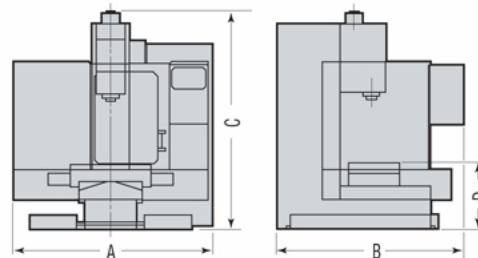


Table shown above is in english measurements. See table above for corresponding metric units.

| Model Specifications | MCV 500 | MCV 750 | MCV 1000 |
|----------------------|------------------------|--------------|---------------|
| Length (A) | in. (mm) 94 (2390) | 102 (2590) | 121 (3080) |
| Width (B) | in. (mm) 91.3 (2320) | 91.3 (2320) | 106 (2700) |
| Height (C) | in. (mm) 100 (2560) | 100 (2560) | 116 (2940) |
| Working Height (D) | in. (mm) 32 (820) | 32 (820) | 37 (940) |
| Weight | lbs. (kg) 8,100 (3600) | 9,000 (4000) | 12,375 (5500) |



NOTE: Phoenix Machine Tool Corporation is not responsible for the data on this page. All specs are subject to typical manufacturing tolerances.

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