

MCH-630

MCV-720

VERTICAL MACHINING CENTER

MVC-1020A

MCV-1800

MCV-1020BA

MCV-1250

MCV-1450

MCV-1700

MCV-2100

MCV-2600

DCM-2213



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The Latest and Best Quality Machinery.
DAHLIH®

The Ideal VMC for **Molds** and **Dies** Highest Quality with Utmost Accuracy!

MCV-1800

**Strength, High Rigidity
and Perfect Accuracy at All Times.**

This massive vertical machining center is especially ideal for sheet metal molds for automobiles and motorcycles, and medium and big sized molds for injection molding machines. In fact, wherever there is a demand of high speed and high precision machining. Its heavy duty rigid design and construction assure top accuracy and lifetime deformation-free. Four box ways on the base allow heavy loads to be supported firmly. The special nitrogen gas counter-balancing system features no noise and extremely stable motion. The latest advanced CNC control provides maximum reliability and ease of operation. Two-step gear transmission for the spindle produces the torque output you need. There is much more for you to learn about the Dah Lih's MCV-1800 Vertical Machining Center!



* The new enclosure is being modified, which is slightly different from that shown on the picture.



Rigid Massive Constructed Design for Lifetime Accuracy.



EXCELLENT PERFORMANCE SPINDLE

High torque and performance is achieved from the two step (low and high gear) spindle. Accuracy is assured at both high and low speeds.

Structural Features

- » Major machine parts are manufactured from rigid cast iron for maximum structural stability.
- » Double wall box type structure for column, bed and saddle. Scientifically rib reinforced for added rigidity, while reducing thermal strain to a minimum.
- » Four box ways on base assure solid support for heavy loads.
- » Symmetric and well counter-balanced design on the column assures precision machining.
- » Pre-tension ball screws on the 3 axes reduce thermal growth.



RUGGED CONSTRUCTION

- » The machine structure is designed and analyzed by advanced "Finite Element Analysis" to achieve the highest stability and rigidity, high speed travel and light weight.
- » Ball screws are pre-tensioned to reduce thermal deformation to a minimum.
- » Base, saddle and column structures are reinforced by V-shaped ribs with shortened stress lines. This fully eliminates rib deformation while assuring the maximum rigidity of the machine.
- » Saddle is supported four ways featuring uniform load distribution and minimum deformation.

PRECISE CUTTING HEADSTOCK

- » Spindle can be equipped with a coolant device which is ideal for deep hole drilling.
- » Easy chip removal. Specially-designed spindle is adaptable to all speeds and requirements.
- » Spindle bearing life is extended through the floating design of the tool unclamp unit.
- » Superior rigidity is achieved through the box-type construction of the headstock.
- » The specially-designed longer spindle makes using smaller tools much easier.

Excellent Technology and Outstanding Products - Surely, The Best Machine From Taiwan.



CAM TYPE MAGAZINE

» The CAM type magazine rotation is driven by a cylindrical cam for fast and dependable tool change. Tool loading capacity is 30 tools. Random tool selection provides highly efficient tool changing.



WORK LIGHT

Two quartz work lights provide lighting for the working area. They feature soft illumination without being irritating to the operator's eyes.



CHIP AUGER

During machining, chips are flushed and fall down to the chip auger for delivering to the chip conveyor. It efficiently removes chips to eliminate being affected by chip heat and keeps work area clean at all times.



TOOL KNOCKING DEVICE

» The tool knocking device with floating design features a buffering function which not only fully avoids damage to the spindle and bearings during tool release, but it also extends the service life of the spindle.

» Tool knocking motion is actuated by an air cylinder for efficient tool release.



NITROGEN GAS COUNTER-BALANCE

- » The newly designed nitrogen gas counter-balancing system employs an accumulator which does not require additional power.
- » No hydraulic power unit is required.
- » No noise, extremely stable motion, no resonance and greatly upgrades machining efficiency.
- » Easy to adjust servo parameters.



LATEST ADVANCED CNC CONTROLLER

Equipped with Fanuc, Heidenhain and others CNC controllers.



SPINDLE OIL COOLER

High speed and accurate machining is assured because of the spindle oil cooler. It prevents the spindle from getting variation and thermal deformation.



HEAT EXCHANGER FOR CONTROL CABINET

The high performance heat exchanger ensures a constant temperature inside the control cabinet. It provides protection for electronic components, controller and motor driver.

DAHLI

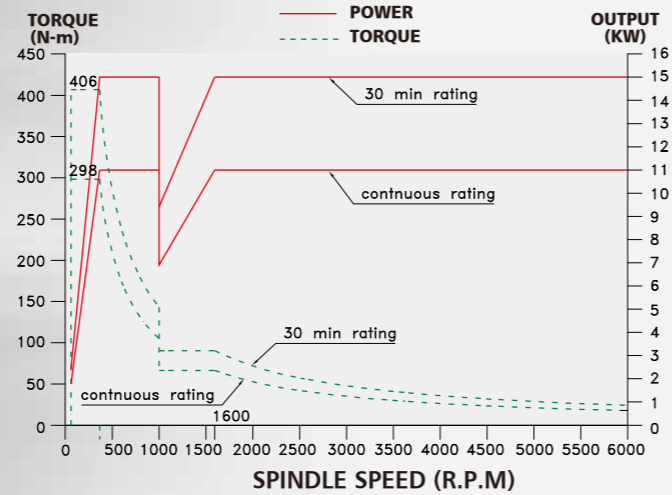
Rigid, Precise Spindle

6,000 RPM Precision Spindle Especially

High Speed! High Precision

- » Two speed ranges for the spindle transmission system provides full power output and high torque output at low speed range, allowing for heavy duty machining. High speed range fully meets high speed machining requirements.
- » The spindle runs on ceramic bearing to reduce spindle thermal deformation to a minimum.

SPINDLE POWER / TORQUE DIAGRAM (6,000 RPM)



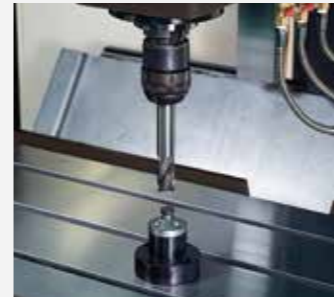
COOLANT AROUND SPINDLE

The coolant jets around the spindle effectively remove heat from the cutting tool and the workpiece ensuring high cutting accuracy.



More Powerful and Efficient Operations with Extra Optional Accessories

» OPTIONS



AUTOMATIC TOOL LENGTH MEASURING DEVICE



4TH AXIS CONTROL



4TH AXIS CONNECTOR



COOLANT THROUGH SPINDLE DEVICE



COOLANT WASH



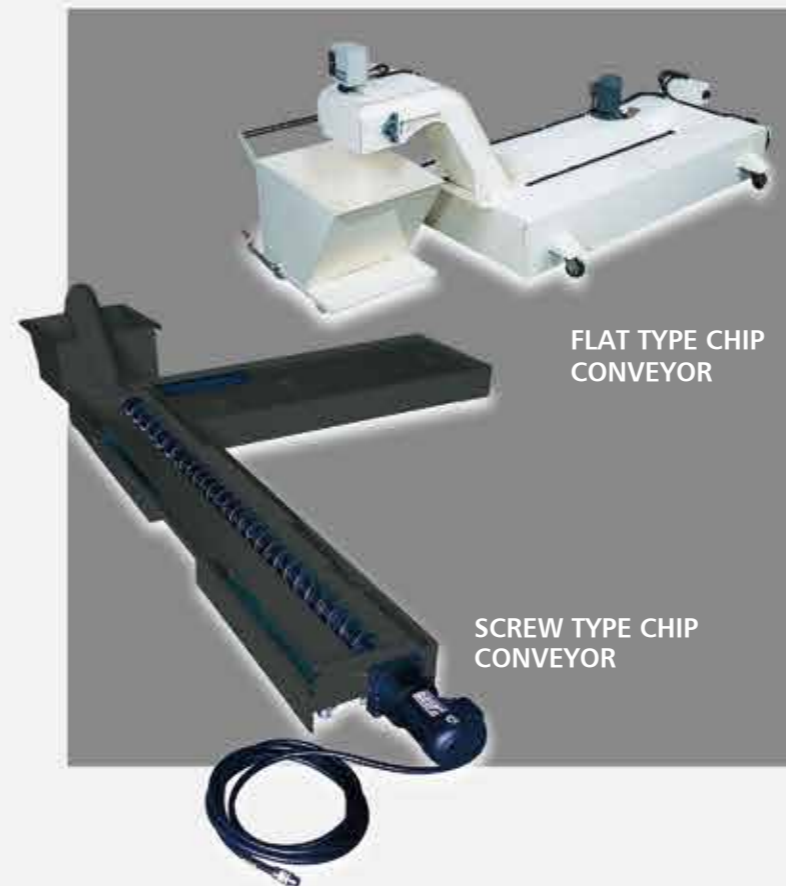
COOLANT THROUGH TOOL



FAST CAM ATC, 40 TOOLS



COOLANT & AIR GUN



FLAT TYPE CHIP CONVEYOR

SCREW TYPE CHIP CONVEYOR

| Cutting Shape | Material | Steelbelt Chip Conveyor | Screw Type Conveyor |
|---------------------|----------|--------------------------|--------------------------|
| Metallic Chip | | <input type="checkbox"/> | <input type="checkbox"/> |
| Cast Chip | | <input type="checkbox"/> | <input type="checkbox"/> |
| Curly Aluminum Chip | | <input type="checkbox"/> | <input type="checkbox"/> |
| Aluminum Chip | | <input type="checkbox"/> | <input type="checkbox"/> |
| Non-Metallic Chip | | <input type="checkbox"/> | <input type="checkbox"/> |

SPECIFICATIONS, ACCESSORIES AND DIMENSIONS

| SPECIFICATIONS | | | |
|--|-------------------------------------|---------------------------------|-----------------------|
| MODEL | | MCV-1800 | MCV-1800B |
| TABLE | | | |
| Working Surface | mm (inch) | 2,100 x 1,010 (82.7 x 39.76) | |
| T-Slots (Size x Number) | mm (inch) | 22 x 5 (0.87 x 5) | |
| Max. Table Load | kgw (lbs) | 2,000 (4400) | |
| TRAVEL | | | |
| Longitudinal Travel (X) | mm (inch) | 1,800 (70.9) | |
| Cross Travel (Y) | mm (inch) | 800 (31.50) | |
| Headstock Travel (Z) | mm (inch) | 750 (29.53) | |
| Distance Between Spindle End and Table Top | mm (inch) | 200-950 (7.87-37.4) | |
| Distance Between Spindle Center and Column Surface | mm (inch) | 850 (33.46) | |
| SPINDLE | | | |
| Spindle Nose | | N.T. 50 | N.T. 40 |
| Spindle Speeds | R.P.M. | 6,000 | 8,000 (10,000) |
| Spindle Speed Range | | Two Gears Variable | Infinite Variable |
| FEED | | | |
| Cutting Feed | mm/min (inch/min) | 10,000 (393.7) | |
| Rapid Traverse | m/min (inch/min) | 15 / 15 / 8 (591 / 591 / 315) | |
| Minimum Input Increment | mm (inch) | 0.001 (0.0001) | |
| ATC (Automatic Tool Changer) | | | |
| Tool Holder | | BT 50 | BT 40 |
| Tool Storage Capacity | Tools | 30 | 30 |
| Max. Tool Dia. x Length | Ø x mm (inch) | 105 x 300 (4.1 x 11.8) | 76 x 300 (3.0 x 11.8) |
| Max. Tool Weight | kgw (lbs) | 15 (33) | 7 (15.4) |
| Max. Tool Dia. of adjacent pots are empty | Øxmm | 200 | 125 |
| Tool Selection | | Random | |
| MOTORS | | | |
| Spindle Drive | Continuous Rating Kw (HP) | 11 (15) | 7.5 (10) 11 (14.7) |
| Motor | Rated Output for 30 Minutes Kw (HP) | 15 (20) | 11 (14.7) 15 (20.1) |
| Drive Motors | X, Y, Z Axis Kw (HP) | 3 (4), 3 (4), 3 (4) | |
| MACHINE WEIGHT SPACE AND PACKING | | | |
| Floor Space | mm (inch) | 7,010 x 5,850 (275.98 x 230.32) | |
| Net Weight | Kgw (lbs) | 15,500 (34,100) | |

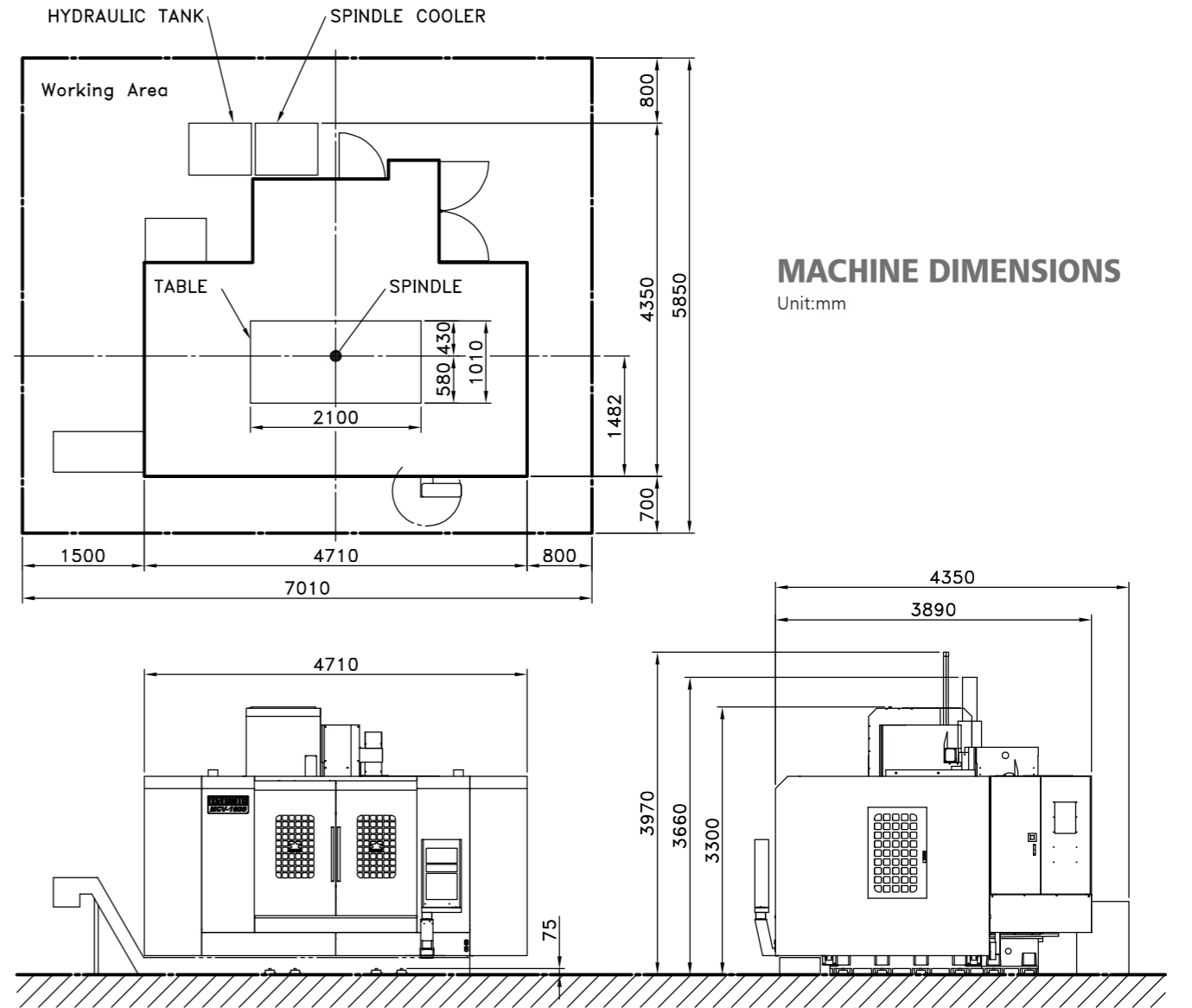
Specifications are subject to change without prior notice.

» STANDARD

- Heat Exchanger
- Removable Manual Pulse Generator
- Coolant Around Spindle
- Spiral Type Chip Conveyor
- Semi-enclosed Splash Guard
- RS-232 Interface
- Automatic Power Off
- Call Light
- Automatic Lubrication Equipment
- Work Light
- Tool Kit & Box
- Spare Fuses
- Spindle Cooler
- Rigid Tapping
- Link Type Chip Controller
- Stand Type Controller

» OPTIONS

- Flat Type Chip Conveyor and Chip Wagon
- Rotary Table With 4th Axis Control
- 4th Axis Connector
- Coolant Through Tool
- Coolant Through Spindle With Filter
- Coolant Wash
- Automatic Tool Length Measuring Device
- Automatic Centering Device (Renishaw MP-10)
- Cam Mechanism ATC (40 Tools)



TABLE

