MCH-630

MCV-720

VERTICAL MACHINING CENTER

MCV-1020A

MCV-1020BA

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®

Quality and Efficiency
The Perfect Solution

MCV-1020BA

High rigidity, high precision, minimum vibration, minimum noise. Easy to install and maintain.

- Built with Dah Lih's tradition of high reputation and fine craftsmanship.
- The major castings are designed and analyzed by advanced "Finite Element Analysis" for optimum structural rigidity and accuracy.
- The entire machine is ruggedly constructed throughout for lifetime accuracy and rigidity.
- Choice of carousel type (16 tools) or CAM type (24 tools) magazine.
- Linear guide ways on X and Y axes. Box ways on the Z-axis.
- Coolant jets around the spindle ensure excellent heat removal from the cutting tool and workpiece.
- 8,000 RPM spindle is standard.
- 15,000 RPM high speed spindle is optional with direct drive spindle.

FRONT MOUNTED CHIP AUGER
During machining, chips are flushed and fall down to the front mounted chip auger for delivering to the chip conveyor. It efficiently removes chips to eliminate affection from chip heat and keeps work area clean at all times.

CAROUSEL TYPE MAGAZINE
The standard carousel type magazine provides a loading capacity of 16 tools. It features bi-directional random tool selection for highly efficient tool changing

CAM TYPE MAGAZINE (OPTIONAL)
The CAM type magazine rotation is driven by a cylindrical cam for fast and dependable tool change. Tool loading capacity is 24 tools. Random tool selection provides highly efficient tool changing.

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

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

Rigid Massive Constructed Design
for Lifetime Accuracy.

Structural Features
» Major machine parts are manufactured from rigid cast iron for maximum structural stability.

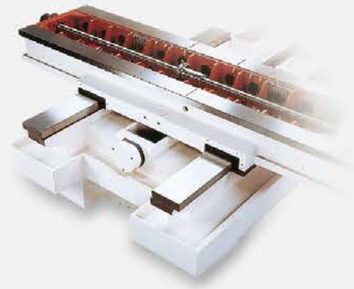
» Double wall box type structure for column, bed and saddle. Scientifically rib reinforced for added rigidity, while reducing thermal strain to a minimum.

» Linear guide ways on the X and Y axes.

» Box ways on the Z-axis are hardened, precision ground and coated with Turcite-B ensuring high positioning and repeatability accuracy.

» Symmetric and well counter-balanced design on the column assures precision machining.

» Pre-loaded ball screws on the 3 axes reduce thermal growth.



HEAVY DUTY HARDENED SQUARE GUIDE WAY
Massive casting irons and thorough precision ground. Hardness processing square guideway on the X and Y axes.

Direct Drive Spindle

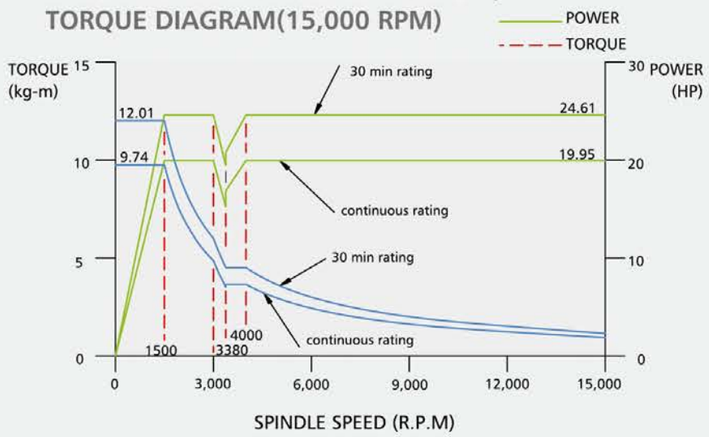
Designed and Engineering with Speed and Precision in Mind!

Dah Lih's All New MCV-1020BA... A Precise Performer with Advanced Control.

High Speed / High Precision

- »ACC / DEC Speed Control
- »Quadrant Change Offset
- »Data Server
- »Vibration Dampening
- »Nurbs Interpolation
- »High Speed Spindle
- »High Precision Contour Control
- »High Torque Servo Drive System
- »Extremely Rigid Structure

DIRECT-DRIVE SPINDLE POWER / TORQUE DIAGRAM(15,000 RPM)



EQUIPMENT FOR GRAPHITE MACHINING

The equipment is recommended when performing graphite machining. It prevents graphite dust from splashing to the working environment which may causes damage to the operator's health and circuit board in the control box. For wet cutting, centrifuge coolate purifying unit, the water curtain guard and graphite filtration device are recommended.

More Powerful and Efficient Operations with Extra Optional Accessories

» OPTIONS

AUTOMATIC TOOL LENGTH MEASURING DEVICE

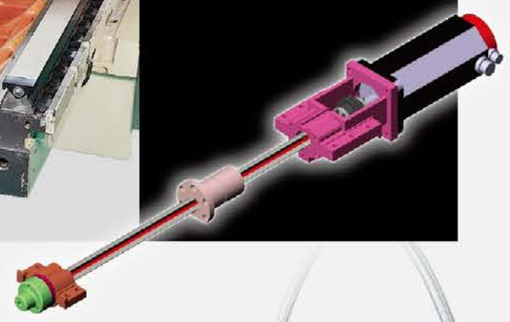
4TH AXIS CONTROL

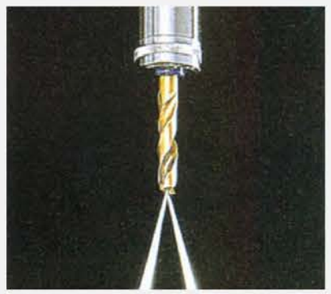
4TH AXIS CONNECTOR

COOLANT WASH

COOLANT THROUGH BALL SCREW

Coolant through ball screws on the three axes effectively prevent thermal growth while ensuring highly accurate machining.

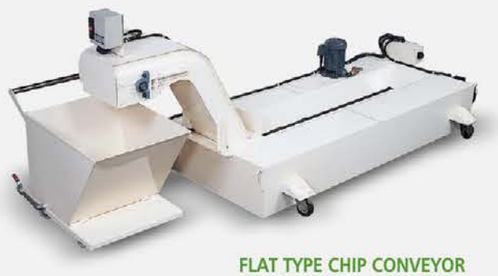




COOLANT THROUGH SPINDLE DEVICE

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.



FLAT TYPE CHIP CONVEYOR

» STANDARD

SPINDLE COOLER
Spindle & Ballscrew Cooling Unit

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.

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

COOLANT & AIR GUN

LATEST ADVANCED CNC CONTROLLER
Equipped with Fanuc, Heidenhain and others CNC controllers.

SPECIFICATIONS, ACCESSORIES AND DIMENSIONS

SPECIFICATIONS

MODEL	UNIT	MCV-1020BA
TABLE		
Working Surface	mm (inch)	1300 x 660 (51.18 x 25.98)
T-Slots (Size x Number)	mm (inch)	18 x 5 (0.71 x 5)
Max. Table Load	kg (lbs)	1000 (2200)
TRAVEL		
Longitudinal Travel (X)	mm (inch)	1020 (40.16)
Cross Travel (Y)	mm (inch)	550 (21.65)
Headstock Travel (Z)	mm (inch)	560 (22.05)
Distance Between Spindle End and Table Top	mm (inch)	150-710 (5.91-27.95)
Distance Between Spindle Center and Column Surface	mm (inch)	600 (23.62)
SPINDLE		
Spindle Nose		N.T. 40
Spindle Speeds	R.P.M.	8000
Spindle Speed Range		Infinite variable
FEED		
Cutting Feed	mm/min (inch/min)	10000 (393.7)
Rapid traverse	m/min (inch/min)	30/30/20 (1181/1108/787)
Minimum Input Increment	mm (inch)	0.001 (0.0001)
ATC (Automacic Tool Changer)		
Tool Holder		BT 40
Tool Storage Capacity	Tools	24
Max. Tool Dia. x Length	Ø x mm (inch)	76 x 300 (2.99 x 11.81)
Max. Tool Weight	kg (lbs)	7 (15.4)
Tool Selection		Bi-Directional
MOTORS		
Spindle Drive Continuous Rating	Kw (HP)	7.5 (10)
Motor Rated Output for 30 Minutes	Kw (HP)	11 (14.7)
Drive Motors X, Y, Z-Axis	Kw (HP)	2.5 (3.4), 2.5 (3.4), 3 (4)
MACHINE WEIGHT SPACE AND PACKING		
Floor Space	mm (inch)	3260x3060(128.35x120.47)
Net Weight	Kg (lbs)	6000 (13200)

Specifications are subject to change without prior notice.

» STANDARD

- Heat Exchanger
- Removable Manual Pulse Generator
- Coolant Around Spindle
- Spiral Type Chip Conveyor
- Enclosed Splash Guard
- RS-232 Interface
- Automatic Power Off
- Call Light
- Automatic Lubrication Equipment
- Work Light
- Tool Kit
- Spare Fuses
- Pendant Type Operator Panel
- Spindle Cooler
- Rigid Tapping

» OPTIONS

- Screw Type Chip Conveyor & Chip Bins
- Flat Type Chip Conveyor
- 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)
- Automatic Pallet Changer
- Graphite Filtering System
- Cam Mechanism ATC (30, 32, 40 Tools)

Max. Tool Dia. x Length	Ø x mm Ø x inch	76 x 300 2.99 x 11.81
Max. Tool Weight	kg lbs	7 15
Max. Tool Dia. of adjacent pots are empty	Ømm	150

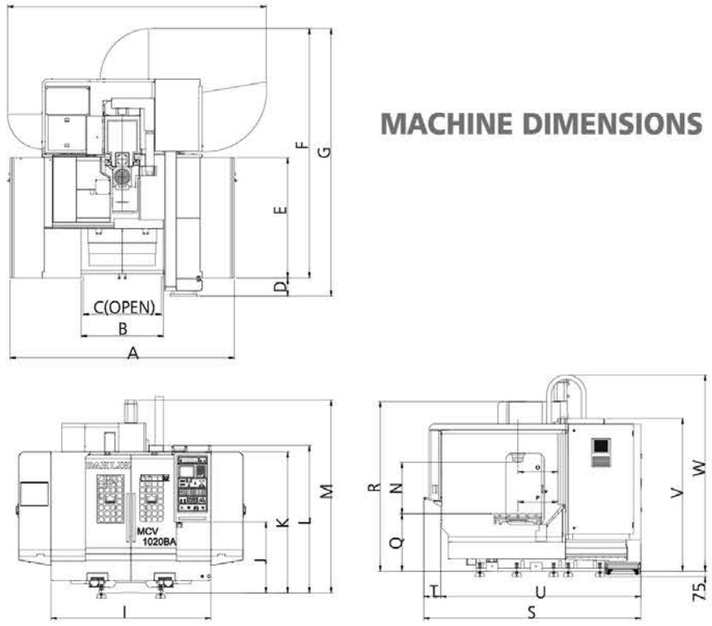
- SPINDLE SPEED

  BT40 / 10,000 rpm belt drive spindle

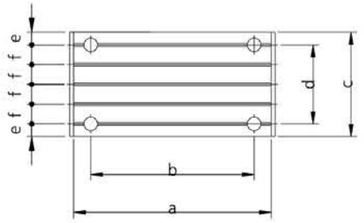
  BT40 / 12,000/15,000 rpm direct drive spindle

  BT50 / 10,000 rpm direct drive spindle

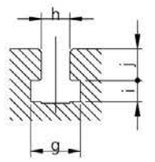
MACHINE DIMENSIONS



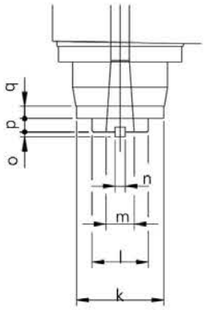
TABLE



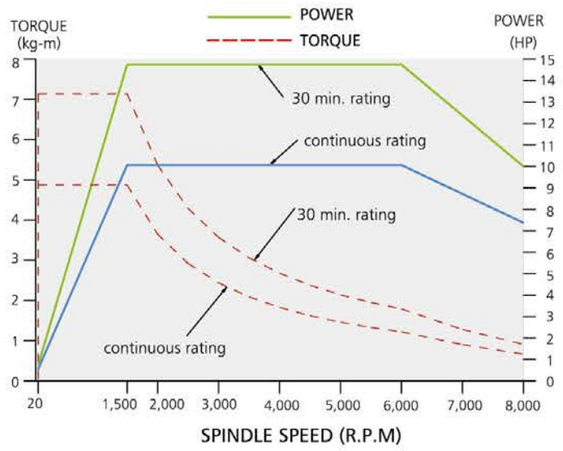
T-SLOT



SPINDLE



SPINDLE POWER / TORQUE DIAGRAM (8000 RPM) (STANDARD)



EXTERNAL DIMENSIONS

Model Unit	mm	inch
A	3100	122.04
B	1320	51.96
C	1100	43.30
D	250	9.84
E	1615	63.58
F	3400	133.85
G	3650	143.70
H	3575	140.74
I	3100	122.04
J	980	38.58
K	1950	76.77
L	2040	80.31
M	2665	104.92
N	150-710	5.91-27.95
O	550	21.65
P	295-805	11.61-31.69
Q	795	31.29
R	2350	92.51
S	2955	116.33
T	176	6.92
U	2775	109.25
V	2115	83.26
W	2715	106.88

TABLE & T-SLOT

Model Unit	mm	inch
a	1250	49.21
b	1020	40.16
c	660	25.98
d	510	20.08
e	80	3.15
f	125	4.92
g	31.5	1.24
h	18	0.71
i	13.5	0.53
j	20	0.79
k	135	5.32
l	88.88	3.50
m	44.45	1.75
n	15.9	0.63
o	7	0.28
p	19	0.75
q	16	0.63