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MCH-630

MCV-720

MVC-1020A

MCV-1020BA / 1350 / 1700+APC

VERTICAL MACHINING CENTER WITH PALLET CHANGER

MCV-1020BA

MCV-1250

MCV-1450

MCV-1700

MCV-2100

MCV-2600

DCM-2213

The Latest and Best Quality Machinery.

DAHLIH®

MCV-1020BA+APC
MCV-1350+APC

The Perfect Solution for Quality and Efficiency.

- 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.
- Coolant jets around the spindle ensure excellent heat removal from the cutting tool and workpiece.
- The gear-drive spindle guardntees outstanding cutting performmance.
- High rigidity, high precision, minimum vibration ad minimum noise. Easy to install and maintain.

The Ideal VMC for Highest Quality with Utmost Accuracy!

VERTICAL MACHINING CENTER WITH PALLET CHANGER

MCV-1700+APC

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-1700+APC Vertical Machining Center!

Rigid Massive Constructed Design
for Lifetime Accuracy.

MCV-1020BA+APC
MCV-1350+APC

Structural Features

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

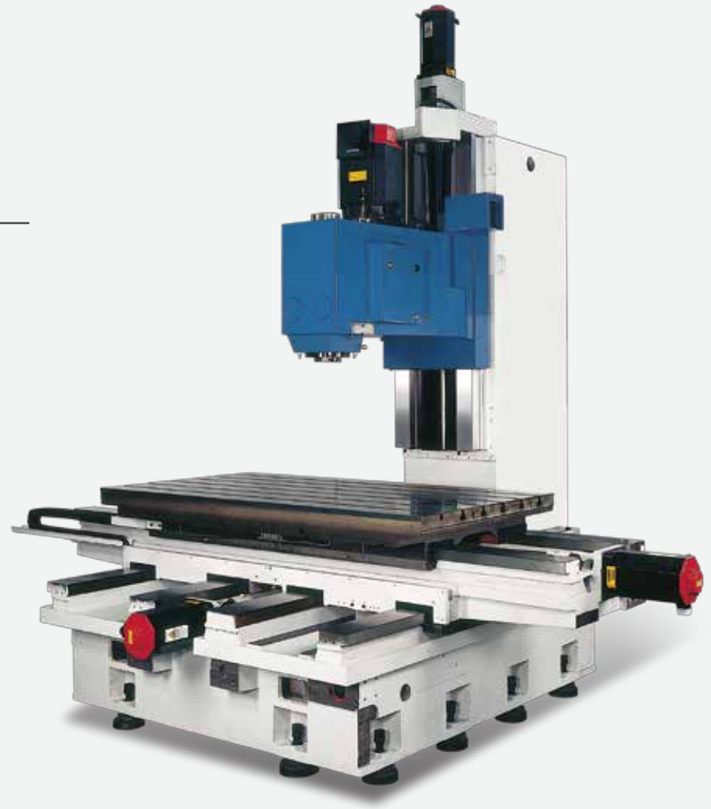
» The column, base and saddle are box type structures, which are subject to process of scientific rib reinforcement for added rigidity and minimum thermal strain.

» Two box guideway on base.

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

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

MCV-1700+APC



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.

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.

MASSIVE COLUMN
» The column is a symmetric and well-counter-balanced design that exhibits extremely high precision machining performance.

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. (MCV-1700+APC)

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.

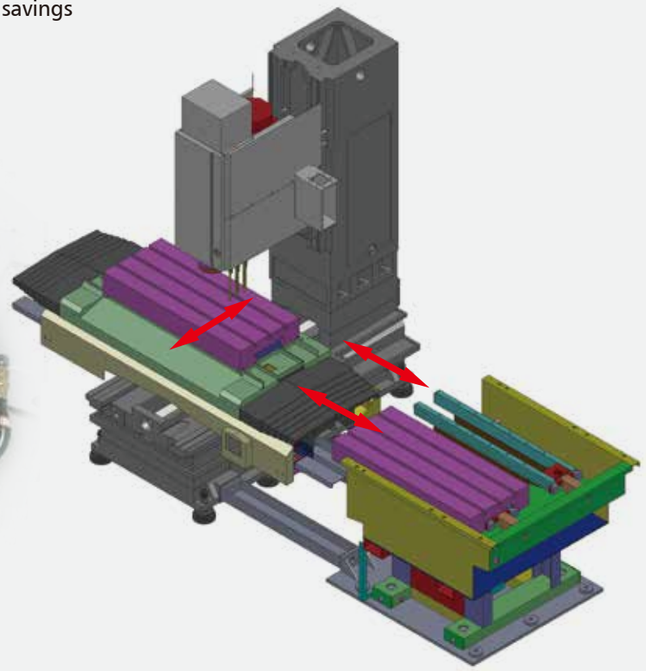
Link Chain Type Chip Conveyor

» The machine base is equipped with one set each of link chain type chip conveyor at both sides. During machining, both chip conveyor fast remove chips and chip heat. This may prevent chip heat from affecting the structural accuracy while keeping the working area.

Shuttle Type Automatic Pallet Changer

» The shuttle type APC provides a considerable space savings when performing pallet change.

PALLET CHANGE MOTION SEQUENCE



GREAT TABLE LOADING CAPACITY

- MCV-1020BA+APC : **700KG**
- MCV-1350+APC : **800KG**
- MCV-1700+APC : **1200KG**

» The high precision, high efficiency automatic pallet changer is the best choice for a mass production line.

» Especially for batch production and high efficiency machining requirements, the automatic pallet changer not only reduces non-cutting time for work piece setup, but also is suitable for machining condition that requires a longer time for clamping work piece.

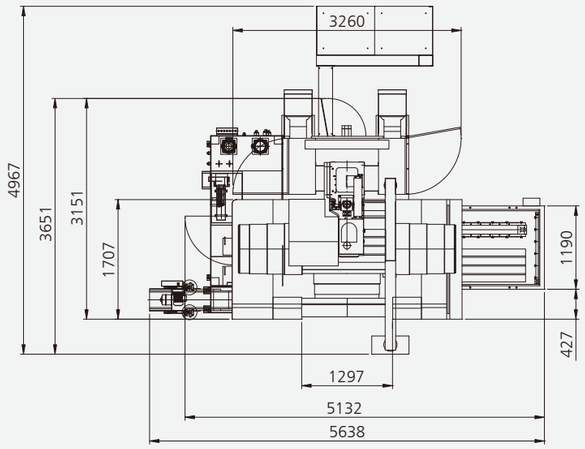
MCV-1700+APC

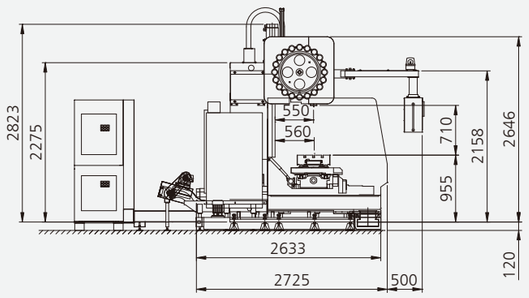
Automatic Pallet Changer (A.P.C)

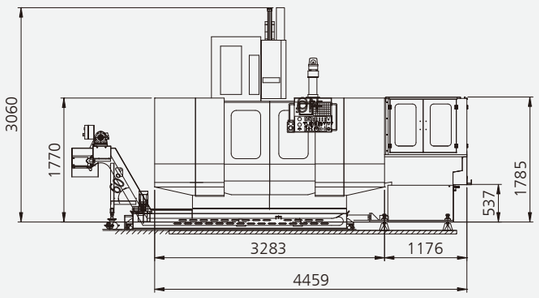
MACHINE DIMENSIONS

Unit:mm

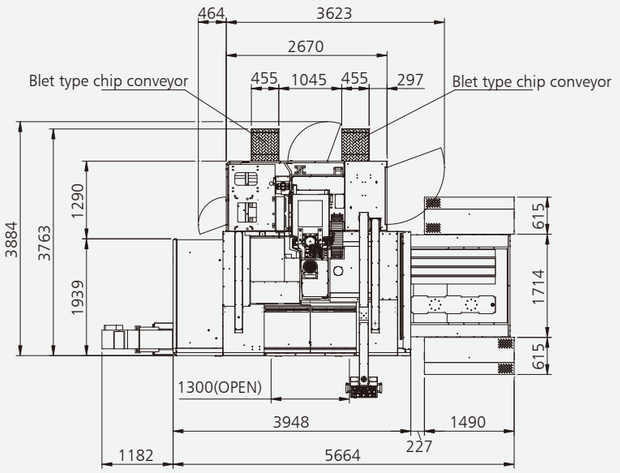
MCV-1020BA+APC

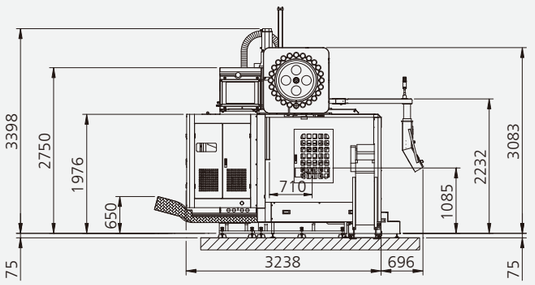


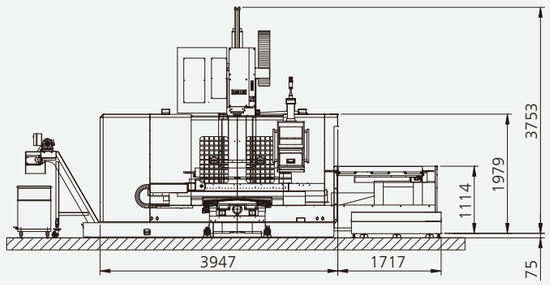




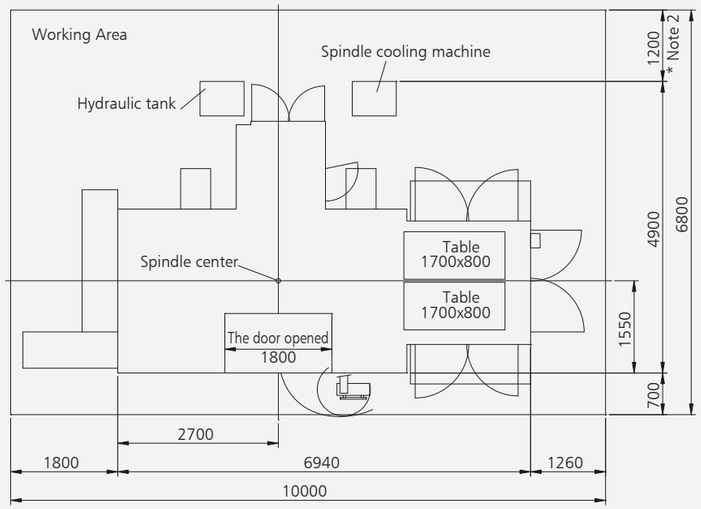
MCV-1350+APC

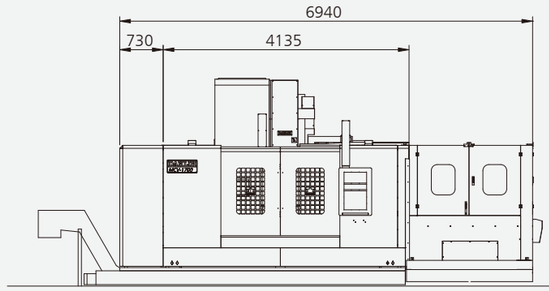






MCV-1700+APC





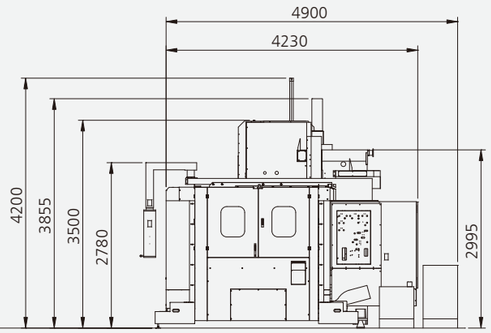
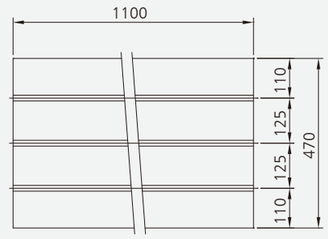
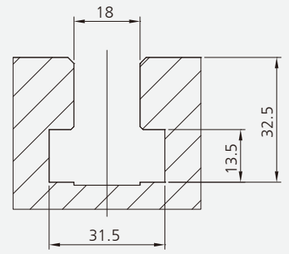


TABLE & T-SLOT

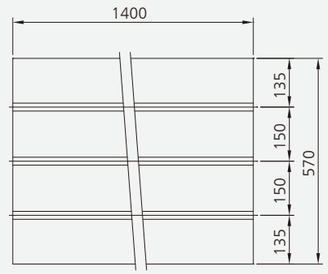
Unit:mm

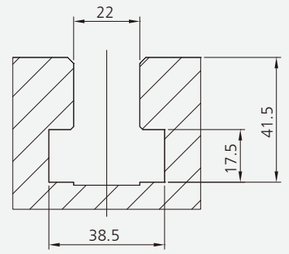
MCV-1020BA+APC



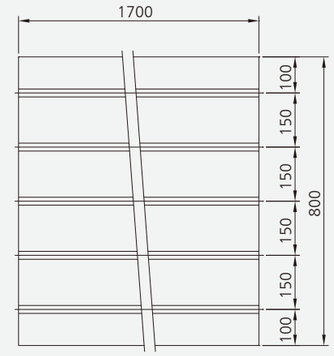


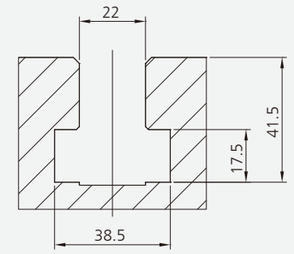
MCV-1350+APC





MCV-1700+APC

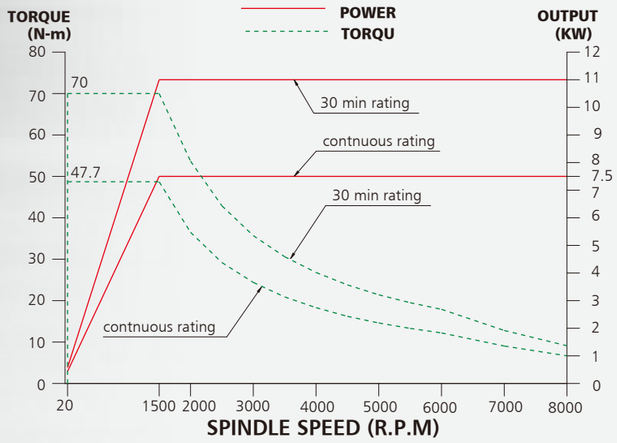




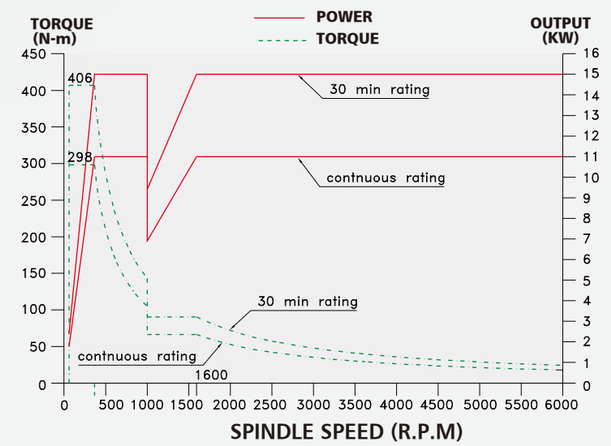
Rigid, Precise Spindle

SPINDLE POWER / TORQUE DIAGRAM
(Belt spindle 8,000 RPM) (MCV-1020BA+APC)

PS: 1. Gear ratio 1:1
2. Motor FANUC α8/8000i



SPINDLE POWER / TORQUE DIAGRAM
(6,000 RPM)



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.

SPECIFICATIONS, ACCESSORIES AND DIMENSIONS

SPECIFICATIONS

MODEL		MCV-1020BA+APC	MCV-1350+APC	MCV-1700+APC
TABLE				
Working table surface	mm (inch)	1100 x 470	1400 x 570	1700 x 800
T-slots (WX number x distance)	mm (inch)	18 x 3 x 125	22 x 3 x 150	22 x 5 x 150
Max. table load	kgw (lbs)	700	800	1200
Table height from floor	mm (inch)	1015	1160	1215
TRAVEL				
X-axis travel	mm (inch)	1020	1350	1700
Y-axis travel	mm (inch)	550	630	850
Z-axis travel	mm (inch)	560	700	750
Distance between spindle end and table top	mm (inch)	150~710	200~900	200~950
SPINDLE				
Spindle nose taper		N.T. 40	N.T. 50	N.T. 50
Spindle speeds	R.P.M.	8000	6000	6000
Spindle transmission		Belt	Gear	Gear
FEED				
X,Y,Z-axis cutting federate	mm/min (inch/min)	10000	1~4000	1~4000
X,Y,Z-axis rapid traverse	m/min (inch/min)	30 / 30 / 20	10 / 10 / 10	10 / 10 / 10
Minimum input increment	mm (inch)	0.001	0.001	0.001
ATC (Automacic Tool Changer)				
Tool storage capacity	Tools	24	24	30
Tool holder		BT40	BT50	BT50
Max. tool dia. x length	Ø x mm (inch)	Ø90 x 300	Ø100 x 350	Ø100 x 300
Max. tool weight	kgw (lbs)	7	15	15
Max. tool diameter (adjacent pots empty)	Øxmm	ϕ 180	ϕ 200	ϕ 200
Tool selection		Random	Random	Random
MOTORS				
Spindle motor (30 min./cont.)	Kw (HP)	11 (14.7) / 7.5 (10)	15 (20) / 11 (14.7)	15 (20) / 11 (14.7)
X-axis servo motor	Kw (HP)	3 (4)	3 (4)	3 (4)
Y-axis servo motor	Kw (HP)	3 (4)	3 (4)	3 (4)
Z-axis servo motor	Kw (HP)	3 (4)	3 (4)	3 (4)
MACHINE WEIGHT SPACE AND PACKING				
Floor space occupied	mm	3575 x 4000	6580 x 4000	10000 x 6800
Net weight	Kgw (lbs)	6000	11000	21700

Specifications are subject to change without prior notice.

» STANDARD

- Spindle cooler
- Heat exchanger
- Removable manual pulse generator
- Flat type chip conveyor and chip wagon
- Call light
- Work light
- Air / coolant gun
- Pendant type operator panel
- Fully enclosed splash guard
- Tool kit

» OPTIONS

- Coolant through spindle with filter
- Oil skimmer
- Air conditioner for electrical cabinet