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MCH-630

MCV-720

DOUBLE COLUMN MACHINING CENTER

MCV-1020A

DCM-3222

MCV-1020BA

MCV-1250

MCV-1450

MCV-1700

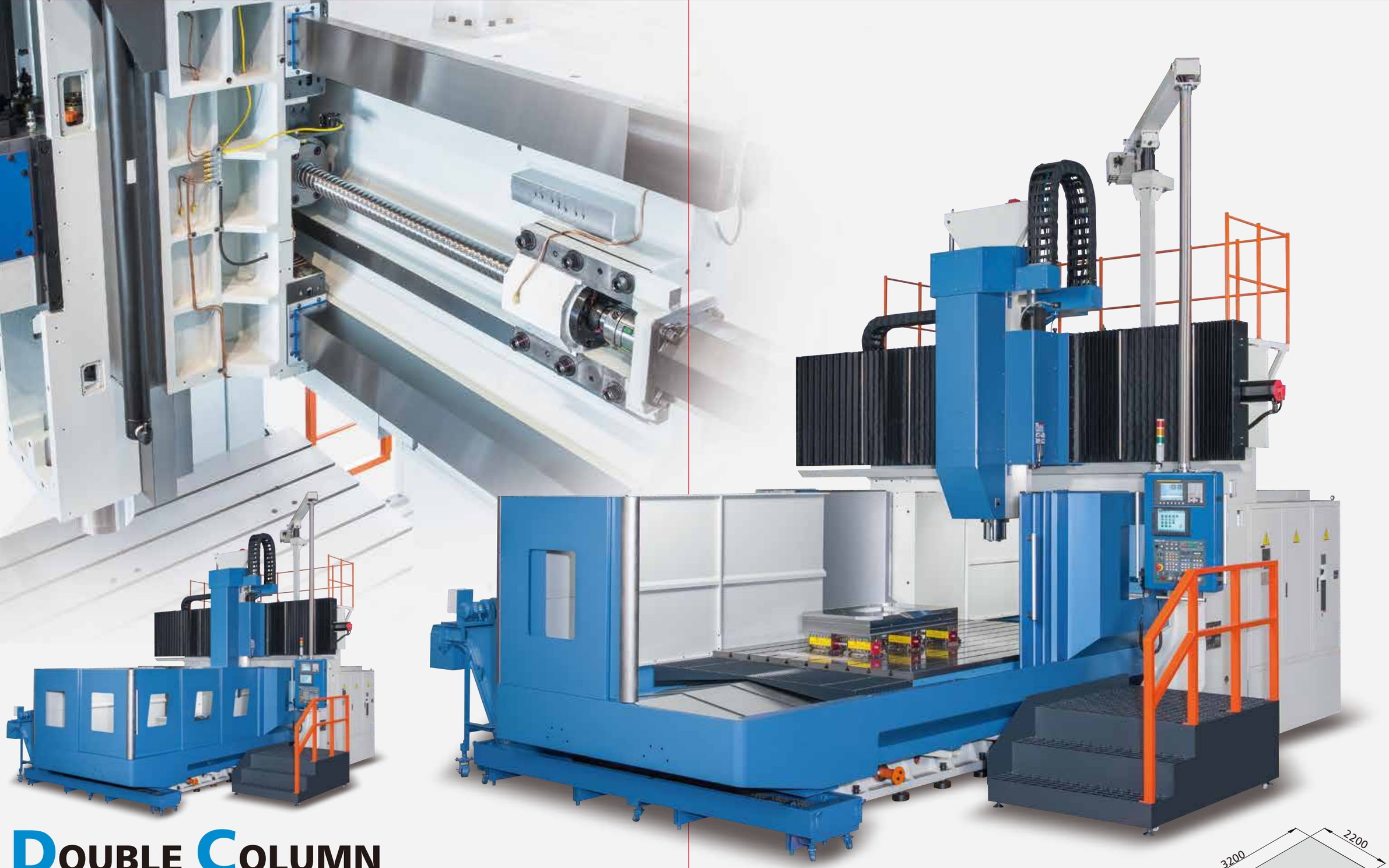
MCV-2100

MCV-2600

DCM-2213

The Latest and Best Quality Machinery.

DAHLIH®



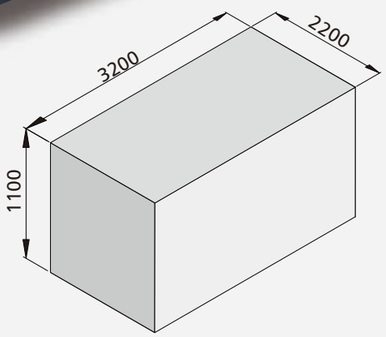
Double Column Machining Center

Built on Dah Lih's Extensive Experience
A New Standard in Heavy Cutting Capability

DCM-3222

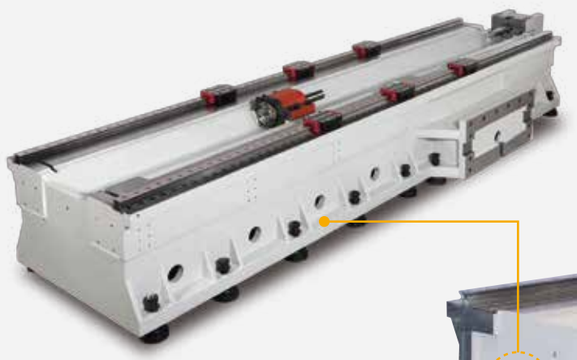
Reliable Structural Design
Outstanding Cutting Performance

X-axis Travel 3,200 mm.
Y-axis Travel 2,200 mm.
Z-axis Travel 1,100 mm.
Work Table load 10,000kg.
Spindle Speed 6,000 RPM.



Sturdy Construction

for High Rigidity and High Accuracy



Extra Large, Stable Base
The base is equipped with two extra heavy-duty linear guideways combined with large design, assuring extremely firm support.

With integrated optimal structural rigidity, the Dah Lih DCM Series Double Column Machining Center is designed and engineered for heavy cutting and high speed machining. It will fully exhibit unmatched stability and smoothness during machining.

Large Span & Highly Rigid Box Ways
The span and volume on the saddle and columns are increased for higher rigidity to support the spindle head weight and higher cutting load.

Cross Beam Support And Adjustment Mechanism
By using a compensation beam for support and adjustment, the deflection phenomenon of the cross beam due to its self-weight can be overcome.

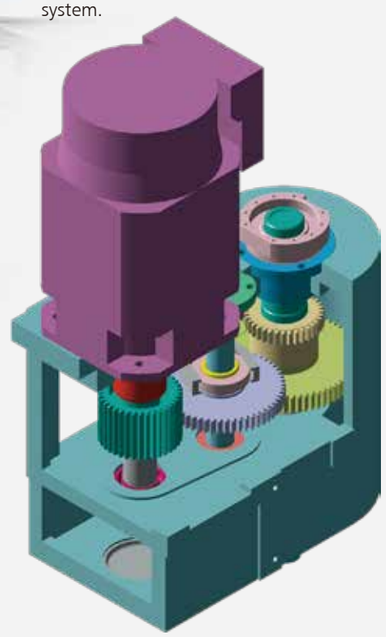
Rigid Spindle Head
- » Box type structure design provides high machining accuracy.
- » The spindle head temperature is controlled by a cooling system, which effectively reduces thermal deformation. It also ensures constant temperature on the spindle head, and maintains an outstanding geometric accuracy.
- » Double hydraulic cylinders counter-balance on Z-axis assure high accuracy movement of Z-axis.

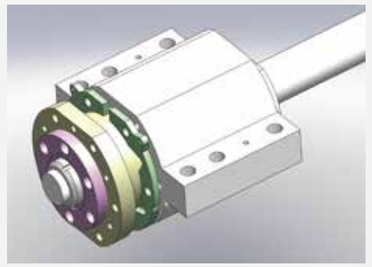
High Rigidity, High Loading Capacity Roller Linear Guide Ways
- » Particularly suitable for heavy duty performance.
- » High damping coefficient, excellent performance in absorbing cutting vibration.
- » High servo response, without hysteresis phenomenon.
- » Complete sealing of roller shoes, capable of working smoothly under difficult conditions.

Finite Element Analysis
To ensure the best structural rigidity design and long machine service life, the major parts are analyzed by advanced "Finite Element Analysis."

Gearbox for Spindle

- The gearbox provides high/low speed ranges. The wide range of speed allows for heavy cutting and fine finishing.
- All gears are precision ground for silent running.
- The gearbox employs an oil-bath lubrication system.

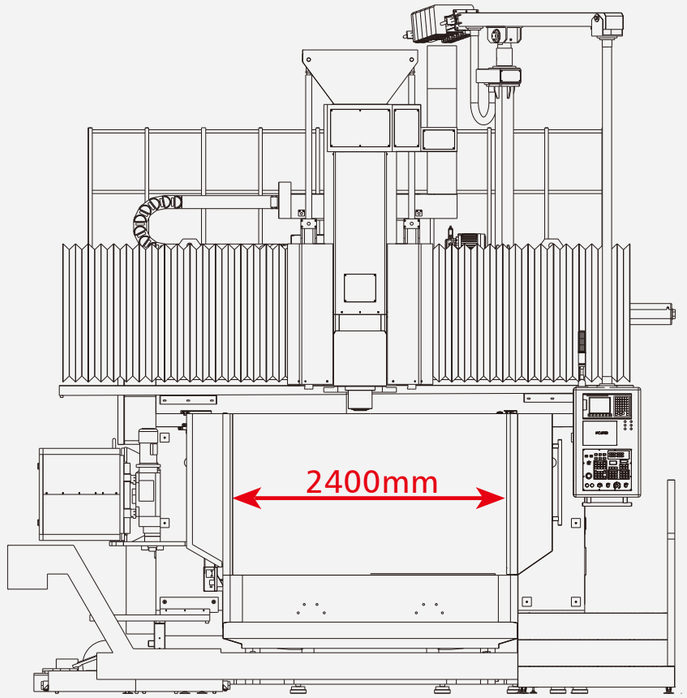




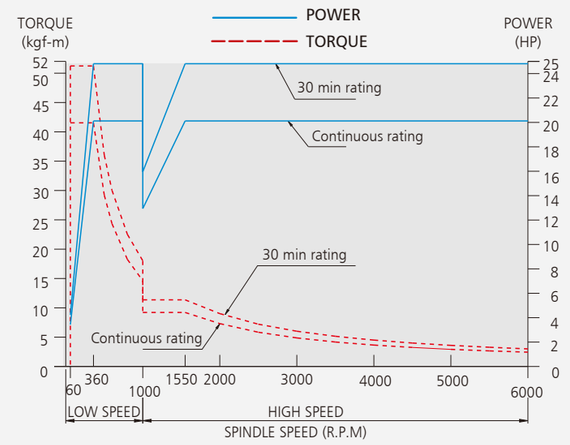
X-axis Screw Support with Pad

The X-axis ball screw is fitted with a specially designed pad for pretension that effectively reduces screw defection to a minimum while increasing rigidity. As a result, higher feed accuracy and smoother motion can be achieved.

Effective Door Width



Power Chart



DIRECT-DRIVE SPINDLE POWER / TORQUE DIAGRAM
(6,000 RPM) (STANDARD)

X-axis Transmitted Through Gear Reducer

The x-axis feed is driven by a servo motor and transmitted through a gear reducer for increasing transmitting torque. This feature allows heavy workpieces to move effortlessly and smoothly.

Nitrogen Gas Counter-balance

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

90° Milling Attachment (Optional)

The device may covert the milling direction from vertical to horizontal, NT#50 tool holders are applicable for the attachment.

» Manual Head: Manual head change, manual tool change and head swiveling.
» Semi-automatic Head: Semi-automatic head change, automatic tool change and head swiveling.

» Manual Head

» Semi-automatic Head

Manual Overhead Compartment

Available to select automatic augle swiveling horizontal milling head and manual chang head compartment, allowing for multiple sides machining to increase efficiency.

Separately Mounted Chain-type Magazine

40-tools Standard, 60-tools Optional

» The tool magazine is separately mounted from the machining area to prevent contamination from chips or coolant.
» The tool magazine accommodates BT50 tool shank.
» Bi-directional, random tool selection with fast tool change can be accomplished in only 6 seconds.
» Tool magazine is cam-driven for fast and reliable motion.
» The separately mounted magazine also allows for machining increased-size workpieces.

SOPHISTICATED INSPECTION INSTRUMENTS ALLOW HIGH PRECISION INSPECTIONS.

Twin Ball-Bar inspection
Twin Ball-Bar inspection is conducted to ensure the optimum 2D cutting accuracy.

Spindle Dynamic Running Accuracy Test
Sophisticated spindle running testing equipment is applied to inspect the spindle running accuracy.

Automatic Tool Length Measuring Device (optional)

Contact Type
The tool length measuring device is used for detecting the tool wear condition while assuring machining accuracy at all times.

Non-Contact Type
The laser tool length measuring device is used for detecting the tool wear condition while assuring machining accuracy at all times.

SPECIFICATIONS, ACCESSORIES AND DIMENSIONS

SPECIFICATIONS		
MODEL		**DCM-3222**
TABLE		
Table size (X x Y)		3200 x 2000 mm
T-slots (size x number x pitch)		22 x 9 x 200 mm
Max. table load		10000 kgw
Distance from table surface to ground		1035 mm
TRAVEL		
Longitudinal travel (X)		3200 mm
Vertical travel (Y)		2200 mm
Cross travel (Z)		1100 mm
Distance between spindle nose to table surface		200~1300
Distance between column		2400 mm
Guild way type (X, Y, Z-axis)		X:Type Roller Linear Guideways, Y/Z:Hard track
X, Y, Z-axis transmission		X: Belt, Y/Z: Direct Coupled
FEED		
Rapid feedrate	X-axis	20 m/min
	Y-axis	20 m/min
	Z-axis	15 m/min
Cutting feedrate		1~10000 mm/min
Min. input increment		0.001 mm
SPINDLE		
Spindle transmission		Gear type spindle
Spindle motor (30 Points / continuous)		18.5 / 15 KW
Spindle Taper Cone		NT.50
Spindle speed		6000 rpm
Cooling / Lubrication		Oil Cooling / Grease Lubrication
ATC (Automatic Tool Changer)		
Tool magazine capacity		40T
Tool holder		BT50
Pull Stud Type		P50T-1(45°)
Max. tool weight		20 kgw
Max. tool length		Ø125 mm x 400 mm
Max. tool diameter		Ø250 mm
Tool selection		Bi-Directional / Random
CNC CONTROLLER		FANUC 0iMF
OTHERS		
Power consumption		45 KVA
Pneumatic pressure		6 kgf/cm^2
Coolant tank capacity		500 L
Net weight		31000 kgw
Floor space (L x W)		9500 x 5900 mm

Specifications are subject to change without prior notice.

» STANDARD

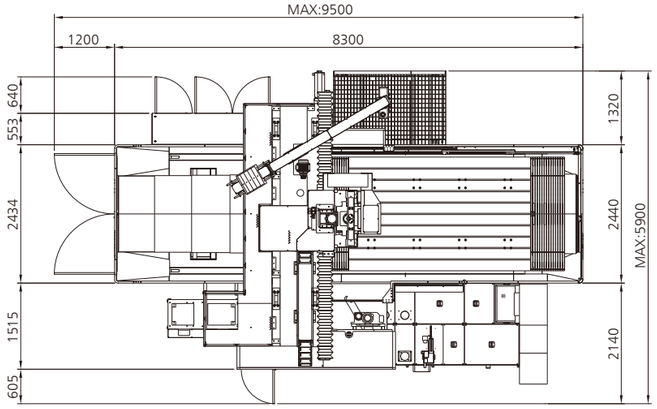
- Spindle cooling device
- Coolant around spindle
- Heat exchanger
- Removable manual pulse generator
- Screw type chip conveyor + chip wagon
- Screw chip auger
- Call light
- Work light
- Splash guard
- Tool kit
- Coolant and air gun

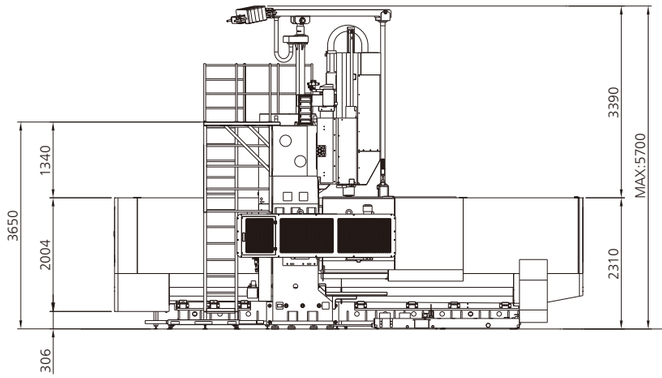
» OPTIONS

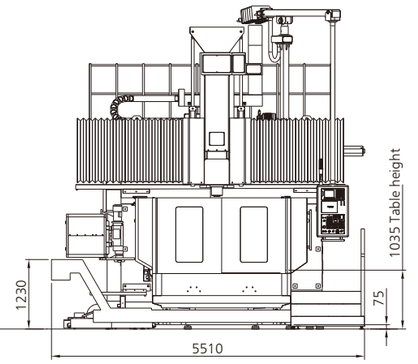
- BBT50 10000 r.p.m. direct drive spindle
- BBT40 15000 r.p.m. direct drive spindle
- Coolant through spindle with filter
- Oil mist device
- Flat type chip conveyor+chip wagon
- Oil skimmer
- 90° angular head
- X, Y, Z linear scale
- Manual change head compartment
- Automatic centering device
- Tool length measuring device
- Air conditioner
- ATC tool storage: 60 / 90 tools

MACHINE DIMENSIONS

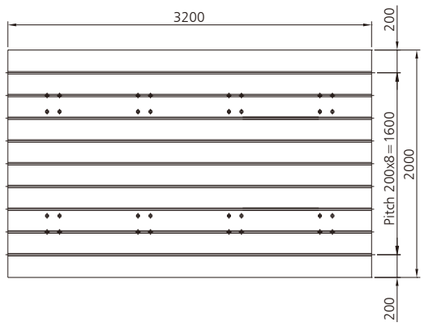
DCM-3222



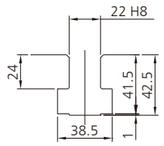




TABLE



T-SLOT



SPINDLE