

MCV-860

MCV-1060

5-AXES DOUBLE COLOUMN MACHINING CENTER

MCV-1200

# DMX-500

MCV-1250

MCV-1450

MCV-1680

MCV-1700

MCV-2100

MCV-2600

DCM-2213

MCH-630



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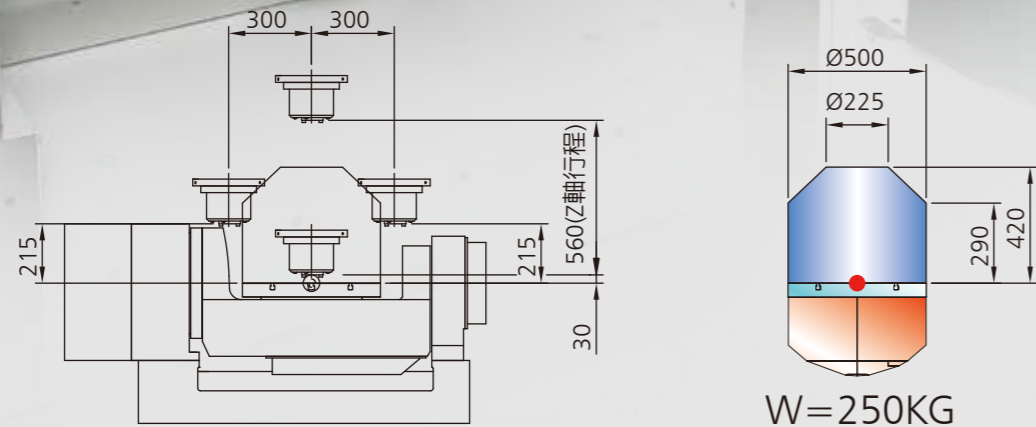


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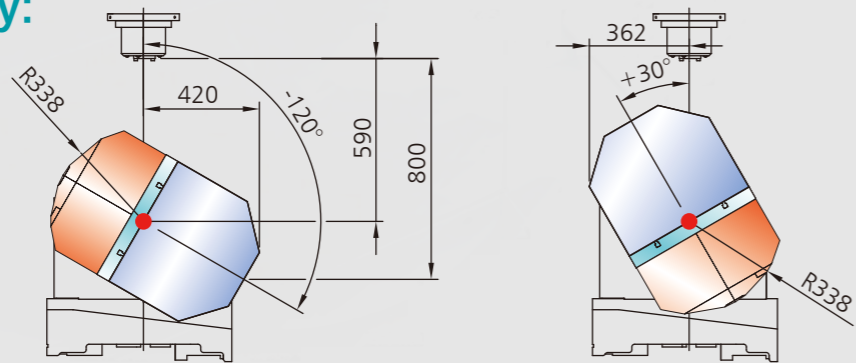
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The Latest and Best Quality Machinery.  
**DAHLIH**®

# Accuracy Results from Our Care to Every Detail



## Working Capacity:



## DMX-500

### 5-AXES DOUBLE COLUMN MACHINING CENTER

#### Outstanding Features:

- » Double column construction exhibits exceptional stability in high speed machining.
- » Choice of 12,000 or 15,000 rpm direct-drive spindle.
- » X, Y, Z axes are all mounted with roller type linear motion guides featuring outstanding heavy load capacity.
- » Rapid traverse rate on X, Y, Z-axes reach 30 m/min.
- » Innovative thermal compensation function for spindle.

#### Applicable industries:

- » Aerospace parts machining.
- » Complex dies and mold machining.
- » Precision parts machining.



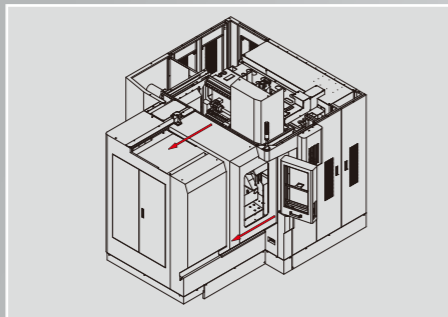
# Double Column Construction with Optional Thermal Suppression

- » The symmetrical design of double column construction leads to an optimal thermal suppression features.
- » Major structural parts are scientifically reinforced by cross-shaped ribs for stable accuracy and good rigidity while lightening structural weight.
- » X,Y-axes are separately located on base and columns to eliminate overlapped load.
- » The table is fully supported to eliminate overhang and displacement problems, while ensuring the highest machining accuracy.
- » Linear motion guides on three axes features extra stable smooth motions and meet the requirement of high speed machining.



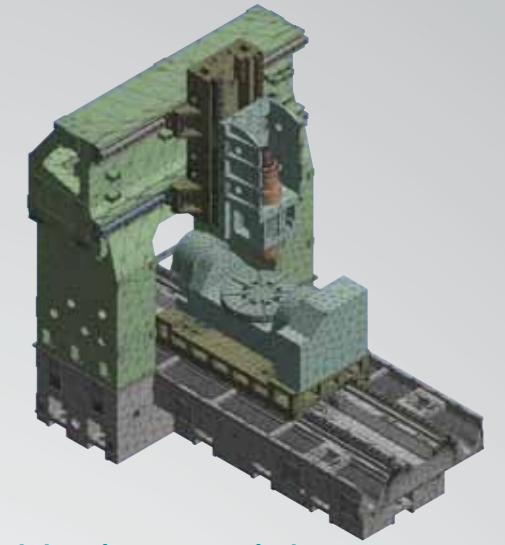
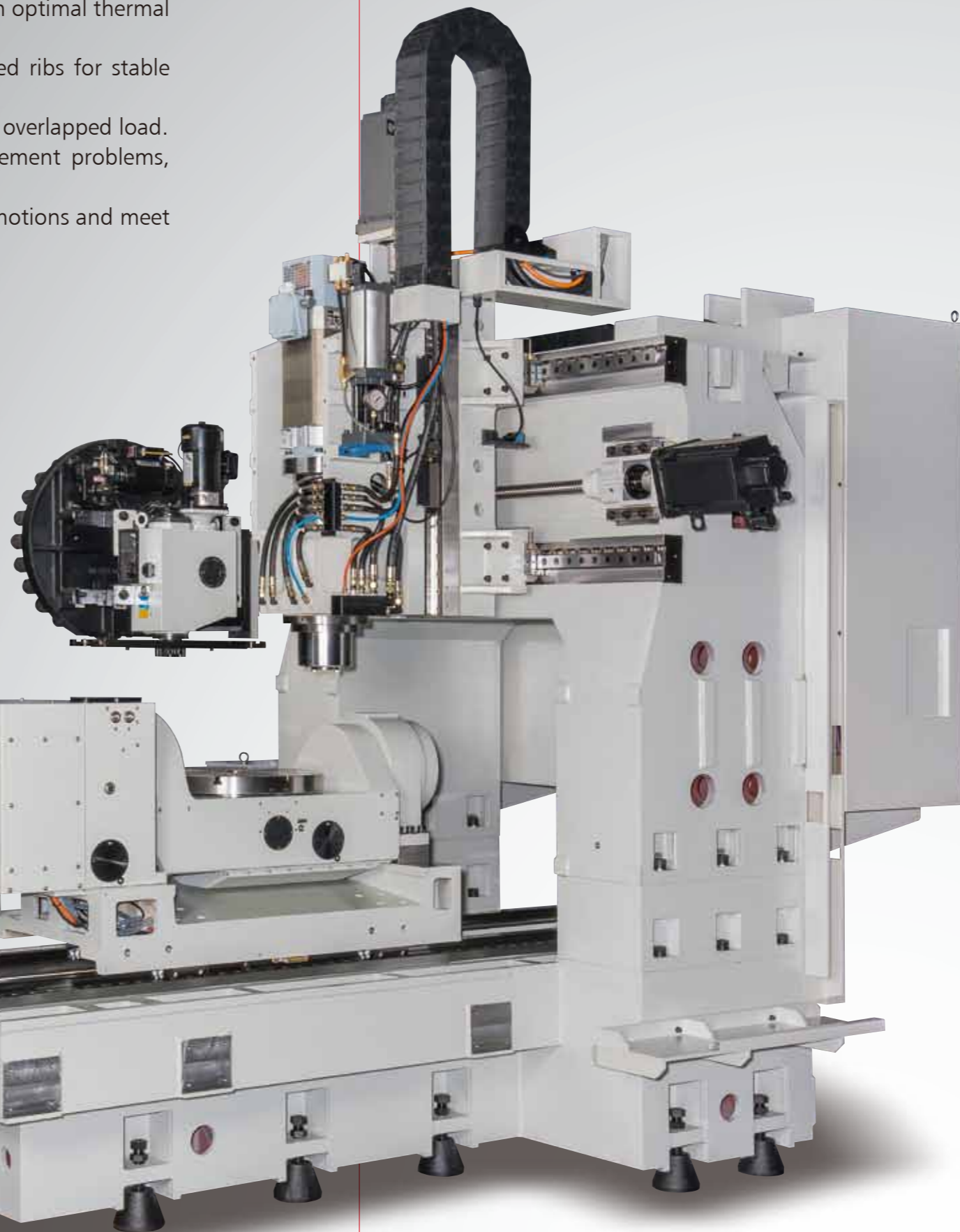
## Ram Type Spindle Head

- » The spindle head is a ram type design in order to minimize temperature rise and deflection problem.



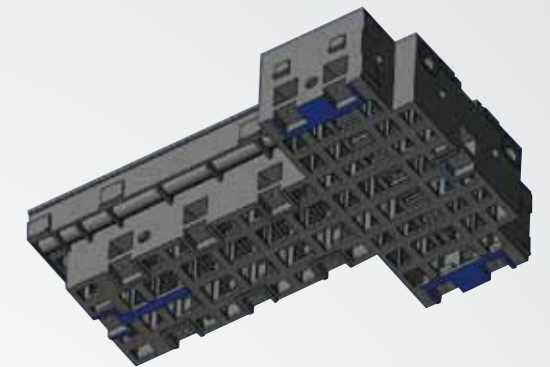
## Open-Top Guard

- » The machine top and front have fully opened doors, allowing the operator to load and unload workpiece with ease by hand or crane.



## Finite Element Analysis

- » To ensure the best structural rigidity and machine life, the major casting parts are analyzed by advanced "Finite Element Analysis" software to achieve an optimum design of structure.



## Three-Point Support Construction

- » The base is three-point supported, providing a solid support for high speed, high precision machining.



## Coolant through Ball Screw (Optional)

- » Coolant through ball screws on the three axes effectively prevent thermal deformation, upgrade stability of feed system, while also ensuring highly accurate machining.

# 12,000/15,000 rpm Direct-Drive Spindle With Lower Cost than that of a Built-in Type Spindle



### Low Cost

» The high speed direct drive spindle is lower cost than that of a built-in type spindle.

### Low Vibration & Low Noise

» The direct spindle is not affected by a side force that usually occurs on a belt drive spindle, therefore it helps to reduce vibration, noise and tool wear.

### Convenient to Install and Maintain

» The direct drive spindle is easy to install. As the spindle and the motor is separated, its maintenance cost is lower than that of a built-in type spindle.

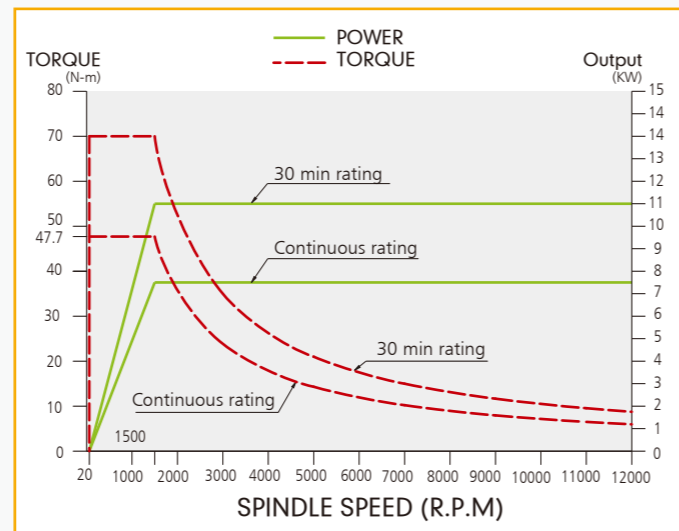
### High Rigidity

» The inside diameter of spindle bearing is  $\varnothing 70\text{mm}$ , featuring high rigidity to resist heavy cutting.

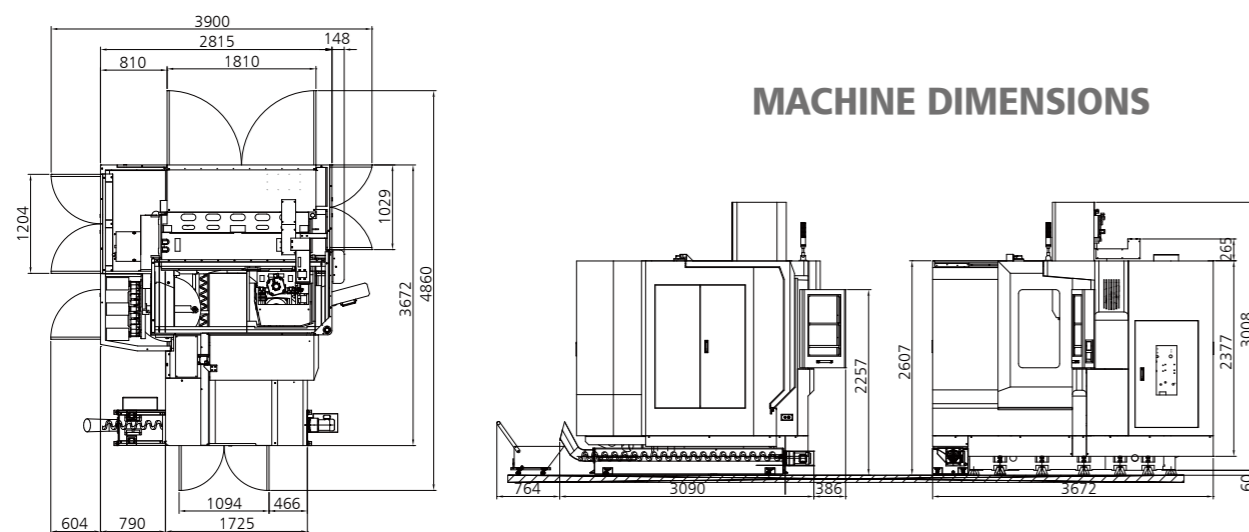
### High Precision

» The temperature growth and motor heat of the direct-drive spindle have less affection in spindle head displacement than a belt-drive spindle, as such it can provide more stable machining accuracy.

12,000 rpm Direct-Drive Spindle



MACHINE DIMENSIONS



## SPECIFICATIONS, ACCESSORIES AND DIMENSIONS

### SPECIFICATIONS

MODEL	DMX-500	
<b>4 / 5 AXES</b>		
Surface diameter	$\varnothing 500\text{mm}$	
T-slot (W x no.)	14mmH7x4	
Axis	Cross	Titing
Angle	360°	+30° ~ -120°
Motor	$\alpha 8i$	$\alpha 22i$
Max speed	16.6rpm	11.1rpm
Max loading	300kg	250kg
<b>TRAVEL</b>		
X-axis travel	600 mm	
Y-axis travel	900 mm	
Z-axis travel	560 mm	
Dist. from spindle nose to table surface	30~590 mm	
Distance between columns	1040 mm	
Slideway type (X / Y / Z-axis)	Roller type linear way	
X, Y, Z-axis transmission	Flexible type	
<b>FEED</b>		
Rapid traverse rate	30 m/min, 30 m/min, 30 m/min	
Cutting feed rate	1~20000 mm/min	
Min. feed unit	0.001 mm	
<b>SPINDLE</b>		
Spindle type	Direct-drive	
Spindle motor (continuous rating/30 min.rating)	$\alpha 8/12000i, 11(14.7)$	
Spindle nose taper	N.T.40	
Spindle speed	12000 rpm	
Spindle bearing bore diameter	$\varnothing 70$ mm	
Cooling / Lubrication	Oil cooling / grease lub.	
<b>ATC (Automac Tool Changer)</b>		
Tool magazine capacity	24 tools	
Tool shank type	BBT40	
Pull stud	Jaw type 45° pulling head	
Max. tool weight	7 kgw	
Max. tool length	300 mm	
Max. tool dia. (without adjacent tool)	$\varnothing 75$ mm ( $\varnothing 150$ mm)	
Tool selection	Random	
<b>CNC CONTROLLER</b>	FANUC 0iMF	
<b>OTHERS</b>		
Power required	36KVA	
Air pressure required (Air supply)	6 kg / cm <sup>2</sup>	
Coolant tank cappacity (Full / actual capacity)	300ℓ	
Machine weight	13000 kgw	
Space occupied	3900 x 4860 mm	

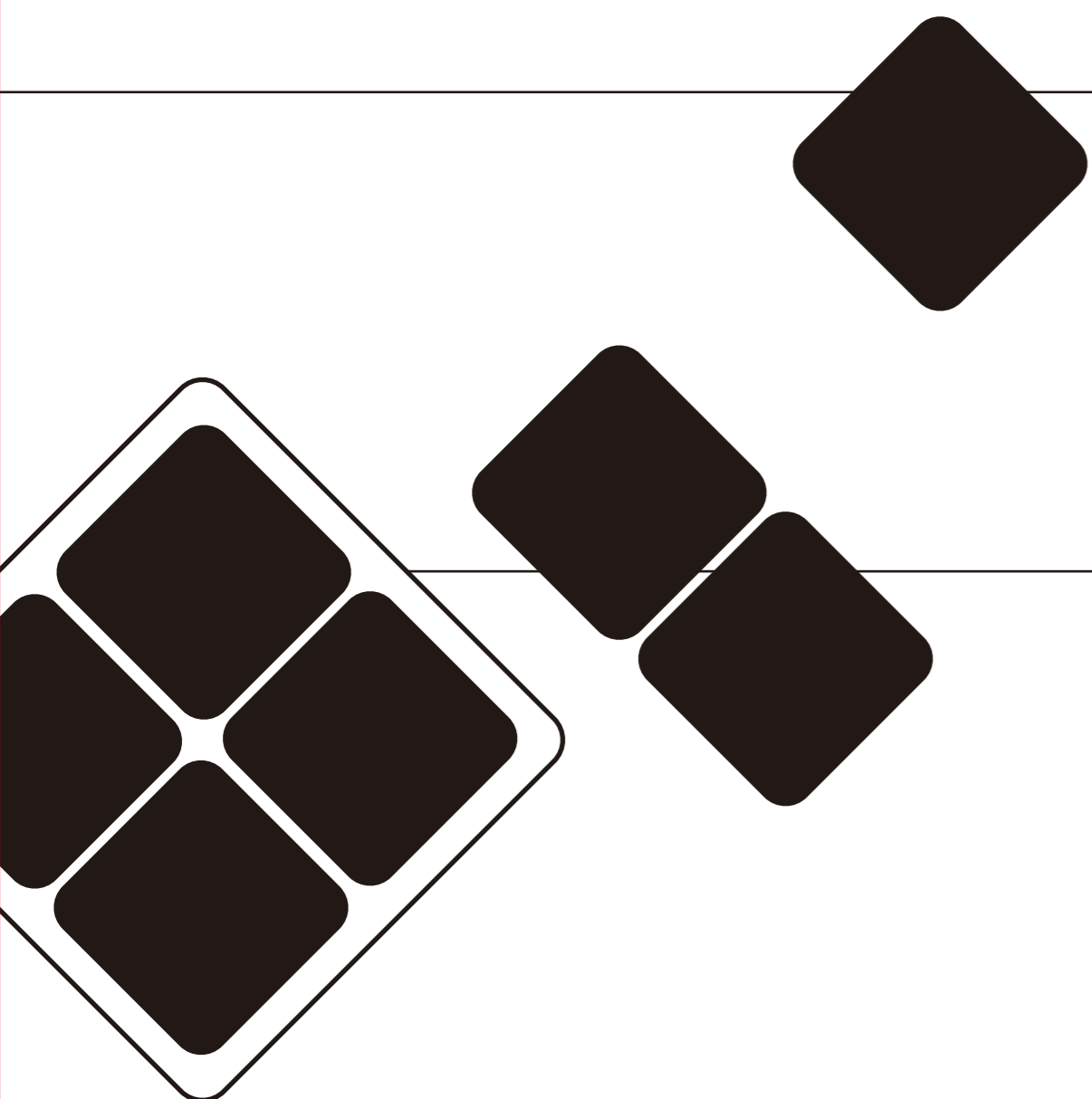
### » STANDARD

- Spindle cooling device
- Heat exchange
- Removable manual pulse generator
- X,Y,Z-axis roller type linear guide ways
- Screw type chip conveyor + chip wagon
- Call light (three layers)
- Work light
- Coolant and air gun
- Enclosed splash guard
- Tool kits

### » OPTIONS

- 15,000 rpm direct-drive spindle
- 20,000, 24,000 r.p.m rpm built-in type spindle
- 5 axes simultaneous motions
- Coolant through spindle device (15,30,50,70 bar)
- Coolant through ball screw on 3 axes
- Linear scales on 3 axes
- Oil mist device
- Oil mist collector
- Flat type chip conveyor + chip wagon
- Oil skimmer
- Automatic centering device
- Tool breakage detecting device
- Tool length measuring device
- Air conditioner for electrical cabinet

Specifications are subject to change without prior notice.



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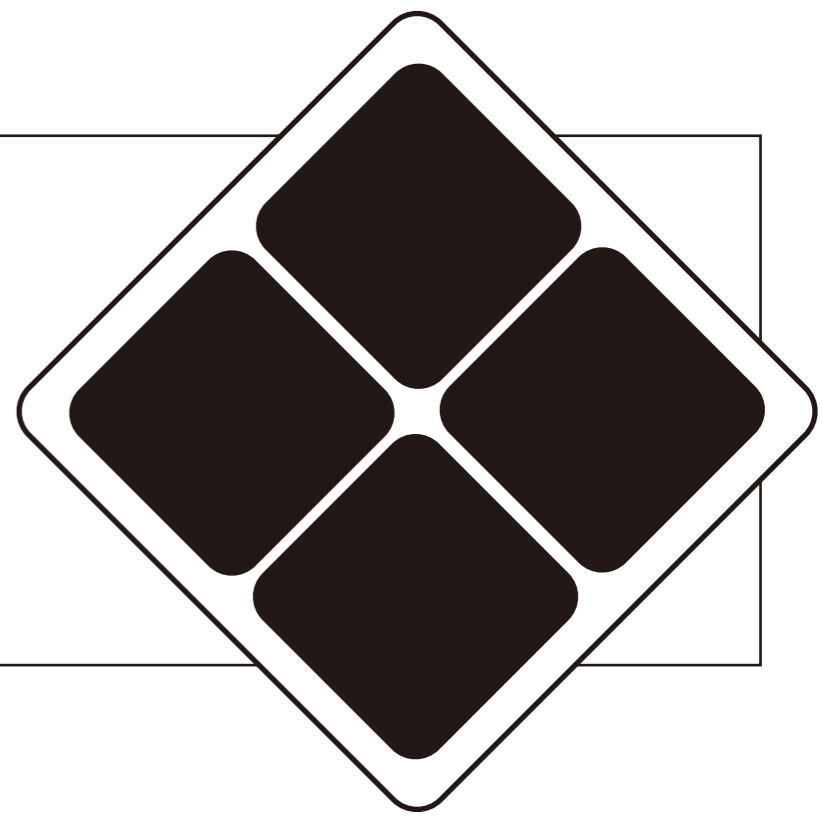
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