



CHUNG HSIWH INDUSTRIAL CO.,LTD

CH-VMC50&60

Vertical Machining Center



CNC milling machines are designed with precision, smooth, high speed and high efficiency in mind.

The series of CNC milling machine are the best choice for small mold and precision machining.

You can choose the built-in-type, direct-drive or belt-drive-type spindle to meet high speed machining requirement.

The X,Y and Z-axes are equipped with precision linear guideways for high speed travel.

The entire machine is ruggedly constructed throughout, featuring maximum stability during high speed machining.

HIGH QUALITY AND LOADED WITH FEATURES

- Designed and engineered for small molds and precision machining.
- 3 Types of spindles to choose from - belt drive, direct drive and built-in- type.
- CH-VMC50 X.Y.Z. - axis travel 500 x 400 x 400 mm.
- CH-VMC60 X.Y.Z. - axis travel 600 x 450 x 450 mm.
- Meehanite cast iron for all major machine parts.
- Linear guide ways on X.Y.Z. - axes.
- Choice of armless or arm-type magazine.
- Right and left side doors facilitate chip / closing.
- 90° swiveling control box combined with MPG handwheel provides convenient workpiece setup.

RUGGED CONSTRUCTION ENHANCING STABILITY AND RIGIDITY

- Linear guide ways on X.Y.Z. axes ensure high speed travel and reduce friction while increasing positioning accuracy.
- High precision pre-tensioned ball screws are used on 3 axes to increase accuracy while reducing thermal deformation to a minimum.
- Servomotors are directly coupled to the ball screws.
- Reinforced column bottom upgrades structural stability.



MASSIVE BOX TYPE BASE

- Enclosed, box type base with internal ribbing provides solid support for the saddle and table.
- One piece constructed base features greater rigidity.



TELESCOPING COVERS

- The telescoping steel way covers on X.Y.Z axes for protecting slideways and ball screws.



BUILT - IN TYPE SPINDLE

- Driven by a powerful 4.5 kw motor, this advanced built-in the spindle provides high speed up to 24,000 rpm.
- The spindle runs in high precision class P4 (ABEC-7) bearing.
- The spindle end has a labyrinth cooling design combined with air blast to prevent dust from entering into the spindle.
- Accepts BT-30 tool shank.



Picture shown is CH-VMC50



BELT - IN TYPE SPINDLE

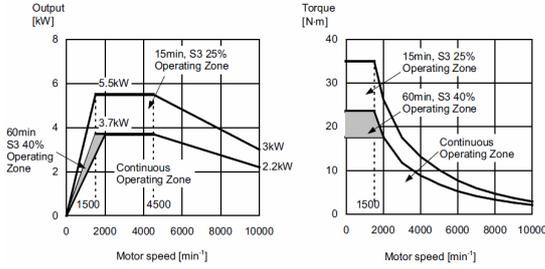
- The belt drive spindle provides spindle speed up to 15,000 rpm and is powered by 3.7 kw motor.
- The spindle is manufactured from Nickel Chromolybedenum alloy Steel (SNM21),normalization heat treated for superior durability , wear-resistance and maximum stability.
- Accepts BT-30 and BT-40tool shank.

CHOICE OF VARIOUS CNC CONTROLS

FANUC CNC CONTROL



OUTPUT / TORQUE CHARACTERISTICS FANUC AC SPINDLE MOTOR βi SERIES

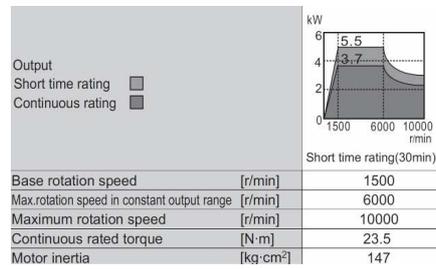


Spindle motor (cont./30 min. rating) : β3-10,000 rpm 3.7 / 5.5kw

MITSUBISHI CNC CONTROL



OUTPUT CHARACTERISTICS MITSUBISHI SPINDLE MOTOR SERIES

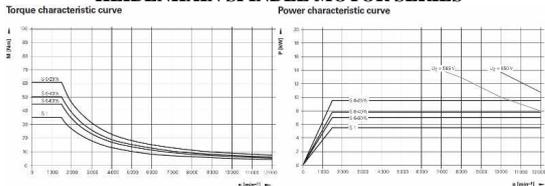


Spindle motor (cont./30 min. rating) : 10,000 rpm 3.7 / 5.5kw

HEIDENHAIN CNC CONTROL



OUTPUT / TORQUE CHARACTERISTICS HEIDENHAIN SPINDLE MOTOR SERIES

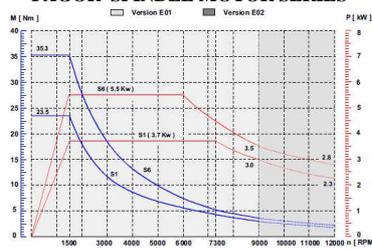


Spindle motor : 9,000 rpm 5.5 kw , 35Nm

FAGOR CNC CONTROL



OUTPUT / TORQUE CHARACTERISTICS FAGOR SPINDLE MOTOR SERIES

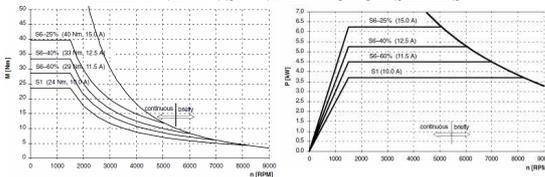


Spindle motor : 10,000 rpm 3.7 / 5.5 kw

SIEMENS CNC CONTROL



OUTPUT / TORQUE CHARACTERISTICS HEIDENHAIN SPINDLE MOTOR SERIES



Spindle motor : 10,000 rpm 3.7 / 5.5 kw , 23.6 Nm

A.T.C. System



ARMLESS TYPE MAGAZINE(STANDARD)

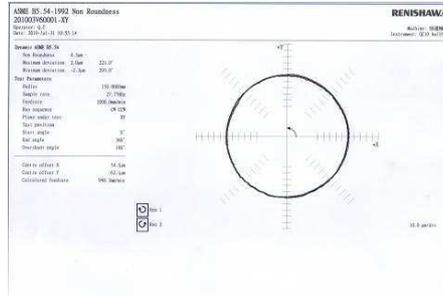
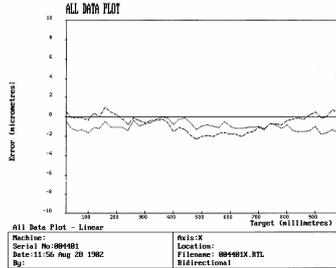
- The bi-directional tool magazine provides a loading capacity of 12(CH-VMC50) and 16(CH-VMC60) tools.
- The magazine accepts BT#30 or BT#40 tool shank.



ARM TYPE MAGAZINE(OPTIONAL)

- The random-access, bi-directional arm-type tool magazine provides a loading capacity of 20 tools.
- The magazine accepts BT#30 or BT#40 tool shank.

INSPECTION BY SOPHISTICATED INSTRUMENT



LASER INSPECTION

The high precision laser unit is applied for inspecting the geometric errors of machinery in axis movement. Inspection items include linear positioning accuracy, pitch error and backlash, etc.

BALL BAR TESTING

A sophisticated ball bar tester is applied for inspecting servo accuracy, static and dynamic geometric errors.

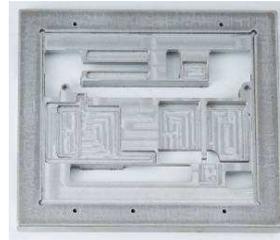
APPLICATION



Glasses mold
Plastic mold



Forging Die Cavity
HRC 60°



Electronics
Production tools



Precision electronic
Element



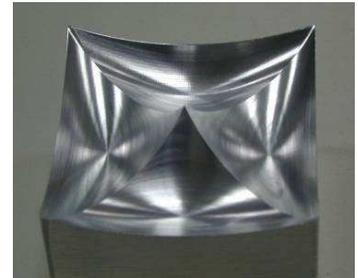
Push-rod head producing
Wax pattern mold,
Character engraving



Lock core parts



Mold



Mold



Watch case and parts

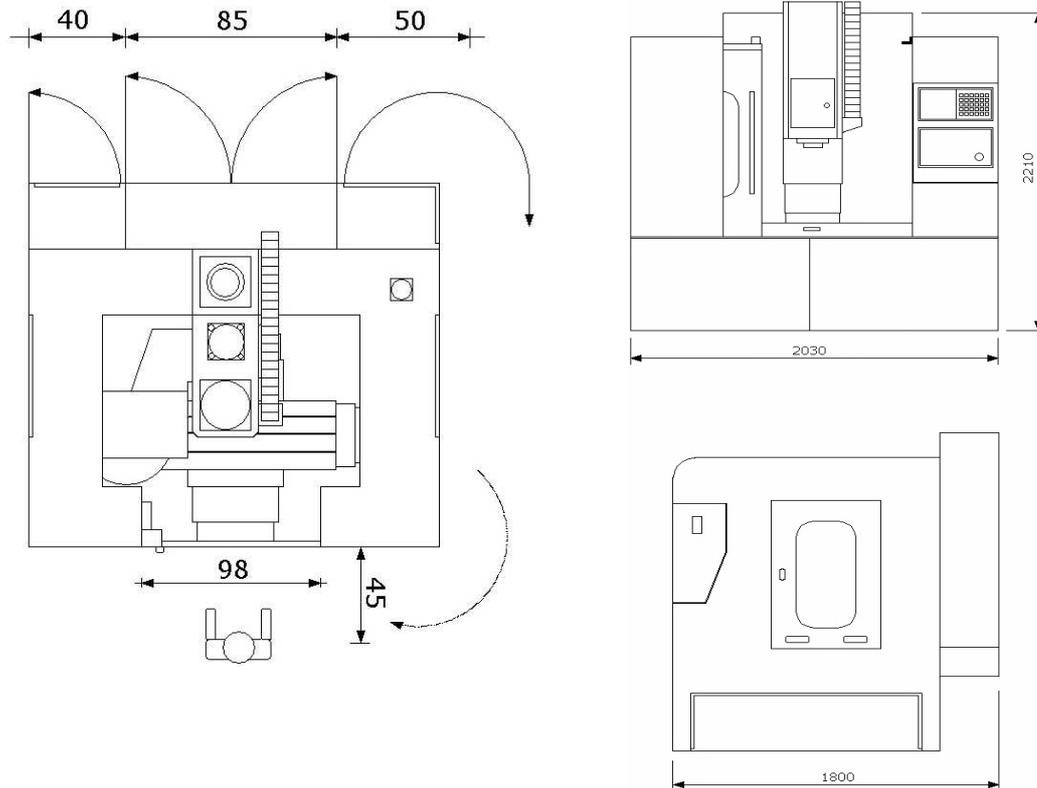
SPECIFICATIONS

ITEM	CH-VMC50	CH-VMC60	
TABLE			
Table size	380 x 760	450 x 700	mm
T slots (NO X W X CD)	4 X 16 X 80	3 X 18 X 120	mm
Table max. load	200	250	Kg
TRAVEL			
X-axis	500	600	mm
Y-axis	400	450	mm
Z-axis	400	450	mm
Spindle nose to table surface	120 ~ 520	110 ~ 560	mm
Spindle center to Z-axis cover surface	400	450	mm
SPINDLE			
Spindle speed	10,000	10,000	rpm
Spindle taper	BT40	BT40	
Spindle driven	Belt	Belt	
FEED			
X / Y / Z-axis Rapid feed rate	24	24	m / min
X / Y / Z-axis Cutting feed rate	10	10	m / min
Ball screw X / Y / Z	P12 X 32	P12 X 40	mm
Linear guideway X / Y / Z	25/25/30	25/30/30	mm
ATC			
Tool Magazine Capacity	12	20	
A.T.C. Type	Armless	Armless	
Tool shank	BT40	BT40	
Max. tool diameter	75	75	mm
Max. tool length	125	125	mm
Max. tool weight	6	6	kg
Tool change time (Tool to Tool)	7	7	Sec
MOTOR			
Spindle motor (cont./30 min. rating)	3.7 / 5.5	3.7 / 5.5	kw
X / Y / Z-axis motor	X / Y 1.0 / Z 1.5	X / Y 1.0 / Z 1.5	kw
Coolant pump	1/2	1/2	HP
Electric power	15	15	kva
Air pressurs required	6	6	kg/cm ²
MACHINE			
Machine dimensions(L X W X H)	1,800 X 2,030 X 2,210	1,940 X 2,220 X 2,350	mm
Packing dimensions(L X W X H)	1,940 X 2,210 X 2,240	2,100 X 2,400 X 2,550	mm
Machine weight N.W / G.W	2,300 / 2,400	3,200 / 3,400	kg

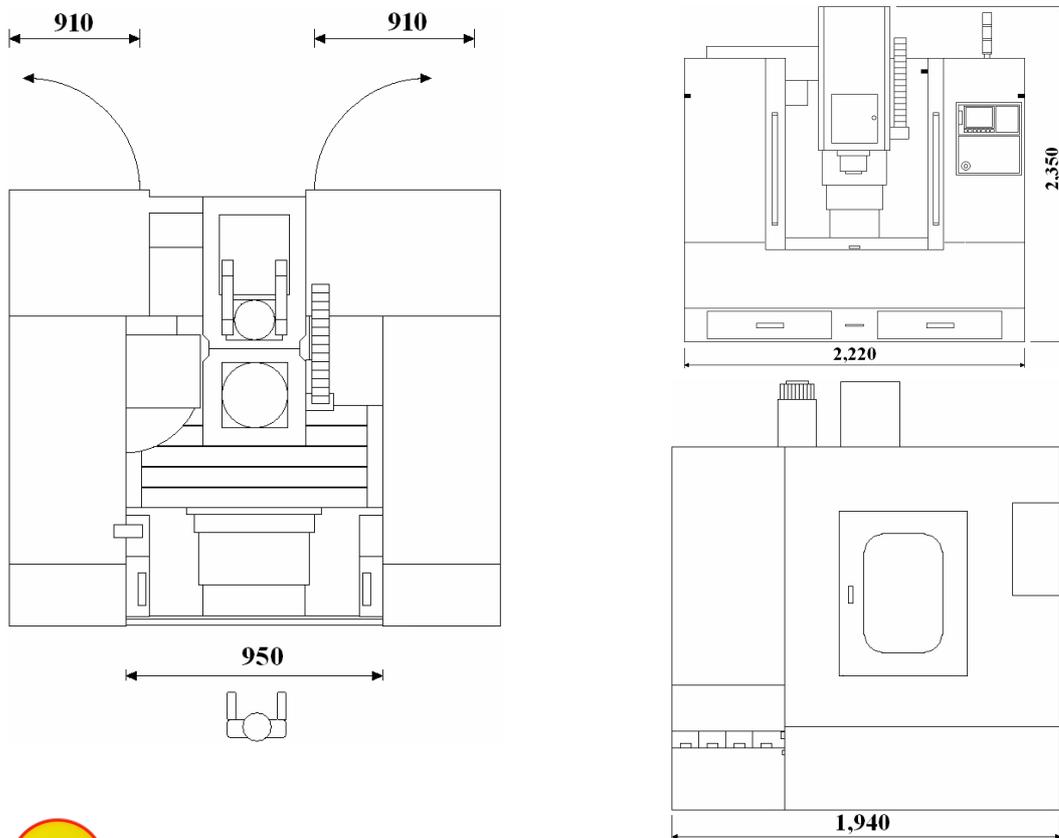
STANDARD ACCESSORIES :	CH-VMC50 OPTIONAL ACCESSORIES	CH-VMC60 OPTIONAL ACCESSORIES
• Spindle speed 10000rpm	• Arm type A.T.C. BT40 20 Tools	• Arm type A.T.C. BT40 20 Tools
• Armless type A.T.C.	• Arm type A.T.C. BT30 20 Tools	• Arm type A.T.C. BT30 20 Tools
• Full splash guard	• BT-30 spindle 12000 /15000rpm /Belt	• BT-30 spindle 12000 /15000rpm /Belt
• 3 Axes linear guide way	• BT-30 spindle 12000 /15000rpm /Direct	• BT-30 spindle 12000 /15000rpm /Direct
• 3 Axes ball screw	• BT-40 spindle 12000rpm /Belt	• BT-40 spindle 12000rpm /Belt
• 3 Axes telescopic steel cover	• BT-40 spindle 12000 /15000rpm /Direct	• BT-40 spindle 12000 /15000rpm /Direct
• Spindle air blast	• ISO-25 spindle 24000 /30000rpm / Built-in	• ISO-25 spindle 24000 /30000rpm / Built-in
• Auto , lubrication system	• BT-30 spindle 24000 /30000rpm / Built-in	• BT-30 spindle 24000 /30000rpm / Built-in
• Coolant system	• Spindle oil cooler	• Spindle oil cooler
• Working lamp	• Auto. Tool length measurement	• Auto. Tool length measurement
• Alarm lamp	• Auto. workpiece measurement	• Auto. workpiece measurement
• Auto. power off	• Transformer	• Transformer
• MPG hand wheel	• CE	• CE
• Heat exchanger for electric cabinet	• ISO-40 Center Through Spindle 20bar	• Chip auger , Screw type chip conveyor
• Tool kit	• CNC Rotary table Dia.:120mm	• Chain type chip conveyor with bucket
• Leveling pads & bolts	• Water gun	• ISO-40 Center Through Spindle 20bar
• Manual	• Air gun	• CNC Rotary table Dia.:170mm
	• Air conditioning device for electric cabinet	• Oil scimmer device
		• Chip flushing device
		• Water gun
		• Air gun
		• Air conditioning device for electric cabinet

OUTLINE DIMENSIONS

CH-VMC50



CH-VMC60



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