



IRON HAND

CHUNG HSIWH
INDUSTRIAL

Linear Way Series

Vertical

MACHINING CENTER

**Optimal Design
To Optimize Your Machining
Efficiency And Quality !**

VERTICAL MACHINING CENTER

Designed And Engineered for **Small Molds** And **Precision Machining**

- Massive box type base assures outstanding stability.
- Three types of spindles to choose from-belt drive, direct drive and built-in type.
- Linear guide ways on X, Y, Z-axis.
- Choice of armless type magazine.



CH-VMC30

- X, Y, Z-axis travel: 300x180x210mm
- BT30 spindle taper
- 12 tools armless type ATC



CH-VMC40 CH-VMC45

- X, Y, Z-axis travel: 450x400x400mm
- BT40 spindle taper
- 12 tools armless type ATC

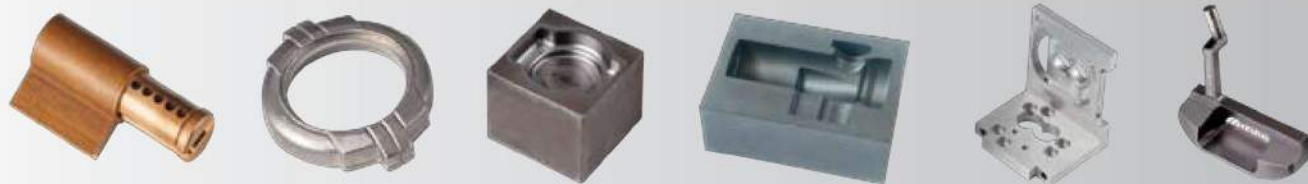
CH-VMC50

- X, Y, Z-axis travel:
500x400x400mm
- BT40 spindle taper
- 12 tools armless type ATC



CH-VMC80 CH-VMC100

- X, Y, Z-axis travel:
1000x500x550mm
- BT40 spindle taper
- 20 tools armless type ATC



VERTICAL MACHINING CENTER

RIGID CONSTRUCTION ASSURES MAXIMUM STABILITY

MEEHANITE CAST IRON

The major structural parts of the machine are manufactured from high quality Meehanite cast iron and strains relieved to achieve outstanding material stability without deformation.

LINEAR WAYS ON THREE AXES

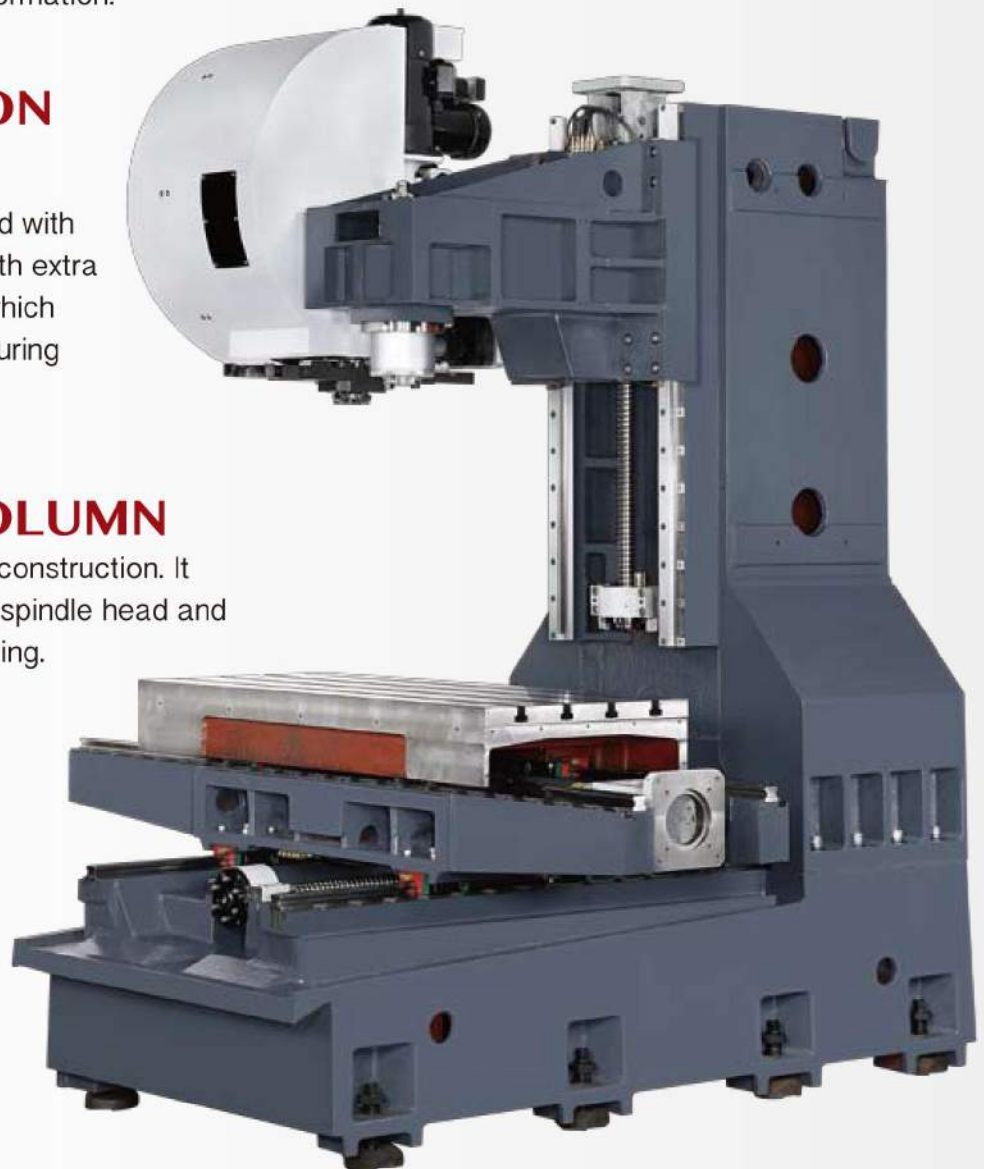
The X, Y, Z-axis are equipped with high precision linear ways with extra span between linear ways, which ensures maximum stability during high speed operating.

OVERSIZED COLUMN

The column is an oversized construction. It gives a solid support for the spindle head and increases stability of machining.

RIGID HEADSTOCK

The headstock is rigidly constructed, providing a firm support for the spindle with minimum vibration during operating.

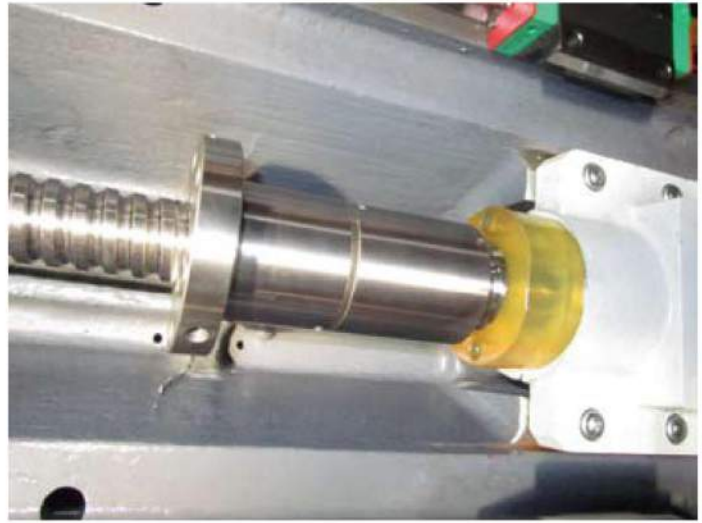


Picture shown is the structure of VMC100



ARMLESS TYPE ATC (STANDARD) 12/16/20 TOOLS

- The tool magazine provides a loading capacity of 12 / 16 or 20 tools depending on the machine model.
- Tool change can be quickly accomplished in only 7 seconds (tool to tool).



HIGH PRECISION BALL SCREW WITH DOUBLE NUTS

- Three axes ball screws are directly driven by servo motors for minimum backlash.
- Ball screw is pretensioned with double nuts, assuring high transmission accuracy.



SPINDLE OIL COOLER

The spindle oil cooler provides outstanding cooling effect to the spindle, that allows the spindle to run at a constant temperature. This results in high machining accuracy and extended life of the spindle.



BALL BAR TESTING

Once the machine is well assembled, we apply the ball bar testing equipment to calibrate circularity and geometrical accuracy of the machine.



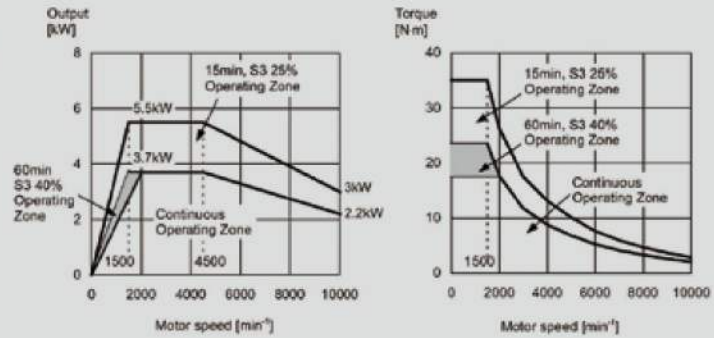
LASER INSPECTION

We apply laser unit to inspect and calibrate the screw pitch error, backlash, positioning accuracy and repeatability on three axes. With the laser inspection, high machining accuracy can be achieved.

SPINDLE SPEED/TORQUE DIAGRAM

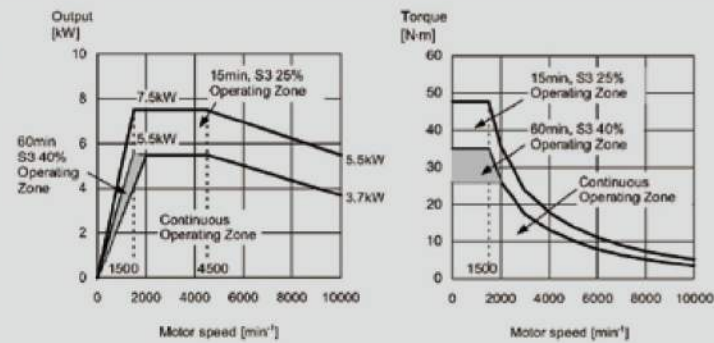
Fanuc 3.7/5.5kw 10,000RPM

Suitable Models: VMC45, 50
(STANDARD)



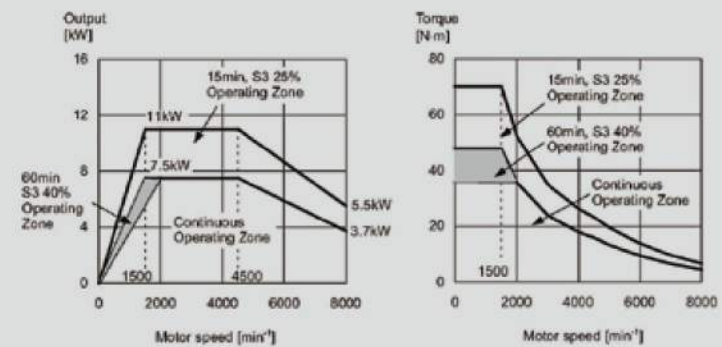
Fanuc 5.5/7.5kw 10,000RPM

Suitable Models: VMC45, 50
(OPTIONAL)



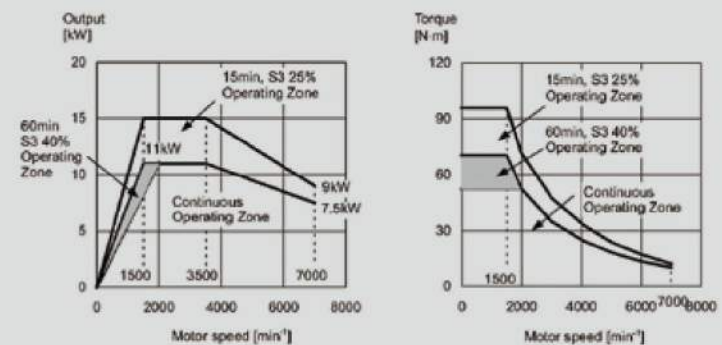
Fanuc 7.5/11kw 10,000RPM

Suitable Models: VMC80, 100
(STANDARD)



Fanuc 11/15kw 7,000RPM

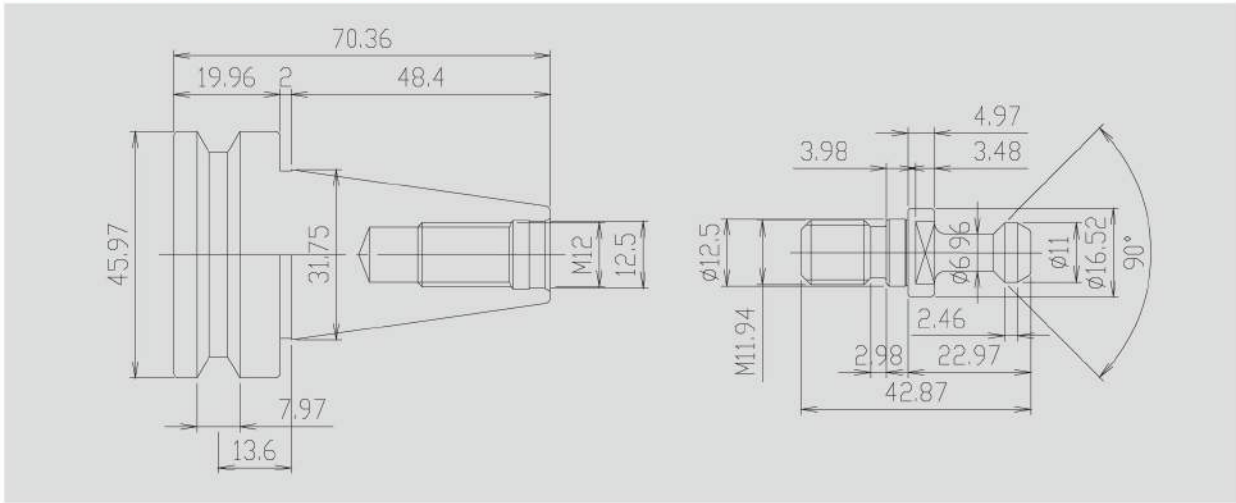
Suitable Models: VMC80, 100
(OPTIONAL)



VERTICAL MACHINING CENTER

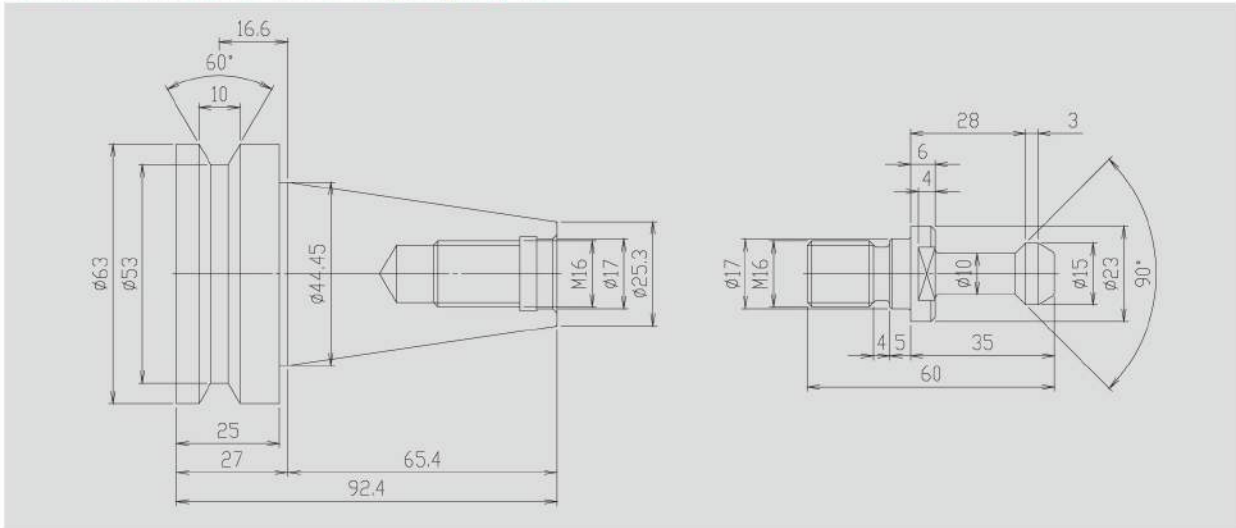
BT30 TOOL SHANK

Suitable Models: VMC 30, 40



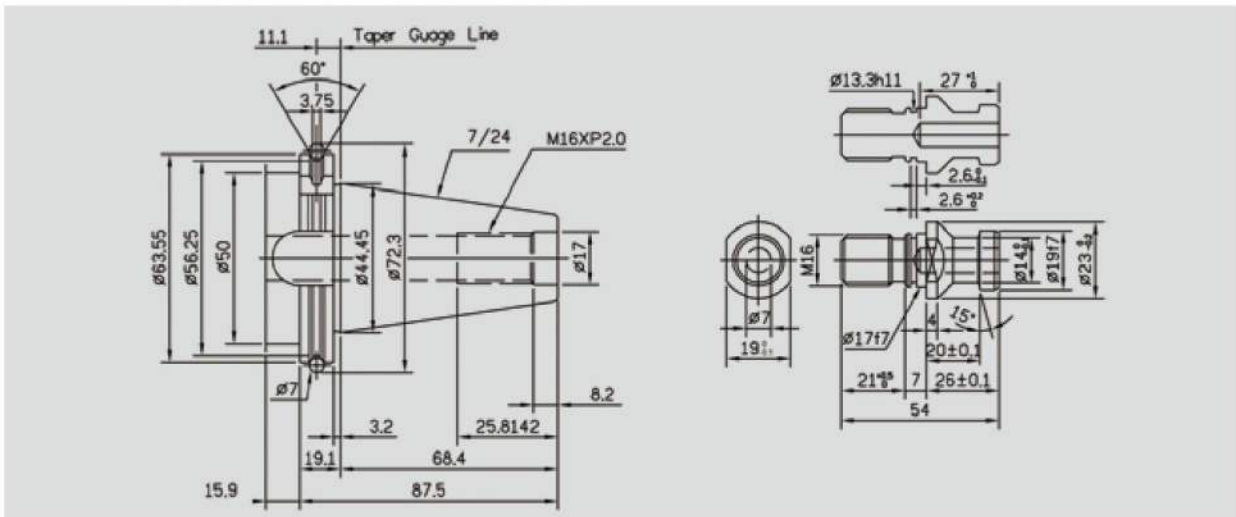
BT40 TOOL SHANK

Suitable Models: VMC 45, 50, 80, 100

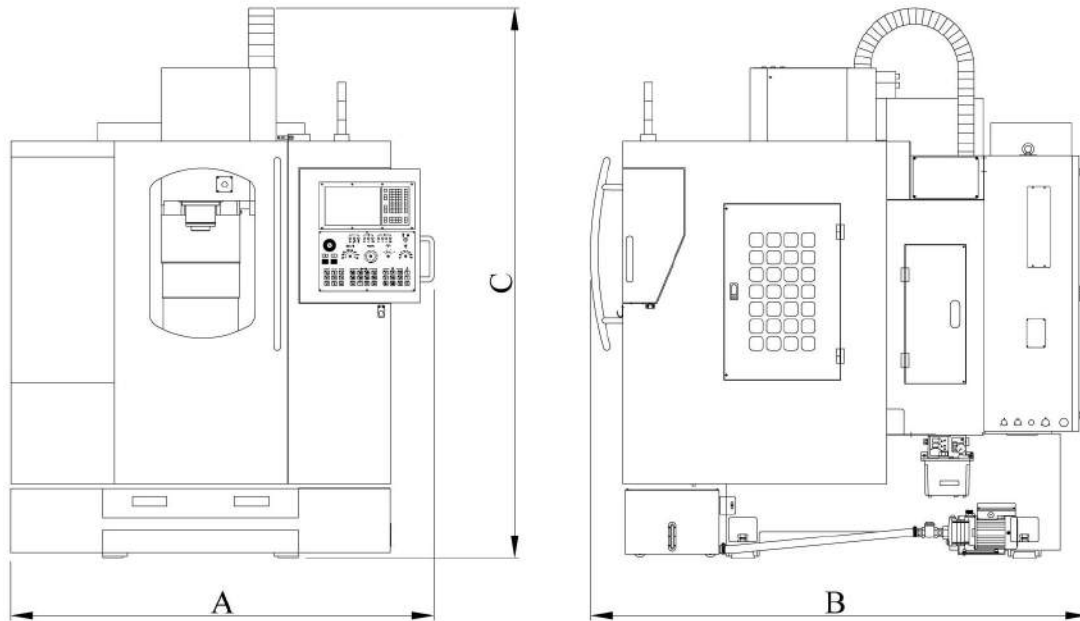


DIN40 TOOL SHANK

Suitable Models: VMC 45, 50, 80, 100



MACHINE DIMENSIONS



MODLE		VMC30	VMC40	VMC45	VMC50	VMC80	VMC100
Dimensions (mm)	A	1,716	1,750	1,870	1,800	2,100	2,660
	B	1,690	1,652	2,150	2,030	2,620	2,595
	C	2,250	2,250	2,560	2,210	2,730	2,450

STANDARD ACCESSORIES:

1. CNC control
2. Z axis with upgraded motor & built-in brake
3. Armless type ATC
4. Fully enclosed splash guard
5. Telescopic way covers for X/Y/Z axes
6. Spindle air blast
7. Automatic lubrication system
8. Coolant system
9. Working lamp
10. Alarm lamp
11. Auto. power off
12. Portable MPG
13. Heat exchanger for electric cabinet
14. Tool box & kits
15. Leveling pads & bolts
16. Rigid tapping (for VMC45,50,80,100 only)
17. Instruction manual & parts list

OPTIONAL ACCESSORIES

1. Enlarge spindle motor
2. Built-in spindle 24,000rpm
3. Arm type ATC
4. Coolant through spindle with high pressure pump
5. Chain type chip conveyor & cart
6. Oil skimmer
7. Oil mist recycling device
8. Spindle Oil cooler
9. Tool setting probe
10. Work piece measuring probe
11. 4th axis rotary table
12. Water gun
13. Air gun
14. Air conditioning device for electric cabinet
15. 3-Axes optical scale
16. CE
17. Transformer

CONTROLLER OPTION

1. Fanuc Oi-MD
2. Mitsubishi M70V
3. Mitsubishi M720
4. Siemens 828D
5. Heidenhain iTNC530
6. Heidenhain iTNC620
7. Fagor 8055 FL
8. Fagor 8055 POWER
9. Fagor 8065

MACHINE SPECIFICATIONS

MODLE	UNIT	CH-VMC30	CH-VMC40	CH-VMC45	CH-VMC50	CH-VMC80	CH-VMC100
TABLE							
Table size	mm	180×380	250×550	300×770	380×760	420×900	500×1100
T Slots (WxNxP)	mm	10x3x50	12x3x70	16x3x80	16x4x80	16x5x63	18x4x110
Distance between table & floow	mm	840	840	880	800	900	800
Table max. load	kg	60	100	200	200	450	600
TRAVEL							
X-axis	mm	300	400	450	500	800	1000
Y-axis	mm	180	250	400	400	460	500
Z-axis	mm	210	300	400	400	500	550
AXES TRANSMISSION							
Ball screw X/Y/Z	mm	D20xP10xC3		D25/D25/D32 x P10 x C3	D32xP12xC3	D32xP12xC3	D40xP12xC3
Transmission	mm	Direct					
X/Y/Z rapid feed	M/min	20	24	30/30/24			
XYZ feed rate	M/min	6	10				
Linear guideway X/Y/Z	mm	20		25/25/30		30/30/35	35
Ballscrew lubrication X/Y/Z	mm	Oil					
SPINDLE							
Spindle speed	rpm	10,000 (12,000 opt.)					
Spindle taper		BT 30			BT 40		
Spindle driven		Belt					
Spindle nose to table surface	mm	100~310	100~400	120~520		125~625	110~660
ATC							
Tool magazine capacity		12 (16 Arm type for VMC45 only)				20 (24 Arm type)	
A. T. C. Type		Armless (Arm opt.)					
Tool taper		BT 30			BT 40		
Max. tool diameter	mm	75		80	75		
Max. tool length	mm	125			250		
Max. tool weight	kg	3			6		
ATC Time (T-T)	sec	7			7		
MOTOR (Below figure is for Fanuc)							
Spindle motor (cont./30 min. rating)	kw	2.2(Inverter spindle motor)		3.7/5.5 (7.5/11 opt.)		5.5/7.5 (11/15 opt.)	
X-axis feed motor	kw	0.5		1.2		1.8	
Y-axis feed motor	kw	0.5		1.2		1.8	
Z-axis feed motor (built-in brake)	kw	1.2		1.8		2.5	
Coolant pump	HP	1/4		1/2		1	
Electric power	kva	5		7.5		20	
PNEUMATIC							
Air pressurs required	kg/cm ²	6					
Air consumption	L/min	400					
ACCURACY							
Positioning	mm	±0.005/300					
Repeatability	mm	±0.003					
MACHINE							
Machine dimensions(L×W×H)	mm	1716x1690x2250	1750x1652x2250	1870x2150x2560	1800x2030x2210	2100x2620x2730	2660x2595x2450
Machine weight	kg	1100	1100	2900	2300	4200	5700

■ Design and specifications are subject to change without prior notice.



IRON HAND

CHUNG HSIWH INDUSTRIAL CO.,LTD.

No.32, LANE. 138, Jiahou Rd., Houli Dist.,
Taichung City 421, Taiwan (R.O.C.)

TEL +886-4-25576333 (REP)

FAX +886-4-25571311

E-MAIL sales@cncchunghsiwh.hinet.net

www.cncchunghsiwh.com.tw

