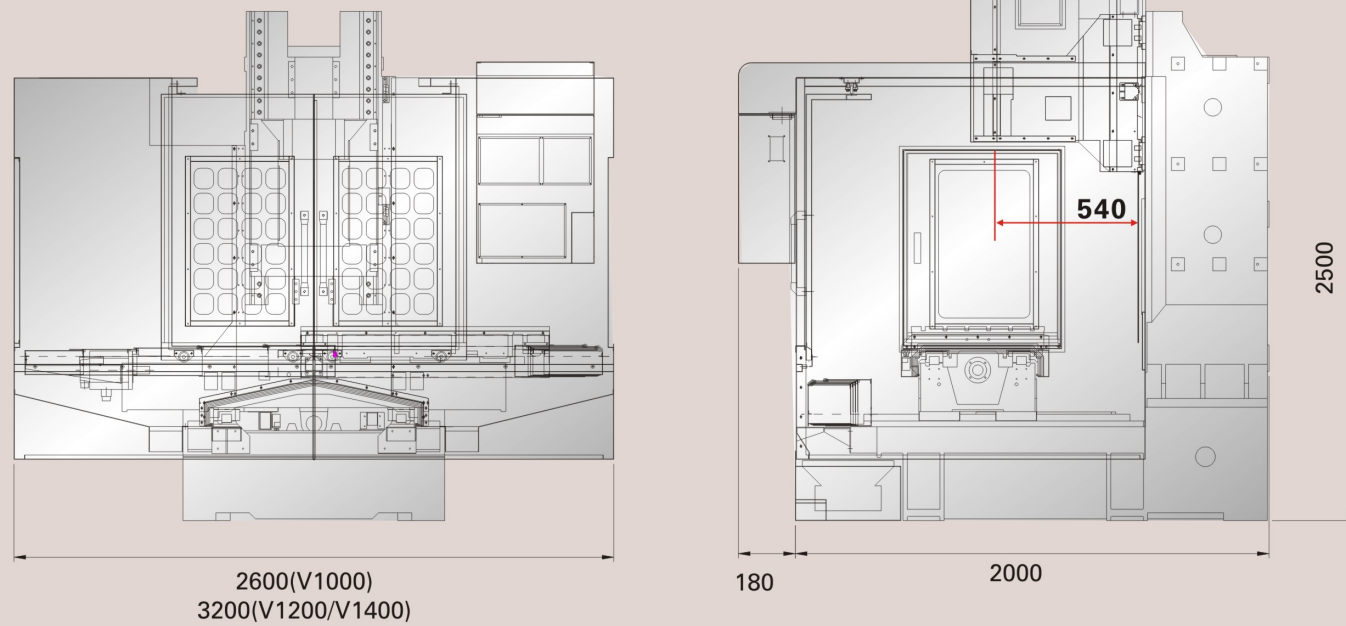


Unit:mm

Machine Dimension

V1000/ V1200/V1400

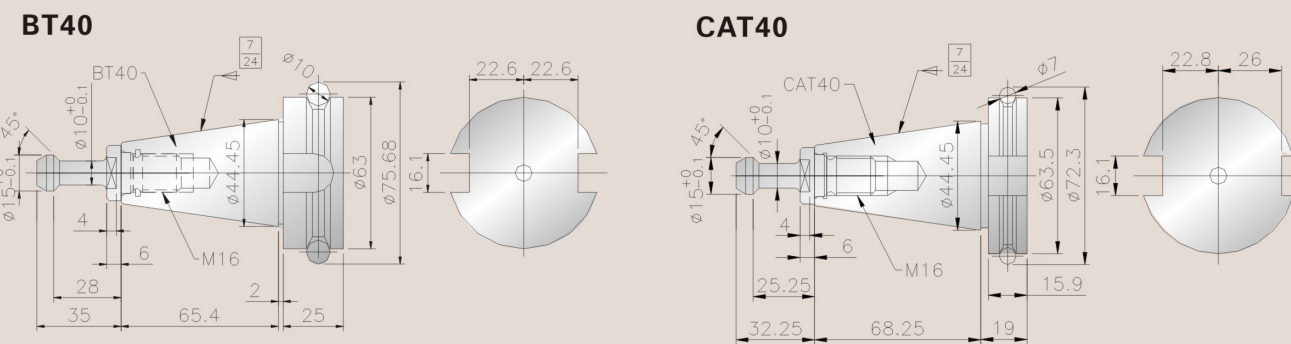


Eco V series

Vertical Machining Centers



Tooling system



WE SIMPLY THE BEST
ISO 9001 CE



XYZ Rapid : 36/36/30 m/min
Power:7.5/11kw



SHARPTECH PRECISION Machinery Co.,Ltd.
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SHARPTECH Precision Machinery Co., Ltd.

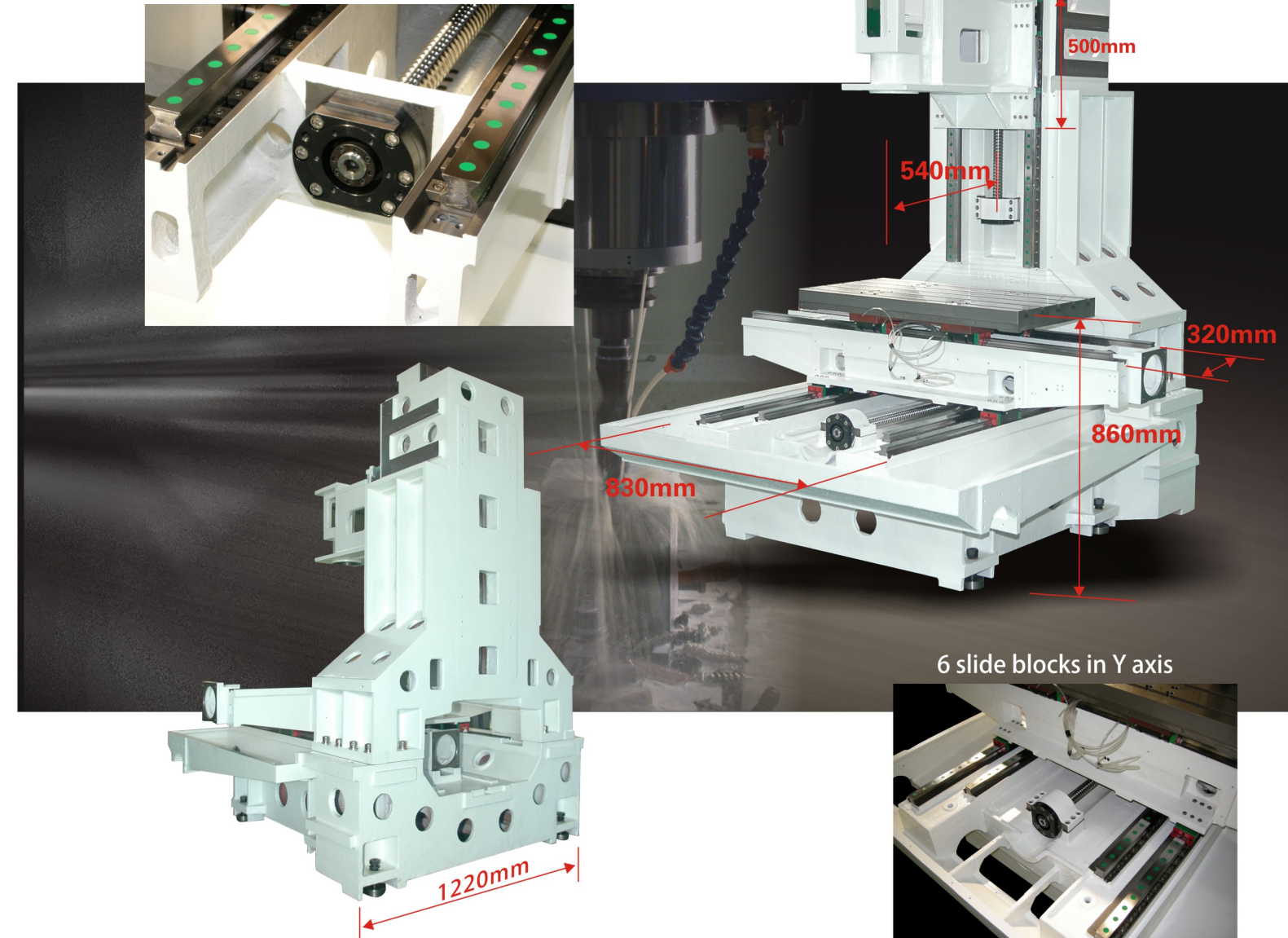
SHARPTECH completed brand new designed high C/P value - ECO V Series

SHARPTECH's innovative powerful ECO V series, high speed vertical machining center equipped with 7.5/11 kw spindle motor provide mass cutting capacity, and direct drives spindle is available up to 30000 rpm. The ball screws of XYZ axes use high precision C3 class with pre-loaded, no backlash designed and direct transmission to achieve best cutting performance. All axes are equipped with linear guide way, to achieve heavy loading and heavy cutting capacity, and 2 kw axial motors are applied to all axes. SHARPTECH's construction uses only high quality well ribbed Meehanite cast iron included machine's base, saddle, table, wider column and head stock. All structure parts are manufactured from high quality cast iron with tempering and normalization heat treatment. This resulted to assure the extremely high stability and high rigidity of material to achieve superior cutting performance without deformation by optimal FEA process.

- V1000 (1000 x 510 x 510)
- V1200 (1200 x 510 x 510)
- V1400 (1400 x 510 x 510)



Single piece housing cast iron with saddle to achieve high rigidity



The features

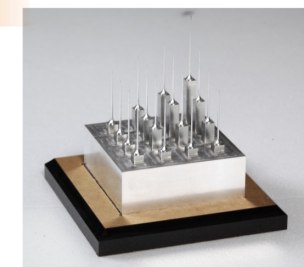
1. High rapid traverse

The XYZ rapid traverse ranged to 36/36/30 m/min, and driven by 2.0 Kw axial servo motor

2. High cutting feed for multi purpose use

From 1 to 10 m/min

3. 24 tool pocket swing arm type ATC (option)



Needle mold sample



Engine cover case



24 swing arm type ATC



Swing arm ATC and spindle nose



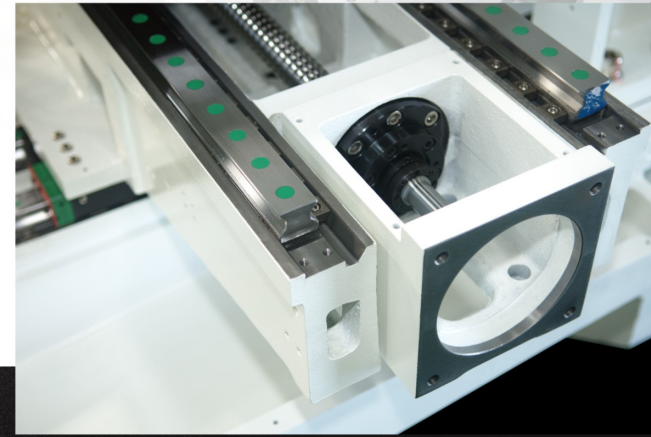
Swing arm ATC with 30 tool pockets (Option)

4. Power

Standard spindle power 7.5/11kw (10/15hp)

5. Ball screw

All XYZ ball screw are using high precision C3 class with pre-loading and no backlash designed, and with direct coupling transmission to achieve the best accuracy .



6. Cartridge type high speed spindle

The standard spindle speed is belt drive 10000 rpm. Optional 12000 rpm direct drive spindle and 30000 rpm Electro spindle is also available for extremely high speed cutting.



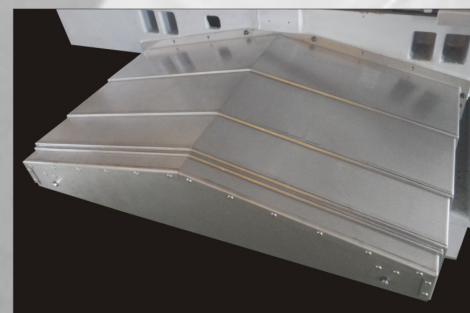
BT 40 Belt drive spindle up to 10000 rpm



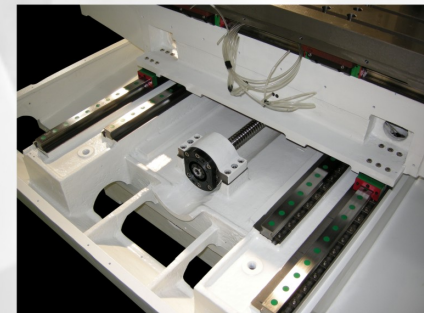
Direct Drive Spindle up to 30000 rpm

7. Linear motion guide way

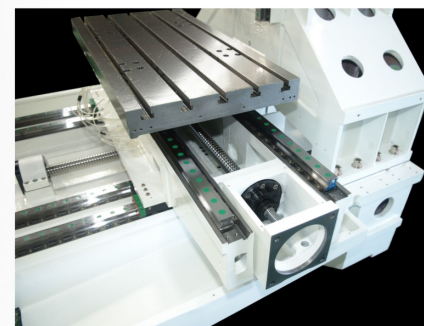
All axes are equipped with P class linear guide way to achieve the high loading and high cutting capacity. Specially, SHARPTECH uses 4 linear guide way in Y axis for heavy duty cutting.



Roof type telescopic cover in X and Y axis.



4 linear guide way with total 6 slide block in Y axis



2 linear guide way with 4 slide block in X axis



2 linear guide way with 4 slide block in Z axis

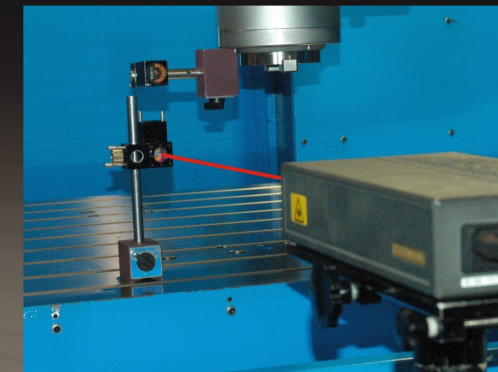
8. Quality assurance :

Before assembling

- Components -- 100% QC
- Assembling -- 100% QC
- Assembly by skillful and experienced engineers

After assembling

- Ball bar test – to ensure the linear and geometry accuracy of machine
- Laser calibration – to ensure the positioning accuracy and repeatability accuracy



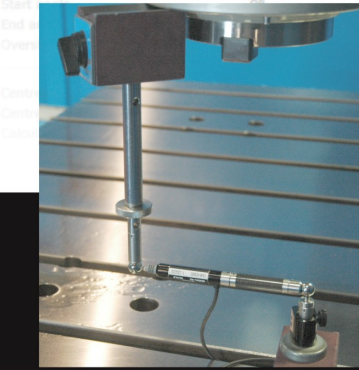
ASME B5.54-1992 Non Roundness

10010305-YZ
Operator: Q.C
Date: 2011-Sep-01 16:47:27

Dynamic ASME B5.54	
Non roundness	8.9µm
Maximum deviation	3.4µm
Minimum deviation	-5.5µm
Test parameters	
Feedrate	150
Flare sequence	2000
Flare under test	
Test position	
Start	
End	
Over	



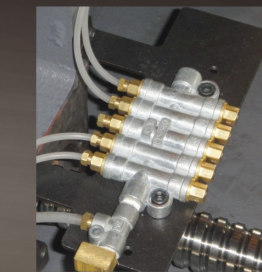
Hand scrapping in all contact surfaces



Ball bar check

9. Lubrication

All axes ball screws, linear guide ways and bearing are lubricated compulsorily by automatic lubrication system.



Oil distributor



Lubrication pump

10. Test Before shipment

Cutting test

Drilling, Tapping,
Cutting capacity test

Accuracy test

Rectangular,
Circular and
Roundness test



MARPOSS touch probe (option)

Standard accessories



Coil type chip conveyer



Oil Chiller for spindle



Heat exchanger in electrical cabinet



Mitsubishi M70
FANUC 0iMD
SIEMENS 828D
Heidenhain
LNC pc based

Vertical machining center ECO V series

Model	Unit	V1000	V1200	V1400
Travel				
X axis	mm(in)	1000 (39)	1200 (47)	1400 (55)
Y axis	mm(in)	510 (20)	510 (20)	510 (20)
Z axis	mm(in)	510 (20)	510 (20)	510 (20)
Spindle nose to table	mm(in)	125~635 (4.9x25)	125~635 (4.9x25)	125~635 (4.9x25)
Spindle center to column	mm(in)	540 (21)	540 (21)	540 (21)
Table				
Table size	mm(in)	1000x500 (39x19.6)	1200 x500 (47x19.6)	1400x500 (55x19.6)
Table height	mm(in)	860 (33.8)	860 (33.8)	860 (33.8)
Table surface (T slot)		5-18Tx100	5-18Tx100	5-18Tx100
Table Max. load	kg(lbs)	800 (1760)	1000 (2200)	1200 (2640)
Spindle				
Spindle speed (Belt)	rpm	10,000	10,000	10,000
Spindle motor power	KW(HP)	7.5/11 (10/15)	7.5/11 (10/15)	7.5/11 (10/15)
Spindle taper		BT40 (CAT40)	BT40 (CAT40)	BT40 (CAT40)
Axes Rapid and feed rate				
XYZ Rapid	M/min (in/min)	36/36/30 (1417/1417/1181)		
XYZ Feed	M/min (in/min)	1-10 (1-393)	1-10 (1-393)	1-10 (1-393)
XYZ Servo power	Kw (hp)	2 (2.66)	2 (2.66)	2 (2.66)
ATC				
Mode		Drum type	Drum type	Drum type
Tool shank type		#40	#40	#40
No. of tools	no.	16	16	16
ATC time (T - T)	sec	8	8	8
ATC time (C - C)	sec	14	14	14
Pocket pitch	mm	104	104	104
Max. tool length	mm	250	250	250
Max. tool weight	kg	7	7	7
Max. tool Dia.	mm	100	100	100
(No adjacent)	mm	125	125	125
Accuracy				
Positioning X/Y/Z	mm	VDI/DGQ 3441 0.015		
Repeatability X/Y/Z	mm	VDI/DGQ 3441 Ps max. 0.01		
Pneumatic				
System pressure	bar	6	6	6
Compressed air consumption	l/min	400	400	400
Coolant system				
Pump motor output	KW	0.96 (1.27)	0.96 (1.27)	0.96 (1.27)
Pump flow rate	l/min	66	66	66
Pump pressure	bar	1.3(50Hz)	1.3(50Hz)	1.3(50Hz)
Pump / Machine		2	2	2
Tank capacity	liter	240	240	240
Power requirement				
Power capacity	KVA	15	15	15
Dimensions				
Length	mm(in)	2000 (79)	2000 (79)	2000 (79)
Width	mm(in)	2600 (103)	3200 (126)	3200 (126)
Machine height	mm(in)	2500 (99)	2500 (99)	2500 (99)
Weight	kg(lbs)	4600 (10120)	5200 (11440)	5400 (11880)

- All specifications are subject to change without notice
- All accuracy check : Positioning is basis on VDI/DGQ 3441 , repeatability is basis on VDI/DGQ 3441 Ps .

Standard accessories

- Full enclosure guard
- Swing type control panel
- XYZ axes telescopic cover
- Lubrication system for XYZ ball screws and linear guide ways
- 10000 rpm belt drive spindle with oil chiller
- Drum type ATC with 16 tools
- Coolant system with 2 pump and 1 coolant tank
- Coolant flushing system in base
- Coolant gun for cleaning work pcs
- Coil type chips conveyor with wheeled bucket
- Air purge for spindle
- Air blow for tool tip
- Air gun for cleaning work pcs and working area
- LED working light
- LED 3 color indicating light
- Tempered glass widows
- Rigid tapping
- Helical interpolation
- Look ahead function
- M30 automatic power off
- Door interlock
- RJ 45 port
- RS 232 port
- CF card slot
- USB slot
- PCMCIA card slot
- Remote wired MPG
- 8.4" LCD screen
- Operation manual
- Simple tool box
- Foundation pads and screws

Options

- 20 bar coolant thru spindle system
- Swing arm type ATC with 24 tool pocket
- 10000 / 12000 / 24000 / 30000 rpm Direct Drive / electro Spindle
- Chain type chips conveyor with wheeled bucket
- Automatic tool length measurement / work pcs measurement
- Oil skimmer
- Extra M function
- 4th axis package including dia. 250 mm rotary table , motor, drive, pipe and wiring
- Transformer (380V or 415V)
- CE package

