

# Double Spindle Vertical Machining Center

## DSV-500

*High Quality, High Efficiency,  
High Cost Performance*

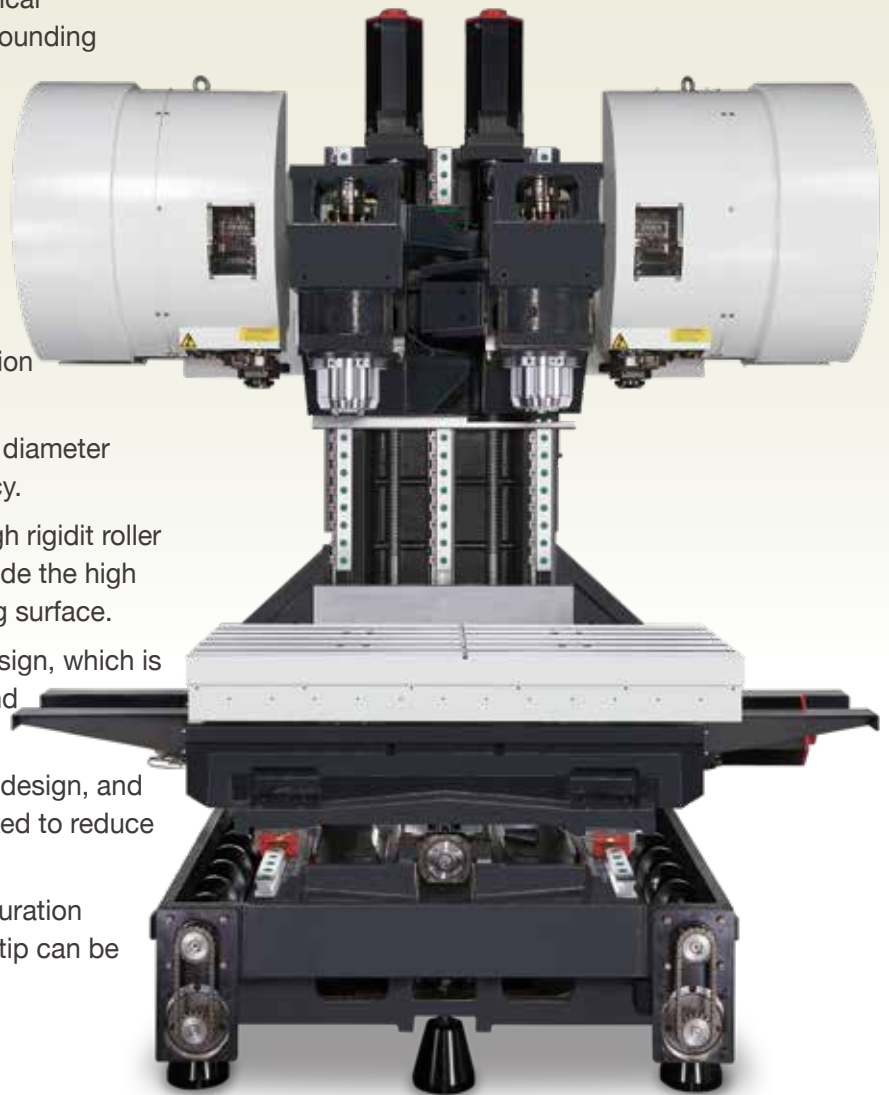


CE

 **Agma**

# Double Spindle Characteristic Description

- ▲ The DSV-500 twin-spindle double-ATC vertical machining center is a high-efficiency compounding machine developed for the processing of small-volume parts.
- ▲ The rib reinforcement design of the casting structure enhances the rigidity, stability and precision of the machine.
- ▲ The three-axis adopts the outer diameter 40mm C3 grade precision pretension ball screw, direct drive transmission, high precision and long using life.
- ▲ The spindle adopts large size BBT40-outer diameter 150mm which increase the cutting efficiency.
- ▲ XYZ three-axis use 35mm/45mm/45mm high rigidit roller linear guide ways configuration which provide the high shock resistance ad high quality processing surface.
- ▲ The column adopts a large-span A-type design, which is more stable in combination with the bed and enhances the rigidity of the machine.
- ▲ The Z-axis adopts a three linear guide way design, and the dual-spindle head is symmetrically locked to reduce cutting vibration.
- ▲ Double-spindle double Z-axis motor configuration design, the parallelism of the two-axis tool tip can be fine-tuned by  $0.001-\pm 5\text{mm}$ .



**Republic of China Patent**  
**No. M562176**

## Strict Quality Control

### ◉ Calibration with Laser Interferometer was Performed

All of our machines are calibrated according to the "VDI 3441  $3\sigma$ " standard. Calibration is performed for full travel length for each axis.

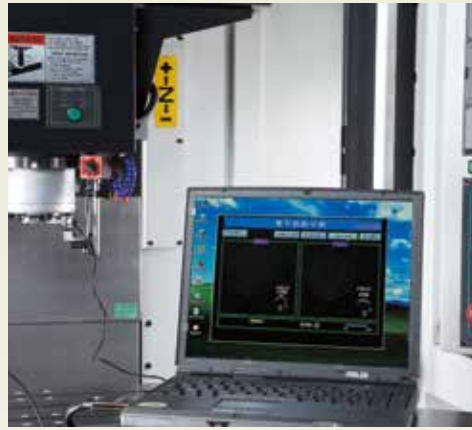
Each measurement is taken six times to ensure the most consistent and accurate readings.



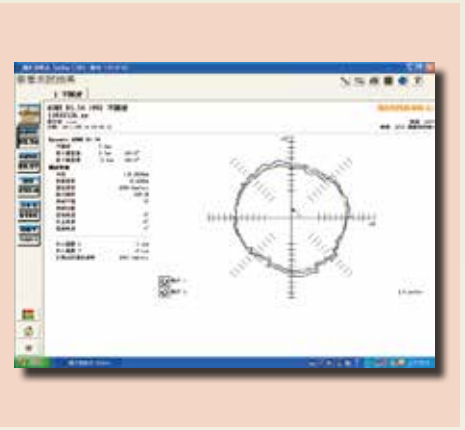


**▲ Renishaw Ballbar System**

Carry out a three dimensional circular test and optimal adjustment.



**▲ High-speed spindle dynamic characteristic verification diagram**



**▲ Circle chart**

Correct roundness and machine with roundness tester/Renishaw Geometric accuracy of the table, which ensures the movement of the machine degree.

## Standard & Special Accessories



▲ X/Y/Z Linear Scale (option)



▲ Hinged-Belt Chip Conveyor



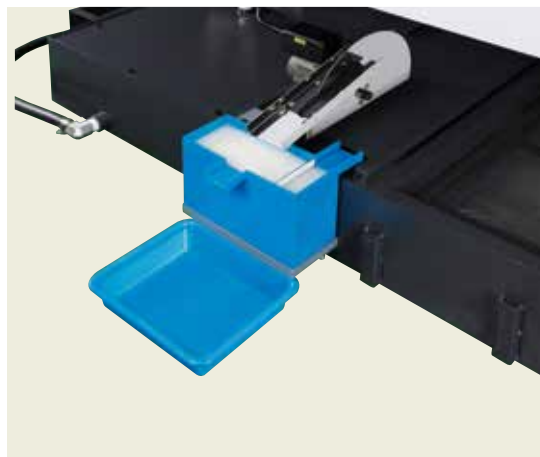
▲ Oil Circulating Coolant System for Double Spindle



▲ Spindle Ring Sprinkler



▲ Chassis Chip Flushing

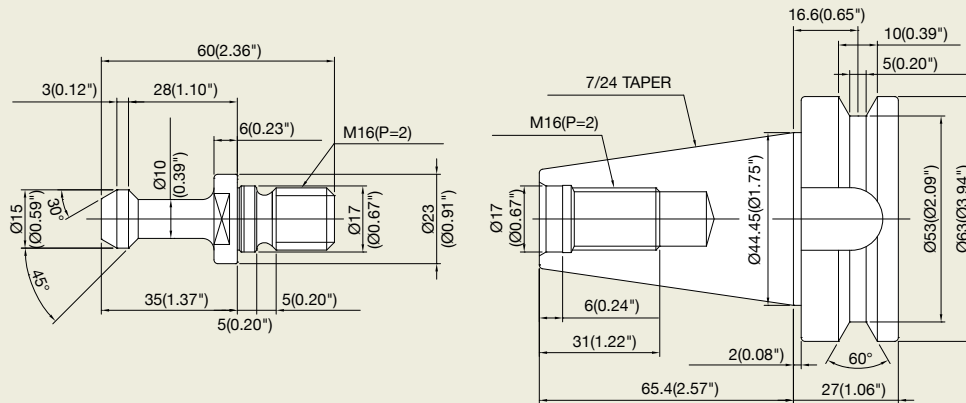


▲ Oil Skimmer (option)

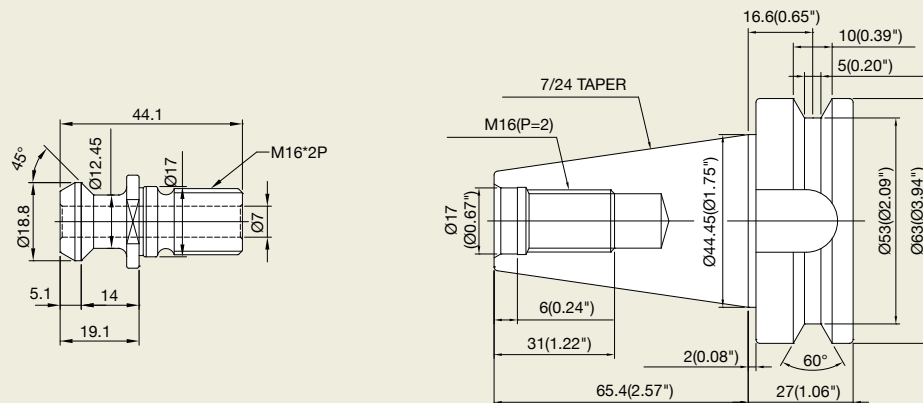


▲ Tool Setup Probe (Tool Setter) (option)

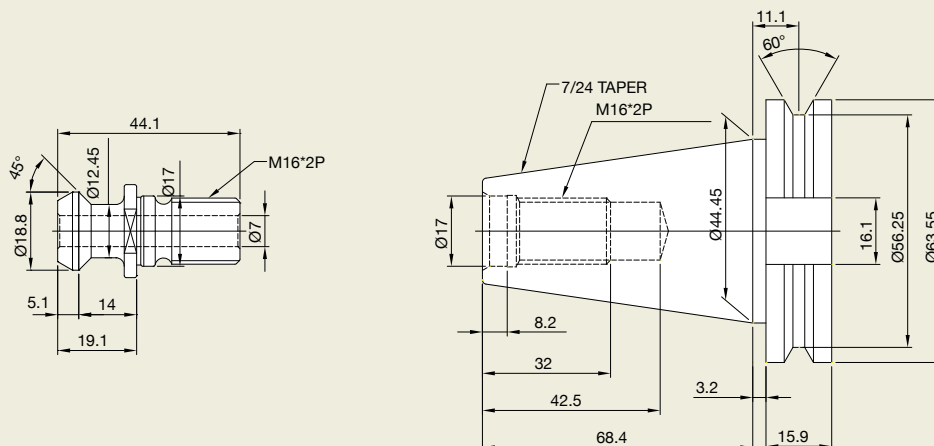
### BBT-40 Toolholder Figure



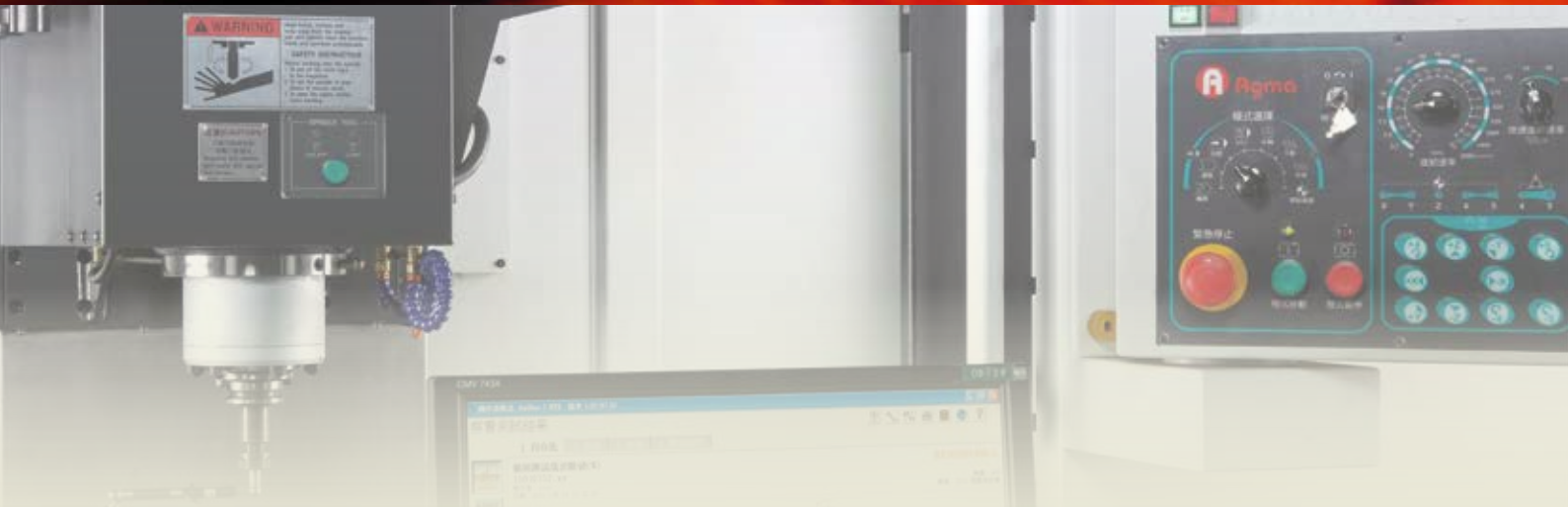
### MAZAK BBT-40 Toolholder Figure (coolant through spindle)



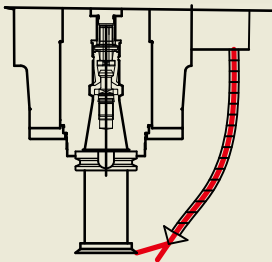
### CAT-40 Toolholder Figure (coolant through spindle)



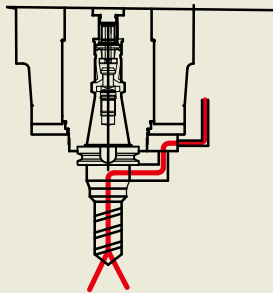




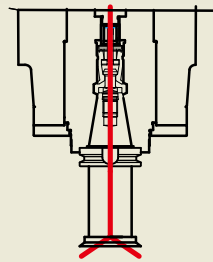
**Std.-Directional Pipe Purpose-General**



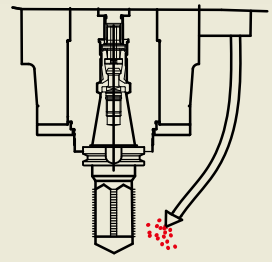
**Opt.-Oil Hole Holder Purpose-Drilling, Boring, etc.**



**Opt.-Coolant Through Spindle(C.T.S.) Purpose-Drilling, Boring, etc.**

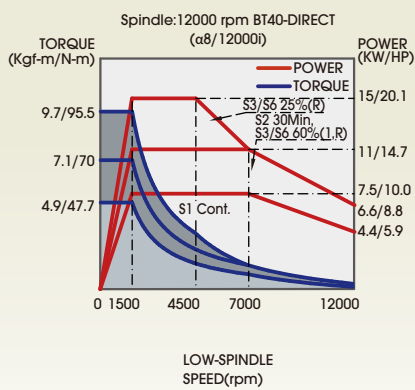


**Opt.- Oil Mist Purpose-Tapping, Reaming, etc.**

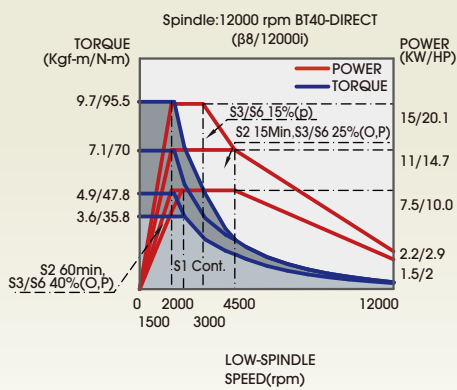


# FANUC Spindle Torque Chart

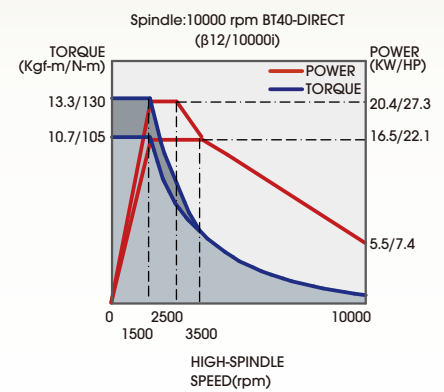
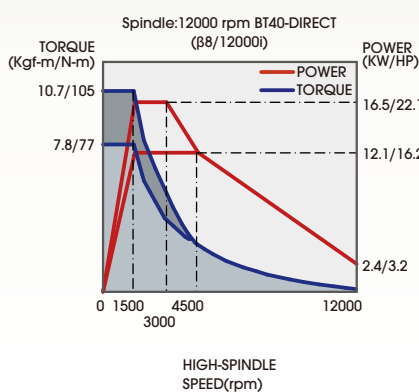
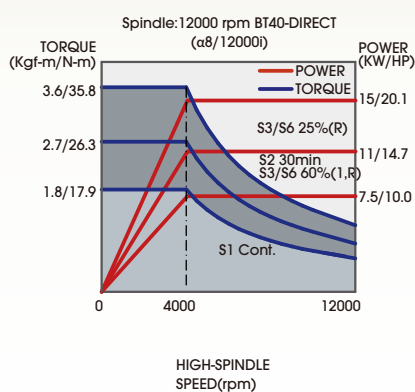
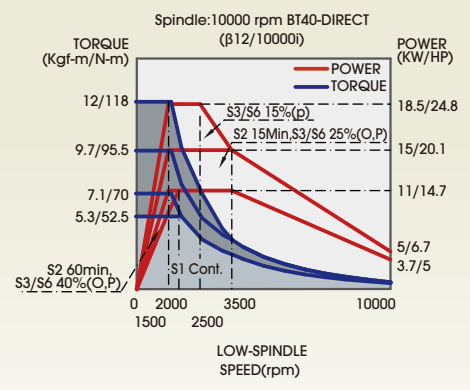
**α8i Direct Spindle Torque Chart**



**β8i Direct Spindle Torque Chart**



**β12i Direct Spindle Torque Chart**



ITEM	Unit	DSV-500
<b>SPINDLE</b>		
SPINDLE TAPER		NO.40
TRANSMISSION		DIRECT DRIVEN
SPINDLE SPEED	r.p.m.	10,000 (Standard)
SPINDLE DIAMETER	mm(inch)	150 (5.9)
<b>TABLE</b>		
TABLE SIZE	mm (inch)	1,300x600 (51.18x23.62)
T-SLOT	mm (inch)	18 x 5 x 100 (0.71x5x3.94)
WORK AREA	mm (inch)	1,100x600 (43.31x23.62)
MAX. TABLE LOAD	kgs (lbs)	800 (31.50)
<b>TRAVEL &amp; FEEDRATE</b>		
X AXIS	mm (inch)	500 (19.69)
Y AXIS	mm (inch)	560 (22.05)
Z AXIS	mm (inch)	570 (22.44)
DISTANCE FROM SPINDLE NOSE TO TABLE	mm (inch)	150~720 (5.91~28.35)
DISTANCE FROM SPINDLE CENTER TO SURFACE OF COLUMN WAY	mm (inch)	655 (25.79)
RAPID TRAVERSE (X/Y/Z)	m/min (ipm)	X,Y,Z:36/36/30 (standard) (1,416/1,416/1,181)
CUTTING FEEDRATE	mm/min (ipm)	X,Y,Z: 1~12,000 (standard) (469)
<b>ATC</b>		
TOOL SHANK		BBT-40
PULL STUD		MAS P40T-1(45°)
MAGAZINE CAPACITY	pcs	24 (LEFT)+24 (RIGHT)
MAX. TOOL DIAMETER (FULL STORAGE)	mm (inch)	Ø80 (3.15)
MAX. TOOL LENGTH	mm (inch)	300 (11.81)
MAX. TOOL WEIGHT	kgs (lbs)	7 (15.4)
TOOL CHANGE TIME		3 SEC.
ATC TYPE		ARM TYPE
<b>MOTOR</b>		
FOR SPINDLE (CONT./30 min.)	Kw (Hp)	11/15 Kw (15/20 Hp)
X/Y/Z Axis	Kw (Hp)	3/3/3 x2 Kw (4/4/4*2 Hp)
<b>MISC.</b>		
MACHINE HEIGHT	mm (inch)	3,080 (121.26)
MACHINE SPACE	mm (inch)	4,000x3,520 (157.48x138.58)
MACHINE WEIGHT	kgs (lbs)	8,000 (17,600)
CONTROLLER		0iMF 8.4" (standard)

\*Specification is subject to change without further notice.

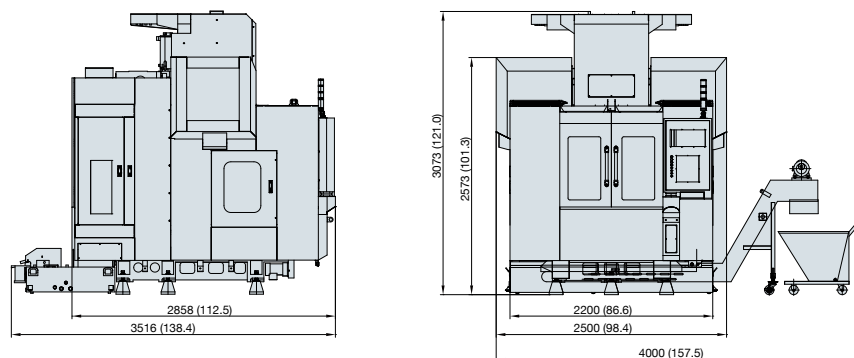
## Standard Accessories

- 0i MF 8.4" Controller
- Heat Exchanger for Electric Cabinet
- Program Execution/End/Abnormal Three Color Indicate Light
- Quartz Work Lamp
- Fluorescent Lamp
- RS-232C Interface
- Oil Circulating Coolant System for Spindle
- Spindle Air Blast
- Automatic Lubrication Equipment
- Protection device for three axes slide ways
- Full Splash Guard
- Rigid Tapping
- Auto Power Off
- Y Axis Screw Type Double Chip Augers (2 pcs)
- Chassis Chip Flushing
- Taiwan made roller-rail linear guideway
- Tool Box w/ Leveling Bolt
- Machine and Electric Operation Manual
- Hinge Type Chip Conveyor

## Optional Accessories

- Mitsubishi 80 controller
- Japan made THK/NSK ball-rail/roller-rail linear guideways
- Three Axes Optical Linear Scale
- Coolant Through Spindle A Type (20/70 Bars- closed hole)
- Renishaw TS-27R Tool Setup Probe (Tool Setter)
- Disc Type Oil Skimmer
- CNC Rotary Table
- Air Conditioning Equipment for Electric Cabinet
- 4Th Axis Interface

## Machine Layout



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