

Double Spindle Vertical Machining Center

DSV-500 DSV-500S

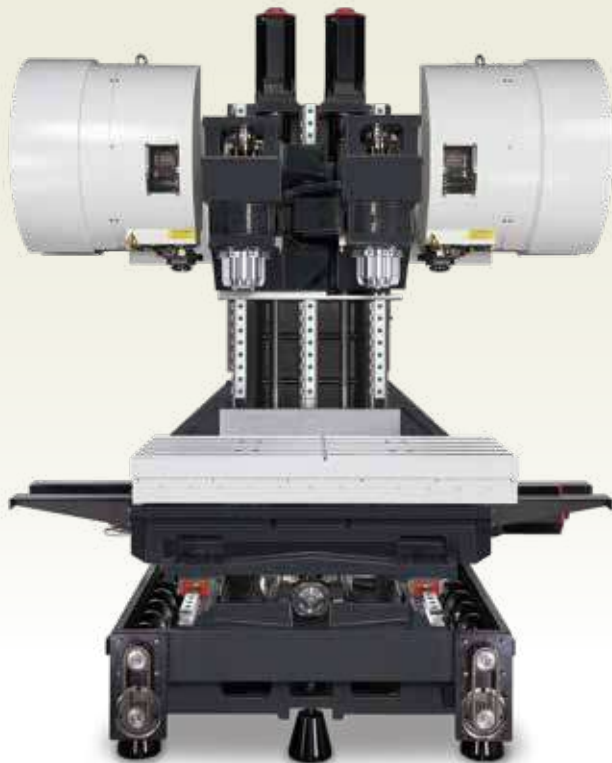
*High Quality, High Efficiency,
High Cost Performance*



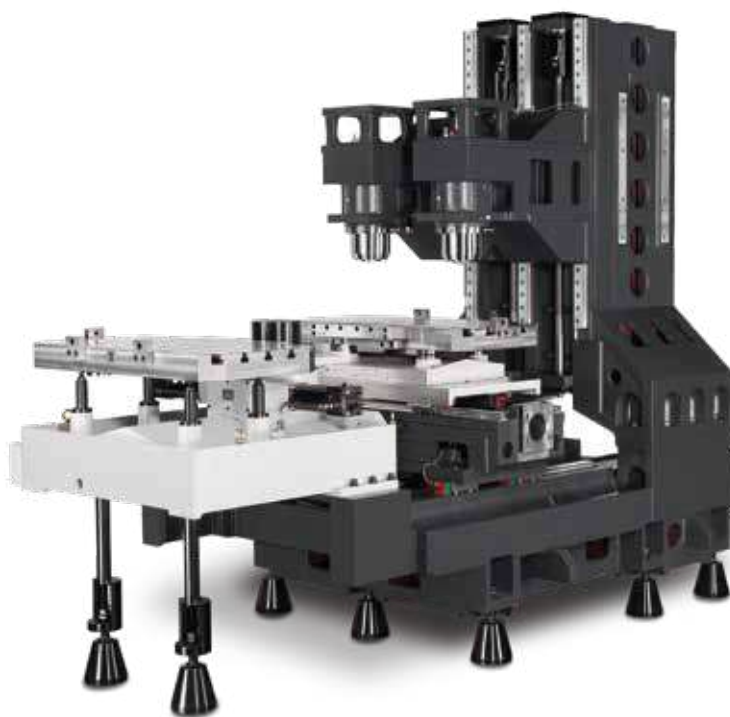
▲ DSV-500S (side view)



DSV-500 & DSV-500S (with APC) Double Spindle Characteristic



▲ DSV-500



▲ DSV-500S

- ▲ DSV-500 twin-spindle double-ATC vertical machining center is a high-efficiency compounding machine developed for the processing of small-volume parts.
- ▲ DSV-500S dual-spindle dual-tool magazine plus APC (automatic exchange table) is a high-efficiency composite machining center especially suitable for small mass-produced parts. It can save processing time and loading and unloading time, but it cannot be equipped with a fourth axis.
- ▲ 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 BT40-outer diameter 150mm which increase the cutting efficiency.
- ▲ XYZ three-axis use 35mm/45mm/45mm high rigidity roller linear guide ways configuration which provide the high shock resistance and 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 FOR DSV-500**

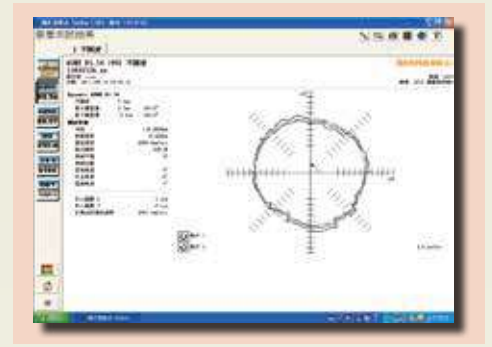


Renishaw Ballbar System

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

Strict Quality Control

Calibration with Laser Interferometer was Performed

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

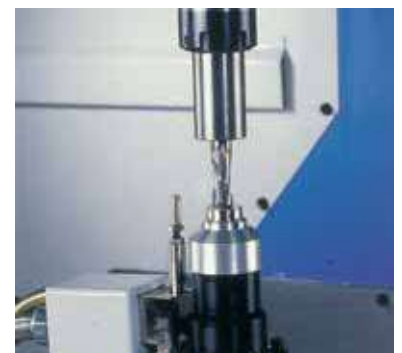
Each measurement is taken six times to ensure the most consistent and accurate readings.



Chassis Chip Flushing

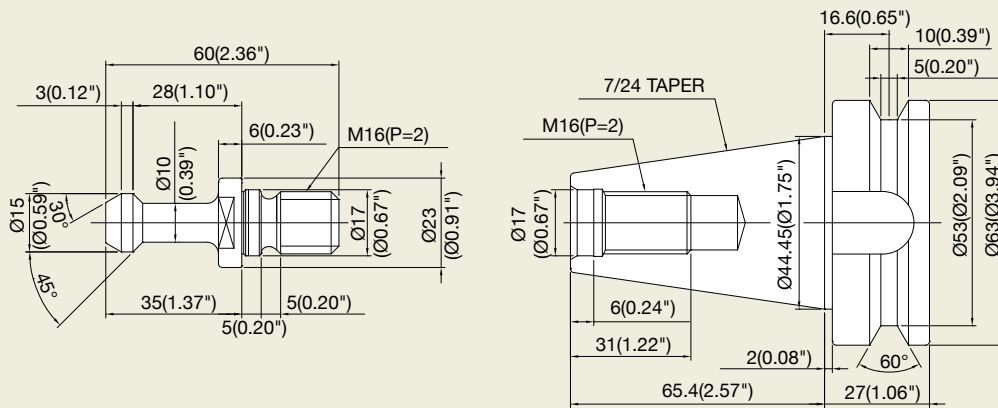


Oil Skimmer (option)

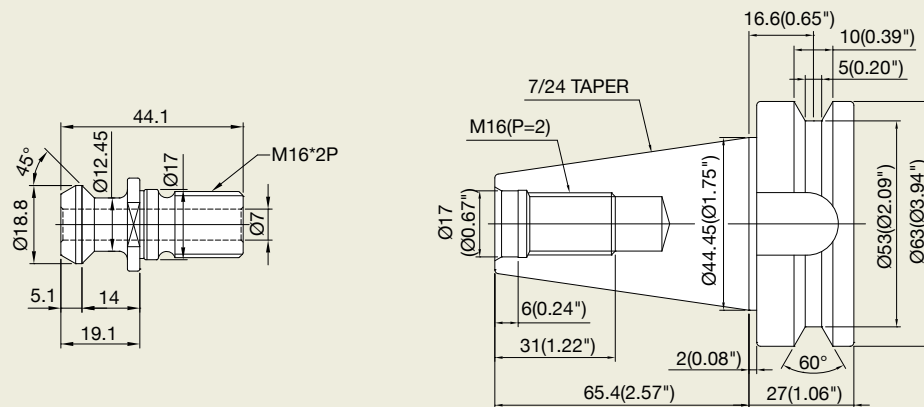


Tool Setup Probe (Tool Setter) (option)

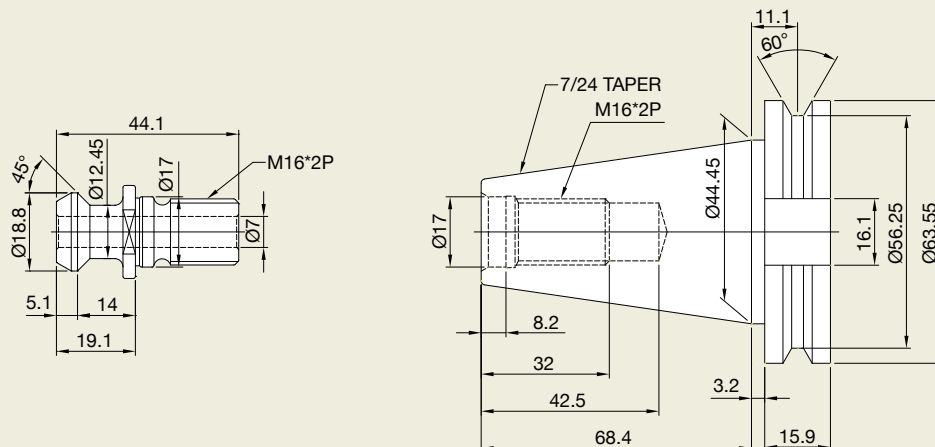
BT-40 Toolholder Figure

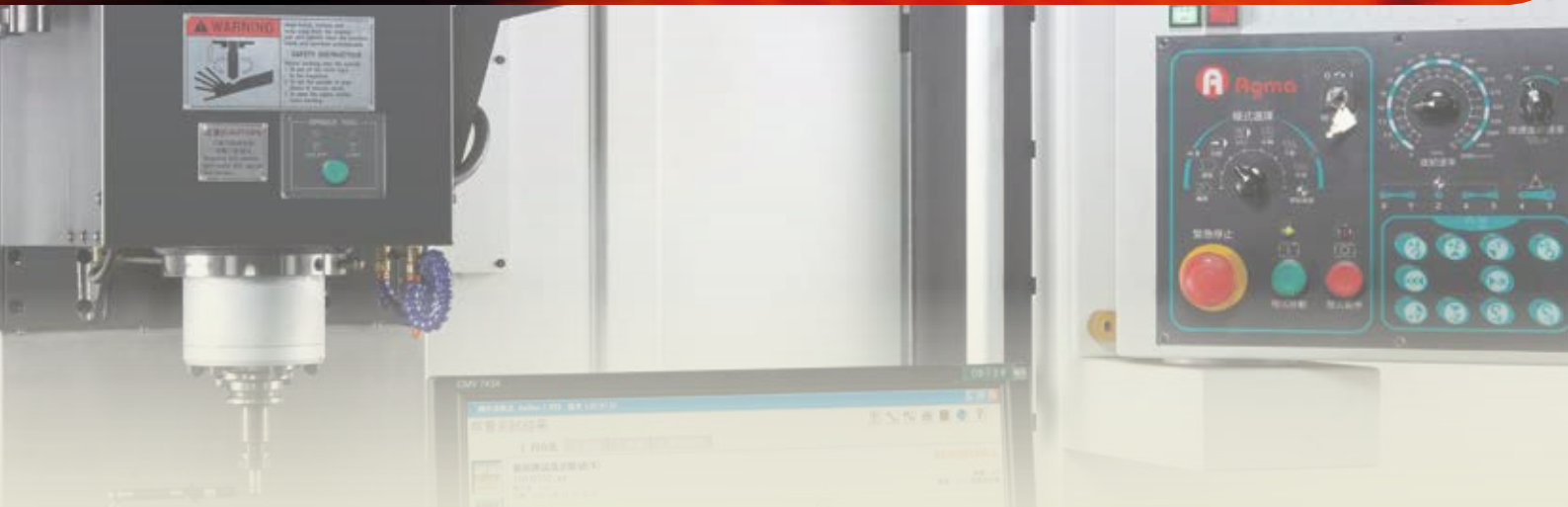


MAZAK BT-40 Toolholder Figure (coolant through spindle)

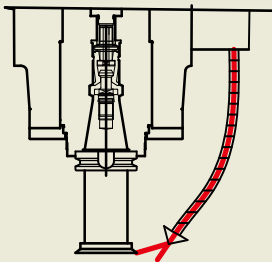


CAT-40 Toolholder Figure (coolant through spindle)

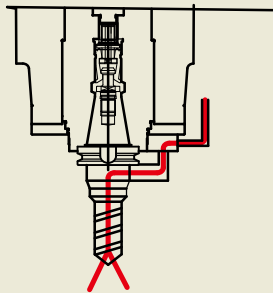




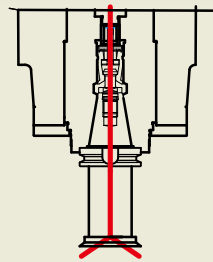
Std.-Directional Pipe
Purpose-General



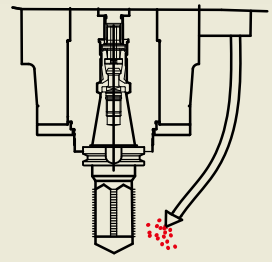
Opt.-Oil Hole Holder
Purpose-Drilling, Boring, etc.



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



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

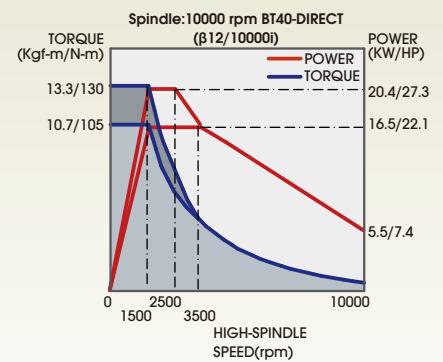
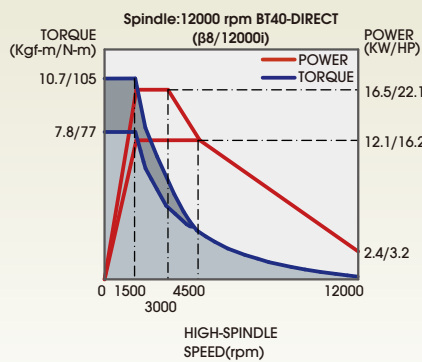
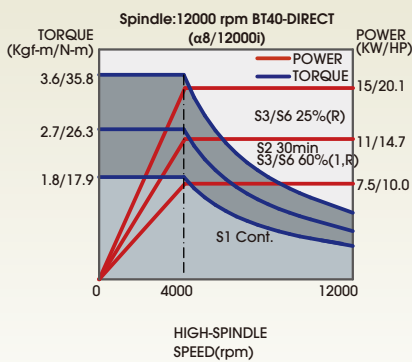
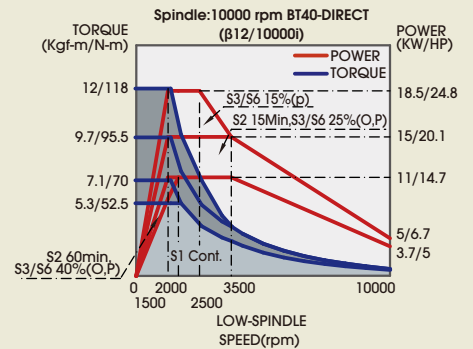
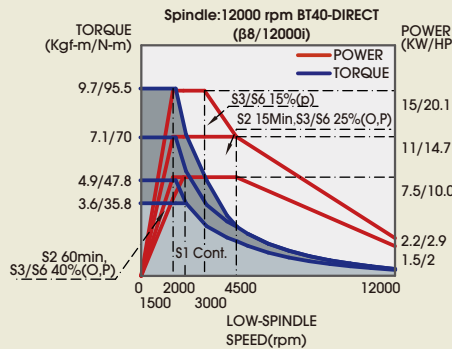
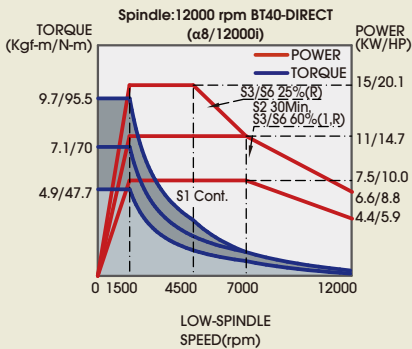


FANUC Spindle Torque Chart

α8i Direct Spindle Torque Chart

β8i Direct Spindle Torque Chart

β12i Direct Spindle Torque Chart



ITEM	Unit	DSV-500	DSV-500S
SPINDLE			
SPINDLE TAPER		NO.40	NO.40
TRANSMISSION		DIRECT	DIRECT
SPINDLE SPEED	r.p.m.	10,000(Standard)	10,000(Standard)
SPINDLE DIAMETER	mm(Inch)	150(5.91)	
APC TABLE			
TABLE SIZE	mm(Inch)	1,300x600(51.18x23.62)	1,000x500x2pc(39.37x19.69)
T-SLOT	mm(Inch)	18 x 5 x 100(0.71x5x3.94)	18 x 5 x 100(0.71x5x3.94)
WORK AREA	mm(Inch)	1,100x600(43.31x23.62)	1,000x500(39.37x16.69)
MAX. TALBE LOAD	kgs(lbs)	800(1764)	300*2(661.4)
PALLET ROTATION METHOD	°/Swing	N/V	180° rotation
LIFTING STROKE	mm	N/V	55(2.18")
FLATNESS OF EXCHANGE TABLE		N/V	0.02/500
PARALLELISM OF EXCHANGE TABLE AND SUB TABLE		N/V	0.02/500
REPEAT POSITIONING ACCURACY OF THE SAME EXCHANGE TABLE		N/V	0.01
POSITIONING ACCURACY DIFFERENCE BETWEEN TWO EXCHANGE PALLET		N/V	0.02
EXCHANGE TABLE CLAMPING FORCE	N	N/V	36,000
HYDRAULIC SOURCE PRESSURE	kg/cm ²	N/V	60
TRAVEL & FEEDRATE			
X AXIS	mm(Inch)	500(19.69)	500(19.69)
Y AXIS	mm(Inch)	560(22.05)	520(20.47)
Z AXIS	mm(Inch)	570(22.44)	420(16.54)
DISTANCE FROM SPINDLE NOSE TO TABLE	mm(Inch)	150~720(5.91~28.35)	150~570(5.91~22.44)
DISTANCE FROM SPINDLE CENTER TO SURFACE OF COLUMN WAY	mm(Inch)	655(25.79)	655(25.79)
RAPID TRAVERSE (X/Y/Z)	m/min(lpm)	X,Y,Z:36/36/30 (standard) (1.416/1.416/1.181)	X,Y,Z:36/36/30 (standard) (1.416/1.416/1.181)
CUTTING FEEDRATE	mm/min(lpm)	X,Y,Z: 1~12,000 (standard) (469)	X,Y,Z: 1~12,000 (standard) (469)
ATC			
TOOL SHANK		BT-40	BT-40
PULL STUD		MAS P40T-1(45°)	MAS P40T-1(45°)
MAGAZINE CAPACITY	pcs	24 (LEFT)+24 (RIGHT)	24 (LEFT)+24 (RIGHT)
MAX. TOOL DIAMETER (FULL STORAGE)	mm(Inch)	Ø80(3.15)	Ø80(3.15)
MAX. TOOL DIAMETER (WITH ADJACENT POCKET EMPTY)	mm(Inch)	Ø125(4.92)	Ø125(4.92)
MAX. TOOL LENGTH	mm(Inch)	300(11.81)	300(11.81)
MAX. TOOL WEIGHT	kgs(lbs)	7(15.4)	7(15.4)
TOOL CHANGE TIME		3SEC	3SEC
ATC TYPE		ARM TYPE	ARM TYPE
FOR SPINDLE (CONT./30 min.)	Kw(Hp)	11/15 Kw (15/20 Hp)*2	11/15 Kw (15/20 Hp)*2
X/Y/Z Axis	Kw(Hp)	3/3/3x2 Kw (4/4/4*2 Hp)	3/3/3x2 Kw (4/4/4*2 Hp)
MACHINE HEIGHT	mm(Inch)	3,080(121.26)	3,070(120.7)
MACHINE SPACE	mm(Inch)	4,000x3,520(157.48x138.58)	4,560x4,270(179.4x167.9)
MACHINE WEIGHT	kgs(lbs)	8,000(17,600)	9,500(20,944)
CONTROLLER		0iMF 8.4" (standard)	0iMF 8.4" (standard)

*Specification is subject to change without further notice.

Standard Accessories

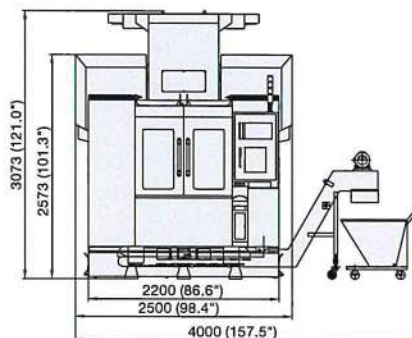
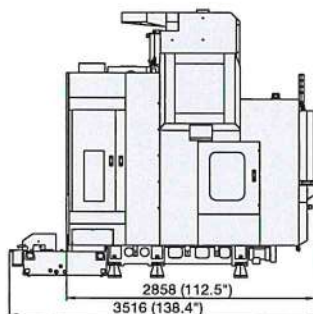
- 0iMF 8.4" Controller
- Heat Exchanger for Electric Cabinet
- Program Execution/End/Abnormal Three Color Indicate Light
- LED Fluorescent Lamp
- RS-232C Interface
- Oil Circulating Coolant System for Spindle
- Spindle Air Blast
- Automatic Lubrication Equipment
- Protection device for three axes slide 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

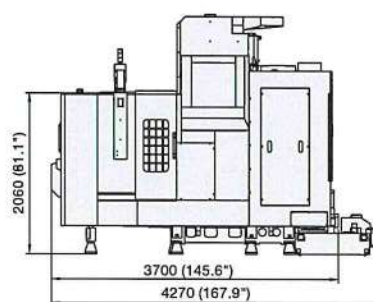
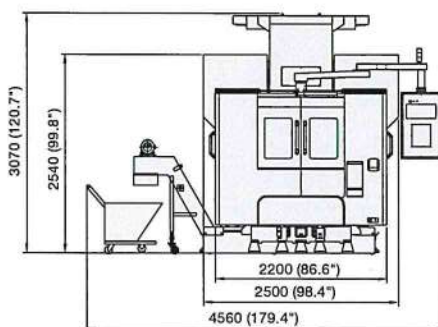
- Mitsubishi 80 controller
- Japan made THK/NSK ball-rail/roller-rail linear guideways
- Three Axes Optical Linear Scale
- Coolant Through Spindle A Type (20/70 Bars- closed hole)
- Renishaw TS-27R Tool Setup Probe (Tool Setter)
- Disc Type Oil Skimmer
- CNC Rotary Table
- Air Conditioning Equipment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

Machine Layout

DSV-500



DSV-500S



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