

RIGID FOUR BOX WAY SV SERIES:

HIGH RIGIDITY, RELIABILITY & STABILITY

BMT 850SV



BMT 1050SV



Base Structure For BMT 850SV & 1050SV

RIGID FOUR BOX WAY SV SERIES

BMT 1250SV



BMT 1400SV



Base Structure For BMT 1250SV & BMT 1400SV

RIGID FOUR BOX WAY SV SERIES

MACHINE ARCHITECTURE

HIGH RIGIDITY, RELIABILITY & STABILITY

Machining For: mold/die, 3C, optical, automotive, vehicle, aerospace, and other dynamic industries.

■ Controller:

1. The control panel is designed waterproof.
2. Selective Controllers : Heidenhain, Fanuc, Siemens, Mitsubishi, Fagor, etc.

■ Spindle:

1. Standard accessory - Belt type
2. Optional accessories:
Direct couple spindle (for high speed metalworking).
Built-in spindle (for high speed and precision metalworking).
Gear spindle (for heavy duty machining).
3. Rotating speed: BT-40 8,000rpm
BT-50 4,500rpm(OPT.)

■ Machine Structure:

1. Designed in a square and four-boxway shape.
2. Float tools feeding system to prevent bearing from damage.
3. Four boxways with a wide-distance reinforcement to support saddle.
4. Having an A-shaped rib reinforcement in its interior.



BT-40



BT-50

Spindle



Control panel



A-shaped rib reinforcement of base structure



For BMT 1250SV & 1400SV.

4 box way base structure

MACHINE ARCHITECTURE

HIGH RIGIDITY, RELIABILITY & STABILITY

■ Saddle Structure:

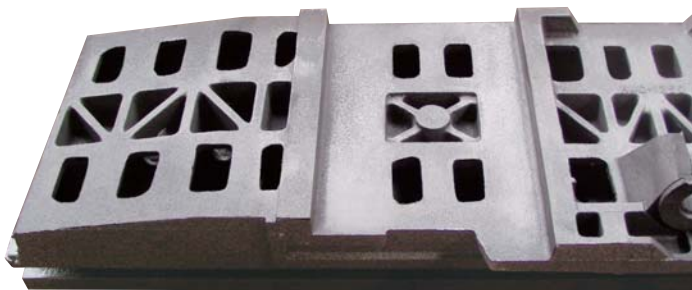
1. Having high rigid rib reinforcements.
2. Designed in a W-shaped rib in its interior.

■ Column Structure:

1. Interior: Circle and radial-rib reinforcement to enhance support capacity.
2. Exterior: Formed in an inverted Y shape to obtain a wide-distance support capacity.

■ Work Table:

1. Preserving a space on slide way to prevent work table from moving across slide way as in the longest travel.
2. Having high rigid rib reinforcement.
3. Applying Class C3 pre-tensioned ball screws on 3 axes to eliminate backlash.



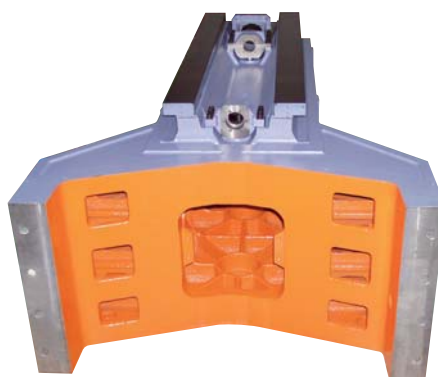
W-shaped saddle structure



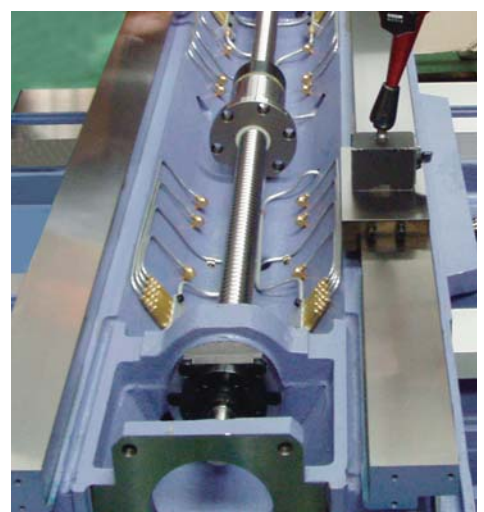
Central-circle and radial-rib Interior of column structure



High rigid reinforcement of work table



Inverted Y-shaped column



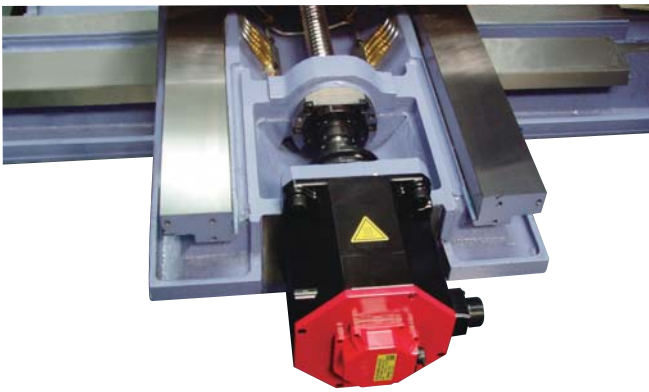
Class C3 pre-tensioned ball screws

MACHINE ARCHITECTURE

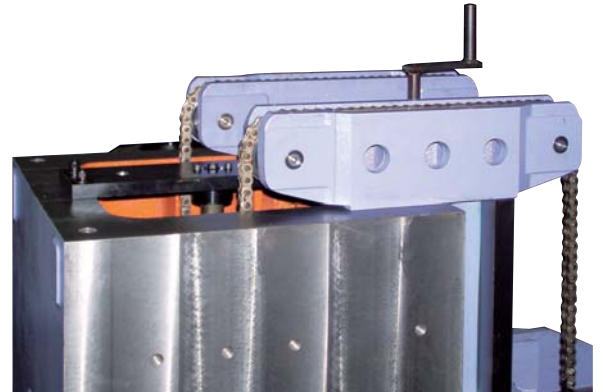
HIGH RIGIDITY, RELIABILITY & STABILITY

■ High Precision:

1. An absolute servo motor is installed on 3 axes.
2. The servo motor on Z axis has a brake function and a weight loading system is additionally installed to balance spindle head's weight.
3. Inspection is made according to German VDI 3441 standard:
Positioning- ± 0.005 mm (VDI 3441)
Repeatability- ± 0.003 mm (VDI 3441)



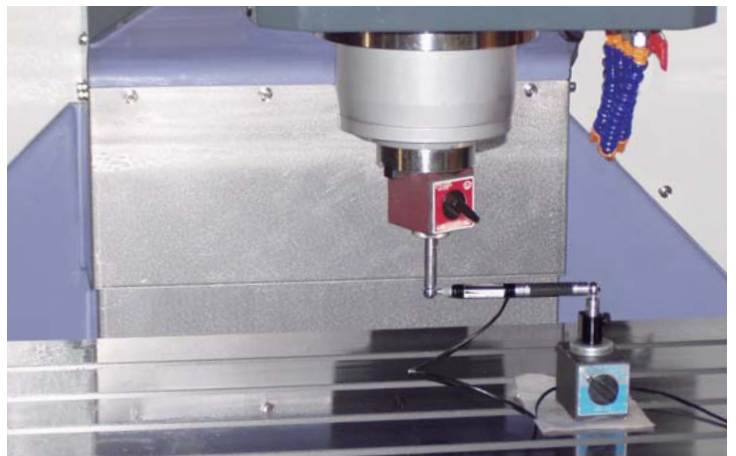
Absolute servo motor



Weight loading system on Z-axis servo motor



Laser positioning and calibrating



Calibrating roundness

MACHINE ARCHITECTURE

HIGH RIGIDITY, RELIABILITY & STABILITY

Others:

1. A double protection device is attached in tool magazine to protect spindle.
1. A dustproof sealing strap is attached around the opening of control box.
2. The pipe system of air, lubricating oil, and cutting oil in the control box are respectively separated to protect control system.
3. Pneumatic, lubricating, and cooling systems are individually arranged in an independent room to facilitate maintenance.
4. The motor in cutting oil system is designed in a vertical type for easy maintenance.
5. The lubricating oil for X, Y, and Z axes are collected together, and then oil and water substances in collected oil are separated apart from each other, cleaning oily machining.



Double protection device in tool magazine



Dustproof sealing strap and pipe system of control box



Independent rooms to install pneumatic, lubricating, and cooling systems respectively.



Oil and water separating design

SPECIFICATION

Rigid Four Box way SV Series

BMT 1050SV



Standard Accessories:

1. Automatic lubrication system
2. Air blast through spindle
3. Spindle air purge system
4. Screw type chip conveyor
5. Full splash guard
6. Rigid tapping
7. Auto power off device
8. Heat exchanger in control box
9. 3 color warning light
10. Tool box and blocks
11. Spindle oil cooler unit
12. RS-232 interface
13. Operation manual

Optional Accessories:

1. CE regulation
2. Coolant through spindle (CTS)
3. Adding 4th axis interface
4. CNC rotary table
5. Spindle:
 - BT40-10,000/12,000/15,000 rpm
 - BT50-6,000/8,000/10,000 rpm
6. Linear scale
7. Oil mist unit
8. Arm type ATC (24 tools, 30 tools)
9. Link type chip conveyor and bucket
10. ZF 2 speed gear box
11. Tool length measure mount
12. Work piece measurement
13. Transformer

Model	BMT 850SV	BMT 1050SV	BMT 1250SV	BMT 1400SV
Guideway construction (X/Y/Z axis)	integral cast iron 4 box way - flame hardened and ground			
Controller (type)	Mitsubishi			
Travel				
X axis (mm)	850	1050	1250	1400
Y axis (mm)	625	625	625	625
Z axis (mm)	625	625	625	625
Spindle nose to table (mm)	120-745	120-745	120-745	120-745
Spindle center to column (mm)	660	660	660	660
Table				
Size (mm)	1050 x 600	1120 x 600	1320 x 600	1350 x 600
T-slots (W x D x No.) (mm)	18 x 100 x 5	18 x 100 x 5	18 x 100 x 5	18 x 100 x 5
Max loading capacity (kgs)	850	1000	1200	1295
Spindle				
Spindle speed (RPM)	Belt 65-8,000	Belt 65-8,000	Belt 65-8,000	Belt 65-8,000
Spindle motor (kw)	7.5/11 (11/15)	7.5/11 (11/15)	7.5/11 (11/15)	7.5/11 (11/15)
X/Y/Z axis servo motor (kw)	3/3/3	3/3/3	3/3/3	3/3/3
Spindle nose taper (type)	BT40/ (BT50)	BT40/ (BT50)	BT40/ (BT50)	BT40/ (BT50)
Rapid feed rate of X/ Y (m/min)	20	20	20	20
Rapid feed rate of Z (m/min)	18	18	18	18
Tools				
No. of Tools / ATC (type)	24 (30) /Armless	24 (30) /Armless	24 (30) /Armless	24 (30) /Armless
Max tool weight (kgs)	8	8	8	8
Max tool diameter (mm)	90/ (150)	90/ (150)	90/ (150)	90/ (150)
Accuracy				
Positioning (mm)	±0.005 (VDI 3441)	±0.005 (VDI 3441)	±0.005 (VDI 3441)	±0.005 (VDI 3441)
Repeatability (mm)	±0.003 (VDI 3441)	±0.003 (VDI 3441)	±0.003 (VDI 3441)	±0.003 (VDI 3441)
Miscellaneous				
Machine height (mm)	2806	2806	2806	2806
Machine length x width (mm)	3763 x 2560	3763 x 2560	4178 x 2560	4328 x 2560
Machine weight (kgs)	7200	7500	8000	8500

MACHINING REPORT

HIGH RIGIDITY, RELIABILITY & STABILITY

For: Heavy Machining, Precise Mold Machining, Parts of Vehicles, Parts of 3C Products.

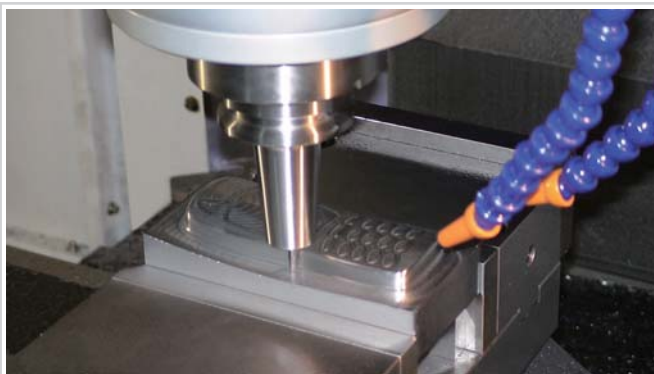


■ Face Milling-S50C Steel

- 1) Chip Elimination: 192 cc/min
- 2) Tool: $\varnothing 63$ mm x 6T
- 3) Spindle rotating Speed: 1,500 rpm
- 4) Feeding: 800 mm/min
- 5) Cutting Width: 60 mm
- 6) Cutting Depth: 4 mm
- 7) Spindle Load: 113%

■ Tapping-S50C Steel

- 1) Tool: M24 x 3P
- 2) Spindle rotating Speed: 80 rpm
- 3) Feeding: 240 mm/min
- 4) Spindle Load: 68%

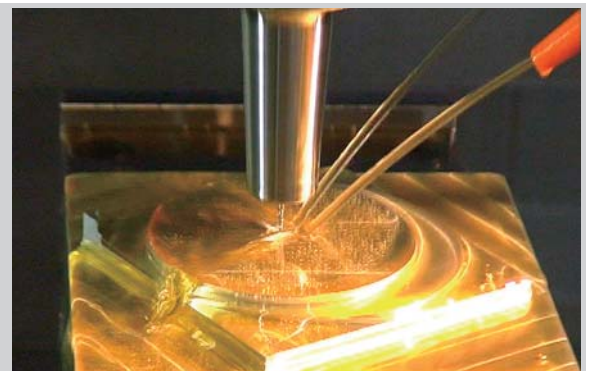


■ 3D Mold for Cell Phone

- 1) Material: NAK80
- 2) Tool: $\varnothing 4R1$
- 3) Spindle rotating Speed: 8000 rpm
- 4) Feeding: 3,000 mm/min

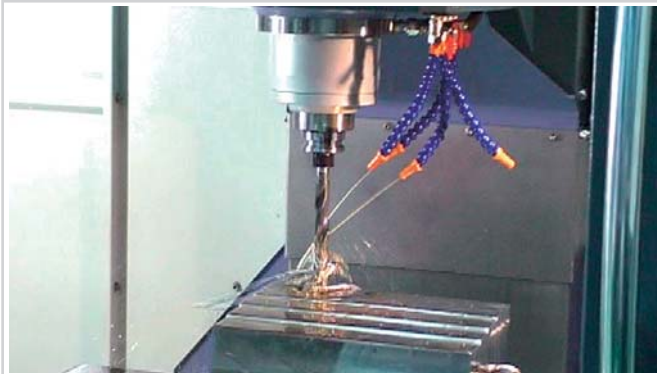
■ Tapping-AL Aluminum

- 1) Tool: 0#80UNF
- 2) Spindle rotating Speed: 1,200 rpm
- 3) Feeding: 381 mm/min



MACHINING REPORT

HIGH RIGIDITY, RELIABILITY & STABILITY



■ Drilling-S50C Steel

- 1) Chip Elimination: 126 cc/min
- 2) Tool: $\varnothing 29.5$ mm x 2T
- 3) Spindle rotating Speed: 272 rpm
- 4) Feeding: 65 mm/min
- 5) Spindle Load: 100%

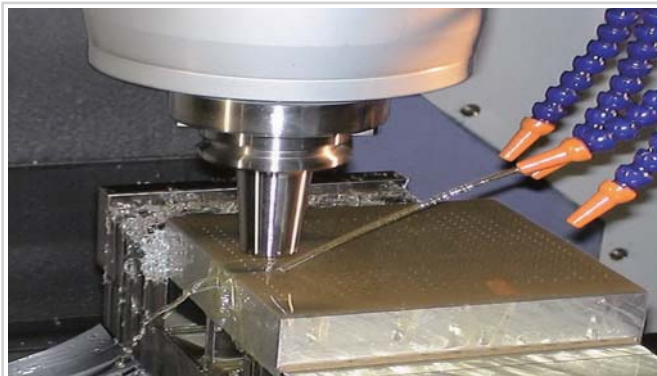
■ 3D Mold for Automobile headlight

- 1) Material: NAK80
- 2) Tool: $\varnothing 3R1.5$
- 3) Spindle rotating speed: 8,000 rpm
- 4) Feeding: 3,000 mm/min.



■ Tapping 500 Bores-AL Aluminum

- 1) Tool: 0#80UNF
- 2) Spindle rotating Speed: 1,200 rpm
- 3) Feeding: 381 mm/min



■ 3D Mold for Test

- 1) Material: NAK80
- 2) Tool: $\varnothing 4R1$
- 3) Spindle rotating speed: 8,000 rpm
- 4) Feeding: 3,000 mm/min

