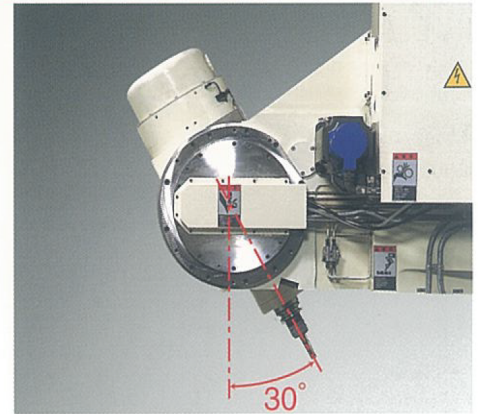
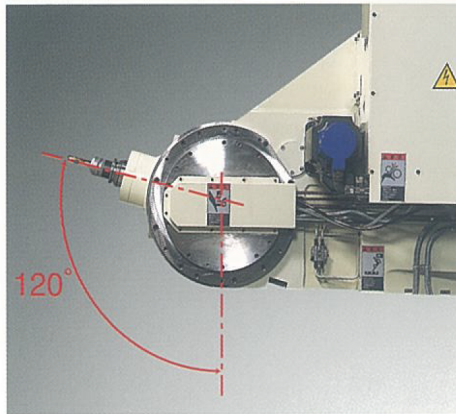
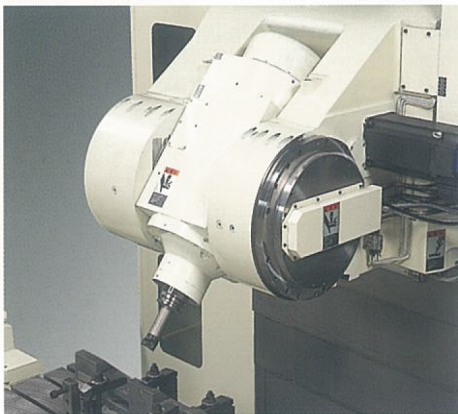


Shibaura Machine

BTU-14

The universal machining center with the tilting spindle for dies/molds and aerospace/aircraft parts in high accuracy and high efficiency.



■ Main features

● Automatic machining of any inclined surface is possible.

A combination of indexing table with CNC C-axis and tilting spindle with CNC A-axis allows milling, boring, end-milling, drilling, tapping and other automatic machining operations on any inclined surface of workpiece.

● High-speed machining

- A built-in motor AC 26.5kW/22kW (AC36/30HP)[30min/Cont.] is employed for the spindle drive, and extensive operations ranging from low-speed heavy-duty cutting to high-speed finish-machining are possible in the broader spindle speed range of 40 to 8 000 min^{-1} without gears.

- Linear roller guides are used for the X,Y and Z-axis guideways, assures high accuracy and high speed feedrate.

● CNC system

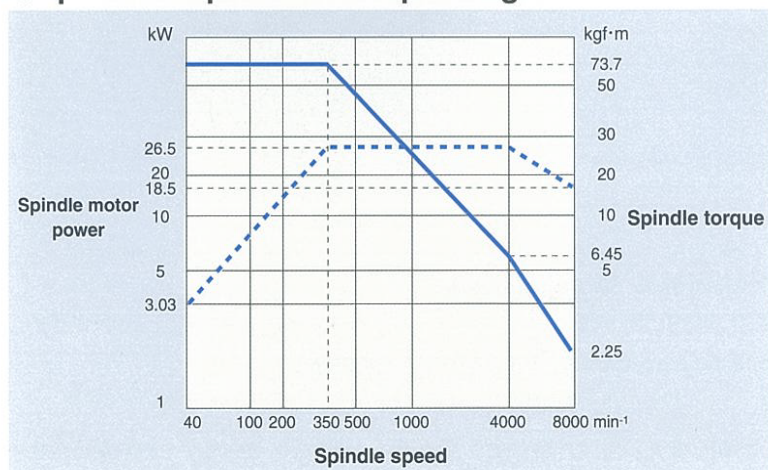
The most advanced TOSNUC 888 provides various software including the three-dimensional coordinate conversion function useful for machining an inclined surface and the CNC SHAPE (shape recognition preview control) function to cope with user's diversified requirements.

BTU-14

Machine Specifications (Standard)				BTU-14
Travel	X-axis travel (Longitudinal movement of table)	mm(in)		2 000 (78.7)
	Y-axis travel (Cross movement of table)	mm(in)		1 450 (57)
	Z-axis travel (Vertical movement of spindle head)	mm(in)		1 500 (59)
	A-axis rotating angle (Indexing of swivel head)	deg		30--120° (continuous control)
	Minimum A-axis indexing angle	deg		0.0001
	Distance from table surface to center of A-axis	mm(in)		0~1 500 (0~59)
	Distance from table center to center of A-axis	mm(in)		-25~1 425 (-0.98~56.1)
Table	Table working surface	mm(in)		1 400×1 600 (55.1×63)
	Table loading capacity	kg(lbs)		6 300 (13 860)
	Table surface configuration			9 T-slots size 22mm(0.87in) pitch 160mm(6.3in)
	Minimum table indexing angle	deg		0.0001
Spindle	Spindle speed range (continuous)	min ⁻¹		40~8 000
	Number of spindle speed ranges (Automatic winding changeover system)			2 ranges
	Type of spindle taper hole			7/24 taper No.50
	Maximum spindle torque	N · m		722.7 {73.7kgf · m} (535 ft-lbs)
	Spindle bearing inner diameter	mm(in)		95 (3.74)
Feedrate	Rapid traverse rate X,Y & Z-axes	mm/min(ipm)		12 000 (472.4)
	Table indexing speed C-axis	deg/min		720
	Swivel head indexing speed A-axis	deg/min		720
	Feedrate X,Y & Z-axes	mm/min		1~6 000 (0.04~236.2)
Tool	Type of tool shank			MAS BT50
	Type of retention knob			MAS P50T-1 (45°)
Machine size	Machine height	mm(in)		Approx. 5 300 (209)
	Floor space	mm(in)		5 800×7 500 (229×295)
	Mass of machine (including 38-tool ATC)	kg(lbs)		Approx. 30 000 (66 000)
Accuracy	Positioning accuracy X,Y & Z-axes	mm(in)		±0.005 (±0.0002) per full stroke
	Repeatability X,Y & Z-axes	mm(in)		±0.003 (±0.001)
	Table indexing accuracy C-axis			±3sec
	Table indexing repeatability C-axis	sec		±1.5
	Swivel head indexing accuracy A-axis	sec		±10[±3]
	Swivel head indexing repeatability A-axis	sec		±5[±3]

Dimensions in brackets [] are optional

● Spindle torque/motor output diagram



● Optional accessories of machine (extract)

- ☆ • Auto power OFF unit
- ☆ • Operator call lamp (Led type)
- ☆ • Work light
 - Automatic tool changer (ATC) (38, 60 or 90 tools)
 - Through-spindle type coolant
 - Automatic workpiece measuring unit
 - Automatic tool measuring unit
 - Automatic pallet changer (APC)
 - Chip cover (A)
 - Flood coolant set

Items marked ☆ are included in the pack specifications.

* We reserve the right to change any of the specifications in this catalog without notice in order to effect improvements.

ISO 9001



GOTEMBA plant

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