


At your side.
brother®

CNC TAPPING CENTER®
TC-22B/-O


NEW



ENLARGED MACHINING AREA



HIGH RELIABILITY



HIGH ACCURACY MACHINING



USABILITY

With outstanding No.30 spindle provides vast machining capabilities

Completed by #30

The technology of No. 30 spindle machines has expanded greatly, now achieving machining areas, capacity, and accuracy that far exceeds conventional standards.

The highly reliable TC-22B serves as the main machine able to live up to your expectations.

Previous lines combining No. 30 and No. 40 spindle machines have shifted to "One-size solution lines" using only No. 30 spindle machines.

The TC-22B provides much faster and more flexible production lines, requiring less space at your premises.



TC-22B

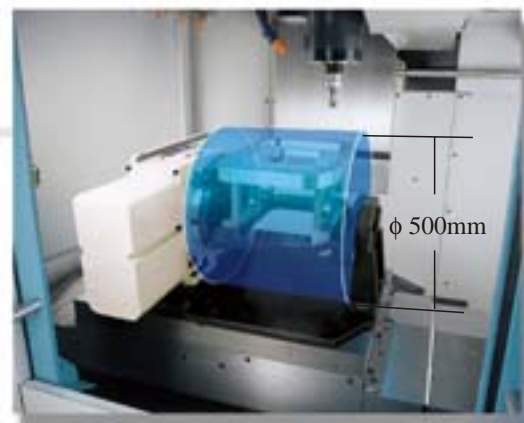
Four Main Features of TC-22B

1 ENLARGED MACHINING AREA

- The rigidity of the column and spindle head has been improved to expand the machining area.



Expanded Y-axis stroke (450 mm)
Trunnion-type fixture with turning diameter of 500 mm can be installed.

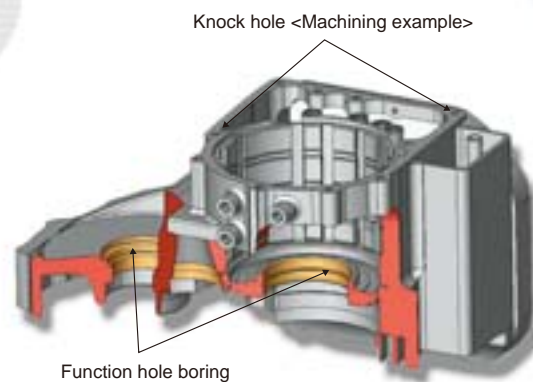


2 HIGH ACCURACY MACHINING

- Prevents coolant from splashing onto the column, which affects heat expansion.
- Improved difference in the rigidity of the spindle head and column in the X and Y directions.
- Increased spindle rigidity to reduce effects of imbalanced tools.
- Uses X/Y/Z axes heat expansion compensation system (software).



Astonishing machining accuracy that shatters the No. 30 stereotype



3 HIGH RELIABILITY

- ATC and magazine are separated from the machining area.
- Absolute encoders are used instead of limit switches.
- Covering that prevents chips from entering the feed axis
- Center trough type base



Prevents problems caused by chips and coolant.



Machining area separated from machine room completely

4 OPERABILITY / NEW FUNCTION

- New NC (CNC-B00)**
- Simultaneously controlled axes: 4
 - High accuracy mode A
 - Built-in PLC (optional)
 - Memory card interface (optional)



Provides a wider range of machining programs, and reduces setup time and operation mistakes.



Solution Works



TC-22B / TC-22B-O

Machine Specifications

Item		TC-22B [TC-22B-O]	
		12,000min ⁻¹ specifications	16,000min ⁻¹ specifications
Travels	X axis	mm(inch)	500 (19.7) [700 (27.6)]
	Y axis	mm(inch)	450 (17.7)
	Z axis	mm(inch)	410 (16.1)
	Distance between table top and spindle nose end	mm(inch)	250 - 660 (9.8 - 26.0) [230 - 640(9.1 - 25.2)]
Table	Work area size	mm(inch)	650 × 450 (25.6 × 17.7) [850 × 450 (33.5 × 17.7)]
	Maximum loading capacity (uniform load)	kg(lbs)	250 (551) 300(661) *7
Spindle	Spindle speed	(min ⁻¹)	12 - 12,000 16 - 16,000
	Speed during tapping	(min ⁻¹)	Max. 8,000
	Tapered hole		7 / 24 tapered no.30
Feed rate	Rapid traverse rate X × Y × Z axes	m/min(inch/min)	70 × 70 × 70 (2,756 × 2,756 × 2,756)
	Cutting feed rate	mm/min(inch/min)	1 - 20,000 (0.04 - 787)
ATC unit	Tool shank type		MAS-BT30
	Pull stud type		MAS-P30T-2 *8
	Tool storage capacity *1	(pcs.)	18 [+1] / 27 [+1]
	Max. tool diameter *2	mm(inch)	0 - 30 (0 - 1.2) / D46 30 - 250 (1.2 - 9.8) / D55 (Max. tool diameter D125)*2
	Max. tool length	mm(inch)	250 (9.8)
	Max. tool weight *3	kg(lbs)	3.5 (7.7)
Tool change time	Tool to Tool	(sec.)	0.9
	Chip to Chip	(sec.)	2.4
Electric motors	Main spindle motor (10min./continuous)*4	(kW)	11 / 6 10 / 7.3
	Feed spindle motor	(kW)	1.3 (X, Y, Z)
Power source	Power supply		AC 3φ, 50 / 60Hz ± 1Hz
	Power capacity (max.)	(kVA)	16 [Max. 32] 18 [Max. 37]
	Air source	Working air pressure (MPa) Required flow *6 (L/min)	
Machine dimensions	Machine height	mm(inch)	2,538 (99.9)
	Required floor space (with control unit door opened)	mm(inch)	1,496 × 3,102 (58.9 × 122.1) [1,870 × 3,102 (73.6 × 122.1)]
	Machine weight (including control unit and splash guard)	kg(lbs)	2,780 (6,129) [2,910(6,416)]
Accuracy *5	Positioning accuracy	mm(inch)	0.005 / 300 (0.0002 / 11.8)
	Repeatability	mm(inch)	±0.003 (±0.00012)
CNC unit	Model		CNC-B00

*1 When all tools are small tools (D 55 mm or less) *2 The tools storage capacity, tool change time, etc., will vary when using large tools. The tool change time varies depending on the spindle type. *3 Actual tool weight varies according to the configuration and center of gravity. The figures shown here are for reference only. *4 Spindle motor output differs depending on the spindle speed. *5 Measured in compliance with JIS B6201-1987. *6 The values include 0.9 kVA for chip conveyor and 4.2 kVA for high-pressure coolant. *7 X/Y axes acceleration needs adjustment. *8 Brother spec. is applied to pull stud for CTS.

NC Unit specification

CNC model	CNC-B00
Control axes	5 axes (X, Y, Z, 2 additional axes)
Simultaneously controlled axes	Positioning 5 axes (X, Y, Z, A, B)
	Interpolation Linear : 4 axes (X, Y, Z, one additional axis) Circular : 2 axes Helical / conical interpolation : 3 axes (X, Y, Z) optional
Least input increment	0.001 mm, 0.0001 inch, 0.001 deg.
Max. programmable dimension	±9999.999 mm 999.9999 inch
Display	12.1-inch color LCD
Program capacity	Approx. 5,000 m (Approx. 2 Mbytes)
External communication	RS232C 1ch, Ethernet
No. of registrable programs	1,024
Program format	NC language, conversational (changed by parameter), conversion from conversational program to NC language program available
NC function	<ul style="list-style-type: none"> ● Absolute/incremental ● Inch/metric ● Corner C / Corner R ● Rotational transformation ● Synchronized tap ● Coordinate system setting ● Dry run ● Restart ● Backlash compensation ● Pitch error compensation ● Rapid traverse override ● Cutting feed override ● Alarm history ● Status log ● Machine lock ● Computer remote ● High-accuracy mode A ● Tool length measurement ● Tool life management / spare tool ● Background editing ● Graphic display ● Subprogram ● Expanded workpiece coordinate system (NC) ● Automatic heat expansion compensation system (X/Y/Z axes) ● Scaling (NC) ● Mirror image (NC) ● Menu programming (NC) ● Program compensation (NC) ● Tool length compensation (NC) ● Cutter compensation (NC) ● Operation program (conv.) ● Schedule program (conv.) ● Automatic tool selection (conv.) ● Automatic cutting condition setting (conv.) ● Automatic tool length compensation setting (conv.) ● Automatic cutter compensation setting (conv.) ● Automatic calculation of unknown number input (conv.) ● Machining order control (conv.) ● Macro function (system variables) (NC) ● Automatic power off ● Servomotor off standby mode ● Chip shower off display ● Automatic coolant off ● Automatic work light off ● Local coordinate system (NC) ● One-way positioning (NC) ● Operation in tape mode (NC) ● Automatic heat expansion compensation system (X/Y/Z axes)

*Functions with (NC) and (conv.) are available only for NC language programming and conversational programming respectively.

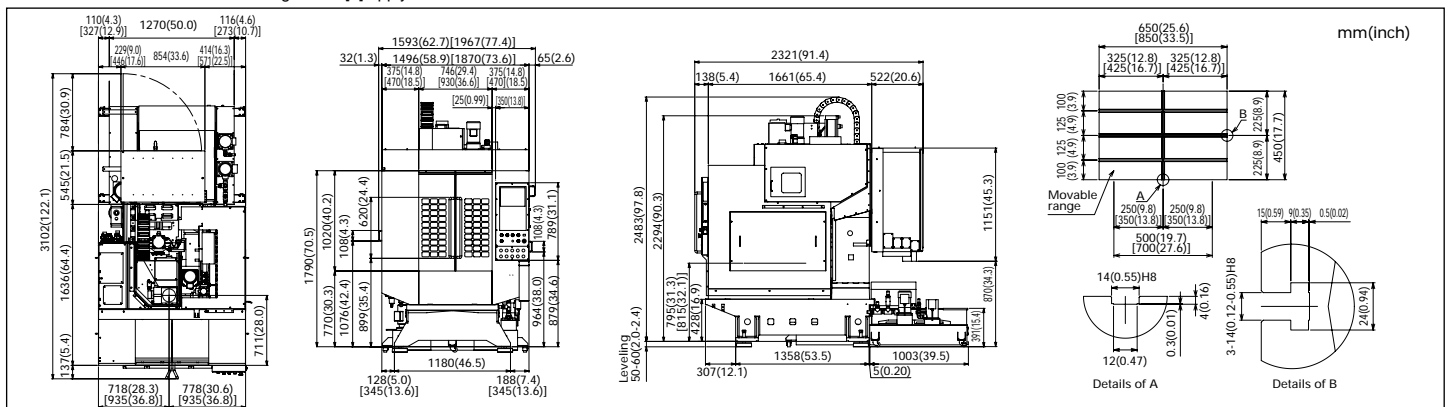
Option

- Chip conveyor
- Coolant tank 250L with chip flow (250W and 400W pumps)
- High-pressure coolant unit (spindle-through)
- Tool breakage detector
- Cleaning gun
- Automatic lubricator
- Work light (1 lamp)
- Indication light (1, 2, or 3 lamps)
- Automatic door
- Automatic door (with area sensor)
- Specified color
- Expansion I/O board
- Manual pulse generator
- Expansion memory (Approx. 120 Mbytes)
- B-axis connection unit
- Helical / conical interpolation
- Automatic workpiece measurement software
- Spindle override
- Floppy disk drive unit
- Memory card interface
- High column (150 mm)
- Manual spindle unclamp unit
- Magazine turn switch
- Built-in PLC
- PLC Function, ladder editing, expansion I/O board
- Switch panel
- Ladder editing PC software
- Windows® 2000, XP

Windows® is a trademark or registered trademark of Microsoft Corporation in the United States and / or other countries.

* Please contact your Brother dealer for details.

External dimensions



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The information in this catalogue is current as of October 2004.