Global Service Sites

Local dealers are available to provide services in each region, in addition to the sites below.

U.S.A.	**BROTHER INTERNATIONAL CORP.** **MACHINE TOOLS DIV.** **TECHNICAL CENTER**	2200 North Stonington Avenue, Suite 270 Hoffman Estates, IL 60169-2031, U.S.A.	**PHONE :** (1) **847-718-9500** **FAX :** (1) **847-718-9503**
GERMANY	**BROTHER INDUSTRIES, LTD.** **MACHINERY & SOLUTION COMPANY MACHINE TOOLS SALES DEPT.** **FRANKFURT TECHNICAL CENTER**	HOECHSTER STR.94.65835 LIEDERBACH,GERMANY	**PHONE :** (49) **69-977-6708-0** **FAX :** (49) **69-977-6708-80**
Thailand	**BROTHER COMMERCIAL THAILAND LTD.** **MACHINE TOOLS TECHNICAL CENTER**	1232 RAMA 9 ROAD, SUANLUANG SUB-DISTRICT,SUANLUANG DISTRICT BANGKOK 10250,THAILAND	**PHONE :** (66) **2-374-6447** **FAX :** (66) **2-374-2706**
China	**BROTHER SEWING MACHINE XIAN CO., LTD.** **MACHINE TOOLS DIV.** **SHANGHAI TECHNICAL CENTER**	1F YUNDU TOWER NO.930 WEST ZHONGSHAN ROAD SHANGHAI, CHINA	**PHONE :** (86) **21-6209-8365** **FAX :** (86) **21-6208-0269**
	BROTHER SEWING MACHINE XIAN CO., LTD. **MACHINE TOOL DIV.** **DONGGUAN TECHNICAL CENTER**	UNIT807, HONGXI COMMERCIAL BUILDING, NO.23, GUANTAI ROAD, DONGGUAN, GUANGDONG, CHINA	**PHONE :** (86) **769-2238-1505** **FAX :** (86) **769-2238-1506**

Figures in brackets ( ) are the country codes.

- Be sure to read the instruction manual and safety manual before using the product safely. If you use oil-based coolant or machine materials that may ignite, such as magnesium and resin, take thorough safety measures to prevent fire. Please contact the sales personnel for any inquiries.
- When exporting this product, carefully check the customer and their purpose of use from the viewpoint of security assurance. You may have to obtain permission from the supervisory authorities prior to export due to revisions of laws and regulations etc. Please contact Brother before exporting the machine.
- When exporting our product with tilting rotary table, "list control" is applicable, according to view of Ministry of Economy, trade and industry(METI) in Japan. Therefore, please apply for export license in advance of export. If necessary, please contact METI.

ISO 9001 BUREAU VERITAS Certification
ISO 14001 JQA-EM1356 UKAS 091-C

Brother Industries, Ltd. Machinery & Solution Company Kariya plant acquired ISO 9001 and 14001certifications.

BROTHER INDUSTRIES, LTD.
MACHINERY & SOLUTION COMPANY
1-5, Kitajizoyama, Noda-cho, Kariya-shi,
Aichi-ken 448-0803, Japan
PHONE: 81-566-95-0075
FAX : 81-566-25-3721
http://www.brother.com

Specifications may be subject to change without any notice. The information in this catalogue is current as of September 2009. ver.0909

brother at your side

CNC TAPPING CENTER®

TC-R2B

NEW

Quest for Wasted Time = Zero

TC-R2B

1 Pursuit of High Productivity

Overwhelming high productivity is achieved by nonstop machining using the QT table, and large reduction in non-cutting time.

2 Improvement of Applicability

Jig areas and loading weight have increased, leading to broader applicability.

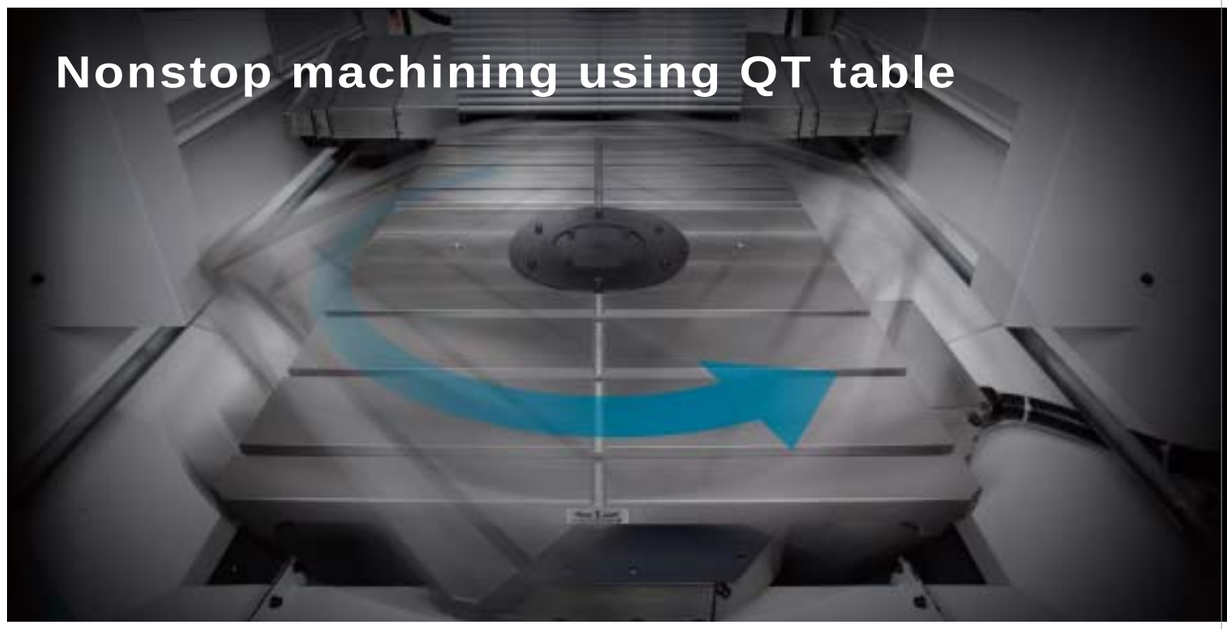
3 Pursuit of Usability

Brother's original NC controller, based on the machine/controller integrated development concept, features extensive functions to enhance usability.

Machine specifications

Spindle speed	10,000／16,000min^{-1}
Tool storage capacity	14 tools
Stroke (X×Y×Z)	420×320×305mm
Rapid traverse rate (X×Y×Z)	50×50×50m/min
BT dual contact spindle	Available (BIG-PLUS)
Coolant Through Spindle (CTS)	Available
Required floor space	1,456×2,644mm
Machine height	2,588mm

The TC-R2B is a column traverse machine, standard-equipped with Brother's original "QT table" pallet changer. With sales performance of 12,000 units, the QT table eliminates waste in workpiece change time, achieving overwhelming high productivity.
This will contribute to great reductions in production costs.
Applicability has been improved by enlarging the jig areas and usability is enhanced through machine/controller integrated development. Equipped with various functions, such as the Coolant Through Spindle (CTS) and BT dual contact spindle, the TC-R2B will respond to requirements of production sites.



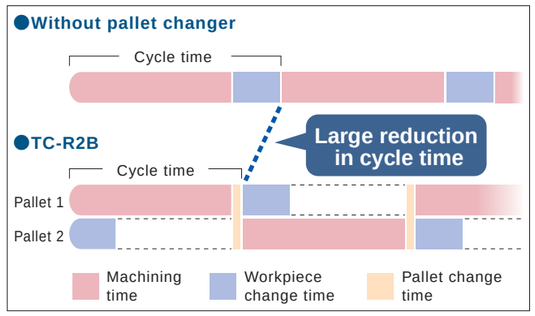
• QT table

The QT (Quick Turn) table is Brother's original pallet changer. It is a turn table type where two pallets turn at high speed. High-speed pallet change is achieved by the combination of a servomotor and a HRH gear. The enclosed structure ensures high reliability.

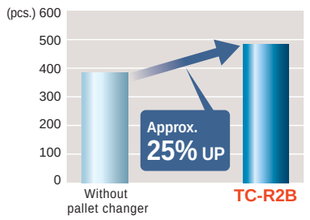
Pallet change time : 2.9s

• Nonstop machining

Using the QT table allows you to change workpieces on one pallet while machining workpieces on the other pallet. This eliminates waste in workpiece change time, enabling nonstop machining.



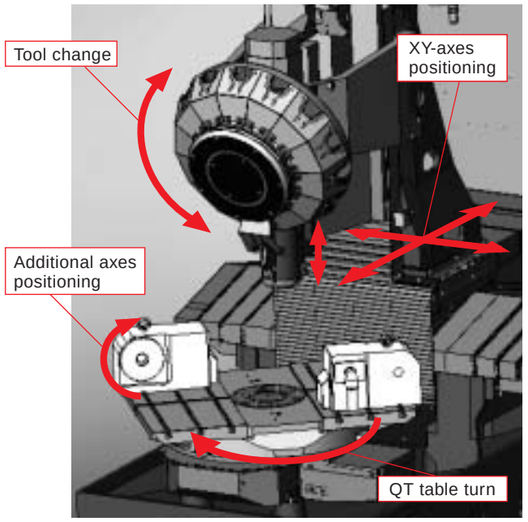
Production volume per day



[Conditions]
Machining time: 60s
Workpiece change time: 20s
1 day(10 hours)×85% operating rate

• Simultaneous operation

The machine is equipped with a simultaneous operation function where the XY and additional axes are positioned and tools are changed simultaneously when the QT table turns. Nonstop machining is achieved without wasting any pallet change time, to achieve Zero wasted time.

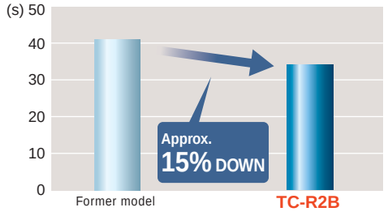


• Rapid traverse

The rapid traverse rate has been increased to 50 m/min for all axes. Using a high-response servomotor, vibration control, etc., this curbs vibration at the tool tip, to obtain smooth operation in addition to the increase in speed.

XYZ-axes rapid traverse rate : 50m/min

Comparison of non-cutting time

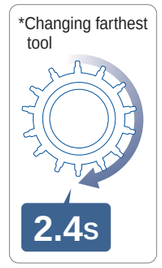


※Data taken by running machining program created by Brother

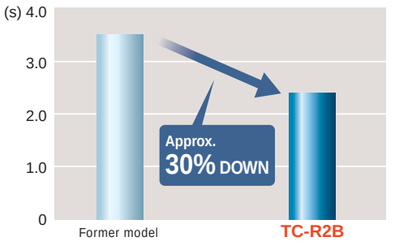
• Magazine driven by AC servomotor

The machine is equipped with a magazine driven by an AC servomotor, enabling high-speed magazine turn. In addition to the adjacent tool, even the farthest tool can be changed in short time.

CUT-CUT Adjacent tool: 1.4s
Farthest tool: 2.4s



Farthest tool CUT-CUT

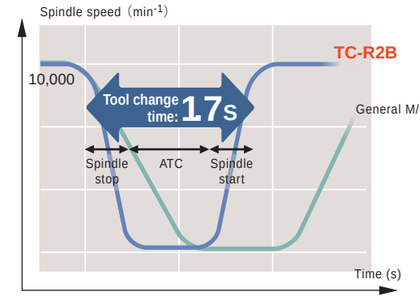


• Nonstop ATC

The high acceleration/deceleration spindle motor used enables the spindle to start or stop in short time. In particular, as the motor torque in the medium and high speed range is high, power is fully utilized for start and stop at high speed. This enables nonstop ATC where the tools are changed without stoppage of the Z-axis.

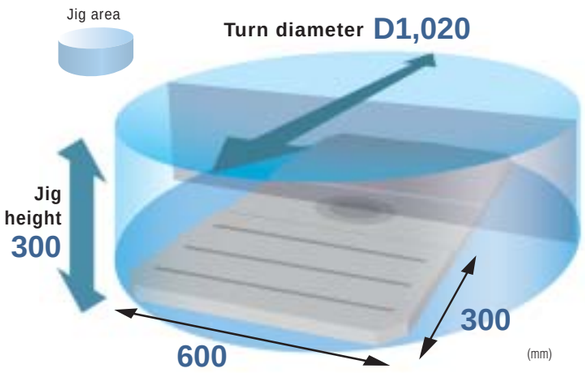
Tool change time from a point where spindle speed is 10,000 min-1: 1.7s

*During period of time after the spindle stops, ATC is performed until the spindle returns to 10,000 min-1



Broader applicability by enlarged jig areas

Improvements of the mechanical structure and the addition of a function where the column moves to a safe position as the QT table turns, have greatly increased jig areas and increased loading weight capacity.
A jig, such as an index table, can easily be loaded on to the machine thus allowing more freedom at your production site.



• Jig areas

(Former model)
Turn diameter: D940 → **D1,020mm**
Jig height: 250 → **300mm**
Table size: 500×300 → **600×300mm**(one side)

• Maximum loading weight

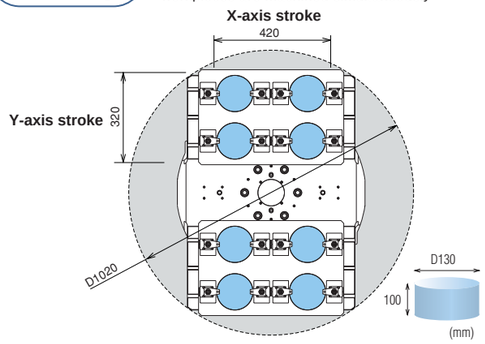
(Former model)
Max. loading weight: 80 → **120kg**(one side)*

*Up to 170 kg (one side) is possible. Consult us separately.

• Application examples

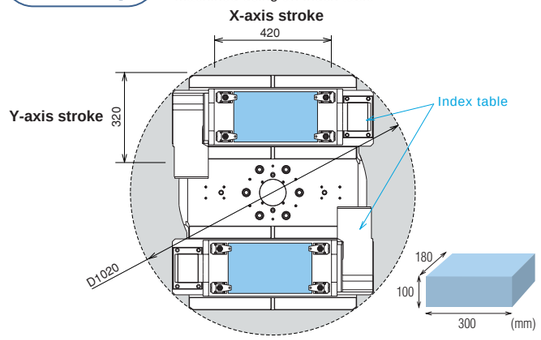
Multiple parts machining

Example
Multiple parts machining where four of the same workpieces are machined simultaneously



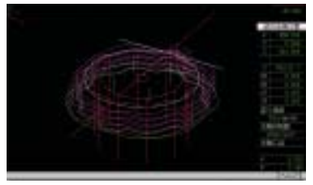
Multi-face machining

Example
Multi-face machining where a large workpiece is machined using an index table



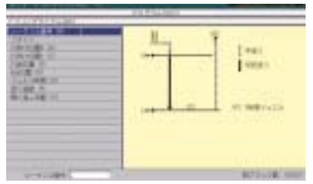
Pursuit of ultimate usability through machine/controller integrated development

The machine is equipped with a B00 series CNC controller developed integrally with the machine, focusing on usability. Various user-friendly functions are available, such as the menu programming function, USB memory interface, and tool length range setting function. In addition to these, some new functions have been added. For example, the ATC column movement function to make tool change easier and the tap return function to assist tool recovery in the event of power failure.



12.1-inch color display

User-friendly screen configuration, including menu screens for graphic drawing and program creation, alarm recovery screens, etc.



Menu programming function

When a G code is selected from the G code list, entry items and descriptions are displayed.

USB memory interface

USB memory interface is available. Many data can be transferred at high speed. Tape operation is also possible.
*Cannot be connected directly to the personal computer.

Tool length range setting function

An alarm is issued when a numerical value not within the set range is entered.

Maintenance notice function

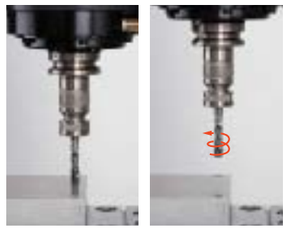
Maintenance timing can be set or notified by an alarm.

High accuracy mode A

High accuracy mode A ensures accurate finishing of minute lines. (The figure above shows an example when machined at F10,000 mm/min.)

ATC column movement function

The column moves to a position where tools can easily be removed when changing the tools manually.

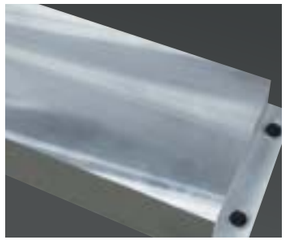


Tap return function

This function releases the tool caught in the workpiece due to a power failure occurring during tapping.

High Cutting Ability

1 Facing



DATA

■Rough cutting
○Cutting amount:
1200cm³/min
■Finishing
○Surface roughness:
0.23μmRa
○Workpiece material:
Aluminum
(D125 face mill used)

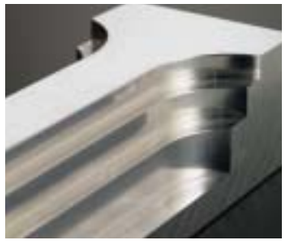
2 Deep drilling

DATA

○ D6 ×120mm（Aluminum）
○ D6 ×120mm
（Carbon steel）

(Coolant Through Spindle used)

3 End milling (side cutting)



DATA

○Cutting amount:
600cm³/min
○Workpiece material:
Aluminum

(D16 end mill used)

4 End milling (grooving)

DATA

○Cutting amount:
380cm³/min
○Workpiece material:
Aluminum

(D16 end mill used)

5 High-speed tapping

DATA

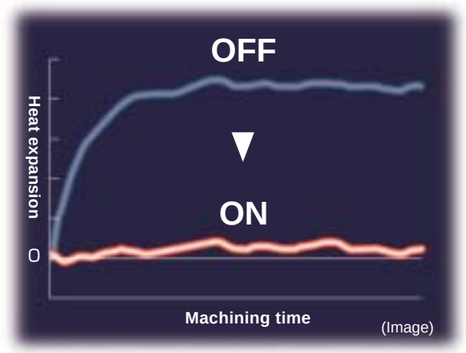
○Peripheral speed:
377m/min
（M20×P2.5,S6000）
○Workpiece material:
Aluminum

6 Continuous tapping

DATA

○26.8s / continuous 30 holes
○M8×P1.25　Depth: 16 mm
(50 mm pitch)

• Heat expansion compensation system



This system predicts the heat expansion based on the movement of each axis and compensates for it. As no sensors are used, machining time is not affected. All of the XYZ-axes are standard equipped with this system.

• BT dual contact spindle (BIG-PLUS)

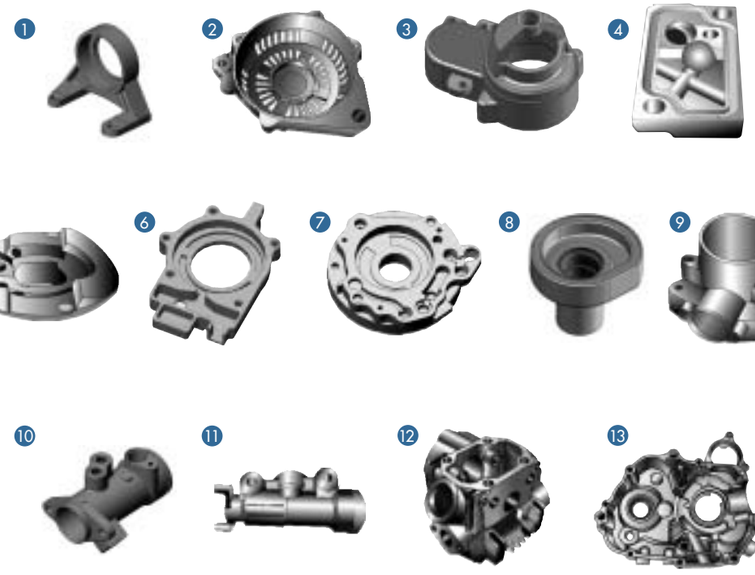
Improved tool rigidity reduces vibration during machining and tool tilt. In addition to this, air assisted tool washing prevents chips being caught between the tool and the spindle.

Examples of target workpieces

Automobile parts
- Bearing support ①
- Flywheel
- Balance shaft
- Alternator ②
- Starter housing ③
- Air conditioner cover ④
- Air conditioner cam plate ⑤
- Cylinder block
- Wiper housing
- Pump housing ⑥
- Oil pump body ⑦
- Water pump ⑧
- Water pump cover
- Throttle body ⑨
- Lower body
- Valve housing ⑩
- Lower ball
- Support shaft
- Clutch piston

Motorcycle parts
- Brake master cylinder ⑪
- Cylinder head ⑫
- Crankcase ⑬
- Crankcase cover
- Cylinder
- Shift fork
- Cam shaft
- Crankshaft

General machinery parts
- Hydraulic transmission joint
- Camera parts
- Optical element housing
- Mobile phone
- Camera case



Machining capability

Machining	Drilling		Tapping		Facing	
Material	Tool diameter (mm) × Feed (mm/rev)		Tool diameter (mm) × Pitch (mm)		Cutting amount (cm³/min): Cutting width (mm) × Cutting depth (mm) × Feed rate (mm/min)	
	10,000min⁻¹	16,000min⁻¹	10,000min⁻¹	16,000min⁻¹	10,000min⁻¹	16,000min⁻¹
ADC	D32×0.2	D24×0.2	M27×3.0	M22×2.5	960:100×3.2×3000	660:100×2.2×3000
Cast iron	D28×0.15	D22×0.15	M24×3.0	M18×2.5	128:40×5.6×573	73:40×3.2×573
Carbon steel	D25×0.1	D18×0.1	M16×2.0	M14×2.0	81:40×4.2×484	48:40×2.5×484

* The data is Brother's actual test data.

Environmental Measures

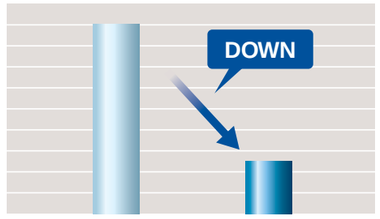
CNC TAPPING CENTER **TC-R2B**

CO2 emissions have decreased by reducing power and air consumption. The machine is equipped with various energy-saving functions, contributing to the preservation of the global environment.

• Comparison of power consumption

Low power consumption is achieved by using a low-inertia spindle and a highly efficient motor to drive the spindle.

■ **Power consumption for one cycle**
* Data taken by running machining program created by Brother



• Comparison of air consumption

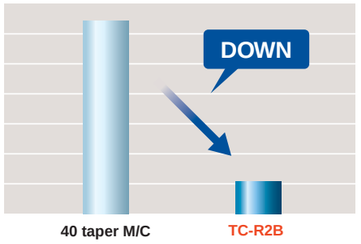
The structure of the spindle covering has been enhanced to reduce air purge. Air blast operations have also been reviewed to optimize the air discharge timing. These improvements have greatly reduced air consumption.

Air consumption
Approx. 30%DOWN
compared to former model

■ **Air consumption for one cycle**
* Data taken by running machining program created by Brother

Example of machining

In a comparison running the same machining program, power and air consumption of the TC is much less than that of the 40 taper M/C.

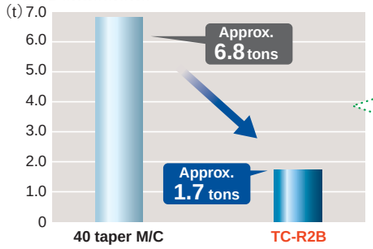


• Energy-saving effects on CO^2 emissions

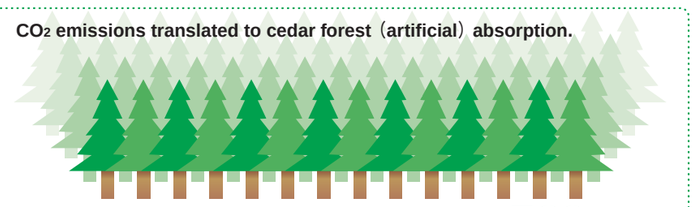
Energy-saving effects resulting from the reduction of power and air consumption can be calculated in terms of CO^2 emissions.

* The data is calculated assuming that the same quantity of workpieces (approx. 50,000 pcs.) are produced based on the above power and air consumption. The data varies depending on machining conditions, machining program, etc. * For air consumption, power consumption of the compressor is calculated in terms of CO^2 emissions.

■ **CO_2 emissions**



CO_2 emissions translated to cedar forest (artificial) absorption.



Using the TC produces the same effect as planting 720 cedars*.

* The data is calculated based on the amount of carbon per 35-year-old cedar three (20 cm in diameter, 18 m high, 0.28 m^3 of stem volume).

• Other energy-saving functions

The TC is equipped with a variety of energy-saving functions.

Automatic coolant off ..... Turns off the coolant pump when the preset time elapses.
Standby mode ..... Turns off the servomotor when the machine is not operated for the preset time.
Automatic work light off ... Turns off the work light when the preset time elapses.
Automatic power off ..... Turns off the power at the preset time.
Automatic grease lubricator ... Reduces oil consumption.

■ **Reduction in usage of lubricator**

Approx. **26** L / year (Oil) → Approx. **2** L / year (Grease)
Consumption: Approx. 90% less

Optional

• Environmental efforts

Brother established the "Brother Green Label" in compliance with ISO14021 International Standard and JIS Q 14021 Japan Industrial Standard.

Low power consumption
Reduction in air consumption
Improvement of maintainability

The TC-R2B is an environmentally conscious product with lower air consumption and lead free soldered board and non-PVC materials used.

Non-PVC materials

Lead free soldered board

Examples of High Productivity Using QT Table

CNC TAPPING CENTER **TC-R2B**

Using the QT table, a high-speed pallet changer, eliminates waste in workpiece change time, leading to high productivity.

• Advantages of using QT table

❶Stable production

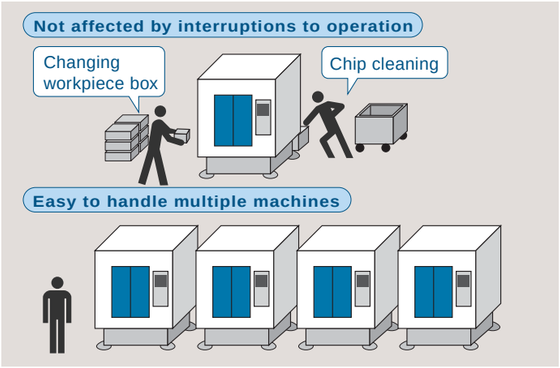
Stable production volume is ensured, without being affected by variations in workpiece change time.

❷Not affected by interruptions to operations

As workpiece change is possible at anytime during machining, any influence on productivity is minimized in the case of operations other than workpiece change, such as changing the workpiece box and chip cleaning.

❸Easy to handle multiple machines

As workpiece change is possible during machining, it is not necessary to wait until the current machining is completed. So, one operator can change workpieces for multiple machines without any time wasted.



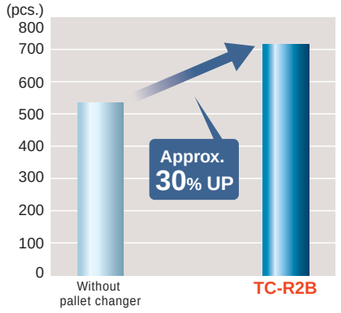
• Examples of high productivity

Case 1 Short machining time

For workpieces with short machining time, the occupying percentage of workpiece change in production increases. Therefore, stop time increases for machines not equipped with a pallet changer, resulting in lower productivity. The TC-R2B eliminates waste in workpiece change time, leading to high productivity.

Machining time: Approx. ≤ 80s

Production volume per day



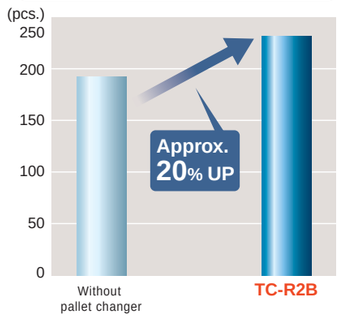
Conditions: Machining time: 40s
Workpiece change time: 15s
1 day (10 hours) x 85% operating rate

Case 2 Long workpiece change time

A large amount of time is taken for workpiece change when performing multiple parts machining or machining that uses simple jigs. Time may also be taken for jig washing to reduce the influence of chips. These result in lower productivity. The TC-R2B ensures high productivity even in such cases.

Workpiece change time: Approx. ≥ 25s

Production volume per day

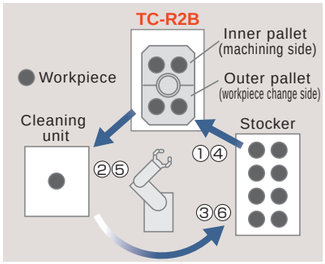


Conditions: Machining time: 130s
Workpiece change time: 30s
1 day (10 hours) x 85% operating rate

Case 3 Automation

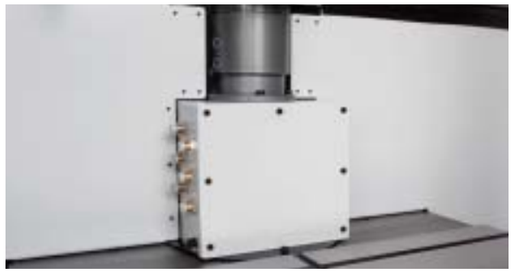
The TC-R2B also ensures high productivity for automation using a robot, eliminating waste in workpiece change time. Productivity is not affected even if a large amount of time is taken for workpiece change, including correct attachment of workpiece and jig washing. A complicated robot cycle that includes handling of multiple machines and peripheral equipment can easily be established.

Example of robot cycle



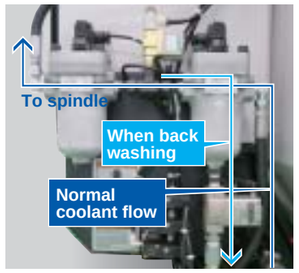
Machining 2 workpieces
① 1st: Change workpiece at TC ④ 2nd: Change workpiece at TC
② 1st: Change workpiece at cleaning unit ⑤ 2nd: Change workpiece at cleaning unit
③ 1st: Change workpiece at stocker ⑥ 2nd: Change workpiece at stocker

Optional attachments



• Hydraulic rotary joint / Pneumatic terminal box

A 4-port hydraulic rotary joint is added and the number of pneumatic ports is increased to 12, making mounting jigs that use hydraulic pressure or pneumatic pressure easier.



• Coolant Through Spindle (CTS)

1.5 MPa CTS is effective for deep drilling and high-speed machining. The back washing system automatically washes the filter to prevent it from clogging, enabling longer continuous operation without filter replacement.

• Work light (1 or 2 lamps) / Table light (LED)

LED lamps are used for the work light and table light, providing longer life and saving energy.

Spindle nose end washing nozzle
(BT dual contact spindle only)

• Tool washing (air-assisted type)

New air-assisted type tool washing with higher discharge pressure provides higher chip removal capacity. Stable washing power is achieved, without being affected by filter clogging.

• Side door

This makes setups or tool change from the side easier. It is possible to operate the manual pulse generator through the side door and check the machining room through the lighting window.

• Automatic oil lubricator / Automatic grease lubricator

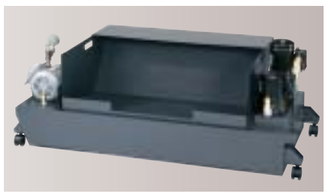
Regularly applies oil or grease to all lubricating points on the three axes.
* Use automatic grease lubricator at 5°C or higher.

• Automatic door (motor-driven)

A motor-driven door is used, achieving smooth operation and reducing opening and closing time.

• Tool breakage detector (touch type)

A touch switch type tool breakage detector is used. This can also be used for automatic tool length measurement when a program is created for this purpose. (NC language only)



• Coolant unit

Can be selected from 100L or 150L, depending on the purpose.
(Photo: 150L chip shower with CTS)

• Indicator light (1, 2, or 3 lamps)

LED lamps are used. There are no bulbs to burn out, making it completely maintenance free.

• Manual pulse generator

Manual pulse generator with a cable makes operation through the maintenance window easier.

• Cleaning gun

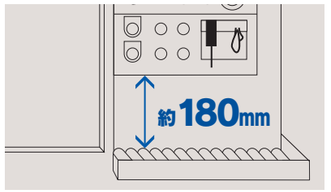
Helps clean the workpiece or chips inside the machine after machining.

• Spindle override

Spindle speed can be changed without changing the program.

• Outer index switch

This switch enables operation of the outer index table.



• Switch panel (6 holes, 10 holes)

The position of the USB memory interface or manual pulse generator can be changed together with the switch hole. This allows more freedom to set-up a roller conveyor.

• Side cover (Natural lighting)

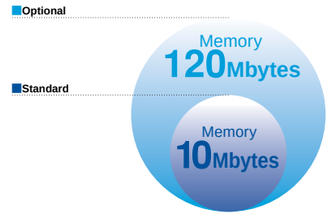
External light is taken in to make the inside of the machine brighter and improve visibility.

• Top cover

This cover prevents the mist from getting out of the machine. There is also a hole for a mist collector.

• RS-232C 9 pin to 25 pin conversion cable

Conventional 25-pin connector can be attached to the side of the control box.



• Memory expansion

Memory can be expanded up to 120 Mbytes.

• B-axis connection unit

Multi-face machining is possible by adding additional axes.

• Built-in PLC

Ladder language programming employed. Ladder programs can be edited or monitored on the NC screen.

Optional specifications

- Coolant unit
  (1) 100L (with valve and 250W pump)
  (2) 150L (with chip shower, valve, and 250W + 400W pumps)
  (3) 150L (with chip shower, CTS, valve, and 250W + 400W + 750W pumps)
- Coolant Through Spindle (CTS) + Back washing system
- Tool washing (air-assisted type)
- Tool breakage detector (touch type)
- Hydraulic rotary joint (4 ports) + Pneumatic terminal box (12 ports)
- Pneumatic terminal box (12 ports)
- Cleaning gun
- Automatic oil lubricator
- Automatic grease lubricator
- Work light (1 or 2 lamps)
- Table light
- Indicator light (1, 2, or 3 lamps)
- Automatic door (motor-driven)
- Area sensor
- Specified color
- Manual pulse generator
- B-axis connection unit
- Spindle override
- Outer index switch
- Top cover
- Side door
- Side cover
- Memory expansion (approx. 120 Mbytes)
- RS232C 9-pin to 25-pin conversion cable (for control box)
- Expansion I/O board (EXIO board)
  (1) EXIO board standard assembly
  (2) EXIO board PNP assembly
  (3) Additional EXIO board standard assembly
  (4) Additional EXIO board PNP assembly
- Switch panel (6 holes, 10 holes)
- Built-in PLC
- PLC programming software (for Windows®2000, XP, VISTA)
- Automatic workpiece measurement software
- Jig shower valve unit
- Grip cover
- Mesh basket

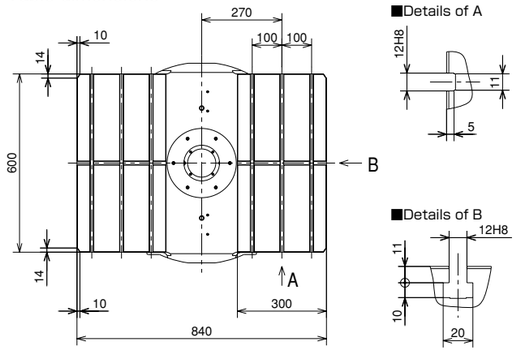
Outline dimensional drawing

CNC TAPPING CENTER **TC-R2B**

CNC TAPPING CENTER®

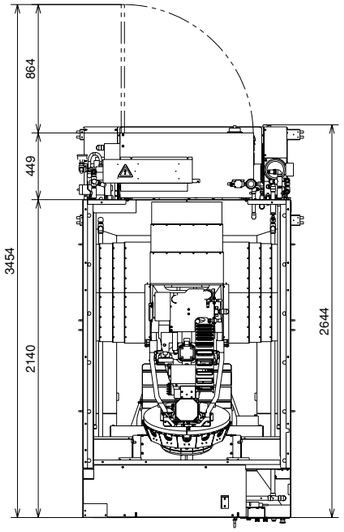
TC-R2B

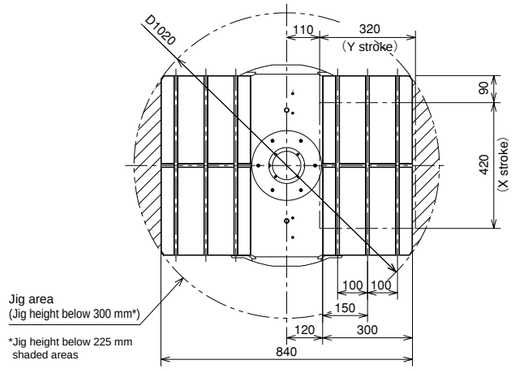
Table dimensions

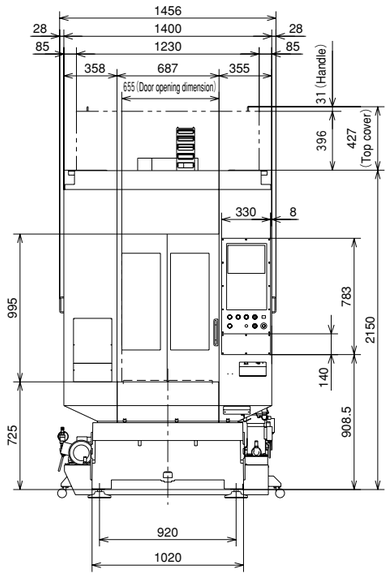


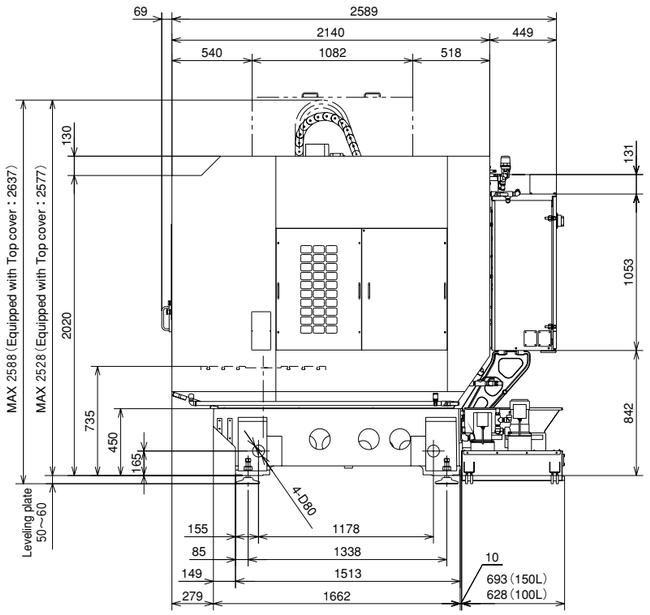
■Details of A

■Details of B









Machine Specifications and NC Unit Specifications

CNC TAPPING CENTER **TC-R2B**

Machine Specifications

Item			TC-R2B	
			10,000min⁻¹ specifications	16,000min⁻¹ specifications
CNC unit			CNC-B00	
Travels	X axis	mm (inch)	420 (16.5)	
	Y axis	mm (inch)	320 (12.6)	
	Z axis	mm (inch)	305 (12.0)	
	Distance between table top and spindle nose end	mm (inch)	200～505 (7.9～19.9)	
Table	Work area size	mm (inch)	600×300 (23.6×11.8)(one side)	
	Max. loading capacity (uniform load)	kg (lbs)	120 (265)(one side)*6	
Spindle	Spindle speed	min-1	10～10,000	16～16,000
	Speed during tapping	min-1	MAX. 6,000	
	Tapered hole		7/24 tapered no.30	
	BT dual contact system (BIG-PLUS)		Available	
Feed rate	Rapid traverse rate (XYZ-area)	m/min (inch/min)	50×50×50 (1,969×1,969×1,969)	
	Cutting feed rate	mm/min (inch/min)	1～10,000(0.04～394) (X, Y), 1～20,000(0.04～787) (Z)	
ATC unit	Tool shank type		MAS-BT30	
	Pull stud type *4		MAS-P30T-2	
	Tool storage capacity	pcs.	14	
	Max. tool length	mm (inch)	200 (7.9)	
	Distance from taper gauge line/Max. tool diameter	mm (inch)	0~30(0~1.2)/D48(1.8) 30~160(1.2~6.3)/D80(3.1) 160~200(6.3~7.9)/D40(1.6)	
	Max. tool weight *1	kg (lbs)	3.0 (6.6) (total tool weight: 25 (55.1) for 14 tools)	
	Tool selection method		Random shortcut	
Tool change*5 time	Tool To Tool	sec.	0.9	
	Chip To Chip	sec.	1.7	
	Cut To Cut	sec.	1.4	
Electric motor	Main spindle motor (10 min / continuous) *2	kW	10.1／6.7	7.4／4.9
	Axis feed motor	kW	1.0 (X, Y)、1.5 (Z)	
Power source	Power supply		ACV±10% 3-phase, 50/60Hz±1Hz	
	Power capacity (continuous / max.)	kVA	9.5/37.0	9.5/34.2
	Air supply — Regular air pressure	MPa	0.4～0.6	
	Air supply — Required flow	L/min	60	
Machining dimensions	Height	mm (inch)	2,588 (101.9)	
	Required floor space (with control unit door open)	mm (inch)	1,456×2,644 (3,454) [57.3×104.1(136.0)]	
	weight (including control unit splash guard)	kg (lbs)	2,600 (5,732)	
Accuracy*3	Positioning accuracy	mm (inch)	0.005/300 (0.0002/11.8)	
	Repeatability	mm (inch)	±0.003 (±0.00012)	
Standard accessories	Instruction Manual(1 set), anchor bolts(4 pcs.), leveling bolts(4 pcs.), splash guard(manual door), fuse(1 set)			

*1. Actual tool weight differs depending on the configuration and center of gravity. The figures shown here are for reference only. *2. Spindle motor output differs depending on the spindle speed. *3. Measured in compliance with JIS B6201-1987 and Brother standards. Please contact Brother for details. *4. Brother specifications apply to the pull studs for CTS. *5. Measured in compliance with JIS B6336-9 and MAS011-1987. *6. Can handle work loads up to 170 kg (per one side). Please contact Brother.

Quick turn table specifications

Item		
Type		0°/180° turntable system
Table dimension	mm (inch)	600×420 (23.6×16.5)(one side)
Max. turning diameter	mm (inch)	D1,020(D40.2)
Max. jig height	mm (inch)	300 (11.8)
Table work area size	mm (inch)	600×300 (23.6×11.8)(one side)
Max. loading capacity	kg (lds)	120 (265)(one side)*6
Rated table load inertia for turning axis	(kg·m²)	14.2(one side)
Table turning system		AC servo motor (750W) HRH gear (total speed reduction ratio: 1/90)
Table position time		2.9s/180°
Table change repeatabilty	mm (inch)	0.01(0.0004) (in the X, Y, and Z axes directions 270 (10.6) from the center of rotation)

※Quick turn table is a turntable type 2-face pallet changer

NC Unit specification

項 目	
CNC model	CNC-B00
Control axes	7 axes (X, Y, Z, A, B)
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 : 3 axes (X, Y, Z)
Least input increment	0.001mm、0.0001inch、0.001°
Max. programmable dimension	±9999.999mm, ±999.9999inch
Display	12.1-inch color LCD
Memory capacity	Approx.10 Mbytes (Total capacity of program and data bank)
External communication	USB memory interface, RS232C 1ch, Ethernete
No.of registrable programs	1,024 (Total capacity of program and data bank)
Program format	NC language, conversation (changed by parameter), conversion from conversation program to NC language program available

* When program size is bigger than 2 Mbytes, machine works with extended memory operation.
* Ethernet is a trademark or registered trademark of XEROX in the United States.
* Functions with (NC) and (conv.) are available only for NC programs and conversation programs respectively.

NC function

- 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
- Tool length measurement
- Tool life management / spare tool
- Background editing
- Graphic display
- Subprogram
- Expanded workpiece coordinate system (NC)
- Helical / conical interpolation
- Scaling (NC)
- Tool washing filter with filter clogging detection
- 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)
- Heat expansion compensation system (X, Y, Z axes)
- Tap return function