

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, U.S.A.
PHONE:(1)224-653-8415 FAX:(1)224-653-8821

Germany

**BROTHER INTERNATIONALE INDUSTRIEMASCHINEN GmbH
MACHINE TOOLS DIVISION FRANKFURT TECHNICAL CENTER**
Hoechst Str.94, 65835 Liederbach, Germany
PHONE:(49)69-977-6708-0 FAX:(49)69-977-6708-80

India

**BROTHER INTERNATIONAL (INDIA) PVT LTD.
Machine Tools Bengaluru Technical Center**
Park Landing, Ground Floor, Municipal No.5AC-709, 2nd Block, HRBR Extension,
Bengaluru - 560 043 Karnataka, India
PHONE:(91)80-6405-7999

China

**BROTHER MACHINERY (SHANGHAI) LTD.
(MACHINE TOOLS DIV.) SHANGHAI TECHNICAL CENTER**
Room B, 3/F., No.567, West Tianshan Rd., ChangNing District, Shanghai 200335, P.R.China
PHONE:(86)21-2225-6666 FAX:(86)21-2225-6688

China

**BROTHER MACHINERY (SHANGHAI) LTD.
CHONGQING BRANCH (MACHINE TOOLS DIV.) CHONGQING TECHNICAL CENTER**
Room 105, No.51 Xuefudadao, Nan' an District, Chongqing Province, 400074, P.R.China
PHONE:(86)23-6865-5600 FAX:(86)23-6865-5560

Mexico

**BROTHER INTERNATIONAL DE MÉXICO, S.A. DE C.V.
División de Maquinaria Industrial Centro Técnico Querétaro**
Calle 1 No.310 Int 15, Zona Industrial Jurica, Parque Industrial Jurica,
Queretaro, QRO C.P. 76100 México
PHONE:(52)55-8503-8760 FAX:(52)442-483-2667

Thailand

**BROTHER COMMERCIAL (THAILAND) LTD.
MACHINE TOOLS TECHNICAL CENTER**
317 Pattanakarn Road, Pravet Sub-District, Pravet District, Bangkok 10250, Thailand
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India

**BROTHER INTERNATIONAL (INDIA) PVT LTD.
Machine Tools Gurugram Technical Center**
Level 20, Tower C, Building No 5, DLF Epitome, DLF Cyber City Phase III,
Gurugram - 122002 Haryana - India
PHONE:(91)80-6405-7999

China

**BROTHER MACHINERY (SHANGHAI) LTD.
DONGGUAN BRANCH (MACHINE TOOLS DIV.) DONGGUAN TECHNICAL CENTER**
1F, Fuyuan Business Center Building, No.1 Lane 13, Maiyuan Road, Xin'an community,
Chang'an Town, Dongguan City, Guangdong Province, 523008, P.R.China
PHONE:(86)769-2238-1505 FAX:(86)769-2238-1506

Figures in brackets () are the country codes.

- For safe use of our machines, please read the instruction manual and safety manual before commencing operation. When using oil-based coolant or processing workpieces made of materials (e.g. magnesium, resin) that may be ignited, take adequate safety measures to prevent fire. Please consult your local distributor if you have any questions.
- Leave 700 mm between machines as a maintenance space.
- When exporting our machine together with additional 1-axis rotary table or compound rotary table (including case that a rotary table is scheduled to be installed overseas), the machine is deemed to be included in the "applicable listed items" controlled by the Foreign Exchange and Foreign Trade Law of Japan. When exporting the machine, please obtain required permissions, including an export license, from the Ministry of Economy, Trade and Industry (METI) or Regional Bureaus of Economy, Trade and Industry before shipment. When re-selling or re-exporting the machine, you may need to obtain permissions from METI, and the government of the country where the machine is installed.
- When exporting our machine together with compound rotary table (including case that a rotary table is scheduled to be installed overseas), as a machine conforming to Row 2 of Appended Table 1 of Export Trade Control Order, a relocation detection device is installed on the machine depending on the destination country. After relocating the machine with the detection device, the machine is locked and any operation is temporarily impossible. Please inform your local distributor of machine relocation in advance and apply to perform the release operation of relocated machine.
- In order to operate our machine with an additional axis rotary table installed separately overseas after exporting the machine, the procedure to activate the axis of rotary table is needed. Please inform your local distributor of these processes in advance, because the predetermined procedure is required to perform the activation. In addition, for export to "non-white countries (excluding some countries and regions)", it is not possible to install a compound rotary table separately overseas after exporting the machine. Please make sure to obtain the export license of the machine together with compound rotary table before shipment.

Specifications may be subject to change without any notice.



BROTHER INDUSTRIES, LTD.

Machinery Business Division

1-5, Kitajizoyama, Noda-cho, Kariya-shi,
Aichi-ken 448-0803, Japan
PHONE: 81-566-95-0075
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<http://www.brother.com>





SPEEDIO

The compact machining center SPEEDIO has been released, achieving overwhelming productivity and excellent environmental performance based on Brother's original technologies. Our efforts have been focused on releasing a machine that brings about success to users producing mass-production parts, in response to their deep confidence.

SPEEDIO
S500X1



SPEEDIO
S700X1



SPEEDIO
S300X1



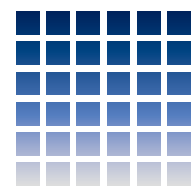
Photos show machines with a 21-tool magazine. The magazine cover is not provided for machines with a 14-tool magazine.



Basic specifications

Max. spindle speed(min ⁻¹)	10,000 10,000 high-torque (Optional) 16,000 (Optional) 27,000 (Optional)
Stroke of each axis (mm)	S700X1 X 700 Y 400 Z 300 S500X1 X 500 Y 400 Z 300 S300X1 X 300 Y 400 Z 300
Tool storage capacity (pcs.)	14 / 21
Rapid traverse rate (m/min)	X / Y / Z 50 / 50 / 56
Required floor space (mm)	S700X1 2,050 × 2,220 S500X1 1,560 × 2,220 S300X1 1,080 × 2,557
BT dual contact spindle (BIG-PLUS)	Optional
Coolant Through Spindle (CTS)	Optional

* CTS option is not available for 27,000 min⁻¹ specifications.



Pursuit of higher productivity

The machine has achieved overwhelming high productivity as a result of achieving high acceleration and quick response. In particular, Z-axis acceleration has been greatly improved, which is highly effective for improvement of productivity.

Achievement of high acceleration

Former model
Z-axis acceleration : 1.1G → **2.2G**

As the Z-axis moves most frequently, Z-axis acceleration has been improved to twice the former model.

Optimal acceleration according to loading capacity (X/Y-axes)*

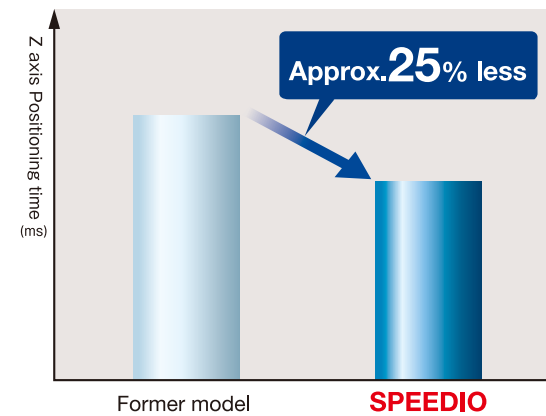
(Max. load) : 1.4G / 1.1G

(150 kg load) : **2.0G / 1.3G**

The X/Y-axes optimal acceleration setting function sets the most appropriate acceleration according to the table loading capacity.

* Acceleration for the S500X1. The loading capacity needs to be set via parameter.

Comparison of Z axis positioning time



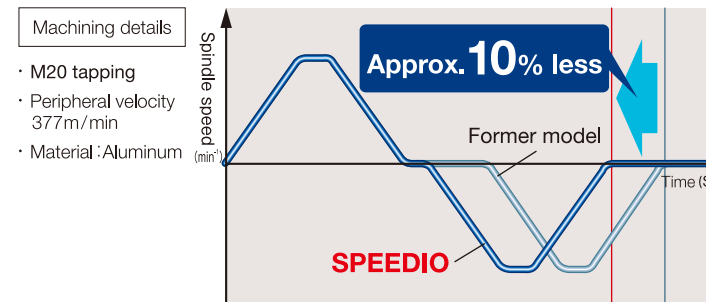
* When moving from Z-axis home position to stroke center

Highly-responsive servo motor

Delay in response has been reduced to almost zero by increasing the responsiveness of the servo motor. For example, high-speed synchronized tapping at the fastest level in the world is completed within much shorter time.



Comparison of tapping cycle time



* Data taken by running machining program created by Brother

Machining details
 • M20 tapping
 • Peripheral velocity 377m/min
 • Material : Aluminum

Optimized waste elimination control

Brother's original NC unit thoroughly eliminates waste motion and waste time, and drives machine performance to the fullest to demonstrate high productivity.

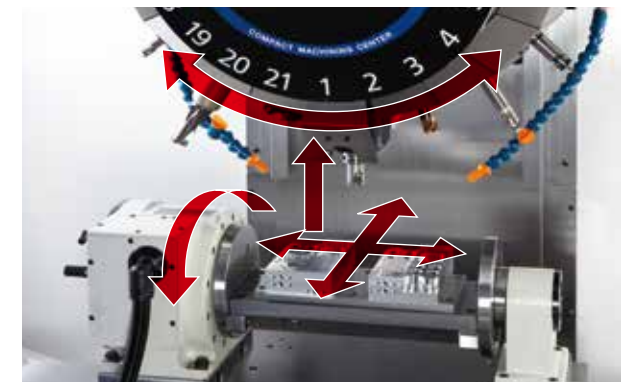
Nonstop ATC

Tool change time is minimized by optimizing the magazine operation and improving the Z-axis acceleration, in addition to the shorter start and stop time of the spindle.

Former model
 Chip - Chip : 1.6s → **1.4s**
 Tool - Tool : 0.9s → **0.8s**

Simultaneous operation control

Further reduction of waste time achieved by positioning X/Y and additional axes simultaneously with tool change.



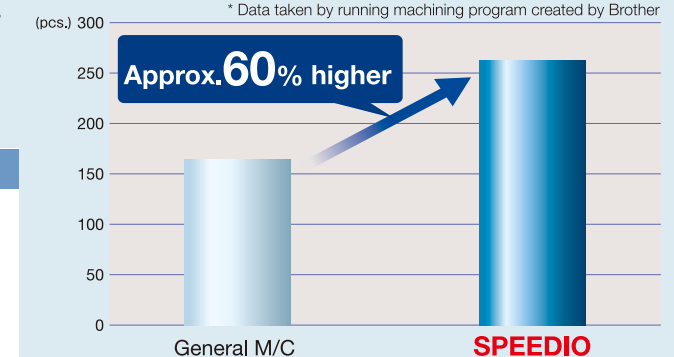
When compared to a general machining center (M/C), the high productivity of the SPEEDIO is outstanding. Brother is constantly pursuing overwhelmingly high productivity.

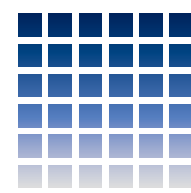
Conditions for productivity comparison

Major machining details
 • D5.1 drilling × 12 • Boring × 2
 • M6 tapping × 12 • No. of tools used : 9
 • Spot facing × 7
 Workpiece change time : 15s
 1 day (10 hours) × 85% operating rate

Comparison of productivity

* Data taken by running machining program created by Brother

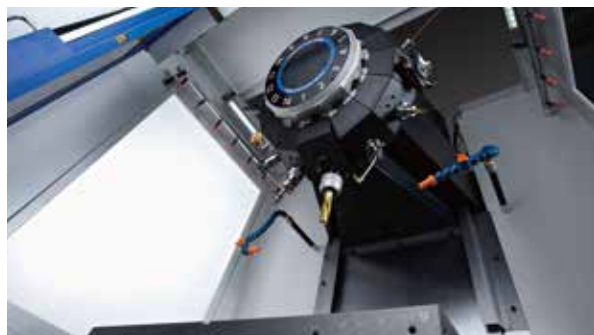




From high-speed, high-efficiency machining to heavy-duty machining

Technologies accumulated over years to enhance machine rigidity, and use of a high-power spindle motor allow the machine to demonstrate its broad machining capabilities from high-speed, high-efficiency machining to heavy-duty machining.

Highly rigid structure



**Z-axis rigidity
15% increase**

For the Z-axis in particular, the stress path is reduced, leading to improvement of rigidity by approximately 15%.

Based on accumulated analysis technology data, the machine uses a structure that effectively further improves its rigidity.

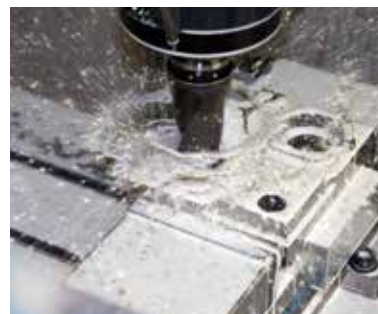
High-power spindle motor

Medium-and high-speed range enabling high-efficiency machining



Grooving using standard specs
Cutting amount : 150cc/min
Material: Carbon steel
(for ø16 end mill)

Low-speed range suitable for heavy-duty machining



Large hole drilling using high-torque specs
Hole diameter : ø40mm
Material: Carbon steel

Spindle motor torque

Standard specs

Max. torque (momentary): **40Nm**

Max. output: **18.9kW**

High-torque specs (Optional)

Max. torque (momentary): **92Nm**

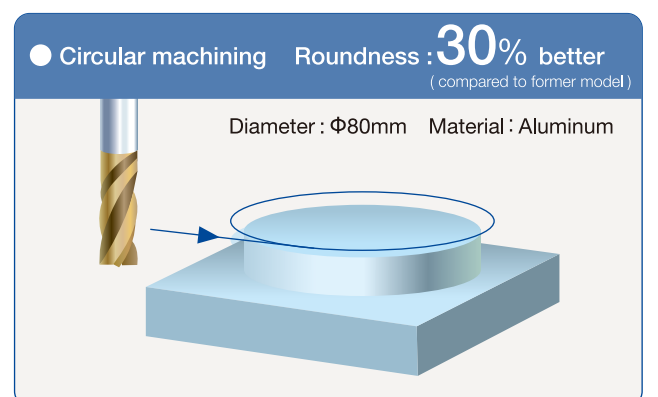
Max. output: **26.2kW**

Pursuit of high-accuracy machining through machine/controller integrated development

High-accuracy machining has been achieved by improving machine rigidity, renewing the control system using a new NC unit, and adding new functions. Stable accuracy for circular machining and three-dimensional machining has also been achieved.

Pursuit of high accuracy

Resolution of the encoder has greatly improved and various offset functions have been added. These improvements achieve high accuracy for circular machining and pitch machining. The machine structure used is not easily affected by heat expansion due to coolant.



* This accuracy may not be obtained under some machining conditions, machine installation conditions etc.

High-speed three-dimensional machining

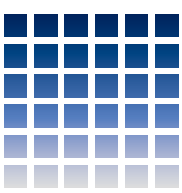
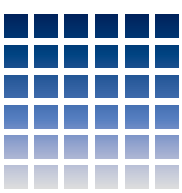
High-speed and highly accurate three-dimensional machining has been achieved by high-speed spindle specifications and Brother's original three-dimensional machining control, such as the 200-block look-ahead function and smooth path offset function.

High-speed spindle specs: (Optional) Max. spindle speed **27,000min⁻¹**

Look-ahead function
High accuracy mode BI (Standard): **30 blocks**

High accuracy mode BII (Optional): **200 blocks**





Equipped with new CNC-C00 control unit

Earth-friendly machine

High reliability

The machine is equipped with the CNC-C00 series next generation NC unit with greatly improved processing capabilities and functions, and enhanced usability.

Lower power and air consumption ensures high environmental performance. A power regeneration system that effectively lowers power consumption is used for all models.

Operability

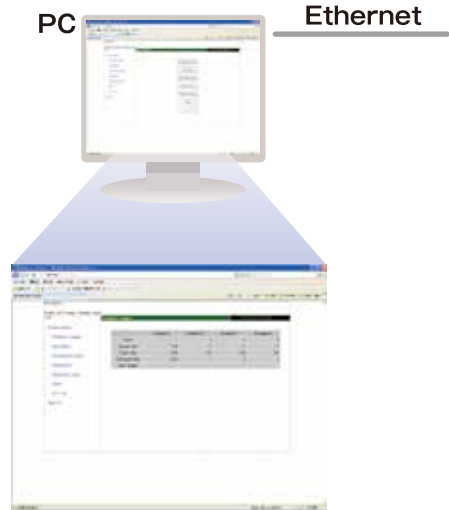
Equipped with 'shortcut' keys to quickly open the desired screen and 'sub folder' to make program management easier, in addition to the USB memory interface, menu programming and tap return function.



Shortcut keys

Network function

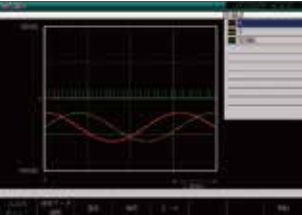
High capacity program data can be transferred via Ethernet at high speed. The simple production monitoring function is also available allowing you to monitor the machine's status.



(Production monitor screen)

Machining support functions

Equipped with machining support functions, such as torque waveform display, high accuracy mode, and heat expansion compensation system.



Maintenance functions

Equipped with motor insulation resistance measurement, operation log, and maintenance notice function.

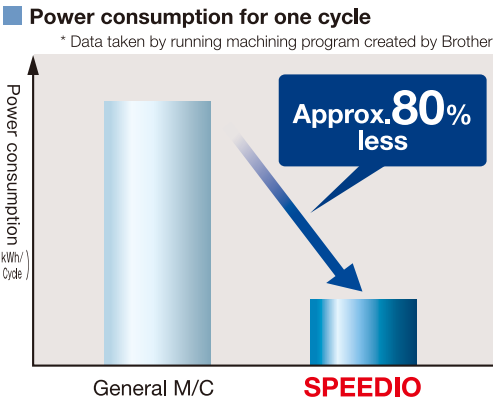


System capacity

Standard equipped with PLC. Input and output points can be extended to up to 1024 points each (Optional).



Low power consumption is achieved by using an energy saving pump etc. in addition to a low-inertia spindle and high-efficiency motor.



LED type work light (Optional)



Energy saving pump

The SPEEDIO is an earth-friendly machine 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.

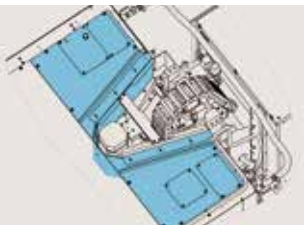
Reliable functions that enhance productivity, minimizing defects and preventing failure

Productivity can also be enhanced from the following viewpoints: “prevent dimensional defects” and “prevent machine failure with minimal maintenance to minimize machine down time”. The SPEEDIO is equipped with functions to achieve these.



Air-assisted tool washing (Optional)

High discharge pressure prevents chips becoming attached to the holder.



Top cover (Optional)

Separates the machining area from the machine room.



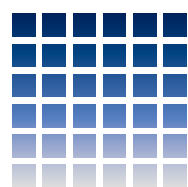
Motor insulation resistance measurement function

Detects motor failure in advance.



Maintenance notice function

Notifies operators of when greasing is required etc.



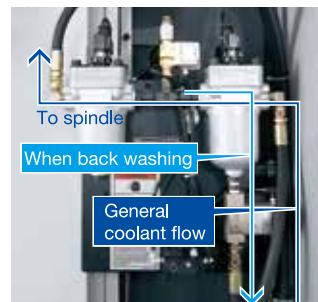
Coolant unit

Can be selected from 50L, 100L, or 150L, depending on the purpose.
(Photo: Tank with 150L chip shower)



Coolant Through Spindle (CTS)

1.5 MPa CTS used for BT spindle.
* Please consult Brother for use of 3 MPa CTS.
* CTS option is not available for 27,000min⁻¹ specifications.



Back washing system (for CTS)

This prevents the filter from clogging, enabling long continuous operation without filter replacement.



High accuracy mode BII (look-ahead 200 blocks)

The 200-block look-ahead function enables high-speed and highly accurate three-dimensional machining. Also equipped with a smooth path offset function to improve machining quality.



Tool breakage detector (touch type)

A touch switch type tool breakage detector is used.



Manual pulse generator

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



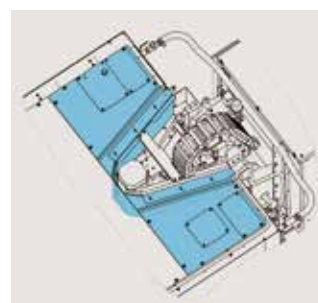
Tool washing (air-assisted type)

High discharge pressure and flow rate efficiently remove chips attached to the holder. Equipped with a filter clog warning function.



Chip shower

Chip shower pipes are located at the upper section inside the machine for more efficient flow, and flexible shower nozzles can be directed to the side of the machine cover or sections where chips tend to accumulate.



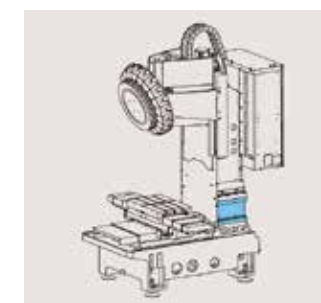
Top cover

Shutting the opening on the top prevents coolant or chips from splashing outside of the machine, and reduces the effect of there on the spindle motor.



Spindle override

Spindle speed can be changed without changing the program.



High column (150mm, 250mm)

High column of 150mm and 250mm used in response to customers' needs. *250 mm high column is not available for S300X1 21 ATC specifications.



RS232C (25 pin)

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



Cleaning gun

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



LED type work light (1 or 2 lamps)

LED lamps are used to extend lamp life and save energy.



Indicator light (1, 2, or 3 lamps)

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

Rotary Table T-200

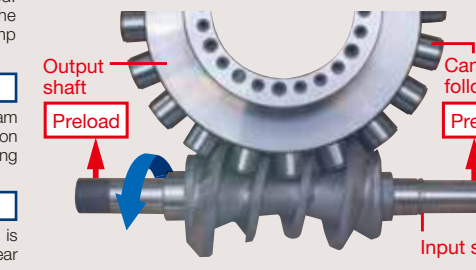


Feature① High Productivity
 Combining the roller gear cam with the proper motor provides high acceleration and high rotation speed. In addition, machining can be performed only by the holding torque with motor without using the clamp mechanism depending on the machining load.

Feature② High Accuracy
 Backlash can be eliminated with preloading the cam followers. Even machining with the turning direction in reverse will not adversely affect the machining surface.

Feature③ Maintenance free
 There is very little wear because the contact area is a rolling surface that rotates. While the worm gear requires regular adjustment, the roller gear cam does not require any adjustment even in long term use.

Roller Gear Cam Mechanism





Side cover (transparent board type)

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



Automatic door (motor-driven)

A motor-driven door is used, achieving smooth operation.



Automatic grease lubricator

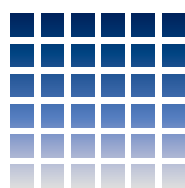
Regularly greases all greasing points on the three axes.
* Manual greasing applies to the standard specification model.

Optional Specifications

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> ● Coolant unit <ul style="list-style-type: none"> ① 50L (with valve and 180W pump) ② 100L (with chip shower, valve and 250W + 250W pumps) ③ 150L (with chip shower, valve and 250W + 400W pumps) ④ 150L (with chip shower, CTS, valve and 250W + 400W + 650W pumps) ● Coolant Through Spindle (CTS) ● Mesh basket for chips ● Tool washing (air-assisted type) ● Tool breakage detector (touch type) ● Chip shower ● Cleaning gun ● Jig shower valve unit | <ul style="list-style-type: none"> ● Back washing system (for CTS) ● Rotary Table T-200 ● Automatic oil lubricator ● Automatic grease lubricator ● LED type work light (1 or 2 lamps) ● Indicator light (1, 2, or 3 lamps) ● Automatic door (motor-driven) ● Area sensor ● Specified color ● Manual pulse generator ● B-axis cord ● Spindle override ● High column (150 mm, 250 mm) ● Grip cover ● Top cover ● Side cover (transparent board type) ● RS232C (25 pin) for control box | <ul style="list-style-type: none"> ● Expansion I/O board (EXIO board) <ul style="list-style-type: none"> ① EXIO board assembly *2 ② Additional EXIO board assembly ● Switch panel (6 holes, 10 holes) ● Memory expansion (approx. 500 Mbytes) ● High accuracy mode B II (look-ahead 200 blocks, smooth path offset) ● Submicron command *1 ● Interrupt type macro ● Fieldbus <ul style="list-style-type: none"> ① CC-Link (remote device station) ② PROFIBUS DP (slave) ③ DeviceNet (slave) ● PLC programming software (for Windows®XP, Vista, and 7) |
|---|---|--|

*1 When the submicron command is used, changing to the conversation program is disabled.
*2 EXIO board assembly can not be selected when selecting Fieldbus.

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.



Item			S700X1	S500X1	S300X1
CNC Unit			CNC-C00		
Travels	X axis	mm (inch)	700(27.6)	500(19.7)	300(11.8)
	Y axis	mm (inch)	400(15.7)		
	Z axis	mm (inch)	300(11.8)		
	Distance between table top and spindle nose end		mm (inch) 180~480(7.1~18.9)		
Table	Work area size	mm (inch)	800×400(31.4×15.7)	600×400(23.4×15.7)	
	Max.loading capacity (uniform load)		kg (lbs) 250[300 *6] (551[661 *6])		
Spindle	Spindle speed	min ⁻¹	10,000min ⁻¹ specifications : 10~10,000 16,000min ⁻¹ specifications (Optional) : 16~16,000 10,000min ⁻¹ high-torque specifications (Optional) : 10~10,000 27,000min ⁻¹ specifications (Optional) : 27~27,000		
	Speed during tapping	min ⁻¹	MAX. 6,000(27,000min ⁻¹ specifications: MAX. 8,000)		
	Tapered hole		7/24 tapered No.30		
	BT dual contact system (BIG-PLUS)		Optional		
Feed rate	Coolant Through Spindle (CTS)		Optional (CTS option is not available for 27,000min ⁻¹ spec.)		
	Rapid traverse rate (XYZ-area)	m/min(inch/min)	50 × 50 × 56(1,969 × 1,969 × 2,205)		
	Cutting feed rate	mm/min(inch/min)	X, Y, Z axis : 1~30,000(0.04 ~ 1,181) *7		
	Tool shank type		MAS-BT30		
ATC unit	Pull stad type *4		MAS-P30T-2		
	Tool storage capacity	pcs.	14 / 21		
	Max. tool length	mm (inch)	250(9.8)	160(6.3) [21 tool] 250(9.8) [14 tool]	
	Max. tool diameter	mm (inch)	110(4.3)		
Tool change time *5	Max. tool weight *1	kg (lbs)	3.0(6.6) / Tool (TOTAL TOOL WEIGHT : 25(55.1) for 14 tools, 35(77.2) for 21 tools)		
	Tool selection method		Random shortcut method		
	Tool To Tool	sec.	0.8		
	Chip To Chip	sec.	1.4		
Electric motor	Cut To Cut	sec.	1.2		
	Main spindle motor (10min/continuous)*2	kW	10,000min ⁻¹ specifications : 10.1 / 6.7 16,000min ⁻¹ specifications (Optional) : 7.4 / 4.9 10,000min ⁻¹ high-torque specifications (Optional) : 12.8 / 8.8 27,000min ⁻¹ specifications (Optional) : 8.9 / 6.3		
	Axis feed motor	kW	X, Y axis : 1.0 Z axis : 2.0		
	Power supply		AC V±10%, 50/60Hz±1Hz		
Power source	Power capacity (continuous)	kVA	10,000min ⁻¹ specifications : 9.5 16,000min ⁻¹ specifications (Optional) : 9.5 10,000min ⁻¹ high-torque specifications (Optional) : 10.4 27,000min ⁻¹ specifications (Optional) : 9.5		
	Air supply	Regular air pressure	MPa	0.4~0.6(recommended value : 0.5MPa *8)	
		Required flow	L/min	45(27,000min ⁻¹ specifications : 115)	
	Machining dimensions	Height	mm (inch)	2,497(98.3)	
Required floor space [with control unit door open]		2,050×2,220 [2,692] (80.7×87.4 [106.0])	1,560×2,220 [2,692] (61.4×87.4 [106.0])	1,080×2,557 [2,776] (42.5×100.7 [109.3])	
Weight (including control unit, machine cover)		kg (lbs) 2,400(5,291)	2,250(4,960)	2,200(4,850)	
Accuracy *3	Accuracy of bidirectional axis positioning (ISO230-2:2006)	mm (inch)	0.006~0.020 (0.00024 ~ 0.00079)		
	Repeatability of bidirectional axis positioning (ISO230-2:2006)	mm (inch)	Less than 0.004 (0.00016)		
Front door			2doors		
Standard accessories	Instruction Manual (1 set), anchor bolts (4 pcs.), leveling bolts (4 pcs.), machine cover (manual door)				

*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 ISO standards and Brother standards. *4. Brother specifications apply to the pull studs for CTS. *5. Measured in compliance with JIS B6336-9 and MAS011-1987. *6. Acceleration must be adjusted for X and Y axes. *7. When using high accuracy mode B. (Non high accuracy mode B) X, Y axis : 1~10,000mm/min. Z axis : 1~20,000mm/min. *8. Regular air pressure varies depending on the machine specifications, machining program details, or use of peripheral equipment. Set the pressure higher than the recommended value.

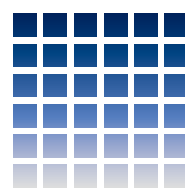
NC unit specifications	
CNC model	CNC-C00
Control axes	5 axes (X, Y, Z, two additional axes)
Positioning	5 axes (X, Y, Z, A, B)
Simultaneously controlled axes	Linear : 4 axes (X, Y, Z, one additional axis) Interpolation Circular : 2 axes Helical/conical : 3 axes (X, Y, Z)
Least input increment	0.001mm, 0.0001inch, 0.001 deg.
Max. programmable dimension	±9999.999mm, ±999.9999inch
Display	12.1-inch color LCD
Memory capacity	Approx. 100 Mbytes (Total capacity of program and data bank)
External communication	USB memory interface, Ethernet, RS232C (Optional)
No. of registrable programs	4,000 (Total capacity of program and data bank)
Program format	NC language, conversation (changed by parameter) conversion from conversation program to NC language program available

* Number of "control axes" and/or "simultaneously controlled axes" are the maximum number of axes, which will differ depending on the destination country and the machine specifications.
* Ethernet is a trademark or registered trademark of XEROX in the United States.

Standard NC functions		
● Absolute / incremental	● High-accuracy mode AIII	● (NC)
● Inch / metric	● Tool length measurement	● Expanded workpiece coordinate system
● Corner C / Corner R	● Tool life management / spare tool	● Scaling
● Rotational transformation	● Background editing	● Mirror image
● Synchronized tap	● Graphic display	● Menu programming
● Coordinate system setting	● Subprogram	● Program compensation
● Dry run	● Herical / conical interpolation	● Tool length compensation
● Restart	● Tool washing filter with filter clogging detection	● Cutter compensation
● Backlash compensation	● Automatic power off (energy saving function)	● Macro function
● Rapid traverse override	● Servomotor off standby mode (energy saving function)	● Local coordinate system
● Cutting feed override	● Chip shower off delay	● One-way positioning
● Alarm history (1,000 pieces)	● Automatic coolant off (energy saving function)	● Opeation in tape mode
● Startus log	● Automatic work light off (energy saving function)	● (Conversation)
● Machine lock	● Heat expansion compensation system II	● Operation program
● Computer remote	(X, Y, Z axes)	● Schedule program
● Built-in PLC	● Tap return function	● Automatic tool selection
● Motor insulation resistance measurement	● Automatic workpiece measurement *1	● Automatic cutting condition setting
● Operation log	● Waveform display	● Automatic tool length compensation setting
● High accuracy mode BI	● Operation level	● Automatic cutter compensation setting
(look-ahead 30blocks)	● External input signal key	● Automatic calculation of unknown number input
		● Machining order control

Optional NC functions	
● Memory expansion (Approx. 500 Mbytes)	● (NC) ● Submicron command *2
● High accuracy mode BII	● Interrupt type macro
(look-ahead 200 blocks, smooth path offset)	● Rotary fixture offset
● Spindle override	● High-speed processing *3

*1. Measuring instrument needs to be prepared by users. *2. When the submicron command is used, changing to the conversation program is disabled.
*3. Minute block processing time can be changed. As there are some restrictions, please contact your local distributor for details.
* Functions listed under (NC) and (Conversation) are available only for NC programs and conversation programs respectively.



Machining capability

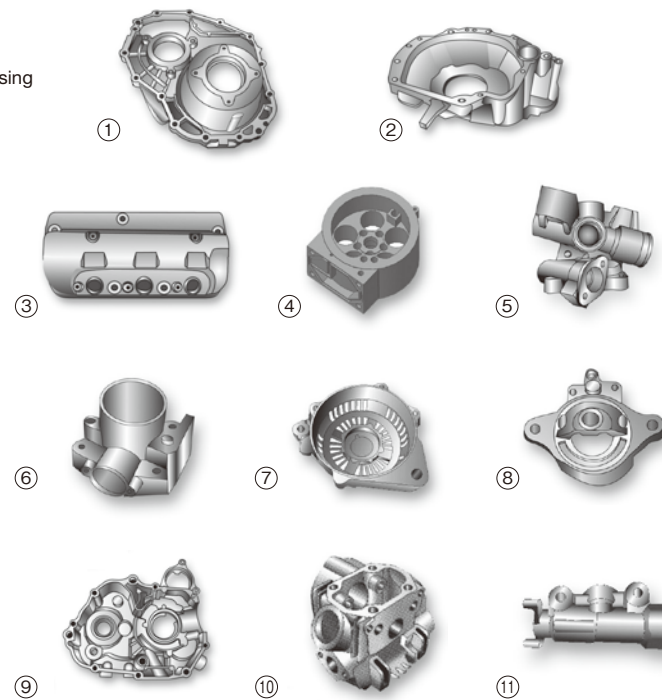
		ADC	Cast iron	Carbon steel
■ Drilling	10,000min ⁻¹	D32(1.26)×0.2(0.008)	D28(1.1)×0.15(0.006)	D25(0.98)×0.1(0.004)
	10,000min ⁻¹ high-torque	D40(1.57)×0.2(0.008) D30(1.18)×0.7(0.03)	D34(1.34)×0.15(0.006) D26(1.02)×0.4(0.02)	D30(1.18)×0.15(0.006) D26(1.02)×0.25(0.01)
	16,000min ⁻¹	D24(0.94)×0.2(0.008)	D22(0.87)×0.15(0.006)	D18(0.71)×0.1(0.004)
	27,000min ⁻¹	D20(0.79)×0.2(0.008)	D19(0.75)×0.15(0.006)	D17(0.67)×0.1(0.004)
■ Tapping	10,000min ⁻¹	M27 × 3.0(1-8UNC)	M24 × 3.0(7/8-9UNC)	M16×2.0(5/8-11UNC)
	10,000min ⁻¹ high-torque	M39×4.0(1 1/2-6UNC)	M33×3.5(1 1/4-7UNC)	M27×3.0(1-8UNC)
	16,000min ⁻¹	M22×2.5(7/8-9UNC)	M18×2.5(5/8-11UNC)	M14×2.0(1/2-13UNC)
■ Facing	27,000min ⁻¹	M22×2.5(7/8-9UNC)	M18×2.5(5/8-11UNC)	M12×1.75(7/16-14UNC)
	10,000min ⁻¹	960 : 100×3.2×3,000 (58.6 : 3.94×0.13×118.1)	137 : 40×6.0×573 (8.4 : 1.57×0.24×22.6)	100 : 40 × 5.2 × 484 (6.1 : 1.57×0.2×19.1)
	10,000min ⁻¹ high-torque	1,700 : 100×5.7×3,000 (102.4 : 3.94×0.22×118.1)	137 : 40×6.0×573 (8.4 : 1.57×0.24×22.6)	100 : 40 × 5.2 × 484 (6.1 : 1.57×0.2×19.1)
	16,000min ⁻¹	660 : 100×2.2×3,000 (40.3 : 3.94×0.09×118.1)	73 : 40×3.2×573 (4.5 : 1.57×0.13×22.6)	48 : 40 × 2.5 × 484 (2.9 : 1.57×0.1×19.1)
	27,000min ⁻¹	600 : 100×2.0×3,000 (36.6 : 3.94×0.08×118.1)	45 : 40×2.0×573 (2.7 : 1.57×0.08×22.6)	24 : 40 × 1.2 × 484 (1.5 : 1.57×0.05×19.1)

*The data is Brother's actual test data.

Examples of target workpieces

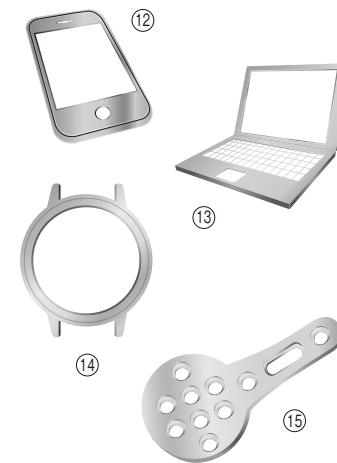
Automotive and motorcycle parts

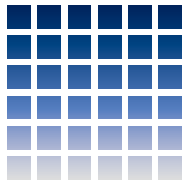
- ① CVT intermediate housing
- ② Clutch case
- ③ Cylinder head cover
- ④ Cylinder block
- ⑤ EPS housing
- ⑥ Throttle body
- ⑦ Alternator
- ⑧ Starter housing
- ⑨ Crankcase
- ⑩ Cylinder head
- ⑪ Brake master cylinder



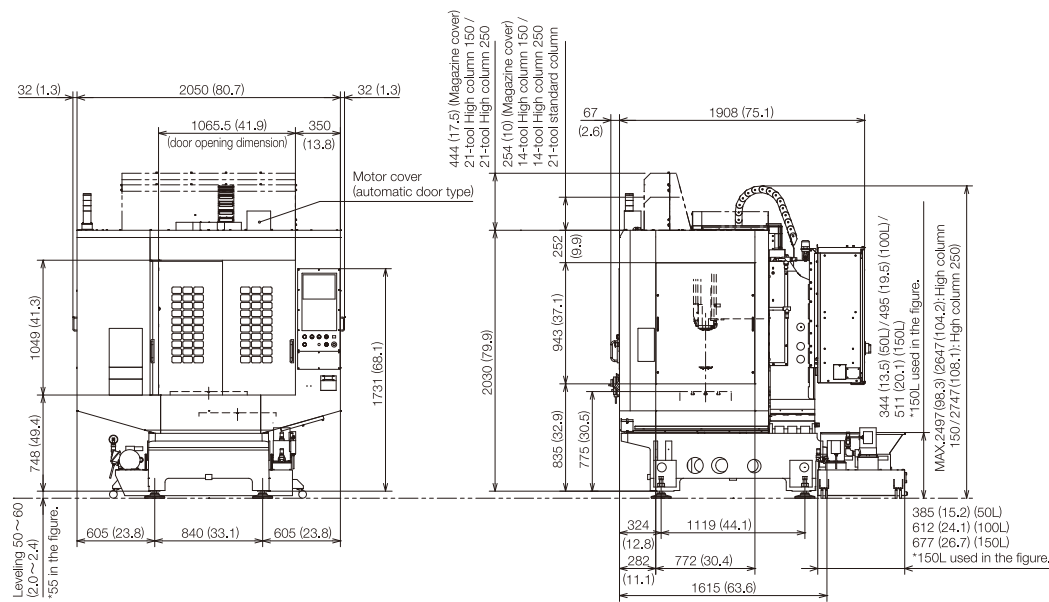
Information technology and General machinery parts

- ⑫ Mobile phone
- ⑬ Personal computer case
- ⑭ Watch parts
- ⑮ Medical implants

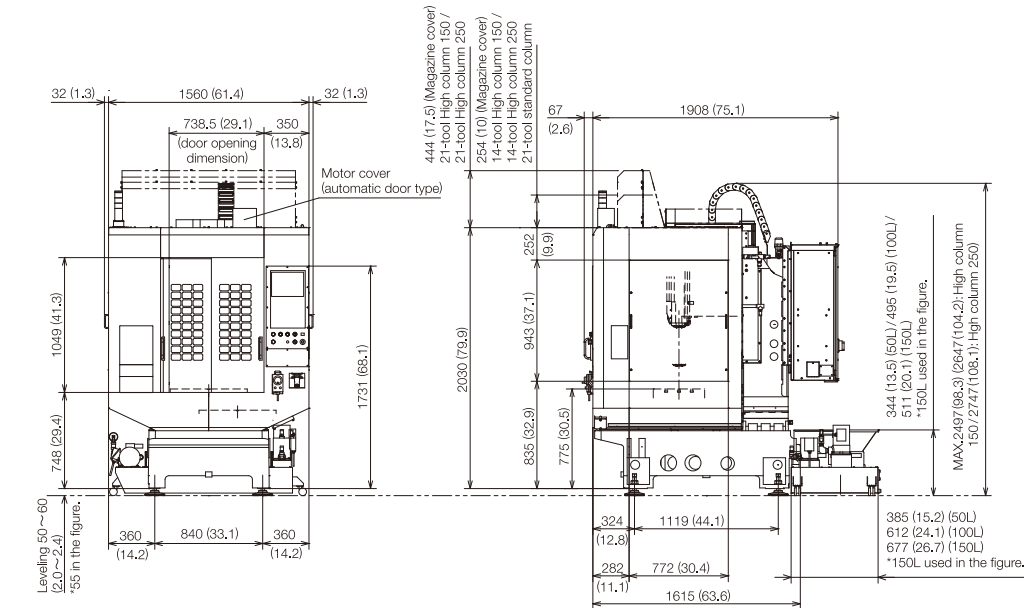




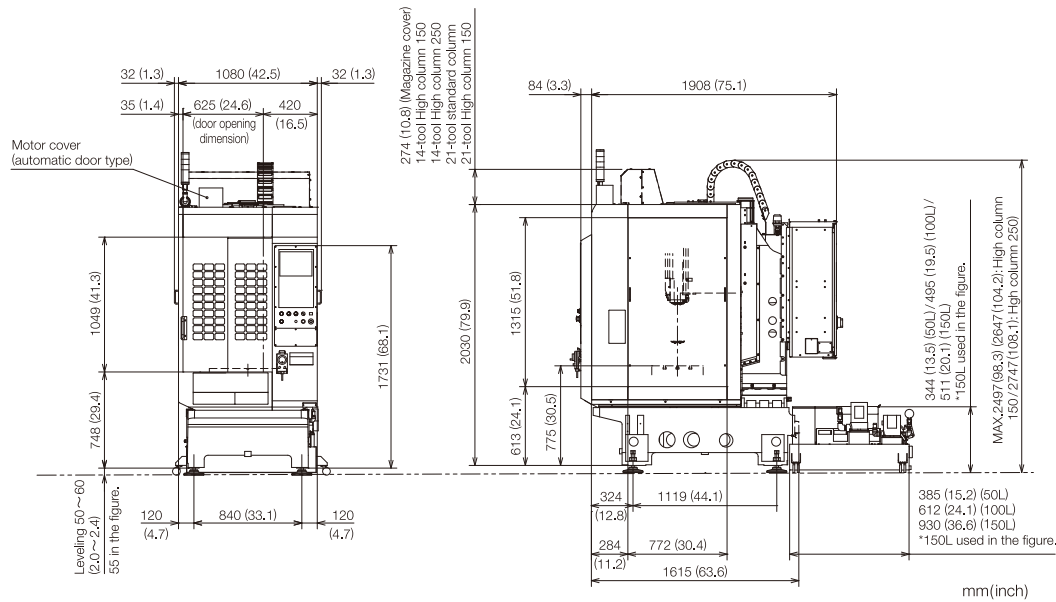
SPEEDIO
S700X1



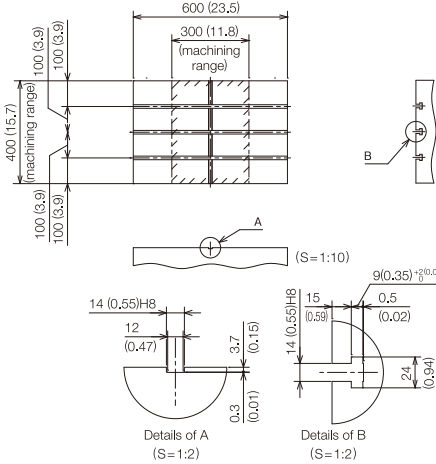
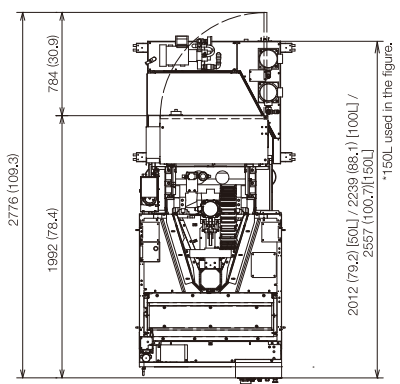
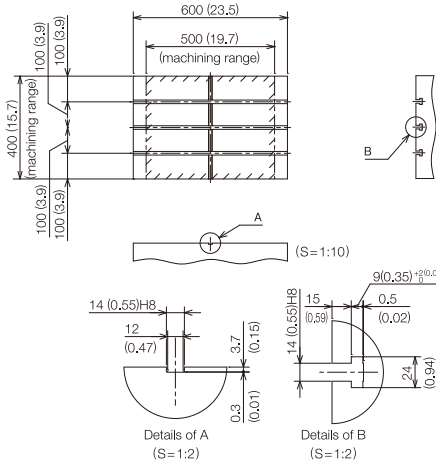
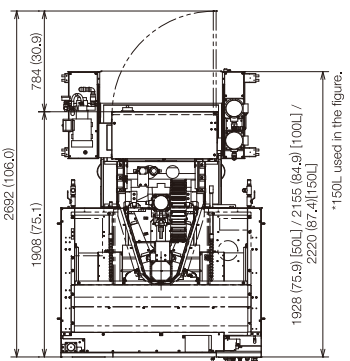
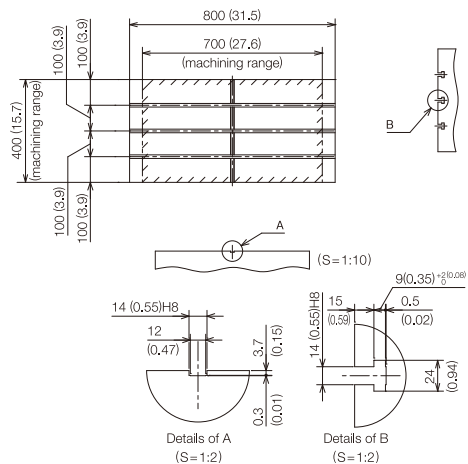
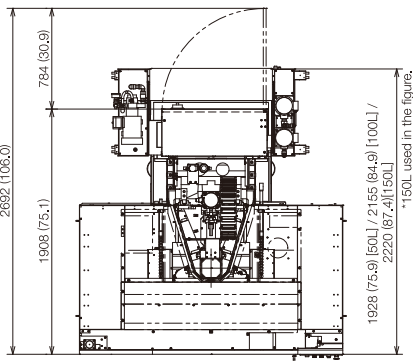
SPEEDIO
S500X1



SPEEDIO
S300X1



mm(inch)



mm(inch)