

SPEEDIO

S300Xd1 **R450Xd1** **U500Xd1**
S500Xd1 **R650Xd1** **F600X1**
S700Xd1 **M200Xd1**
W1000Xd1 **M300X3**

Cutting Out the Waste

Times are changing. Are you ready?
You need a machine that's fast and compact.
With the ability to make any cut.
In this world, only the strong survive.
Make it better with SPEEDIO.

SPEEDIO

Extensive lineup further expands the potential of #30 spindle machines, and provides customers with the best waste-free solution

S

Compact Machining Center

S300Xd1



S500Xd1



S700Xd1



W

Wide Travel Compact Machining Center

W1000Xd1



U

Universal Compact Machining Center

U500Xd1



R

Pallet Changing Compact Machining Center

R450Xd1



R650Xd1



F

High Rigidity Compact Machining Center

F600X1



M

Compact Multi-Tasking Machine

M200Xd1



M300X3



Special Options

Rotary Table
T-200Ad / T-200A



Loading System
BV7-870Ad



Pursuit of high productivity

High-speed operations and optimized control have been achieved by the #30 spindle taper and original NC, enabling the machine to demonstrate high productivity.

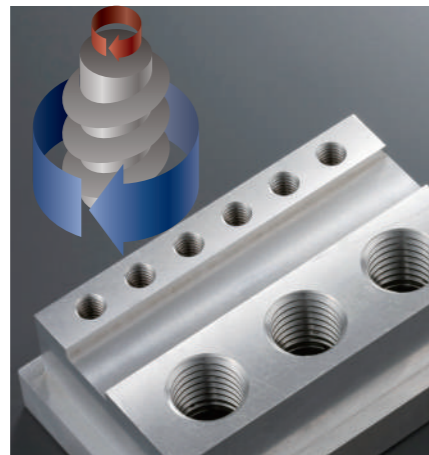
Non-stop ATC

Fastest tool change among #30 spindle machines has been achieved by quick start/stop of the spindle, high acceleration and quick response when the Z-axis moves up and down, and optimized magazine operation.



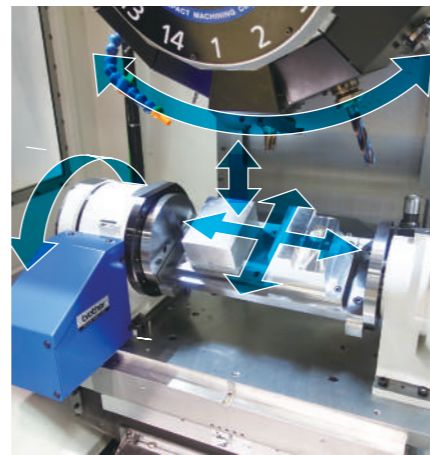
Highly responsive servomotor

World's fastest highly accurate tapping has been achieved, using our original synchronized tapping control and a fast acceleration/deceleration spindle motor.



Simultaneous operation

Using the original non-stop ATC code (G100) allows the machine to simultaneously position the X/Y- and additional axes while performing a tool change, leading to further reduction of wasted time.



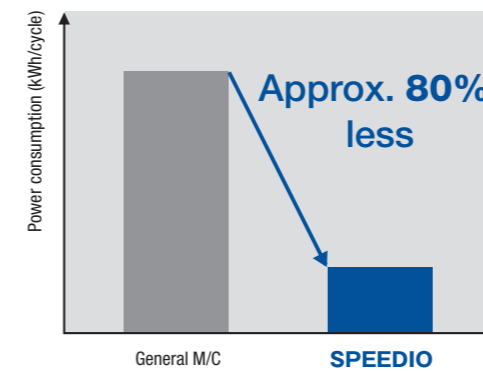
Pursuit of environmental performance

Reduction in power and air consumption results in a great decrease in CO₂ emissions, making the machine more earth-friendly and providing high environmental performance.

Low power consumption

Equipped with a power regeneration system that reuses energy generated when decelerating, high-efficiency motor, energy saving pump, LED work light and other energy saving functions, achieving low power consumption.

Power consumption for one cycle

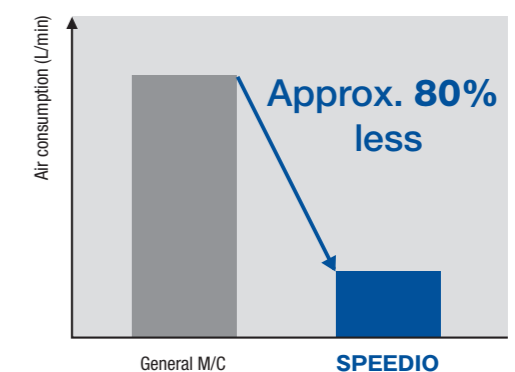


*Data taken running machining program created by Brother

Low air consumption

Chip removal performance has been enhanced by optimizing the air purge path and spindle air blow timing, greatly reducing air consumption.

Air consumption for one cycle



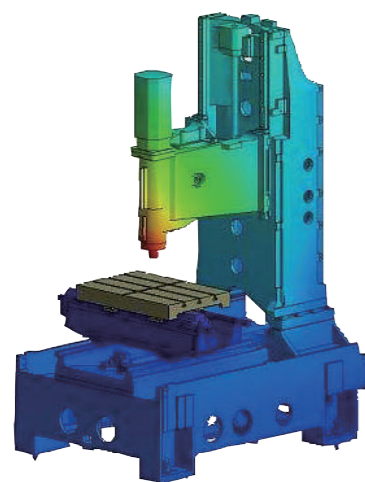
*Data taken running machining program created by Brother

Pursuit of machining capabilities

The highly rigid structure and high-power spindle motor allow the machine to demonstrate its broad machining capabilities, from high-efficiency machining to heavy-duty machining.

Highly rigid structure

Based on accumulated data using analysis technologies, a highly rigid structure with vibration suppressed has been achieved, allowing the machine to demonstrate excellent machining capabilities.



High-power spindle motor

High-speed, high-efficiency machining has been achieved using a spindle motor with high torque in the medium- and high-speed range. High-torque specifications (optional) greatly improve low-speed range torque, providing excellent heavy-duty machining for steel workpieces.

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



Grooving using standard specs

Machining details
Cutting amount: 150 cc/min
Material: Carbon steel
(D16 end mill used)

Low-speed range suitable for heavy-duty machining



Large hole drilling using high-torque specs

Machining details
Hole diameter: D40 mm
Material: Carbon steel

Pursuit of Usability

Optimizing usability for manufacturing by eliminating any waste improves work efficiency and operating rate at production sites.



CNC-D00 controller



ATC tool app

New "CNC-D00" controller

Intuitive operation is possible with 15-inch vertical touch panel screen and new support apps. Relevant functions are grouped according to purpose, such as setup and machining settings, leading to efficient operation. Production and operation states are visualized, allowing faster understanding. Any wasted operation is eliminated in each process.

Setup support

Equipped with functions to easily perform setup, such as an ATC tool app that enables all magazine tool settings to be performed on one screen, menu programming that enables you to create NC programs by following instructions on the screen, and an on-screen help function.

Production support

Equipped with functions to improve the operating rate, such as real time tool monitoring to eliminate defects, displaying production performance, power consumption etc. as a graph, and PLC/network functions to meet peripheral equipment and automation requirements.

Machining adjustment Support

Equipped with functions to easily perform optimal machining adjustment to improve productivity, such as a machining parameter adjustment app that enables you to easily adjust parameters according to machining details and a machining load waveform display/saving function.

Recovery support

Equipped with functions to prevent failure or ensure quick recovery, such as maintenance time notice, displaying details when an alarm occurs, and guidance for recovery/check work.

S High performance model suitable for a broad range of machining applications
 Extensive spindle specifications and machine sizes
 Further pursuing high productivity and high reliability



W Wide stroke model with the largest machining area among #30 spindle machines
 Unprecedented large machining area enables highly productive machining from small to large parts



Pursuit of high productivity

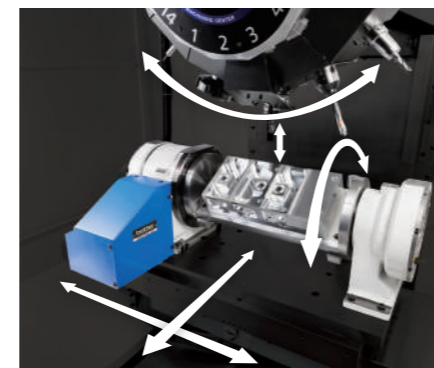
Optimizing control with the new "CNC-D00" controller eliminates all possible wasted operation during machining. Drives highly reliable machine performance to the limit to provide high productivity.

Non-stop ATC and 28-tool magazine

In addition to 14- and 21-tool magazines, a 28-tool magazine has been developed with high-speed tool change performance maintained. The maximum tool weight has been increased to 4 kg. Tool change time of 14- and 21-tool magazines has been further reduced by optimized magazine operation, etc.



Simultaneous operation



Z-axis acceleration : **2.2G**

28-tool magazine		
Chip-Chip :	1.3s	
Tool-Tool :	0.7s	

14/21-tool magazine		
Chip-Chip :	1.2s	
Tool-Tool :	0.6s	

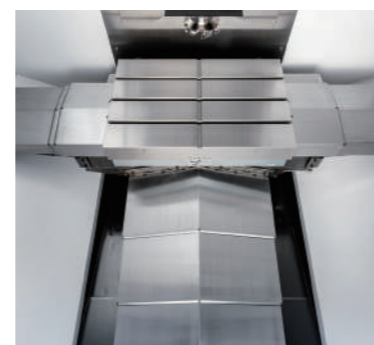
High machining capabilities and high reliability

Highly rigid machine structure and highly efficient spindle motor enable a board range of machining.

Standard spec.	Max. torque (instantaneous)	40N·m
	Max. output	18.9kW
High-torque spec. (Optional)	Max. torque (instantaneous)	92N·m
	Max. output	26.2kW

Prevention of chip problems

Roof-shape telescopic covers are used for the X/Y-axes to help chips flow smoothly. The shape for the chip flow path from the machining room to the tank was devised to increase the flow speed. Changing the shape under the Y-axis telescopic cover and increasing the flow rate have improved chip evacuation performance by almost two-fold.

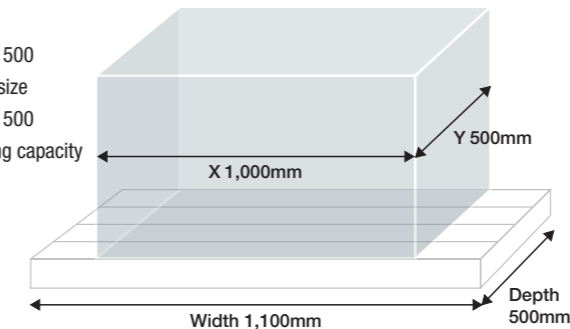


A variety of machining from small to large workpieces

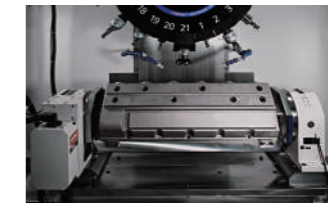
Making use of the width and depth of the broad jig area, various types of machining, such as large workpiece machining, multi-part machining of small parts, and multi-product small-volume production with various jigs placed side by side, can be performed more flexibly and efficiently.

Ample travels and table size

Travels
 X 1,000 Y 500
 Work area size
 X 1,100 Y 500
 Max. loading capacity
 400 kg



Large workpiece machining



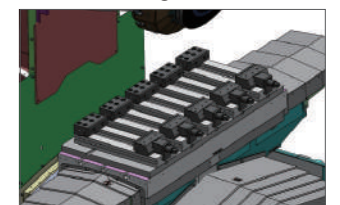
Multi-part machining



Rotary table and flat jig



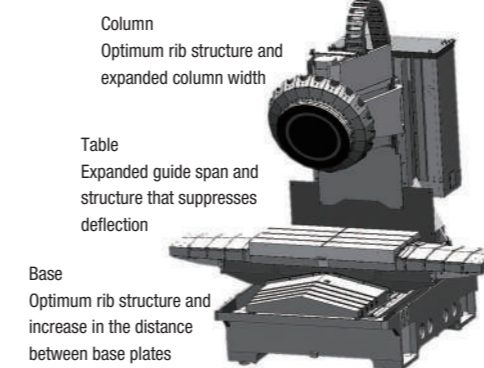
Parallel arrangement of vises



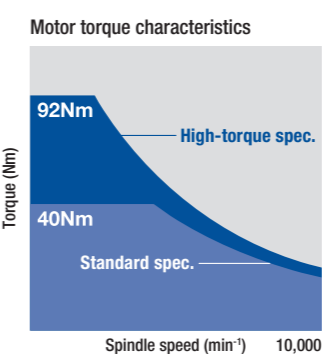
A broad range of machining

With high rigidity based on a special design and a high-power spindle motor, the machine demonstrates high machining capabilities. The weight of tools that can be mounted has been increased. Compatible with 7 MPa high-pressure CTS (Coolant Through Spindle), the machine demonstrates its abilities in high-speed drilling or peck drilling, and is suitable for a broader range of machining applications.

Highly rigid structure



High-power spindle motor



More extensive

Max. tool weight
4kg ← 3kg

High-pressure CTS
7 MPa supported (Optional)



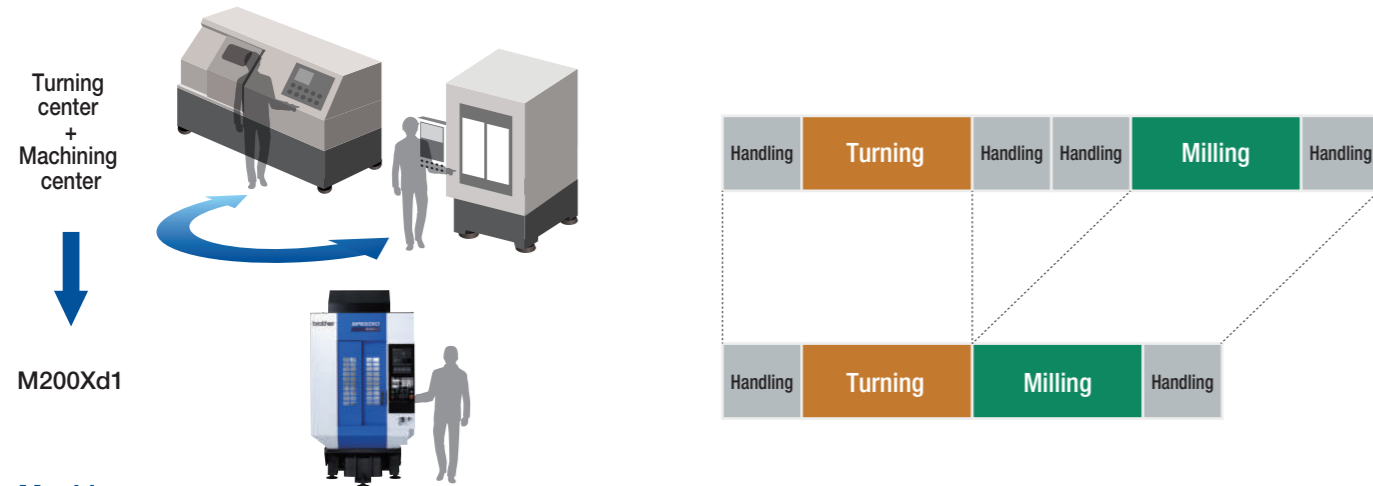
M

Mass production type multi-tasking machine encourages process integration
 Newly developed magazine and new controller further encourage process integration



Complex machining

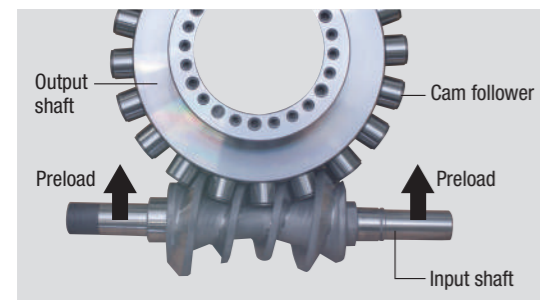
Turning and milling can be completed through one-time chucking on one machine. There is no handling between turning and milling, leading to various advantages.



Machine structure

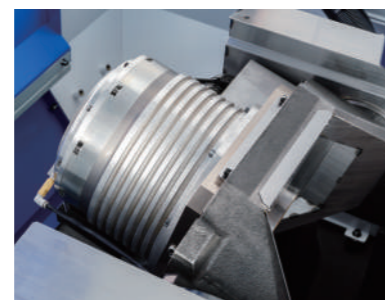
An original design, including the magazine structure, has been adopted to make the machine more compact while maintaining the rigidity for each section and overall rigidity.

Tilt axis (A-axis)



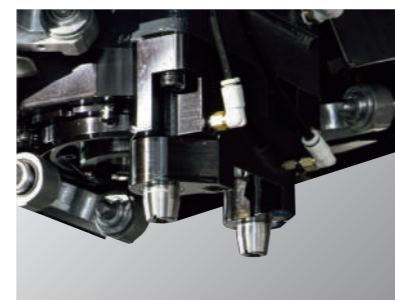
A roller gear cam mechanism is used for the tilt axis (A-axis). High retention force and a backlash-free structure enable high-speed and highly accurate indexing.

Turning spindle (C-axis)



A high-speed and high-power built-in DD motor is used for the turning spindle (C-axis). Enabling efficient turning and high-speed indexing.

Double plunger lock

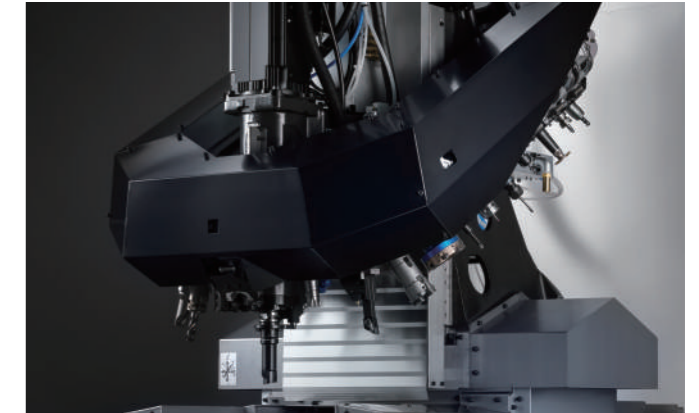


An original double plunger lock is used to secure turning tools, achieving excellent tool change repeatability.

28-tool magazine *2

In addition to a 22-tool magazine, a newly developed 28-tool magazine is available. High-speed tool change has been achieved by faster and optimized spindle start/stop, Z-axis up/down, and magazine operation. This further promotes process integration, from complex machining by turning and milling to multi-face machining.

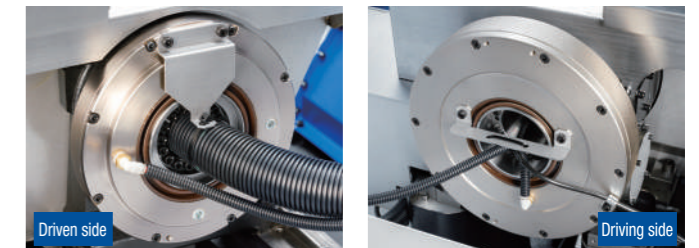
22-/28-tool magazine	
Chip-Chip :	1.4s
Tool-Tool :	0.8s



A-axis clamp (optional)

The mechanical clamp plus servo clamp method enables the machine to demonstrate high machining capabilities in high-load machining and stable lathe turning, improving machining accuracy. A double type clamp mechanism, where clamps are provided on the left and right sides, is available to further enhance high machining capabilities.

A-axis clamp torque	
Single	695N·m
Double *2	975N·m



A-axis clamp (double)

Simultaneous 5-axis machining *2

Provided with functions required for simultaneous 5-axis machining, including tool center point control where machining is performed by changing the tool direction relative to the workpiece, look-ahead max. 1,000 blocks, and submicron command.

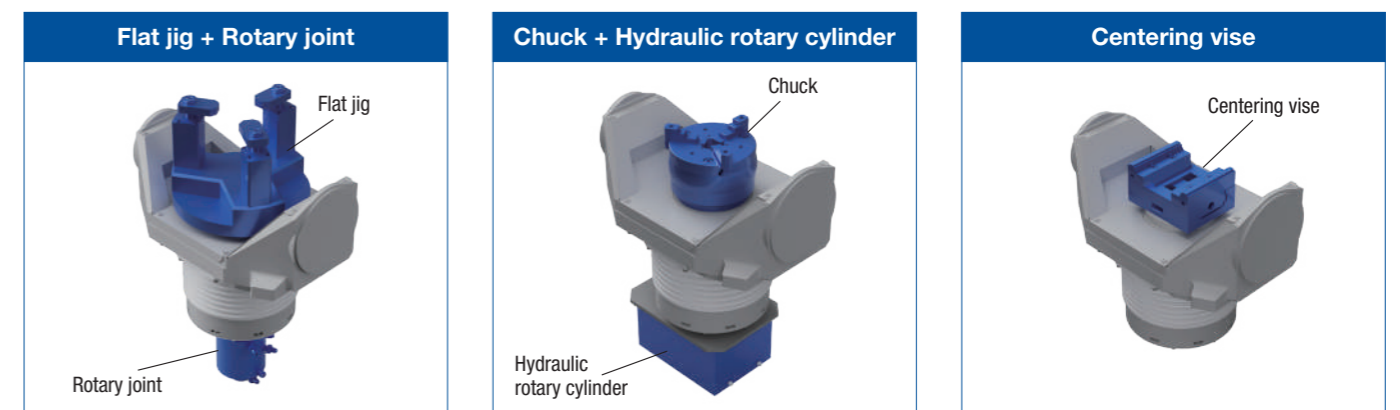
For the new CNC-D00 controller, the CPU capacity has been greatly increased to enhance processing of minute line segments by fourfold the conventional controller. This enables high-speed processing of CAM data with small tolerance. In addition, a roller gear cam is used for the A-axis, and a DD motor for the C-axis to achieve backlash-free operation. These improvements ensure high-speed and highly accurate simultaneous 5-axis machining.



Artificial bone

Jig mounting examples

A wide variety of jigs, such as our specially designed flat jig, chuck suitable for round shapes, and centering vise suitable for square shapes, can be mounted according to the workpiece. Applicable to rotary joints with hydraulic/pneumatic ports or rotary cylinders.



*1 The controller for the M300X3 is CNC-C00.

*2 These specifications/functions are available only for the M200Xd1

R Non-stop machining model equipped with a pallet changer
Extensive magazine variation further promotes process integration

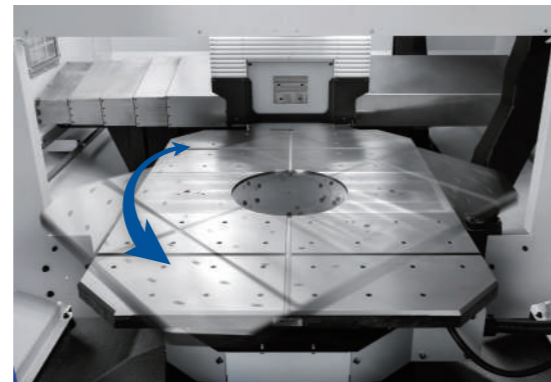
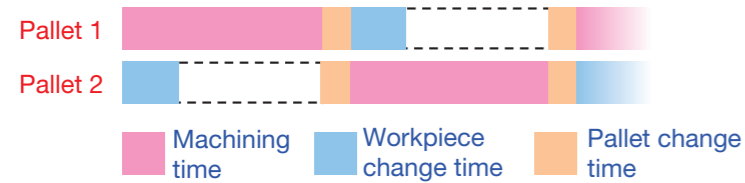


R450Xd1

R650Xd1

Non-stop machining

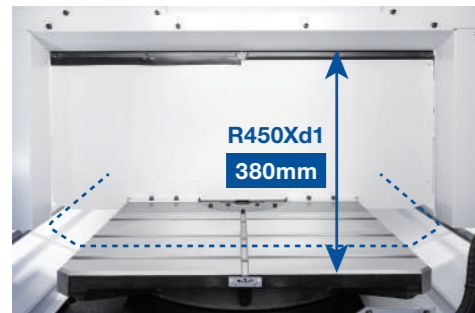
The QT (Quick Turn) table is a turntable type high-speed 2-face pallet changer. Optimized acceleration/deceleration control achieves much faster pallet change. To ensure high reliability, effects by chips etc. are minimized by a turntable that avoids lift-up motion and has a sealed structure, and positioning accuracy is maintained by the stopper mechanism. Workpieces on one pallet can be changed while machining workpieces on the other pallet. Waste in workpiece change time is eliminated, enabling non-stop machining.



Pallet change time	R450Xd1	2.7s
	R650Xd1	3.1s

Large jig area

Even if the jig protrudes from the table, it can be mounted as long as it is within the pallet turning diameter. The jig area can be further expanded by selecting a low table option that increases the jig height or a turning diameter enlargement option that increases the jig space.



Max. jig height *1	
R450Xd1	380mm
R650Xd1	450mm

*1 The values shown here are for low table specifications.

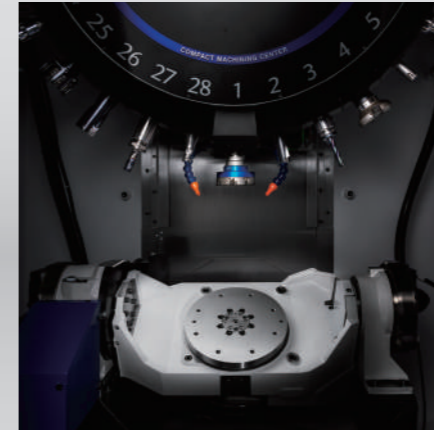
Extensive magazine variation *2 (14/22/28/40-tool magazines)

In addition to 14-, 22-, and 40-tool magazines, a newly developed 28-tool magazine is available. This promotes process integration, taking advantage of a 2-face pallet changer, and encourages productivity improvement.



*2 The 40-tool magazine is only available for the R650Xd1.

U Equipped with a newly developed tilting rotary table with a maximum jig area of 500 mm in diameter
Performs universal indexing, encouraging process integration



U500Xd1

Process integration for multi-face machining

Less space achieved although the machine is equipped with a high-speed and highly accurate tilting rotary table with ample jig area and a newly developed 28-tool magazine. One-clamp machining encourages process integration.

Tilting rotary table

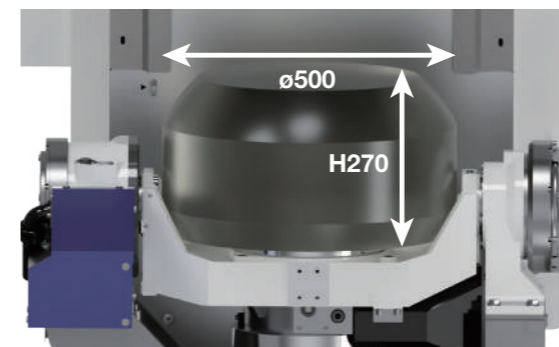
Roller gear cam mechanism is used for A and C axes, achieving high retention strength and backlash-free high-speed and highly accurate indexing.

Max. rotary speed		
A-axis	50min⁻¹	C-axis 75min⁻¹
0 to 90-deg. indexing time		
A-axis	0.9s	C-axis 1.2s



Jig area

Provides ample jig area of ø500 x H270 to meet multi-face machining for medium-sized workpieces.



28-tool magazine

A newly developed compact drum type 28-tool magazine takes over fast tool change performance. (14- and 21-tool magazines are also available.)



F Machining capabilities improved by highly rigid structure and minimizing vibration
Reduction in cutting time and non-cutting time greatly improves production efficiency

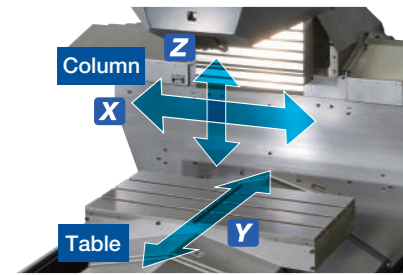


F600X1

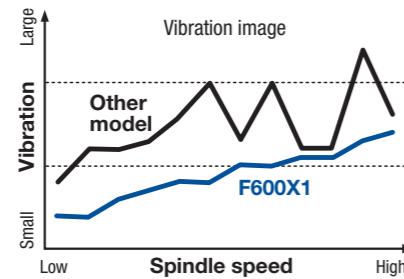
Highly rigid structure and stable machining

The machine structure has been newly designed from the base up using structural analysis techniques. The rigidity of the drive system and spindle has been enhanced by using table movement for the Y-axis and column movement for the X- and Z-axes. In addition, the structure has been totally reviewed through vibration analysis to minimize vibration during machining, achieving stable machining in a broad range of spindle speeds.

Highly rigid machine structure



Wide stable range



High-power spindle motor

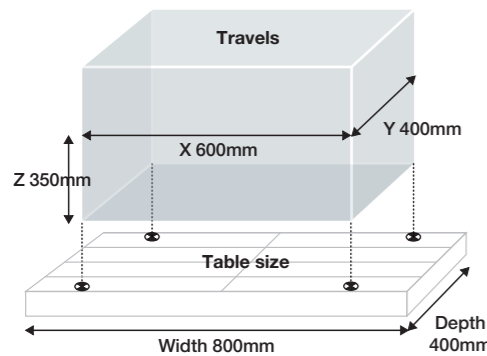
Standard equipped with the highest class high-torque motor among spindle motors used for #30 spindle machines.

Spindle motor characteristics

Max. torque (instantaneous) **92N·m**
 Max. output **26.2kW**

Ample machining area

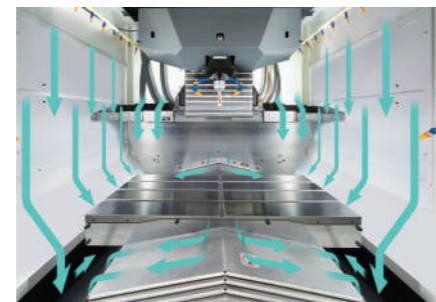
Ample machining area and large table size to accommodate large workpieces. The maximum table loading capacity has been increased to 500 kg by thickening the table.



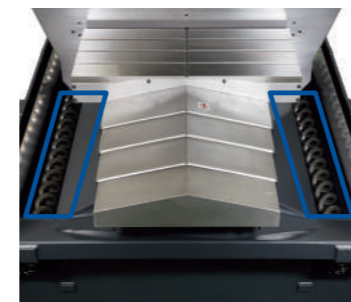
Improved chip evacuation

Chip evacuation performance has been improved along with the expansion of the machining area. In addition, a coil conveyor and a cyclone filter are available.

Coolant flow path



Coil conveyor (optional)



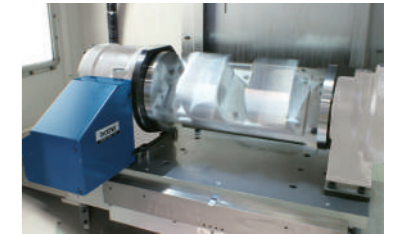
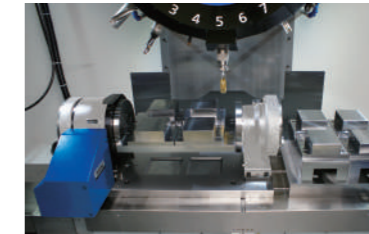
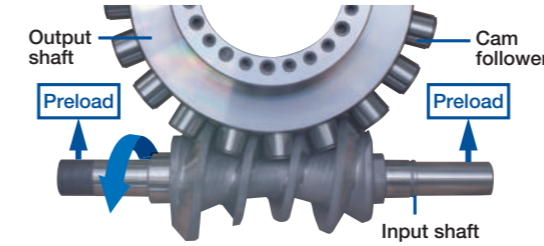
Further enhancing productivity in multi-face machining

Rotary Table



T-200Ad / T-200A

Using roller gear cam mechanism



High productivity

High accuracy

Maintenance free

Provides high acceleration and high rotation speed to ensure smooth operation even for jigs with large unbalanced load.

Achieves backlash-free operation by applying preload between the input and output shafts.

There is very little wear as the input and output shafts make rolling contact. Adjustment is not necessary for long periods.

Main specifications

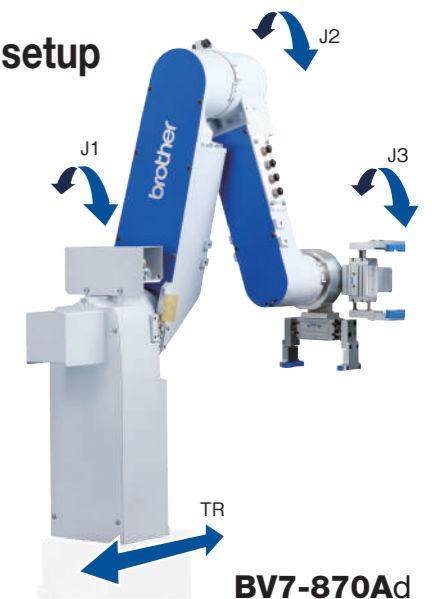
Type	Right-handed, Left-handed *1	Gear ratio	1/20	Maximum loading capacity	100/220 (200/440 *3) kg
Center height	170mm	Maximum speed	100 (50 *2) min ⁻¹	Product weight	61kg
Applicable models	T-200Ad (for CNC-D00) S300Xd1/S500Xd1/S700Xd1/W1000Xd1/R450Xd1/R650Xd1				
*4,*5	T-200A (for CNC-C00) F600X1/S500Z2N/S700Z2N/R450Z1				

*1. Only right-handed type available for R450Xd1 and R650Xd1. *2. When high inertia mode (enabled by changing parameter setting) is used. *3. When support table is used. *4. S500Z2N, S700Z2N, and R450Z1 sold only in China. *5. T-200A can also be used for S300X2/X1, S500X2/X1, S700X2/X1, R450X2/X1, and R650X2/X1.

Simple & Compact Manpower saving system with easy introduction and setup

Loading System

Special option for SPEEDIO



BV7-870Ad



Integrated with the SPEEDIO

Specialized for loading/unloading workpieces

Controller incorporated in SPEEDIO's control box

Standard equipped with a side door, and can be installed in less space

Simple structure with easy handling 4-axis articulated arm

Signal connection with machine's NC completed. Both piping and wiring stored in the body.

Main specifications

No. of axes	4 (3 rotary axes, 1 travel axis)	Arm length	Total 870 mm	Applicable models	S300Xd1/S500Xd1/M200Xd1
Loading position	Right side / Left side	Rated transferable weight	7kg		

Machine specifications

Item	S300Xd1 S300Xd1 RD *9 S300Xd1-5AX S300Xd1-5AX RD*9		S500Xd1 S500Xd1 RD *9 S500Xd1-5AX S500Xd1-5AX RD *9		S700Xd1 S700Xd1 RD *9 S700Xd1-5AX S700Xd1-5AX RD *9		W1000Xd1/W1000Xd1 RD *9	
	CNC-D00 CNC-D00v (DB)				CNC-D00			
CNC unit							CNC-D00	
Travels	X axis	mm(inch)	300 (11.8)	500 (19.7)	700 (27.6)		1,000 (39.4)	
	Y axis	mm(inch)		400 (15.7)			500 (19.7)	
	Z axis	mm(inch)		300 (11.8)			300 (11.8)	
Table	Work area size	mm(inch)	600 × 400 (23.4 × 15.7)		800 × 400 (31.4 × 15.7)		1,100 × 500 (43.3 × 19.7)	
	Max. loading capacity (uniform load)	kg(lbs)	250[300 *6] (551[661 *6])		250[400 *6] (551[881 *6])		300[400 *6] (661[881 *6])	
Spindle	Spindle speed	min ⁻¹	10,000min ⁻¹ specifications: 1~10,000, 16,000min ⁻¹ specifications (optional): 1~16,000 10,000min ⁻¹ high-torque specifications (optional): 1~10,000, 27,000min ⁻¹ specifications (optional): 1~27,000				10,000min ⁻¹ specifications: 1~10,000, 10,000min ⁻¹ high-torque specifications (optional): 1~10,000, 16,000min ⁻¹ specifications (optional): 1~16,000	
	Speed during tapping	min ⁻¹	MAX. 6,000 (27,000min ⁻¹ specifications: MAX. 8,000)				MAX. 6,000	
	Tapered hole		7/24 tapered NO.30				7/24 tapered NO.30	
	BT dual contact spindle (BIG-PLUS)		Optional				Optional	
	Coolant through spindle (CTS)		Optional (CTS cannot be selected for 27,000min ⁻¹ specification models)				Optional	
Feed rate	Rapid traverse rate (YZ-area)	m/min(inch/min)	50 × 50 × 56 (1,969 × 1,969 × 2,205)				50 × 50 × 56 (1,969 × 1,969 × 2,205)	
	Cutting feed rate	mm/min(inch/min)	X,Y,Z: 1~30,000 (0.04~1,181)*7				X,Y,Z: 1~30,000 (0.04~1,181)*7	
ATC unit	Tool shank type		MAS-BT30				MAS-BT30	
	Pull stud type *4		MAS-P30T-2				MAS-P30T-2	
	Tool storage capacity	pcs.	14 / 21		14 / 21 / 28		14 / 21	
	Max. tool length	mm(inch)	160 (6.3) [21 tool] 250 (9.8) [14 tool]		250 (9.8)		250 (9.8)	
	Max. tool diameter	mm(inch)	ø110 (4.3)				ø110 (4.3)	
	Max. tool weight *1	kg(lbs)	3.0 (6.6) [4.0 (8.8)*10]/tool, (TOTAL TOOL WEIGHT: 25 (55.1) for 14 tools, 35 (77.2) for 21 or 28 tools)				3.0 (6.6) [4.0 (8.8)*10]/tool, (TOTAL TOOL WEIGHT: 25 (55.1) for 14 tools, 35 (77.2) for 21 tools)	
Tool *5 change time	Tool To Tool	sec	0.6 / 0.7 (14 or 21 tools / 28 tools)				0.6	
	Chip To Chip	sec	1.2 / 1.3 (14 or 21 tools / 28 tools)				1.2	
Electric motor	Main spindle motor (10min/continuous) *2	kW	10,000min ⁻¹ specifications: 10.1/7.0, 16,000min ⁻¹ specifications (optional): 7.4/5.1 10,000min ⁻¹ high-torque specifications (optional): 12.8/9.2, 27,000min ⁻¹ specifications (optional): 8.9/6.3				10,000min ⁻¹ specifications: 10.1/7.0, 10,000min ⁻¹ high-torque specifications (optional): 12.8/9.2, 16,000min ⁻¹ specifications (optional): 7.4/5.1	
	Axis feed motor	kW	X,Y axis: 1.0 Z axis: 2.0				X,Y axis: 1.0 Z axis: 2.0	
Power source	Power supply		AC 200 to 230 V±10%,3-phase, 50/60Hz±2%				AC 200 to 230 V±10%,3-phase, 50/60Hz±2%	
	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				10,000min ⁻¹ specifications: 9.5, 10,000min ⁻¹ high-torque specifications (optional): 10.4, 16,000min ⁻¹ specifications (optional): 9.5	
	Air supply	Regular air pressure MPa Required flow L/min	0.4~0.6 (recommended value 0.5MPa) *8 45 (27,000min ⁻¹ specifications: 115)				0.4~0.6(recommended value 0.5MPa)*8 45	
	Height	mm(inch)	2,498 (98.4)				2,553 (100.5)	
Machining dimensions	Required floor space *11 (with control unit door open)	mm(inch)	1,080 × 2,106 [2,944] (42.5 × 82.9) [115.9]		1,560 × 2,026 [2,864] (61.4 × 79.8) [112.8]		2,050 × 2,026 [2,864] (80.7 × 79.8) [112.8]	
	Weight	kg(lbs)	2,350 (5,181)		2,400 (5,292)		2,550 (5,622)	
Accuracy *3	Accuracy of bidirectional axis positioning (ISO230-2:1988)	mm(inch)	0.006~0.020 (0.00024~0.00079)				0.006~0.020 (0.00024~0.00079)	
	Repeatability of bidirectional axis positioning (ISO230-2:2014)	mm(inch)	Less than 0.004 (0.00016)				Less than 0.004 (0.00016)	
Front door	2doors						2doors	
Standard accessories	Instruction Manual (DVD 1 set), leveling bolts (4 pcs.), leveling plate (4 pcs.)							

*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. Please contact your local distributor for details. *4 Brother specifications apply to the pull studs for CTS. *5 Measured in compliance with JIS B6336-9 and MAS011-1987. *6 Parameter adjustment is required. (Acceleration adjustment and positioning speed are also changed according to the weight.) *7 When using high accuracy mode B. *8 Regular air pressure varies depending on the machine specifications, machining program details, or use of peripheral equipment. Set the pressure higher than the recommend value. *9 The machine needs to be equipped with a relocation detection device depending on the destination. Machines equipped with a relocation detection device come with "RD" at the end of the model name. *10 Parameter setting must be changed. (Tool magazine indexing time will change.) Max. tool weight 4.0kg cannot be available for the 27,000min⁻¹ specifications. *11 The value does not include the coolant tank.

- Please read the instruction manuals and safety manuals before using Brother products for your own safety. When using oil-based coolant oil or when machining the materials which can cause a fire (ex. Magnesium, resin material), customers are requested to take thoroughgoing safety measures against fire. Depending on the types of cutting material, cutting tools, coolant oil, lubrication oil, it may have an influence on the machine lifecycle. Further questions, please contact our sales representative in charge.
- 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), or exporting M200Xd1, M300X3, U500Xd1, and S300/S500/S700Xd1-5AX, 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 Bureau 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.

Machine specifications

Item	R450Xd1/R450Xd1 RD *12		R650Xd1/R650Xd1 RD *12	
			14/22/28 tool magazine	40-tool magazine
CNC Unit	CNC-D00		CNC-D00	
Travels	X axis	mm(inch)	450 (17.7)	650 (25.6)
	Y axis	mm(inch)	320 (12.6) *7	400 (15.7)
	Z axis	mm(inch)	305 (12.0)	435 (17.1)
Table	Work area size	mm(inch)	200~505 (7.9~19.9)[280~585 (11.0~23.0) *8]	250~555 (9.8~21.8) [350~655 (13.8~25.8) *8] 250~685 (9.8~27.0) [350~785 (13.8~30.9) *8]
	Max.loading capacity(uniform load)	kg(lbs)	One face 600 x 300 (23.6 x 11.8)	One face 800 x 400 (31.5 x 15.7)
Spindle	Spindle speed	min ⁻¹	10,000min ⁻¹ specifications: 1~10,000 16,000min ⁻¹ specifications(optional): 1~16,000 10,000min ⁻¹ high-torque specifications(optional): 1~10,000	10,000min ⁻¹ specifications: 1~10,000 16,000min ⁻¹ specifications(optional): 1~16,000 10,000min ⁻¹ high-torque specifications(optional): 1~10,000
	Speed during tapping	min ⁻¹	MAX. 6,000	MAX. 6,000
Feed rate	Rapid traverse rate(XYZ-area)	m/min(inch/min)	50 x 50 x 50 (1,969 x 1,969 x 1,969)	50 x 50 x 50 (1,969 x 1,969 x 1,969)
	Cutting feed rate	mm/min(inch/min)	X, Y, Z axis: 1~30,000 (0.04~1,181) *9	X, Y, Z axis: 1~30,000 (0.04~1,181) *9
ATC unit	Tool shank type		MAS-BT30	MAS-BT30
	Pull stad type *4		MAS-P30T-2	MAS-P30T-2
	Tool storage capacity	pcs.	14 / 22 / 28	14 / 22 / 28
	Max. tool length	mm(inch)	200 (7.9)	200 (7.9)
	Max. tool diameter	mm(inch)	80 (3.1)	80 (3.1)
	Max. tool weight *1	kg(lbs)	3.0 (6.6) <total tool weight: 25 (55.1) for 14-tool, 40 (88.2) for 22/28 tool>	3.0 (6.6) <total tool weight: 25 (55.1) for 14-tool, 40 (88.2) for 22/28 tool>
Tool *5 change time	Tool To Tool	sec	0.6 / 0.7 (14-tool / 22 or 28 tool)	0.6 / 0.8 (14-tool / 22 or 28 tool)
	Chip To Chip	sec	1.3 / 1.5 (14-tool / 22 or 28 tool)	1.4 / 1.5 (14-tool / 22 or 28 tool)
Electric motor	Main spindle motor (10min/continuous) *2	kW	10,000min ⁻¹ specifications: 10.1 / 7.0 16,000min ⁻¹ specifications: 7.4 / 5.1 10,000min ⁻¹ high-torque specifications: 12.8 / 9.2	10,000min ⁻¹ specifications: 10.1 / 7.0 16,000min ⁻¹ specifications: 7.4 / 5.1 10,000min ⁻¹ high-torque specifications: 12.8 / 9.2
	Axis feed motor	kW	X, Y axis: 1.0 Z axis: 1.8	X, Y axis: 1.0 Z axis: 1.8
Power source	Power supply		AC 200 to 230 V±10%,3-phase, 50/60Hz±2%	AC 200 to 230 V±10%,3-phase, 50/60Hz±2%
	Power capacity (continuous)	kVA	10,000min ⁻¹ specifications: 9.5 16,000min ⁻¹ specifications: 9.5 10,000min ⁻¹ high-torque specifications: 10.4	10,000min ⁻¹ specifications: 9.5 16,000min ⁻¹ specifications: 9.5 10,000min ⁻¹ high-torque specifications: 10.4
	Air supply	Regular air pressure MPa Required flow L/min	0.4~0.6 (recommended value : 0.5MPa *10) 45	0.4~0.6 (recommended value: 0.5MPa *10) 45
	Height	mm(inch)	2,584 (101.7)	2,704 (106.5)
Machining dimensions	Required floor space *13 (with control unit door open)	mm(inch)	1,400 x 2,609 [3,448] (55.1 x 102.7) [135.7]	1,830 x 3,029 [3,868] (72.0 x 119.3) [152.3]
	Weight	kg(lbs)	2,750 (6,063)	3,550 (7,826)
Accuracy *3	Accuracy of bidirectional axis positioning (ISO230-2:1988)	mm(inch)	0.006~0.020 (0.00024~0.00079)	0.006~0.020 (0.00024~0.00079)
	Repeatability of bidirectional axis positioning (ISO230-2:2014)	mm(inch)	Less than 0.004 (0.00016)	Less than 0.004 (0.00016)
Front door	2doors		2doors	
Standard accessories	Instruction Manual (DVD 1 set), leveling bolts (4 pcs.) [R650Xd1: 5 pcs.], leveling plate (4 pcs.) [R650Xd1: 5 pcs.]			

*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. Please contact your local distributor 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 be increased up to R450Xd1: 200kg, R650Xd1: 300kg (one face) by changing the parameter. Please consult us separately. *7 When using the hydraulic rotary joint, the Y-axis travel becomes 290 mm. *8 Values when the low-floor table is selected. *9 When using high accuracy mode B. *10 Regular air pressure varies depending on the machine specifications, machining program details, or use of peripheral equipment. Set the pressure higher than the recommend value. *11 When table loading on one face is R450Xd1: 120kg, R650Xd1: 200kg. *12 The machine needs to be equipped with a relocation detection device depending on the destination. Machines equipped with a relocation detection device come with "RD" at the end of the model name. *13 The value does not include the coolant tank or chip conveyor.

- When exporting our machine together with compound rotary table (including case that a rotary table is scheduled to be installed overseas), or exporting M200Xd1, M300X3, U500Xd1, and S300/S500/S700Xd1-5AX, 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 some countries and regions other than "Group A countries", 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.

Machine specifications

Item	M200Xd1/M200Xd1 RD *8	M200Xd1-5AX/M200Xd1-5AX RD *8	M300X3/M300X3 RD *8
CNC Unit	CNC-D00	CNC-D00v (DB)	CNC-C00
Travels	X axis mm(inch)	200 (7.9)	300 (11.8)
	Y axis mm(inch)	440 (17.3)	440 (17.3)
	Z axis mm(inch)	305 (12.0)	305 (12.0)
	A axis deg.	120~-30	120~-30
	C axis deg.	360	360
	Distance between table top and spindle nose end mm(inch)	150~455 (5.9~17.9)	200~505 (7.9~19.9)
Table	Work area size mm(inch)	φ140 (φ5.5)	φ170 (φ6.7)
	Shape of table top	In compliance with table nose No.5 of ISO702-4 (JISB6109-2)	In compliance with table nose No.5 of ISO702-4 (JISB6109-2)
	Max. loading capacity (uniform load) kg(lbs)	Table side 40 (88.2) / Tale side 19 (41.9) *9	Table side 75 (165.3) / Tale side 11 (24.3)
	Max. table load inertia kg·m ² (lb·inch ²)	Table side 0.29 (991) / Tale side 0.04 (137)	Table side 0.58 (1982) / Tale side 0.04 (137)
Spindle	Spindle speed min ⁻¹	10,000min ⁻¹ specifications: 1~10,000 16,000min ⁻¹ specifications (Optional): 1~16,000	10,000min ⁻¹ specifications: 1~10,000 16,000min ⁻¹ specifications (Optional): 1~16,000
	Speed during tapping min ⁻¹	MAX. 6,000	MAX. 6,000
	Tapered hole	7/24 tapered No.30	7/24 tapered No.30
	BT dual contact system (BIG-PLUS)	Optional	Optional
	Coolant Through Spindle (CTS)	Optional	Optional
Turning spindle	Max. Spindle speed min ⁻¹	2,000	1,500
Feed rate	Rapid traverse rate (XYZ-area) m/min(inch/min)	50 × 50 × 50 (1,969 × 1,969 × 1,969)	50 × 50 × 50 (1,969 × 1,969 × 1,969)
	Cutting feed rate mm/min(inch/min)	X, Y, Z axis: 1~30,000 (0.04~1,181) *7	X, Y, Z axis: 1~30,000 (0.04~1,181) *7
	Indexing feed rate (A and C) min ⁻¹	A axis: 60 C axis: 200	A axis: 50 C axis: C200
ATC unit	Tool shank type	MAS-BT30	MAS-BT30
	Pull stad type *4	MAS-P30T-2	MAS-P30T-2
	Tool storage capacity pcs.	22/28 *10	22
	Max. tool length mm(inch)	250 (9.8)	200 (7.9)
	Max. tool diameter mm(inch)	80 (3.1)	80 (3.1)
	Max. tool weight *1 kg(lbs)	3 (6.6)	3 (6.6)
Tool selection method	Random shortcut method	Random shortcut method	
Tool *5 change time	Tool To Tool sec.	0.8	0.8
	Chip To Chip sec.	1.4	1.6
Electric motor	Main spindle motor (10min/continuous) *2 kW	10,000min ⁻¹ specifications: 10.1/7.0 16,000min ⁻¹ specifications (Optional): 7.4/5.1	10,000min ⁻¹ specifications: 10.1/7.0 16,000min ⁻¹ specifications (Optional): 7.4/5.1
	Axis feed motor kW	X,Y axis: 1.0 Z axis: 1.8 A axis: 0.8	X,Y axis: 1.0 Z axis: 1.8 A axis: 1.35
	Turning spindle motor kW	4.2	4.6
Power source	Power supply	AC 200 to 230 V±10%,3-phase, 50/60Hz±2%	AC 200 to 230 V±10%,3-phase, 50/60Hz±2%
	Power capacity (continuous) kVA	10,000min ⁻¹ specifications: 9.5 16,000min ⁻¹ specifications (Optional): 9.5	10,000min ⁻¹ specifications: 9.5 16,000min ⁻¹ specifications (Optional): 9.5
	Air supply Regular air pressure MPa	0.4~0.6 (recommended value: 0.5MPa) *6	0.4~0.6 (recommended value: 0.5MPa) *6
	Required flow L/min	175	165
Machining dimensions	Height mm(inch)	2,612 (102.9)	2,653 (104.4)
	Required floor space *11 mm(inch)	1,280 × 2,667 (50.4 × 105)	1,520 × 2,667 (59.8 × 105)
	Weight kg(lbs)	2,700 (5,953)	2,880 (6,349)
Accuracy *3	Accuracy of bidirectional axis positioning (ISO230-2: 1988) (ISO230-2: 2014)	X,Y,Z axis: 0.006~0.020mm (0.00024 × 0.00079inch) A,C axis: 28 sec or less	X,Y,Z axis: 0.006~0.020mm (0.00024 × 0.00079inch) A,C axis: 28 sec or less
	Repeatability of bidirectional axis positioning (ISO230-2: 2014)	X,Y,Z axis: Less than 0.004mm (0.00016inch) A,C axis: 16 sec or less	X,Y,Z axis: Less than 0.004mm (0.00016inch) A,C axis: 16 sec or less
Front door	2doors	2doors	2doors
Standard accessories	Instruction Manual (DVD 1 set), leveling bolts (5 pcs.), leveling plates (5 pcs.)	Instruction Manual (1 set), leveling bolts (4 pcs.), leveling plates (4 pcs.)	Instruction Manual (1 set), leveling bolts (4 pcs.), leveling plates (4 pcs.)

*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 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. *7 When using high accuracy mode B. *8 The machine needs to be equipped with a relocation detection device depending on the destination. Machines equipped with a relocation detection device come with "RD" at the end of the model name. *9 The loading capacity on the tail side is 13 kg at the rotating section and 6 kg at the fixed section. *10 For the 28-tool magazine, turning tools cannot be set in adjust pods. *11 The value does not include the coolant tank or chip conveyor.

* Depending on the type of coolant, it may have a significant influence on the machine lifecycle. It is recommended to use the coolant which is commercially designated as high lubricity, for example Emulsion type. Especially, the coolant of chemical solution type (ex. Synthetic type) is prohibited to use, because it may cause machine damages.
* When using CTS (Coolant Through Spindle) function, usage of the coolant of combustible type (ex. Oil-based type) is prohibited.

Machine specifications

Item	U500Xd1 / U500Xd1 RD *9	F600X1 / F600X1 RD *9	
CNC Unit	CNC-D00	CNC-C00	
Travels	X axis mm(inch)	500 (19.7)	600 (23.6)
	Y axis mm(inch)	400 (15.7)	400 (15.7)
	Z axis mm(inch)	300 (11.8)	350 (13.7)
	A axis deg.	120~-30	—
	C axis deg.	360	—
	Distance between table top and spindle nose end mm(inch)	145~445 (5.7~17.5)	200~550 (7.8~21.6)
Table	Work area size mm(inch)	φ260 (φ10.2)	800 × 400 (31.4 × 15.7)
	Max. loading capacity (uniform load) kg(lbs)	100 (220)	400 (881) [500 (1,102) *6]
	Max. table load inertia kg·m ² (lb·inch ²)	1.8 (6151) [2.6 (8885) *10]	—
Spindle	Spindle speed min ⁻¹	10,000min ⁻¹ specifications: 1~10,000 16,000min ⁻¹ specifications (Optional): 1~16,000	10,000min ⁻¹ high-torque specifications: 1~10,000
	Speed during tapping min ⁻¹	MAX. 6,000	MAX. 6,000
	Tapered hole	7/24 tapered No.30	7/24 tapered No.30
	BT dual contact system (BIG-PLUS)	Optional	Optional
	Coolant Through Spindle (CTS)	Optional	Optional
Feed rate	Rapid traverse rate (XYZ-area) m/min(inch/min)	50 × 50 × 56 (1,969 × 1,969 × 2,205)	50 × 50 × 50 (1,969 × 1,969 × 1,969)
	Cutting feed rate mm/min(inch/min)	X, Y, Z axis: 1~30,000 (0.04~1,181) *7	X, Y, Z axis: 1~30,000 (0.04~1,181) *7
	Indexing feed rate (A and C) min ⁻¹	A axis: 50 C axis: 75 (60) *10	—
ATC unit	Tool shank type	MAS-BT30	MAS-BT30
	Pull stad type *4	MAS-P30T-2	MAS-P30T-2
	Tool storage capacity pcs.	14/21/28	14/22
	Max. tool length mm(inch)	250 (9.8)	250 (9.8)
	Max. tool diameter mm(inch)	110 (4.3)	110 (4.3) / 125 (4.9) No adjacent tool
	Max. tool weight *1 kg(lbs)	3.0 (6.6) [4.0 (8.8) *11] / tool, <TOTAL TOOL WEIGHT: 25 (55.1) for 14 tools, 35 (77.2) for 21 or 28 tools>	3.0 (6.6) / Tool <TOTAL TOOL WEIGHT: 25 (55.1) for 14 tools, 40 (88.1) for 22 tools>
Tool *5 change time	Tool To Tool sec.	0.6 / 0.7 (14 or 21 tools / 28 tools)	0.7 / 0.8 (14 tools / 22 tools)
	Chip To Chip sec.	1.2 / 1.3 (14 or 21 tools / 28 tools)	1.6 / 1.7 (14 tools / 22 tools)
Electric motor	Main spindle motor (10min/continuous) *2 kW	10,000min ⁻¹ specifications: 10.1/7.0, 16,000min ⁻¹ specifications (optional): 7.4/5.1	10,000min ⁻¹ high-torque specifications: 12.8 / 9.2
	Axis feed motor kW	X,Y axis: 1.0 Z axis: 2.0 A axis: 0.9 C axis: 0.55	X,Y axis: 1.0 Z axis: 1.8
Power source	Power supply	AC 200 to 230 V±10%, 3-phase, 50/60Hz±2%	AC 200 to 230 V±10%, 3-phase, 50/60Hz±2%
	Power capacity (continuous) kVA	10,000min ⁻¹ specifications: 9.5, 16,000min ⁻¹ specifications (optional): 9.5	10,000min ⁻¹ high-torque specifications: 10.4
	Air supply Regular air pressure MPa	0.4~0.6 (recommended value 0.5MPa) *8	0.4~0.6 (recommended value: 0.5MPa) *8
Machining dimensions	Height mm(inch)	2,748 (108.2)	2,750 (108.2)
	Required floor space *12 (with control unit door open) mm(inch)	1,560 × 2,026 [2,864] (61.4 × 79.8 [112.8])	1,800 × 2,418 [3,256] (70.9 × 95.2 [128.2])
	Weight kg(lbs)	2,650 (5,843)	3,600 (7,937)
Accuracy *3	Accuracy of bidirectional axis positioning (ISO230-2: 1988) (ISO230-2: 2014)	X, Y, Z axis: 0.006~0.020mm (0.00024~0.00079inch) A, C axis: 28 sec or less	X, Y, Z axis: 0.006~0.020mm (0.00024~0.00079inch) —
	Repeatability of bidirectional axis positioning (ISO230-2: 2014)	X, Y, Z axis: Less than 0.004mm (0.00016inch) A, C axis: 16 sec or less	X, Y, Z axis: Less than 0.004mm (0.00016inch)
Front door	2doors	2doors	
Standard accessories	Instruction Manual (DVD 1 set), leveling bolts (4 pcs.), leveling plate (4 pcs.)	Instruction Manual (1 set), leveling bolts (4 pcs.), leveling plates (4 pcs.)	

*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 Y axis. *7 When using high accuracy mode B. *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. *9 The machine needs to be equipped with a relocation detection device depending on the destination. Machines equipped with a relocation detection device come with "RD" at the end of the model name. *10 When using high inertia mode. Parameter setting needs to be changed. *11 Parameter setting needs to be changed. (Tool indexing time is changed.) *12 The value does not include the coolant tank or chip conveyor.

CNC-D00 specifications

Model	S300/S500/S700Xd1(-5AX), W1000Xd1, R450/R650Xd1, U500Xd1, M200Xd1(-5AX)	
CNC model	CNC-D00	
Control axes	S300/S500/S700Xd1-5AX, M200Xd1-5AX: CNC-D00v(DB) R450/R650Xd1: 7 axes (X,Y,Z, 4 additional axes) M200Xd1(-5AX), U500Xd1: 5 axes (X,Y,Z, A,C)	
Simultaneously controlled axes	Positioning	5 axes (X, Y, Z, 2 additional axes) M200Xd1(-5AX), U500Xd1: 5 axes (X, Y, Z, A, C)
	Interpolation	Linear: 4 axes (X, Y, Z, 1 additional axis) S300/S500/S700Xd1-5AX, M200Xd1-5AX: 5 axes (X, Y, Z, 2 additional axes) Circular : 2 axes Helical/conical: 3 axes (X, Y, Z) S300/S500/S700Xd1-5AX, M200Xd1-5AX: 4 axes (Up to 3 axes for Linear + 1 axis for rotation, 2 axes for linear + 2 axes for rotation)
	Least input increment	0.001mm, 0.0001inch, 0.001deg.
Max. programmable dimension	±999999.999mm, ±99999.999inch	
Display	15-inch color LCD touch display	
Memory capacity	500MB, 3GB (optional) S300/S500/S700Xd1-5AX, M200Xd1-5AX: 3GB (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, conversatconersation (changed by parameter), conversation from conversation program to NC language program available M200Xd1(-5AX): NC language *Conversation language not available	

NC functions

● CNC-D00 ● CNC-C00

- Operation**
 - Dry Run
 - Machine lock
 - Restart
 - Rapid traverse override
 - Cutting feed override
 - Background editing
 - Screen shot
 - Operation level
 - External input signal key
 - Shortcut key (optional)
 - Spindle override
- Programming**
 - Absolute / incremental
 - Inch / metric
 - Coordinate system setting
 - Corner C / Corner R
 - Rotational transformation
 - Synchronized tap
 - Subprogram
 - Graphic display
- Measurement**
 - Automatic workpiece measurement *1
 - Tool length measurement
- High speed and High accuracy**
 - Machining parameter setting
 - High-accuracy mode A III
 - High-accuracy mode B I (Look-ahead 160blocks)
 - High-accuracy mode B I (Look-ahead 40blocks)
 - Backlash compensation
 - Tool center point control *5 (Look-ahead 1,000 blocks) (optional)
 - High-accuracy mode B II (Look-ahead 1,000blocks, with smooth path offset)
 - High-accuracy mode B II (Look-ahead 200blocks, with smooth path offset)
 - High-speed processing *2
- Monitoring**
 - Machining load monitoring
 - ATC monitoring
 - Overload prediction
 - Waveform display / waveform output to memory card
 - Heat expansion compensation system II (X, Y, Z axes)
 - Production performance
 - Power consumption
 - Tool life / Spare tool
- Maintenance**
 - Tap return function
 - Status log
 - Alarm log
 - Operation log
 - Maintenance notice
 - Motor insulation resistance measurement
 - Tool washing filter with filter clogging detection
 - Batteryless encoder
 - Brake load rest
- Automation / Network**
 - Computer remote
 - OPC UA
 - Auto notification
 - Built-in PLC (optional)
 - CC-Link, master station
 - CC-Link, remote device station
 - PROFIBUS DP, slave
 - DeviceNet, slave
 - PROFINET, slave
 - EtherNet/IP, slave
- Energy saving**
 - Automatic power off
 - Servomotor off standby mode
 - Automatic coolant off
 - Automatic work light off
 - Chip shower off delay
 - Display off

CNC-C00 specifications

Model	M300X3, F600X1	
CNC model	CNC-C00	
Control axes	F600X1: 5 axes (X, Y, Z, 2 additional axes) M300X3: 5 axes (X, Y, Z, A, C)	
Simultaneously controlled axes	Positioning	F600X1: 5 axes (X, Y, Z, 2 additional axes) M300X3: 5 axes (X, Y, Z, A, C)
	Interpolation	Linear: 4 axes (X, Y, Z, 1 additional axis) Circular: 2 axes Helical / conical: 3 axes (X, Y, Z)
	Least input increment	0.001mm, 0.0001inch, 0.001deg.
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 M300X3: NC language *Conversation language not available.	

* "Control axes" and "Simultaneously controlled axes" indicate the maximum number of axes, which will differ depending on the destination country and the machine specifications.
* Ethernet is a registered trademark of Xerox Corporation in the United States.

- Support apps**
 - Adjust machine parameters
 - ATC tool
 - Tool life
 - Waveform display
 - Production performance
 - Power consumption
 - Recovery support
 - Inspection
 - PLC (LD/ST/FBD)
- Accessories**
 - File viewer
 - Notebook
 - Calculator
 - Register shortcut
- NC language mode only**
 - Menu programing
 - Local coordinate system
 - Expanded workpiece coordinate system
 - One-way positioning
 - Inverse time feed
 - Programable data input
 - Tool length compensation
 - Cutter compensation
 - Scaling
 - Mirror image
 - External sub program call
 - Macro
 - Operation in tape mode
 - Multiple skip function (optional)
 - Submicron command *2
 - Interrupt type macro
 - Rotary fixture offset
 - Feature coordinate setting function
 - Involute interpolation
- Turning function *3**
 - Constant peripheral speed control
 - Feed per revolution control
 - Tool position compensation XYZ
 - Nose R compensation
 - Tread cutting
- Conversation language mode only *4**
 - Operation program
 - Schedule program
 - Automatic tool selection
 - Automatic cutting condition setting
 - Automatic tool length compensation setting
 - Automatic cutter compensation setting
 - Automatic calculation of unknown number input
 - Machining order control

*1/ Measuring instrument needs to be prepared by users. *2/ When the submicron command is used, changing to the conversation program is disabled. *3/ Only for M200Xd1 and M300X3 *4/ Conversation language not available for M200Xd1 and M300X3 *5/ Only for the S300/S500/S700Xd1-5AX and M200Xd1-5AX.

*Depending on the model and specifications, some options may be standard equipment or may not be available. For details, refer to the model catalog.

Coolant tank

	S300Xd1	S500Xd1	S700Xd1	W1000Xd1	R450Xd1	R650Xd1	M200Xd1	M300X3	U500Xd1	F600X1
Coolant tank 50L	●	●	●						●	
Coolant tank 100L	●	●	●						●	
Coolant tank 150L	●	●	●						●	
Coolant tank 200L	●	●	●	●					●	
Coolant tank 250L										●
Coolant tank 150L with chute					●		●	●		
Coolant tank 200L with chute					●	●				
Coolant tank 250L with chute						●				
Chip conveyor tank 370L							●	●		
Chip conveyor tank 390L					●	●				
Chip conveyor tank 400L										●

*For coolant tanks other than 50L and 100L, specifications for coolant through spindle CTS 1.5MPa and with cyclone filter can also be selected. *F600X1 coolant tank can also be selected for CTS 1.5 MPa specifications. *An oil skimmer specification can be added to the M200Xd1 chip conveyor tank. *S300/S500/S700Xd1 and U500Xd1 coolant tank 200L is for the specifications of CTS 1.5 MPa with cyclone filter. *R450Xd1 chute tank is for the specifications of CTS 1.5 MPa with cyclone filter.

Option common

- BT dual contact spindle
- Coolant Through Spindle (CTS) 1.5MPa *1
- Tool washing, air-assisted type
- Chip shower
- Fixture shower valve unit
- Cleaning gun
- Automatic oil lubricator
- Automatic grease lubricator
- Work light, 1 or 2 lamps
- Signal light, 1, 2, or 3 lamps
- Automatic door with switch panel 10 holes
- Area sensor
- Side cover with transparent window (single side, both sides)
- Top cover
- Grip cover for tool magazine
- Specified color
- Tool breakage detector, touch type
- Manual pulse generator with enable switch *2
- Spindle override
- Switch panel 8 or 10 holes
- power supply expansion 50A
- RS232C 25-pin connector at control box
- Master on circuit
- 100V outlet in control box
- Data protection switch, key type
- Parts name sticker set
- Transformer box
- Memory expansion 3GB / 500MB *3
- High accuracy mode B II, look-ahead 1,000 / 200 blocks, with smooth path offset *4
- PLC programming software
- EXIO board assembly
 - ① EXIO board, input32/output32, additional #1
 - ② EXIO board, input32/output32, additional #2
- Industrial network
 - ① CC-Link, master station
 - ② CC-Link, remote device station
 - ③ PROFIBUS DP, slave
 - ④ DeviceNet, slave
 - ⑤ PROFINET, slave *5
 - ⑥ EtherNet/IP, slave *5

*1/ The pressure resistance of the CTS is 3 MPa. Pump and tank are not included. *2/ No enable switch for M300X3 and F600X1 *3/ 500MB for M300X3 and F600X1 *4/ Look-ahead 200blocks for M300X3 and F600X1 *5/ ⑤ and ⑥ not available for M300X3 and F600X1

Option by model

	S300Xd1	S500Xd1	S700Xd1	W1000Xd1	R450Xd1	R650Xd1	M200Xd1	M300X3	U500Xd1	F600X1
Rotary table T-200Ad / T-200A *6	●	●	●	●	●	●				●
Coolant Through Spindle (CTS) 7MPa *7	●	●	●	●	●	●			●	
Head coolant nozzle	●	●	●	●	●	●	●	●	●	●
Column coolant nozzle	●	●	●	●	●	●			●	●
Coil conveyor *8										●
Mesh basket for collecting chips	●	●	●	●	●	●	●		●	●
High column, 150mm, 250mm, or 350mm *9	●	●	●	●						
Additional axis cable	●	●	●	●	●	●				●
Breaker handle cover	●	●	●						●	●
Origin alignment mark	●	●	●	●	●	●	●		●	
Side door with transparent window, right side					●	●	●	●		
Pneumatic relay box 12P					●	●				
Hydraulic rotary joint 4P										
Rotary joint 4P							●	●		
A-axis clamp							●	●		
Rotary joint 6P									●	
Table light					●	●				
Outside rotary table switch for 1 or 2 axes					●	●				
Tuning diameter enlargement, ø1,100mm (R450Xd1)ø1,300mm (R650Xd1)					●	●				
Low-floor table					●	●				
Side magazine switch					●					
Front switch panel 10 holes						●				
Outside start switch on the side						●				
Folding door (two-door)					●	●				

*6/ T-200A is available for F600X1. *7/ Pump and tank are not included. *8/ A chip conveyor is required when selecting coil conveyor. *9/ 350mm high column is only available for W1000Xd1

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Figures in brackets () are the country codes.



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