SPEEDIO

S300Xd2
S500Xd2
S700Xd2

Compact Machining Center

S

SPEEDIO's bestselling model
further expands the range of application

An extensive range of magazine specifications, including the newly developed
100-tool magazine, spindle specifications, simultaneous 5-axis specifications and
enlarged machining area.
A wide range of specifications available to meet a wide variety of machining applications.

Cutting Out the Waste *SPEEDIO*

S300 Xd2   **S500**Xd2   **S700**Xd2

Various magazine
specifications

Simultaneous
5-axis machining

Various spindle
specifications

Enlarged machining area

Basic specifications

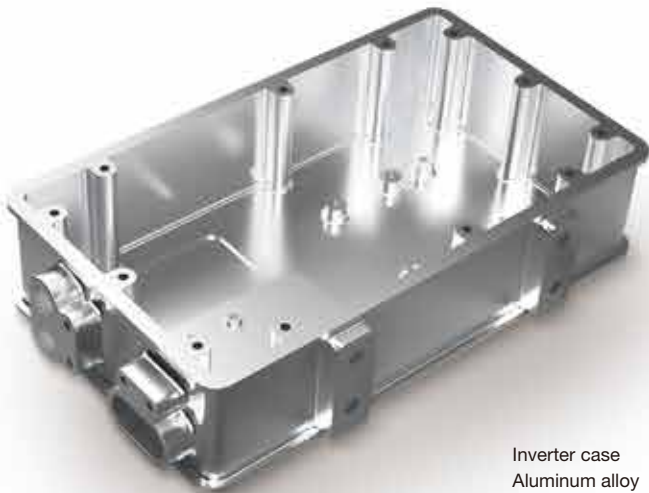| Basic specifications			
Max. spindle speed (min⁻¹)	12,000	Required floor space (mm)	S300Xd2 1,080 x 2,161
	Optional: 10,000 high-torque, 16,000*1		S500Xd2 1,560 x 2,081
	Optional: 20,000*2, 27,000*3		S700Xd2 2,050 x 2,081
Travel of each axis (mm)	S300Xd2 X300 Y450 Z300		S700Xd2-100T 2,050 x 2,081
	S500Xd2 X500 Y450 Z300/380*4	Tool storage capacity (pcs.)	S300Xd2 14/21
	S700Xd2 X700 Y450 Z300/380*4		S500Xd2/S700Xd2 14/21/28
	S700Xd2-100T X700 Y450 Z380		S700Xd2-100T 100
Rapid traverse rate (m/min)	X/Y/Z 50/50/56	Simultaneous 5-axis spec. (5AX)	Available

*1. Cannot be selected for the S700Xd2-100T *2. Can only be selected for the S700Xd2-100T
*3. Cannot be selected for the Z-axis 380 mm spec. and the S700Xd2-100T. *4. 380 is for Z-axis 380 mm spec. (optional).

Most extensive range in its class
provides best-fit solution for any type of application

A range of specifications are available with different X-axis travel, spindle type, or tool storage capacity.

Selecting the best specifications for your application ensures that the SPEEDIO provides incomparable productivity for customers in any industry.

Semiconductor

Feeder frame
Aluminum alloy
Size: 600 x 250 x 12

Support bracket
Stainless steel
Size: 133 x 60 x 30

Automobile

Inverter case
Aluminum alloy
Size: 440 x 280 x 150

Impeller
Aluminum alloy
Size: ø44 x 21

Medical

Bone plate
Ti-6Al-4V
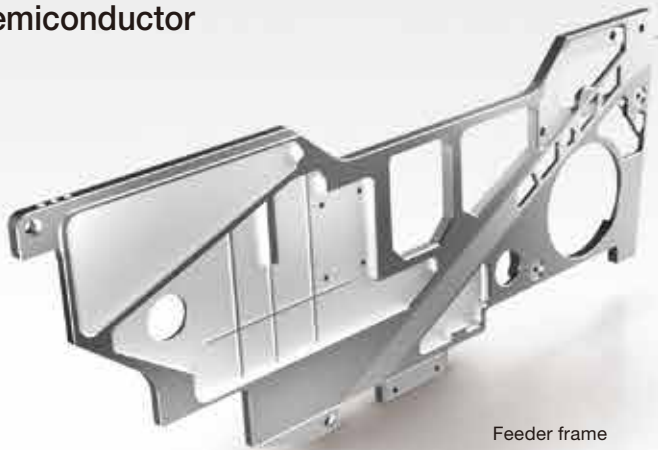Size: 80 x 30 x 10

Aircraft

Seat parts
Aluminum alloy
Size: 600 x 300 x 40

Large valve for thermal management
Aluminum alloy
Size: 230 x 170 x 40

EV gearbox housing
Aluminum alloy
Size: 305 x 260 x 90

Construction machinery

Valve plate
Chrome molybdenum steel
Size: ø160 x 25

Increased travels of Y/Z axes and bigger table
further expand the range of application

Increased travels of Y/Z axes, bigger table, and using a 28-tool magazine expand the range of application for process integration, such as for multi-face machining, and variable-product variable-volume production.
Together with the extensive range of specifications, the machine responds to a wide variety of machining.

Increased Y-axis travel

Increased Y-axis travel expands the range of target workpieces.

Y-axis travel	400mm[1] ▶ 450mm

Bigger table

Bigger table expands the range of jig selection.

S300/S500Xd2	600 x 400[1] ▶ 600 x 450mm
S700Xd2	800 x 400[1] ▶ 800 x 450mm

Increased
Y-axis travel
400mm[1]
▼
450mm

Bigger table
400mm[1]
▼
450mm

*1. Values of previous model

Z-axis 380 mm spec. (optional)[4]

In addition to the standard 300 mm Z-axis travel, the 380 mm Z-axis travel can be selected. The Z-axis travel and the distance between the table top and spindle nose end have been increased to secure ample machining area in the Z-axis direction and improve tool accessibility.
*4. The Z-axis 380 mm spec. cannot be selected for the S300Xd2. Only Z-axis 380 mm spec. available on the S700Xd2-100T

Z-axis travel
300mm (standard)　380mm (optional)

Distance between table top and spindle nose end
180~480mm (standard)　150~530mm (optional)

+50mm

Increased
Z-axis travel

300mm
▼
380mm

+30mm

Spindle lowest point
150mm
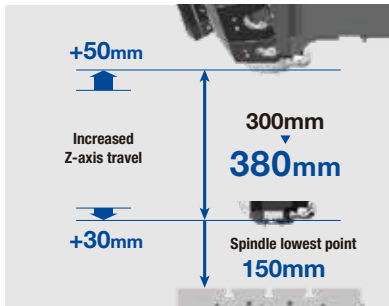
* When Z-axis 380 mm spec. is selected

28-tool magazine[2]

The 28-tool magazine is a compact turret magazine that achieves high-speed tool change. The maximum tool weight is 4 kg. An extensive range of magazine specifications are available, including 14-tool, 21-tool, 28-tool[2], and 100-tool[3].

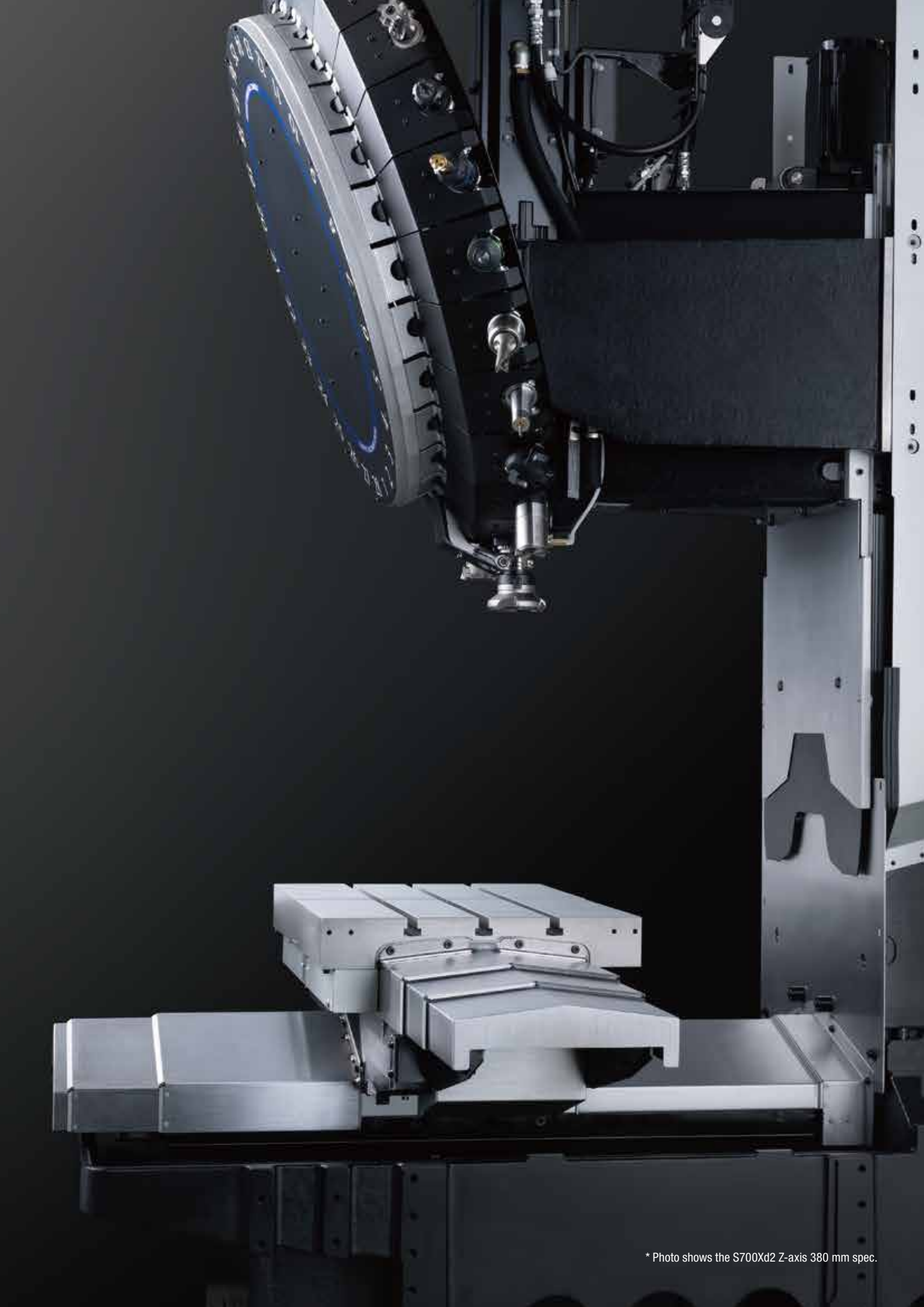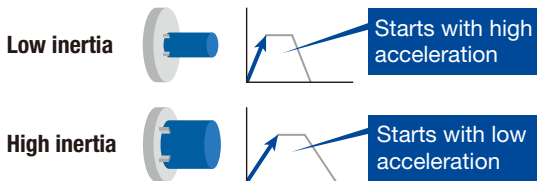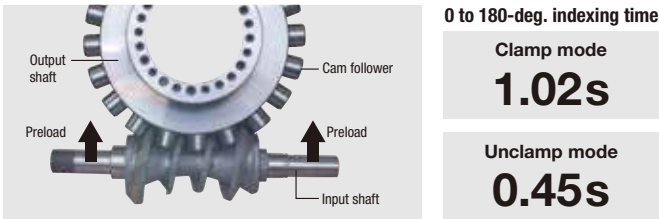| 28-tool magazine	
Max. tool diameter	110mm
Max. tool weight	4kg
Max. total tool weight	35kg
Tool-Tool	0.7s

*2. The 28-tool magazine cannot be selected for the S300Xd2.
*3. The 100-tool magazine can only be selected for the S700Xd2-100T. See pages 15 to 18 for details.

Rotary table T-200Ad (optional)

A roller gear cam mechanism is used. Compared to a worm gear type, faster index machining is possible with higher accuracy. Optimal for process integration on the SPEEDIO.
Equipped with a function that enables indexing at the optimal acceleration based on the estimated inertia.

Output shaft
Cam follower
Preload
Preload
Input shaft

0 to 180-deg. indexing time

Clamp mode	1.02s
Unclamp mode	0.45s

Low inertia — Starts with high acceleration

High inertia — Starts with low acceleration

* Photo shows the S700Xd2 Z-axis 380 mm spec.

Untiring pursuit of high productivity

Reduction in waste by optimized control through machine/controller integrated development

Optimized control by the CNC-D00 controller eliminates waste to the utmost limit in every operation during machining.

This maximizes the performance of the highly reliable machine and ensures high productivity.

Non-stop ATC

High-speed tool change has been achieved by faster and optimized spindle start/stop, Z-axis up/down, and magazine operation. Tools up to 3 kg can be changed in the shortest time. Tools up to 4 kg can also be changed with minimal increase in time.
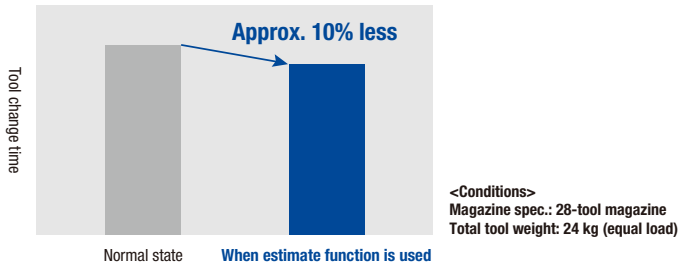
	14/21 tools (Standard tools)	28 tools (Standard tools)	28 tools (Heavy tools)
Tool-Tool	0.6s	0.7s	0.8s
Chip-Chip[*1]	1.2s	1.3s	1.4s

*1. Values for Z-axis 300 mm spec.

Magazine load conditions estimate[*2]

Estimates the inertia and unbalanced load of the tool loaded in the magazine, and sets the optimum value for the acceleration of the magazine axis. In addition, automatically updates the value to the estimated optimum acceleration, even during programmed operation.

*2. Cannot be used for tool stockers of the S700Xd2-100T.

Approx. 10% less

Tool change time

Normal state   When estimate function is used

<Conditions>
Magazine spec.: 28-tool magazine
Total tool weight: 24 kg (equal load)

High acceleration/deceleration spindle

Using a low inertia spindle and high acceleration/deceleration spindle motor has achieved faster spindle start/stop.

Spindle start/stop time 0.15s or less *High-torque spec.

High acceleration Z-axis

As the Z-axis moves frequently, the highest acceleration in its class has been achieved, contributing to reduction in cycle time.

Z-axis acceleration Max. 2.2G

Improved automatic door opening/closing speed

The automatic door opening/closing speed has been improved, enabling significant reduction in setup time.

Automatic door opening/closing time 20% less

Simultaneous operation

Wasted time has been reduced by simultaneously performing tool change and positioning X/Y and additional axes.
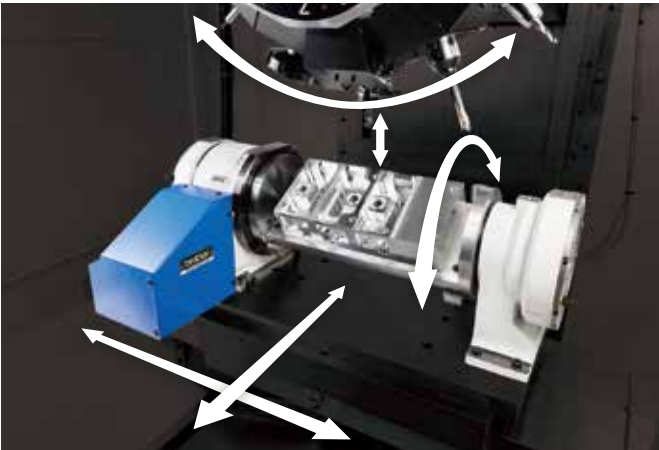
Optimal X/Y axes acceleration setting

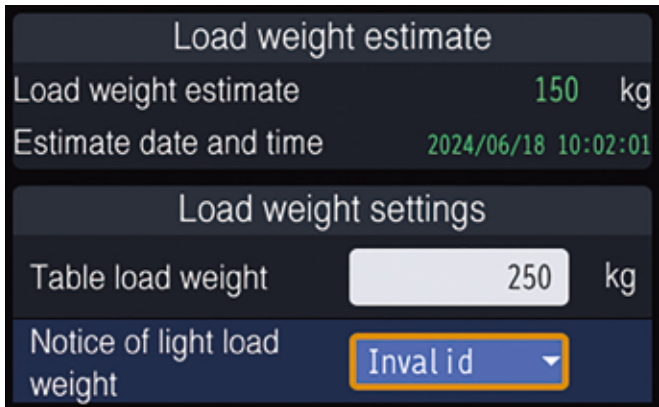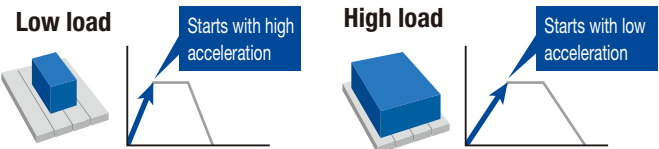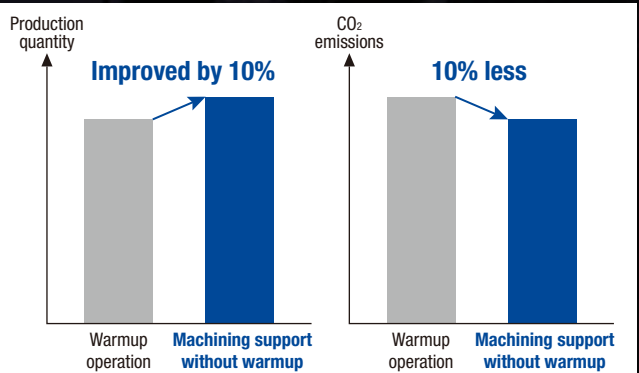Load weight is estimated by moving the table to set the optimal acceleration for the X/Y axes.

Load weight estimate

Load weight estimate	150 kg
Estimate date and time	2024/06/18 10:02:01

Load weight settings

Table load weight	250 kg
Notice of light load weight	Invalid

Table load weight estimate screen

Low load   Starts with high acceleration

High load   Starts with low acceleration

Machining support without warmup

Equipped with an original measurement processing function that reduces the number of actual measurements by a touch probe according to the size of displacement. This eliminates the need for warmup operation, minimizing effects on productivity to achieve highly accurate machining.

Error

Warmup not necessary

Warmup operation

Machining support without warmup

Touch probe measurement

Reduction in measurement frequency

Production quantity

Improved by 10%

Warmup operation   **Machining support without warmup**

CO_2 emissions

10% less

Warmup operation   **Machining support without warmup**
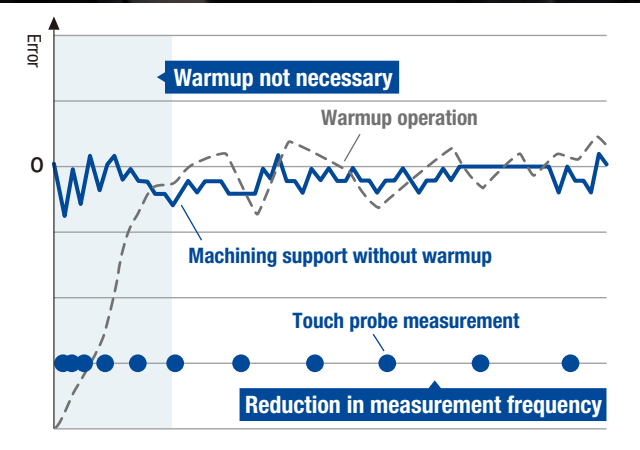
* Values taken by machining sample workpieces for 8 hours. Warmup operation time is one hour.

Extensive range of spindle specifications and NC functions support a wide variety of machining applications

A variety of spindles are available to meet a wide range of industries, from automobile to semiconductor, precision parts, and IT equipment industries.
The NC unit achieves high-speed and highly accurate three-dimensional machining or simultaneous 5-axis machining*1.
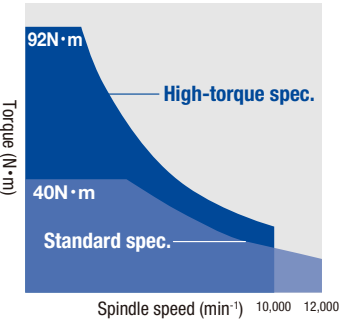
*1. Simultaneous 5-axis machining is available only on the S300/500/700Xd2-5AX.

Newly developed and highly efficient 20,000 min⁻¹ spindle motor*2

A new 20,000 min⁻¹ spindle motor*2 has been developed. Compatible with the Coolant Through Spindle (CTS), this motor further improves productivity of small-diameter drilling. A variety of spindle specifications are available, including the standard 12,000 min⁻¹ spec. and high-torque spec.
*2. Can only be selected for the S700Xd2-100T.

Motor torque characteristics

$92N \cdot m$

High-torque spec.

$40N \cdot m$

Standard spec.

Torque (N·m)

Spindle speed (min⁻¹)　10,000　12,000

High-torque spec. (optional)	
Max. torque	$92N \cdot m$
Max. output	$26.2kW$

20,000min⁻¹ spec. (optional)*2	
Max. torque	$27N \cdot m$
Max. output	$15.4kW$

12,000 min⁻¹ spec. (standard)	
Max. torque	$40N \cdot m$
Max. output	$18.9kW$

High-speed and highly accurate 3D machining using high-speed spindle and high accuracy mode

In addition to the highly-responsive servo control, the servo processing speed and resolution have been greatly improved. Enhanced original three-dimensional machining control, including increased look-ahead blocks and improved surface quality by the smooth path offset function, achieves high-speed and highly accurate three-dimensional machining.

High-speed spindle spec. (optional)	27,000min⁻¹

High accuracy mode BII (optional)	Look-ahead 1,000 blocks

Simultaneous 5-axis machining

Equipped with a variety of functions, including tool center point control and submicron command, to achieve high-speed and highly accurate simultaneous 5-axis machining.
* Changing to the conversation language is not possible for the simultaneous 5-axis specifications (5AX).
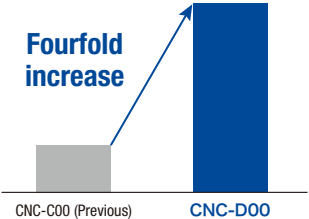
Tool center point control

Equipped with tool center point control where machining is performed by changing the tool direction relative to the workpiece. Optimal acceleration/deceleration by look-ahead up to 1,000 blocks achieves simultaneous 5-axis machining.
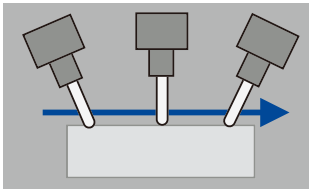
Processing speed of minute line segments

The CPU capacity has been greatly increased to enhance the processing speed of minute line segments by four times the previous controller. This enables high-speed processing of CAM data with small tolerance.

Fourfold increase

CNC-C00 (Previous)　　**CNC-D00**

Productivity improvement

In addition to the compactness of the BT30, the original look-ahead acceleration/deceleration processing maximizes the machine's performance (max. speed and acceleration) to achieve high-speed simultaneous 5-axis machining.

Comparison with cycle time by a competitor's BT40 MC
Workpiece: Impeller

Cycle time

Approx. 60% less

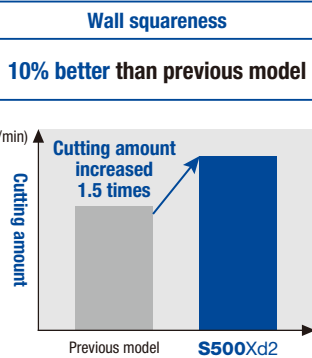Competitor's BT40 MC　　**S500**Xd2-5AX

Improved spindle rigidity

For 10,000 min⁻¹ high-torque specifications (optional), the spindle bearing diameter has been enlarged to enhance rigidity.
The machine demonstrates its capabilities in a wide variety of machining applications, including heavy-duty machining of steel.

Spindle clamp force
Improved by 15%

Spindle bearing diameter (high-torque spec.)
Larger by 10%

Side cutting

Enhanced spindle rigidity improves the wall squareness during side cutting and increases the cutting amount.

Wall squareness
10% better than previous model

(cm³/min)

Cutting amount increased 1.5 times

Cutting amount

Material: Aluminum alloy
Tool: ø16 end mill
Conditions: S3950 min⁻¹
F1550 mm/min

Previous model　　**S500**Xd2

Z-axis motor

Acceleration of up to 2.2G contributes to reduction in cycle time.

Magazine load conditions estimate

Sets the optimum value for the acceleration of the magazine axis.

Spindle

Clamp force has been improved to enhance tool retention force.

Column

Topology is used for the column shape. Reduces the influence of external vibration on the quality of the machined surface.

Machine table

The table size has been expanded up to 450 mm in length.
Jigs up to 400 kg can be loaded.

Telescopic cover

A roof-shape that enhances chip evacuation performance is used to improve reliability.

X/Y-axes motor

Using high resolution encoder and optimal acceleration setting achieves high speed and high accuracy.

Base

The rib structure has been optimized through topology analysis. The rigidity when affected by external vibration has been improved.

Example of machining difficult-to-cut material　Tool: ø80 face mill

Stainless steel	No. of revolutions [n]	597min⁻¹	Feed [vf]	477mm/min (18.8inch/min)
SUS316L	Width of cut [ae]	**56mm (2.20inch)**	Depth of cut [ap]	**2.5mm (0.10inch)**
Pre-hardened steel	No. of revolutions [n]	597min⁻¹	Feed [vf]	477mm/min (18.8inch/min)
NAK80	Width of cut [ae]	**56mm (2.20inch)**	Depth of cut [ap]	**2.5mm (0.10inch)**

* Values for the high-torque spec. The above machining capability may not be achieved depending on conditions, including usage environment, tools in use, and coolant.
* The machining capability table is provided on page 24.

Reliability maintains high productivity

Maintenance functions have been enhanced to prevent machine failure, with measures for chips taken to reduce machining defects.
Thorough avoidance of machine stoppage maintains high productivity at production sites.
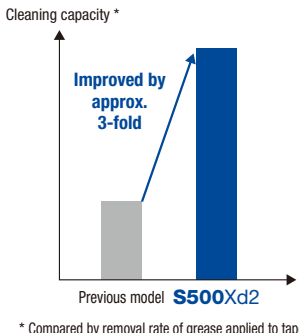
Enhanced maintenance functions

The machine is equipped with many functions that can prevent possible defects in daily production sites, such as chip problems, tool abrasion, omission of tool attachment, and re-machining of the same workpiece. These functions contribute to the reduction in wasted resources at production sites.

Tool cleaning system (optional)

The number of discharge holes and the angle of these holes have been optimized to significantly increase the discharge flowrate. This has resulted in a threefold increase in cleaning capability, compared to the previous model.
CTS specifications allow the direct pump type where coolant is discharged from the CTS pump to be selected, consuming less air than the air-assisted type.

* When CTS is not selected, air-assisted tool cleaning is used.

More discharge holes

Cleaning capacity *

Improved by approx. 3-fold

Previous model **S500**Xd2

* Compared by removal rate of grease applied to taper

Stuck chips detection function

Chips caught between the spindle and the holder during ATC are detected without using a sensor. Detecting any stuck chips during ATC prevents the outflow of defects. A retry function is also provided.

ATC tool monitoring

Checks the presence of a spindle tool before and after tool change, tool over spindle, positional shift of tool key etc. without using a sensor.
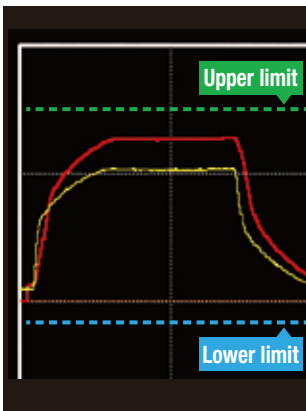
Spindle tool check   Key position deviation

Machining load monitoring

Machining load applied to the spindle is monitored to issue an alarm when the load is not within the preset value.
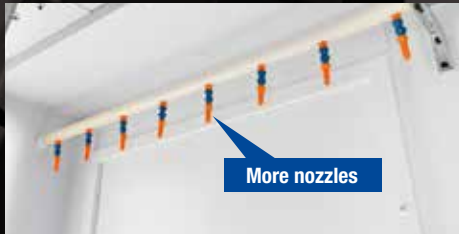
Upper limit

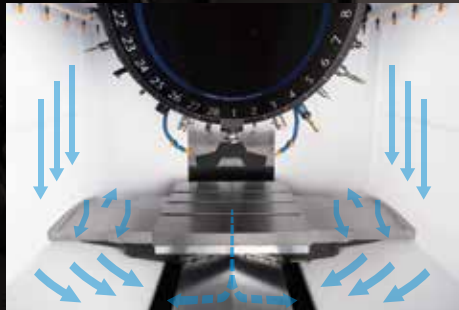Lower limit

Setting screen   Setting image

Prevention of chip problems

Thorough chip evacuation/removal prevents chip problems, improving reliability.
Increasing the number of chip shower nozzles and reviewing the diameter of the piping have improved chip evacuation performance.

More nozzles

Image of chip evacuation flow

Equipped with "CNC-D00" controller
Enhanced usability with 15-inch LCD touch panel

Intuitive operation is possible with apps and vertical touch panel screen. Relevant functions are grouped according to purpose, such as setup and machining, leading to efficient operation. Production and operation states are visualized, allowing faster understanding. Waste-free operation is possible in setup, machining adjustment, production, and recovery process, leading to improved work efficiency and operating rate.

Home screen

Information required for production, such as workpiece counter and tool life, is collected on the home screen. Shortcut keys are provided for screens frequently used so you can open them by one touch.

- Remaining/Elapsed machining time
- Workpiece counter
- Support apps/ Shortcut keys
- Screen keys
- Program
- Tool life

User interface

Equipped with support apps with improved operability and visibility by grouping relevant functions and an easy-to-view display, in addition to several useful accessories (calculator, notebook, file viewer etc.). Operation on conventional screens is possible on the touch panel. With these, usability has been greatly improved.

List of support apps　　　Conventional screen (position screen)
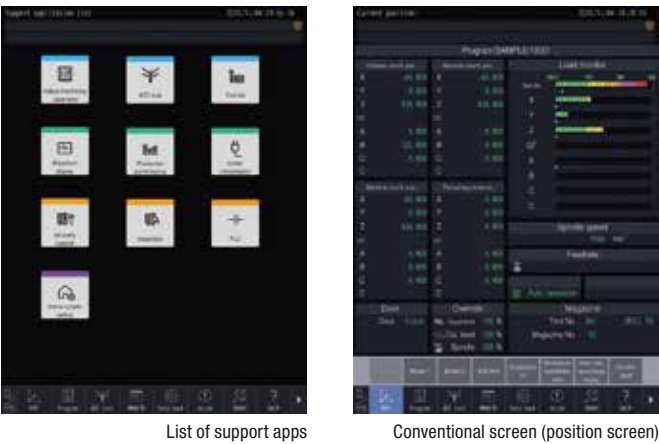
Setup support

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.

ATC tool app

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.
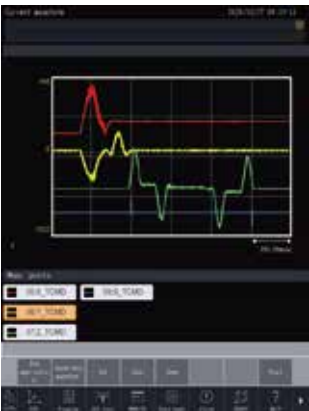
Waveform display app

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.

Production performance app

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.

Recovery support app

NC function video

Scan or Click

Equipped with functions that support connection with various peripheral equipment or automation

Network
Sending/receiving files or monitoring via FTP or HTTP.
Compatible with OPC UA, a data exchange standard for industrial communication.
In addition to the conventional field bus, data communication is possible via Industrial Ethernet, such as Ethernet/IP and PROFINET.
Production/operation results screens on the machine can be viewed from a PC's browser.

Built-in PLC
Standard equipped with a PLC function. Program memory and object memory have been increased to enhance the capacity for peripheral equipment.
In addition to ladder language, ST language and FBD language can also be used for built-in PLC programming.

Built-in PLC screen

The iF Design Award is an international design award established in 1953 by iF International Forum Design GmbH of Germany.

Newly developed 100-tool magazine[1] achieves space saving and high productivity

The new 100-tool magazine, featuring the largest storage capacity in the SPEEDIO series, has been developed. [1]

Brother's original mechanism achieves space saving and high productivity.

[1]. Mounted only on the S700Xd2-100T. Conversation language not available on the S700Xd2-100T.

## Newly developed 100-tool magazine (optional)

Left-side tool stocker   Turret magazine   Right-side tool stocker

A tool stocker that can store 36 tools is installed on the right and left sides of the 28-tool turret magazine, enabling storage of 100 tools, the largest capacity in the SPEEDIO series.

Brother's original tool handling mechanism achieves stable tool change.

100-tool magazine spec.	
Turret magazine	: **28 tools**
Tool stocker (left/right)	: **36 tools each**
Total storage capacity	: **100 tools**

The stocker shutter separates the tool stocker from the machining chamber, minimizing the effect of chips on tools.
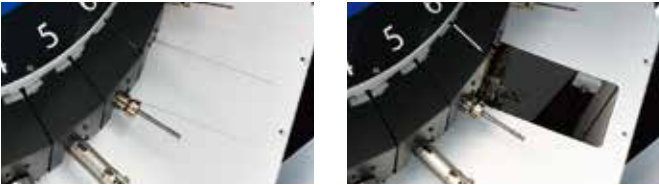
Space-saving design

Tool stockers are installed inside the machine to save space while storing 100 tools.

Installation space
4.2m² [2]

Space required for BT40 vertical MC[3]

Depth
2081mm

Width **2050mm**

Approx. 40% less[3]

[2]. Does not include coolant tank and chip conveyor
[3]. Compared to BT40 vertical MC with equivalent tool storage capacity

High productivity

If the number of tools used in machining is 28 or less, high speed tool change is possible using only the turret magazine, leading to high productivity.

Even when using tools in the tool stocker, handling is possible within approximately 5 seconds (1 tool).

In addition, all tools in the turret magazine can be easily changed, reducing setup time.

Turret magazine tool change time	
Tool to Tool :	**0.7 s**
Chip to Chip :	**1.4 s**

Tool stocker handling time[4]	
Shortest (1 tool)	**Approx. 5 s[5]**
All tool change (28 tools)	**Approx. 140 s**

[4]. Handling time varies depending on the tool attachment position.
[5]. Time for the tool at spindle position to be moved and changed with a tool in the tool stocker and for this tool to return to spindle position.
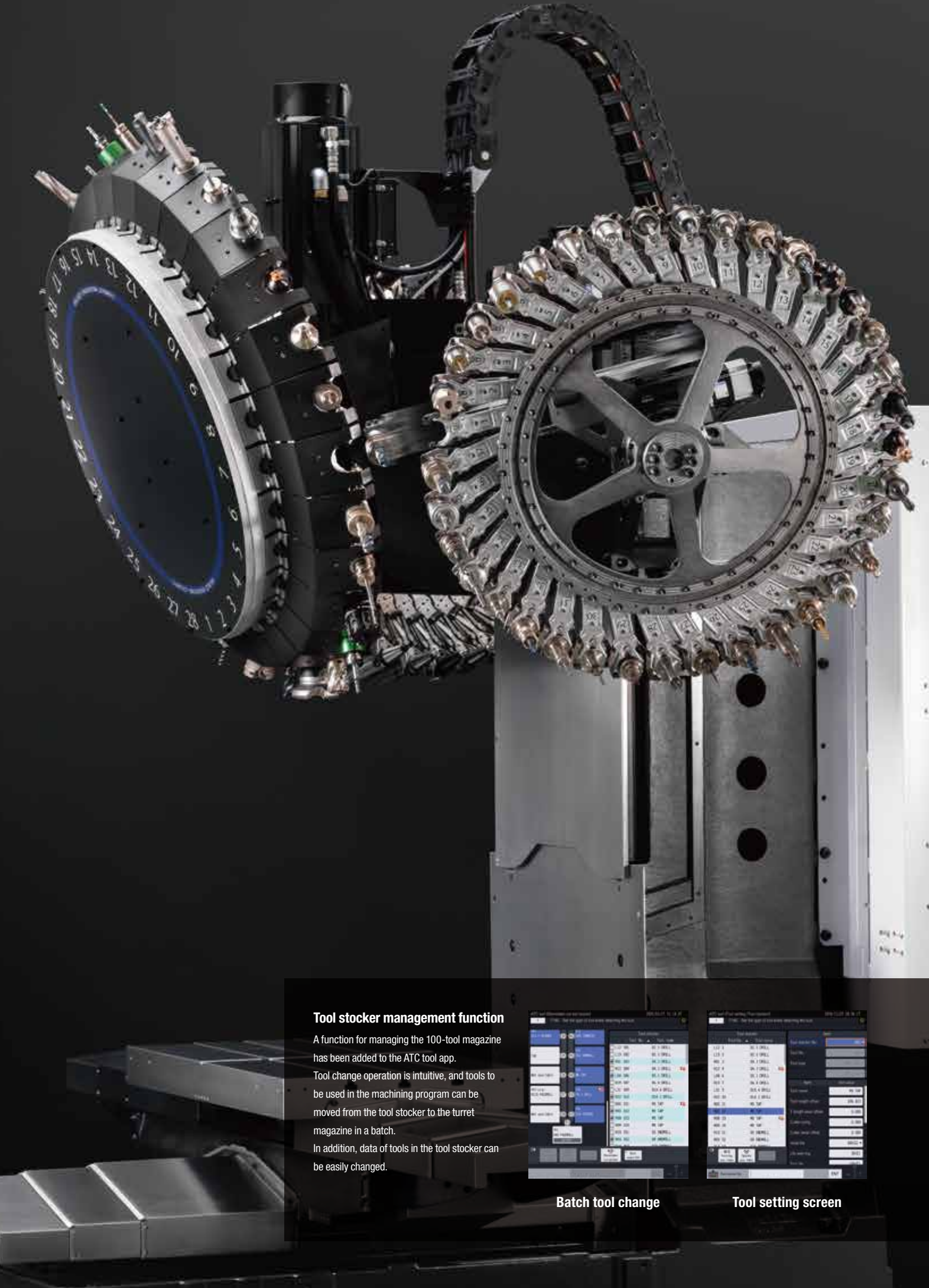
Tool stocker management function

A function for managing the 100-tool magazine has been added to the ATC tool app.

Tool change operation is intuitive, and tools to be used in the machining program can be moved from the tool stocker to the turret magazine in a batch.

In addition, data of tools in the tool stocker can be easily changed.

Batch tool change   Tool setting screen

100-tool magazine[*1] and ample jig area increase efficiency of high-mix small-lot production and reduce manpower

In high-mix small-lot production, the magazine that can store up to 100 tools and ample jig area improve production efficiency and reduce manpower.

*1. Mounted only on the S700Xd2-100T. Conversation language not available on the S700Xd2-100T.

100-tool magazine + Ample jig area

For high-mix small-lot workpieces, the 100-tool magazine eliminates the need for frequent tool changes, and the ample jig area enables multiple jigs to be mounted. These features significantly improve the efficiency of high-mix small-lot production.

Example of high-mix workpieces
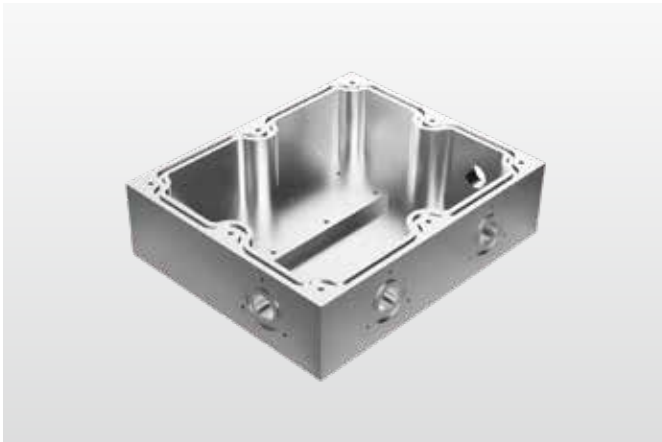
Relay box

Example of jig mounting for three types of workpieces
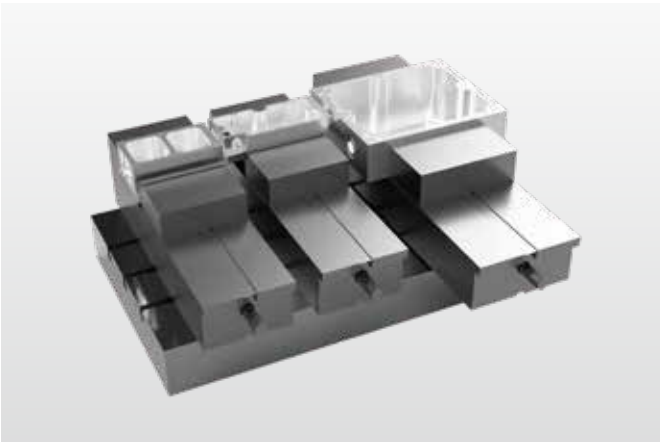
Making automation and manpower saving easier

Side shutter (optional)

Assuming loading/unloading of workpieces from the side by robots, a side shutter has been prepared to make automation easier.

* A safety fence is required. Cannot be selected for the S300Xd2.

Chip conveyor (optional)

Two types of chip conveyors are available: scraper type and hinge + scraper type.

* Chip conveyors can only be selected for the S700Xd2-100T.
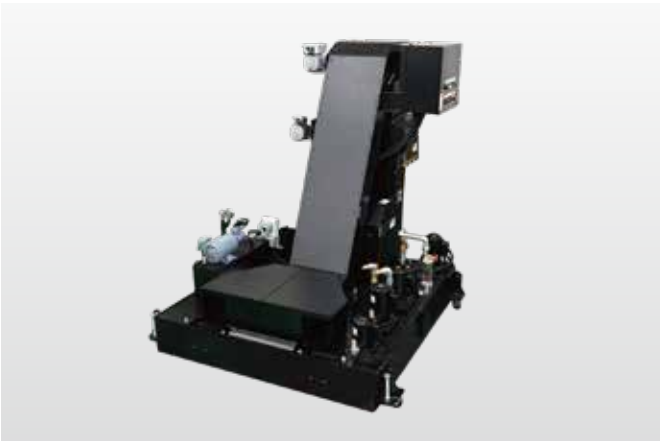
SPEEDIO
Blue Technology

Eliminating waste elements at production sites leads to reduction in greenhouse gas emissions, such as carbon dioxide and methane.
Brother's optimal and compact design reduces wasted time, resources, and energy during parts machining.

We are striving to reduce environmental impact by conducting product life cycle assessment, which quantitatively evaluates environmental impact at each stage of production, transportation, use, disposal, and recycling.

Fiscal 2024
Energy Conservation Grand Prize
(Product & Business Model Category)
Sponsor: The Energy Conservation Center, Japan

S300Xd2, S500Xd2, S700Xd2
(S700Xd2-100T excluded)

SPEEDIO Blue Technology Solves Four Waste Elements at Production Sites

Wasted time reduction
Wasted time is reduced by minimizing non-cutting time in the machining cycle time and reducing setup time and downtime.

Wasted resource reduction
Wasted recourses are reduced by using machining adjustment support that prevents cutting defects and production support such as real-time monitoring.

Wasted energy reduction
Optimal design eliminates all waste, including excessive power consumption and air flowrate, achieving industry-leading energy-saving performance.

Wasted installation space reduction
Compact design reduces wasted space with less restrictions on installation locations.

Wasted energy reduction

Saving power
New functions, including chip shower energy savings operation, energy savings mode, and machining support without warmup, have been incorporated to significantly reduce power consumption, compared to the previous model. Together with various energy-saving technologies, such as power regeneration and highly efficient spindle motors, power consumption is overwhelmingly low.
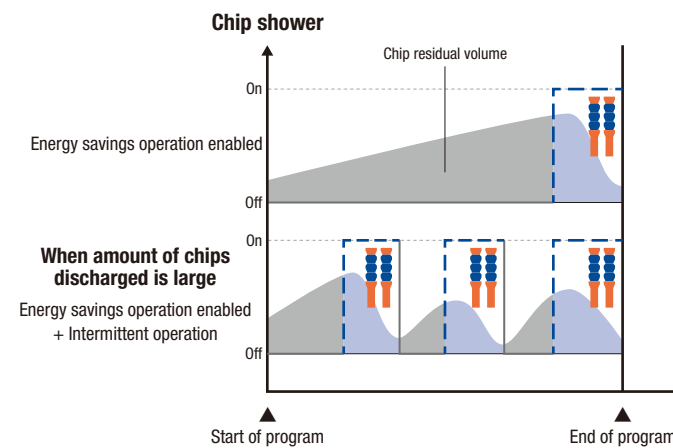
Approx. 30% less

Power consumption per cycle

S500 Xd1　**S500**Xd2
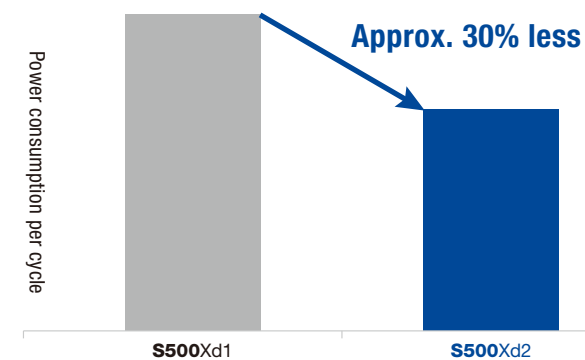
Power consumption 30% less than previous model

* Values taken by running sample program created by Brother with "chip shower energy savings operation" enabled

Energy savings mode
Added a function to turn on/off energy-saving functions simultaneously. Items to be turned on/off can be customized.

ON | ON | ON | ON | ON
CLT.P | CHP.F | | | DSP OFF

Energy saving

OFF | OFF | OFF | OFF | OFF
CLT.P | CHP.F | | | DSP OFF

Energy savings mode enabled

Work light, coolant pump, etc. are turned off simultaneously.

- Standby mode
- Coolant pump
- Chip shower
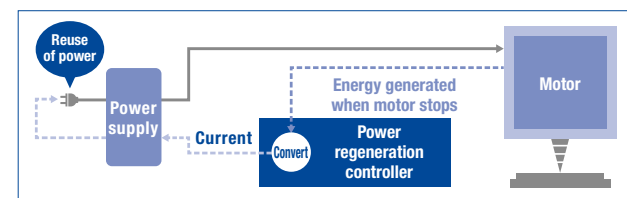- Work light
- Display off

Can be customized

Chip shower energy savings operation
This function controls the on/off timing of the chip shower pump. Operation is switched via parameters according to the amount of chips discharged, contributing to energy saving for chip shower pumps that consume significant amounts of power.

Chip shower

Chip residual volume

On
Energy savings operation enabled
Off

On
When amount of chips discharged is large
Energy savings operation enabled + Intermittent operation
Off

Start of program　End of program

Power regeneration system
Equipped with a power regeneration system that recycles energy generated when a servo motor decelerates.

Reuse of power

Power supply | Current | Convert | Power regeneration controller | Motor

Energy generated when motor stops

Power consumption app
Servomotors, pumps, and other equipment are grouped and displayed according to purpose. Calculation is possible for each cycle.
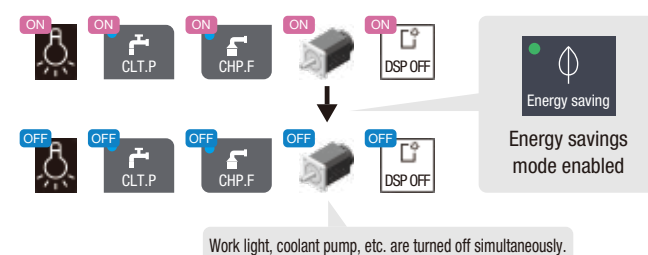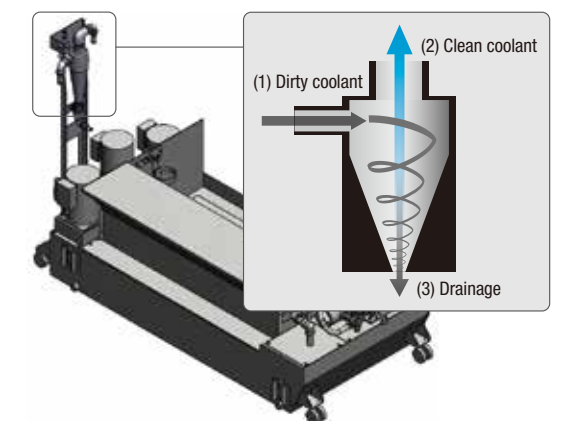
Highly efficient spindle motor
Energy-saving pump
LED work light

Saving air
Air purge, spindle air blow, and other air-related functions have been reviewed and optimized to eliminate any waste. Compared to the previous model, air consumption is significantly reduced while maintaining reliability.

Approx. 20% less

Air consumption per cycle

S500 Xd1　**S500**Xd2
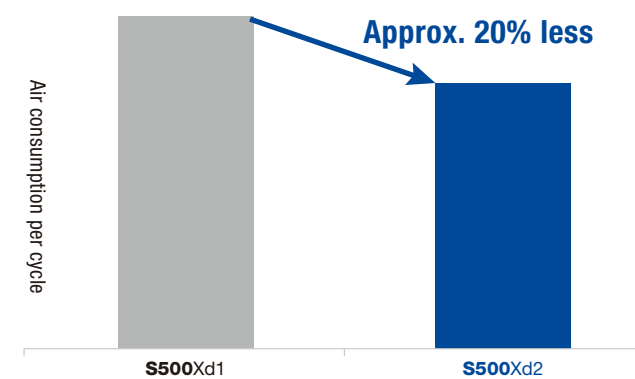
Air consumption 20% less than previous model

* Values taken by running sample program created by Brother

Air purge
Reinforced the labyrinth structure on the spindle end face to reduce air consumption.
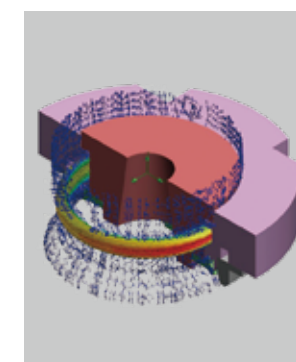
Air flowrate analysis of spindle end face

Spindle air blow
Optimized the air blow start/stop timing during tool change to reduce air consumption.

Wasted resource reduction

Tank with cyclone filter and no consumables (special option for CTS)
Clean coolant is returned to the clean tank through another tank with a cyclone filter that removes fine chips.
Coolant is kept clean this way to reduce the filter change frequency and extend the service life of the pump.

(1) Dirty coolant
(2) Clean coolant
(3) Drainage
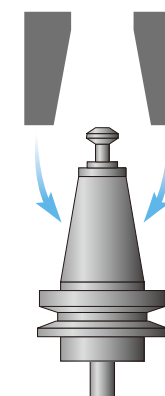
Automatic oil/grease lubricator that optimizes consumption (optional)
Consumption amount and timing are optimized by the automatic oil/grease lubricator. Oil mixing with coolant can be minimized.

Automatic oil lubricator　Automatic grease lubricator

Coolant tank
Can be selected from 50L, 100L, 150L, or 200L according to the purpose.
If you need a CTS spec. higher than 1.5 MPa, this will be custom-built.

Chip conveyor
Two types of chip conveyors are available: scraper type and hinge + scraper type.

Coolant Through Spindle (CTS)
Can be selected from 3.0 MPa or 7.0 MPa. Pump and tank are not included.

Column coolant nozzle
Powerfully removes chips on and around the workpiece to prevent chips building up.

Head coolant nozzle
Coolant can reliably be applied to the machining section as the tool and nozzles are set in place.

Chip shower
Chip shower piping is 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.

Tool cleaning system
High discharge pressure and flowrate powerfully removes chips stuck to the holder. Two types are available: air-assisted type and direct pump type where coolant is discharged directly from the CTS pump.
* The direct pump type can only be selected for CTS specifications.

Fixture shower valve unit
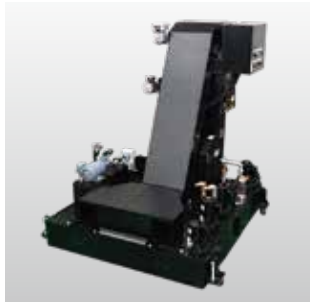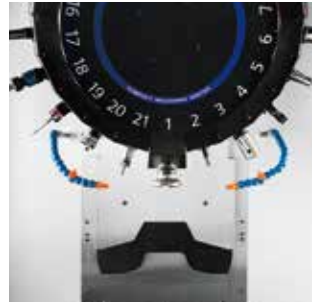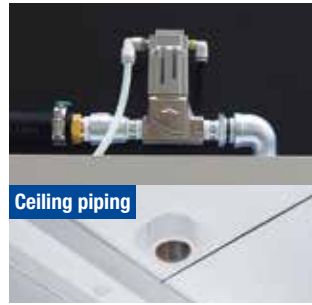Consists of jig washing valves and piping to the ceiling of the machine. Piping from the machine to the required location must be prepared by customers.

Ceiling piping

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

High column (150 mm, 250 mm)
150 mm and 250 mm high columns are available to meet customer's needs.

Top cover
Shutting the opening on the top prevents coolant or chips splashing outside of the machine. A hole for the mist collector is provided.

Side cover with transparent window
External light is drawn in to make the inside of the machine brighter and improve visibility.
* Order two covers when needed for both sides.

Work light (1 or 2 lamps)
LED lamps are used to extend lamp life and save energy.
* Installed on the right or left side of the machine.

Signal light (1, 2, or 3 lamps)
LED lamps are used. No maintenance required. Can be tilted to improve visibility.

Automatic oil lubricator
Regularly applies oil to all lubricating points on the three axes.

Automatic grease lubricator
Regularly applies grease to all lubricating points on the three axes.
* Manual greasing is required for the standard specification model.

* For the 20,000min⁻¹ coolant through spindle specifications, dry machining may not possible depending on workpiece material.
  For further details, please contact your local distributor.
* The type of coolant may have a significant influence on the machine's lifecycle. It is recommended to use high-lubricity (emulsion type) coolant.
  Do not use chemical solution type (synthetic type) coolant, as it may cause damage to the machine.
* When using CTS (Coolant Through Spindle) function, do not use flammable coolant (ex. oil-based type).

Automatic door with switch panel 10 holes
A motor-driven door is used, achieving smooth operation.

Area sensor
Optical area sensors are used. Use area sensors to prevent operators being caught in the automatic door.

Side shutter
Assuming loading/unloading of workpieces from the side by robots, a side shutter has been prepared to make automation easier.
* A safety fence is required.

Switch panel (8 holes or 10 holes)
Various switches, such as automatic door open/close switches, are set in specific locations. The switch panel (8 holes) is also available so that the position of the manual pulse connector can be changed.

Manual pulse generator
A cable is provided for the manual pulse generator, making setup easier. Equipped with emergency stop and enable switches.

Tool breakage detector, touch type
A touch switch type tool breakage detector is available.
* Cannot be used for tool length measurement.

Rotary table T-200Ad
Reduction in the body width secures a wider jig area. Use of the roller gear cam mechanism achieves high productivity, high accuracy, and extended service life.
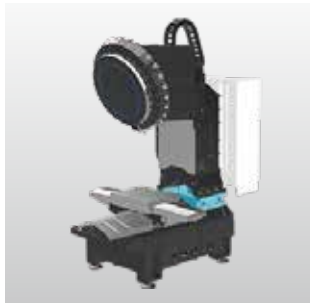
Spindle override
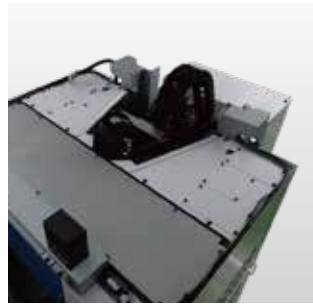Spindle speed can be changed without changing the program.

Master on circuit
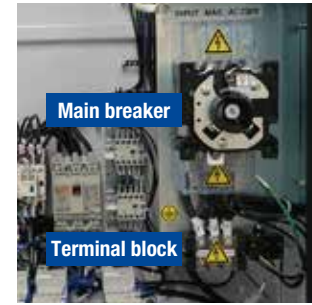Master on circuit and switch can be attached.
* A switch panel (8 holes or 10 holes) is required separately.

Data protection switch, key type
Changing the operation level is enabled or disabled by the key.

Power supply expansion 50A
The capacity of the main breaker can be increased from 30A to 50A. The size of the relevant wiring increases accordingly. A terminal block for external equipment power supply is provided under the main breaker.

Main breaker

Terminal block

Origin alignment mark
Aligning X/Y/Z-axes origin alignment marks clearly indicates home positions.

● Coolant tank
  1) Coolant tank, 50L *4
  2) Coolant tank, 100L *4
  3) Coolant tank, 150L
  4) Coolant tank, 150L for 1.5 MPa CTS pump with cyclone filter
  5) Coolant tank, 200L for 1.5 MPa CTS pump with cyclone filter *5
  6) Chip conveyor tank, 360L scraper type *6
  7) Chip conveyor tank, 360L scraper type
     for 1.5 MPa CTS pump with cyclone filter *6
  8) Chip conveyor tank, 415L hinge + scraper type *6
  9) Chip conveyor tank, 415L hinge + scraper type
     for 1.5 MPa CTS pump with cyclone filter *6
● Coolant through spindle (CTS) piping, Max. 3.0 MPa
● Coolant through spindle (CTS) piping, Max. 7.0 MPa
● Column coolant nozzle *4
● Head coolant nozzle
● Chip shower
● Tool cleaning system
● Fixture shower valve unit
● Cleaning gun
● Mesh basket for collecting chips (2 pcs.)
● High column (150 mm, 250 mm)
● Top cover
● Side cover with transparent window, single side
● Folding door (two-door)
● Work light (1 lamp for right side, 1 lamp for left side)
● Signal light (1, 2, or 3 lamps)

● Automatic oil lubricator
● Automatic grease lubricator
● Automatic door with switch panel 10 holes
● Area sensor
● Side shutter *5
● Switch panel (8 holes or 10 holes)
● Manual pulse generator with enable switch
● Connector and hook for manual pulse generator with enable switch
● Tool breakage detector, touch type
● Rotary table T-200Ad
● Additional axis cable (for 1 axis or 2 axes)
● RS232C 25-pin connector at control box
● Spindle override
● Master on circuit
● Data protection switch, key type
● Grip cover for 14/21/28-tool magazine
● Parts name sticker set
● Breaker handle cover
● Origin alignment mark
● 100V outlet in control box
● Power supply expansion 50A
● Transformer box
● Specified color
● Industrial network
  1) CC-Link, master station
  2) CC-Link, remote device station
  3) PROFIBUS DP, slave

  4) DeviceNet, slave
  5) PROFINET, slave
  6) EtherNet/IP, slave
● EXIO board assembly
  1) EXIO board, input 32/output 32, additional #1
  2) EXIO board, input 32/output 32, additional #2
● PLC programming software for D00
● Memory expansion 3 Gbytes *1
● High accuracy mode BII
  (Look-ahead 1,000 blocks, smooth path offset)
● Submicron command *1 *2
● Interrupt type macro
● Rotary fixture offset
● Feature coordinates setting *1 *3
● Involute interpolation

*1. Standard on the S300/S500/S700Xd2-5AX.
*2. When the submicron command is used, changing
    to the conversation language program is disabled.
*3. There are restrictions on the axis configuration.
*4. Cannot be selected for the S700Xd2-100T.
*5. Cannot be selected for the S300Xd2.
*6. Can only be selected for the S700Xd2-100T.

Machine specifications

Item			S300Xd2 / S300Xd2 RD *9 / S300Xd2-5AX / S300Xd2-5AX RD *9	S500Xd2 / S500Xd2 RD *9 / S500Xd2-5AX / S500Xd2-5AX RD *9		S700Xd2 / S700Xd2 RD *9 / S700Xd2-5AX / S700Xd2-5AX RD *9		S700Xd2-100T / S700Xd2-100T RD *9 / S700Xd2-5AX/100T / S700Xd2-5AX/100T RD *9
CNC unit			《S300/S500/S700Xd2》CNC-D00　《S300/S500/S700Xd2-5AX》CNC-D00v (DB)					
Travels	X axis	mm(inch)	300 (11.8)	500 (19.7)		700 (27.6)		700 (27.6)
	Y axis	mm(inch)	450 (17.7)					450 (17.7)
	Z axis	mm(inch)	300 (11.8)	300 (11.8)	380 (15.0)	300 (11.8)	380 (15.0)	380 (15.0)
	Distance between table top and spindle nose end	mm(inch)	180~480 (7.1~18.9)	180~480 (7.1~18.9)	150~530 (5.9~20.9)	180~480 (7.1~18.9)	150~530 (5.9~20.9)	150~530 (5.9~20.9)
Table	Work area size	mm(inch)	600 x 450 (23.4 x 17.7)			800 x 450 (31.4 x 17.7)		800 x 450 (31.4 x 17.7)
	Max. loading capacity (uniform load)	kg(lbs)	250 [300 *6] (551 [661 *6])	250 [400 *6] (551 [881 *6])				250 [400 *6] (551 [881 *6])
Spindle	Spindle speed	min⁻¹	12,000min⁻¹ specifications: 1~12,000, 10,000min⁻¹ high-torque specifications (optional): 1~10,000, 16,000min⁻¹ specifications (optional): 1~16,000, 27,000min⁻¹ specifications (optional): 1~27,000 (27,000min⁻¹ specifications cannot be selected for Z-axis 380 mm specifications models)					12,000min⁻¹ specifications: 1~12,000, 10,000min⁻¹ high-torque specifications (optional): 1~10,000, 20,000min⁻¹ specifications (optional): 1~20,000
	Speed during tapping	min⁻¹	MAX 6,000 (27,000min⁻¹ specifications: MAX 8,000)					MAX 6,000
	Tapered hole		7/24 tapered N0.30					7/24 tapered N0.30
	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(XYZ axes) m/min(inch/min)		50 x 50 x 56 (1,969 x 1,969 x 2,205)					50 x 50 x 56 (1,969 x 1,969 x 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				100 *12
	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)	110 (4.3)					Turret magazine: 110 (4.3), Tool stocker: 60 (2.3) / 110 (4.3) (No adjacent tool)
	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>					Turret magazine: 3.0 (6.6) [4.0 (8.8) *10] / tool, <Total tool weight: 35 (77.2)> Tool stocker: 4.0 (8.8) / tool, <Total tool weight: 50 (110.2)>
	Tool selection method		Random shortcut method					Random shortcut method
Tool change time *5	Tool To Tool	sec	0.6 / 0.7 (14 or 21 tools / 28 tools)					0.7 *13
	Chip To Chip	sec	Z-axis 300 mm specifications: 1.2 / 1.3 (14 or 21 tools / 28 tools)　Z-axis 380 mm specifications: 1.3 / 1.4 (14 or 21 tools / 28 tools)					1.4 *13
Electric motor	Main spindle motor (10min/continuous) *2	kW	12,000min⁻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, 27,000min⁻¹ specifications (optional): 8.9/6.3					12,000min⁻¹ specifications: 10.1/7.0, 10,000min⁻¹ high-torque specifications (optional):12.8/9.2, 20,000min⁻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		200 to 230 VAC ±10%, 3phase, 50/60Hz±2%					200 to 230 VAC ±10%, 3phase, 50/60Hz±2%
	Power capacity (continuous)	kVA	12,000min⁻¹ specifications: 9.5,　10,000min⁻¹ high-torque specifications (optional): 10.4, 16,000min⁻¹ specifications (optional): 9.5,　27,000min⁻¹ specifications (optional): 9.5					12,000min⁻¹ specifications: 9.5, 10,000min⁻¹ high-torque specifications (optional): 10.4, 20,000min⁻¹ specifications (optional): 9.5
	Air supply	Regular air pressure MPa	0.4~0.6 (recommended value 0.5MPa *8)					0.4~0.6 (recommended value 0.5MPa *8)
		Required flow L/min	40 (27,000min⁻¹ specifications: 115)					40
Machine dimensions	Height	mm(inch)	Z-axis 300 mm specifications: 2,529 (99.6)　Z-axis 380 mm specifications: 2,568 (101.1)					2,568 (101.1)
	Required floor space *11 [with control unit door open]	mm(inch)	1,080 x 2,161 [2,999] (42.5 x 85.1 [118.1])	1,560 x 2,081 [2,919] (61.4 x 81.9 [114.9])		2,050 x 2,081 [2,919] (80.7 x 81.9 [114.9])		2,050 x 2,081 [2,919] (80.7 x 81.9 [114.9])
	Weight [with BV7-870Ad] kg(lbs)		2,350 (5,181) [2,650 (5,843)]	2,400 (5,292) [2,700 (5,953)]		2,550 (5,622)		2,700 (5,953)
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					
Standard accessories			Instruction Manual (DVD 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. 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 indexing time will change.) Max. tool weight 4.0 kg can be available for the 27,000 min⁻¹ specifications. *11. The value does not include the coolant tank. *12. Value for turret magazine plus tool stocker *13. Value for turret magazine

● Please read the instruction manuals and safety manuals before using Brother products for your own safety.
　When using oil-based coolant or when machining materials which can cause a fire (ex. magnesium, resin), customers are requested to take thorough safety measures against fire.
　The types of cutting material, cutting tools, coolant, or lubrication oil may have an influence on the machine's lifecycle.
　For further questions, please contact your local distributor.
● Leave 700 mm between machines as maintenance space.
● When exporting our machine together with additional 1-axis rotary table or compound rotary table (including cases where a rotary table is scheduled to be installed overseas), or exporting the S300/S500/S700Xd2-5AX, the machine is deemed to be included in the "applicable listed items" controlled by the Foreign Exchange and Foreign Trade Act 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 cases where 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, or exporting the S300/S500/S700Xd2-5AX, 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, a procedure to activate the axis of the 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 you obtain an export license for the machine together with compound rotary table before shipment.

NC unit specifications

	《S300Xd2/S500Xd2/S700Xd2》
CNC model	CNC-D00
Control axes	5 axes (X, Y, Z, 2 additional axes)
Simultaneously controlled axes (Positioning)	5 axes (X, Y, Z, 2 additional axes)
Simultaneously controlled axes (Interpolation)	Linear: 4 axes (X, Y, Z, 1 additional axis)
	Circular: 2 axes
	Helical/Conical: 3 axes (X, Y, Z)
Least input increment	0.001 mm, 0.0001 inch, 0.001 deg.
Max. programmable dimension	±999999.999 mm, ±99999.9999 inch
Display	15-inch color LCD touch display
Memory capacity	500 Mbytes, 3 Gbytes (optional) (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 language (changed by parameter) Conversion from conversation language program to NC language program available * Only NC language available on the S700Xd2-100T. Conversation language not available

	《S300Xd2-5AX/S500Xd2-5AX/S700Xd2-5AX》
CNC model	CNC-D00v (DB)
Control axes	5 axes (X, Y, Z, 2 additional axes)
Simultaneously controlled axes (Positioning)	5 axes (X, Y, Z, 2 additional axes)
Simultaneously controlled axes (Interpolation)	Linear: 5 axes (X, Y, Z, 2 additional axes)
	Circular: 2 axes
	Helical/Conical: 4 axes (3 linear axes + 1 additional axis, 2 linear axes + 2 additional axes)
Least input increment	0.0001 mm, 0.00001 inch, 0.0001 deg.
Max. programmable dimension	±999999.9999 mm, ±99999.99999 inch
Display	15-inch color LCD touch display
Memory capacity	3 Gbytes (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 language not available

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

NC functions

| Operation	Dry run	Monitoring	Machining load monitoring		Standby mode		External sub program call
	Machine lock		ATC tool monitoring		Automatic coolant off		Macro
	Program restart		Overload prediction		Automatic work light off		Tape operation / FTP load operation
	Rapid traverse override		Waveform display /		Chip shower off delay		Multiple skip function
	Cutting feed override		Waveform output to memory card		Chip shower energy savings		<Optional>
	Background editing		Automatic thermal distortion		operation		Submicron command *2 *5
	Screen shot		compensation (X, Y, and Z axes)		Energy savings mode		Interrupt type macro
	Operation level		Production performance display	Support apps	Adjust machine parameters		Rotary fixture offset
	External input signal key		Tool life / Spare tool		ATC tool		Feature coordinates setting *3 *5
	Shortcut key		Stuck chips detection function		Tool life		Involute interpolation
	<Optional>	Maintenance	Tap return function		Waveform display	Functions limited to conversation language *6	Operation program
	Spindle override		Status log		Production performance		Schedule program
Programming	Absolute / Incremental		Alarm log		Power consumption		Automatic tool selection
	Inch / Metric		Operation log		Recovery support		Automatic cutting condition setting
	Coordinate system setting		Maintenance notice		Inspection		Automatic tool length compensation setting
	Corner C / Corner R		Motor insulation resistance		PLC		Automatic cutter compensation setting
	Rotational transformation		measurement		Machining support without warmup		Automatic calculation of unknown number input
	Synchronized tap		Tool cleaning filter with filter clogging detection	Accessories	File viewer		Machining order control
	Subprogram		Battery-free encoder		Notebook		
	Graphic display		Brake load test		Calculator		
Measurement	Automatic workpiece measurement *1	Automatic / Network	Computer remote		Register shortcut		
	Tool length measurement		OPC UA		Display off		
High speed and high accuracy	Machining parameter adjustment		Auto notification	Functions limited to NC language	Menu programming		
	High accuracy mode AIII		Built-in PLC (LD/ST/FBD)		Local coordinate system		
	High accuracy mode BI (look-ahead 160 blocks)		<Optional>		Expanded workpiece coordinate system		
	Backlash compensation		CC-Link, master station		One-way positioning		
	Tool center point control *3 *4 (Look-ahead 1,000 blocks)		CC-Link, remote device station		Inverse time feed		
	<Optional>		PROFIBUS DP, slave		Programmable data input		
	High accuracy mode BII (Look-ahead 1,000 blocks, smooth path offset)		DeviceNet, slave		Tool length compensation		
			PROFINET, slave		Cutter compensation		
			EtherNet/IP, slave		Scaling		
		Energy saving	Automatic power off		Mirror image		

*1. Measuring instrument needs to be prepared by users. *2. When the submicron command is used, changing to the conversation language program is disabled. *3. There are restrictions on the axis configuration. *4. Available only on the S300/S500/S700Xd2-5AX. *5. Standard on the S300/S500/S700Xd2-5AX. *6. Conversation language not available on the S300/S500/S700Xd2-5AX.

Machining capability

		ADC	Cast iron	Carbon steel
Drilling	12,000min⁻¹	D32 x 0.2 (1.26 x 0.008)	D28 x 0.15(1.10 x 0.006)	D25 x 0.1 (0.98 x 0.004)
	10,000min⁻¹ high-torque	D40 x 0.2 (1.57 x 0.008) D30 x 0.7 (1.18 x 0.028)	D34 x 0.15 (1.34 x 0.006) D26 x 0.4 (1.02 x 0.016)	D30 x 0.15 (1.18 x 0.006) D26 x 0.25 (1.02 x 0.010)
Tool diameter mm(inch) x Feed mm(inch)/rev	16,000/20,000min⁻¹	D24 x 0.2 (0.94 x 0.008)	D23 x 0.15 (0.91 x 0.006)	D18 x 0.1 (0.71 x 0.004)
	27,000min⁻¹	D20 x 0.2 (0.79 x 0.008)	D19 x 0.15 (0.75 x 0.006)	D18 x 0.1 (0.71 x 0.004)
Tapping	12,000min⁻¹	M27 x 3.0 (1-8UNC)	M27 x 3.0 (1-8UNC)	M22 x 2.5 (7/8-9UNC)
	10,000min⁻¹ high-torque	M39 x 4.0 (11/2-6UNC)	M33 x 3.5 (11/4-7UNC)	M27 x 3.0 (1-8UNC)
Tool diameter mm(inch) x Pitch mm(inch)	16,000/20,000min⁻¹	M22 x 2.5 (7/8-9UNC)	M22 x 2.5 (7/8-9UNC)	M16 x 2.0 (5/8-11UNC)
	27,000min⁻¹	M22 x 2.5 (7/8-9UNC)	M20 x 2.5 (3/4-10UNC)	M12 x 1.75 (7/16-14UNC)
Facing	12,000min⁻¹	1,200: 100 x 4.0 x 3,000 (73.2: 3.94 x 0.16 x 118.1)	137: 40 x 6.0 x 573 (8.4: 1.57 x 0.24 x 22.6)	100: 40 x 5.2 x 484 (6.1: 1.57 x 0.20 x 19.1)
	10,000min⁻¹ high-torque	1,920: 100 x 6.4 x 3,000 (117.2: 3.94 x 0.25 x 118.1)	303: 40 x 6.0 x 1,263 (18.5: 1.57 x 0.24 x 49.7)	256: 40 x 6.0 x 1,067 (15.6: 1.57 x 0.24 x 42.0)
Cutting amount cm³/min (inch³/min) Cutting width mm(inch) x Cutting depth mm(inch) x Feed rate mm(inch)/min	16,000/20,000min⁻¹	960: 100 x 3.2 x 3,000 (58.6: 3.94 x 0.13 x 118.1)	83: 40 x 3.6 x 573 (5.1: 1.57 x 0.14 x 22.6)	54: 40 x 2.8 x 484 (3.3: 1.57 x 0.11 x 19.1)
	27,000min⁻¹	600: 100 x 2.0 x 3,000 (36.6: 3.94 x 0.08 x 118.1)	45: 40 x 2.0 x 573 (2.7: 1.57 x 0.08 x 22.6)	30: 40 x 1.6 x 484 (1.8: 1.57 x 0.06 x 19.1)

* Data obtained from tests conducted by Brother.
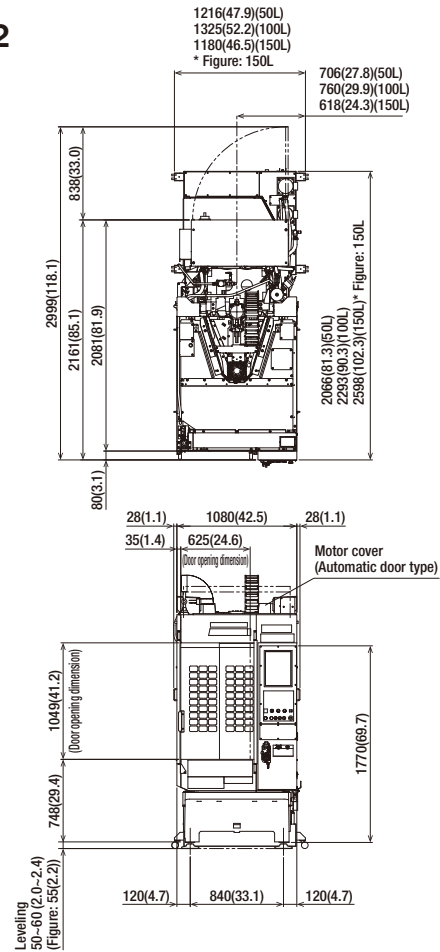
S300Xd2
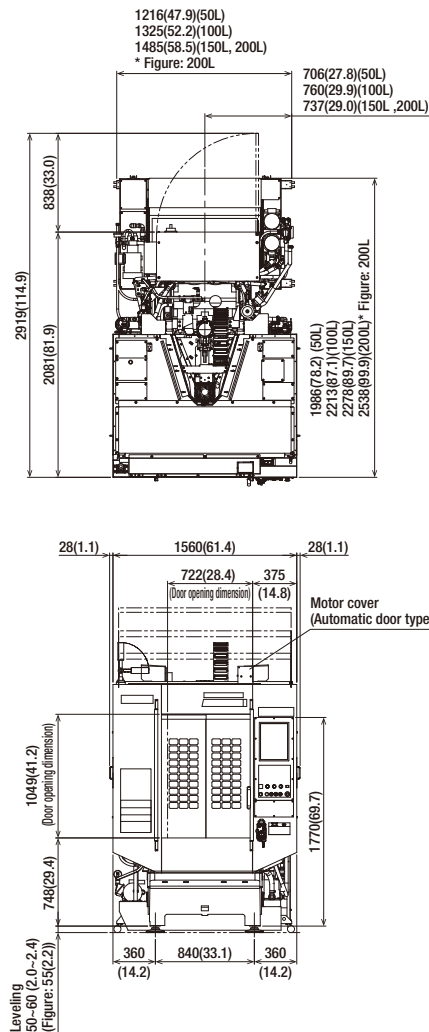
* Please check the external views or interference diagrams provided by Brother when designing jigs or checking for interference.
* Chip conveyors can be selected only for the S700Xd2-100T.
* 150L and 200L coolant tanks can be selected for the S700Xd2-100T, but 50L and 100L cannot be selected.

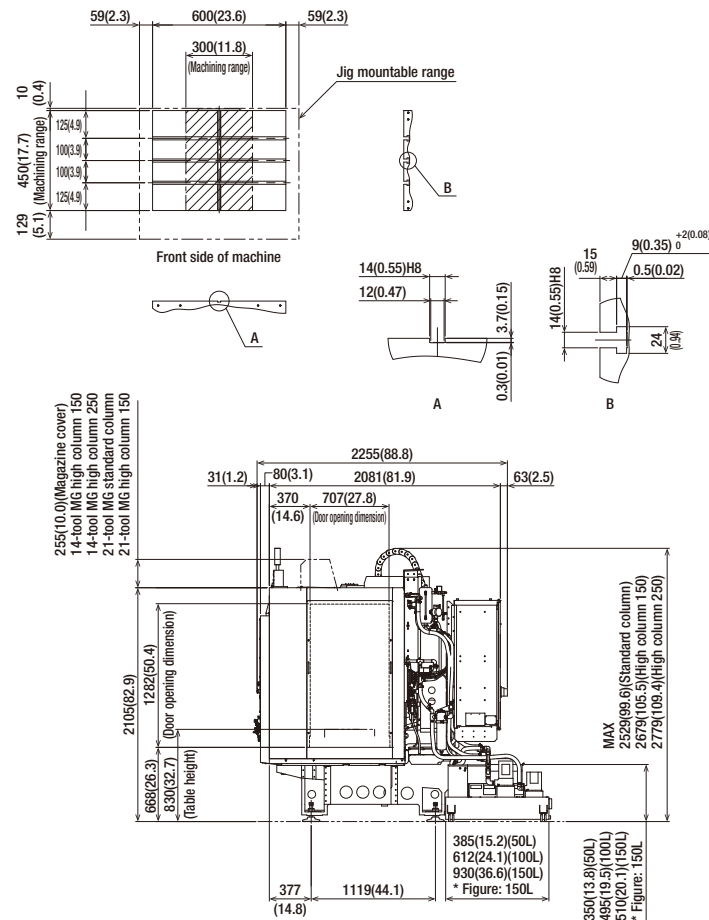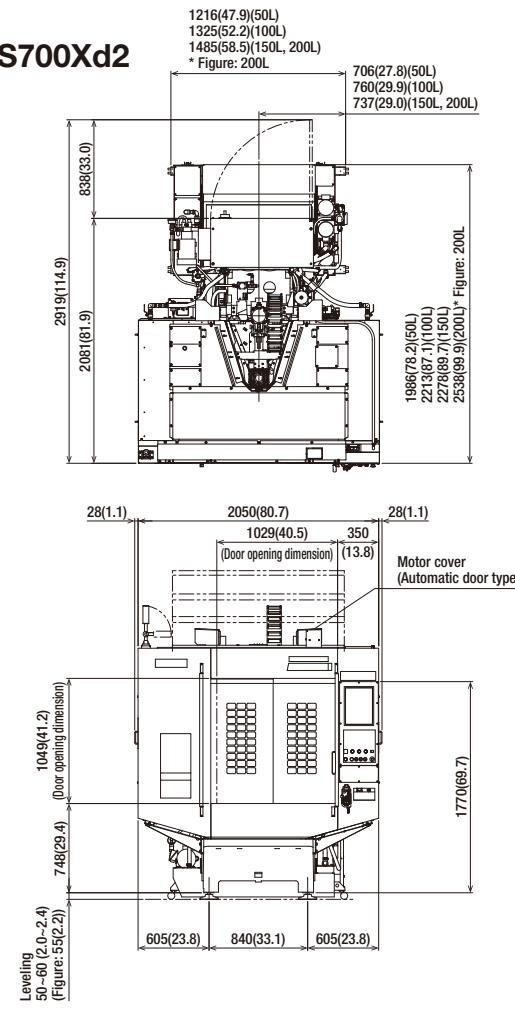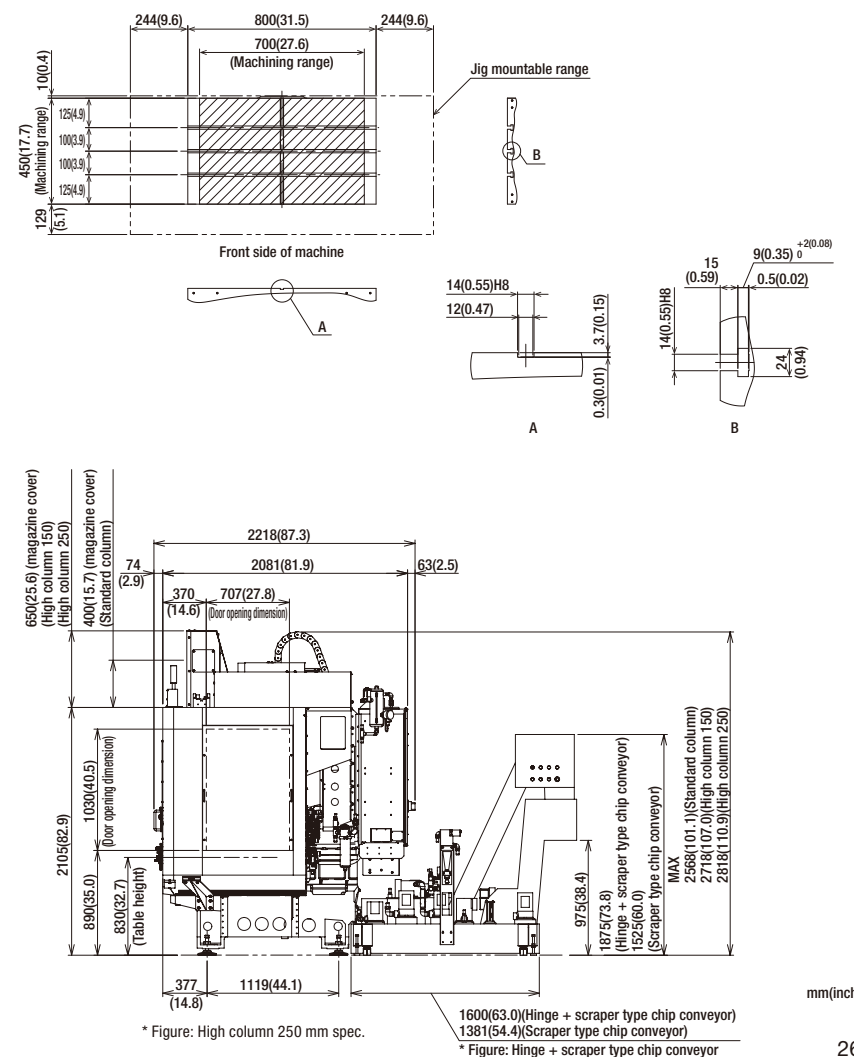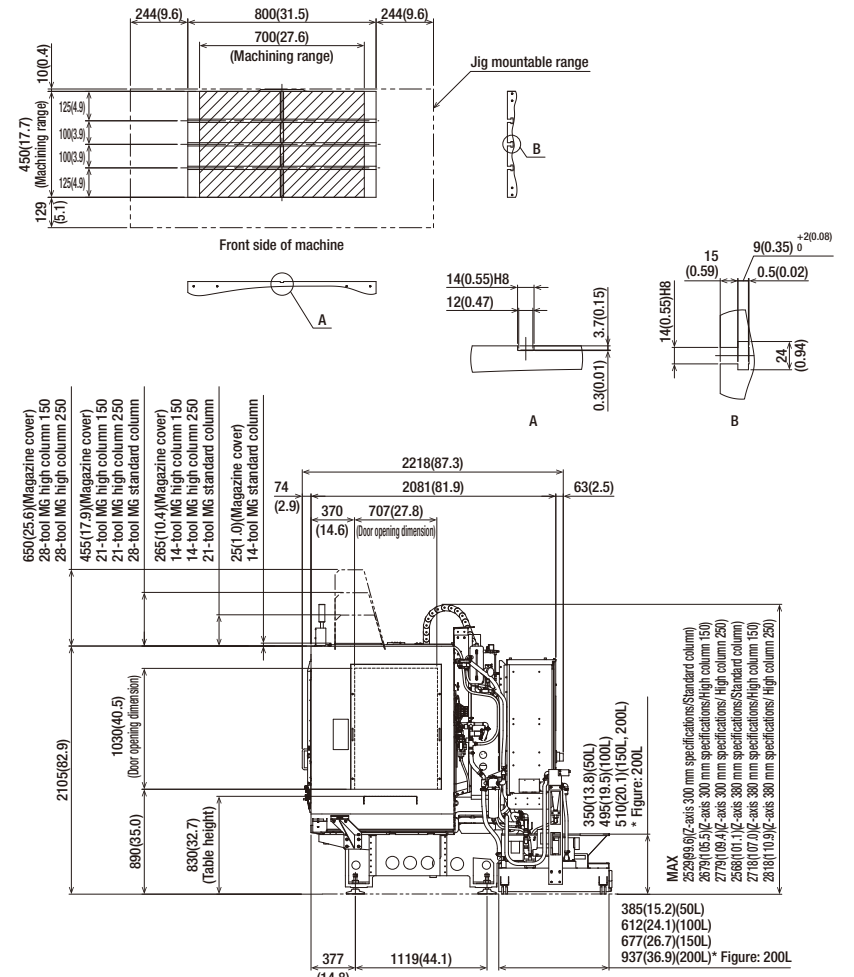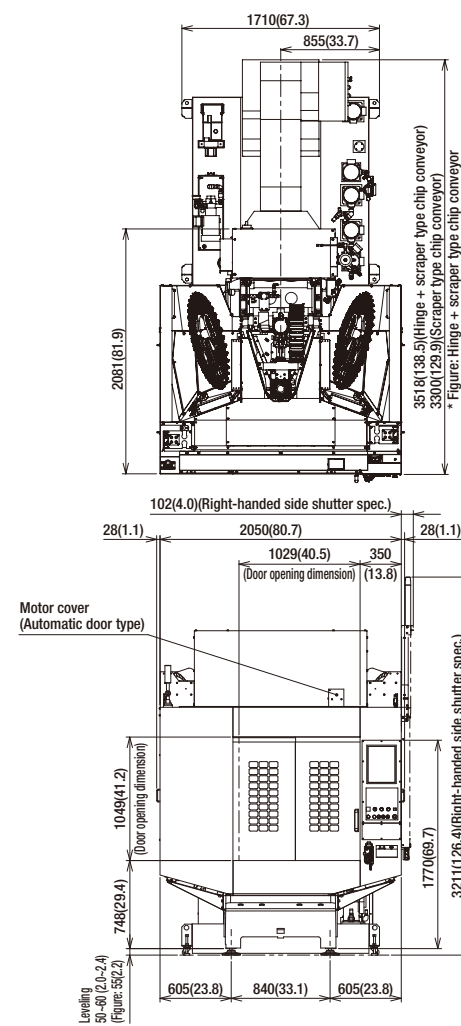1216(47.9)(50L)
1325(52.2)(100L)
1180(46.5)(150L)
* Figure: 150L

706(27.8)(50L)
760(29.9)(100L)
618(24.3)(150L)

838(33.0)
2999(118.1)
216(8.5)
2081(81.9)
2066(81.3)(50L)
2293(90.3)(100L)
2598(102.3)(150L)* Figure: 150L
803(31.1)

59(2.3) 600(23.6) 59(2.3)
300(11.8)
(Machining range)
Jig mountable range
Front side of machine

450(17.7)
(Machining range)
124(4.9)
1003.9)
1003.9)
124(4.9)
129(5.1)
10(0.4)

14(0.55)H8
12(0.47)
3.7(0.15)
0.3(0.01)
A
9(0.35) +2(0.08)
0.5(0.02)
14(0.55)H8
24(0.94)
B

28(1.1) 1080(42.5) 28(1.1)
35(1.4) 625(24.6)
Door opening dimension
Motor cover
(Automatic door type)

1049(41.2)
Door opening dimension
748(29.4)
1770(69.7)

120(4.7) 840(33.1) 120(4.7)
Leveling 50~60 (2.0~2.4)
(Figure: 55(2.2))

2255(88.8)
31(1.2) 80(3.1) 2081(81.9) 63(2.5)
370 707(27.8)
(14.6) Door opening dimension

255(10.0)(Magazine cover)
14-tool MG high column 150
14-tool MG high column 250
21-tool MG standard column
21-tool MG high column 150

1282(50.4)
668(26.3)
830(32.7)
(Table height)
2105(82.9)
Door opening dimension

MAX
2529(99.6)(Standard column)
2679(105.5)(High column 150)
2779(109.4)(High column 250)

385(15.2)(50L)
612(24.1)(100L)
930(36.6)(150L)
510(20.1)(150L)
* Figure: 150L

377 1119(44.1)
(14.8)

350(13.8)(50L)
495(19.5)(100L)

S500Xd2

1216(47.9)(50L)
1325(52.2)(100L)
1485(58.5)(150L, 200L)
* Figure: 200L

706(27.8)(50L)
760(29.9)(100L)
737(29.0)(150L, 200L)

838(33.0)
2919(114.9)
2081(81.9)
1986(78.2)(50L)
2213(87.1)(100L)
2278(89.7)(150L)
2538(99.9)(200L)* Figure: 200L

199(7.8) 600(23.6) 199(7.8)
500(19.7)
(Machining range)
Jig mountable range
Front side of machine

450(17.7)
(Machining range)
124(4.9)
1003.9)
1003.9)
124(4.9)
129(5.1)
10(0.4)

14(0.55)H8
12(0.47)
3.7(0.15)
0.3(0.01)
A
9(0.35) +2(0.08)
0.5(0.02)
14(0.55)H8
24(0.94)
B

28(1.1) 1560(61.4) 28(1.1)
722(28.4) 375
Door opening dimension (14.8)
Motor cover
(Automatic door type)

1049(41.2)
Door opening dimension
748(29.4)
1770(69.7)

360 840(33.1) 360
(14.2) (14.2)
Leveling 50~60 (2.0~2.4)
(Figure: 55(2.2))

650(25.6)(Magazine cover)
28-tool MG high column 150
28-tool MG high column 250
21-tool MG high column 150
21-tool MG high column 250
21-tool MG standard column
265(10.4)(Magazine cover)
14-tool MG high column 150
14-tool MG high column 250
21-tool MG standard column
25(1.0)(Magazine cover)
14-tool MG high column

74(2.9)
2218(87.3)
370 2081(81.9) 63(2.5)
(14.6) 707(27.8)
Door opening dimension

1030(40.5)
Door opening dimension
2105(82.9)
890(35.0)
830(32.7)
(table height)

MAX
2529(99.6)(Standard column)
2679(105.5)(High column 150)
2779(109.4)(High column 250)
2568(101.1)(Standard column)
2718(107.0)(High column 150)
2818(110.9)(High column 250)

385(15.2)(50L)
612(24.1)(100L)
677(26.7)(150L)
937(36.9)(200L)* Figure: 200L

377 1119(44.1)
(14.8)

350(13.8)(50L)
495(19.5)(100L)
510(20.1)(150L, 200L)
* Figure: 200L

S700Xd2

1216(47.9)(50L)
1325(52.2)(100L)
1485(58.5)(150L, 200L)
* Figure: 200L

706(27.8)(50L)
760(29.9)(100L)
737(29.0)(150L, 200L)

838(33.0)
2919(114.9)
2081(81.9)
1986(78.2)(50L)
2213(87.1)(100L)
2278(89.7)(150L)
2538(99.9)(200L)* Figure: 200L

244(9.6) 800(31.5) 244(9.6)
700(27.6)
(Machining range)
Jig mountable range

450(17.7)
(Machining range)
124(4.9)
1003.9)
1003.9)
124(4.9)
129(5.1)
10(0.4)

Front side of machine

14(0.55)H8
12(0.47)
3.7(0.15)
0.3(0.01)
A
9(0.35) +2(0.08)
0.5(0.02)
14(0.55)H8
24(0.94)
B

28(1.1) 2050(80.7) 28(1.1)
1029(40.5) 350
Door opening dimension (13.8)
Motor cover
(Automatic door type)

1049(41.2)
Door opening dimension
748(29.4)
1770(69.7)

605(23.8) 840(33.1) 605(23.8)
Leveling 50~60 (2.0~2.4)
(Figure: 55(2.2))

650(25.6)(Magazine cover)
28-tool MG high column 150
28-tool MG high column 250
455(17.9)(Magazine cover)
21-tool MG high column 150
21-tool MG high column 250
28-tool MG standard column
265(10.4)(Magazine cover)
14-tool MG high column 150
14-tool MG high column 250
21-tool MG high column 150
21-tool MG standard column
25(1.0)(Magazine cover)
14-tool MG standard column

74(2.9)
2218(87.3)
370 2081(81.9) 63(2.5)
(14.6) 707(27.8)
Door opening dimension

1030(40.5)
Door opening dimension
2105(82.9)
890(35.0)
830(32.7)
(Table height)

MAX
2529(99.6)(Standard column)
2679(105.5)(High column 150)
2779(109.4)(High column 250)
2568(101.1)(Standard column)
2718(107.0)(High column 150)
2818(110.9)(High column 250)

385(15.2)(50L)
612(24.1)(100L)
677(26.7)(150L)
937(36.9)(200L)* Figure: 200L

377 1119(44.1)
(14.8)

350(13.8)(50L)
495(19.5)(100L)
510(20.1)(150L, 200L)
* Figure: 200L

S700Xd2-100T * Figure shows when chip conveyor is used.

1710(67.3)
855(33.7)

3518(138.5)(Hinge + scraper type chip conveyor)
3300(129.9)(Scraper type chip conveyor)
* Figure: Hinge + scraper type chip conveyor

2081(81.9)

244(9.6) 800(31.5) 244(9.6)
700(27.6)
(Machining range)
Jig mountable range

450(17.7)
(Machining range)
124(4.9)
1003.9)
1003.9)
124(4.9)
129(5.1)
10(0.4)

Front side of machine

14(0.55)H8
12(0.47)
3.7(0.15)
0.3(0.01)
A
9(0.35) +2(0.08)
0.5(0.02)
14(0.55)H8
24(0.94)
B

102(4.0)(Right-handed side shutter spec.)
28(1.1) 2050(80.7) 28(1.1)
1029(40.5) 350
Door opening dimension (13.8)
Motor cover
(Automatic door type)

1049(41.2)
Door opening dimension
748(29.4)
1770(69.7)
321(12.6)(Right-handed side shutter spec.)

605(23.8) 840(33.1) 605(23.8)
Leveling 50~60 (2.0~2.4)
(Figure: 55(2.2))

650(25.6) (magazine cover)
(High column 150)
(High column 250)
400(15.7) (magazine cover)
(Standard column)

74(2.9)
2218(87.3)
370 2081(81.9) 63(2.5)
(14.6) 707(27.8)
Door opening dimension

1030(40.5)
Door opening dimension
2105(82.9)
890(35.0)
830(32.7)
(Table height)

975(38.4)
1875(73.8)
(Hinge + scraper type chip conveyor)
1525(60.0)
(Scraper type chip conveyor)

MAX
2568(101.1)(Standard column)
2718(107.0)(High column 150)
2818(110.9)(High column 250)

377 1119(44.1)
(14.8)

1600(63.0)(Hinge + scraper type chip conveyor)
1381(54.4)(Scraper type chip conveyor)

* Figure: High column 250 mm spec.
* Figure: Hinge + scraper type chip conveyor

mm(inch)

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and the latest information of the base.

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