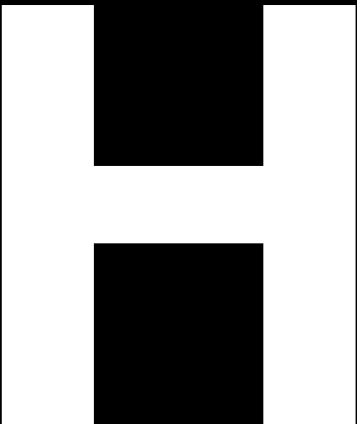


SPEEDIO

H550Xd1

Horizontal Compact Machining Center





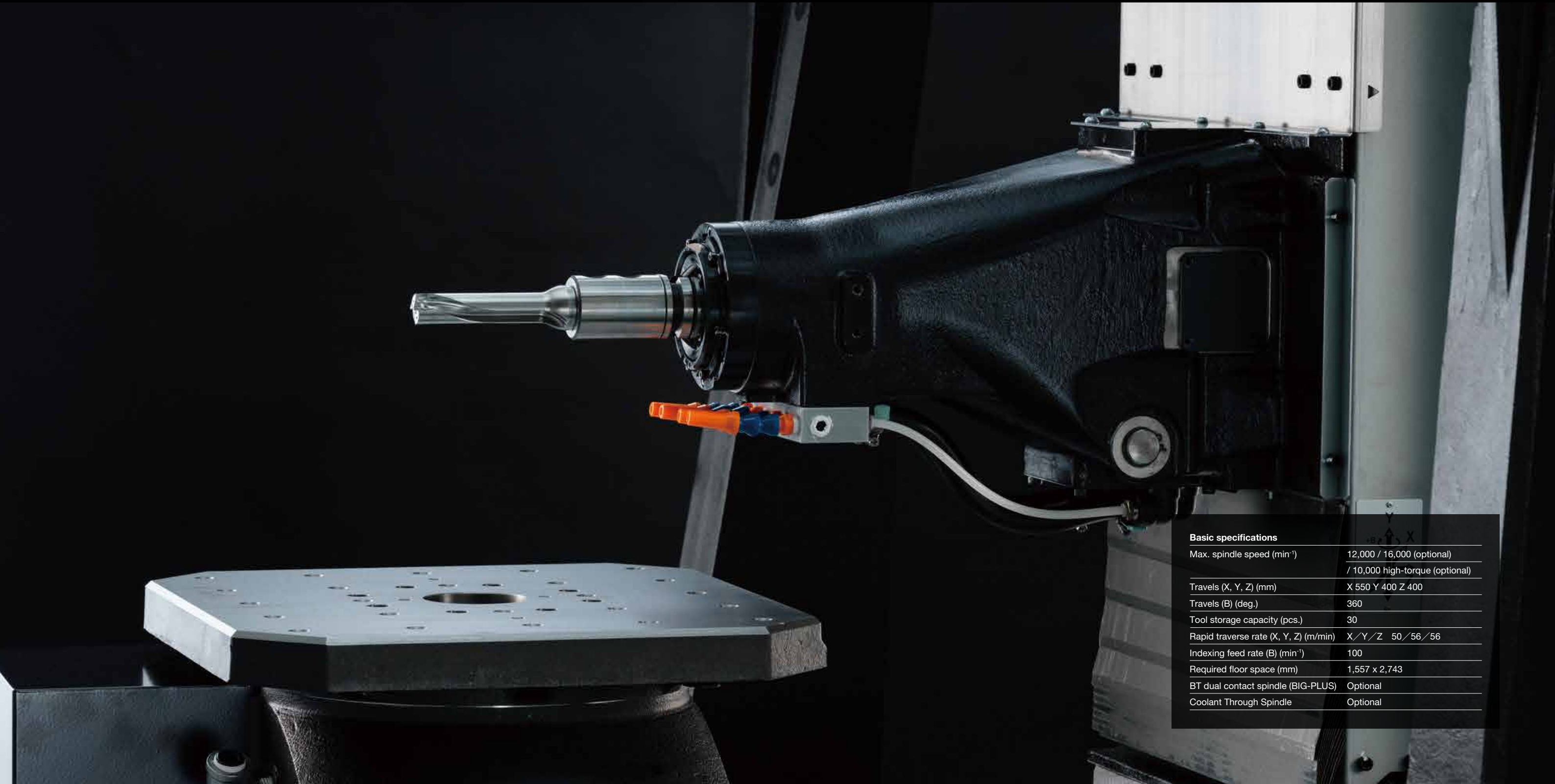
New style of SPEEDIO Horizontal Compact Machining Center now available

The H550Xd1 horizontal machining center with a BT30 spindle provides high productivity and excellent environmental performance.
Ample jig area and a newly developed 30-tool magazine enable multi-face machining of large or long workpieces.
The H550Xd1 further expands the coverage of the SPEEDIO.

Cutting Out the Waste *SPEEDIO*



H550Xd1



Basic specifications	
Max. spindle speed (min ⁻¹)	12,000 / 16,000 (optional) / 10,000 high-torque (optional)
Travels (X, Y, Z) (mm)	X 550 Y 400 Z 400
Travels (B) (deg.)	360
Tool storage capacity (pcs.)	30
Rapid traverse rate (X, Y, Z) (m/min)	X/Y/Z 50/56/56
Indexing feed rate (B) (min ⁻¹)	100
Required floor space (mm)	1,557 x 2,743
BT dual contact spindle (BIG-PLUS)	Optional
Coolant Through Spindle	Optional

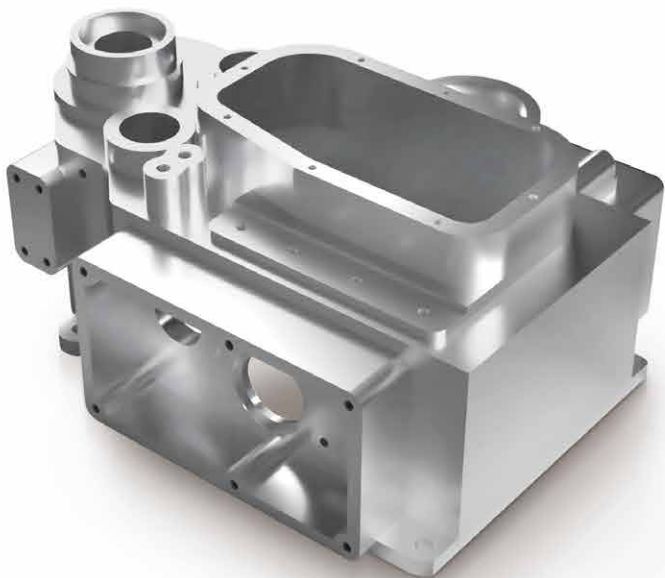
Highly efficient machining of large/long workpieces by BT30 spindle horizontal machining center

Taking advantage of the high productivity feature of the BT30 spindle horizontal machining center, the H550Xd1 achieves highly efficient machining of large or long workpieces. This machine supports a broad range of applications to further expand the coverage of SPEEDIO range.

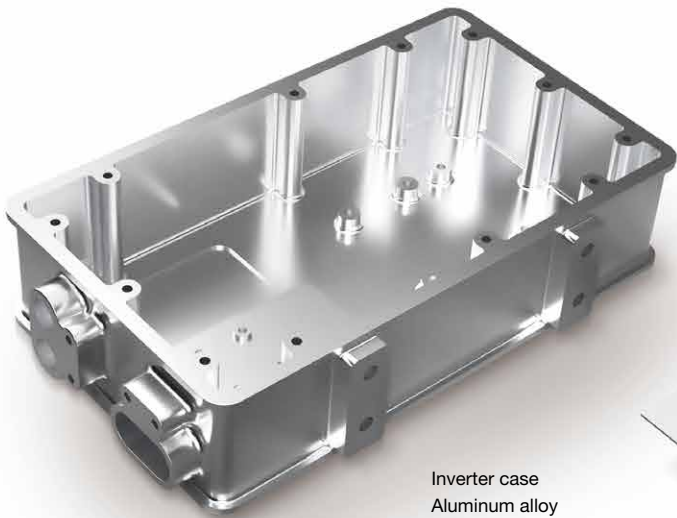
Automobile



EV gearbox housing
Aluminum alloy
Size: 450 x 300 x 130



EV gearcase
Aluminum alloy
Size: 470 x 420 x 200



Inverter case
Aluminum alloy
Size: 440 x 245 x 100

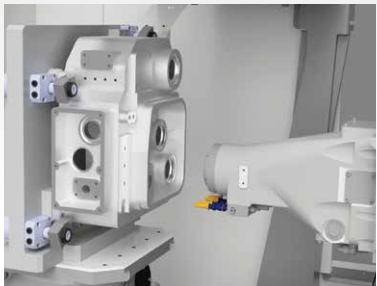


Battery case
Aluminum alloy
Size: 500 x 320 x 100

Jig mounting examples

Ample jig area, standard-provided B-axis table, and 30-tool magazine that can support maximum tool length of 250 mm enable machining of large workpieces (e.g. gearcase, aluminum wheel) or long workpieces (e.g. steering parts), and multi-face machining of small workpieces.

Large workpiece



Multi-face machining



Aluminum wheel
Aluminum alloy
Size: $\phi 550$ x 230



ABS valve housing
Aluminum alloy
Size: 90 x 70 x 30



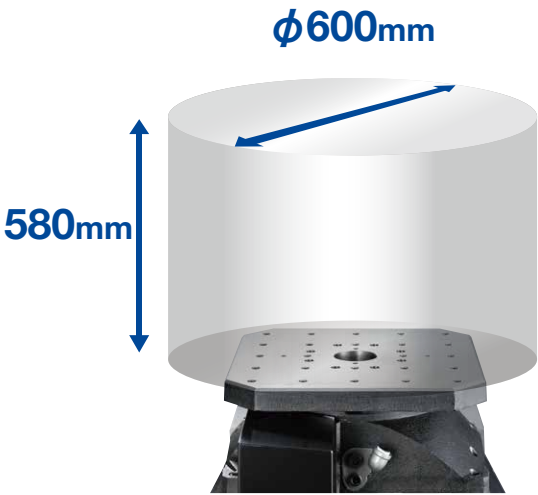
Steering rack housing
Aluminum alloy
Size: 520 x 170 x 130

Highly productive horizontal machining center enables machining of large/long workpieces

Highly productive horizontal machining center using a BT30 spindle and is equipped with ample jig area, 30-tool magazine, and high-speed B-axis table
This enables machining of large or long workpieces that was not possible on conventional BT30 machines.

Jig area

Ample jig area of $\phi 600 \times 580$ mm has been achieved. *1
Can be expanded to $\phi 800$ mm by moving the tool to a safe position, etc. *2
This enables a large or long workpiece to be mounted.



*1. Interference area is created depending on the tool length or tool diameter.
*2. The tool must be moved to a safe position when the B-axis rotates or the tool length is restricted.

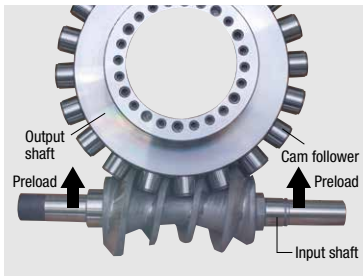
Space saving

Machine dimensions are 1,557 mm in width and 2,990 mm in depth, achieving reduction in space while maintaining ample jig and machining areas.



*3. Dimension including coolant tank
*4. Compared to BT40 horizontal MC with equivalent travels

B-axis table



The B-axis table with a roller gear cam mechanism is standard-provided, achieving a fast rotary speed of 100 min⁻¹. The table size is 400 x 400 mm, and the maximum loading capacity is 300 kg. This enables handling of a heavy workpiece or jig while maintaining high-speed performance.

B-axis rotary speed	Loading capacity
100min ⁻¹	Max. 300kg

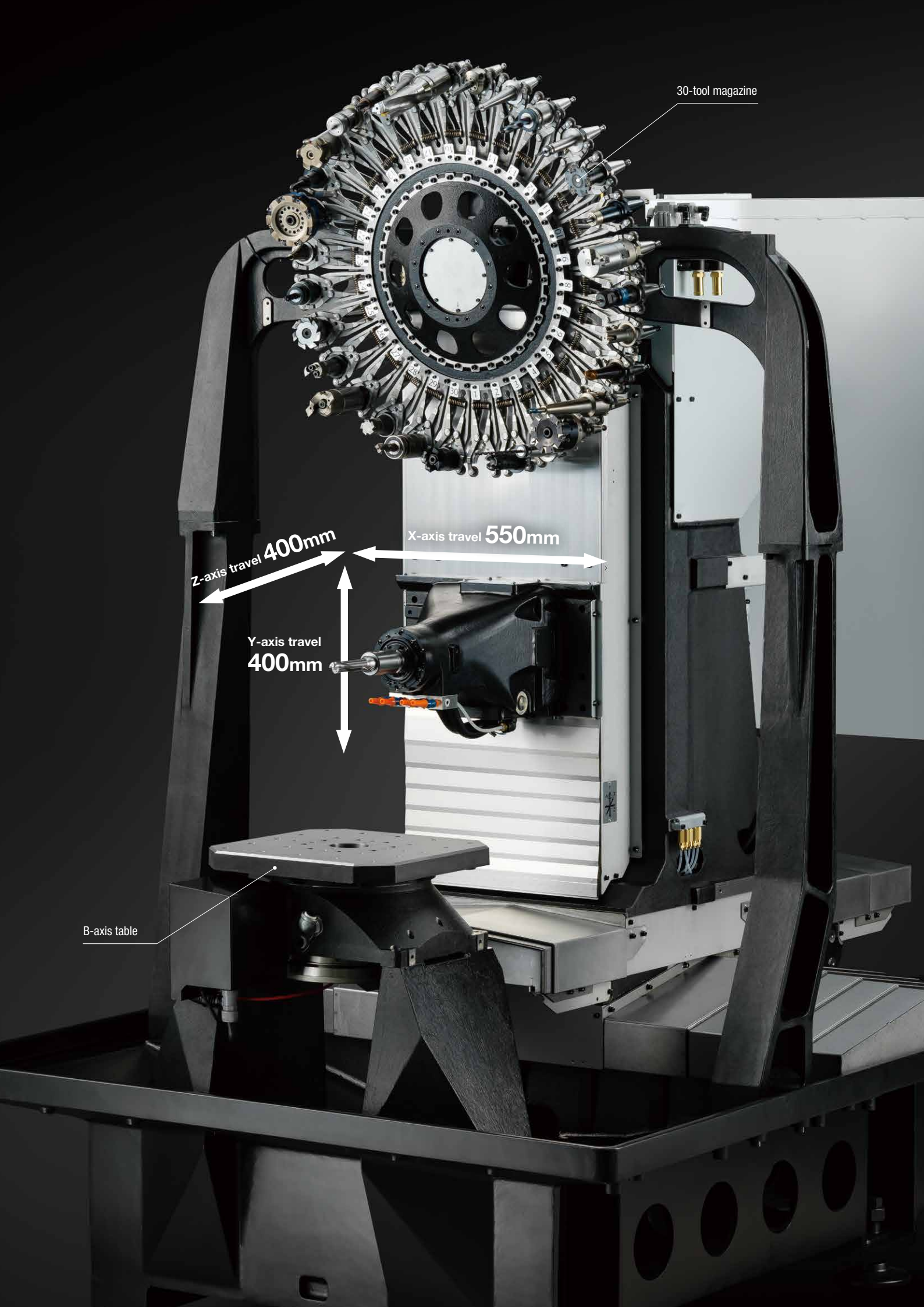
30-tool magazine



Equipped with the newly developed direct ATC type 30-tool magazine. Supports maximum tool length of 250 mm, maximum tool diameter of 125 mm, and maximum tool weight of 4 kg, enabling a variety of machining, including long workpieces.

Max. tool length	Max. tool diameter	Max. tool weight
250mm	125mm ^{*5}	4kg

*5. When attaching an adjacent tool, the total diameter of a tool and its adjacent tool must be less than 130 mm.



Untiring pursuit of high productivity by achieving faster and optimized operation through machine/controller integrated development

Overwhelming high productivity has been achieved by utilizing advantages of machine/controller integrated development, such as fast acceleration/deceleration spindle, faster and optimized tool change operation, and inertia estimation function.

Fast acceleration/deceleration spindle

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

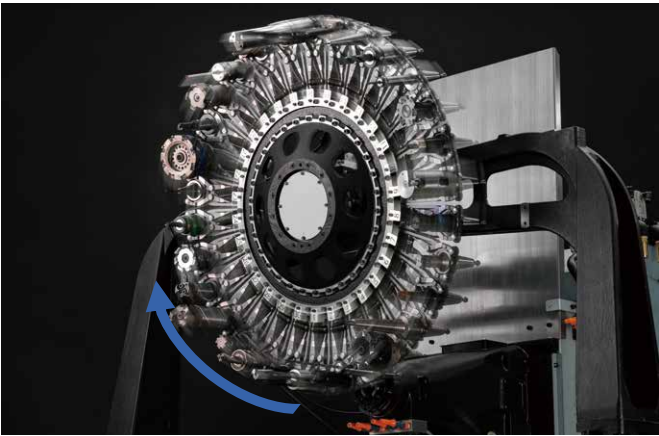


Spindle start/stop time
0.15s or less *1

*1. Value of high-torque spec.

High-speed tool change

By utilizing the advantages of machine/controller integrated development, high-speed tool change has been achieved by fast acceleration/deceleration and optimized operation.



Tool change time
T-T 1.1s C-C 2.4s

High-speed B-axis table indexing

A roller gear cam mechanism is used for the B-axis table to achieve both durability and high-speed performance. A maximum rotary speed of 100 min⁻¹ enables high-speed indexing.

Wasted time is further reduced by simultaneously performing tool change and B-axis indexing.

In addition, machining can be performed only by the holding torque with motor without using the clamp mechanism depending on the machining load.

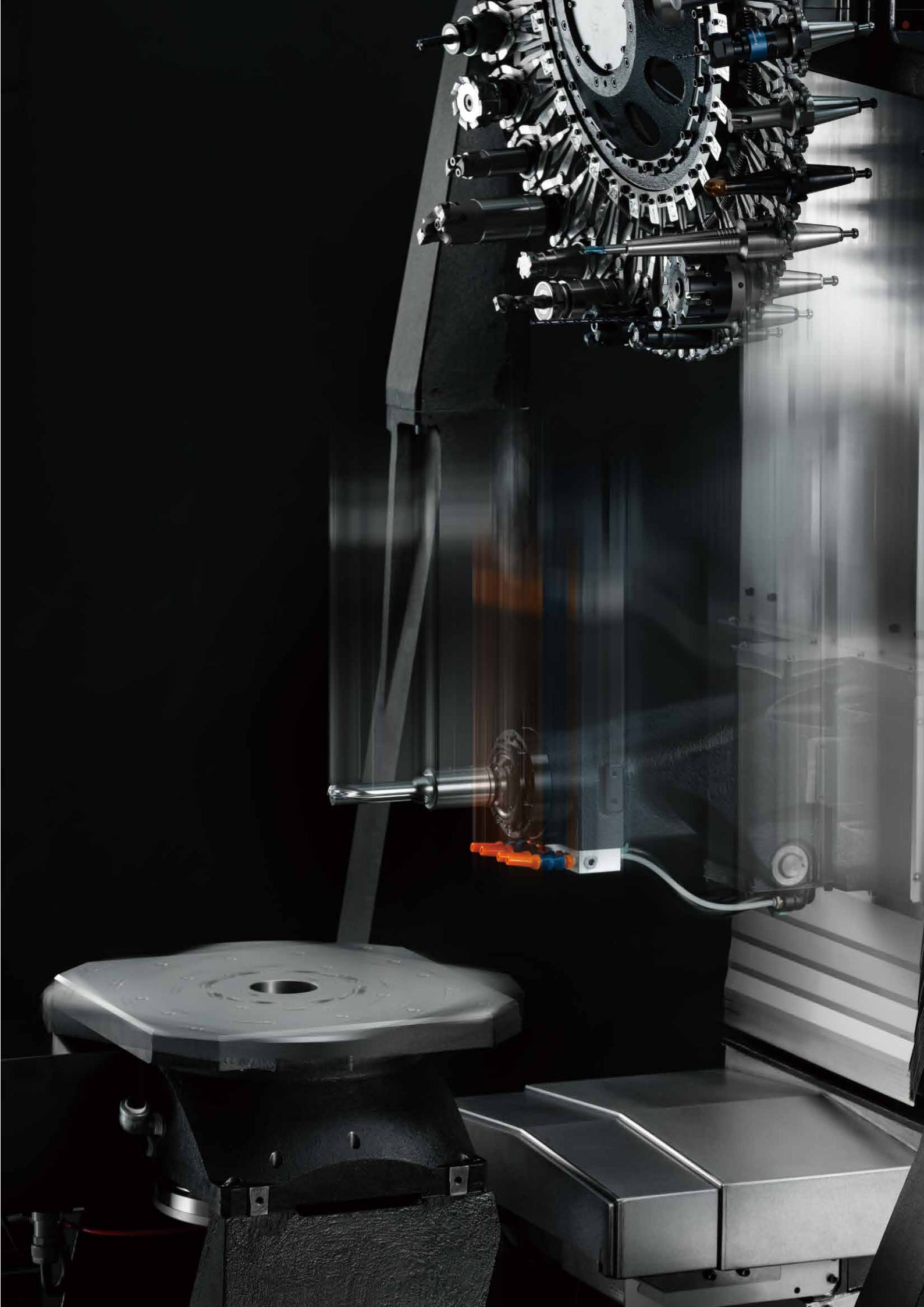
B-axis table inertia estimation function

Provided with an inertia estimation function that estimates the inertia of a jig mounted on the B-axis table. This optimally controls acceleration according to the level of inertia, leading to the improvement of productivity. *3

*3. Parameter setting needs to be changed.

B-axis table indexing time *2
0→90° 1.0s
0→180° 1.1s

*2. Value in standard inertia mode

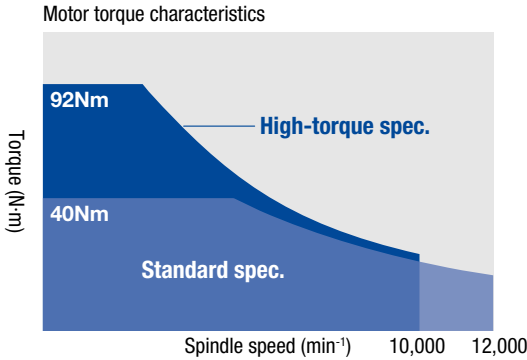


High machining capabilities achieved by highly efficient spindle motor and optimal machine design

The machine is equipped with a highly efficient high-power spindle motor, including a newly developed 12,000 min⁻¹ standard spindle motor, and newly developed highly rigid spindle. CAE analysis technologies accumulated through the development of the SPEEDIO series have achieved both high speed and high rigidity of the machine. The machine demonstrates high machining capabilities as it supports a 7MPa high-pressure coolant system and is equipped with a B-axis table with high clamp torque.

Highly efficient spindle motor

The machine is equipped with a highly efficient spindle motor with a newly developed 12,000 min⁻¹ spec. (standard) or 10,000 min⁻¹ high-torque (max. 92 N·m) spec. (optional). As the spindle can provide high torque in the medium- and high-speed range, the machine demonstrates its full capabilities at high-speed with highly efficient machining of aluminum or steel.



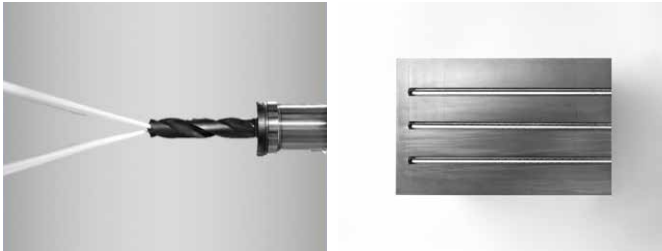
12,000 min ⁻¹ (standard)	
Max. torque	40N·m
Max. output	18.9kw

10,000 min ⁻¹ high-torque (optional)	
Max. torque	92N·m
Max. output	26.2kw

7 MPa Coolant Through Spindle (CTS) (optional) *1

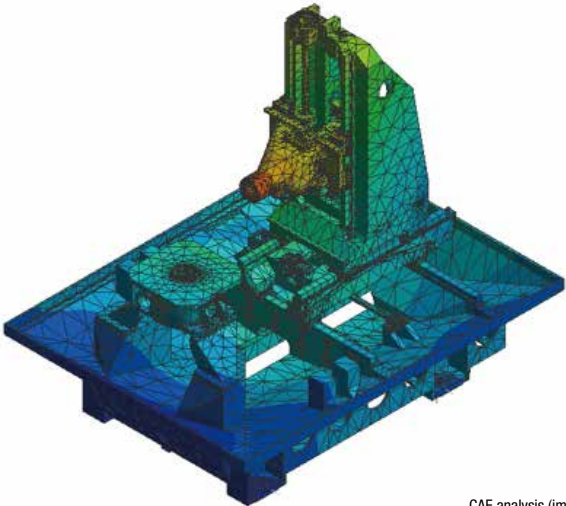
The CTS option can be selected from 3 MPa or 7 MPa. With this option, the machine can operate to its fullest potential in high-speed drilling or deep-hole drilling.

*1. 7 MPa CTS option is available only for the BBT spec.



Optimal machine design and highly rigid spindle

Both high speed and high rigidity of the machine has been achieved by optimizing the cast shape utilizing CAE analyses. A newly developed spindle provides higher clamp force than that for previous SPEEDIO models. In addition, the high-torque spindle features the SPEEDIO's largest bearing diameter. With these improvements, the machine demonstrates high machining capabilities from highly efficient machining to heavy-duty machining.



CAE analysis (image)

B-axis clamp torque

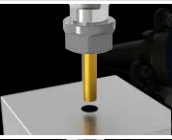
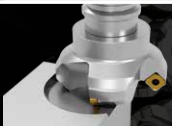
A roller gear cam mechanism is used for the B-axis table. The mechanical clamp plus servo clamp mechanism provides high clamp torque. This enables the machine to demonstrate high machining capabilities in high-load machining.



B-axis clamp torque
670N·m *2

*2. Value of mechanical clamp (at pneumatic 0.5 MPa) plus servo clamp

B-axis clamp

Machining capability		ADC	Cast iron	Carbon steel	
Drilling		12,000min ⁻¹	D30 x 0.2 (1.18 x 0.008)	D30 x 0.15 (1.18 x 0.006)	D22 x 0.1 (0.87 x 0.004)
		10,000min ⁻¹ high-torque	D33 x 0.2 (1.30 x 0.008)	D33 x 0.15 (1.30 x 0.006)	D24 x 0.1 (0.94 x 0.004)
		Tool diameter mm(inch) x Feed mm(inch)/rev	16,000min ⁻¹	D23 x 0.2 (0.91 x 0.008)	D23 x 0.15 (0.91 x 0.006)
Tapping		12,000min ⁻¹	M27 x 3.0 (1-8UNC)	M24 x 3.0 (7/8-9UNC)	M20 x 2.5 (3/4-10UNC)
		10,000min ⁻¹ high-torque	M36 x 4.0 (1 3/8-6UNC)	M33 x 3.5 (1 1/4-7UNC)	M27 x 3.0 (1-8UNC)
		Tool diameter mm(inch) x Pitch mm(inch)	16,000min ⁻¹	M22 x 2.5 (7/8-9UNC)	M22 x 2.5 (7/8-9UNC)
Facing		12,000min ⁻¹	1,200 (73.2)	101 (6.2)	77 (4.7)
		10,000min ⁻¹ high-torque	1,920 (117.2)	358 (21.8)	232 (14.2)
		Cutting amount cm ³ /min (inch ³ /min)	16,000min ⁻¹	960 (58.6)	83 (5.1)

*Data obtained from tests conducted by Brother.
*These values are when the X/Y axes are at their travel center.
The above machining capabilities may not be achieved under some conditions, depending on usage environment, tools in use, and coolant, etc.



Equipped with new “CNC-D00” controller for improved usability Enhanced ease of setup and workpiece change

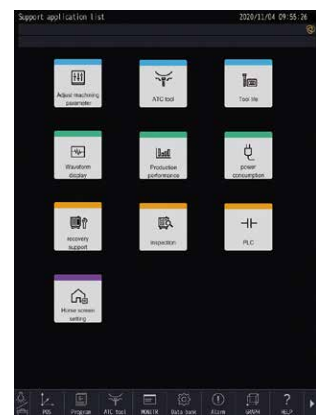
Intuitive operation is possible with new apps and 15-inch vertical LCD touch panel display.

Waste-free operation is possible in setup, machining adjustment, production, and recovery process, leading to improved work efficiency and operating rate.

Operability has been enhanced by locating the operation panel on the side of the machine.

New user interface

Usability has been greatly improved by grouping relevant functions, creating new support apps that are intuitive with improved operability and visibility, providing useful accessories (calculator, notebook, file viewer etc.), and making operation on conventional screens possible on the touch panel.



List of support apps



Conventional screen (position screen)

Workability

The operation panel is located on the side of the machine to enhance visibility and make setup easier. In addition, a large front door opening width is secured, and a rotary table switch (optional) has been prepared to make workpiece change easier.



Front door opening width
658mm

Setup support

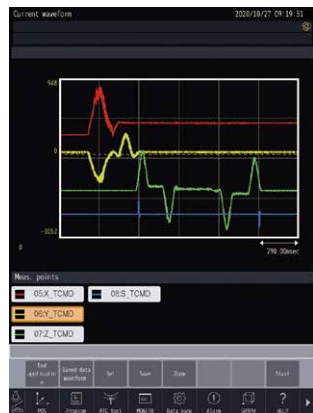
Equipped with functions to easily perform setup, such as an ATC tool app that enables all magazine tool settings to be performed on one screen, menu programming that enables you to create NC programs by following instructions on the screen, and an on-screen help function.



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

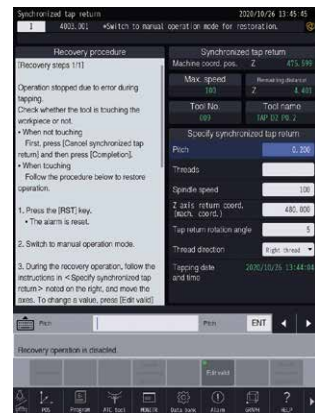
Equipped with functions to improve the operating rate, such as real time tool monitoring to eliminate defects, displaying production performance, power consumption etc. as a graph, and PLC/network functions to meet peripheral equipment and automation requirements.



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



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

Reliability that ensures high productivity

Provides high environmental performance to contribute to carbon neutrality

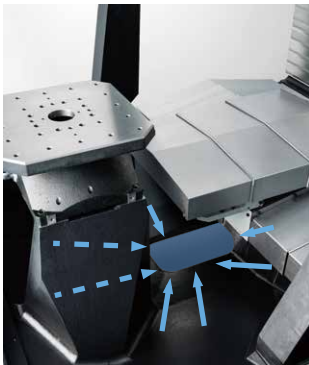
High reliability has been achieved by thorough evacuation and efficient handling of chips, and maintenance functions to prevent failures. Low power and air consumption greatly reduces CO₂ emissions, providing high environmental performance.

Chip evacuation performance

Designed to enhance chip evacuation performance to prevent problems caused by chips.

Center trough structure

The inclined base and the center trough structure effectively evacuate chips that fall on the base to the outside of the machine.



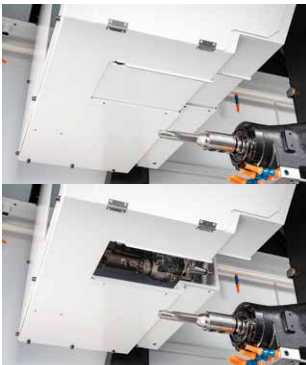
Head shower (optional) *1

A head shower is available to remove chips from the spindle head. *1. Included with the coolant nozzle (optional).



Magazine cover ATC shutter

The magazine is separated from the machining area by a shutter to minimize the effect of chips on tools.



Chip conveyor (optional)

The hinge and scraper type chip conveyor with drum filter evacuates chips in a variety of sizes and shapes.

Chip shower (optional)

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

Tool washing, air-assisted type (optional)

When changing tools, air-assisted high discharge pressure and discharge amount steadily remove chips attached to the holder.

Reliability and maintenance functions

The machine is equipped with many maintenance functions that can prevent possible defects in production sites, and functions that assist with recovery in the case of problems.

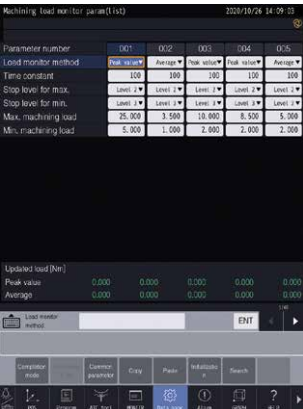
ATC tool monitoring

The presence of a spindle tool is checked before and after tool change without using a sensor.



Machining load monitoring

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



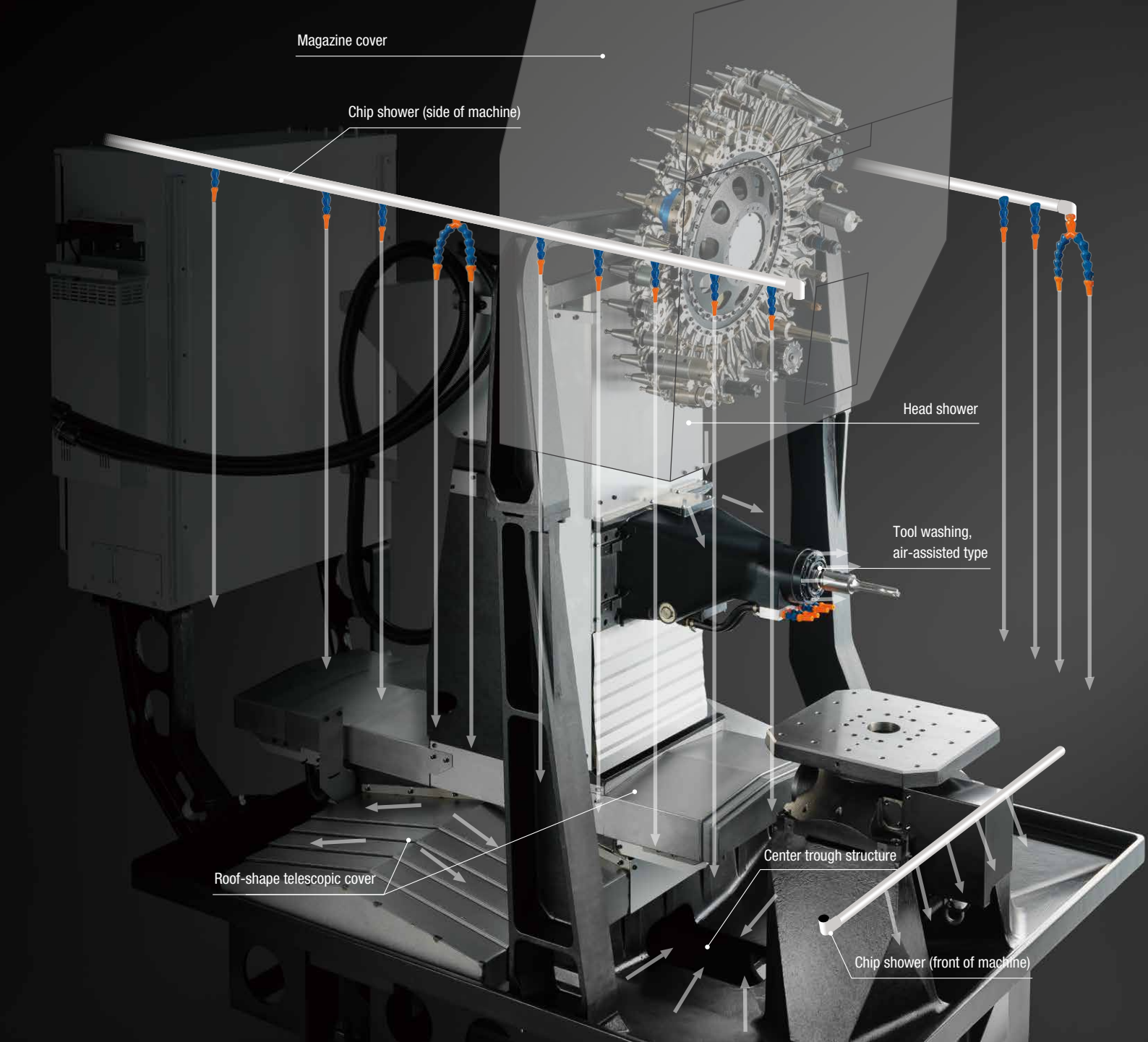
Maintenance notice

Notifies operators of maintenance related issues in advance, such as greasing time.



Alarm log

Displays alarm log details to help identify the cause.



Environmental performance

Provides excellent environmental performance, including low power and air consumption, to achieve carbon neutrality.

Low power consumption

In addition to the low inertia spindle and highly efficient spindle motor, the machine is equipped with various energy saving functions to lower power consumption.

Power regeneration system

Reuses the energy generated when the servomotor decelerates.

Highly efficient spindle motor

Energy-saving pump

LED work light

Energy-saving NC functions

- Automatic coolant off
- Automatic work light off
- Standby mode
- Automatic power off

Power consumption app

Current and past power consumption can be checked.

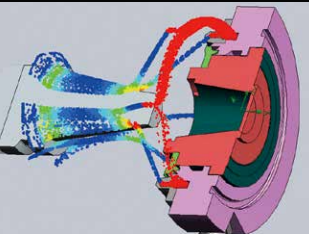


Low air consumption

Air related functions have been reviewed and optimized to eliminate any waste, leading to reduction in air consumption.

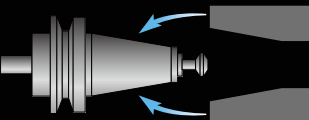
Air purge

A highly airtight structure achieved through repeated flow rate analysis reduces the amount of air used.



Spindle air blow

Amount of air used is reduced by discharging three times the conventional volume of air only when required.





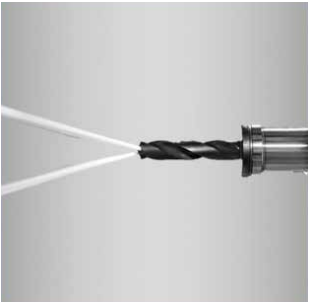
Chip conveyor

A two-step structure (hinged plate and scraper) is used, enabling evacuation of chips in a variety of sizes and shapes. An oil skimmer can be added.



Coolant tank with chute

Coolant flows through the chute to evacuate chips. The chute can be separated from the coolant tank, making maintenance easier.



Coolant Through Spindle (CTS)

Can be selected from 3 MPa or 7 MPa. Pump and tank are not included. * 7 MPa CTS option is available only for the BBT spec.



Head coolant nozzle with head shower

Coolant can reliably be applied to the machining section as the tool and nozzles are set in place. In addition, a head shower is provided to remove chips from the head.



Automatic oil lubricator

Regularly applies oil to all lubricating points on the three axes. * Automatic oil lubricator or automatic grease lubricator must be selected. Manual greasing is not available.



Automatic grease lubricator

Regularly applies grease to all lubricating points on the three axes. * Automatic oil lubricator or automatic grease lubricator must be selected. Manual greasing is not available.



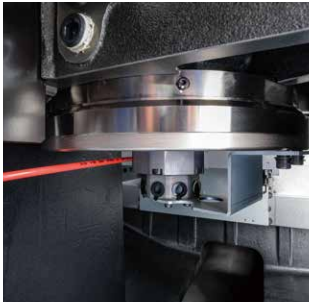
Automatic door with switch panel 10 holes

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.



Rotary joint

Provided with 9+1 ports and built into the B-axis table, making jig mounting easier. 9 ports: Hydraulic (7 MPa) / Pneumatic (1 MPa) 1 port (center): Coolant (0.3 MPa)



Chip shower

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



Fixture shower valve unit

Consists of jig washing valves and pipes to the ceiling of the machine. Pipes from the machine to the required location must be prepared by customers.



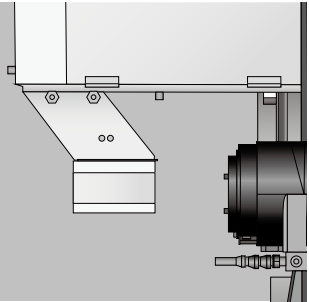
Cleaning gun

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



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.



Rotary table switch

The B-axis table or additional axes can be operated from the front of the machine. Changing workpieces is easier when performing multi-part machining or similar.



Spindle override

Spindle speed can be changed without changing the program.



Tool washing, air-assisted type

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



Side cover with transparent window

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



Work light (2 lamps)

LED lamps are used to extend lamp life and save energy. Locating two lamps at optimal positions helps work from the front or side of the machine. * Work light (1 lamp) can be selected.



Signal light (1, 2, or 3 lamps)

LED lamps are used. No maintenance required. Can be tilted to improve visibility.



Front switch panel (10 holes)

A 10-hole switch panel is available so that various switches, including automatic door open/close switches, can be located on the front of the machine.



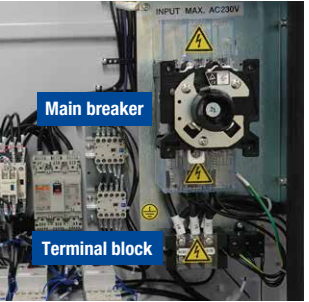
Master on circuit

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.

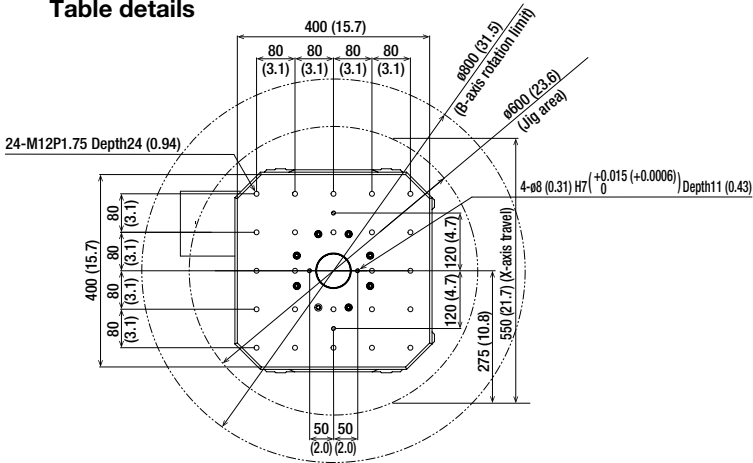
- Please read the instruction manuals and safety manuals before using Brother products for your own safety. When using oil-based coolant or when machining materials which can cause a fire (ex. magnesium, resin), customers are requested to take thorough safety measures against fire. The types of cutting material, cutting tools, coolant, or lubrication oil may have an influence on the machine's lifecycle. For further questions, please contact our sales representative.
- Leave 700 mm between machines as maintenance space.
- When exporting our machine, the machine is deemed to be included in the "applicable listed items" controlled by the Foreign Exchange and Foreign Trade Law of Japan. When exporting the machine, please obtain required permissions, including an export license, from the Ministry of Economy, Trade and Industry (METI) or Regional Bureaus of Economy, Trade and Industry before shipment. When re-selling or re-exporting the machine, you may need to obtain permissions from METI, and the government of the country where the machine is installed.
- When exporting our machine together with additional 1-axis rotary table (including case that a rotary table is scheduled to be installed overseas), as a machine conforming to Row 2 of Appended Table 1 of Export Trade Control Order, a relocation detection device is installed on the machine depending on the destination country. After relocating the machine with the detection device, the machine is locked and any operation is temporarily impossible. Please inform your local distributor of machine relocation in advance and apply to perform the release operation of relocated machine.
- In order to operate our machine with an additional axis rotary table installed separately overseas after exporting the machine, the procedure to activate the axis of rotary table is needed. Please inform your local distributor of these processes in advance, because the predetermined procedure is required to perform the activation. In addition, for export to some countries and regions other than "Group A countries", it is not possible to install an additional 1-axis rotary table separately overseas after exporting the machine. Please make sure to obtain the export license of the machine together with additional 1-axis rotary table before shipment.

- Coolant tank
 - 1) Coolant tank with chute, 200L
 - 2) Coolant tank with chute, 200L for 1.5 MPa CTS pump with cyclone filter
 - 3) Chip conveyor tank, 360L
 - 4) Chip conveyor tank, 360L with oil skimmer
 - 5) Chip conveyor tank, 360L for 1.5 MPa CTS pump with cyclone filter
 - 6) Chip conveyor tank, 360L for 1.5 MPa CTS pump with cyclone filter and oil skimmer
- Coolant through spindle (CTS) piping, Max. 3 MPa
- Coolant through spindle (CTS) piping, Max. 7 MPa
- Head coolant nozzle with head shower
- Rotary joint, 9+1 ports
- Chip shower
- Tool washing, air-assisted type
- Fixture shower valve unit
- Cleaning gun
- Mesh basket for collecting chips
- Side cover with transparent window, one side
- Work light (1 or 2 lamps)
- Signal light (1, 2, or 3 lamps)
- Automatic oil lubricator
- Automatic grease lubricator
- Automatic door with switch panel 10 holes
- Area sensor
- Switch panel (8 holes or 10 holes)
- Front switch panel (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 switch (for B-axis, for additional axes)
- Additional axis cable
- RS232C 25-pin connector at control box
- Spindle override
- Master on circuit
- Data protection switch, key type
- Folding door (two-door)

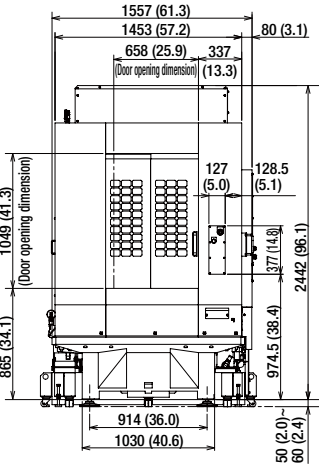
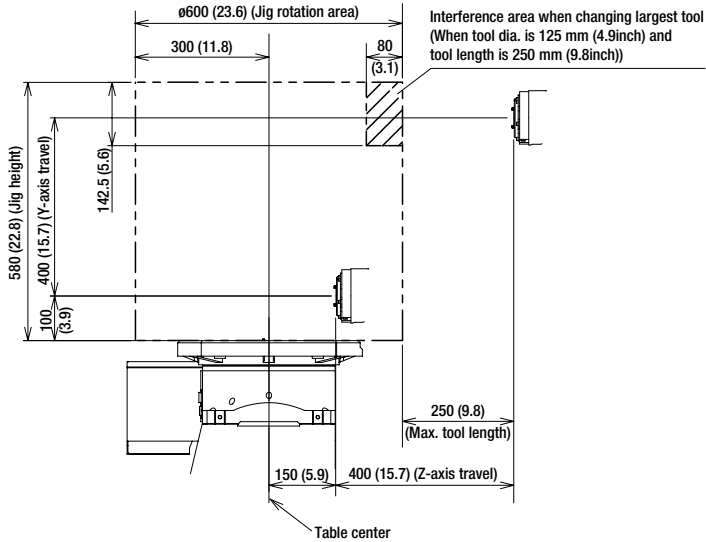
*The type of coolant may have a significant influence on the machine's lifecycle. It is recommended to use high-lubricity (emulsion type) coolant. Do not use chemical solution type (synthetic type) coolant, as it may cause damage to the machine. *When using CTS (Coolant Through Spindle) function, do not use flammable coolant (ex. oil-based type).

- Parts name sticker set
- Origin alignment mark
- 100V outlet in control box
- Power supply expansion 50A
- Transformer box
- Specified color
- 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
- 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
- Memory expansion 3 Gbytes

Table details



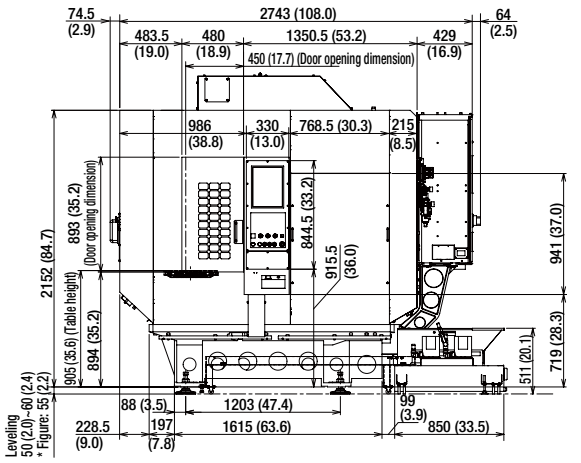
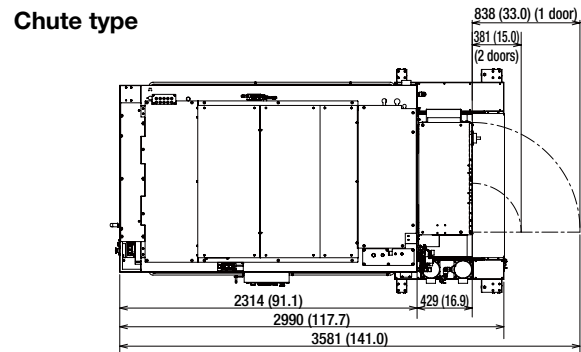
Jig area



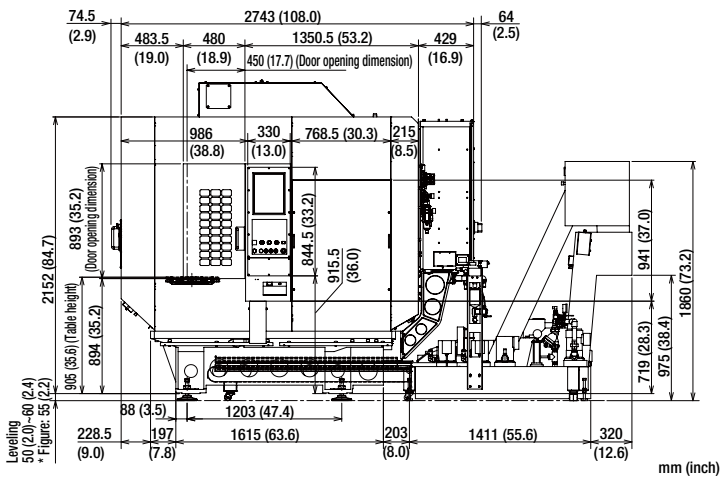
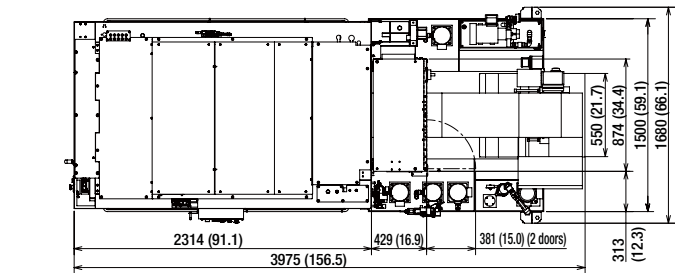
NC unit specifications

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)
	Interpolation Linear: 4 axes (X, Y, Z, 1 additional axes)
	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

Chute type



Chip conveyor type



Machine specifications

Item			H550Xd1/H550Xd1 RD *8
CNC Unit			CNC-D00
Travels	X axis	mm(inch)	550 (21.7)
	Y axis	mm(inch)	400 (15.7)
	Z axis	mm(inch)	400 (15.7)
	B axis	deg.	360
	Distance between table top and spindle center	mm(inch)	100~500 (3.9~19.7)
Table	Distance between table center and spindle nose end	mm(inch)	150~550 (5.9~21.7)
	Work area size	mm(inch)	400 (15.7) x 400 (15.7)
	Max. loading capacity	kg(lbs)	300 (661)
	Max. table load inertia	kg·m ² (lb·inch ²)	3.4 (11.618) [5.4 (18.453) *10]
	Spindle speed	min ⁻¹	12,000min ⁻¹ specifications: 1~12,000, 16,000min ⁻¹ specifications (optional): 1~16,000 10,000min ⁻¹ high-torque specifications (optional): 1~10,000
Spindle	Speed during tapping	min ⁻¹	MAX. 6,000
	Tapered hole		7/24 tapered No.30
	BT dual contact spindle (BIG-PLUS)		Optional
	Coolant Through Spindle (CTS)		Optional
Feed rate	Rapid traverse rate (XYZ-area)	m/min(inch/min)	50 x 56 x 56 (1,969 x 2,205 x 2,205)
	Cutting feed rate	mm/min(inch/min)	X, Y, Z axis: 1~30,000 (0.04~1,181) *7
	Indexing feed rate (B)	min ⁻¹	100 (85 *10)
	Tool shank type		MAS-BT30
ATC unit	Pull stud type *4		MAS-P30T-2
	Tool storage capacity	pcs.	30
	Max. tool length	mm(inch)	250 (9.8)
	Max. tool diameter	mm(inch)	125 (4.9) *11
	Max. tool weight *1	kg(lbs)	4.0 (8.8) / tool, <TOTAL TOOL WEIGHT: 50 (110.2)>
	Tool selection method		Random shortcut method
Tool change time *5	Tool To Tool	sec.	1.1
	Chip To Chip	sec.	2.4
Electric motor	Main spindle motor (10min/continuous) *2	kW	12,000min ⁻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
	Axis feed motor	kW	X,Z axis: 1.0 Y axis: 1.8 B axis: 1.8
Power source	Power supply		AC 200 to 230 V±10%, 3-phase, 50/60Hz±2%
	Power capacity (continuous)	kVA	12,000min ⁻¹ specifications: 9.5, 16,000min ⁻¹ specifications (optional): 9.5 10,000min ⁻¹ high-torque specifications (optional): 10.4
	Air supply	Regular air pressure MPa Required flow L/min	0.4~0.6 (recommended value 0.5MPa *6) 45
Machine dimensions	Height	mm(inch)	2,497 (98.3)
	Required floor space*9 [with control unit door open]	mm(inch)	1,557 x 2,743 [3,581] (61.3 x 108.0 [141.0])
	Weight	kg(lbs)	2,850 (6,284)
	Accuracy of bidirectional axis positioning (ISO230-2:1988)		X, Y, Z axis: 0.006~0.020 mm (0.00024~0.00079 inch)
Accuracy *3	(ISO230-2:2014)		B axis: 28 sec or less
	Repeatability of bidirectional axis positioning (ISO230-2:2014)		X, Y, Z axis: Less than 0.004 mm (0.00016 inch) B axis: 16 sec or less
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. 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. Value 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. Dimensions not including the coolant tank and chip conveyor. *10. Value in high inertia mode. Parameter setting needs to be changed. *11. When attaching an adjacent tool, the total diameter of a tool and its adjacent tool must be less than 130 mm.

NC functions

Operation	Dry run Machine lock Program restart Rapid traverse override Cutting feed override Background editing Screen shot Operation level External input signal key Shortcut keys <Optional> Spindle override	<Optional> High accuracy mode BII (Look-ahead 1,000 blocks, smooth path offset)	Built-in PLC (LD/ST/FBD) <Optional> CC-Link, master station CC-Link, remote device station PROFIBUS-DP, slave DeviceNet, slave PROFINET, slave EtherNet/IP, slave	NC language functions	Menu programming Local coordinate system Expanded workpiece coordinate system One-way positioning Inverse time feed Programmable 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 Interrupt type macro Rotary fixture offset Feature coordinates setting Involute interpolation
Monitoring	Monitoring	Machining load monitoring ATC tool monitoring Overload prediction Waveform display / Waveform output to memory card Heat expansion compensation system II (X, Y, and Z axes) Production performance display Tool life / Spare tool			
Energy saving			Automatic power off Standby mode Automatic coolant off Automatic work light off Chip shower off delay		
Programming	Absolute / Incremental Inch / Metric Coordinate system setting Corner C / Corner R Rotational transformation Synchronized tap Subprogram Graphic display	Maintenance	Adjust machine parameters ATC tool Tool life Waveform display Production performance Power consumption Recovery support Inspection PLC	Support apps	
Measurement	Automatic workpiece measurement *1 Tool length measurement				
High speed and high accuracy	Machining parameter adjustment High-accuracy mode AIII High-accuracy mode BI (look-ahead 160 blocks) Backlash compensation	Automatic / Network	File viewer Notebook Calculator Register shortcut Display off	Accessories	

*1. Measuring instrument needs to be prepared by users.

Brother Technology Center Chicago

BROTHER INTERNATIONAL CORP.
2200 North Stonington Avenue, Suite 270, Hoffman Estates, IL 60169, U.S.A.
PHONE:(1)224-653-8415 FAX:(1)224-653-8821

Brother Technology Center Frankfurt

BROTHER INTERNATIONALE INDUSTRIEMASCHINEN GmbH
Hoechst Str.94, 65835 Liederbach, Germany
PHONE:(49)69-977-6708-0 FAX:(49)69-977-6708-80

Brother Technology Center Bengaluru

BROTHER MACHINERY INDIA PVT LTD.
SB-111-112, 1st Stage, 2nd Cross, Peenya Indl Estate, Bengaluru - 560058 Karnataka, India
PHONE:(91)80-43721645

Brother Technology Center Shanghai

BROTHER MACHINERY (SHANGHAI) LTD.
Unit 01, 5/F., No.799, West Tianshan Rd., ChangNing District Shanghai 200335, China
PHONE:(86)21-2225-6666 FAX:(86)21-2225-6688

Brother Technology Center Chongqing

BROTHER MACHINERY (SHANGHAI) LTD.
Room 30, 31, NO.104 Cui bai Road, Dadukou District, Chongqing Province, 400084, China
PHONE:(86)23-6865-5600 FAX:(86)23-6865-5560

Nanjing Office

BROTHER MACHINERY (SHANGHAI) LTD.
503 Room, Building No.1, No.39, Dongcun Road, Jiangning District, Nanjing City, Jiangsu Province, China
PHONE:(86)25-87185503

Brother Technology Center Queretaro

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

Brother Technology Center Bangkok

BROTHER COMMERCIAL (THAILAND) LTD.
317 Pattanakarn Road, Pravet Sub-District, Pravet District, Bangkok 10250, Thailand
PHONE:(66)2321-5910 FAX:(66)2321-5913

Brother Technology Center Gurugram

BROTHER MACHINERY INDIA PVT LTD.
Plot No. 60, Sector 34, HSIIDC, Gurugram, Haryana 122001, India
PHONE:(91)0124-4449900

Brother Technology Center Dongguan

BROTHER MACHINERY (SHANGHAI) LTD.
Room 103, Building 1, No.2 Nanbo Road,
Songshan Lake District, Dongguan City, Guangdong Province, China
PHONE:(86)769-2238-1505 FAX:(86)769-2238-1506

Brother Technology Center Ningbo

BROTHER MACHINERY (SHANGHAI) LTD.
1F, Building 1, No. 102, Hongtang South Road West Section, Jiangbei District, Ningbo City,
Zhejiang Province, China
PHONE:(86)574-87781232 FAX:(86)574-88139792

Figures in brackets () are the country codes.

Specifications may be subject to change without any notice.

BROTHER INDUSTRIES, LTD.

Machinery Business Division

1-5, Kitajizoyama, Noda-cho, Kariya-shi, Aichi-ken 448-0803, Japan
<https://www.brother.co.jp>



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