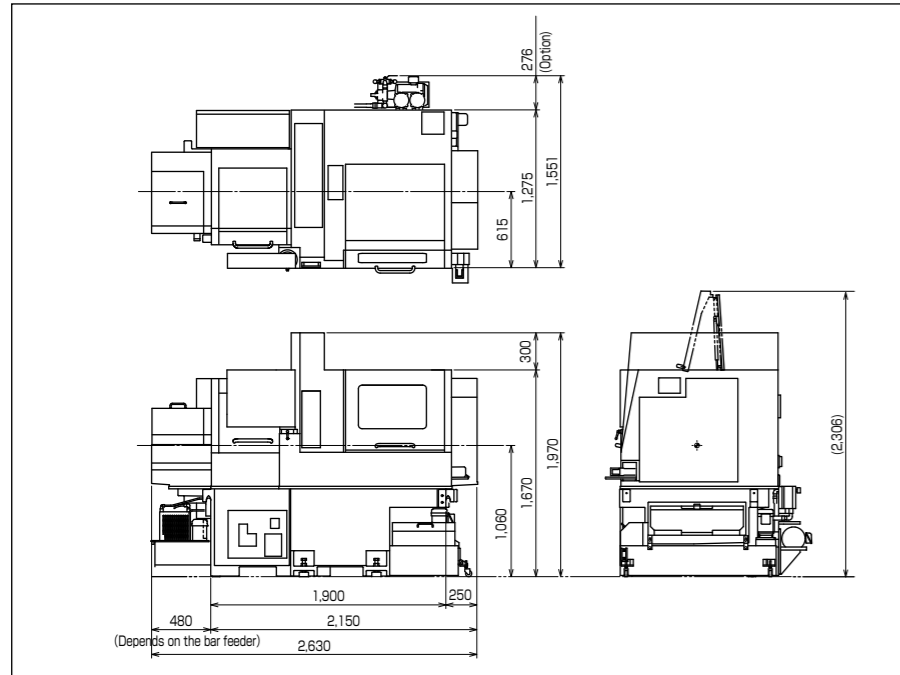


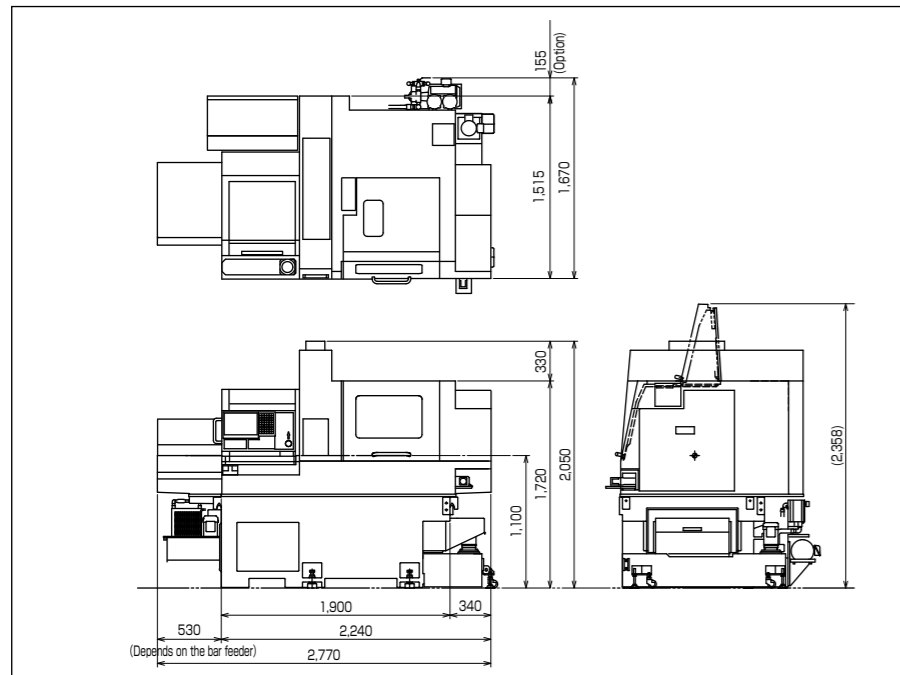
# TSUGAMI

CNC Precision Automatic Lathe  
**B026-III Series**  
**B032-III Series**  
**B038-III Series**

Layout (B026-III/B032-III Series)



Layout (B038-III Series)



Export permission by the Japanese Government may be required for exporting our products in accordance with the Foreign Exchange and Foreign Trade Law. Please contact our sales office before exporting our products.

The specifications of this catalogue are subject to change without prior notice.

**TSUGAMI CORPORATION**

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B026-III/B032-III Series

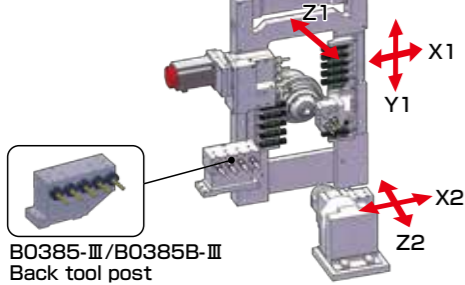


B038-III Series

# Complicated workpieces with variable types and variable amounts can be handled.

## B0265-III/325-III/385-III B0265B-III/325B-III/385B-III

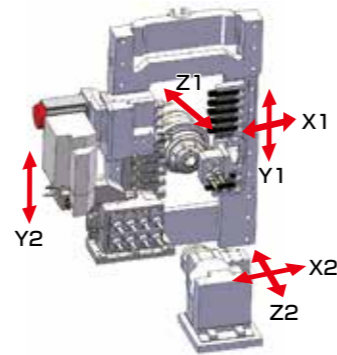
φ26 mm 5-axis   φ32 mm 5-axis   φ38 mm 5-axis



	265-III/325-III/265B-III/325B-III	385-III/385B-III
Front & back simultaneous machining	Standard	Standard
Back spindle	Standard	Standard
Cross live tool	Standard	Standard
Back rotary drive	Option	Standard
Guide-bushless	Option	Standard
Direct-drive rotary guide bushing	Option	Standard
C axis	Standard	Standard
Cross rigid tap	Option	Option
Back tool rigid tap	Option	Option
Number of tools		
OD tool	12	12
Cross live tool	4	4
Front		
Fixed	7	5
Live	Option	Option
Back		
Fixed	4	5
Live	Option	Option
Total tool storage capacity	27 (Standard)	26 (Standard)

## B0266-III/326-III/386-III

φ26 mm 6-axis   φ32 mm 6-axis   φ38 mm 6-axis



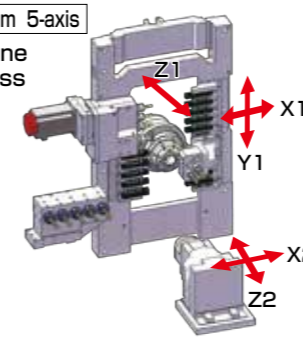
	266-III/326-III	386-III
Front & back simultaneous machining	Standard	Standard
Back spindle	Standard	Standard
Cross live tool	Standard	Standard
8-spindle back drive	Standard	Standard
Guide-bushless	Option	Standard
Direct-drive rotary guide bushing	Option	Standard
C axis	Standard	Standard
Cross rigid tap	Option	Option
Back tool rigid tap	Option	Option
Number of tools		
OD tool	12	12
Cross live tool	4	4
Front		
Fixed	7	5
Live	Option	Option
Back		
Fixed	-	-
Live	8	8
Total tool storage capacity	31 (Standard)	29 (Standard)

\* Tool spindle (Back tool post) is optional.

## B0385L-III B0385LB-III

φ38 mm 5-axis

Exclusive machine for guide-bushless

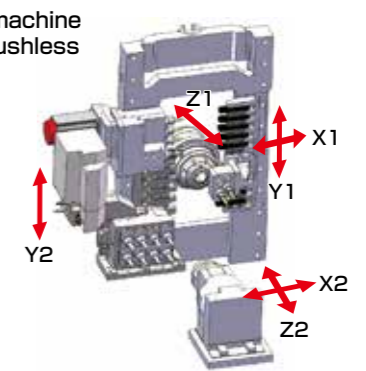


	385L-III/385LB-III
Front & back simultaneous machining	Standard
Back spindle	Standard
Cross live tool	Standard
Back rotary drive	Option
Guide-bushless	Standard
C axis	Standard
Cross rigid tap	Option
Back tool rigid tap	Option
Number of tools	
OD tool	12
Cross live tool	4
Front	
Fixed	5
Live	Option
Back	
Fixed	5
Live	Option
Total tool storage capacity	26 (Standard)

## B0386L-III

φ38 mm 6-axis

Exclusive machine for guide-bushless



	386L-III
Front & back simultaneous machining	Standard
Back spindle	Standard
Cross live tool	Standard
8-spindle back drive	Standard
Guide-bushless	Standard
C axis	Standard
Cross rigid tap	Option
Back tool rigid tap	Option
Number of tools	
OD tool	12
Cross live tool	4
Front	
Fixed	5
Live	Option
Back	
Fixed	-
Live	8
Total tool storage capacity	29 (Standard)

\* Tool spindle (Back tool post) is optional.

## Modular tooling

Combination of live tools, ID holders, and turning holders allows various arrangements according to the workpieces.

4-spindle cross live tool (Standard)

Turning tool  
□16 x 5 (B026-III/B032-III)  
□16 x 4, □20 x 1 (B038-III)

Front tool post   Rear tool post

Turning tool □16 x 5

Rear drive (Option)

Frontal drilling head  
•φ25 x 5 (B026-III/B032-III)  
•φ25 x 2, φ32 x 3 (B038-III)

Turning tool □16 x 2

Deep hole drill tool post

Deep hole drill holder  
•B026-III/B032-III: Standard  
•B038-III: Option

Live tool beside the back spindle (B026-III/B032-III: Option)

Back cross tool spindle (Option)

Back tool spindle (Option)

Multipled tool spindle (Option) (Max. 20,000 min<sup>-1</sup>)

Adapter for fixed tool (Option)

8-spindle back drive (Linear 6-axis machine)

\*Mounting positions of these options are limited.

Angular drilling head (Option)

Double face spindle (Option)

Tool spindle (Option)

Multipled tool spindle (Option) (Max. 20,000 min<sup>-1</sup>)

Thread whirling head (Option)

Hobbing head (Option)

Work catcher (Option)

Back tool post of linear 5-axis machine

Back tool post of linear 6-axis machine

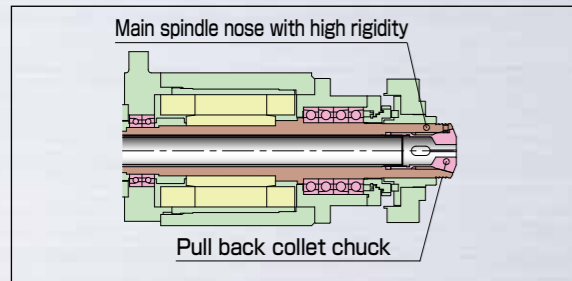
	Controlled axes (linear axes)	Main spindle: C axis Back spindle: C axis	Back tool post for live tool	Back tool post with Y2 axis	Guide-bushless	Guide bushing spec		Max. dia. X Max. length (mm)						
						Direct-drive	Option	0	100	200	300	350		
B0265-III	5 axes	Standard	Option	-	Option	Option								
B0265B-III	5 axes	Standard	Option	-	Option	Option								
B0266-III	6 axes	Standard	Standard	Standard	Option	Option								
B0325-III	5 axes	Standard	Option	-	Option	Option								
B0325B-III	5 axes	Standard	Option	-	Option	Option								
B0326-III	6 axes	Standard	Standard	Standard	Option	Option								
B0385-III	5 axes	Standard	Option	-	Option	Option								
B0385B-III	5 axes	Standard	Option	-	Option	Option								
B0385L-III	5 axes	Standard	Option	-	Standard	-								
B0385LB-III	5 axes	Standard	Option	-	Standard	-								
B0386-III	6 axes	Standard	Standard	Standard	Option	Option								
B0386L-III	6 axes	Standard	Standard	Standard	Standard	-								

### Type of collet chucks and guide bushing

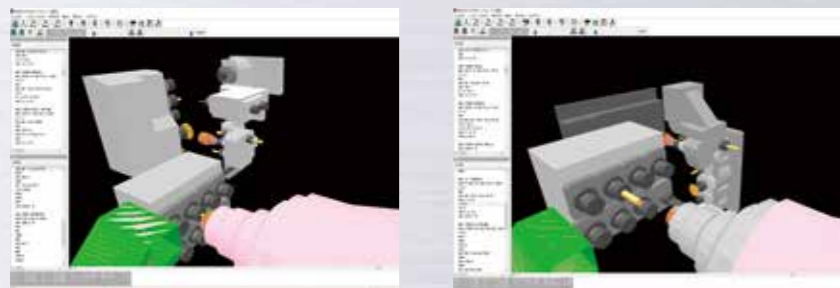
Item	B0265-III B0265B-III B0266-III	B0325-III B0325B-III B0326-III	B0385-III B0385B-III B0386-III	B0385L-III B0385LB-III	B0386L-III
Main spindle collet chuck	2601-1196	2601-5216	2601-5233	2601-3233	2601-3233
Back spindle collet chuck	2601-1196	2601-5216	2601-5233	2601-5233	2601-5233
Guide bushing	2621-1196	2621-6216	2621-1234	-	-

# Characteristic

- Machining capability is improved with increased rigidity of the machine body.
- High precision machining for short-length workpieces is possible by using the dedicated main spindle for guide-bushless. (B038L-III)
  - By installing a pull back collet chuck, suitable and stable gripping force for short-length workpieces are secured.
  - Ground bar is not required. (Use of cold drawn bar reduces the cost.)
  - Shorter remnant length can reduce the material cost.

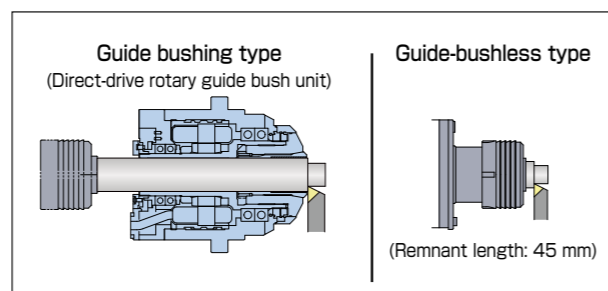


- Modular tooling is installed. Combination of live tools, ID holders, and turning holders allows various arrangements according to the workpieces.
- Thanks to the thermal displacement compensation function, the long-term stable production is realized.
- Automatic programming software is prepared as standard.



Optional guide-bush type or guide-bushless type is selectable according to workpieces. (Excluding B038L models)

- Possible to switch between the guide bushing type and guide-bushing-less type, so that most suitable operation depend on the workpiece length can be chosen.
- The spindle without a guide bushing does not require ground bar, enabling high speed and high precision machining from cold drawn bars.



Optional direct-drive rotary guide bushing provides highspeed and accurate machining. (Excluding B038L models)

Improved geometrical accuracy, dimensional accuracy, and surface roughness with high speed and quiet operation.



	B0265-III	B0266-III	B0325-III	B0326-III	B0385-III	B0386-III
Max. machining length	330 mm					
Applicable guide bushing	2621-1196		2621-6216		2621-1234	
Max. speed	10,000 min <sup>-1</sup>		8,000 min <sup>-1</sup>		6,000 min <sup>-1</sup>	
Motor output	0.75/1.5 kW					
Remnant length	220 + α (Workpiece length) mm			230 + α (Workpiece length) mm		

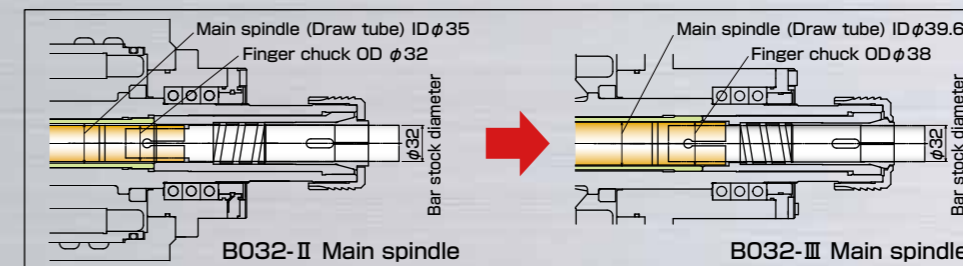
Belt-drive rotary guide bushing (Options for B026-III and B032-III)

Remnant length can be shortened more than direct-drive rotary guide bushing.

	B0265-III B0266-III	B0325-III B0326-III
Max. machining length	330 mm	
Applicable guide bushing	2621-1196	2621-6216
Max. speed	8,000 min <sup>-1</sup>	
Remnant length	125 + α (Workpiece length) mm	

\*Dedicated main spindle adapter is required when belt-drive rotary guide-bushing unit is mounted.  
\*Max. spindle speed is limited to 8,000 min<sup>-1</sup> when belt-drive rotary guide-bushing unit is mounted.

Increased main spindle ID, no need to machine bar end preliminarily.



	Main spindle (Draw tube) ID	Max. machining diameter
B026-III	φ33.6	φ26
B032-III	φ39.6	φ32
B038-III	φ43.6	φ38

Back tool post with Y axis (Linear 6-axis machine)

Back tool post with Y axis on linear 6-axis machine allows combined back machining and simultaneous machining with main spindle side. As maximum of 8 tools can be mounted, it can flexibly handle combined machining with complicated shapes.



Deep hole drill holder is set next to the back spindle, and it can handle deep hole drilling up to 100 mm.

● Holder spec (Standard)

φ25 hole	2 positions
Valid machining length	100 mm

(B026-III, B032-III: Standard)  
(B038-III: Option\*)

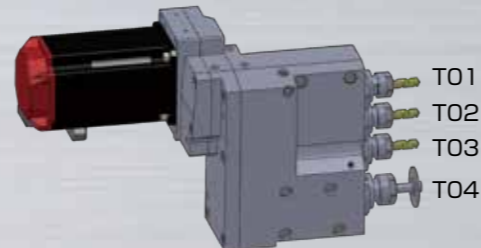
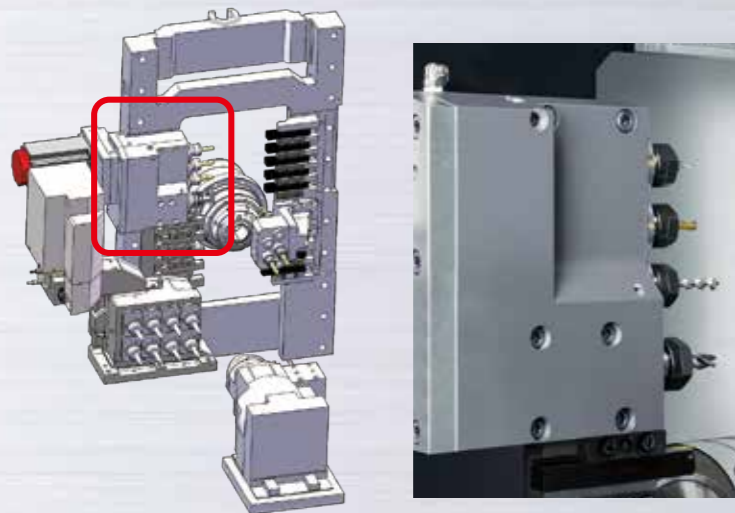
\*In case of mounting deep hole drill holder on B038-III, 8-spindle back drive on 6-axis control machines will be changed into 6-spindle back drive. Also, back 5-hole drill holder will be changed into back 3-hole drill holder on 5-axis control machines.



# Live tools lineup

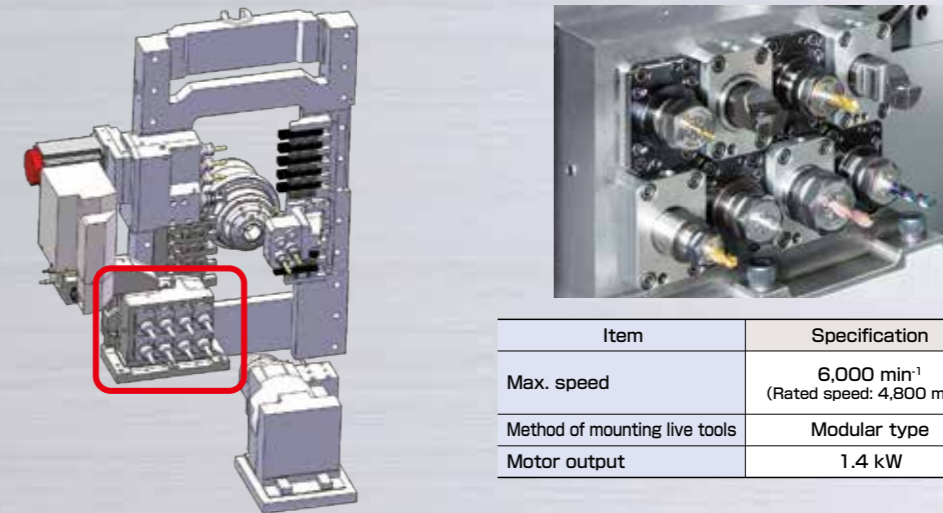
Item		B0265-III/B0265B-III	B0266-III	B0325-III/B0325B-III	B0326-III	B0385-III/B0385B-III B0385L-III/B0385LB-III	B0386-III/B0386L-III
Front tool post	4-spindle cross live tool	Standard				Standard	
Rear tool post	Rear drive	3290-Y3020				3290-Y3020	
	Double face spindle (Double end)	3282-Y902				3282-Y902	
	Angular drilling head (Double end)	3282-Y3922				3282-Y3922	
	Tool spindle	3268-T05B				3268-T05B	
	Hobbing head	3268-Y430				3268-Y430	
	Thread whirling head	3268-Y450				3268-Y450	
	Multiplied tool spindle	3290-Y3670				3290-Y3670	
Back tool post	Back drive	3290-Y3220 (4 spindle)	Standard (8 spindle)	3290-Y3220 (4 spindle)	Standard (8 spindle)	3282-Y3020 (5 spindle)	Standard (8 spindle)
	Tool spindle	3282-Y041					
	Back cross tool spindle	—	3290-Y3041	—	3290-Y3041	—	3290-Y3041
	Back tool adapter	3282-Y211 (φ25 hole)				3282-Y211 (φ25 hole) 3282-Y212 (φ32 hole)	
	Multiplied tool spindle	3290-Y680				3290-Y680	

## 4-spindle cross live tools (Standard)



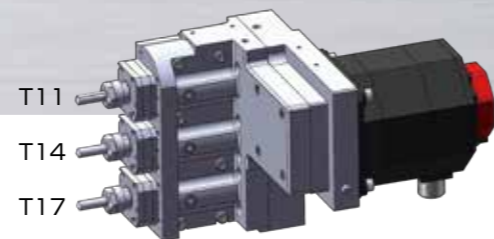
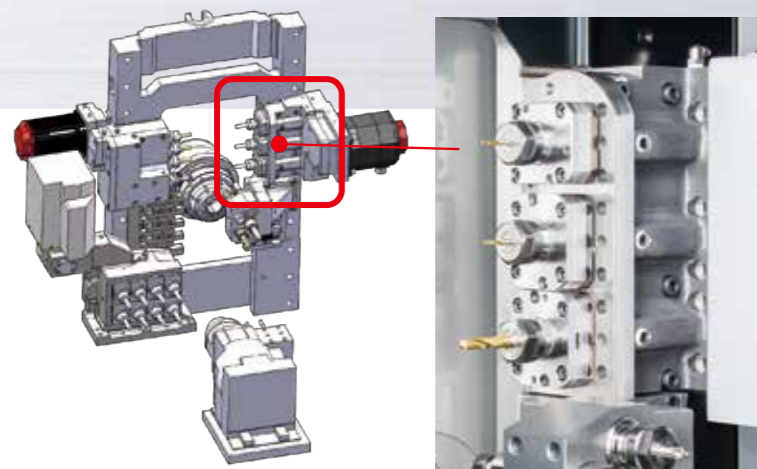
Item		Specification
Max. speed	T01 to T03	6,000 min <sup>-1</sup> (Rated speed: 4,800 min <sup>-1</sup> )
	T04	4,000 min <sup>-1</sup> (Rated speed: 3,200 min <sup>-1</sup> )
Applicable collet	T01 to T03	ER16
	T04	ER20
Motor output	1.0 kW	

## 8-spindle back drive (Linear 6-axis machine) (Standard)



Item		Specification
Max. speed	6,000 min <sup>-1</sup> (Rated speed: 4,800 min <sup>-1</sup> )	
Method of mounting live tools	Modular type	
Motor output	1.4 kW	

## Rear drive (Option)



The picture is an example of tool spindle installation.

Item		Specification
Max. speed	6,000 min <sup>-1</sup> (Rated speed: 4,800 min <sup>-1</sup> )	
Method of mounting live tools	Modular type	
Motor output	1.4 kW	

### Tool spindle (Option)

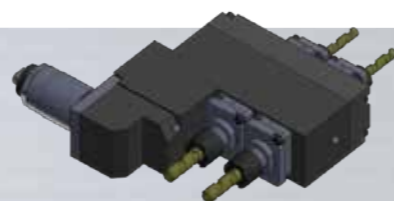
Rear drive



Item	Specification
Max. speed	6,000 min <sup>-1</sup> (Rated speed: 4,800 min <sup>-1</sup> )
Applicable collet	ER16
Mounting restriction	Can be mounted on all positions of T11, T14, and T17
Parts number	3268-T05B

### Double face spindle (Option)

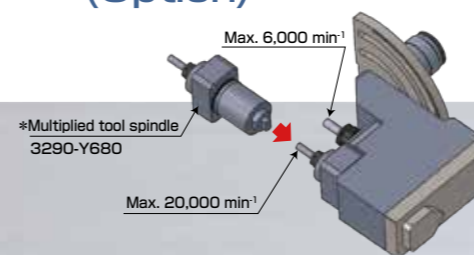
Rear drive



Item	Specification
Max. speed	6,000 min <sup>-1</sup> (Rated speed: 4,800 min <sup>-1</sup> )
Applicable collet	ER16
Mounting restriction	Can be mounted on all positions of T11, T14, and T17
Parts number	3282-Y902

### Multiplied angular drilling head (Option)

Rear drive



Item	Specification
Inclined angle	0 to 90°
Max. speed	6,000 min <sup>-1</sup> (Rated speed: 4,800 min <sup>-1</sup> ) *20,000 min <sup>-1</sup>
Applicable collet	ER16, *ER11
Mounting restriction	Can be mounted on T11 *Multiplied tool spindle is required in addition.
Parts number	3290-Y3832

### Multiplied tool spindle (Option) Optimum for small hole drilling

Tool spindle with 20,000 min<sup>-1</sup>

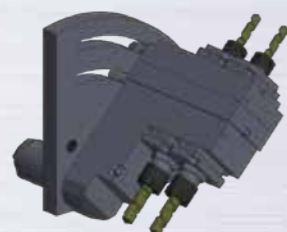
Rear drive



Item	Specification
Max. speed	20,000 min <sup>-1</sup>
Applicable collet	ER11
Mounting restriction	Can be mounted on all positions of T11, T14, and T17
Parts number	3290-Y3670

### Angular drilling head (Option)

Rear drive



Item	Specification
Inclined angle	0 to 90°
Max. speed	6,000 min <sup>-1</sup> (Rated speed: 4,800 min <sup>-1</sup> )
Applicable collet	ER16
Mounting restriction	Can be mounted on T11
Parts number	3282-Y3922

### Thread whirling head (Option)

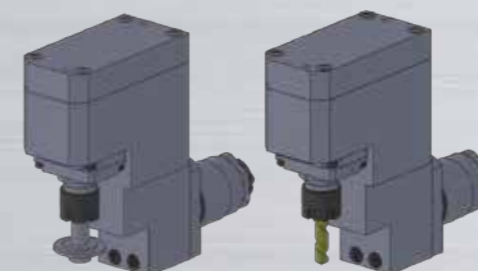
Rear drive



Item	Specification
Max. machining diameter for shank	φ9 mm
Applicable insert	NTK: TW chip
Inclined angle	0 to 30°
Max. speed	4,000 min <sup>-1</sup>
Mounting restriction	Can be mounted on T11 (Live tool cannot be mounted on T14)
Parts number	3268-Y451

### Back cross tool spindle (Option)

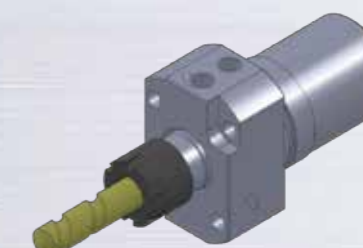
8-spindle back drive



Item	Specification
Max. speed	6,000 min <sup>-1</sup> (Rated speed: 4,800 min <sup>-1</sup> )
Applicable collet	ER16
Mounting restriction	Can be mounted on all positions at T31, T32, T33, and T34.
Parts number	3290-Y3041

### Adapter for fixed tool (Option)

8-spindle back drive



Item	Specification
Max. shank diameter of used cutting tool	φ25 φ32
Mounting restriction	Can be mounted on all positions at T31, T32, T33, T34, T35, T36, T37, and T38
Parts number	3282-Y211 (φ25) 3282-Y212 (φ32)

### Hobbing head (Option)

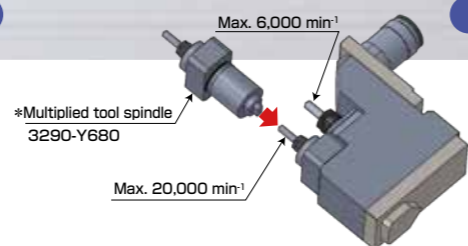
Rear drive



Item	Specification
Inclined angle	-20° to 0° to 20°
Max. cutter speed	MAX. 4,000 min <sup>-1</sup>
Mounting restriction	Can be mounted on T14 (Any Live tools cannot be mounted adjacently)
Parts number	3268-Y431

### Multiplied face spindle head (Option)

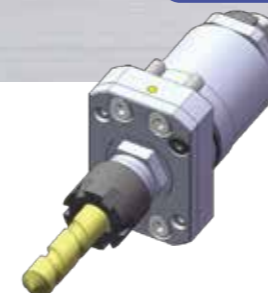
Rear drive



Item	Specification
Max. speed	6,000 min <sup>-1</sup> (Rated speed: 4,800 min <sup>-1</sup> ) *20,000 min <sup>-1</sup>
Applicable collet	ER16, *ER11
Mounting restriction	Can be mounted on all positions of T11, T14, and T17 *Multiplied tool spindle is required in addition.
Parts number	3290-Y3822

### Back tool spindle (Option)

8-spindle back drive



Item	Specification
Max. speed	6,000 min <sup>-1</sup> (Rated speed: 4,800 min <sup>-1</sup> )
Applicable collet	ER16
Mounting restriction	Can be mounted on all positions at T31, T32, T33, T34, T35, T36, T37, and T38
Parts number	3282-Y041

### Multiplied tool spindle (Option) Optimum for small hole drilling

Tool spindle with 20,000 min<sup>-1</sup>

8-spindle back drive



Item	Specification
Max. speed	20,000 min <sup>-1</sup>
Applicable collet	ER11
Mounting restriction	Can be mounted on all positions at T31, T32, T33, T34, T35, T36, T37, and T38
Parts number	3290-Y680

# Easy-to-use Software



## Easy operation offers setup efficiency.

### Automatic cutting-off/facing

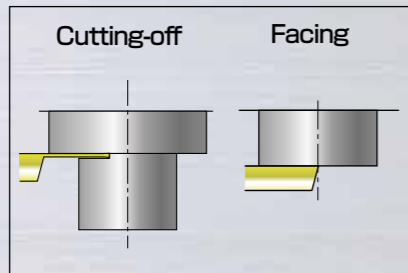
Cutting-off or facing is executed by inputting on the dedicated screen.

Inputting tool number, offset number, bar diameter, spindle speed and feedrate, and by pressing start soft key:

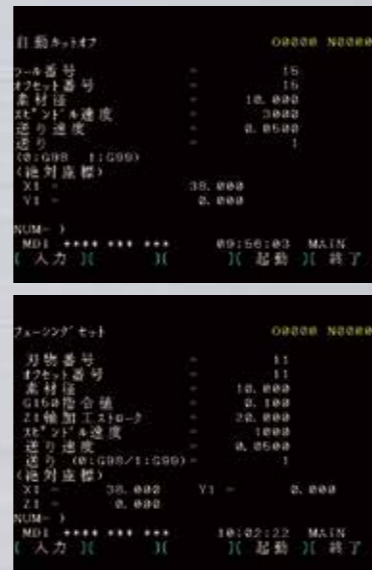
Coolant ON, Spindle rotation ON

Approaching

Cutting-off / facing

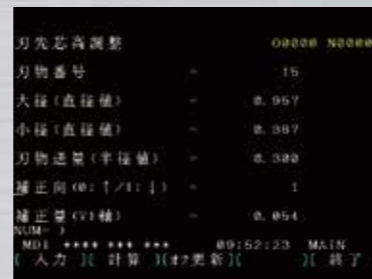
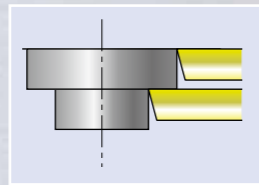


In this manner cutting-off or facing is simply executed. Moreover, same operation can be performed by the dedicated program code.



### Tool-height compensation function (Patented)

Execute tryout turning including bigger OD and smaller OD, and measure both dimensions. On the dedicated screen by inputting the measured value and other data and pressing "CALC" button, the compensation value is easily calculated. By pressing "UPDATE" soft key, the tool height offset data will be updated.



## Rich information for the maintenance helps the effective operation.

### Periodical maintenance

Useful maintenance information such as amount of lubrication oil, cleaning of chuck/guide bushing, or battery replacement timing is displayed, contribute to the consistent maintenance. Items or setting period can be customized, and it can be optimized.



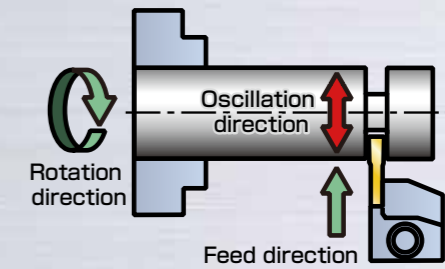
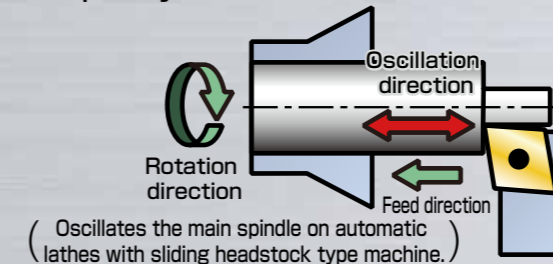
# 1-axis oscillation cutting X1/Z1-axis (option)



## What is Oscillation Cutting?

### Machining method that oscillates the tool in the feed direction

Frequency to be used is 50Hz or lower



## Characteristics

- Chips break into small pieces, and do not entangled on tools or workpieces.
- Small pieces of chips do not take up much space.
- Oscillation cutting using servo learning (option)

- Oscillation cutting using servo learning (option) can be selected in case the NC unit is either 31i or 32i.
- When this option is selected, tool tip will follow the oscillation command precisely, fine adjustment is not necessary.
- It is applicable to circular cutting as well.
- \*There is restriction for oscillation cutting using servo learning, such as NC units, so contact Tsugami for assistance.

## Z-axis direction (OD turning)

Material: Aluminum (JIS A5056)  
Cutting depth 2.0 mm  
Oscillation cycle: 1.5  
Feedrate: 0.05 mm/rev

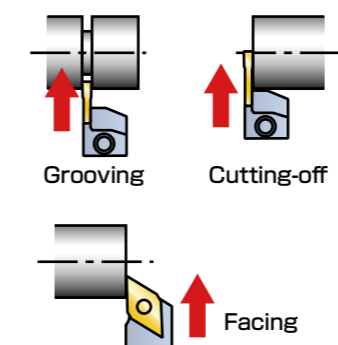


Conventional cutting

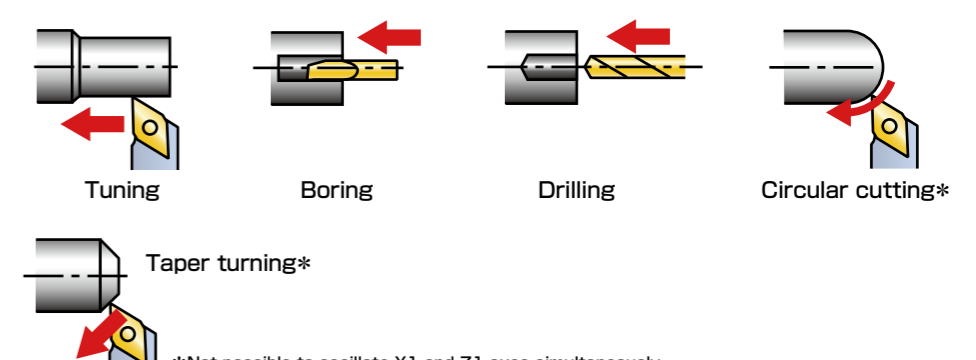
Oscillation Cutting

## Machining using Oscillation Cutting

### Machining with X1-axis oscillation



### Machining with Z1-axis oscillation



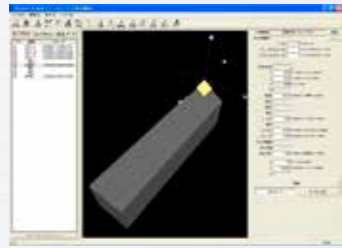
# BO series automatic programming system "Able" (Standard)

## BO386-III Able

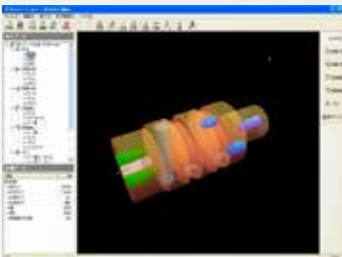
Tsugami's rich know-how such as machining processes, machining conditions, etc. are taken into the software, and any novice programmers can create standardized and high quality programs.

### Creating NC program in two steps

#### Step 1 Tool data inputting



#### Step 2 Geometrical data inputting



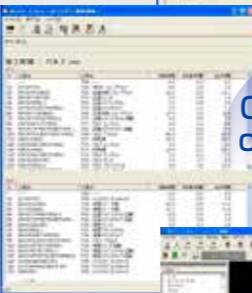
Automatic generation

From program generation to simulation by simple operation

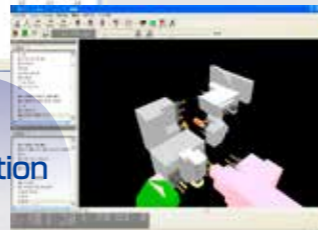
NC program



Cycle time calculation



3D simulation

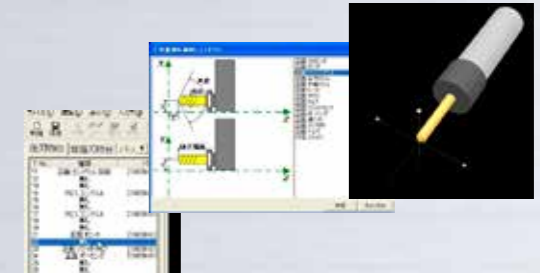
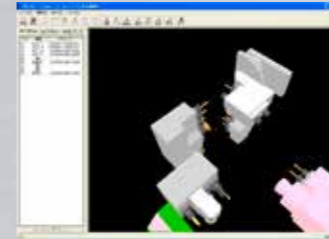


### Simple inputting

#### Tool definition

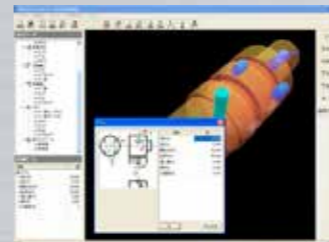
Tool definition can be done like an actual mechanical setting. Tool type, tool width, drill diameter, mounting position are to be set one by one for each tool.

Click T number and select the type of tool to be set. Then just input simple data such as tool dia. or width.

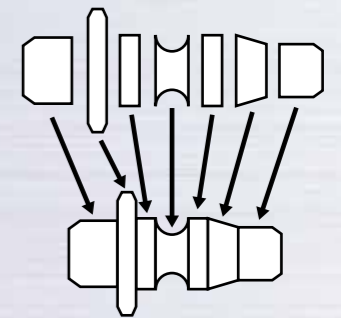


#### Workpiece geometry definition

No complicated operation like CAD required for workpiece geometry definition. By stacking up simple shapes (stacking block method), geometry can be created with ease in drastically shortened time. Even a novice can quickly learn the input method.



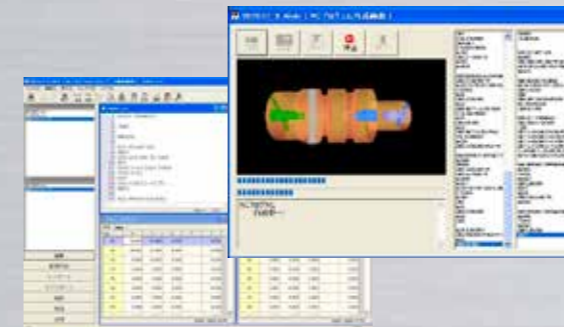
Stacking block method is a method of forming one workpiece geometry by stacking up the blocks which workpiece outer diameter are divided into.



### Useful output

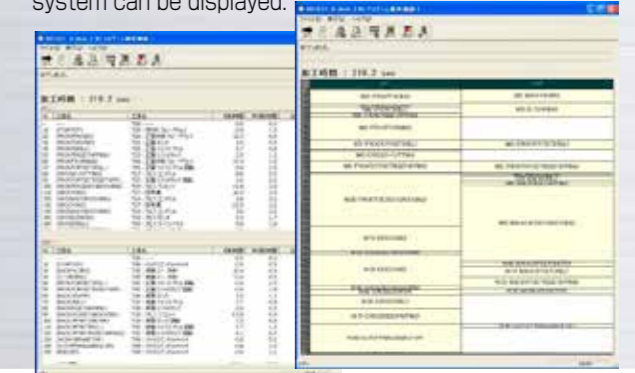
#### NC program/Offset data

Besides matching the two paths, NC program using the exclusive M/G codes is automatically created.



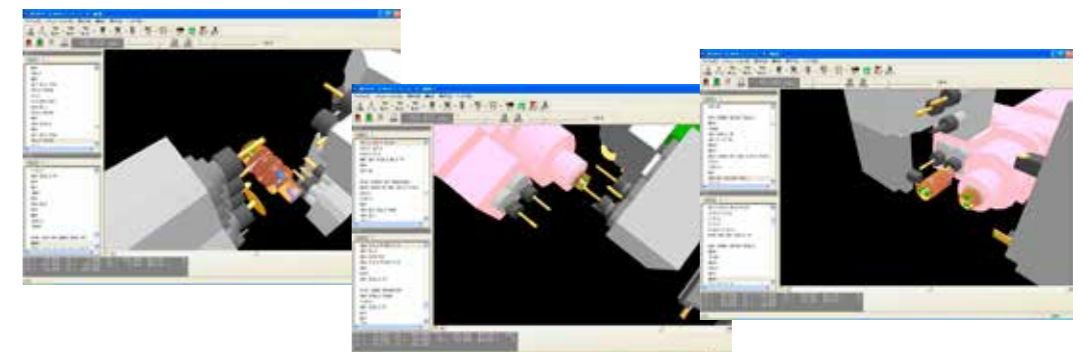
#### Cycle time calculation

The cycle time is calculated automatically, and cutting time/idle time as well as process time for each path system can be displayed.



#### Simulation

The 3D simulation function enables the checking the operations from any angle.



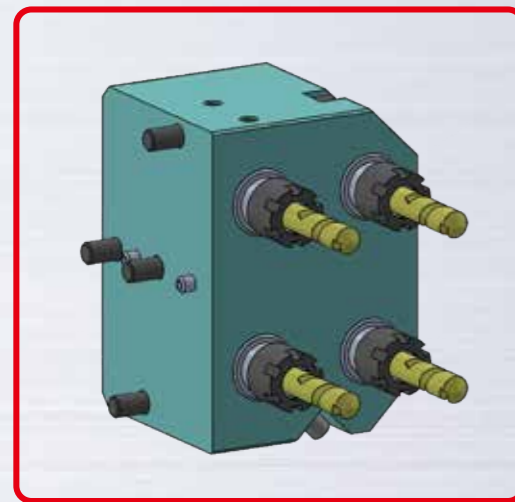
### "Able" BO Series lineup

Applicable models	BO386-III Able	B0265-III/B0265B-III/B0266-III/B0325-III/ B0325B-III/B0326-III/B0385-III/B0385B-III/ B0385L-III/B0385LB-III/B0386-III/B0386L-III
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### Hardware requirement

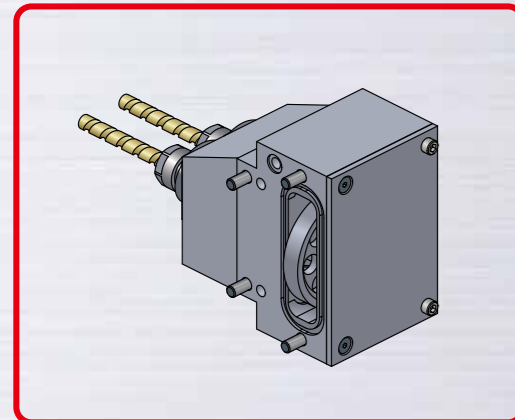
Item	Specifications
OS	Windows 7 Windows 8 Windows 10 (Internet Explorer 6.0 or more and Open GL library has been installed.)
Computer	PC/AT compatibles (DOS/V machines)
CPU	Intel Celeron 2 GHz or faster (3 GHz or more recommended)
Memory	512 MB or more
HDD	100 MB or more free space required
CD-ROM drive	Double speed or more (Used at installation)
Display	16.77 million color bit display (Full color) Resolution: 1024 x 768 or higher

Options



**Additional holder for back tool post (3290-Y3031) (B0266-III, B0326-III)**

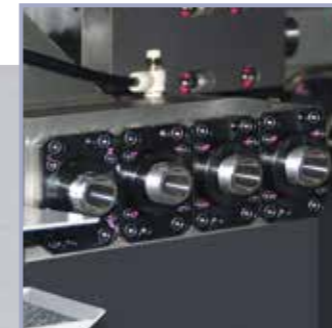
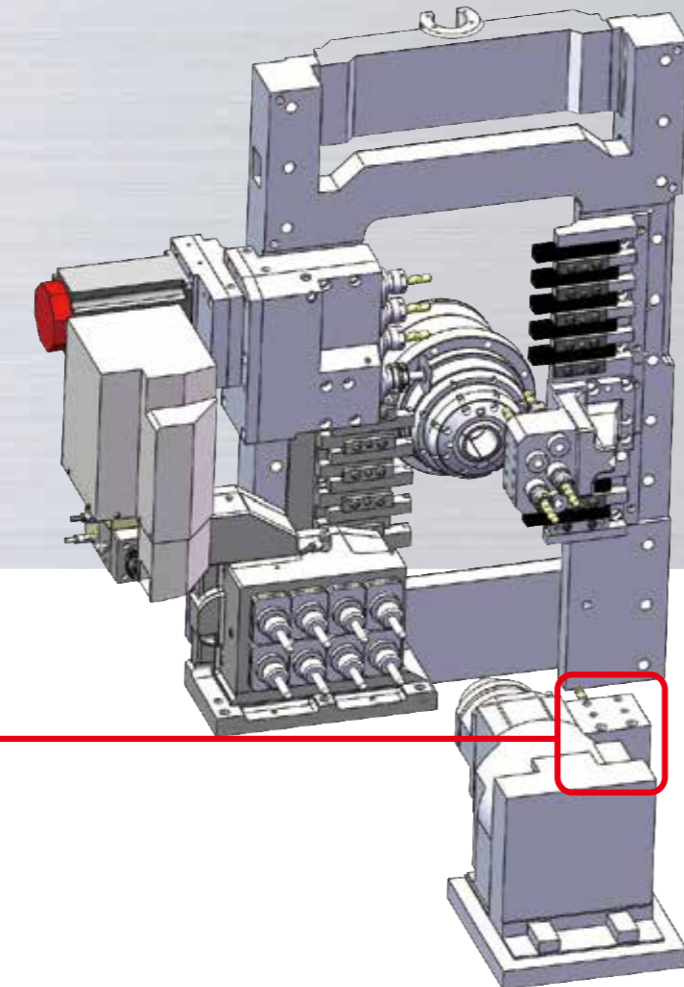
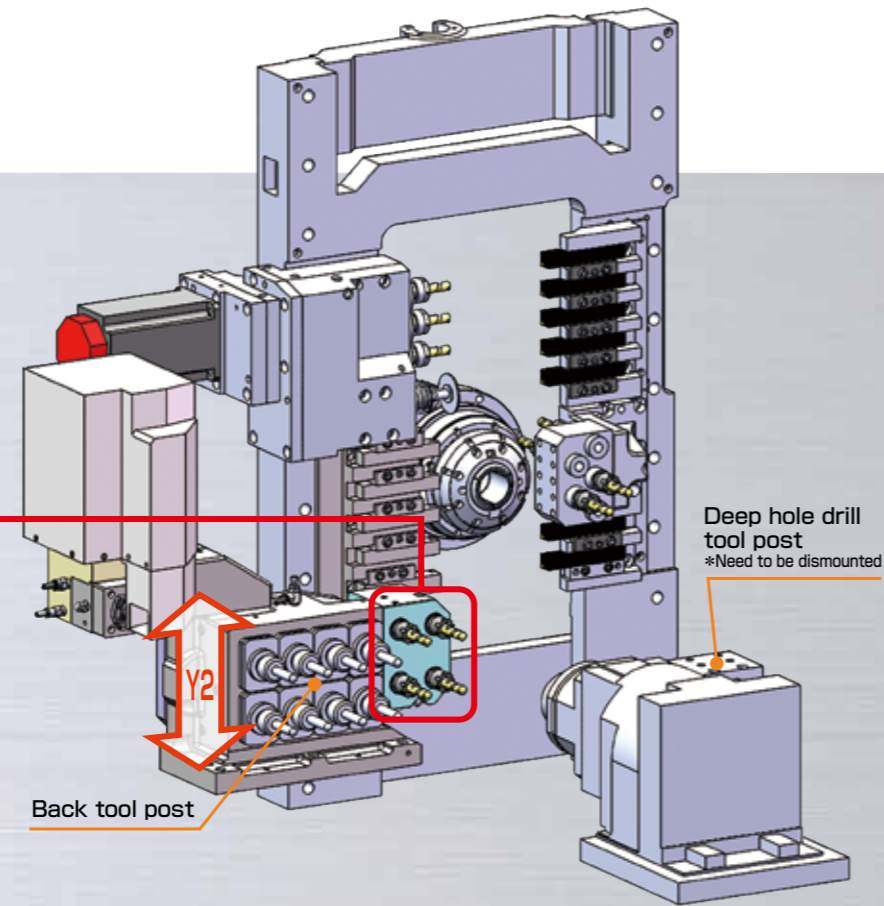
By adding the block with 4 x  $\phi 25$  holes, multiprocess of back machining is possible.  
\*In case the additional holder for back tool post is installed, deep hole drill holder needs to be dismantled.



**Live tool beside the back spindle (B026-III, B032-III)**

Upgrading the capability of front combined machining

Max. speed	8,000 min <sup>-1</sup>
Applicable collet	ER16
Efficient machining length	30 mm
Max. drilling diameter	$\phi 8$ mm
Max. tapping diameter	M6
Parts number	3290-Y3010



**Back drive (Back tool post)**

Drive unit to mount the live tools on the back tool post of linear 5-axis machine.  
●3290-Y3220 (B0265/325-III) (4-spindle drives)  
●3282-Y3020 (B0385-III) (5-spindle drives)



**Mist collector**

Oily or Water-soluble mist from the cutting area can be collected, and it can keep the working environment clean.



**WAVY coolant nozzle**

The discharge angle can be adjusted arbitrarily. Swivel angle and moving speed can be adjusted.



**Work conveyor**

After receiving the ejected workpiece from the back spindle with a catcher, it is carried out with a conveyor to outside of the machine.  
●3290-Y3060



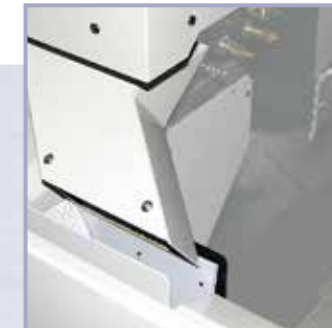
**Coolant flow switch**

When the flow rate of coolant decreases, the machine will be stopped. The risk of fire or defective machining due to coolant shortage is reduced.  
●3290-Y510



**Signal indicator (Triple)**

Three-color lamp lights inform the status of the machine by flashing.



**Work catcher**

The workpiece discharged from back spindle is collected by a catcher, and carried out to the work conveyor.  
●3290-Y3070 (B026/32-III)  
●3282-Y3070 (B038-III)



**High pressure pump (1,500 W)**

When using the optional M-code oil blow or workpiece front discharge, use this pump system together.  
●3290-Y3380



**Chip conveyor**

This unit carries the chips to right side of the machine. This unit corresponds to curled and long chips.



Standard Specifications of Machine

Item	B0265-III	B0265B-III	B0266-III	B0325-III	B0325B-III	B0326-III	B0385-III	B0385B-III	B0385L-III	B0385LB-III	B0386-III	B0386L-III			
Machine capacity, Machining range	Working barstock diameter			ϕ8 to ϕ32 mm			ϕ8 to ϕ38 mm			ϕ8 to ϕ38 mm					
	Max. machining length			330 mm (Direct-drive/Belt-drive rotary guide bushing) 50 mm (Guide-bushless type)*1			330 mm (Direct-drive/Belt-drive rotary guide bushing) 70 mm (Guide-bushless type)*1			330 mm (Direct-drive guide bushing) 70 mm (Guide-bushless type)*1			100 mm (Exclusive machine for guide-bushless)	330 mm (Direct-drive guide bushing) 70 mm (Guide-bushless type)*1	100 mm (Exclusive machine for guide-bushless)
	Main spindle speed			200 to 10,000 min <sup>-1</sup>			200 to 8,000 min <sup>-1</sup>			200 to 6,000 min <sup>-1</sup>			200 to 6,000 min <sup>-1</sup>		
	Back spindle speed			200 to 10,000 min <sup>-1</sup> *2			200 to 8,000 min <sup>-1</sup>			200 to 7,000 min <sup>-1</sup>			200 to 7,000 min <sup>-1</sup>		
	Direct-drive rotary guide bushing speed			200 to 10,000 min <sup>-1</sup>			200 to 8,000 min <sup>-1</sup>			200 to 6,000 min <sup>-1</sup>			—		
	Tool spindle speed			200 to 6,000 min <sup>-1</sup> *3(Rated speed: 4,800 min <sup>-1</sup> )			200 to 6,000 min <sup>-1</sup> *3(Rated speed: 4,800 min <sup>-1</sup> )			200 to 6,000 min <sup>-1</sup> *3(Rated speed: 4,800 min <sup>-1</sup> )			200 to 6,000 min <sup>-1</sup> *3(Rated speed: 4,800 min <sup>-1</sup> )		
	Total tool storage capacity			27	31		27	31		26			29		
	Tool size			16 mm x 16 mm x 100 mm			16 mm x 16 mm x 100 mm			16 mm x 16 mm x 100 mm, 20 mm x 20 mm x 125 mm (Only cutting-off)			16 mm x 16 mm x 100 mm, 20 mm x 20 mm x 125 mm (Only cutting-off)		
	Rapid traverse rate			35 m/min (X1,Y1,Y2: 24 m/min)			35 m/min (X1,Y1,Y2: 24 m/min)			32 m/min (X1,Y1,Z1: 24 m/min)			32 m/min (X1,Y1,Z1,Y2: 24 m/min)		
	Controlled axes (linear axes)			5-axis		6-axis	5-axis		6-axis	5-axis			6-axis		
Motors	Main spindle			3.7/5.5 kW			3.7/ 5.5 kW			7.5/11 kW			7.5/11 kW		
	Back spindle			3.7/5.5 kW			3.7/ 5.5 kW			3.7/5.5 kW			3.7/5.5 kW		
	Linear axes			X1·Y2: 0.5 kW, Y1·Z1·X2·Z2: 0.75 kW (Y2-axis is only available on 6-axis machines.)			X1·Y2: 0.5 kW, Y1·Z1·X2·Z2: 0.75 kW (Y2-axis is only available on 6-axis machines.)			X1,Y1,Z1,X2,Z2: 0.75 kW			X1,Y1,Z1,X2,Z2: 0.75 kW Y2: 0.5 kW		
	Live tool drive			4-spindle cross live tool: 1.0 kW			4-spindle cross live tool: 1.0 kW			4-spindle cross live tool: 1.0 kW			4-spindle cross live tool: 1.0 kW		
				Rear drive: 1.4 kW (option)			Rear drive: 1.4 kW (option)			Rear drive: 1.4 kW (option)			Rear drive: 1.4 kW (option)		
				8-spindle back drive: 1.4 kW (Optional for linear 5-axis machine)			8-spindle back drive: 1.4 kW (Optional for linear 5-axis machine)			8-spindle back drive: 1.4kW (option)			8-spindle back drive: 1.4 kW (option)		
Coolant pump			0.4 kW			0.4 kW			0.4 kW			0.4 kW			
Lubricating oil pump			3 W			3 W			3 W			3 W			
Power supply and others	Net weight			4,000 kg			4,000 kg			4,850 kg			4,850 kg		
	Power source requirement			16.8 kVA			16.8 kVA			22.4 kVA			22.4 kVA		
	Compressed air requirement			0.4 MPa or above			0.4 MPa or above			0.4 MPa or above			0.4 MPa or above		
	Air discharge rate			100 NL/min			100 NL/min			100 NL/min			100 NL/min		
	Coolant tank capacity			190 L			190 L			190 L			190 L		
	Width x Depth x Height			2,630 mm x 1,280 mm x 1,970 mm			2,630 mm x 1,280 mm x 1,970 mm			2,770 mm x 1,515 mm x 2,050 mm			2,770 mm x 1,515 mm x 2,050 mm		

\*1 Guide-bushless and direct-drive rotary guide bushing are optional.  
 \*2 Max. back spindle speed is limited to 8,000 min<sup>-1</sup> when a live tool beside the back spindle is mounted.  
 \*3 Rated tool spindle speed is 4,800 min<sup>-1</sup>. Operation over 4,800 min<sup>-1</sup> should be restricted to short period of time.

NC Specifications

Item	B0265-III	B0265B-III	B0325-III	B0325B-III	B0266-III	B0326-III	B0385-III	B0385B-III	B0385L-III	B0385LB-III	B0386-III	B0386L-III
Controlled axes	X1,Z1,Y1,X2,Z2,C1,C2				X1,Z1,Y1,X2,Z2,Y2,C1,C2		X1,Z1,Y1,X2,Z2,C1,C2				X1,Z1,Y1,X2,Z2,Y2,C1,C2	
Least input increment	0.001 mm (X1/X2 axes in diameter)				0.001 mm (X1/X2 axes in diameter)		0.001 mm (X1/X2 axes in diameter)				0.001 mm (X1/X2 axes in diameter)	
Least command increment	X1/X2: 0.0005 mm, other axes: 0.001 mm				X1/X2: 0.0005 mm, other axes: 0.001 mm		X1/X2: 0.0005 mm, other axes: 0.001 mm				X1/X2: 0.0005 mm, other axes: 0.001 mm	
Maximum programmable value	±8 digits				±8 digits		±8 digits				±8 digits	
Interpolation method	Linear, circular				Linear, circular		Linear, circular				Linear, circular	
Feedrate	1 to 6,000 mm/min				1 to 6,000 mm/min		1 to 6,000 mm/min				1 to 6,000 mm/min	
Feedrate override	0 to 150 % in 10 % increments				0 to 150 % in 10 % increments		0 to 150 % in 10 % increments				0 to 150 % in 10 % increments	
Dwell	G04 0 to 99999.99				G04 0 to 99999.99		G04 0 to 99999.99				G04 0 to 99999.99	
ABS/INC command	X,Y,Z,C: absolute U,V,W,H: Incremental				X,Y,Z,C: absolute U,V,W,H: Incremental		X,Y,Z,C: absolute U,V,W,H: Incremental				X,Y,Z,C: absolute U,V,W,H: Incremental	
Tool offset pairs	Main: 64, Back: 64	Main: 99, Back: 99	Main: 64, Back: 64	Main: 99, Back: 99	Main: 99, Back: 99		Main: 64, Back: 64	Main: 99, Back: 99	Main: 64, Back: 64	Main: 99, Back: 99	Main: 99, Back: 99	
LCD/MDI	10.4" color LCD				10.4" color LCD		10.4" color LCD				10.4" color LCD	
Display language	Japanese/English				Japanese/English		Japanese/English				Japanese/English	
Part program storage size (sum of main and back spindle NCs)	1 Mbyte (equivalent to 2,560 m tape length)	512 kbyte (equivalent to 1,280 m tape length)	1 Mbyte (equivalent to 2,560 m tape length)	512 kbyte (equivalent to 1,280 m tape length)	512 kbyte (equivalent to 1,280 m tape length)		1 Mbyte (equivalent to 2,560 m tape length)	64 kbyte (equivalent to 160 m tape length)	1 Mbyte (equivalent to 2,560 m tape length)	64 kbyte (equivalent to 160 m tape length)	64 kbyte (equivalent to 160 m tape length)	
Registerable programs (sum of main and back spindle NCs)	800	1,000	800	1,000	1,000		800	63	800	63	63	
Miscellaneous functions	Main: M5-digits Back: M3-digits				Main: M5-digits Back: M3-digits		Main: M5-digits Back: M3-digits				Main: M5-digits Back: M3-digits	
Spindle function	S5-digits				S5-digits		S4-digits				S4-digits	
Tool function	T4-digits				T4-digits		T4-digits				T4-digits	

Standard Accessories

Item	B0265-III B0325-III	B0265B-III B0325B-III	B0266-III B0326-III	B0385L-III B0385-III	B0385LB-III B0385B-III	B0386L-III B0386-III
Tool height compensation	Standard			Standard		
Tool life counter	Standard			Standard		
Periodic maintenance screen	Standard			Standard		
Main spindle adapter	Standard			Standard		
Back spindle adapter	Standard			Standard		
Door interlock	Standard			Standard		
Coolant level detector	Standard			Standard		
Spindle cooling unit	Standard			Standard		
Standard tools	Standard			Standard		
Transit clamps	Standard			Standard		
Retractable coolant nozzle	Standard			Standard		
Automatic power shut off	Standard			Standard		
Deep hole drill holder (φ25 mm x 2)	Standard			* Option		
Automatic cut-off function/Automatic facing function	Standard			Standard		
Main spindle/back spindle air purge	Standard			Standard		
Cross drill air purge	Standard			Standard		
C-axis control for main/back spindles	Standard			Standard		
Main spindle brake	Standard			Standard		
Thermal displacement compensation	Standard			Standard		
Automatic programming software	Standard			Standard		

\*When mounting a deep-hole drill holder, number of tools on the back tool post will be changed. B0385L/LB-III, B0385/385B-III...5→3 B0386L-III/B0386-III...8→6

NC standard accessories

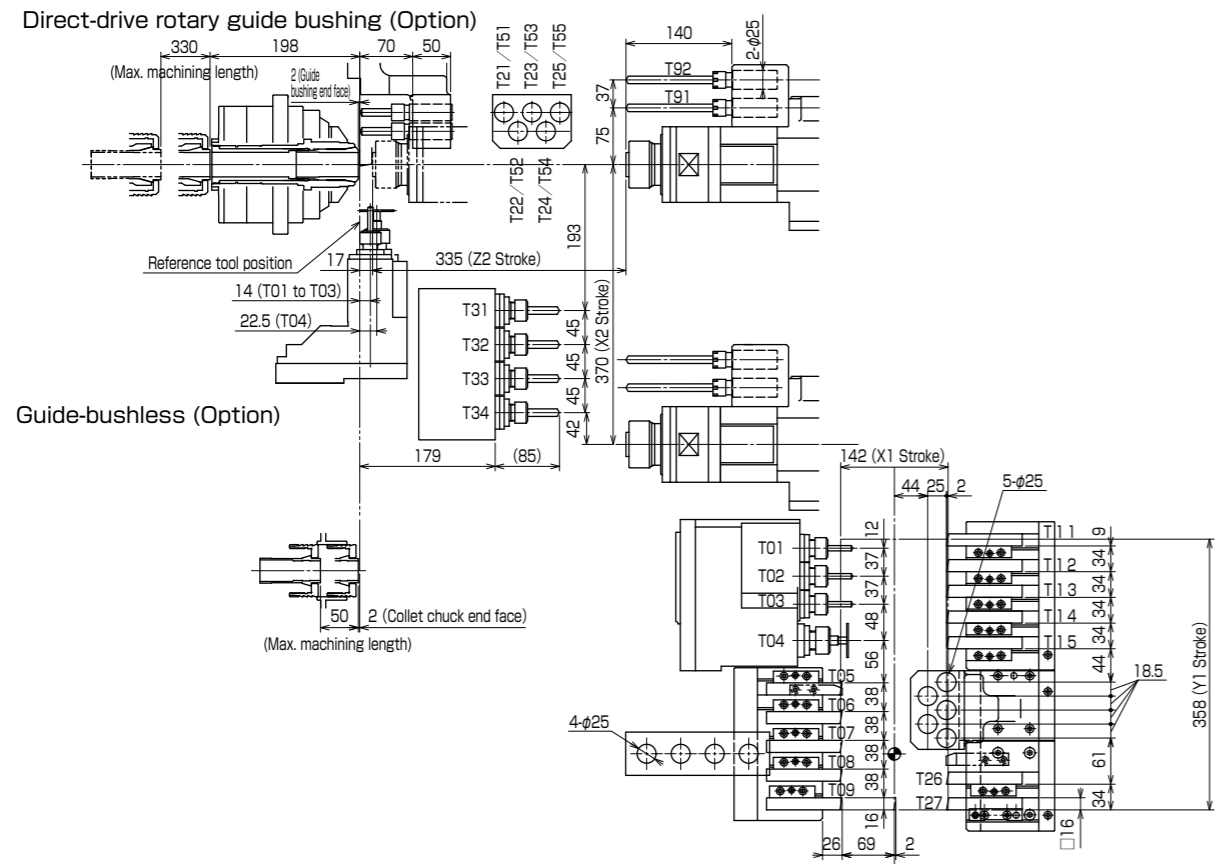
Item	B0265-III B0325-III B0385-III	B0265B-III B0325B-III B0385B-III	B0266-III B0326-III B0386-III	B0385L-III	B0385LB-III	B0386L-III
Chasing function	Standard					
Continuous thread cutting	Standard					
Manual pulse generator	Standard					
Memory card input/output interface	Standard					
Back ground editing	Standard					
Run time & parts number display	Standard					
Custom macro	Standard					
Constant surface speed control	Standard					
Spindle synchronous control (rotation/phase/tracing)	Standard					
Tool geometry/wear offset	Standard					
Programmable data input	Standard					
Chamfering & corner R	Standard					
Tool nose radius compensation	Standard					
HRV control	Standard					
Multiple repetitive cycle	Standard					
Extended program editing	Standard					
Canned drilling cycle	Standard					
Rigid tap (Main spindle, back spindle)	Standard					
Spindle speed fluctuation detection	Standard					
Cut-off detection (Speed differential type)	Standard					
Stored stroke check 2,3	Standard					

Options

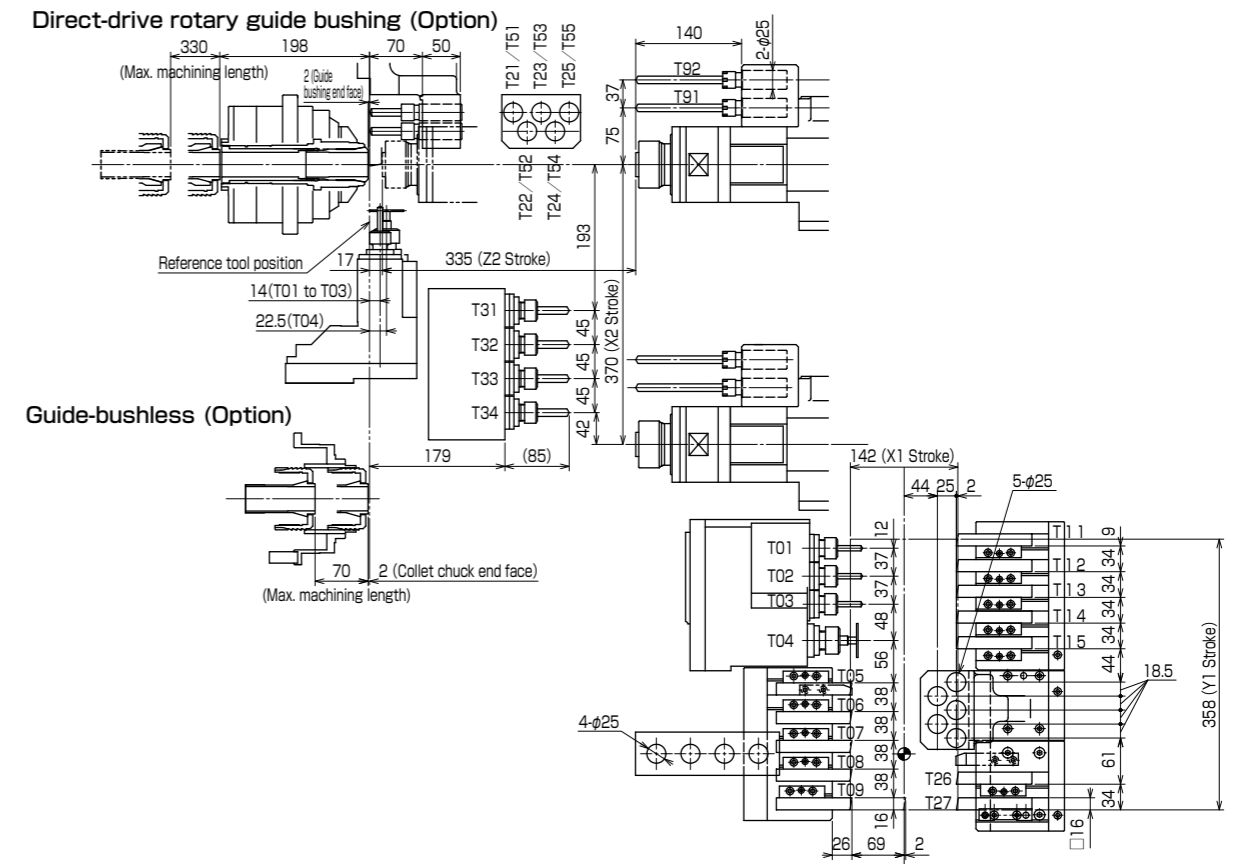
Item	B0265-III B0325-III	B0265B-III B0325B-III	B0266-III B0326-III	B0385-III	B0385B-III	B0386-III	B0385L-III	B0385LB-III	B0386L-III	
Guide bushing	Direct-drive rotary guide bushing	○	○	○	○	○	—	—	—	
	Belt-drive rotary guide bushing	○	○	○	—	—	—	—	—	
	Guide-bushless	○	○	○	○	○	○	Standard	Standard	Standard
Advanced function system	Main spindle C-axis control	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	
	Back spindle C-axis control	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	
	Main spindle brake	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	
	Back spindle 15°index	○	○	○	—	—	—	—	—	
	Back spindle brake	○	○	○	○	○	○	○	○	
	Live tool beside the back spindle	○	○	○	—	—	—	—	—	
	4-spindle cross live tools	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	
High precision system	0.1 μm resolution	○	○	○	○	○	○	○	○	
	Coolant oil temperature controller	○	○	○	○	○	○	○	○	
	X2-axis touch switch	○	○	○	○	○	○	○	○	
Live tools (Rear tool post)	Rear drive	○	○	○	○	○	○	○	○	
	Tool spindle	○	○	○	○	○	○	○	○	
	Double face spindle	○	○	○	○	○	○	○	○	
	Angular drilling head	○	○	○	○	○	○	○	○	
	Thread whirling head	○	○	○	○	○	○	○	○	
	Hobbing head	○	○	○	○	○	○	○	○	
	Multiplied tool spindle	○	○	○	○	○	○	○	○	
	Multiplied face spindle head	○	○	○	○	○	○	○	○	
	Multiplied angular drilling head	○	○	○	○	○	○	○	○	
Triple face spindle	○	○	○	○	○	○	○	○		
Live tools (Back tool post)	Back drive	○ (4 tools)	○ (4 tools)	Standard (8 tools)	○ (5 tools)	○ (5 tools)	Standard (8 tools)	○ (5 tools)	○ (5 tools)	
	Back tool spindle	○	○	○	○	○	○	○	○	
	Back cross tool spindle	—	—	○	—	—	○	—	○	
	Adapter for fixed tool	○	○	○	○	○	○	○	○	
Coolant related	Mist collector	○	○	○	○	○	○	○	○	
	High pressure pump	○	○	○	○	○	○	○	○	
	M code oil blow	○	○	○	○	○	○	○	○	
	WAVY coolant nozzle	○	○	○	○	○	○	○	○	
Workpiece discharge system	Work catcher	○	○	○	○	○	○	○	○	
	Work conveyor	○	○	○	○	○	○	○	○	
	Work tray	○	○	○	○	○	○	○	○	
	Work unloader	○	○	○	○	○	○	○	○	
	Front discharge	○	○	○	○	○	○	○	○	
Chip disposal	Rear discharge	○	○	○	○	○	○	○	○	
	Chip conveyor	○	○	○	○	○	○	○	○	
Tooling related	1-axis oscillation cutting (only applicable to X1 or Z1 axis)	○	○	○	○	○	○	○	○	
	Machine maintenance and monitoring	Signal indicator	○	○	○	○	○	○	○	
	Tooling related	Adapter for non-round bar (main spindle)	○	○	○	○	○	—	—	—
		Adapter for non-round bar (back spindle)	○	○	○	○	○	○	○	○
		Collet chuck with carbide lining	○	○	○	○	○	○	○	○
		Tool set gauge	○	○	○	○	○	○	○	○
		Spindle liner	○	○	○	○	○	○	○	○
		Drill holder	○	○	○	○	○	○	○	○
		Additional holder for back tool post	—	—	○	—	—	—	—	—
	NC functions	Part program storage size 1 Mbyte	—	○	○	—	○	—	○	○
		G-code system B/C	○	○	○	○	○	○	○	○
Direct drawing dimension program		Standard	○	○	Standard	○	○	Standard	○	
Variable-lead thread cutting		Standard	○	○	Standard	○	○	Standard	○	
Thread cutting cycle retract		Standard	○	○	Standard	○	○	Standard	○	
Polar coordinate interpolation		Standard	○	○	Standard	○	○	Standard	○	
Cylindrical interpolation		Standard	○	○	Standard	○	○	Standard	○	
Safety and other	Display language	○	○	○	○	○	○	○	○	
	Applicable to micro blocks	—	○	○	—	○	○	—	○	
	Coolant flow switch	○	○	○	○	○	○	○	○	
	Automatic fire extinguisher	○	○	○	○	○	○	○	○	
	Internal work light (Tooling zone)	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	
	Internal work light (Main spindle side)	○	○	○	○	○	○	○	○	
	Oil mist lubrication	○	○	○	○	○	○	○	○	
	Bar feeder interface	○	○	○	○	○	○	○	○	
	Manual handle retrace function	○	○	○	○	○	○	○	○	
	Live tool rigid tapping	○	○	○	○	○	○	○	○	
	RS232C input/output interface	○	○	○	○	○	○	○	○	
Safety and other	Inch/metric conversion	○	○	○	○	○	○	○	○	
	Abnormal load detection	○	○	○	○	○	○	○	○	
	Correspondence for water soluble coolant	Standard	Standard	Standard	Standard	Standard	Standard	Standard	Standard	

# Tooling zone

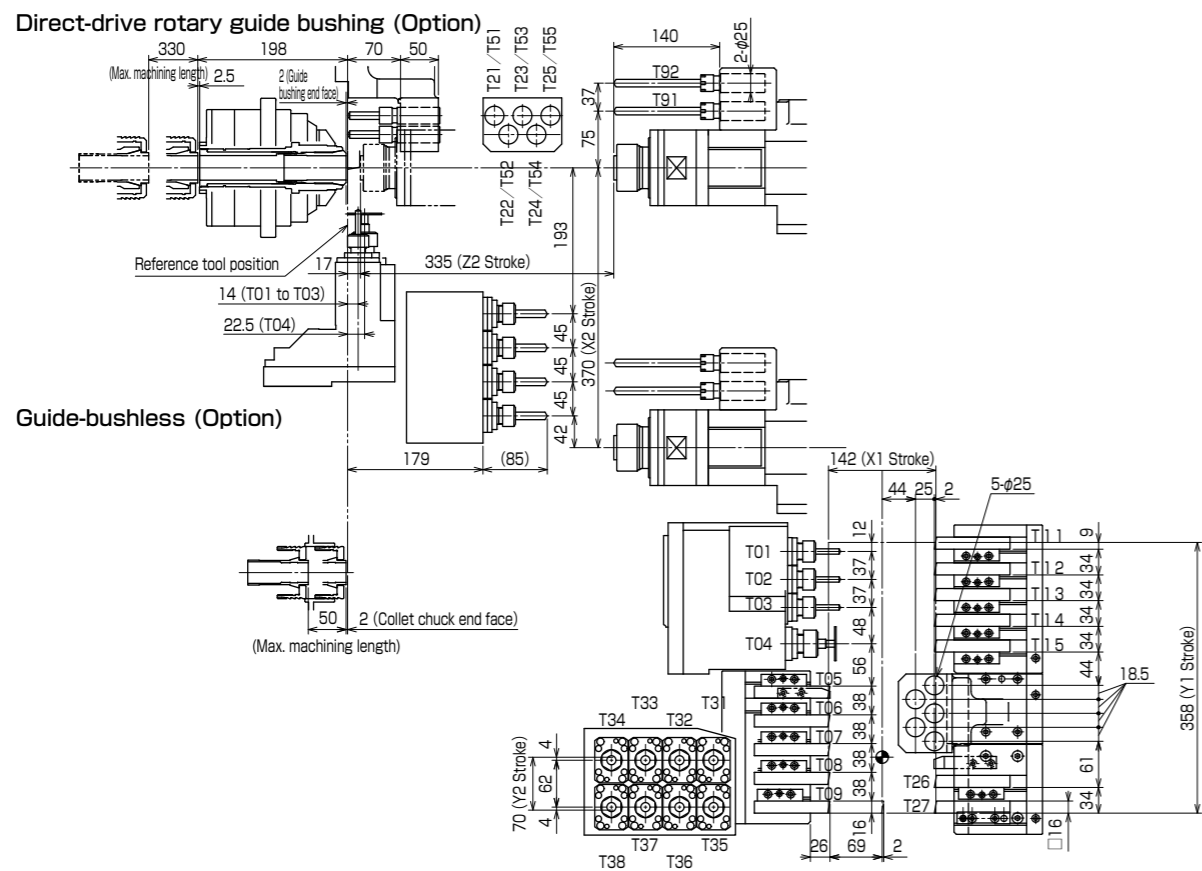
## B0265-III/265B-III



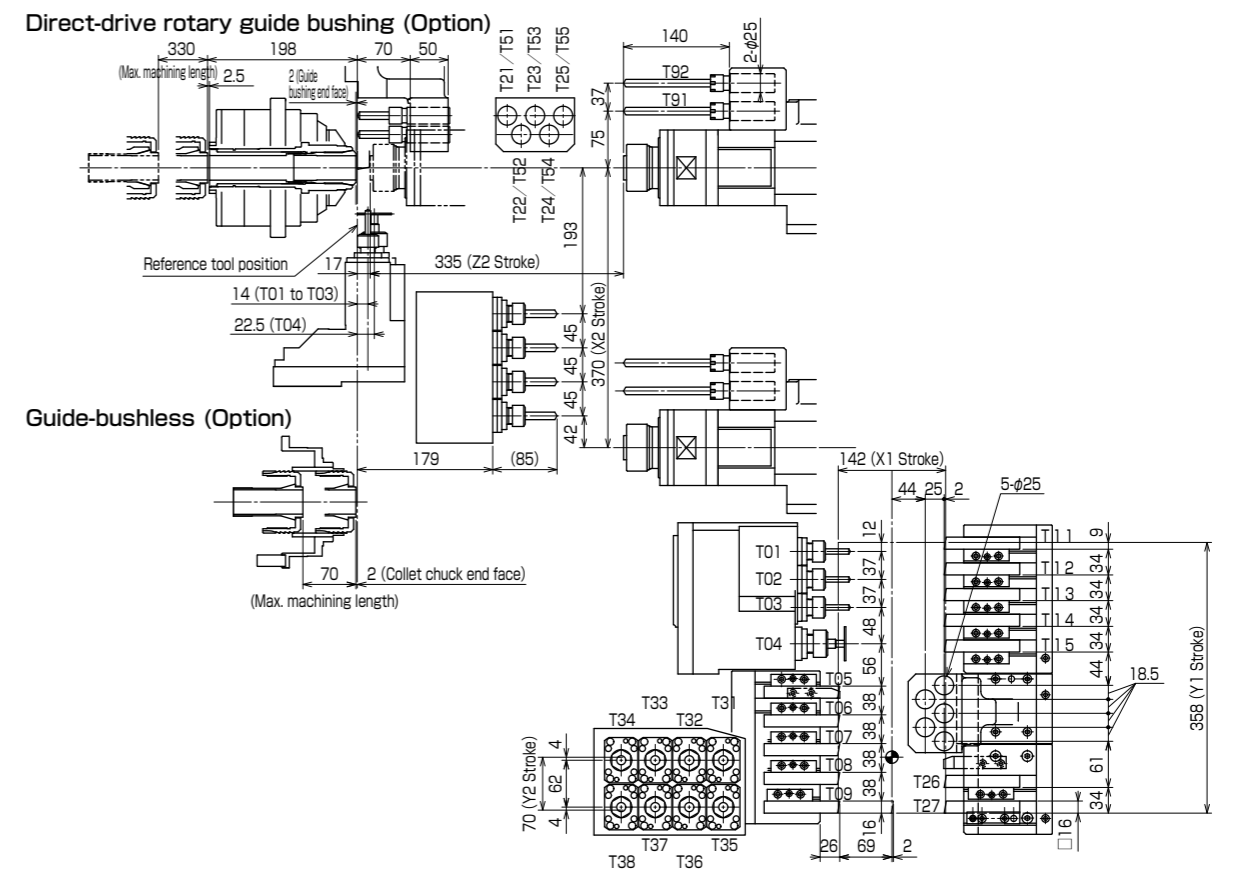
## B0325-III/325B-III



## B0266-III



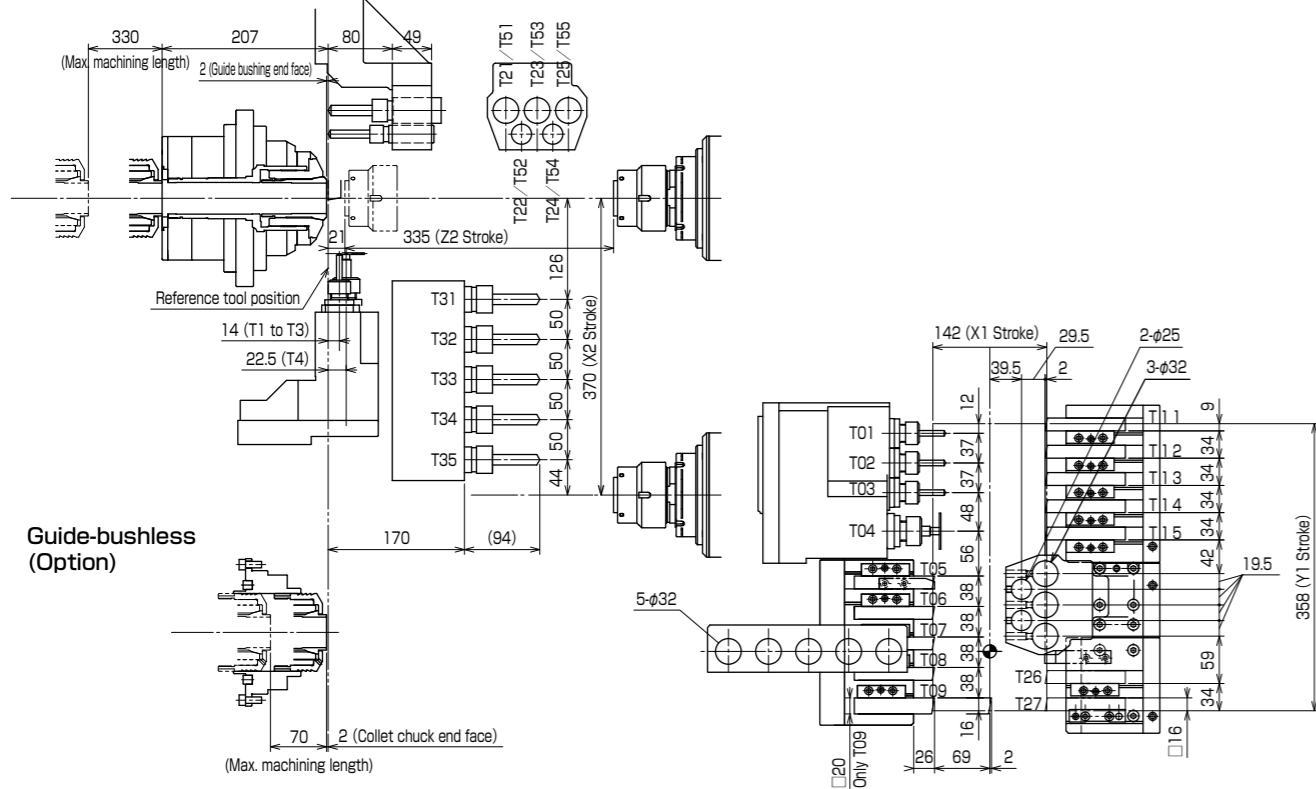
## B0326-III



# Tooling zone

## B0385-III/385B-III

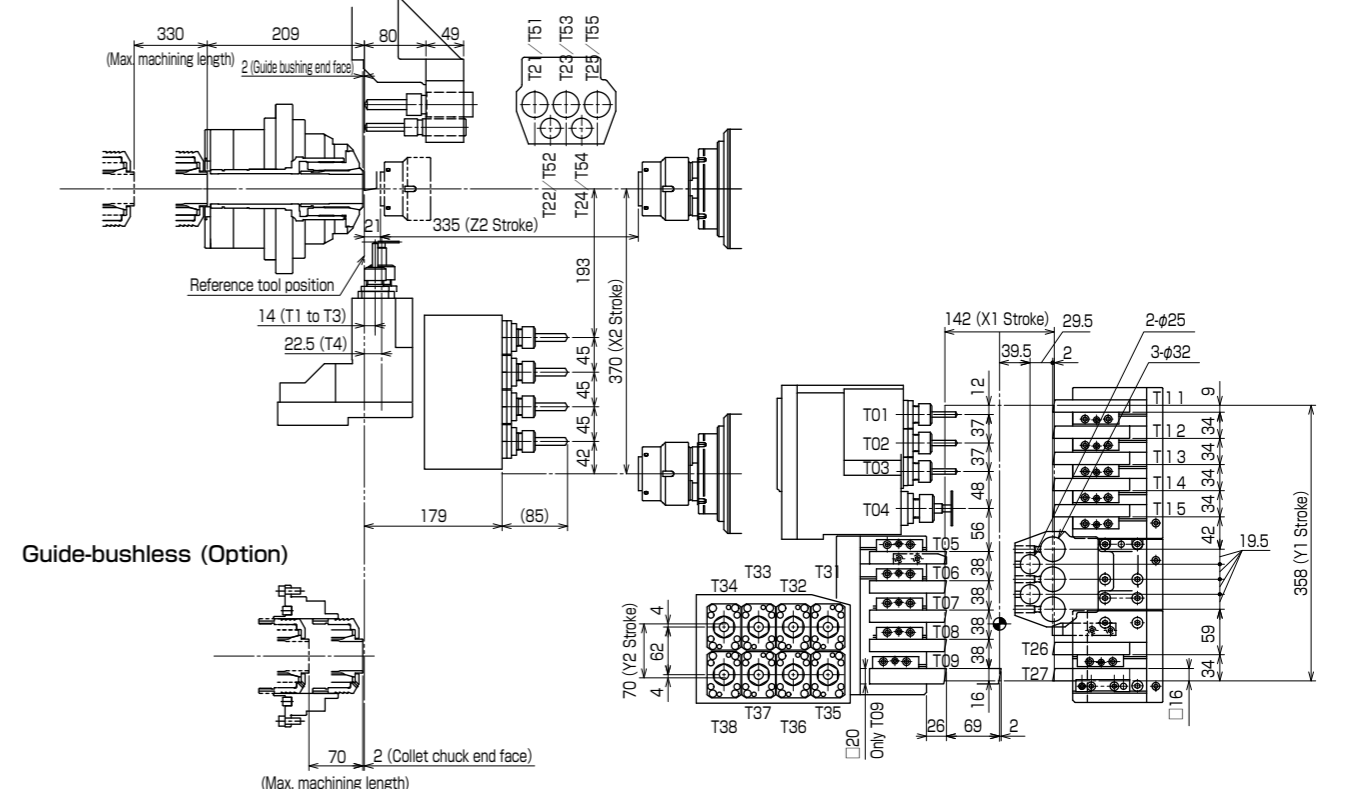
Direct-drive rotary guide bushing (Option)



Guide-bushless (Option)

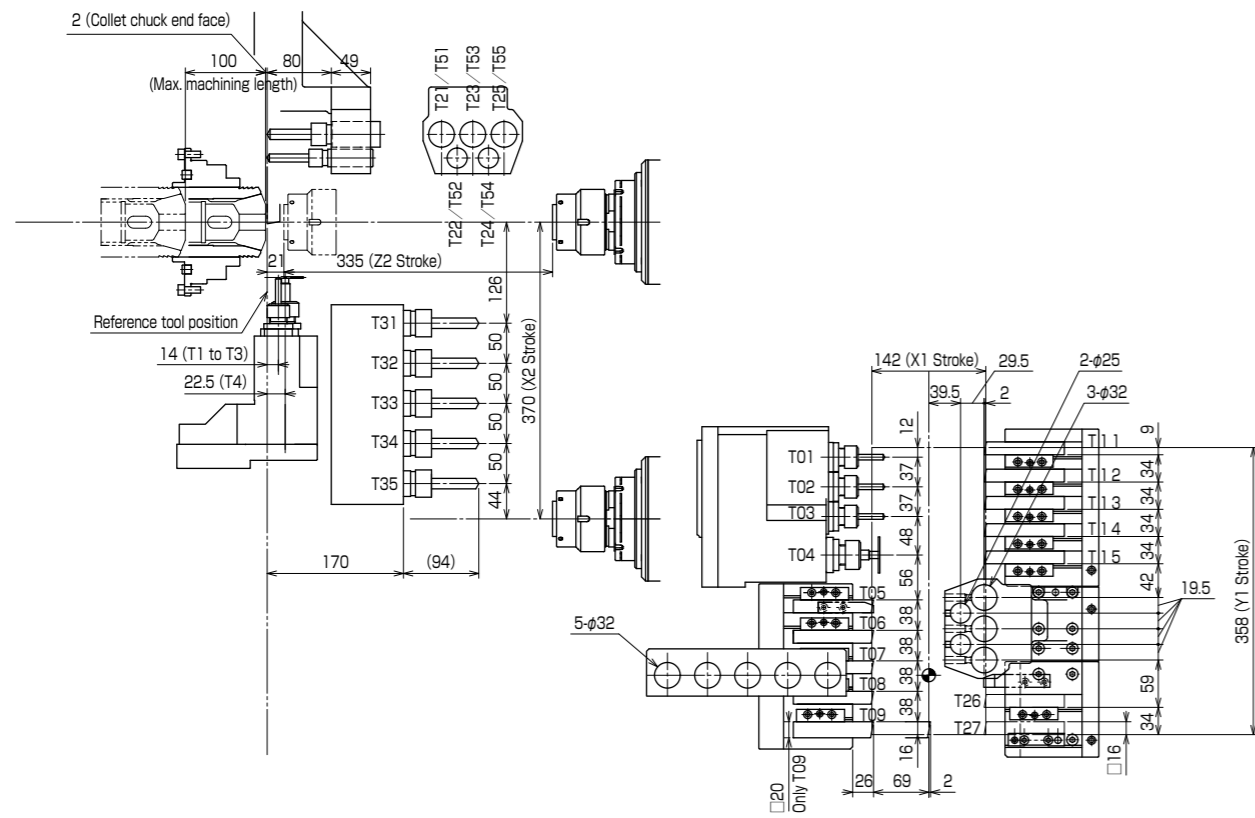
## B0386-III

Direct-drive rotary guide bushing (Option)



Guide-bushless (Option)

## B0385L-III/385LB-III



## B0386L-III

