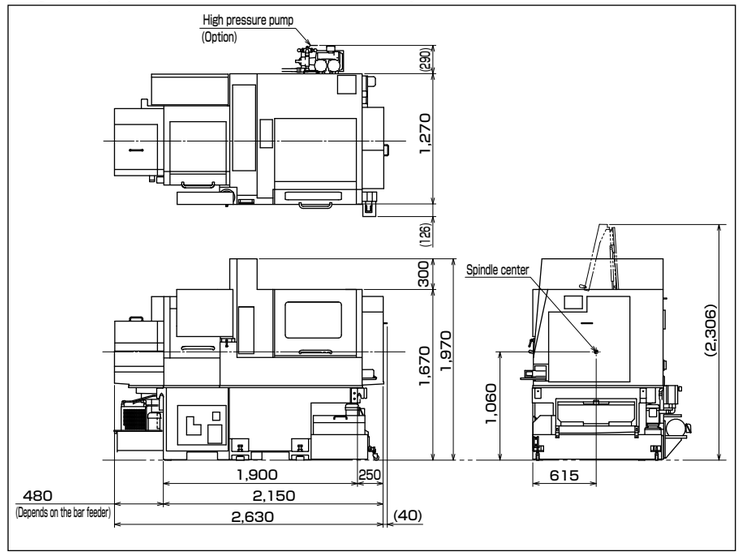
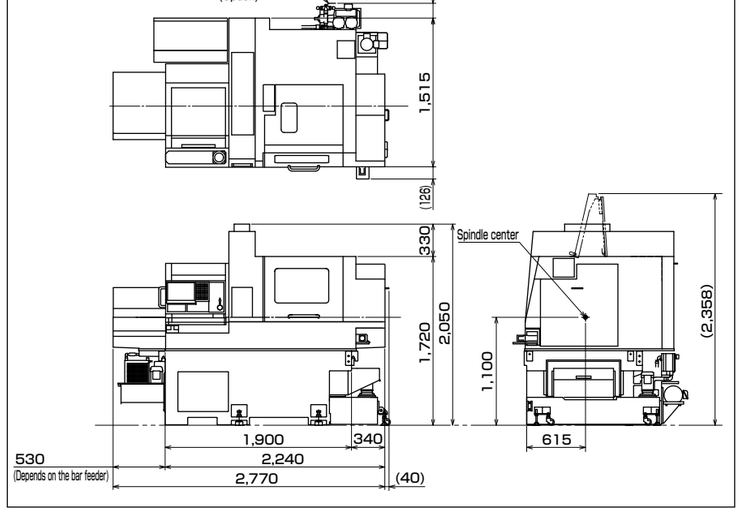
Layout (B026-Ⅲ/B032-Ⅲ Series)



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

12-20, TOMIZAWA-CHO, NIHONBASHI,
CHUO-KU, TOKYO 103-0006, JAPAN
Phone : +81-3-3808-1172
Facsimile : +81-3-3808-1175
http://www.tsugami.co.jp/

CAT.NO.E122930.SEP.2T(H)

PRECISION TSUGAMI

CNC Precision Automatic Lathe

B026-Ⅲ Series
B032-Ⅲ Series
B038-Ⅲ Series

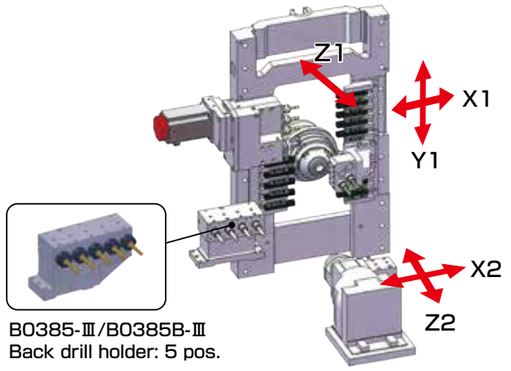
B026-Ⅲ/B032-Ⅲ series

B038-Ⅲ series

Responds to the various production style of complex -shaped workpieces.

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

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

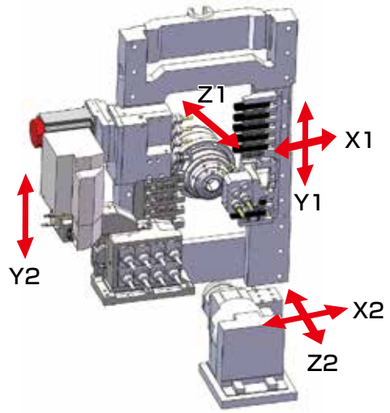


B0385-Ⅲ/B0385B-Ⅲ
Back drill holder: 5 pos.

		B0265-Ⅲ/325-Ⅲ/265B-Ⅲ/325B-Ⅲ	B0385-Ⅲ/385B-Ⅲ
Front & back simultaneous machining		Standard	
Back spindle		Standard	
Live tool of front tool post		Standard	
Rear drive		Option	
Back drive		Option	
Guide-bushless		Option	
Direct-drive rotary guide bushing		Option	
C-axis control for main/back spindles		Standard	
Rigid tap (live tool)		Option	
Number of tools			
OD tool		12	
Cross live tool		4	
Front	Fixed	7	5
	Live	Option	
Back	Fixed	9	10
	Live	Option	
Total number of tools (standard)		32	31

B0266-Ⅲ/326-Ⅲ/386-Ⅲ

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



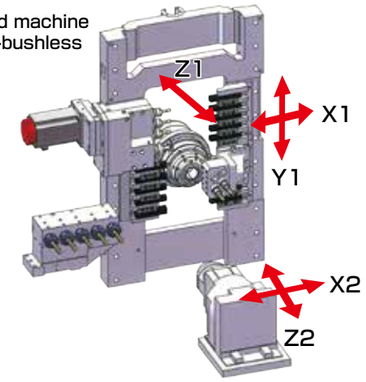
		B0266-Ⅲ/326-Ⅲ	B0386-Ⅲ
Front & back simultaneous machining		Standard	
Back spindle		Standard	
Live tool of front tool post		Standard	
Rear drive		Option	
Back drive		Standard	
Guide-bushless		Option	
Direct-drive rotary guide bushing		Option	
C-axis control for main/back spindles		Standard	
Rigid tap (live tool)		Option	
Number of tools			
OD tool		12	
Cross live tool		4	
Front	Fixed	7	5
	Live	Option	
Back	Fixed	5	
	Live	8*	
Total number of tools (standard)		36	34

*Tools are optional.

B0385L-Ⅲ
B0385LB-Ⅲ

ϕ38 mm 5-axis

Dedicated machine for guide-bushless

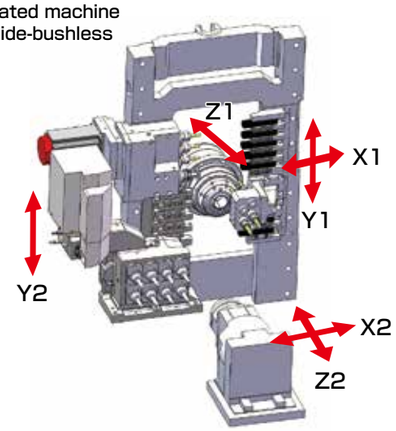


		B0385L-Ⅲ/385LB-Ⅲ
Front & back simultaneous machining		Standard
Back spindle		Standard
Live tool of front tool post		Standard
Rear drive		Option
Back drive		Option
Guide-bushless		Standard
C-axis control for main/back spindles		Standard
Rigid tap (live tool)		Option
Number of tools		
OD tool		12
Cross live tool		4
Front	Fixed	5
	Live	Option
Back	Fixed	10
	Live	Option
Total number of tools (standard)		31

B0386L-Ⅲ

ϕ38 mm 6-axis

Dedicated machine for guide-bushless



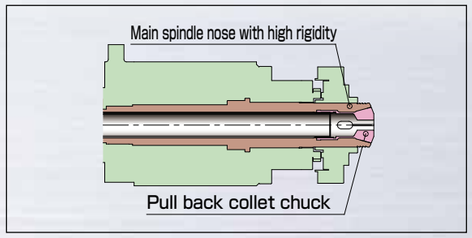
		B0386L-Ⅲ
Front & back simultaneous machining		Standard
Back spindle		Standard
Live tool of front tool post		Standard
Rear drive		Option
Back drive		Standard
Guide-bushless		Standard
C-axis control for main/back spindles		Standard
Rigid tap (live tool)		Option
Number of tools		
OD tool		12
Cross live tool		4
Front	Fixed	5
	Live	Option
Back	Fixed	5
	Live	8*
Total number of tools (standard)		34

*Tools are optional.

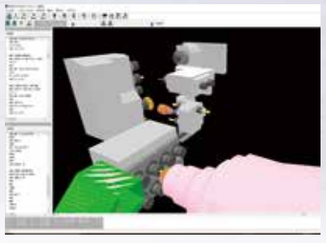
	Controlled axes (Linear axes)	C-axis control for main/back spindles	Back drive	Guide-bushless	Guide bushing spec		Max. dia. x Max. length (mm) 0 100 200 300
					Belt-drive	Direct-drive	
B0265-Ⅲ	5 axes	Standard	Option	Option	Option	Option	ϕ26 mm x 330 mm
B0265B-Ⅲ	5 axes	Standard	Option	Option	Option	Option	ϕ26 mm x 330 mm
B0266-Ⅲ	6 axes	Standard	Standard (with Y axis)	Option	Option	Option	ϕ26 mm x 330 mm
B0325-Ⅲ	5 axes	Standard	Option	Option	Option	Option	ϕ32 mm x 330 mm
B0325B-Ⅲ	5 axes	Standard	Option	Option	Option	Option	ϕ32 mm x 330 mm
B0326-Ⅲ	6 axes	Standard	Standard (with Y axis)	Option	Option	Option	ϕ32 mm x 330 mm
B0385-Ⅲ	5 axes	Standard	Option	Option	—	Option	ϕ38 mm x 330 mm
B0385B-Ⅲ	5 axes	Standard	Option	Option	—	Option	ϕ38 mm x 330 mm
B0386-Ⅲ	6 axes	Standard	Standard (with Y axis)	Option	—	Option	ϕ38 mm x 330 mm
B0385L-Ⅲ	5 axes	Standard	Option	Standard	—	—	ϕ38 mm x 100 mm
B0385LB-Ⅲ	5 axes	Standard	Option	Standard	—	—	ϕ38 mm x 100 mm
B0386L-Ⅲ	6 axes	Standard	Standard (with Y axis)	Standard	—	—	ϕ38 mm x 100 mm

Characteristics

- Machining capability is improved with increased machine-rigidity.
- Dedicated main spindle for guide-bushless realizes high precision machining for short-length workpieces.
  - ●Pull back collect chuck provides the most suitable and stable gripping force for short-length workpieces.
  - ●Ground bar is not required. (Use of cold-drawn bars reduces the material cost.)
  - ●Shorter remnant length can reduce the material cost.

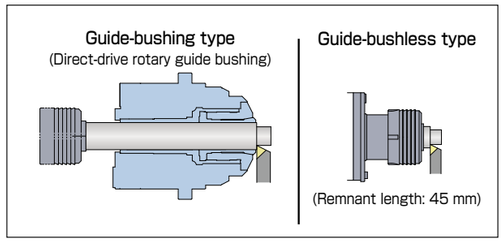


- Modular tooling is installed. Various arrangement of live tools, drill holders, and turning tools enables optimum tool allocation.
- Thanks to the thermal displacement compensation function, the long-term stable machining is realized.
- Automatic programming software is provided as standard.



Optional guide-bush type or guide-bushless type is selectable according to workpieces. (Except B038 L-Ⅲ models.)

- Possible to switch between the guide-bushing type and guide-bushless type. Most suitable system for the workpiece can be choosen.
- The guide-bushless type does not require ground bars, and enables high speed and high precision machining from inexpensive cold-drawn bars.



Optional direct-drive guide bushing provides high-speed and accurate machining. (Except B038 L-Ⅲ models.)

The stable geometrical accuracy, the dimensional accuracy, and the surface roughness are secured by the quiet operation even on high speed.

	B0265-Ⅲ	B0266-Ⅲ	B0325-Ⅲ	B0326-Ⅲ	B0385-Ⅲ	B0386-Ⅲ
Max. machining length	330 mm					
Rotation speed	Max. 10,000 min^{-1} (Rated speed: 7,000 min^{-1})		Max. 8,000 min^{-1} (Rated speed: 6,000 min^{-1})		Max. 6,000 min^{-1} (Rated speed: 5,000 min^{-1})	
Motor output	0.75/1.5 kW					
Remnant length	220+α (workpiece length) mm				230+α (workpiece length) mm	

Direct-drive rotary guide bushing

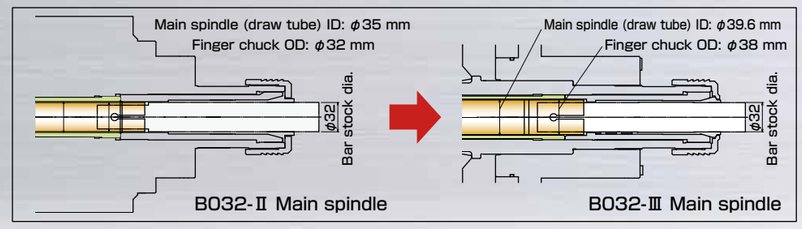
Belt-drive rotary guide bushing (Option for B026-Ⅲ, B032-Ⅲ)

It is possible to make the remnant length shorter than that of direct-drive rotary guide bushing.

	B0265-Ⅲ B0266-Ⅲ	B0325-Ⅲ B0326-Ⅲ
Max. machining length	330 mm	
Rotation speed	Max. 8,000 min^{-1} (Rated speed: 6,000 min^{-1})	
Remnant length	125+α (workpiece length) mm	

*Dedicated main spindle adapter is required when mounting the belt-drive rotary guide bushing.
*When the belt-drive rotary guide bushing is used, the maximum main spindle speed is restricted to 8,000 min^{-1}.

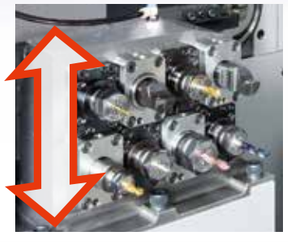
Enlarges the spindle ID, and bar end pre-turning is not necessary.



	Main spindle (draw tube) ID	Max. bar stock OD
B026-Ⅲ	ϕ33.6 mm	ϕ26 mm
B032-Ⅲ	ϕ39.6 mm	ϕ32 mm
B038-Ⅲ	ϕ43.6 mm	ϕ38 mm

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

The back tool post with Y axis (6-linear axis machine) enables the simultaneous operation of back spindle side complex machining with main spindle side machining. Maximum of 8 modular type live tools can be mounted, and it can flexibly handle combined machining of complex-shaped works.



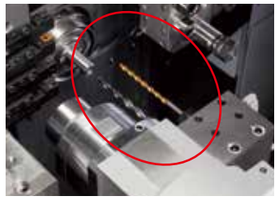
The deep hole drilling (100 mm) is realized by mounting the deep hole drill holder besides the back spindle.

●Holder spec (standard)

Drill holder hole dia.	ϕ25 mm x 2 holes
Effective machining length	100 mm

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

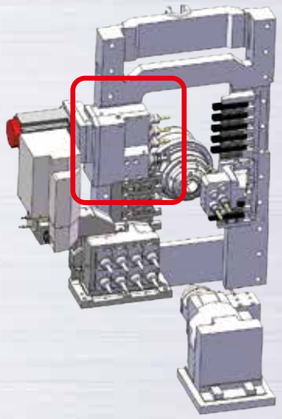
*When mounting the deep hole drill holder on B038-Ⅲ, the number of tools on the back drive for 6-linear axis machine is changed from 8 to 6.
For 5-linear axis machine, the number of back drill holder positions is changed from 5 to 3.

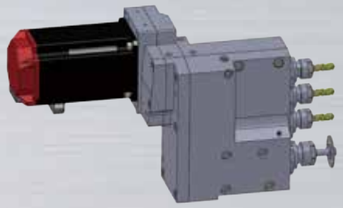


Live tool line-up (option)

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	Live tool of front tool post: 4 tools		Standard				Standard	
Rear tool post	Rear drive: 3 tools		3290-Y3020				3290-Y3020	
	Double face spindle	Requires rear drive	3282-Y902				3282-Y902	
	Angular spindle		3282-Y3922				3282-Y3922	
	Tool spindle		3268-T05B				3268-T05B	
	Hobbing head		3268-Y431				3268-Y431	
	Thread whirling head		3268-Y451				3268-Y451	
	Multiplied tool spindle		3290-Y3671				3290-Y3671	
Back tool post	Back drive		3290-Y3220 (4 tools)	Standard (8 tools)	3290-Y3220 (4 tools)	Standard (8 tools)	3282-Y3020 (5 tools)	Standard (8 tools)
	Back tool spindle	Requires back drive	3282-Y041				3282-Y041	
	Back cross spindle		—	3290-Y3041	—	3290-Y3041	—	3290-Y3041
	Fixed-tool adapter		3282-Y211 (ϕ25 mm hole)				3282-Y211 (ϕ25 mm hole) 3282-Y212 (ϕ32 mm hole)	
	Multiplied tool spindle		3290-Y681				3290-Y681	

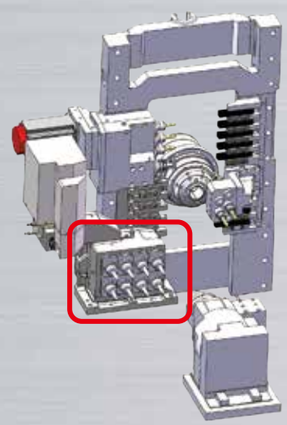
Live tool of front tool post (standard) : 4 tools

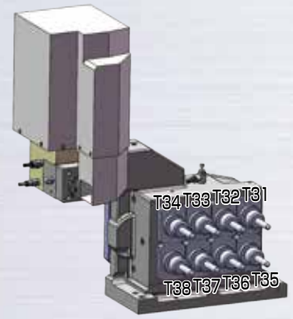




Item		Specifications
Rotation speed	T01 to T03	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})
	T04	Max. 4,000 min^{-1} (Rated speed: 3,200 min^{-1})
Applicable collet	T01 to T03	ER16
	T04	ER20
Motor output		1.0 kW

Back drive (standard) : 8 tools (6-linear axis machine)

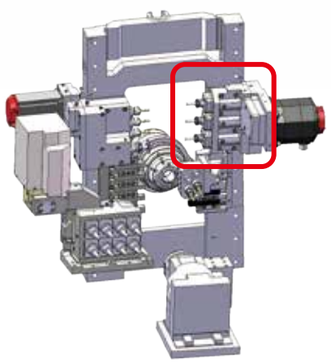


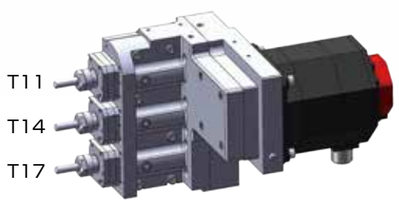


The figure is an example of back tool spindle installation.

Item	Specifications
Rotation speed	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})
Type of mounting live tools	Modular
Motor output	1.4 kW

Rear drive (option) : 3 tools





The figure is an example of tool spindle installation.

Item	Specifications
Rotation speed	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})
Type of mounting live tools	Modular
Motor output	1.4 kW

Tool spindle (option)

Rear drive

Item	Specifications
Rotation speed	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})
Applicable collet	ER16
Part number	3268-T05B

Multiplied tool spindle (option)

Optimum for small hole drilling

Rear drive

Item	Specifications
Rotation speed	Max. 20,000 min^{-1} (Rated speed: 16,000 min^{-1})
Applicable collet	ER11
Part number	3290-Y3671

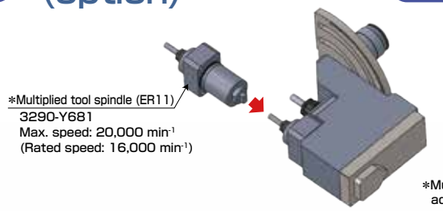
Angular spindle (option)

Rear drive

Item	Specifications
Inclined angle	0 to 90 deg
Rotation speed	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})
Applicable collet	ER16
Part number	3282-Y3922

Multiplied angular spindle head (option)

Rear drive



Item	Specifications
Inclined angle	0 to 90 deg
Rotation speed	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})
Applicable collet	ER16
Part number	3290-Y3832

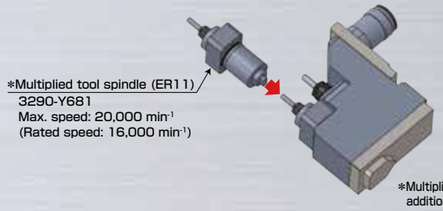
Double face spindle (option)

Rear drive

Item	Specifications
Rotation speed	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})
Applicable collet	ER16
Part number	3282-Y902

Multiplied face spindle head (option)

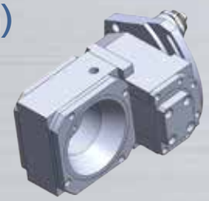
Rear drive



Item	Specifications
Rotation speed	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})
Applicable collet	ER16
Part number	3290-Y3822

Thread whirling head (option)

Rear drive



Item	Specifications
Max. machining dia.	ϕ9 mm
Applicable insert	NTK: TW type
Inclined angle	0 to 30 deg
Rotation speed	Max. 4,000 min^{-1}
Part number	3268-Y451

Hobbing head (option)

Rear drive

Item	Specifications
Inclined angle of hob	-20 deg to 20 deg
Hob speed	Max. 4,000 min^{-1}
Part number	3268-Y431

Back tool spindle (option)

Back drive

Item	Specifications
Rotation speed	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})
Applicable collet	ER16
Part number	3282-Y041

Multiplied tool spindle (option)

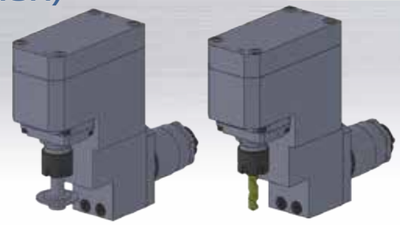
Optimum for small hole drilling

Back drive

Item	Specifications
Rotation speed	Max. 20,000 min^{-1} (Rated speed: 16,000 min^{-1})
Applicable collet	ER11
Part number	3290-Y681

Back cross spindle (option)

Back drive



Item	Specifications
Rotation speed	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})
Applicable collet	ER16
Part number	3290-Y3041

Fixed-tool adapter (option)

Back drive

Item	Specifications
Hole dia.	ϕ25 mm ϕ32 mm
Part number	3282-Y211 (ϕ25 mm) 3282-Y212 (ϕ32 mm)

List for mountable positions of live tools (Rear drive)

Live tool	Upper (T11)	Middle (T14)	Lower (T17)
Tool spindle	○	○	○
Multiplied tool spindle	○	○	○
Angular spindle	○	–	–
Multiplied angular spindle head	○	–	–

Live tool	Upper (T11)	Middle (T14)	Lower (T17)
Double face spindle	○	○	○
Multiplied face spindle head	○	○	○
Thread whirling head *1	○	–	–
Hobbing head *2	–	○	–

*1 The middle pos. (T14) is not available for any live tools.
*2 Any other live tools cannot be mounted.
○: Available –: Not available

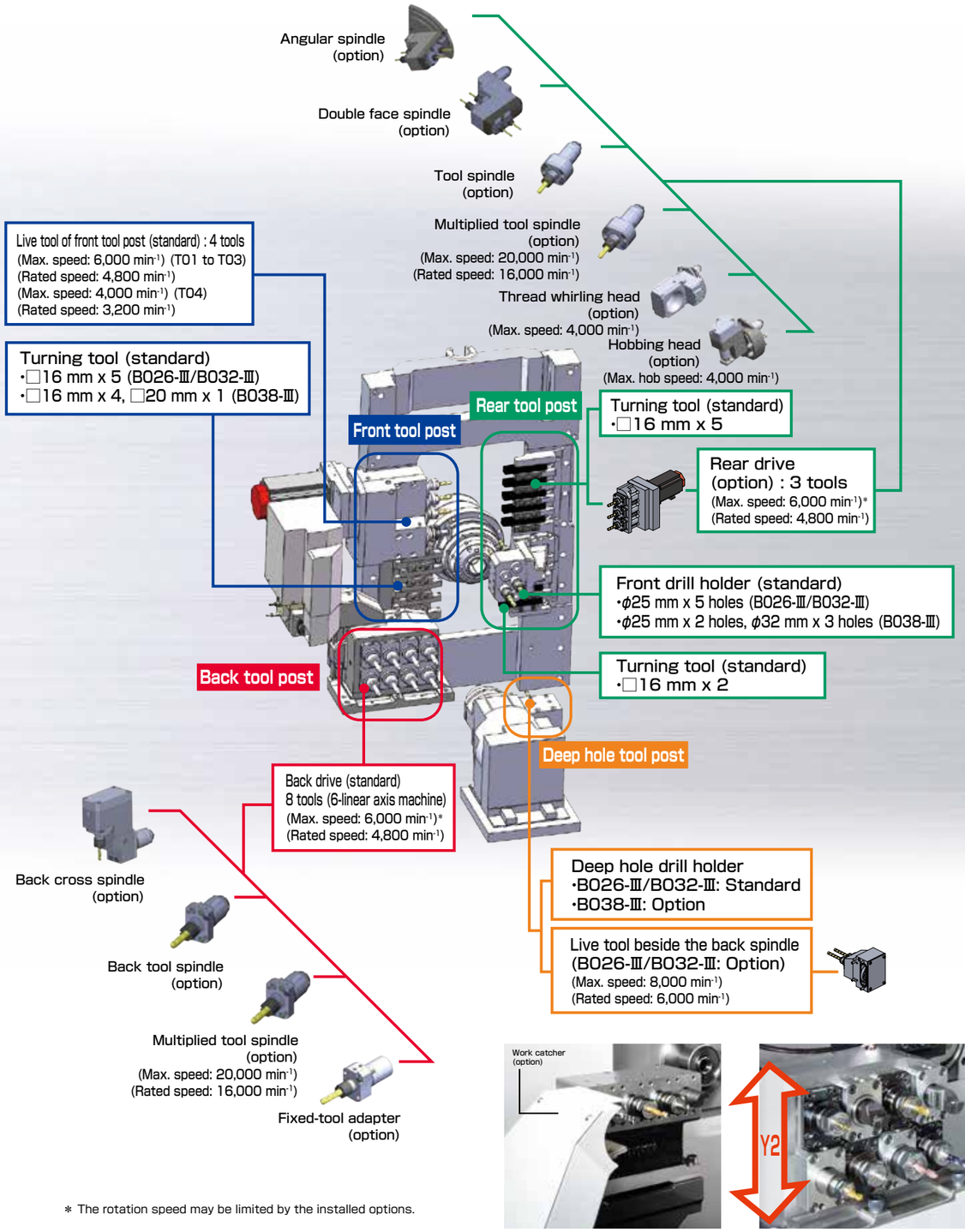
List for mountable positions of live tools (Back drive)

Item	Upper (T31)	Upper (T32)	Upper (T33)	Upper (T34)	Lower (T35)	Lower (T36)	Lower (T37)	Lower (T38)
Back tool spindle	○	○	○	○	○	○	○	○
Multiplied tool spindle	○	○	○	○	○	○	○	○
Back cross spindle	○	○	○	○	–	–	–	–
Fixed-tool adapter	○	○	○	○	○	○	○	○

○: Available –: Not available

Modular tooling

Various arrangement of live tools, drill holders, and turning tools enables optimum tool allocation.



∗ The rotation speed may be limited by the installed options.

Back tool post for 5-linear axis machine

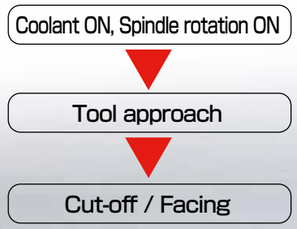
Back tool post for 6-linear axis machine

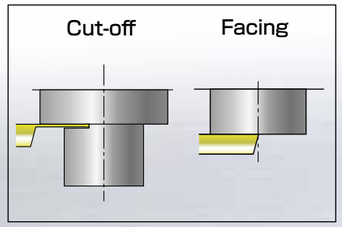
Easy operation for efficient setup

Automatic cut-off function/ Automatic facing function

Setting the condition of cut-off or facing on the dedicated screen.

Input tool number, offset number, bar diameter, spindle speed, and feedrate, then press the soft key START.

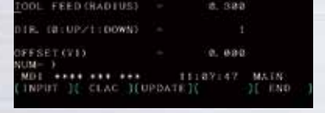




Cut-off and facing can be performed easily.
It is possible to command cut-off or facing with the dedicated M codes as well.

Tool height compensation function (Patented)

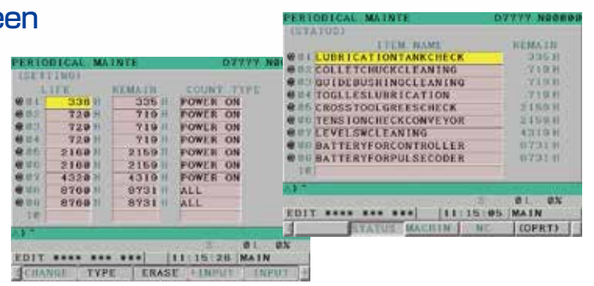
Performs actual turning with a program that has a large diameter and a small diameter, and measures both dimensions. After setting the measured values and other data on the dedicated screen, press the soft key CALC. The compensation value is calculated automatically. Pressing UPDATE soft key automatically updates the tool height offset data.



Efficient operation through enhanced maintenance information

Periodical maintenance screen

Maintenance information, such as lubrication amount, collet chuck/guide-bushing cleaning, battery replacement, etc., can be checked on the screen.
Items or setting period can be customized, and the selection can be arranged according to the working condition.



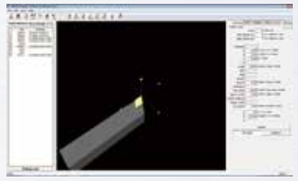
BO series automatic programming software "Abile" (standard)

BO386-Ⅲ Abile

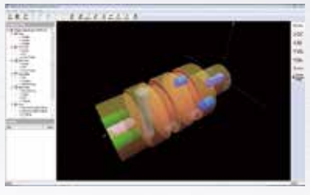
■With TSUGAMI's know-how
(machining process and cutting conditions) ,
high quality and standardized programs can be created.

Creating NC program in two steps

Step 1
Input tool data

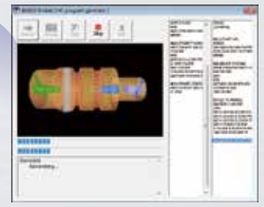


Step2
Input workpiece geometrical data

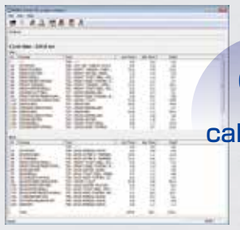


Automatic creation

NC program creation



Cycle time calculation



Automatic execution from program creation to simulation with simple operation

3D simulation

Abile BO Series

Applicable models	BO386-Ⅲ Abile	BO265-Ⅲ/BO265B-Ⅲ/BO266-Ⅲ/ BO325-Ⅲ/BO325B-Ⅲ/BO326-Ⅲ/ BO385-Ⅲ/BO385B-Ⅲ/BO385L-Ⅲ/ BO385LB-Ⅲ/BO386-Ⅲ/BO386L-Ⅲ

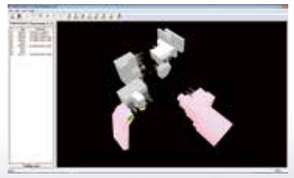
Hardware requirement

Item	Specifications
OS	Windows 8 Windows 10 (Installation of Open GL library is required.)
Computer	PC/AT compatible (DOS/V)
CPU	Intel Celeron 2GHz or faster (3GHz or above is recommended.)
Memory	512MB or more
HDD	100MB or more free space is required
CD-ROM drive	Double speed or more (Used for installation)
Display	16.77 million color bit display (Full color) Resolution: 1,024 x 768 or higher

Easy input

■Input tool data

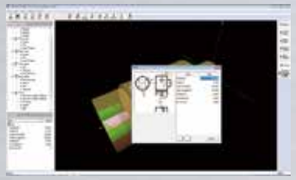
Tool definition can be implemented like actual tool setting on the machine. Tool type, tool width, drill diameter, mounting position, etc. is set one by one for each tool.



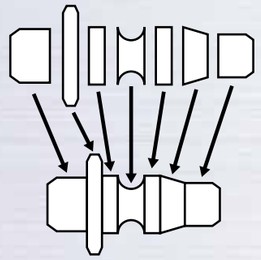
Click T number and select the type of tool to be set.
Just input simple data, such as tool dia. or width.

■Input workpiece geometrical data

Geometrical definition does not require complicated operation like CAD.
The simplified geometrical setting (stacking block method) minimizes the time required for geometrical data input.
Even a beginner can learn the input method quickly.



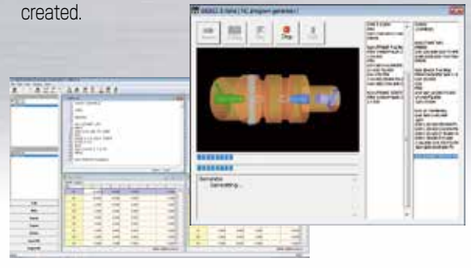
The stacking method divides the OD of the workpiece into several blocks, then stacks all of them to form the shape of the workpiece.



Output a variety of information

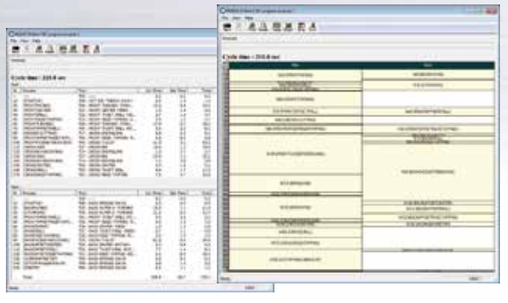
■NC program/Offset data creation

Not only waiting in two-path programs but also NC programs with machine-specific M codes/G codes are automatically created.



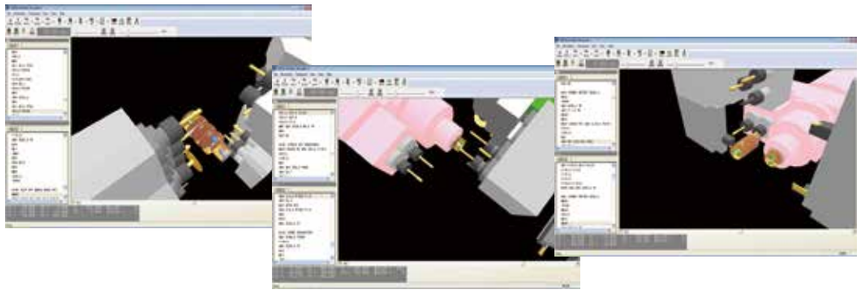
■Cycle time calculation

The cycle time is automatically calculated, and cutting/non-cutting time and process time of each path are displayed clearly.

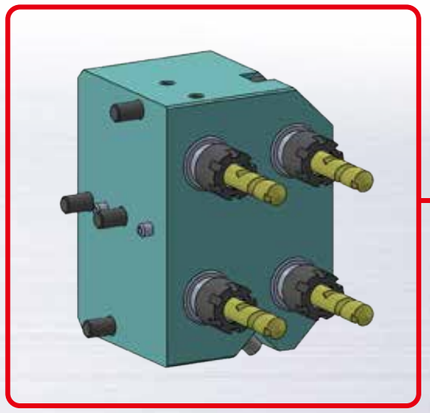


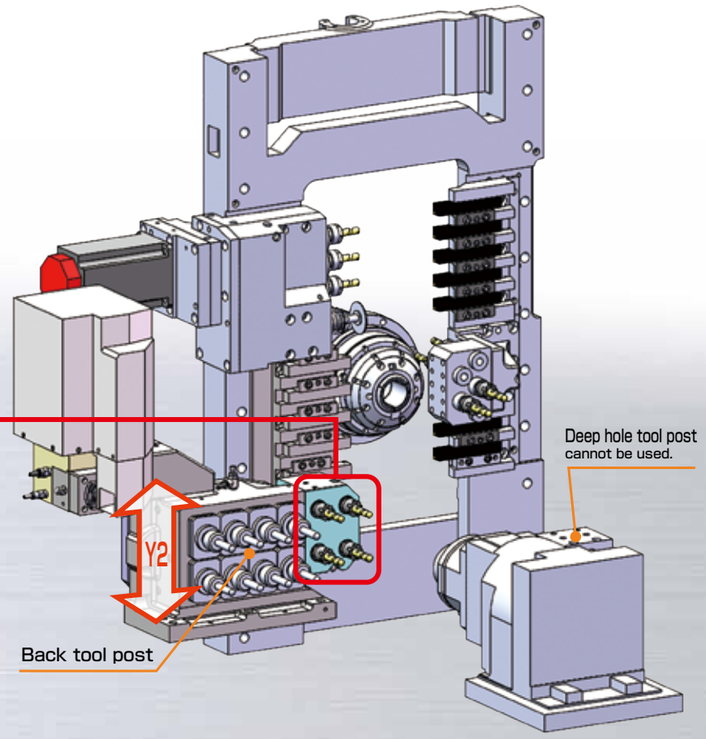
■Simulation

The 3D simulation enables the operation check from any angle.



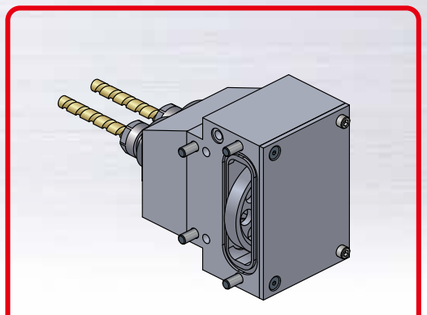
Options

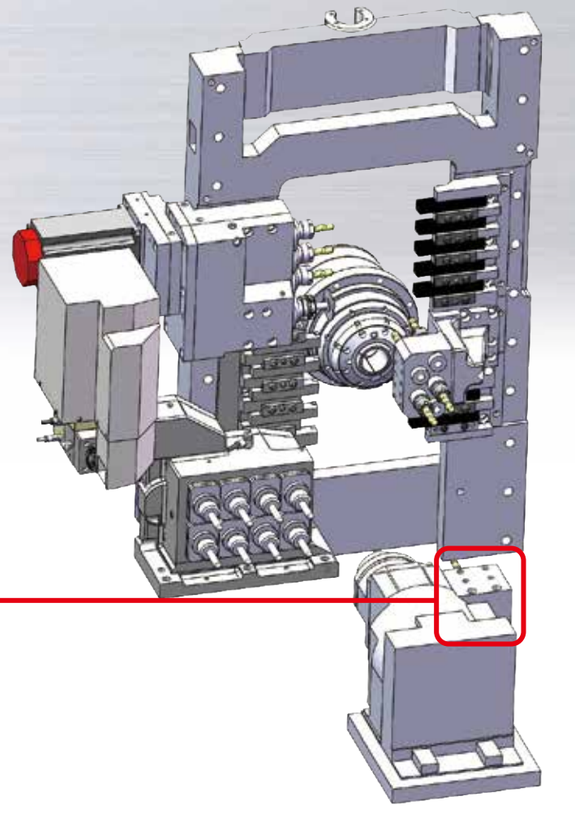




Additional holder for back tool post (3290-Y3031) (B0266-Ⅲ, B0326-Ⅲ)

ϕ25 mm x 4 holes are added for complicated processing on back spindle side.
*When mounting additional holder for back tool post, deep hole drill holder cannot be used.

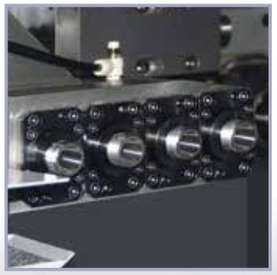




Live tool beside the back spindle (B026-Ⅲ, B032-Ⅲ)

Upgrades complex-machining capabilities of front side.

Rotation speed	Max. 8,000 min^{-1} (Rated speed: 6,000 min^{-1})
Applicable collet	ER16
Effective machining length	30 mm
Max. drilling dia.	ϕ8 mm
Max. tapping dia.	M6
Part number	3290-Y3010

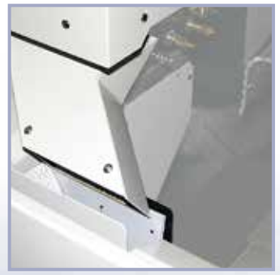


Back drive

This is used for mounting the live tools on the back tool post of 5-linear axis machine.
●3290-Y3220 (B0265/325-Ⅲ) (4 tools)
●3282-Y3020 (B0385-Ⅲ) (5 tools)

Work conveyor

After receiving an ejected workpiece from the back spindle with the work catcher, the work conveyor carries the workpiece to the machine right outside.
●3290-Y3060



Work catcher

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

Direct-drive rotary guide bushing

Used for long workpiece machining. Improves geometrical accuracy, dimensional accuracy, and surface roughness with high-speed and quiet operation.
●3290-Y13300 (B026-Ⅲ)
●3291-Y3300 (B032-Ⅲ)
●3282-Y3300 (B038-Ⅲ)

Coolant flow switch

When the flow rate of coolant decreases, the machine is stopped. It prevents fires and machining defects caused by insufficient coolant.
●3290-Y510

High pressure pump

When M code oil blow, front discharge, etc. is mounted, be sure to use the high-pressure pump together.
●3290-Y3380

Wavy nozzle

The discharge angle can be adjusted arbitrarily. Chips are guided in one direction and it contributes to preventing the jam of chips. Swivel angle and moving speed can be adjusted.
●3290-Y3400

Signal indicator (triple)

Three color lamp indicates the status of the machine.
●3290-U920

Chip conveyor

This unit carries the chips to right side of the machine.
Curled and long chips can be handled by this hinge type conveyor.
●3290-Y3960 (B026/32-Ⅲ)
●3282-Y3120 (B038-Ⅲ)

Machine specifications

	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
Machining range, Machining capacity	Bar stock chucking dia.	ϕ8 mm to ϕ26 mm			ϕ8 mm to ϕ32 mm			ϕ8 mm to ϕ38 mm			ϕ8 mm to ϕ38 mm		
	Max. back spindle chucking dia.	ϕ26 mm			ϕ32 mm			ϕ38 mm			ϕ38 mm		
	Max. machining length	330 mm (Direct-drive/Belt-drive rotary guide bushing)*1 50 mm (Guide-bushless)*1			330 mm (Direct-drive/Belt-drive rotary guide bushing)*1 70 mm (Guide-bushless)*1			330 mm (Direct-drive rotary guide bushing)*1 70 mm (Guide-bushless)*1			100 mm (Dedicated machine for guide-bushless)		
	Max. main spindle drilling dia.	ϕ12 mm			ϕ12 mm			ϕ13 mm			ϕ13 mm		
	Max. main spindle tapping dia.	M10			M10			M12			M12		
	Max. back spindle drilling dia.	ϕ10 mm			ϕ10 mm			ϕ12 mm			ϕ12 mm		
	Max. back spindle tapping dia.	M10			M10			M12			M12		
	Max. deep hole drilling dia.	ϕ10 mm			ϕ10 mm			ϕ10 mm*1			ϕ10 mm*1		
	Max. live tool drilling dia.	ϕ8 mm (Front tool post) , ϕ10 mm (Rear tool post *1/Back tool post *2)			ϕ8 mm (Front tool post) , ϕ10 mm (Rear tool post *1/Back tool post *2)			ϕ10 mm (Front tool post/Rear tool post*1/Back tool post*2)			ϕ10 mm (Front tool post/Rear tool post*1/Back tool post*2)		
	Max. live tool tapping dia.	M6 (Front tool post) , M8 (Rear tool post *1/Back tool post *2)			M6 (Front tool post) , M8 (Rear tool post *1/Back tool post *2)			M8 (Front tool post/Rear tool post*1/Back tool post*2)			M8 (Front tool post/Rear tool post*1/Back tool post*2)		
	Max. live tool slotting cutter dia.	ϕ45 mm (Front tool post: T04)			ϕ45 mm (Front tool post: T04)			ϕ45 mm (Front tool post: T04)			ϕ45 mm (Front tool post: T04)		
Machine	Main spindle speed	Max. 10,000 min^{-1} (Rated speed: 7,000 min^{-1})*3			Max. 8,000 min^{-1} (Rated speed: 6,000 min^{-1})*3			Max. 6,000 min^{-1} (Rated speed: 5,000 min^{-1})*3			Max. 6,000 min^{-1} (Rated speed: 5,000 min^{-1})*3		
	Back spindle speed	Max. 10,000 min^{-1} (Rated speed: 7,000 min^{-1})*3*4			Max. 8,000 min^{-1} (Rated speed: 7,000 min^{-1})*3*4			Max. 7,000 min^{-1} (Rated speed: 5,000 min^{-1})*3			Max. 7,000 min^{-1} (Rated speed: 5,000 min^{-1})*3		
	Rotary guide bushing speed	Max. 10,000 min^{-1} (Rated speed: 7,000 min^{-1}) (Direct-drive)*1*3			Max. 8,000 min^{-1} (Rated speed: 6,000 min^{-1}) (Direct-drive)*1*3			Max. 6,000 min^{-1} (Rated speed: 5,000 min^{-1}) (Direct-drive)*1*3			–		
	Live tool speed	Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})*3 (Front tool post/Rear tool post*1/Back tool post*2)			Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})*3 (Front tool post/Rear tool post*1/Back tool post*2)			Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})*3 (Front tool post/Rear tool post*1/Back tool post*2)			Max. 6,000 min^{-1} (Rated speed: 4,800 min^{-1})*3 (Front tool post/Rear tool post*1/Back tool post*2)		
	Tool storage capacity	32		36	32		36	31		34	31		34
	Tool size	□16 mm			□16 mm			□16 mm, □20 mm (Only for cut-off)			□16 mm, □20 mm (Only for cut-off)		
	Rapid traverse rate	35m/min (X1, Y1, Y2: 24m/min) (Y2 axis is only for 6-axis machine.)			35m/min (X1, Y1, Y2: 24m/min) (Y2 axis is only for 6-axis machine.)			32m/min (X1, Z1, Y1, Y2: 24m/min) (Y2 axis is only for 6-axis machine.)			32m/min (X1, Z1, Y1, Y2: 24m/min) (Y2 axis is only for 6-axis machine.)		
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	0.5 kW (X1, Y2), 0.75 kW (Z1, Y1, X2, Z2) (Y2 axis is only for 6-axis machine.)			0.5 kW (X1, Y2), 0.75 kW (Z1, Y1, X2, Z2) (Y2 axis is only for 6-axis machine.)			0.5 kW (Y2), 0.75 kW (X1, Z1, Y1, X2, Z2) (Y2 axis is only for 6-axis machine.)			0.5 kW (Y2), 0.75 kW (X1, Z1, Y1, X2, Z2) (Y2 axis is only for 6-axis machine.)		
	Live tool	1.0 kW (Front tool post)			1.0 kW (Front tool post)			1.0 kW (Front tool post)			1.0 kW (Front tool post)		
		1.4 kW (Rear tool post)*1			1.4 kW (Rear tool post)*1			1.4 kW (Rear tool post)*1			1.4 kW (Rear tool post)*1		
		1.4 kW (Back tool post)*2		1.4 kW (Back tool post)	1.4 kW (Back tool post)*2		1.4 kW (Back tool post)	1.4 kW (Back tool post)*2		1.4 kW (Back tool post)	1.4 kW (Back tool post)*2		1.4 kW (Back tool post)
	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	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	180 L			180 L			190 L			190 L		
	Width x Depth x Height	2,630 mm x 1,270 mm x 1,970 mm			2,630 mm x 1,270 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 Option
*2 Option only for 5-linear axis machine
*3 The rotation more than the rated speed should be short period.
*4 Max. back spindle speed is limited to 8,000 min^{-1} when a live tool beside the back spindle is mounted.

NC specifications

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
Controlled axes	X1, Z1, Y1, X2, Z2, Y2, C1, C2 (Y2 axis is only for 6-axis machine.)			X1, Z1, Y1, X2, Z2, Y2, C1, C2 (Y2 axis is only for 6-axis machine.)			X1, Z1, Y1, X2, Z2, Y2, C1, C2 (Y2 axis is only for 6-axis machine.)			X1, Z1, Y1, X2, Z2, Y2, C1, C2 (Y2 axis is only for 6-axis machine.)		
Least input increment	0.001 mm (X1/X2-axis in diameter) / 0.001 deg			0.001 mm (X1/X2-axis in diameter) / 0.001 deg			0.001 mm (X1/X2-axis in diameter) / 0.001 deg			0.001 mm (X1/X2-axis in diameter) / 0.001 deg		
Max. 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 99999.999			G04 0 to 99999.999			G04 0 to 99999.999			G04 0 to 99999.999		
Absolute/incremental command	X, Z, Y, C: Absolute U, W, V, H: Incremental			X, Z, Y, C: Absolute U, W, V, H: Incremental			X, Z, Y, C: Absolute U, W, V, H: Incremental			X, Z, Y, C: Absolute U, W, V, H: Incremental		
Number of tool offset	Main: 99, Back: 99			Main: 99, Back: 99			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	2 Mbyte (sum of main and back)	512 Kbyte (sum of main and back)		2 Mbyte (sum of main and back)	512 Kbyte (sum of main and back)		2 Mbyte (sum of main and back)	64 Kbyte (sum of main and back)		2 Mbyte (sum of main and back)	64 Kbyte (sum of main and back)	
Number of registerable programs	1,000 (sum of main and back)			1,000 (sum of main and back)			1,000 (sum of main and back)	63 (sum of main and back)		1,000 (sum of main and back)	63 (sum of main and back)	
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 functions	S5-digits			S5-digits			S4-digits			S4-digits		
Tool functions	T4-digits			T4-digits			T4-digits			T4-digits		

Machine 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 function	Standard			Standard		
Tool counter	Standard			Standard		
Periodic maintenance screen	Standard			Standard		
Main/back spindle adapter	Standard			Standard*1		
Door interlock (Tooling zone/Headstock area)	Standard			Standard		
Coolant level switch	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 holes)	Standard			Option*2		
Automatic cut-off function/ Automatic facing function	Standard			Standard		
Air purge for main/back spindle	Standard			Standard		
Air purge for live tool	Standard			Standard		
C-axis control for main/back spindles	Standard			Standard		
Main spindle brake	Standard			Standard		
Live tool of front tool post: 4 tools	Standard			Standard		
Front drill holder: 5 pos.	Standard			Standard		
Back drill holder	Standard: 4 pos. (5-linear axis machine)			Standard: 5 pos. (5-linear axis machine)		
Internal illumination lamp (Tooling zone)	Standard			Standard		
Thermal displacement compensation	Standard			Standard		
Automatic programming software	Standard			Standard		

*1 No main spindle adapter for B0385 L-Ⅲ, B0385 LB-Ⅲ, B0386 L-Ⅲ.
*2 When mounting deep hole drilling holder, the number of tools is changed: From 5 to 3 for B0385 L/LB-Ⅲ, B0385/385B-Ⅲ , From 8 to 6 for B0386 L-Ⅲ/B0386-Ⅲ.

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 I/O interface	Standard					
Background editing	Standard					
Run time & parts number display	Standard					
Custom macro	Standard					
Constant surface speed control	Standard					
Spindle synchronous control (rotation/phase)	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					
Tool load monitor (live tool)	Standard					
Fixed data setting screen	Standard					

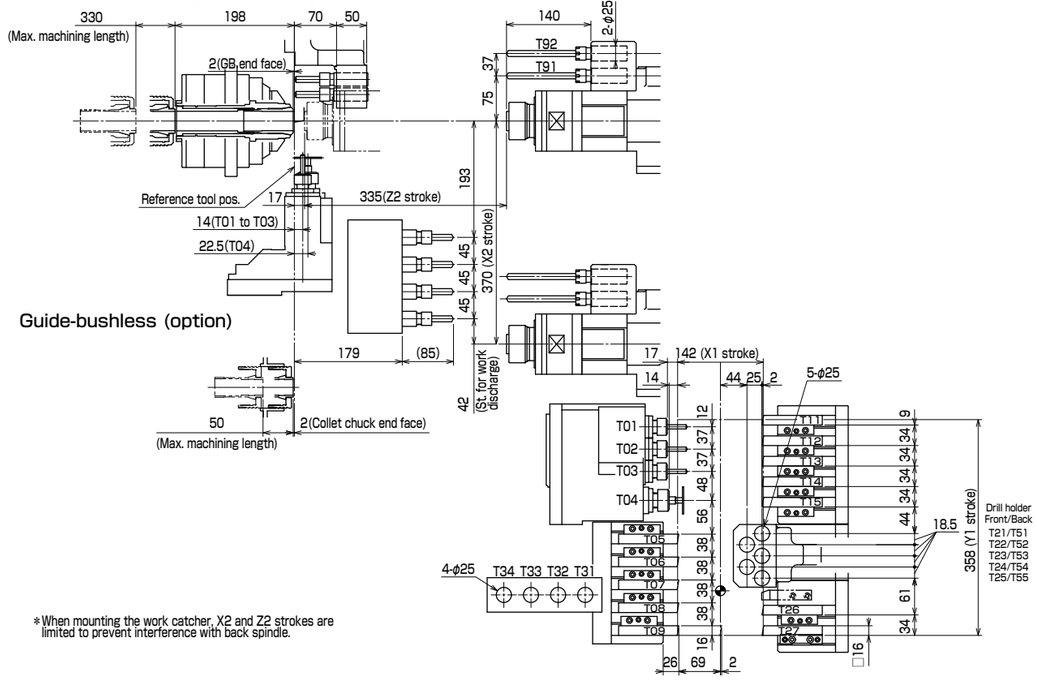
Options

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
Spindle functions	Back spindle brake	○	○	○	○	○	○	○	○	○
	Back spindle 15 deg index	○	○	○	○	○	○	○	○	○
High accuracy functions	0.1 μm resolution	○	○	○	○	○	○	○	○	○
	Coolant temperature controller	○	○	○	○	○	○	○	○	○
	Touch switch for X2 axis	○	○	○	○	○	○	○	○	○
Live tools (Rear tool post)	Rear drive: 3 tools (Modular type)	○	○	○	○	○	○	○	○	○
	Tool spindle	○	○	○	○	○	○	○	○	○
	Multiplied tool spindle	○	○	○	○	○	○	○	○	○
	Double face spindle	○	○	○	○	○	○	○	○	○
	Angular spindle	○	○	○	○	○	○	○	○	○
	Multiplied face spindle head	○	○	○	○	○	○	○	○	○
	Multiplied angular spindle head	○	○	○	○	○	○	○	○	○
	Triple face spindle	○	○	○	○	○	○	○	○	○
	Thread whirling head	○	○	○	○	○	○	○	○	○
	Hobbing head	○	○	○	○	○	○	○	○	○
Live tools (Back tool post)	Back drive (Modular type)	○ (4 tools)	○ (4 tools)	Standard: 8 tools	○ (5 tools)	○ (5 tools)	Standard: 8 tools	○ (5 tools)	○ (5 tools)	Standard: 8 tools
	Back tool spindle	○	○	○	○	○	○	○	○	○
	Multiplied tool spindle	○	○	○	○	○	○	○	○	○
	Back cross spindle	–	–	○	–	–	○	–	–	○
	Fixed-tool adapter	○	○	○	○	○	○	○	○	○
Live tools (Deep hole tool post)	Live tool beside the back spindle	○	○	○	–	–	–	–	–	–
Coolant	High pressure pump	○	○	○	○	○	○	○	○	○
	M code oil blow	○	○	○	○	○	○	○	○	○
	Wavy nozzle	○	○	○	○	○	○	○	○	○
Work discharge	Work conveyor	○	○	○	○	○	○	○	○	○
	Work catcher	○	○	○	○	○	○	○	○	○
	Front discharge	○	○	○	○	○	○	○	○	○
	Rear discharge	○	○	○	○	○	○	–	–	–
	Work tray	○	○	○	○	○	○	○	○	○
	Work unloader	○	○	○	○	○	○	○	○	○
Chip disposal	Chip conveyor	○	○	○	○	○	○	○	○	○
	Chip carrier	○	○	○	○	○	○	○	○	○
Machine maintenance and Monitoring functions	Tool load monitor (linear axis)	○	○	○	○	○	○	○	○	○
	Signal indicator	○	○	○	○	○	○	○	○	○
Tooling	Collet chuck with carbide lining	○	○	○	○	○	○	○	○	○
	Drill holder	○	○	○	○	○	○	○	○	○
	Adapter for non-round bar (main spindle)	○	○	○	○	○	○	–	–	–
	Adapter for non-round bar (back spindle)	○	○	○	○	○	○	○	○	○
	Spindle liner	○	○	○	○	○	○	○	○	○
	Additional holder for back tool post	–	–	○	–	–	○	–	–	○
	Tool set gauge	○	○	○	○	○	○	○	○	○
NC functions	Part program storage size 2 Mbyte	Standard	○	○	Standard	○	○	Standard	○	○
	Helical interpolation	○	○	○	○	○	○	○	○	○
	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	○	○
	Display language	○	○	○	○	○	○	○	○	○
	Manual handle retrace	○	○	○	○	○	○	○	○	○
	Inch/metric conversion	○	○	○	○	○	○	○	○	○
	High-speed CPU	–	○	○	–	○	○	–	○	○
	3-dimensional coordinate conversion	○	○	○	○	○	○	○	○	○
Safety and other	Coolant flow switch	○	○	○	○	○	○	○	○	○
	Automatic fire extinguisher	○	○	○	○	○	○	○	○	○
	Bar feeder interface	○	○	○	○	○	○	○	○	○
	Rigid tap (live tool)	○	○	○	○	○	○	○	○	○
	RS232C input/output interface	○	○	○	○	○	○	○	○	○
	Abnormal load detection	○	○	○	○	○	○	○	○	○
	Mist collector	○	○	○	○	○	○	○	○	○

Tooling zone

B0265-Ⅲ/265B-Ⅲ

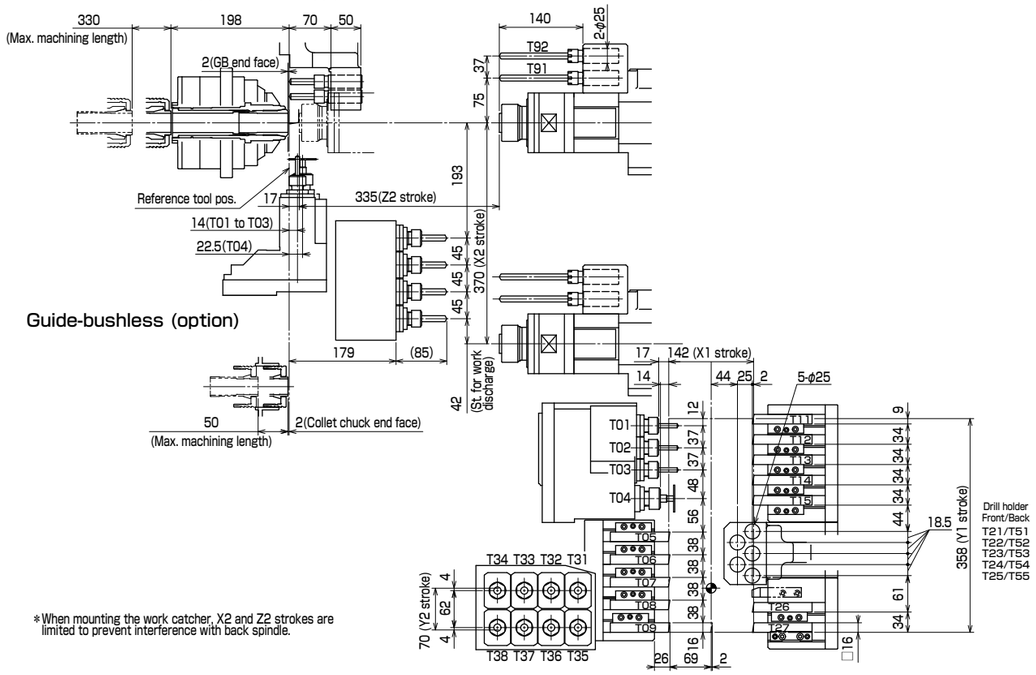
Direct-drive rotary guide bushing (option)



＊When mounting the work catcher, X2 and Z2 strokes are limited to prevent interference with back spindle.

B0266-Ⅲ

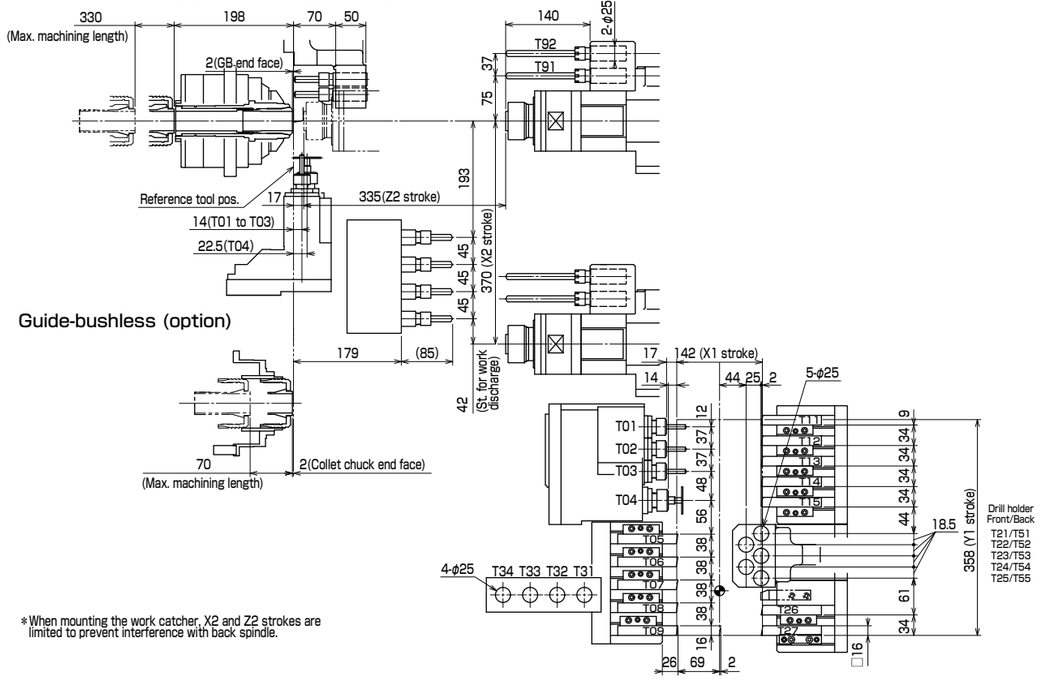
Direct-drive rotary guide bushing (option)



＊When mounting the work catcher, X2 and Z2 strokes are limited to prevent interference with back spindle.

B0325-Ⅲ/325B-Ⅲ

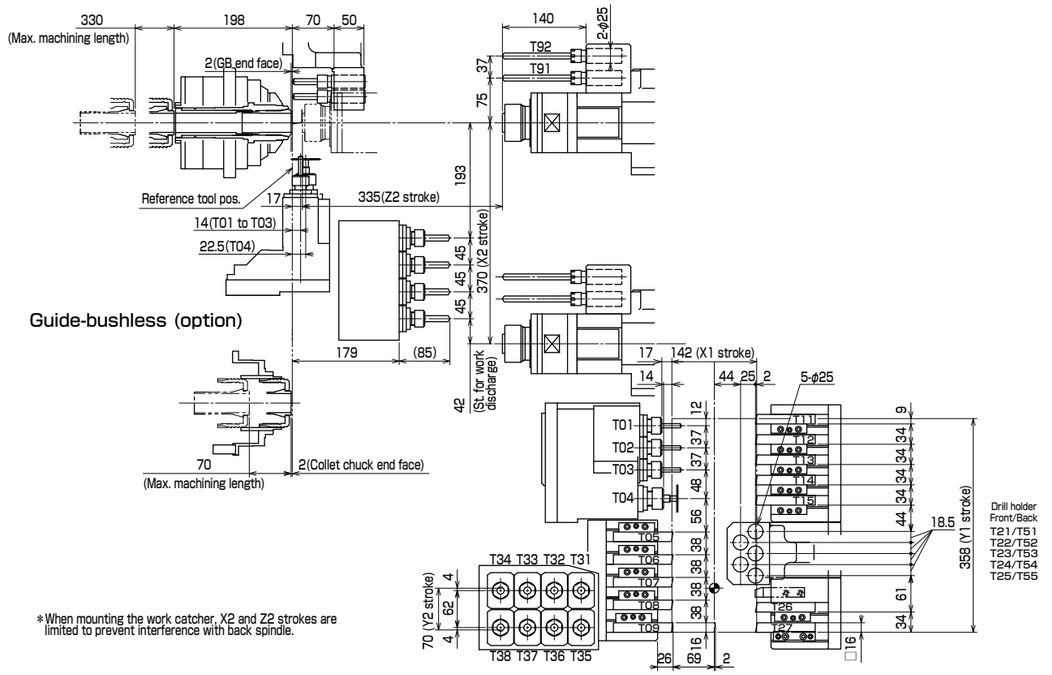
Direct-drive rotary guide bushing (option)



＊When mounting the work catcher, X2 and Z2 strokes are limited to prevent interference with back spindle.

B0326-Ⅲ

Direct-drive rotary guide bushing (option)

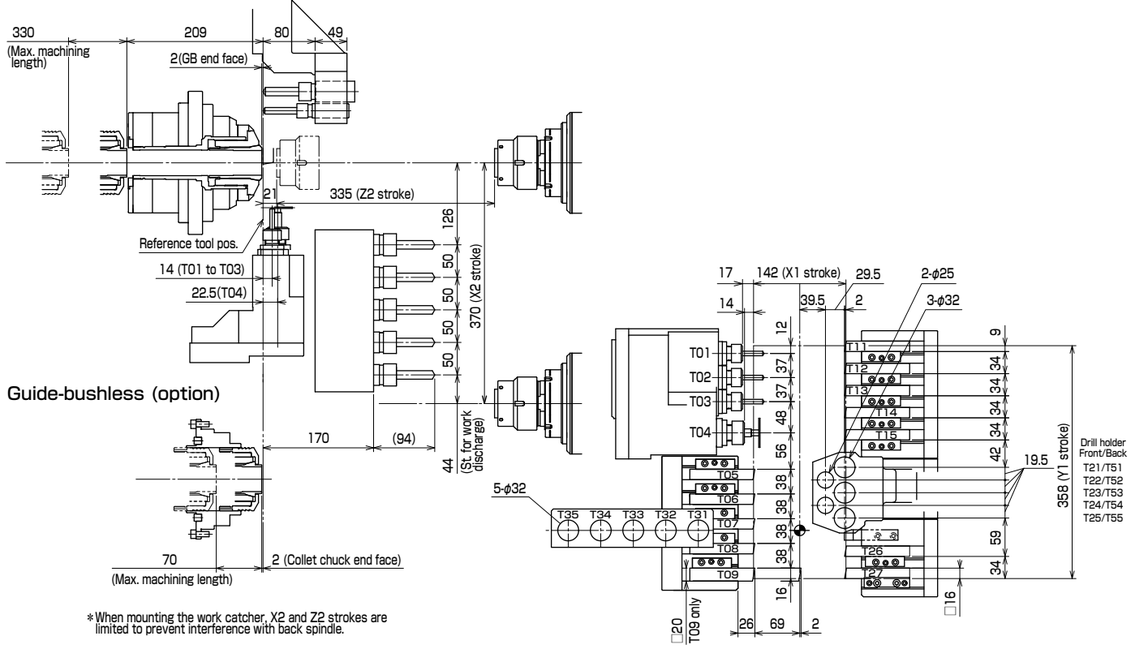


＊When mounting the work catcher, X2 and Z2 strokes are limited to prevent interference with back spindle.

Tooling zone

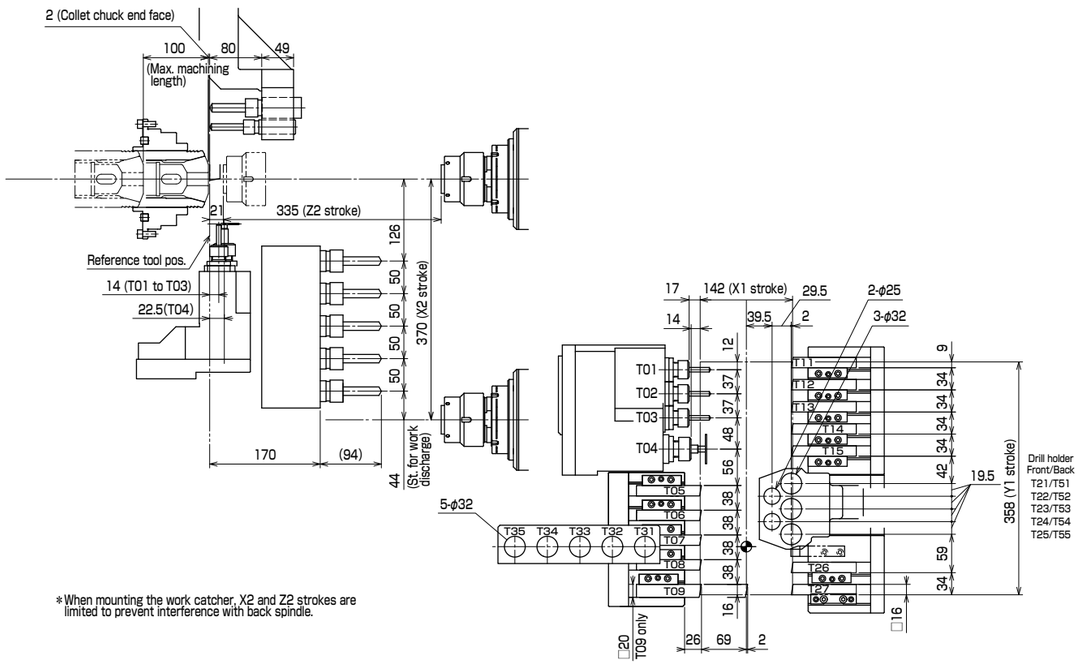
B0385-Ⅲ/385B-Ⅲ

Direct-drive rotary guide bushing (option)



＊When mounting the work catcher, X2 and Z2 strokes are limited to prevent interference with back spindle.

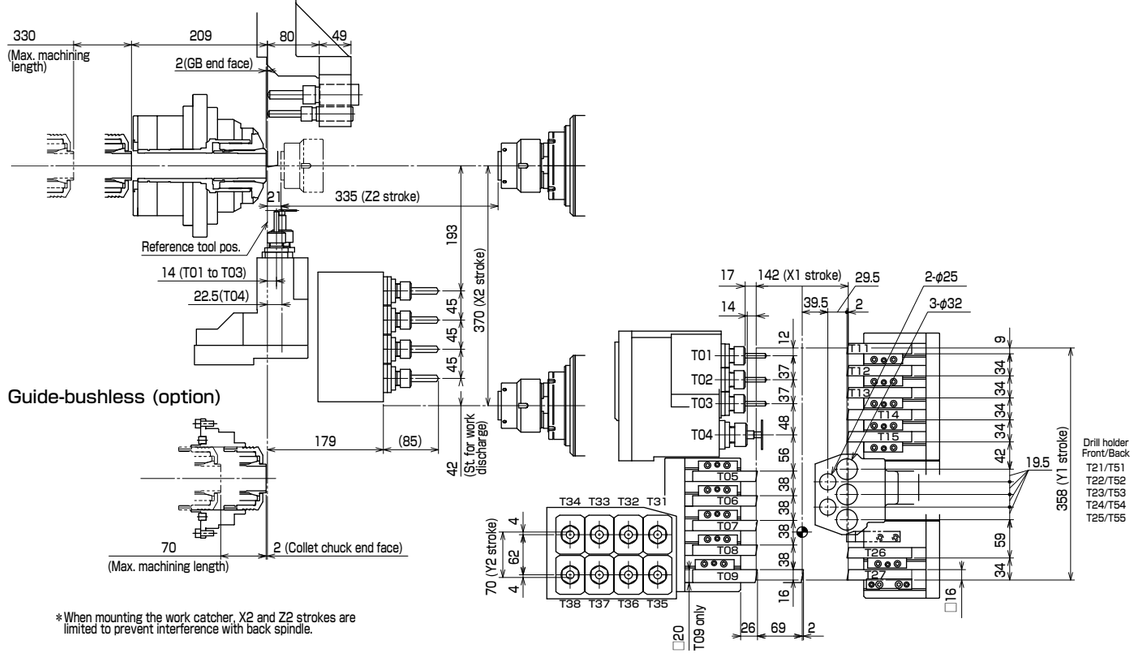
B0385L-Ⅲ/385LB-Ⅲ



＊When mounting the work catcher, X2 and Z2 strokes are limited to prevent interference with back spindle.

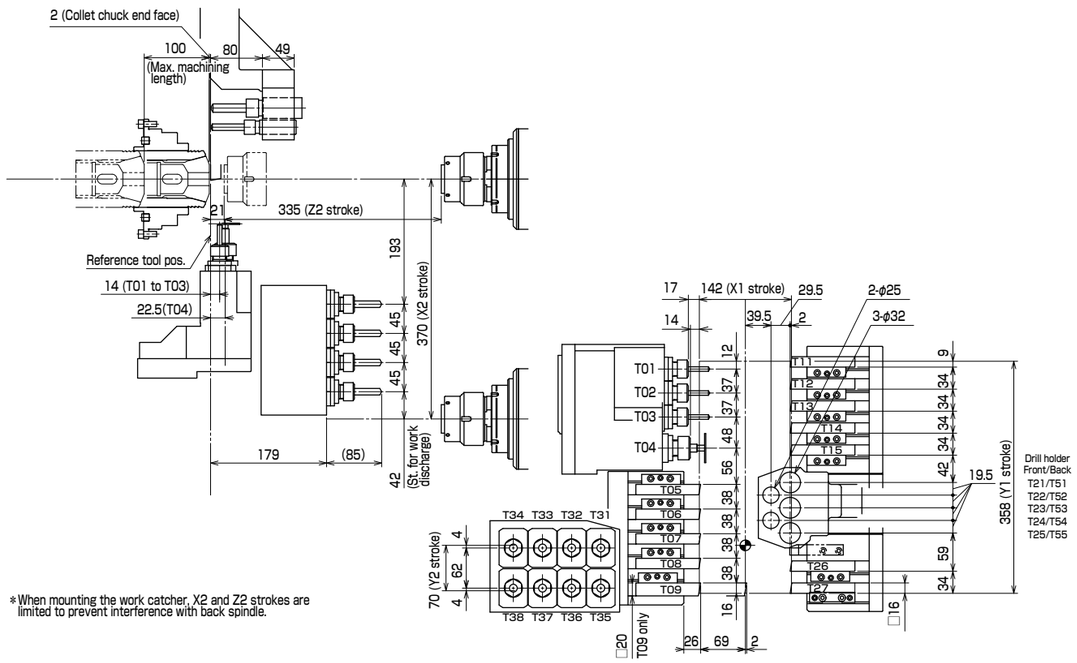
B0386-Ⅲ

Direct-drive rotary guide bushing (option)



＊When mounting the work catcher, X2 and Z2 strokes are limited to prevent interference with back spindle.

B0386L-Ⅲ



＊When mounting the work catcher, X2 and Z2 strokes are limited to prevent interference with back spindle.