

PRECISION TSUGAMI

■ Products Guide



CNC PRECISION AUTOMATIC LATHE Bar Work Machine

Best for mass production of high-precision small components such as parts for office automation (OA) equipment, medical equipment, digital camera, cellular phone, optical communications and automobile.



AUTOMATIC LATHE

CNC PRECISION AUTOMATIC LATHE

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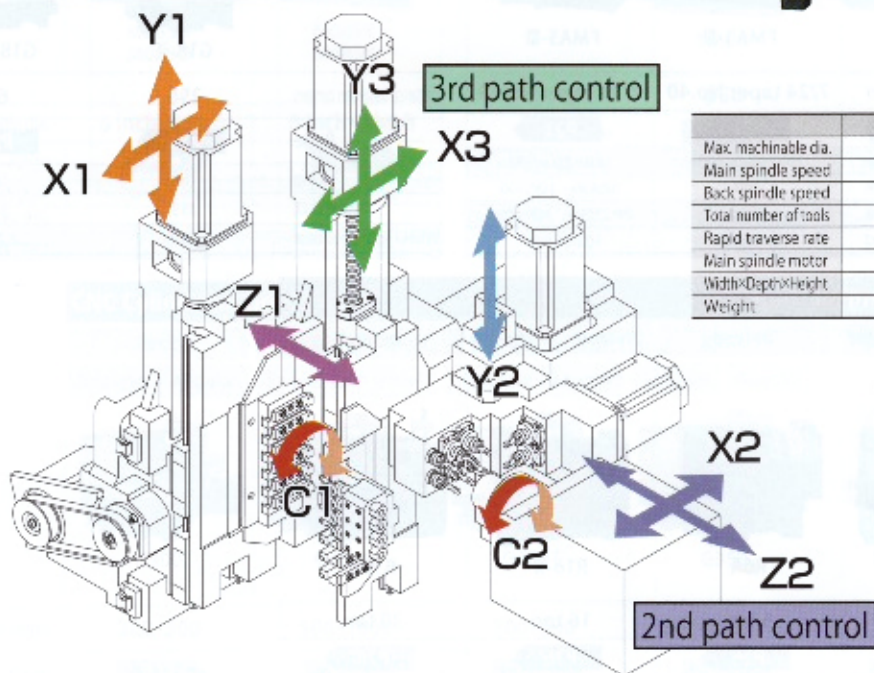
B0128W/B0208W

**Infinite pursuit of high productivity
Drastically shortens cycle time.**

- By simultaneous 3-path control on independent tool posts, diverse processing is possible.
- High value-added workpiece is also possible by the Y-axis on the back side.
- Zero tool change time by simultaneous 3-path control system
- Three tool posts equip Y axis.



1st path control



	B0128W	B0208W
Max. machinable dia.	φ12mm	φ20mm
Main spindle speed	200~12,000min ⁻¹	200~10,000min ⁻¹
Back spindle speed	200~12,000min ⁻¹	
Total number of tools	25	
Rapid traverse rate	32m/min (X1,X3: 12m/min, Y2: 15m/min)	
Main spindle motor	1.5/2.2kW	2.2/3.7kW
Width×Depth×Height	1,655×1,205×1,700mm	
Weight	2,150kg	

CNC PRECISION AUTOMATIC LATHE

SS207/SS207-5AX

B-axis versatility for machining complex parts

Thanks to the B-axis control, virtually any angle can be indexed and processed by NC programs

- Drilling
- Tapping
- End milling (with Y-axis control)

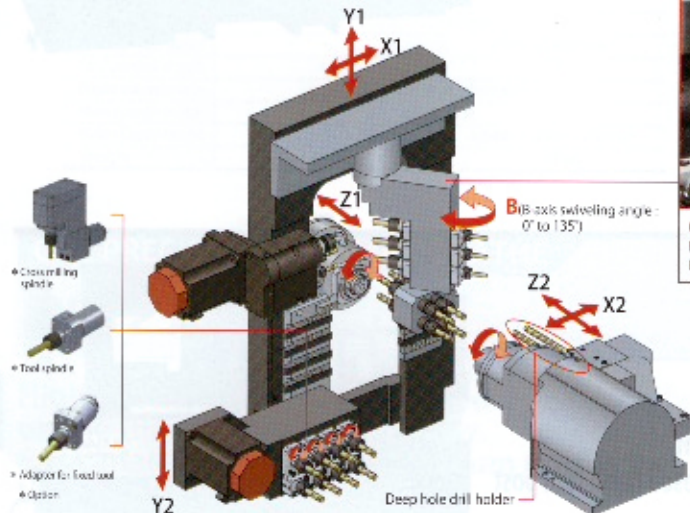
Simultaneous 4-axis machining with CAD/CAM

Thread whirling or hobbing is possible without a dedicated attachment thanks to the B-axis control.

5-axis simultaneously controlled processing now on the automatic lathe (SS207-5AX)



Continuous B-axis swiveling tools
Frontal rotary tool: 3 (Collet ER/AR16)
Back rotary tool: 3 (Collet ER/AR11)



	SS207	SS207-5AX
Max. machinable dia.		φ20mm
Main spindle speed		200~10,000min ⁻¹
Back spindle speed		200~12,000min ⁻¹
Total number of tools		35
Rapid traverse rate	Z1,Z2,X2: 32m/min, X1,Y1: 24m/min, Y2: 15m/min	
Main spindle motor		2.2/3.7kW
Width×Depth×Height		2,110×1,200×1,885mm
Weight		3,300kg

CNC PRECISION AUTOMATIC LATHE

SS267/SS327/SS267-5AX/SS327-5AX

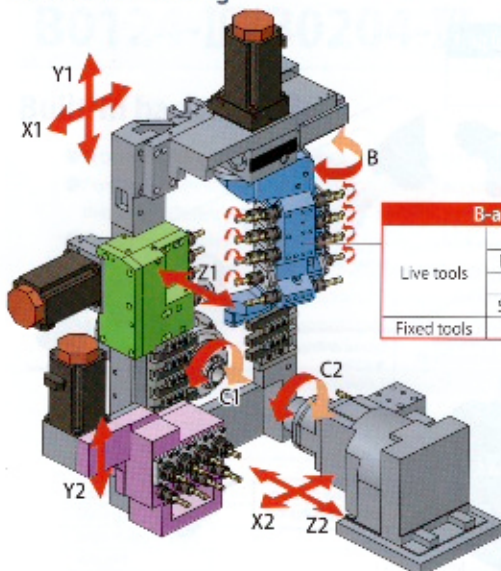
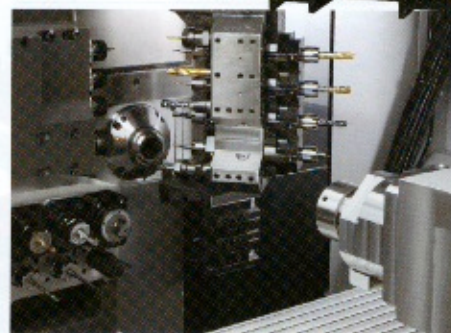
Large diameter Swissturn with B-axis milling operation

Diverse B-axis milling operations with 4 tools on the B-axis swiveling tool spindles

B axis can be indexed in arbitrary angle

- Drilling
- Tapping
- End milling (with Y-axis control)

Thanks to the multiplied tool spindle on the back tool post(option), efficient machining is realized on the small-hole drilling.



B-axis tool post		
	Front	Back
Live tools	ER/AR16×4	ER/AR16×4
	Max. speed : 5,000min ⁻¹	
	Swiveling angle : 0°~135°	
Fixed tools	φ25×4holes	

	SS267	SS267-5AX	SS327	SS327-5AX
Max. machinable dia.		φ26mm		φ32mm
Main spindle speed		200~10,000min ⁻¹		200~8,000min ⁻¹
Back spindle speed		200~8,000min ⁻¹		
Total number of tools		38		
Rapid traverse rate		32m/min (X1,Y1: 24m/min)		
Main spindle motor		3.7/5.5kW		
Width×Depth×Height		2,150×1,280×2,010mm		
Weight		3,600kg		

CNC PRECISION AUTOMATIC LATHE

B0265-II/B0265B-II/B0325-II/B0325B-II

Perfectly corresponds to the contemporary market requirement
Multifunctional swissturn with reliable and accomplished opposed gang tool post

- Modular tooling using cartridge type live tools (option) for optimum allocation of machining capability.
- Beside the back spindle, additional tool post is attached. Deep hole drilling (up to 100 mm) can be realized. In addition, by adopting optional rotary tool beside the back spindle, the ability of front off-center machining is increased.
- Optional direct-drive rotary guide bushing provides high speed and accurate machining.
- Guide-bush type or guide-bushless type is selectable according to workpieces.
- Pursuing operability thanks to enriched standard softwares
- Automatic programming system prepared as standard

	B0265-II/B0265B-II	B0325-II/B0325B-II
Max. machinable dia.	φ26mm	φ32mm
Main spindle speed	200~10,000min ⁻¹	200~8,000min ⁻¹
Back spindle speed	200~10,000min ⁻¹	200~8,000min ⁻¹
Total number of tools	77/39	
Rapid traverse rate	32m/min (X1, Y1: 24m/min)	
Main spindle motor	3.7/5.5kW	
Width×Depth×Height	2,150×1,280×1,930mm	
Weight	3,500kg	



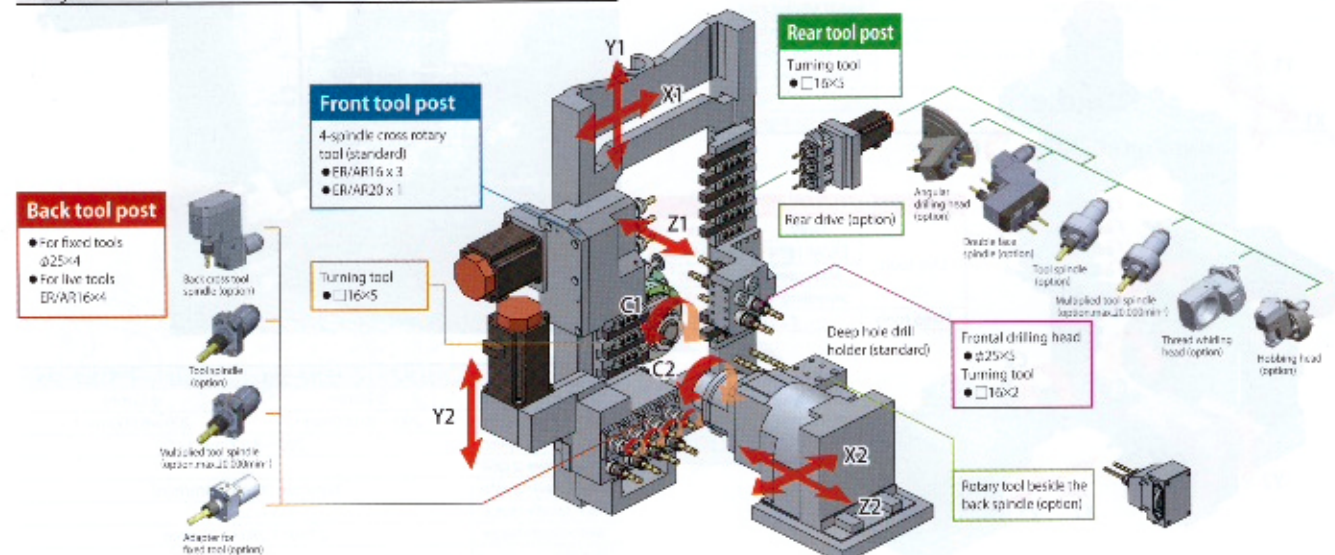
CNC PRECISION AUTOMATIC LATHE

B0266-II/B0326-II

Perfectly corresponds to the contemporary market requirement
Multifunctional swissturn with reliable and accomplished opposed gang tool post

- Machine complex parts using the main and back spindle simultaneously with the Y-axis tool post.
- Modular tooling using cartridge type live tools (option) for optimum allocation of machining capability.
- Beside the back spindle, additional tool post is attached. Deep hole drilling (up to 100 mm) can be realized. In addition, by adopting optional rotary tool beside the back spindle, the ability of front off-center machining is increased.
- Optional direct-drive rotary guide bushing provides high speed and accurate machining.
- Guide-bush type or guide-bushless type is selectable according to workpieces.
- Pursuing operability thanks to enriched standard softwares
- Automatic programming system prepared as standard

	B0266-II	B0326-II
Max. machinable dia.	φ26mm	φ32mm
Main spindle speed	200~10,000min ⁻¹	200~8,000min ⁻¹
Back spindle speed	200~10,000min ⁻¹	200~8,000min ⁻¹
Total number of tools	31/43	
Rapid traverse rate	32m/min (X1, Y1: 24m/min)	
Main spindle motor	3.7/5.5kW	
Width×Depth×Height	2,150×1,280×1,930mm	
Weight	3,500kg	



CNC PRECISION AUTOMATIC LATHE

B073-II/B074-II

High-precision machining based on the theoretical design policy

- Optimum selection from 2 types, 3-axis or 4-axis type, according to a workpiece
- Realizing complex workpiece machining by the 2-spindle/3-spindle/4-spindle cross drill and the main spindle C-axis control (option)
- The built-in motor is equipped on the back spindle of 4-axis type machine.

	B073-II	B074-II
Max. machinable dia.	φ7mm	
Main spindle speed	200~15,000min ⁻¹	
Back spindle speed		200~10,000min ⁻¹
Total number of tools	13	17
Rapid traverse rate	32m/min (X1: 24m/min)	
Main spindle motor	1.1/1.5kW	
Width×Depth×Height	1,400×1,035×1,700mm	1,640×1,080×1,700mm
Weight	1,400kg	1,700kg



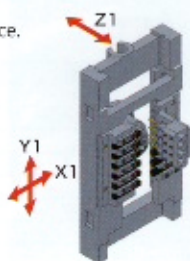
CNC PRECISION AUTOMATIC LATHE

B0123-III/B0203-III

High-precision machining based on the theoretical design policy. Basic machines provide maximum profits by the minimal investment.

- Pursuing operability, improving machining accuracy and reducing cycle time thanks to the newly developed software.
- Realizing complex workpiece machining by the cross drill (Max. 8,000min⁻¹) (option) and the main spindle C-axis control (option)
- Guide-bush type or guide-bushless type is selectable according to workpiece.
- Automatic programming system prepared as standard.

	B0123-III	B0203-III
Max. machinable dia.	φ12mm	φ20mm
Main spindle speed	200~12,000min ⁻¹	200~10,000min ⁻¹
Total number of tools	13	
Rapid traverse rate	32m/min (X1: 24m/min)	
Main spindle motor	1.5/2.2kW	2.2/3.7kW
Width×Depth×Height	1,590×1,125×1,700mm	
Weight	1,500kg	



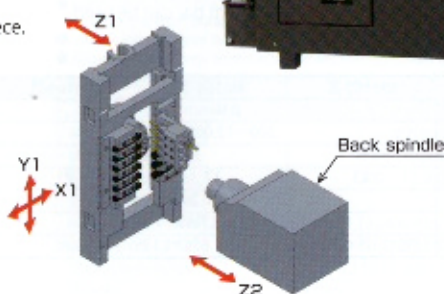
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B0124-III/B0204-III

Built-in back spindle

- Processing of cut-off side is possible by the built-in back spindle.
- Pursuing operability, improving machining accuracy and reducing cycle time thanks to the newly developed software.
- Realizing complex workpiece machining by the cross drill (Max. 8,000min⁻¹) (option) and the main spindle C-axis control (option)
- Guide-bush type or guide-bushless type is selectable according to workpiece.
- Automatic programming system prepared as standard.

	B0124-III	B0204-III
Max. machinable dia.	φ12mm	φ20mm
Main spindle speed	200~12,000min ⁻¹	200~10,000min ⁻¹
Back spindle speed	200~12,000min ⁻¹	
Total number of tools	17	
Rapid traverse rate	32m/min (X1: 24m/min)	
Main spindle motor	1.5/2.2kW	2.2/3.7kW
Width×Depth×Height	1,655×1,125×1,700mm	
Weight	1,950kg	



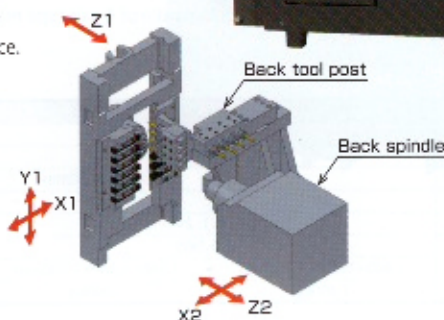
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B0125-III/B0205-III

Front and back overlapped machining is possible Realizing shorter cycle time

- Front and back overlapped machining is possible with the back spindle and the back tool post.
- Pursuing operability, improving machining accuracy and reducing cycle time thanks to the newly developed software.
- Realizing complex workpiece machining by the cross drill (Max. 8,000min⁻¹) (option) and the main spindle C-axis control (option)
- Guide-bush type or guide-bushless type is selectable according to workpiece.
- Automatic programming system prepared as standard.

	B0125-III	B0205-III
Max. machinable dia.	φ12mm	φ20mm
Main spindle speed	200~12,000min ⁻¹	200~10,000min ⁻¹
Back spindle speed	200~12,000min ⁻¹	
Total number of tools	21	
Rapid traverse rate	32m/min (X1: 24m/min)	
Main spindle motor	1.5/2.2kW	2.2/3.7kW
Width×Depth×Height	1,655×1,125×1,700mm	
Weight	2,000kg	



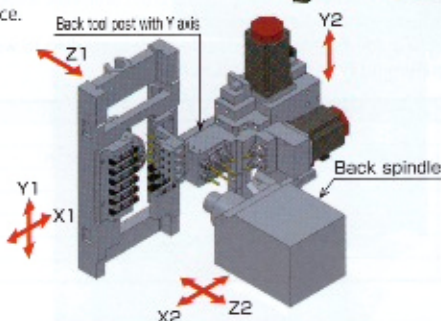
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B0126-III/B0206-III

Back tool post with Y axis on the compact body

- Thanks to the Y-axis of the back tool post, even the milling process on back side can be overlapped with front side.
- Pursuing operability, improving machining accuracy and reducing cycle time thanks to the newly developed software.
- Realizing complex workpiece machining by the cross drill (Max. 8,000min⁻¹) (option) and the main spindle C-axis control (option)
- Guide-bush type or guide-bushless type is selectable according to workpiece.
- Automatic programming system prepared as standard.

	B0126-III	B0206-III
Max. machinable dia.	φ12mm	φ20mm
Main spindle speed	200~12,000min ⁻¹	200~10,000min ⁻¹
Back spindle speed	200~12,000min ⁻¹	
Total number of tools	25	
Rapid traverse rate	32m/min (X1: 24m/min, Y2: 15m/min)	
Main spindle motor	1.5/2.2kW	2.2/3.7kW
Width×Depth×Height	1,655×1,125×1,700mm	
Weight	2,050kg	



CNC PRECISION AUTOMATIC LATHE

BM163-III/BM164-III/BM165-III

Front and back overlapped machining is possible (without BM163-III) Realizing shorter cycle time Exclusive guide bushless machine

- A ceramic ball bearing is employed to the front bearing
- The ground bar is unnecessary. Cold-drawn bar can be used.

	BM163-III	BM164-III	BM165-III
Max. machinable dia.	φ16mm		
Main spindle speed	200~12,000min ⁻¹		
Back spindle speed	200~12,000min ⁻¹		
Total number of tools	13	17	21
Rapid traverse rate	32m/min (X1: 24m/min)		
Main spindle motor	2.2/3.7kW		
Width×Depth×Height	1,590×1,125×1,700mm	1,655×1,125×1,700mm	



CNC PRECISION AUTOMATIC LATHE

P013H/P033H/P014H

Optimum for mass production of fine precision parts

- High-speed and high-precision machining of parts with 0.05mm diameter or less
- High-speed main and back spindles; Maximum speed 25,000min⁻¹ (P013H/P014H)
- The chucking-force adjustable chucks of main and back spindles can clamp fine precision parts softly.
- Equipping user friendly softwares for machining small-dia. and fine precision parts; Tool height compensation function, Spindle zero offset system.
- Space saving design, floor space 0.8m²
- Provided high-speed dedicated bar feeder
Applicable machine spindle speed: 25,000min⁻¹

	P013H	P033H	P014H
Max. machinable dia.	φ1mm	φ3mm	φ1mm
Main spindle speed	25,000min ⁻¹	20,000min ⁻¹	25,000min ⁻¹
Back spindle speed	—	—	25,000min ⁻¹
Total number of tools	14		
Rapid traverse rate	20m/min		
Main spindle motor	0.75/1.1kW		
Width×Depth×Height	1,350×600×1,600mm		
Weight	1,000kg		



CNC PRECISION AUTOMATIC LATHE

P034

Optimum for mass production of fine precision parts

- High-speed and high-precision machining of parts with 0.05mm diameter or less
- The chucking-force adjustable chucks of main and back spindles can clamp fine precision parts softly.
- Equipping user friendly softwares for machining small-dia. and fine precision parts; Tool height compensation function, Spindle zero offset system.
- Space saving design, floor space 0.8m²

	P034
Max. machinable dia.	φ3mm
Main spindle speed	20,000min ⁻¹
Back spindle speed	20,000min ⁻¹
Total number of tools	14
Rapid traverse rate	20m/min
Main spindle motor	0.75/1.1kW
Width×Depth×Height	1,350×600×1,600mm
Weight	1,000kg



CNC PRECISION AUTOMATIC LATHE

S205/206

Perfectly corresponds to the contemporary market requirement
Multifunctional swissturn with reliable and accomplished opposed gang tool post

- Optimum tooling allocation is possible thanks to the cartridge type live tools on rear tool post and back tool post.
- Besides the back spindle, additional tool post is attached. Deep hole drilling can be realized.
- Corresponds to the machine without guide bushing that is appropriate for high accuracy processing of short workpieces (option).
- Spindle indexing time is reduced thanks to the direct C-axis function.
- Minimum tool change time is achieved with the optimized tool path created by the automatic programming system (standard).

	S205	S206
Max. machinable dia.	φ20mm	
Main spindle speed	200~10,000min ⁻¹	
Back spindle speed	200~12,000min ⁻¹	
Total number of tools	24	28
Rapid traverse rate	Z1:22,X2:32m/min, X1,Y1:24m/min, Y2:15m/min (Only for S206)	
Main spindle motor	2.2/3.7kW	
Width×Depth×Height	2,110×1,200×1,885mm	
Weight	3,200kg	3,300kg



CNC PRECISION AUTOMATIC LATHE

H205E/H206E

(CE marked)

Suitable for variable volume production with a wide range of capability

- Optimum tooling allocation is possible thanks to the cartridge type live tools on rear tool post and back tool post.
- Besides the back spindle, additional tool post is attached. Deep hole drilling can be realized.
- Corresponds to the machine without guide bushing that is appropriate for high accuracy processing of short workpieces (option).
- Spindle indexing time is reduced thanks to the direct C-axis function.
- Minimum tool change time is achieved with the optimized tool path created by the automatic programming system (standard).

	S205E	S206E
Max. machinable dia.	φ20mm	
Main spindle speed	200~10,000min ⁻¹	
Back spindle speed	200~12,000min ⁻¹	
Total number of tools	24	28
Rapid traverse rate	Z1:24,X4:32m/min, X1,Y1:24m/min, Y4:15m/min (Only for H206E)	
Main spindle motor	2.2/3.7kW	
Width×Depth×Height	2,110×1,200×1,885mm	
Weight	3,200kg	3,300kg



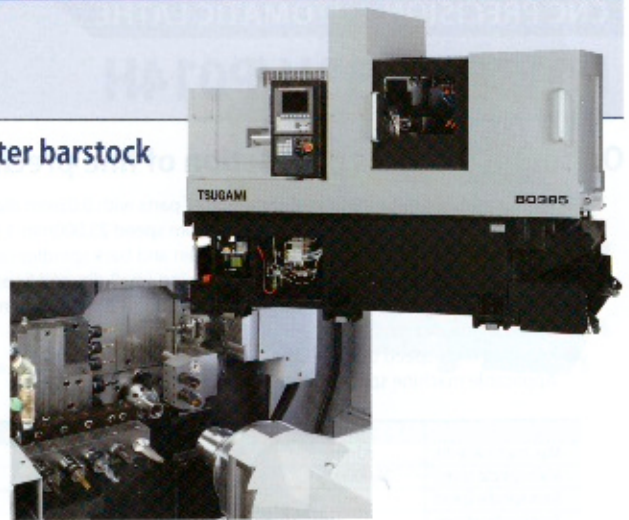
CNC PRECISION AUTOMATIC LATHE

B0385

Optimum for heavy duty machining from large diameter barstock

- TSUGAMI unique "Double Spindle" enables heavy duty machining and shortens the remnant length.
- Larger machining capability up to $\phi 38$.
- Rotary tools can be mounted on the rear tool post. (Option)
Applicable for off-center machining with an attachment.
- Wide tooling zone. Easy set up and better chip disposal.
- The automatic programming system prepared as a standard accessory minimizes tool change time and generates the optimized tool path.

B0385	
Max. machinable dia.	$\phi 38$ mm
Main spindle speed	200~6,000min ⁻¹
Back spindle speed	200~7,000min ⁻¹
Total number of tools	20
Main spindle motor	7.5/11kW
Back spindle motor	3.7/5.5kW
Width×Depth×Height	2,520×1,345×1,970mm
Weight	4,600kg



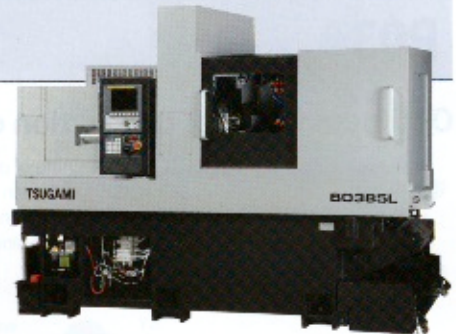
CNC PRECISION AUTOMATIC LATHE

B0385L

Exclusive guide-bushless machine

- Not required large diameter ground barstocks.
- Shortening remnant, and reducing material cost.
- Stable gripping force thanks to the drawback type collet chuck.
- Larger machining capability up to $\phi 38$.
- Rotary tools can be mounted on the rear tool post. (Option)
Applicable for off-center machining with an attachment.
- Wide tooling zone. Easy set up and better chip disposal.
- The automatic programming system prepared as a standard accessory minimizes tool change time and generates the optimized tool path.

B0385L	
Max. machinable dia.	$\phi 38$ mm
Main spindle speed	200~6,000min ⁻¹
Back spindle speed	200~7,000min ⁻¹
Total number of tools	20
Main spindle motor	7.5/11kW
Back spindle motor	3.7/5.5kW
Width×Depth×Height	2,520×1,345×1,970mm
Weight	4,600kg



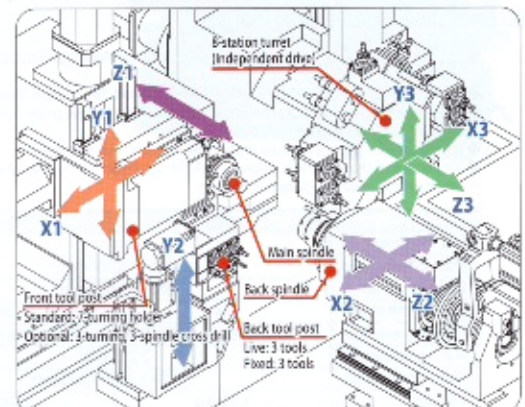
CNC PRECISION AUTOMATIC LATHE

B038T

Improved the milling capability on the complete processing aimed machine.
Y-axis control on all tool posts of turret, front gang tool post and back tool post

- 8-station turret
Mounting plural tools on one station, and achieving the quick tool change with Y-axis without turret indexing
- Back tool post equipping Y-axis
Milling with Y-axis can be performed by equipping live tools.
Front milling with the tools on turret and back milling with the tools on back tool post can be simultaneously performed.
- 3-path control
3-path control reduces the cycle time drastically.
- Tsugami's unique, highly rigid "Double Spindle" enables heavy-duty machining.
- Abundant tooling options facilitate the machining of complex-shaped workpieces.
- Using the automatic programming system, 3-path control programs can be created with ease.

B038T	
Max. machinable dia.	$\phi 38$ mm
Main spindle speed	200~5,000min ⁻¹
Back spindle speed	200~7,000min ⁻¹
Tool mounting type	Front tool post: gang tool post, Rear tool post: 8-station turret
Rapid traverse rate	X1, X2, X3, Y1, Y2, Y3, Z1, Z2, Z3: 24m/min
Main spindle motor	7.5/11kW
Width×Depth×Height	3,427×1,875×1,640mm
Weight	6,200kg



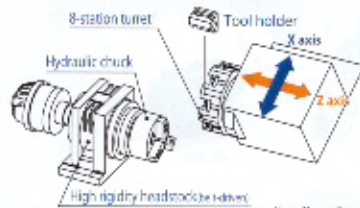
CNC LATHE

M06JC



Space saving basic machine for turning drilling and boring

- Compact machining width 1,165mm×height 1,400mm
- Overwhelming cost performance
- Brilliant cutting capability realizes high productivity.
- On-board conversational programming software, Turnmate I is prepared as an option.
- Abnormal load detection function decrease the damage in case of machine crush.
- Safety setting up by the help of interference prevention function at debug mode.
- Accurate machining is realized by the thermal distortion compensation function.



Note: Shown figure includes options.

	M06JC
Max. machinable dia.	φ220/φ42(Bar work)/mm
Main spindle speed	200~4,500min ⁻¹
No. of turret stations	8-station turret
Rapid traverse rate	X,Z: 24m/min
Main spindle motor	5.5/7.5kW
Width×Depth×Height	1,165×1,460×1,600mm
Weight	2,380kg

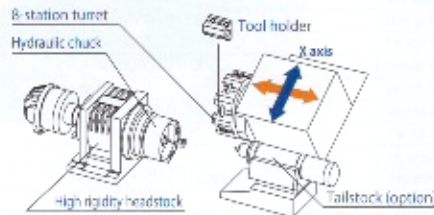
CNC LATHE

M06J/M08J



High rigidity and high productivity turning machine

- Overwhelming cost performance
- Brilliant cutting capability realizes high productivity.
- On-board conversational programming software, Turnmate I is prepared as an option.
- Abnormal load detection function decrease the damage in case of machine crush.
- Safety setting up by the help of interference prevention function at debug mode.
- Accurate machining is realized by the thermal distortion compensation function.



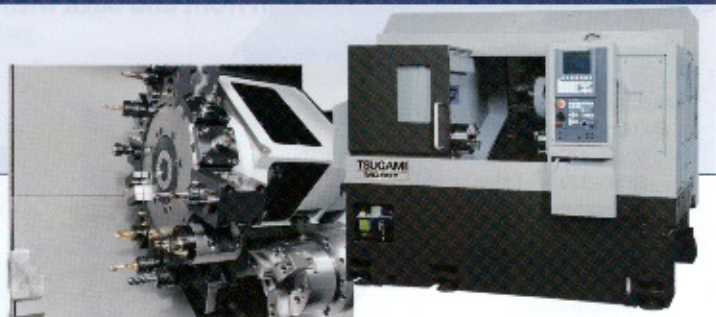
Note: Shown figure includes options.

	M06J	M08J
Max. machinable dia.	φ260/φ51(Bar work)/mm	φ280mm
Main spindle speed	200~4,500min ⁻¹	200~4,000min ⁻¹
No. of turret stations	8-station turret	
Rapid traverse rate	X: 24m/min Z: 27m/min	
Main spindle motor	5.5/7.5kW	9/11kW
Width×Depth×Height	1,690×1,570×1,600mm	
Weight	3,600kg	

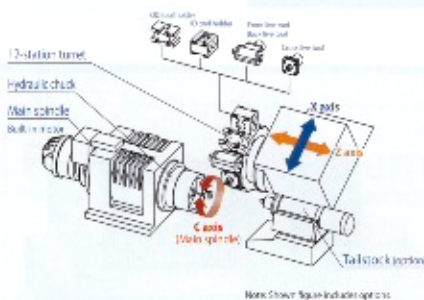
CNC LATHE

M06D/M08D/M06SD/M08SD/M06SY/M08SY

High rigidity and high productivity turning machine
Milling series

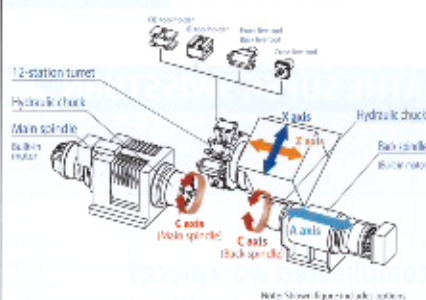


M06D/M08D With live tools on turret



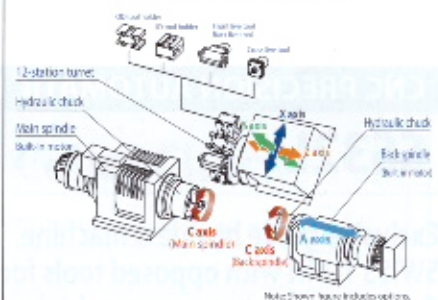
Note: Shown figure includes options.

M06SD/M08SD With live tools on turret and with back spindle



Note: Shown figure includes options.

M06SY/M08SY With Y axis and live tools on turret and with back spindle



Note: Shown figure includes options.

- Milling tools can be mounted on all the 12-station turret.
- Process aggregation by the turret with the Y-axis.(SY type only)
- The built-in motor is equipped on the main and back spindle.(D type has no back spindle)
- Powerful milling capability
- Overwhelming cost performance

- Preparing the optional interactive programming software on-board *MAUAI GUIDE*
- Abnormal load detection function decrease the damage in case of machine crush.
- Safety setting up by the help of interference prevention function at debug mode.
- Accurate machining is realized by the thermal distortion compensation function.

	M06D	M08D	M06SD	M08SD	M06SY	M08SY
Max. machinable dia.	φ260/ φ51(Bar work)/mm	φ280mm	φ260/ φ51(Bar work)/mm	φ280mm	φ260/ φ51(Bar work)/mm	φ280mm
Main spindle speed	200~4,500min ⁻¹	200~4,500min ⁻¹	200~4,500min ⁻¹	200~4,500min ⁻¹	200~4,500min ⁻¹	200~4,500min ⁻¹
Back spindle speed	—	—	200~4,500min ⁻¹	200~4,500min ⁻¹	200~4,500min ⁻¹	200~4,500min ⁻¹
No. of turret stations	12-station turret		12-station turret		12-station turret	
Rapid traverse rate	X: 24m/min Z: 27m/min		X: 24m/min Z: 27m/min A: 30m/min		X: 24m/min Y: 12m/min Z: 27m/min A: 30m/min	
Main spindle motor	7.5/11kW		7.5/11kW		7.5/11kW	
Width×Depth×Height	2,330×1,865×1,750mm		2,470×1,865×1,750mm		2,470×1,865×1,930mm	
Weight	5,000kg		5,600kg		5,900kg	

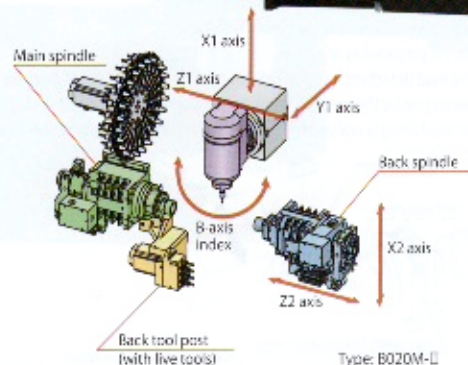
CNC PRECISION AUTOMATIC LATHE

B020M-II/SS20M/SS20M-5AX

Perfect integration of vertical machining center and automatic lathe
Optimum for mass production of complex-shaped parts from bar stock

- Performing higher complex machining with milling than vertical machining center thanks to multidirectional machining
- Front and back overlapped machining is possible.
- Various milling operations are realized thanks to 24-tool magazine and B-axis tool spindle.
- Diverse machining can shorten the cycle time.
- 5-axis simultaneously controlled processing (SS20M-5AX)

	B020M-II	SS20M	SS20M-5AX
Max. machinable dia.		φ20mm	
Main spindle speed		200~10,000min ⁻¹	
Back spindle speed		200~12,000min ⁻¹	
Tool spindle speed		300~30,000min ⁻¹	
Main spindle indexing	1 degree		C axis
B-axis index angle		0.001°	
Tool spindle taper		7/24taper 15T	
Tool storage capacity		24	
Width×Depth×Height		1,650×1,180×1,670mm	
Weight		2,000kg	



CNC PRECISION AUTOMATIC LATHE SUPER SWISSTURN

SS26/SS32

SWISS TURN with opposed tools for complicated workpieces
Complete simultaneous machining in front and back with rotary tools

- Various tooling arrangement satisfying user needs
Realized free arrangement of tool holders and rotary tools
- Wide tooling zone
- Long-stroke rotary guide bushing
Stroke 270mm / Max. speed 10,000min⁻¹ (SS26)
Stroke 320mm / Max. speed 8,000min⁻¹ (SS32)

	SS26	SS32
Max. machinable dia.	φ26mm	φ32mm
Main spindle speed	200~10,000min ⁻¹	200~8,000min ⁻¹
Back spindle speed	200~10,000min ⁻¹	200~8,000min ⁻¹
Total number of tools		24
Rapid traverse rate	Z1,Z2,X2:32m/min, X1,Y1,Y2:24m/min	
Main spindle motor	3.7/5.5kW	
Width×Depth×Height	2,020×1,675×2,020mm	
Weight	3,400kg	



CNC PRECISION AUTOMATIC LATHE SUPER SWISSTURN

SS32L

Exclusive guide bushless machine
SWISS TURN with opposed tools for complicated workpieces
Complete simultaneous machining in front and back with rotary tools

- Various tooling arrangement satisfying user needs
Realized free arrangement of tool holders and rotary tools
- Wide tooling zone
- High efficiency and high precision machining with the guide bushing less spindle

	SS32L
Max. machinable dia.	φ32mm
Main spindle speed	200~8,000min ⁻¹
Back spindle speed	200~8,000min ⁻¹
Total number of tools	24
Rapid traverse rate	Z1,Z2,X2:32m/min, X1,Y1,Y2:24m/min
Main spindle motor	3.7/5.5kW
Width×Depth×Height	2,020×1,675×2,020mm
Weight	3,400kg



CNC PRECISION AUTOMATIC LATHE

BH20Z

Drastically shortened cycle time with process overlapping
Complex-shaped long workpieces can be machined efficiently.

- Drastically shortened cycle time with simultaneous machining of three tool posts; front tool post, rear turret and dedicated back tool post
- Increasing rotary tool abilities by 12-station turret with independent drive mechanism
Minimized thermal displacement
- Complex-shaped workpieces can be completely machined using Max. 35 tools.
- Using the automatic programming system for BH (optional), 3-path control programs can be created with ease.
- Guide-bushing type or guide-bushing-less type (optional) selectable according to a workpiece

	BH20Z
Max. machinable dia.	φ20mm
Main spindle speed	200~10,000min ⁻¹
Back spindle speed	200~12,000min ⁻¹
Tool mounting type	Front tool post: gang tool post, Rear tool post: 12-station turret
Rapid traverse rate	X1,Y3:12m/min, Z3:18m/min, Y3:20m/min, Y1,Z1,X2,Z2:24m/min
Main spindle motor	2.2/3.7kW
Width×Depth×Height	2,480×1,585×1,733mm
Weight	4,500kg



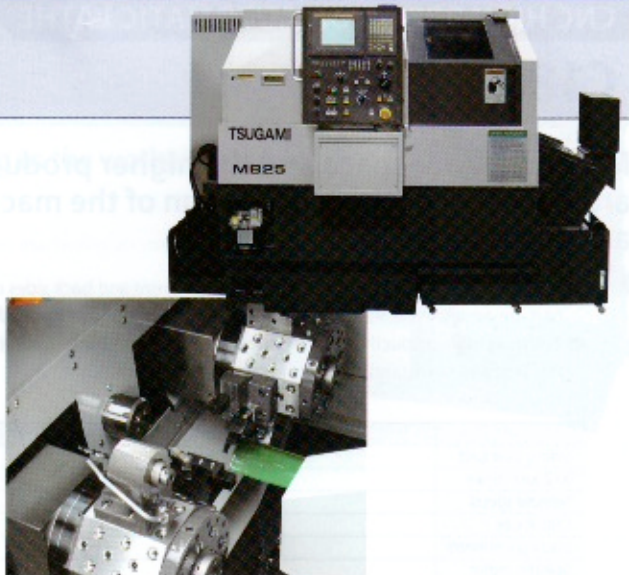
CNC PRECISION AUTOMATIC LATHE

MB25

Fixed headstock machine
8-station×2 turrets performs
powerful cutting of complicated workpieces

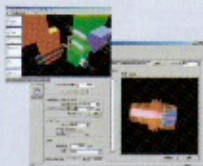
- Machining time is shortened 30 to 50% compared with our conventional machine.
- No idle time for tool selection by stand-by function of two turrets to prepare next indexing, simultaneous ID and OD or balanced OD machining possible.
- Idle time (chip to chip) is 1.5sec. (T1 turret) in case same turret index machining.

	MB25
Max. machinable dia.	φ25mm
Main spindle speed	50~6,000min ⁻¹
No. of turret stations	8-station turret×2
Rapid traverse rate	20m/min
Main spindle motor	3.7/5.5kW
Width×Depth×Height	1,550×1,580×1,520mm
Weight	2,800kg (Coolant tank excluded)



FA Support system

Programming system, NC program input/output system



Automatic programming software:

- Programming, debugging time can be reduced
- Applicable on Microsoft Windows
- Cycle time can be calculated for machining estimation.
- Easy interactive input system

	B03-I/4-I/S-I/5-I Able, S2532-I Able, B0385 Able, S Able, S3 Able, S5-7 Able, S327 Able, BH Able, B010T Able
CPU	Intel Celeron 2.0GHz or faster
Memory	1.0GB or more
OS	Microsoft Windows Xp / Vista / 7 / 8
HDD	100MB or more free space required
Display	1677 million color display (Full color) Resolution : 800x600 or higher

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Collet Chuck

TSUGAMI's precision collet chucks are top-grade products of the world, produced by paying close attention to details in its design and manufacturing process, sufficiently heat treatment carefully, selected materials and utilizing superior precision machining technique.



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