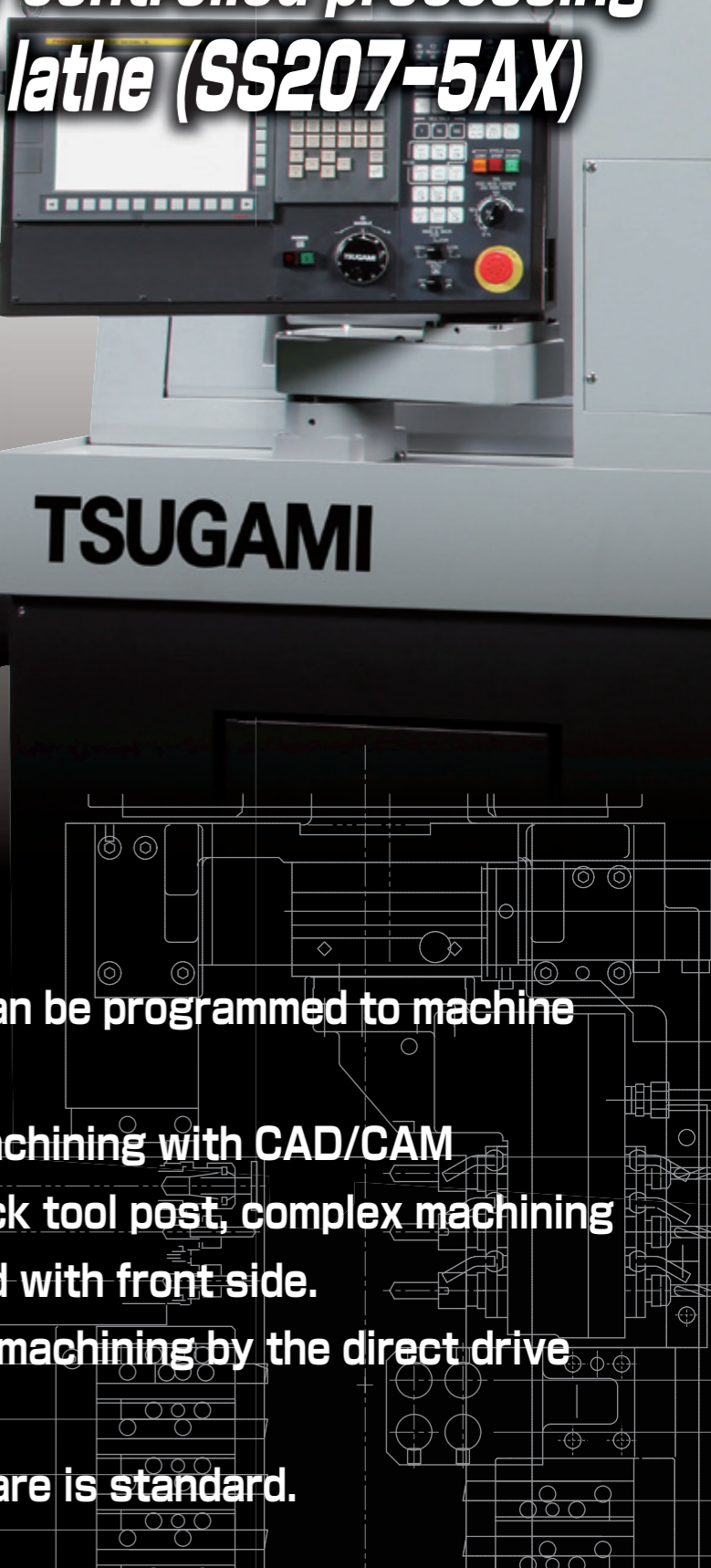


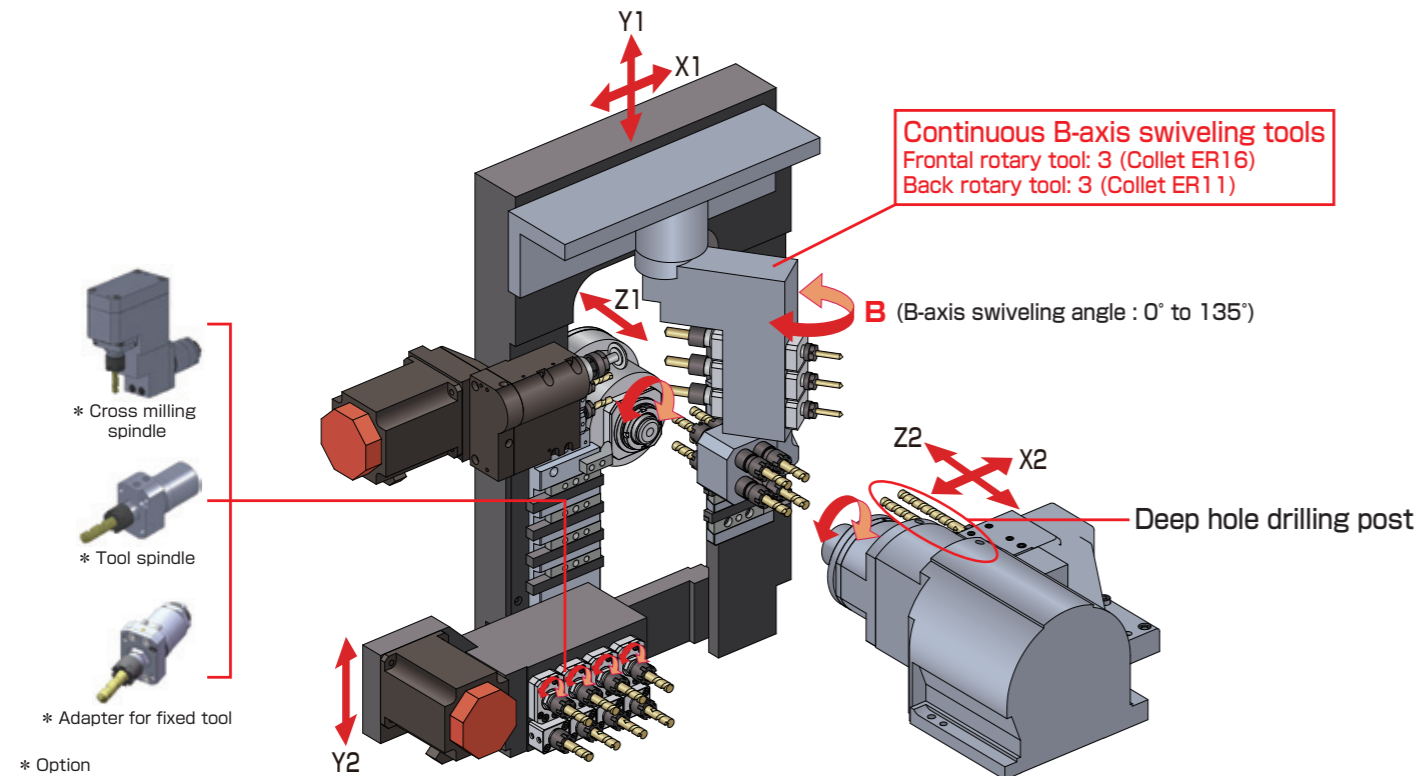
- *B-axis versatility for machining complex parts*
- *5-axis simultaneously controlled processing now on the automatic lathe (SS207-5AX)*

Continuous B-axis swiveling tool post

- B-axis swiveling tool spindle can be programmed to machine virtually any angle.
- Simultaneous 4-axis, 5-axis machining with CAD/CAM
- Thanks to the Y-axis of the back tool post, complex machining on back side can be overlapped with front side.
- High speed and high accuracy machining by the direct drive rotary guide bushing (Option)
- Automatic programming software is standard.

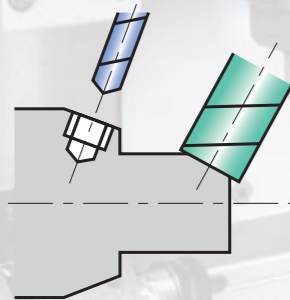


Continuous B-axis swiveling tool post



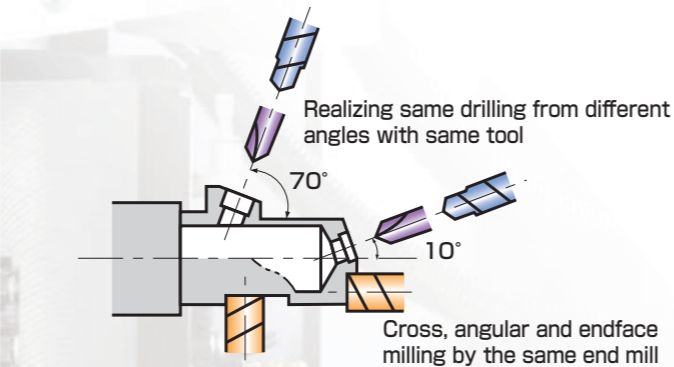
Thanks to the B-axis control, virtually any angle can be indexed and processed by NC programs

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



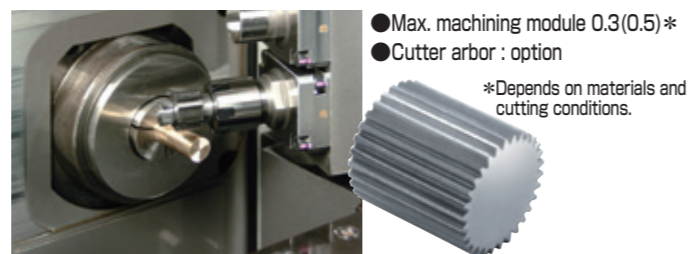
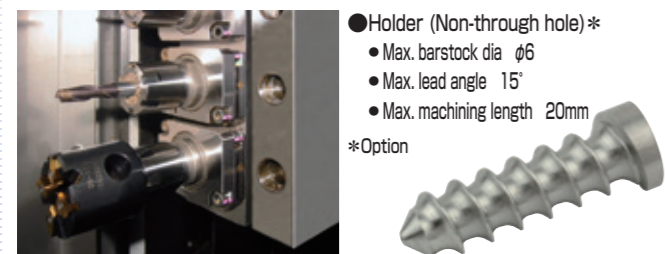
Mutual use of tool with the B-axis control

- Reducing the number of tools with mutual use of tool
- Shortened cycle time.



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

- Thread whirling (Lead angle can be specified by B-axis control.)
- Hobbing (Lead angle is specified by B-axis control.)



B-axis commanding Two patterns are performed with B-axis tool post

(1) Step indexing cutting

After indexing B-axis tool post by the B-axis positioning command, angular-drilling, -tapping or -end-milling can be executed.

(2) Continuous B-axis cutting

The B-axis moves continuously by the simultaneous controlling with the other controlled axes C1,Z1,B1,X1,(Y1).

Function	Programming	Required options
(1) Step indexing cutting	<ul style="list-style-type: none"> ● manual programming ● Automatic programming software (Standard accessory) 	N.A.
(2) Continuous B-axis cutting	<ul style="list-style-type: none"> ● CAD/CAM *Mastercam ① Mastercam CAM system ② Post processor for SS207 (Dedicated program) <p>If a customer has the mastercam CAM system ①, only the post processor for SS207 ② is necessary.</p>	AI contour control function (SS207-5AX: Standard)

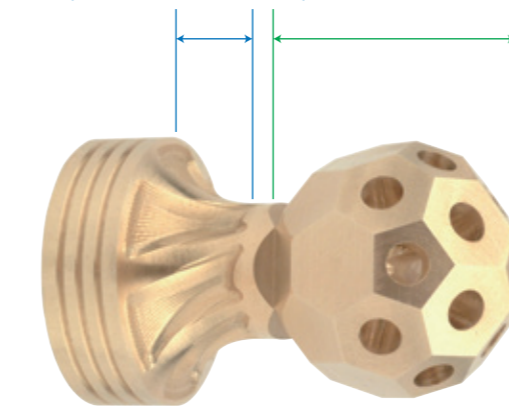
* Consult Mastercam agent.

4 axis/5 axis-simultaneous control processing is made possible with CAD/CAM software.

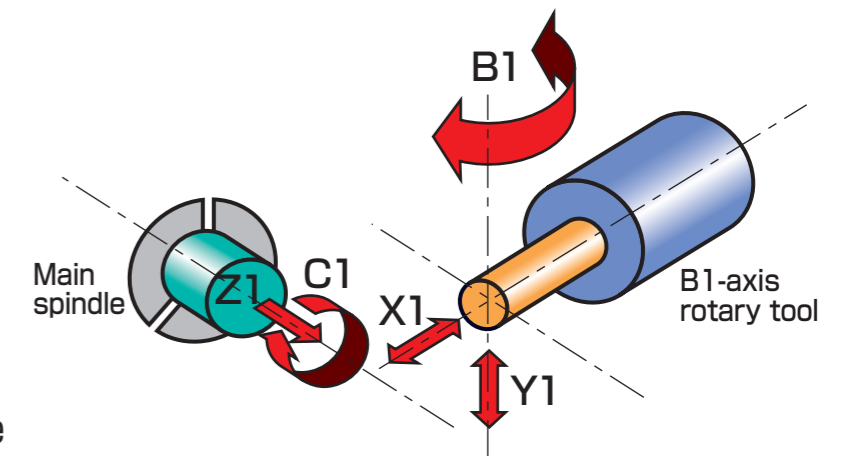
- 4-axis simultaneous control : C1,Z1,B1,X1,(Y1) axis — SS207
- 5-axis simultaneous control : C1,Z1,B1,X1,Y1 axis — SS207-5AX

(2) Continuous B-axis cutting (4-axis simultaneous control)

(1) Step indexing cutting

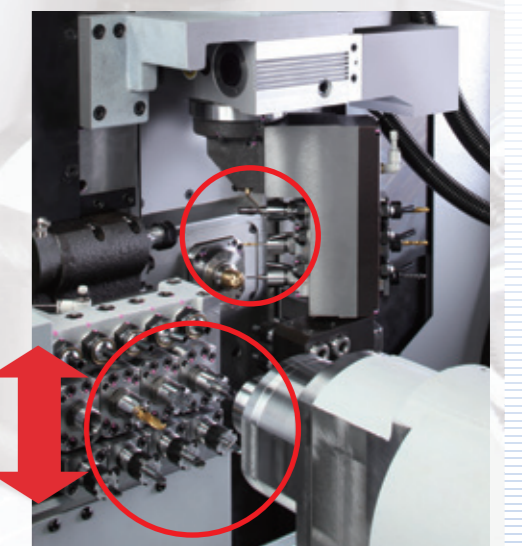


B-axis processing partition example



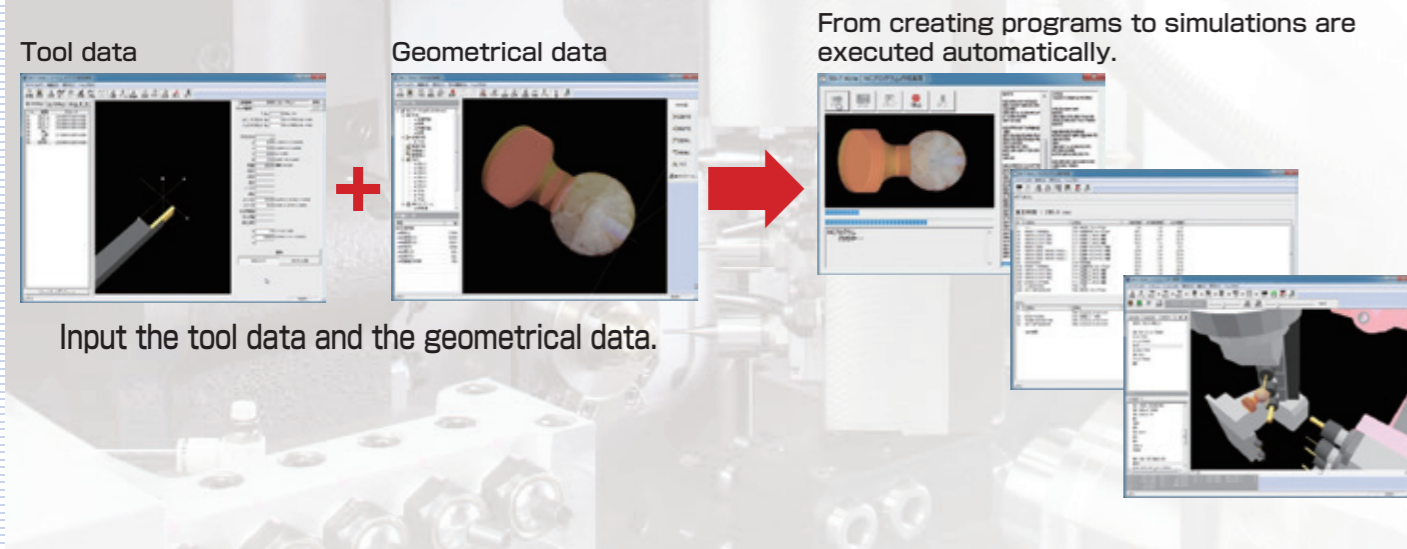
Combining of complex-machining capabilities and high productivity

- Thanks to the Y-axis of the back tool post, complex machining on back side can be overlapped with front side.
- The deep hole drilling (up to 100mm) is realized by mounting the deep hole drill holder besides the back spindle.



Enhanced programming capability is possible with SS-7 Abile standard software

The 3D simulation function enables the user to check the operations of the main/back spindles from any angle. Customized software works in perfect harmony with the machine to produce high quality standardized programs.



Specifications/Options

Machine standard specifications

Name	SS207	SS207-5AX
Bar stock chucking dia.	φ3 to φ20 mm	
Machining range, machining capacity	Max. machining length	250 mm (Stationary guide bushing (OP.)) 80 mm (Carrier type rotary guide bushing (OP.)) 210 mm (Direct-drive rotary guide bushing (OP.)) 45 mm (Guide-bushing-less-kit (OP.))
	Max. main spindle drilling diameter	φ10
	Max. main spindle tapping diameter	M10
	Max. back spindle chucking dia.	φ20
	Max. back spindle drilling diameter	φ8
B-axis tool spindle	Max. back spindle tapping diameter	M6
	Max. cross drilling diameter	φ6
	Max. cross tapping diameter	M5
Machine	Max. drilling diameter	φ6
	Max. tapping diameter	M5
	Max. spindle speed	5,000 min ⁻¹
Motors	Main spindle speed	200 to 10,000 min ⁻¹
	Back spindle speed	200 to 10,000 min ⁻¹
	Total tool storage capacity	35
	Tool size	□12 mm x 100 mm
Others	Rapid traverse rate	32 m/min (X1, Y1: 24 m/min, Y2: 15 m/min)
	Main spindle	2.2/3.7 kW
	Back spindle	1.5/2.2 kW
	Cross drill of front tool post	0.75 kW
	Swiveling tool spindle	1.0 kW
Others	Weight	3,300 kg
	Power source requirement	14.6 kVA
	Width x depth x height	2,110 x 1,200 x 1,885

NC standard specifications

Item	SS207	SS207-5AX
NC unit	FANUC 32i-B	FANUC 31i-B5
Axis names	X1, Z1, Y1, X2, Z2, Y2, C1, C2, B1	
Least input increment	0.001 mm (diameter value for X1/X2-axis)	
Least command increment	X1/X2 axis: 0.0005 mm, others: 0.001 mm	
Max. programmable value	±8 digit	
Interpolation method	Linear/Circular	
Rapid traverse rate	32 m/min (X1/Y1 axis: 24 m/min, Y2 axis: 15 m/min)	
Feedrate	1 to 6,000 mm/min	
Feedrate override	0 to 150% in 10% increments	
Dwell	G04 0 to 99999.999	
ABS/INC command	X, Z, Y, C, B: Absolute, U, W, V, H: Incremental	
Tool offset pairs	99	
LCD/MDI	10.4" color LCD	
Display language	English	
Part program storage size	256 Kbytes (equivalent to 320 m tape length for each path)	
Number of registerable programs	63	
Auxiliary functions	Main: 5-digit, Back: 3-digit	
Spindle functions	S 5 digits	
Tool functions	T 4 digits	

Machine standard accessories

Name	Name
Front tool post : 3-spindle cross drill	Door interlock (Tooling zone side door/Main spindle side door)
Deep hole drill holder (φ20 x 2 holes)	Coolant level detector
Main spindle C-axis / Back spindle C axis	Spindle cooling unit
Automatic programming software	Standard tools
Tool-height compensation function	Transit clamps
Tool counter	Automatic power shut-off
Periodic maintenance screen	Back spindle air purge
Main spindle adapter	Cross drill air purge
Back spindle adapter	Main spindle brake

NC standard accessories

Name	Name
Chasing function	Tool nose radius compensation
Continuous thread cutting	HRV control
Manual pulse generator	Multiple repetitive cycle
Memory card I/O interface	Extended part program editing
Back ground editing	Canned cycle drilling
Run time/parts number display	Rigid tap (Main spindle, back spindle, cross/back tool)
Custom macro	Cut-off detection (Differential speed detection)
Constant surface speed control	Spindle speed fluctuation detection
Spindle synchronization control (Rotation, phase)	Stored stroke check 2,3
Z1/Z2-axis synchronous control	3-dimensional coordinate conversion
Tool geometry / wear offset	AI contour control function (SS207-5AX)
Programmable data input	Data server function (SS207-5AX)
Chamfering, corner R	

Options

Name	Name	Name
Guide bushing	Stationary guide bushing	Chip disposal
	Carrier type rotary guide bushing	Chip conveyor
	Direct-drive rotary guide bushing	Automatic tool setting
Advanced function system	Guide-bushless kit	Operation support functions
	Main spindle 15-degree index	Machine maintenance and monitoring functions
	Back spindle brake	Tooling equipments
	Back spindle 15-degree index	0.1 μm resolution
Live tools (Back tool post)	Tool spindle	NC function
	Cross milling spindle	AI contour control function (SS207)
	Back tool adapter	RS232C interface
Coolant system	High-pressure pump (1.5 MPa)	Inch/metric conversion
	M code oil blow	Abnormal load detection
	Mist separator	Part program storage size 512 Kbytes
	Work conveyor	G-code system B/C
Work discharge system	Work catcher	Direct drawing dimension program
	Front discharge	Variable-lead thread cutting
	Rear discharge	Thread cutting cycle retract
		Number of registerable programs extension 1
		Safety and other
		Standard program storage size : 500 programs
		512 KB: 1,000 programs
		Polar coordinate interpolation
		Cylindrical interpolation
		Display language
		External illumination
		Internal illumination
		Automatic fire extinguisher

Option



Work catcher

Conveying the workpiece discharged from back spindle through the chute



Back milling spindle

Mounted on the back drive for cross drilling or milling etc.



Back tool spindle

Mounted on the back drive for endface off-center drilling or off-center tapping etc.