

CNC SWISS-TURN



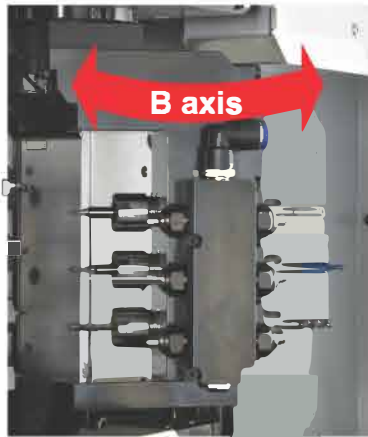
CNC SWISS TYPE AUTOMATIC LATHE

SA 20XII / 26XII / 32XII / 45XII / 51XII



NEXTURN
SWISS TURN LEADER

Max. 31 tools, Precise Machining



Continuous B-axis Swiveling Tools (Option)

- Fanuc 31i-B5 system
- Front Live Tools: 3 (ER16) / Back Live Tools: 3 (ER11)
- B-axis Swiveling Angle: 0° ~ 135°

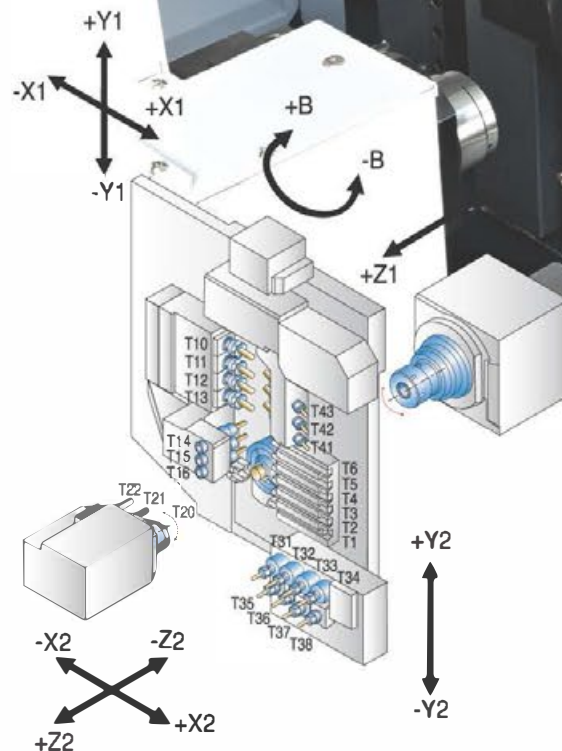
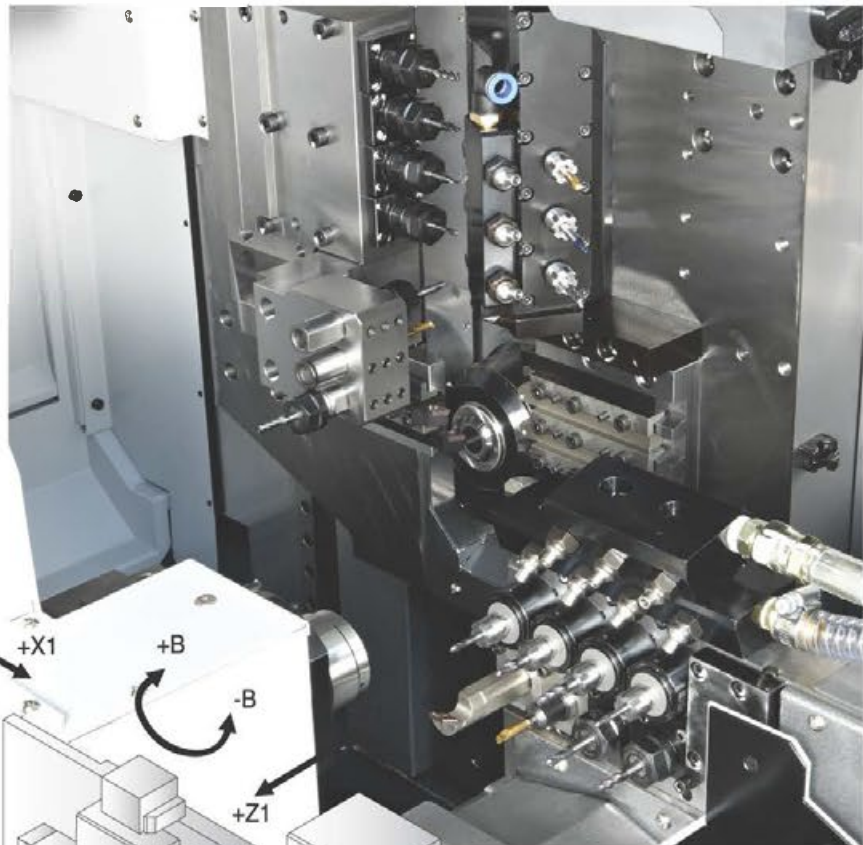
Advantage of B-axis

- Various Angle Machining Available (Drilling, Tapping, End milling)
- Effective Use of Same Tools for Different Angles, Reducing Machining Time

B-axis Control

- Step Indexing (Standard)
Command B-axis Indexing Position, Execute Various Angle Machining
- Continuous B-axis Control (Option)
Use CAD/CAM Program to Control Simultaneous 4 Axis (C1,Z1,B1,X1)

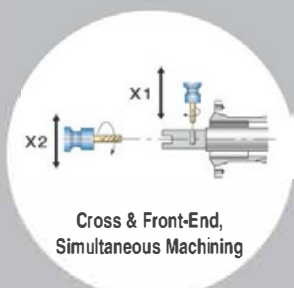
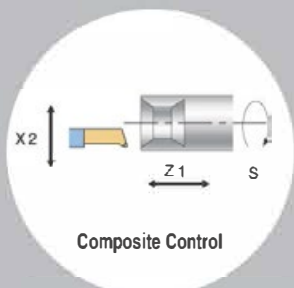
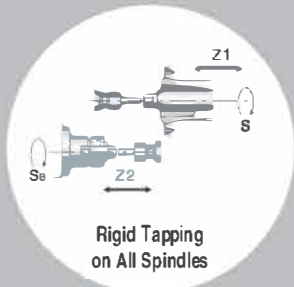
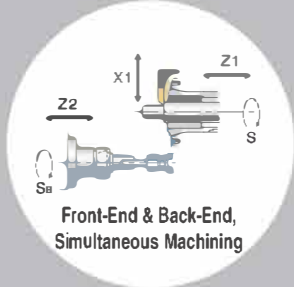
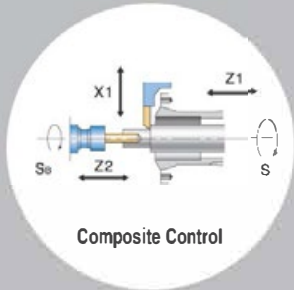
Complex Tooling System with Multi Axis



High Productivity

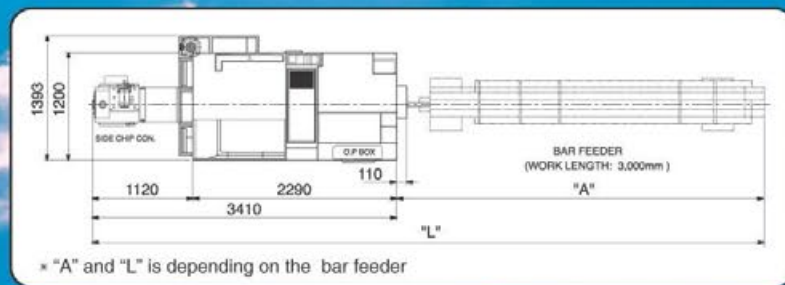
- Optimized Tooling Layout
- Minimum Non-Cutting time with □ shape Tooling
- Short Bar Remnant for Material Cost Saving, Less than 70mm Remnant (SA45XII/51XII)
- Optimum Tooling distribution on MAIN / SUB allows Better Cycle Time and Expand Machining Range

※ Applied for SA20XII (B Axis)



System

LAY-OUT



Powerful Back-End Tool Station

- Balanced Process by Powerful Back-End Machining Reducing Cycle Time
- Rigid Off-center Drilling and Tapping with High Speed and High Accuracy
- No. of Tools : Std. 4 (Live 2, Fixed 2) / Opt. 8 (Live 4, Fixed 4)
- Max. Spindle Speed : 5,000 rpm
- Motor Output : 1.0 kW (Fanuc)

High Quality

- Built-in Motor System for Main / Sub (SA45XII / 51XII)
- Powerful Cutting and Stable Quality Production
- Oil Cooling System for Main, Enable Best Heat Control for Improve Quality Machining Part
- Ultra Precision Ball Screw / LM Guide
- Pneumatic Brake with High Accuracy / High Rigidity (SA20XT-32XII)
- Powerful Hydraulic Disc Brake (SA45XII/51XII)
- Powerful Hydraulic Cylinder Chucking System for Stable Powerful Cutting for Max. Diameter, Minimum Maintenance (SA45X1/51XII)

Multiplicity

- Large Tooling Capacity (Max. 33 / Live Tools 19)
- Various Application for Cross Drill Unit
4 Cross Drilling Unit + 4 Modular Cross Drilling Unit (or B axis Unit)
- Various Tooling for Back Tool Unit
Opt: 8 (Live 4, Fixed 4), Modular Back Tool Unit Applicable

High Convenience

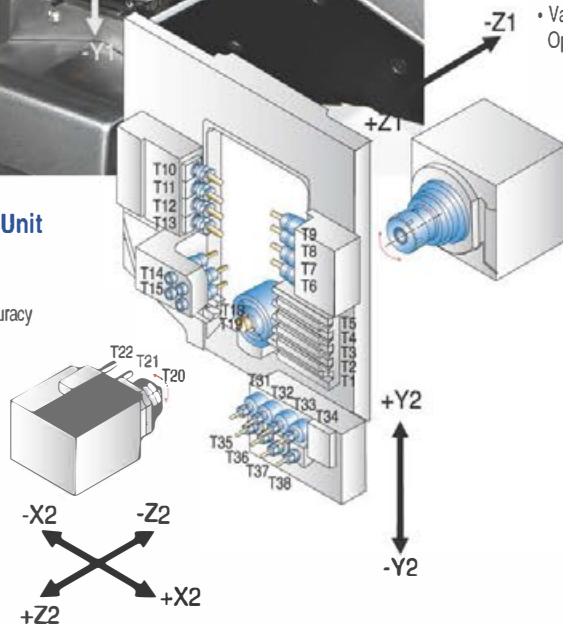
- Centralized Operation Panel, MPG Enable Simple Setting Process
- Easy & Simple Operational Panel
- One Casting and Slent Bed Structure Minimize Oil Leakage & Scattering
- Fully Opening Type Covers and Doors
- Easy Remedy for Modularized Hydraulic and Pneumatic System
- Individual Coolant Discharge

High Rigidity

- Body Structure Design by FEM Analysis
- Tool Stand with Low Center of Gravity Design
- One Casting Bed Type with LM Guide Links to Bed
- Powerful Motor and Rigid LM Guide System for Outstanding Cutting Performance
- Superb Absorption for Vibration and Minimized Thermal Deformation

Rotary Guide Bushing Unit (SA20XII-32XII)

- Rotary Synchronous Type
- Dual Bearing Structure with High Accuracy
- Strong and Accurate Bearing Support on Both Ends
- Spline Shaft Driven



Machine Specification

Part	Description	SA20XII	SA26XII	SA32XII	SA45XII	SA51XII
Machining Capacity	Max. Turning Bar Dia.	ø20mm	ø26mm	ø32mm	ø45mm	ø51mm
	Max. Turning Bar Length	270mm	270mm	270mm	120mm	150mm
	Max. Main Spindle Drilling / Tapping	ø10mm / M8	ø12mm / M10	ø12mm / M10	ø16mm / M12	ø20mm / M16
	Max. Sub Spindle Chucking Dia.	ø20mm	ø26mm	ø32mm	ø45mm	ø51mm
	Max. Back-end Face Drilling / Tapping	ø8mm / M6	ø10mm / M8	ø10mm / M8	ø13mm / M10	ø13mm / M10
	Max. Cross Drilling / Tapping	ø8mm / M6	ø10mm / M8	ø10mm / M8	ø13mm / M10	ø16mm / M12
	Max. Cross Disc - Mill Dia.	ø32mm	ø40mm	ø40mm	ø45mm	ø50mm
Capability	Max. Main Spindle Speed	8,000rpm	8,000rpm	8,000rpm	6,000rpm	6,000rpm
	Max. Sub Spindle Speed	8,000rpm	8,000rpm	8,000rpm	6,000rpm	6,000rpm
	Max. Cross Spindle Speed	6,000rpm	6,000rpm	6,000rpm	6,000rpm	6,000rpm
	Total No. of Tools	29	29	29	24	22
	OD / Cross / ID Tools	8 / 8 (Modular 4) / 3	7 / 8 (Modular 4) / 4	7 / 8 (Modular 4) / 4	5 / 4 / 7 (Live 3)	6 / 3 / 7 (Live 3)
	Front-end Face Tools (Sub)	2 (Fixed, Live opt)	2 (Fixed, Live opt)	2 (Fixed, Live opt)	-	-
	Back-end Face Tools	8 (Live 4, Fixed 4)	8 (Live 4, Fixed 4)	8 (Live 4, Fixed 4)	8 (Live 4, Fixed 4)	6 (Live 3, Fixed 3)
	Bite Shank	□12×120mm	□16×120mm	□16×120mm	□20×125mm	□20×125mm
	Rapid Traverse	32M / min.	32M / min.	32M / min.	24M / min.	24M / min.
	Controllable Axes	8	8	8	8	8
	Main Spindle Positioning	Cs + 1/1,000°	Cs + 1/1,000°	Cs + 1/1,000°	Cs + 1/1,000°	Cs + 1/1,000°
Sub Spindle Positioning	Cs + 1/1,000°	Cs + 1/1,000°	Cs + 1/1,000°	Cs + 1/1,000°	Cs + 1/1,000°	
Motor	Main Spindle	2.2 / 3.7kW	3.7 / 7.5kW	3.7 / 7.5kW	11 / 15kW	13.2kW
	Sub Spindle	1.5 / 2.2kW	1.5 / 2.2kW	1.5 / 2.2kW	2.2 / 5.5kW	11 / 15kW
	Cross Drill / Mill Unit	1.0kW	1.0kW	1.0kW	1.0kW	2.2kW
	Back-end Face Tools	1.0kW	1.0kW	1.0kW	1.0kW	1.0kW
	Coolant Pump Unit	0.9kW	0.9kW	0.9kW	1.5kW	1.5kW
	Lubrication Pump Unit	0.04kW	0.04kW	0.04kW	0.04kW	0.04kW
	Coolant Capacity	250ℓ	250ℓ	250ℓ	300ℓ	300ℓ
Dimension	Center Height	1,000mm	1,000mm	1,000mm	1,100mm	1,100mm
	Length×Width×Height	2,330×1,350×1,800mm	2,330×1,350×1,800mm	2,330×1,350×1,800mm	2,400×1,350×1,900mm	2,600×1,750×1,900mm
	Net Weight	3,600kg	3,600kg	3,700kg	4,000kg	4,200kg

* Above specification may be changed without prior notice.

NC Specification

Description	SA20XII / 26XII / 32XII / 45XII / 51XII
NC Controller	FANUC 0iTF
No. of Controllable Axis	8
Axis Designation	X1, Z1, Y1, X2, Z2, Y2, C1, C2
Min. Input Increment	0.001mm
Min. Command Increment	0.001mm (X axis : 0.0005mm)
Max. Programmable Value	± 8 digits
Interpolation Function	Linear / Circular
Feedrate	1~6,000mm / min.
Feedrate Override	0~150%, 10% step
Dwell	G04 0.001~9999.999
ABS / INC Command	X, Z, Y, C : Absolute U, V, W, H : Incremental
Tool Offset	± 6 digits
No. of Tool Offset	64 sets
CRT / MDI	10.4" COLOR
Display Language	English, Others
Tape Memory	1 Mbyte
No. of Registerable Program	800 sets
Miscellaneous Function	M5 / M3 digits
Main Spindle Function	S4 digits
Tool Function	T4 digits

* Above specification may be changed without prior notice.

Machine Standard
Synchronous Rotary Guide Bush Holder Unit
Part conveyor
M-code Air Blow
Part Ejection Detector
4 Spindle Cross Drill Unit
4 Spindle Modular Cross Drill Unit
Main / Sub Spindle Positioning : 1/1,000°
Cs Control on Main & Sub Spindle
Back Tool Unit (Live 2, Fixed 2)
Coolant Flow Detector
Pneumatic Brake Unit (SA20XII~32XII)
Hydraulic Brake Unit (SA45XII/51XII)
Patrol Light
Barfeeder Interface
Service Tool Kit
Instruction Manual
FANUC Manual (Operator / Maintenance / Parameter)

Machine Option
Barfeeder
Long Part Discharging Unit
Chip Conveyor
Back Tool Unit (Live 4, Fixed 4)
M-code Oil Blow
Front-end Face Revolving Unit (2)
Cut-Off Breakage Detector
Polygon Function
Y-Axis Tool Unit
Thread Whirling Device

NC Standard
Circle, Semi-circle Designation
Work Coordinate Shift (G50)
Machine Lock
Single Block
Software Operation Panel
Tool Offset Display
Input / Output Interface
Working Hour / No. of Part Display
Tool Radius Compensation
Chamfer / Corner R
Automatic Power-Off
Inch / Metric Conversion
Back-ground Editing
Constant Surface Speed Control
Synchronous / Composite Function
Z1-Z2 Synchronous Function
MPG(handle wheel) : 0.001mm
Synchronous Control (Main & Sub)
Rigid Tapping on All Spindles

NC Option
MPG Program Check
IC Card
Additional G-Code
Remote Control System (Ethernet)
Fanuc Warranty Service (2 years)
Helical Interpolation
3 Dimensional Coordinate Conversion

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