

NEW



# CNC Automatic Lathe

# SK-51 type A/D

## Star Micronics Enters Its New Territory With the Fixed-Headstock Lathes

Star Micronics offers the fixed-headstock lathe users the new product line including the fully configured 2-spindle + 3-turret model at its highest end. In pursuit of the highest level of functionality, rigidity, and operability in the category, SK-51 suggests innovations in 51 mm diameter-class bar stock processing with confidence.



### High Functionalities

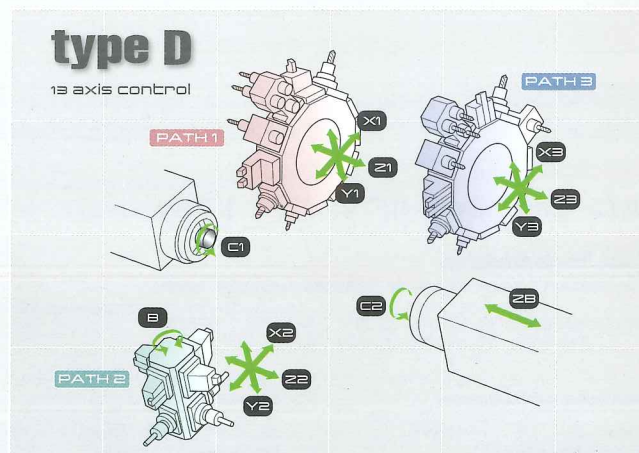
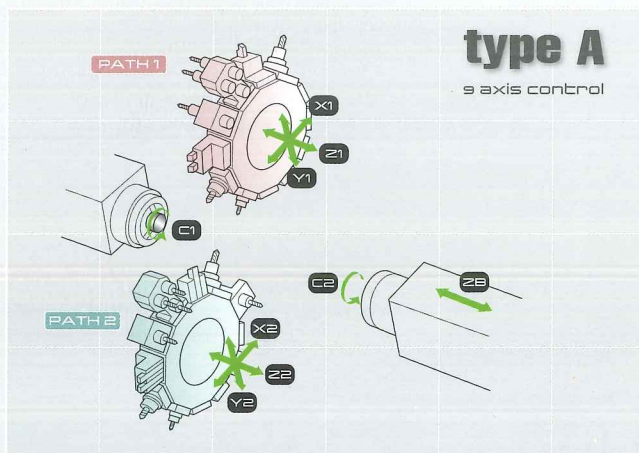
- ① 2 models are lined up by a combination of 12-stationed turret-type tool post with 3-axis control and 4-stationed turret-type tool post with B-axis control.
- ② Type D is mounted with a 4-stationed turret-type tool post with B-axis control which is capable of simultaneous 5-axis processing on both the front and back sides.
- ③ The main and sub spindles can be mounted with power chuck to enable the processing of the cast or forged workpieces.

### Operability and Workability

- ① The short distance from the front side of the machine to the spindles improves operator workability.
- ② The swing type control panel mounts a large, 15-inch touch panel display.
- ③ Program checking function enables verification beforehand by 3D simulation.

### High Rigidity and Accuracy

- ① The slide of the X-axis of each tool post adopts the square type slide guideway structure to improve the post rigidity.
- ② The power tool of the 12-stationed turret-type tool post is designed with one position drive mechanism.
- ③ The thermal data from multiple locations of the machine enables highly accurate and flexible thermal displacement correction.



2 spindles

2 turrets : 2 x 12 stations

2 spindles

2 x 12 stations + 1 x 4 stations (with B axis)

□ Standard Machine Specifications

OP : Option

Item		SK-51 type A	SK-51 type D	
Main spindle	Max. machining diameter	φ51mm(2in)		
	Max. machining length	125mm(4-59/64in)		
	Main spindle speed	Max.5,000min <sup>-1</sup>		
	Main spindle motor	7.5kW(continuous)/15kW(10min./15%ED)		
	Main spindle indexing angle	C-axis control		
	Through-spindle hole diameter	φ52.5mm(2-1/16in)		
	Chucking type	Hydraulic rotary cylinder		
	Collet chuck type	H-S22 / DIN1177E		
	Power chuck type	6inch		
	Sub spindle	Max. machining diameter	φ51mm(2in)	
Max. length for front ejection		125mm(4-59/64in)		
Max. parts projection length		80mm(3-5/32in)		
Main spindle speed		Max.5,000min <sup>-1</sup>		
Main spindle motor		7.5kW(continuous)/11kW(15min./25%ED)		
Main spindle indexing angle		C-axis control		
Through-spindle hole diameter		φ52.5mm(2-1/16in)		
Chucking type		Hydraulic rotary cylinder		
Collet chuck type		H-S22 / DIN1177E		
Power chuck type		6inch		
PATH 1 Tool post	Type	12-stationed turret □20mm(25/32in)		
	Number of tools	Tool	Max. 2 tools/station	
		Sleeve	Max. 3 sleeves/station	
	Power driven tool	Power driven tool	Max. 2 tools/station	
		Spindle speed	Max.6,000min <sup>-1</sup>	
	Power driven tool	Drive motor	4.5kW(continuous)/7.5kW(5min./30%ED)	
		Max. drilling capability	φ16mm(5/8in)	
		Max. tapping capability	M12×P1.75	
		Milling	φ20mm(25/32in)	
	PATH 2 Tool post	Type	12-stationed turret	4-stationed turret (with B-axis) □20mm(25/32in)
Number of tools		Tool	Max. 2 tools/station	Max. 1 tool at upper position Max. 2 tools at lower position
		Sleeve	Max. 3 sleeves/station	Max. 1 tool at upper position Max. 2 tools at lower position
Power driven tool		Power driven tool	Max. 2 tools/station	Max. 2 tools at lower position
		Spindle speed	Max.6,000min <sup>-1</sup>	
Power driven tool		Drive motor	4.5kW(continuous)/7.5kW(5min./30%ED)	2.2kW(continuous)/4.5kW(5min./30%ED)
		Max. drilling capability	φ16mm(5/8in)	φ13mm(33/64in)
		Max. tapping capability	M12×P1.75	M10×P1.5
		Milling	φ20mm(25/32in)	φ18mm(45/64in)
PATH 3 Tool post		Type	— 12-stationed turret □20mm(25/32in)	
	Number of tools	Tool	— Max. 2 tools/station	
		Sleeve	— Max. 3 sleeves/station	
	Power driven tool	Power driven tool	— Max. 2 tools/station	
		Spindle speed	— Max.6,000min <sup>-1</sup>	
	Power driven tool	Drive motor	— 4.5kW(continuous)/7.5kW(5min./30%ED)	
		Max. drilling capability	— φ16mm(5/8in)	
		Max. tapping capability	— M12×P1.75	
		Milling	— φ20mm(25/32in)	
	Rapid feed rate	X1, X2, X3	20m/min	
Y1, Y2, Y3		15m/min		
Z1, Z2, Z3, ZB		40m/min		
Coolant tank	458 ℓ			
Coolant pump	1.5kW (2.5MPa) ×1、 0.4kW×1			
Dimensions (W×D×H)	2,800×2,070×2,130mm			
Weight	6,600kg	7,200kg		

Note)  
The machining capacities apply to SUS303 material. The machining capacities may differ from listed values depending on the machining conditions, such as the material to be machined or the tools to be used.

□ Standard Accessories and Functions

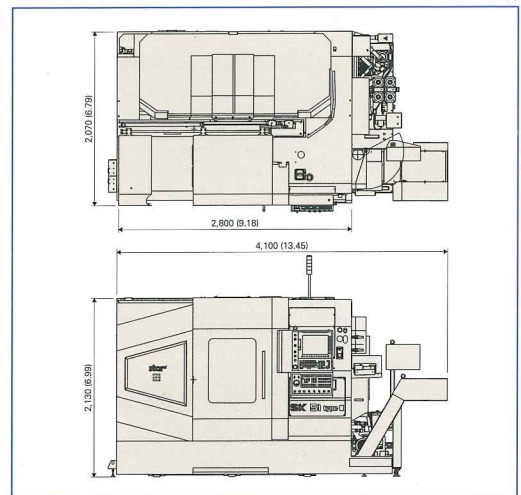
1. CNC unit FANUC 32i-B (type A)
2. CNC unit FANUC 31i-B5 (type D)
3. Operation panel 15-inch color LCD display
4. Pneumatic unit
5. Hydraulic unit
6. Automatic centralized lubrication unit
7. Coolant level detector
8. Door interlock system
9. Cut-off tool breakage detection function (Software)
10. Cs contouring control (Main / Sub)
11. B-axis control (Type D: PATH 2 turret)
12. Spindle clamp unit (main/sub)
13. Spindle air purge system (Main/Sub)
14. Pneumatic cylinder type product ejection system (with ejection detection system)
15. Sub spindle mix blow system (Air & Coolant)
16. Tool drive unit (Turret type tool post)
17. Parts catcher
18. Parts conveyor
19. Work light
20. Leakage breaker

□ Optional Accessories and Functions

1. Chip conveyor
2. Coolant flow detector
3. Water removal unit
4. Beacon
5. Cut-off tool breakage detection system (Mechanical type)
6. Main/Sub chuck (to be selected from the tooling system)
7. Main spindle inner tube
8. Main/Sub spindle upper air blow (for power chuck)
9. Foot switch (Main/Sub chuck opening and closing)
10. Coolant pump extension (2.5 MPa)
11. Coolant unit (6.9MPa)
12. Coolant unit signal cable
13. Coolant system piping 6.9 MPa
14. Tool setter
15. Automatic bar feeder interface
16. LAN/RS232C interface
17. Transformer CE marking version
18. Transformer CE marking cable
19. CE marking version

□ External Dimensions

Unit : mm(ft)



※Design features, specifications and technical execution are subject to change without prior notice.

※This product is an export control item subject to the foreign exchange and foreign trade laws. Thus, before exporting this product, or taking it overseas, contact your STAR MICRONICS dealer.

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