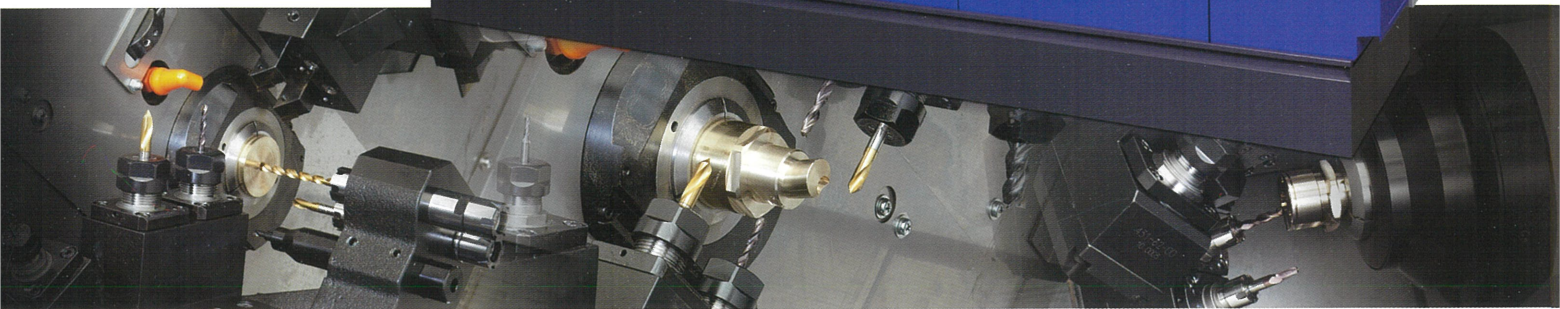
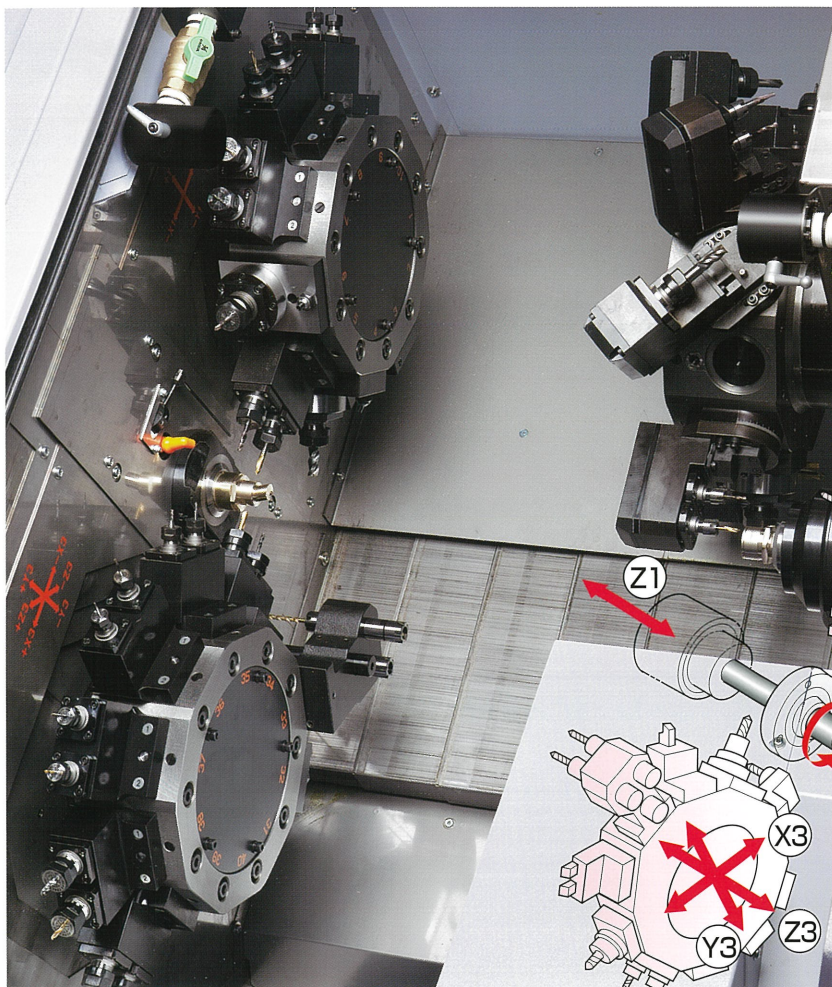




SWISS TYPE AUTOMATIC LATHE equipped with star motion control system 

ST-38

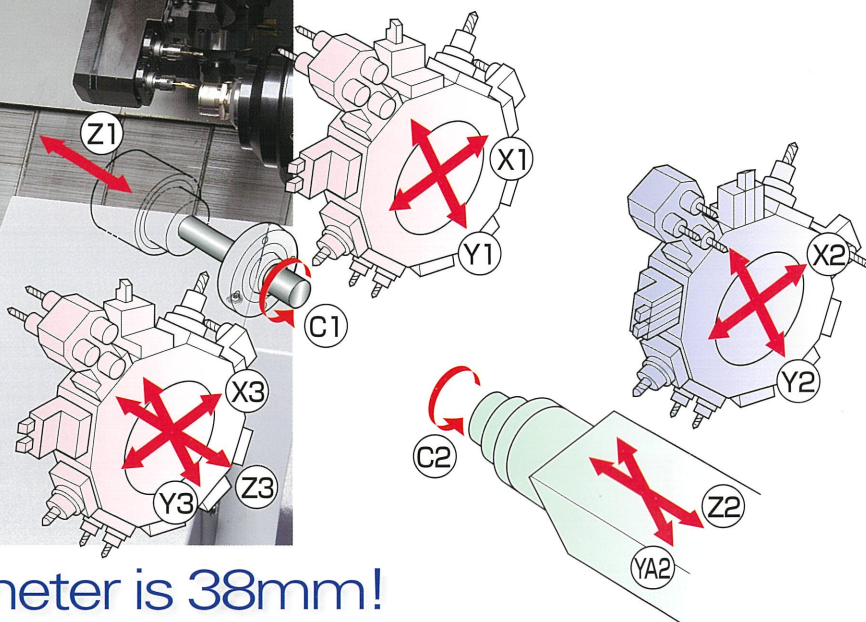




SWISS TYPE AUTOMATIC LATHE
equipped with star motion control system

ST-38

- ☐ Universal and varied overlap machining achieved by employing three turrets
- ☐ Complex machining capabilities equal to the front side achieved by using a turret exclusively designed for back machining
- ☐ Deep-hole drilling of front and rear ends, and one-chuck machining of long parts



Max. machining diameter is 38mm! Complex machining for extra large parts with high speed and universal control.

Multi-turret lathe for large diameter parts enables greater capability for the needs of machining parts for the Medical, Automotive and Aviation industries.

High productivity

- STAR Motion Control System is a unique control technology which minimizes non-cutting time.
- Simultaneous machining such as turning, milling etc. is achieved by opposing twin turret tool posts and dramatically reduces the machining time.
- Overlap machining of front and rear ends by back working turret tool post for shorter machining times.
- Mounting multiple tools onto one turret station reduces the number of indexing times and tool change time.

By the program optimization, the time required for the processes of [Retracting], [Next tool selection] and [Approach] can be minimized to reduce the non-cutting time.

Reduction of Non-Cutting Time

Star Motion Control System

1 Concept of reduction of non-cutting time

Conventional CNC-controlled machining

Tool 1
Tool 2
Tool 3

Machining through Star motion control system

Tool 1
Tool 2
Tool 3

Approach time
Cutting time
Queuing and control switching time
Time retraction

Reduction of non-cutting time

2 Concept of cutting time reduction

Conventional CNC-controlled machining

Tool 1
Tool 2
Tool 3
Tool 4

Machining through Star motion control system

Tool 1
Tool 2
Tool 3
Tool 4

Reduction of cutting time

High Accuracy

- Spindle Cooling Unit controls thermal displacement by exhausting heat generation of the main and sub spindles out of the machine.
- Coolant Chiller Unit regulates increases of the machine temperature to restrict thermal displacement.
- STAR Motion Control System minimizes vibration during rapid traverse.

Machining Capabilities

- Possible to machine large bars of 38mm in diameter and 32mm hexagonal bars.
- The turret exclusive for back machining allows combined machining equivalent to main machining.
- Combining this machine with a high-pressure coolant unit enables deep-hole drilling (maximum 120mm) on both the front and rear ends.
- The headstock stroke is 350mm (*1)
- The YA2 axis is provided for picking up eccentric parts.

(*1) : This length changes to 315mm when the rotary magic guide bush unit is used.

ST-38 tool post configuration

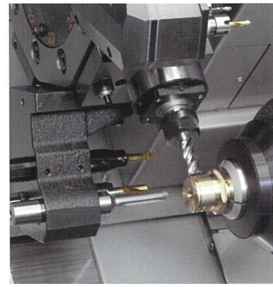
Turret exclusively designed for back machining.
Multiple capabilities of main and back machining revolutionise the configuration of complex machining.



Tool post on the front side

Complex machining such as turning, milling, skewed hole drilling and deep-hole drilling can be performed simultaneously by opposing twin turrets, reducing the cutting time.

Opposing turret tool posts on the front side

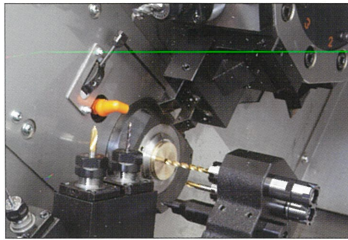


Tool post on the rear side

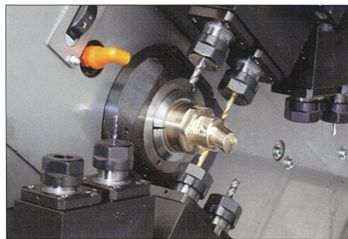
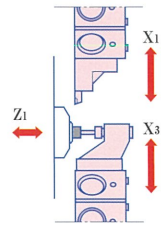
Complex machining is possible equally and simultaneously with the front end machining. Even eccentric components can be picked up and machined on the rear ends.

Back turret tool post on the rear side

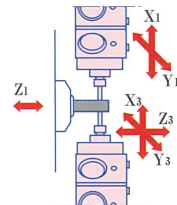
Variation of front end machining



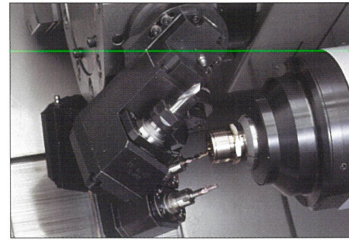
Machining and Positioning of the Twin Turrets



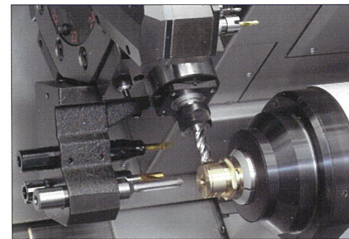
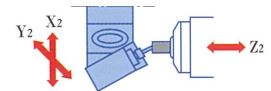
Cross Drilling + Cross Milling



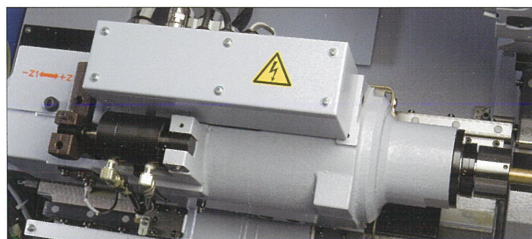
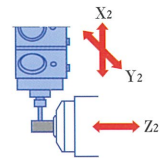
Variation of rear end machining



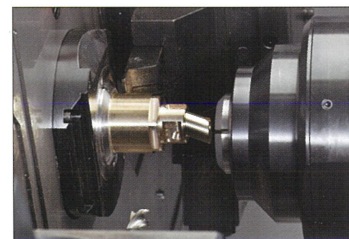
Skewed Hole Drilling



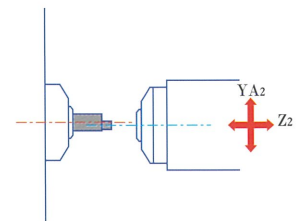
Back Cross Milling



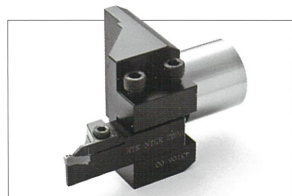
Machining bar materials of up to 350mm in length is possible with just one chucking.



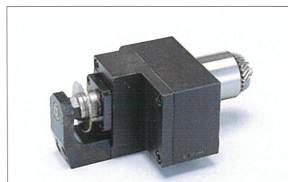
Pick-up of eccentric parts (with YA2 axis)



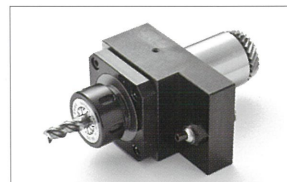
ST-38 Tool units



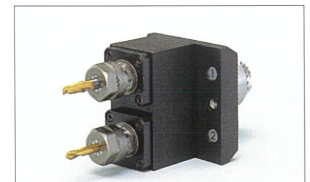
Toolholder □20mm



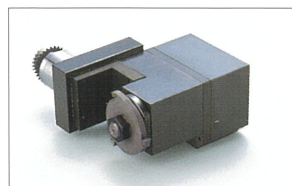
Slotting unit



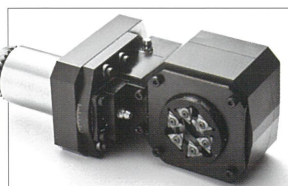
Milling unit ER25



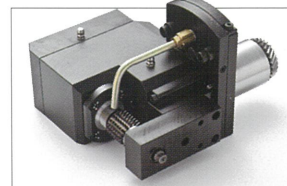
2-spindle Cross drilling unit



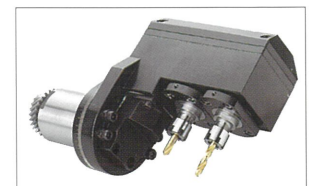
Polygon machining unit



Thread whirling unit



Gear hobbing unit



2-spindle skewed hole drilling unit

□ Standard Machine Specifications

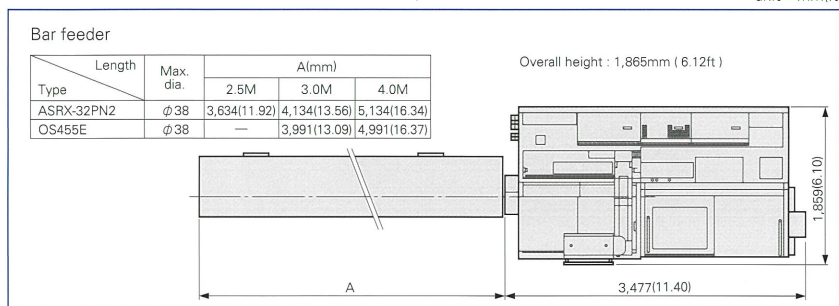
Item		Specifications
Max. machining diameter		φ38mm (1-1/2in)
Max. headstock stroke	Standard	350mm (13-25/32in)
	With R.M.G.B.	315mm (12-13/32in)
Front turret tool post	Near side turret	10 stations
	Far side turret	10 stations
Number of turning tools		Max. 2 tools/station (□16mm)
Tool shank		□16mm / □20mm
Sleeve holder	Number of tools	Max. 3 tools/station
	Max. drilling capability	φ23mm (29/32in)
	Max. tapping capability	M16×P1.25
Power driven att.	Number of tools	Max. 2 tools/station
	Max. drilling capability	φ10mm (25/64in)
	Max. tapping capability	M8×P1.25
	Spindle speed	Max. 5,700min ⁻¹
	Drive motor	2.7kw(continuous) / 4.0kw(5min/30%ED)
Rapid feed rate		30m/min (X1, X2, X3, Z1, Z2, Z3) 15m/min (Y1, Y2, Y3) 3.9m/min (YA2)
Main spindle indexing angle		C-axis control
Main spindle speed		Max. 7,000min ⁻¹
Main spindle motor		7.5kw(continuous) / 11kw(10min/25%ED)
Coolant tank capability		245ℓ
Dimensions (Width×Depth×Height)		3,477×1,859×1,865mm
Center height		1,134mm [including leveling pads]
Weight		6,250kg
Power consumption		10.5KVA
A-weighted sound pressure : note-1		Max. 71dB(A)

□ Backworking Attachment Specifications

Item		Specifications
Max. chucking diameter		φ38mm (1-1/2in)
Max. part pick-up length		150mm (5-7/8in)
Max. parts projection length		75mm (2-15/16in)
Back working turret tool post		10 station
Number of turning tools		Max. 2 tools/station (□16mm)
Tool shank		□16mm / □20mm
Sleeve holder	Number of tools	Max. 3 tools/station
	Max. drilling capability	φ23mm (29/32in)
	Max. tapping capability	M12×P1.75
Power driven att.	Number of tools	Max. 2 tools/station
	Max. drilling capability	φ10mm (25/64in)
	Max. tapping capability	M8×P1.25
	Spindle speed	Max. 5,700min ⁻¹
	Drive motor	2.7kw(continuous) / 4.0kw(5min/30%ED)
Sub spindle indexing angle		C-axis control
Sub spindle speed		Max. 7,000min ⁻¹
Sub spindle motor		5.5kw(continuous) / 7.5kw(10min/40%ED)

□ External Dimensions and Floor Space

unit : mm(ft)



□ Standard Accessories and Functions

1. CNC unit FANUC 31i-B5
2. Operation panel 10.4-inch color LCD display
3. Hydraulic unit
4. Pneumatic unit
5. Automatic centralized lubrication unit
6. Coolant level detector
7. Door interlock system
8. Broken cutoff tool detector
9. Drive unit for revolving guide bush
10. Revolving guide bush unit
11. Main/Sub collet
12. C-axis control (Main/Sub)
13. Spindle clamp unit (Main/Sub)
14. Main spindle cooling unit
15. Coolant chiller
16. Drive system for power-driven attachment (Turret)
17. Air purge for revolving guide bush
18. Sub spindle air purge unit
19. Parts separator
20. Parts conveyor
21. Automatic bar feeder interface
22. High-pressure coolant unit interface
23. Work light
24. Leakage breaker

□ Optional Accessories and Functions

1. Coolant flow detector
2. Water removal unit
3. Beacon
4. Rotary magic guide bush unit
5. For pneumatic unit rotary magic guide bush
6. Parts ejector (Air cylinder type)
7. Parts ejector (Spring type)
8. Parts ejector with guide tube
9. Parts stopper unit
10. Coolant unit (6.9MPa/2.5MPa/0.7MPa)
11. Coolant valve
12. Coolant pipings
13. Manual pulse generator
14. Transformer CE marking version
15. Transformer CE marking specifications
16. Tool presetter

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.

- note-1 :**
- Measures conforming to ISO standard.
 - A-weighted sound pressure is a general assessment standard characteristic that corrected the sound level to human acoustic sense.

※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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