

# TSUGAMI

## CNC Precision Automatic Lathe **B038T**

### Machine specifications

Item	B038T			
Machining range, machining capacity	Barstock diameter	φ8 to φ38 mm		
	Max. machining length	250 mm		
	Main spindle	Max. drilling diameter	φ16 mm	
		Max. tapping size	M14	
	Back spindle-Turret	Max. chucking diameter	φ38 mm	
		Max. drilling diameter	φ16 mm	
	Front tool post	Max. tapping size	M12	
		Max. cross drilling diameter	φ10 mm	
	Turret	Max. cross tapping size	M6	
		Max. rotary tool drilling diameter	φ16 mm	
	Back tool post	Max. rotary tool tapping size	M10	
		Max. rotary tool drilling diameter	φ8 mm	
Max. rotary tool tapping size		M6		
Max. fixed tool drilling diameter		φ10 mm		
Machine	Max. fixed tool tapping size	M10		
	Main spindle speed	200 to 5,000 min <sup>-1</sup>		
	Back spindle speed	200 to 7,000 min <sup>-1</sup>		
	Cross drill speed on front tool post	200 to 5,000 min <sup>-1</sup> (optional)		
	Rotary tool speed on turret	200 to 8,000 min <sup>-1</sup>		
	Main spindle indexing	C axis		
	Back spindle indexing	C axis		
	Total tool storage capacity	Turret	8 stations (4x8 stations=32)	
		Front tool post (standard)	Turning	7
			Cross drill	3 (optional)
		Back tool post	Fixed: 3, live: 3	
	Tool size	Turret	20 mm x 20 mm x 125 mm	
Front tool post		16 mm x 16 mm x 125 mm		
Rapid traverse rate	X1, X2, X3	24 m/min		
	Y1, Y2, Y3	24 m/min		
	Z1, Z2, Z3	24 m/min		
Motors	Main spindle	7.5/11 kW		
	Back spindle	3.7/5.5 kW		
	Live tool on front tool post	1.0 kW		
	Live tool on turret	1.4 kW		
	Live tool on back tool post	1.0 kW		
	Coolant pump	0.39/0.62 kW (50Hz/60Hz)		
Power source and other	Lubricating oil pump	3 W		
	Net weight	6,200 kg		
	Power source requirement	45 KVA		
	Compressed air requirement	0.5 MPa or more		
	Air discharge rate	100 NL/min		
Width x depth x height	3,427 x 1,875 x 1,840			

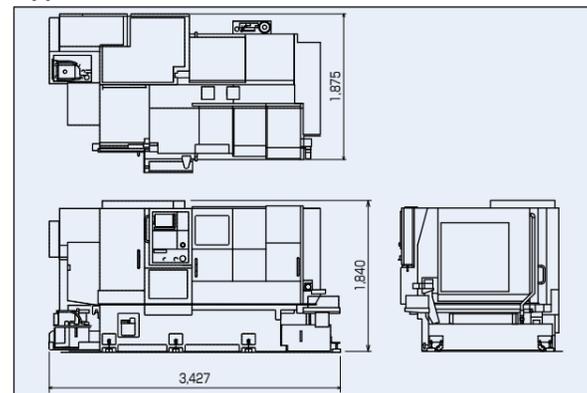
### NC Specifications (Standard)

Item	Specification
NC unit	FANUC 31i-B
Axis names	X1,Y1,Z1,C1,X2,Y2,Z2,C2,X3,Y3,Z3
Least input increment	0.001 mm (X1, X2, X3 axes in diameter)
Least command increment	X1, X2, X3 axes: 0.0005 mm, other: 0.001 mm
Maximum programmable dimension	±8 digits
Interpolation method	Linear/Circular
Cutting 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,Y,Z,C: absolute, U,V,W,H: incremental
Tool offset value	±6 digits
Tool offsets pairs	Sum of all paths: 200 pairs
LCD/MDI	10.4" color LCD
Part program storage size	Sum of all paths: 256 kbytes (equivalent to 640 m tape length)
Number of registerable programs	500 (Sum of all paths)
Auxiliary functions	M5 digits
Spindle function	S5 digits
Tool function	T4 digits

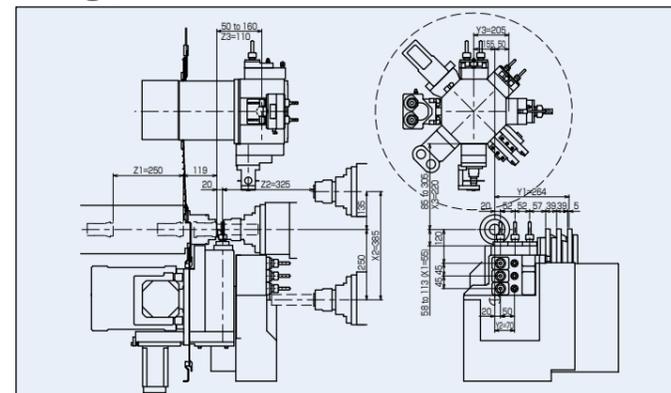


A sliding headstock type automatic lathe that encompasses the entire process  
Turret + Gang type tool post + Back tool post, mounted Y-axis on three tool posts

### Appearance



### Tooling zone



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The specifications of this catalogue are subject to change without prior notice.

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# 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

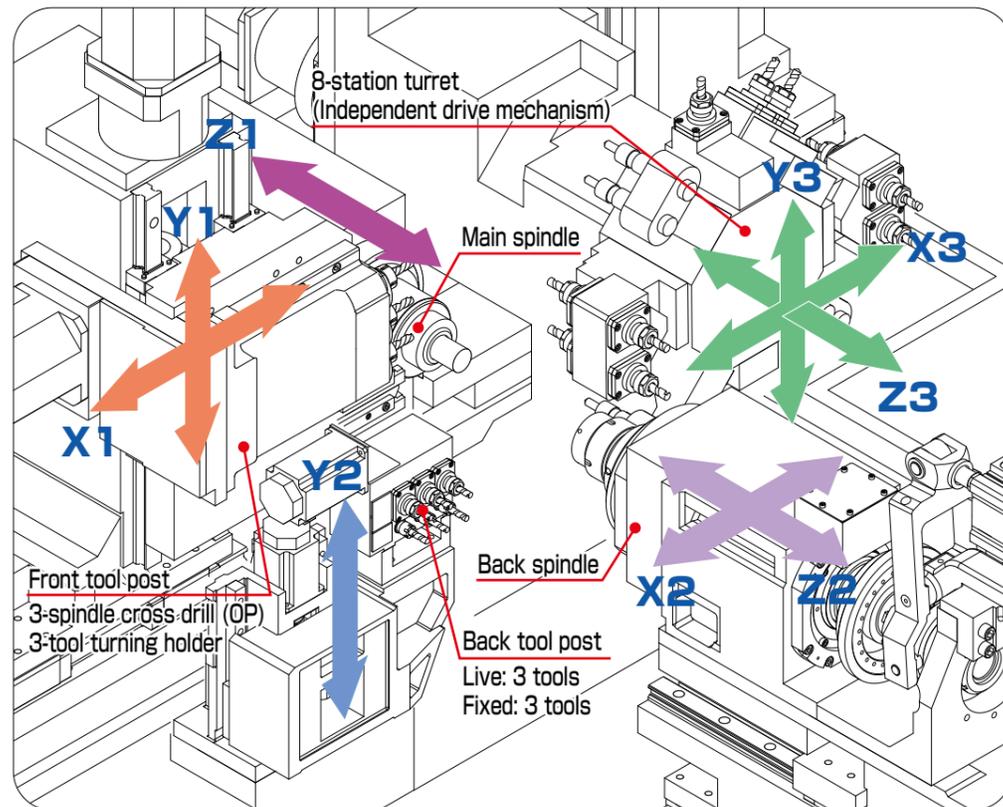
- Mounting plural tools on one station, and achieving the quick tool change with Y-axis without turret indexing

### 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.

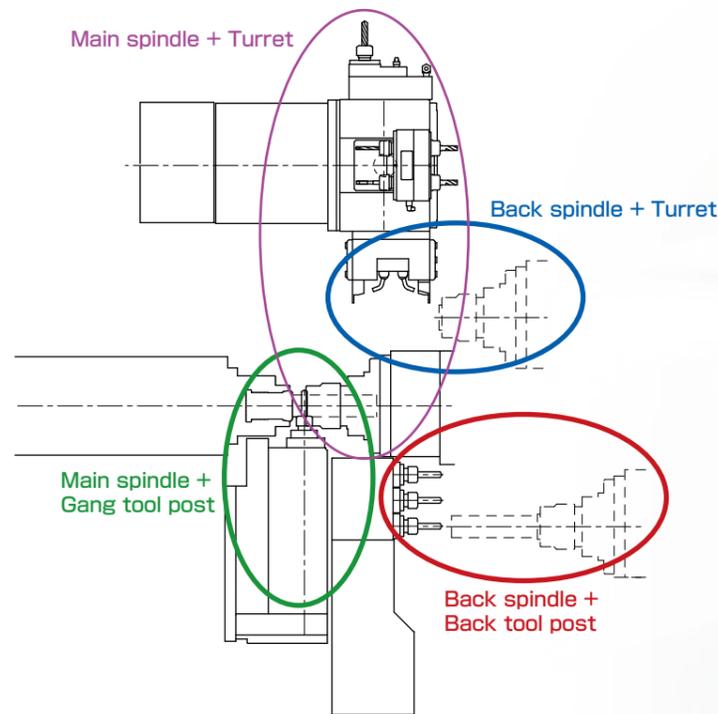
### 3-path control

- 3-path control reduces the cycle time drastically.



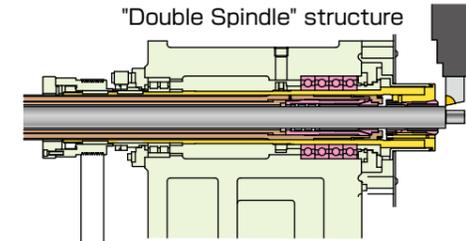
### 3-path control reduces the cycle time drastically

- A variety of simultaneous machining styles available



### "Double Spindle" structure enables powerful machining that produces blue colored chips.

- The double spindle structure that integrates the guide bushing and the spindle (in perfect synchronization) enables high accuracy and powerful machining.
- Since water-soluble coolant can be used, the risk of fire is reduced and greasy fume is not generated even heavy-duty machining is performed.
- Short remnant length (150 mm + workpiece length)
- 3 times faster feed rate, and 3 times greater productivity



### Simultaneous machining by back spindle (Built-in motor drive)

- Improved rotation and phase synchronization accuracy with the main spindle
- The main/back spindle follow-up function enables rounding cut-off.

### Optimized tooling with the help of B038T automatic programming system

- Even with multi-path control, multi-axis control, or complex-shaped parts, a program with the optimal tooling and the shortest cycle time can be created.
- Tsugami's machining know-how (machining processes, machining conditions, etc.) and the highest priority allocated to the matching of the machine hardware and software results in a system that enables novice programmers to create standardized, high quality programs, even for complex products that demand accurate results.

