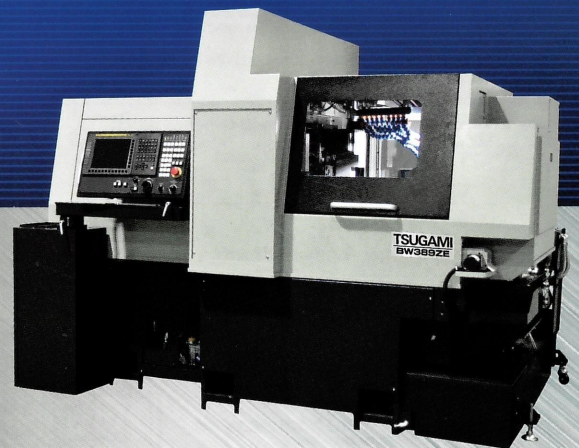


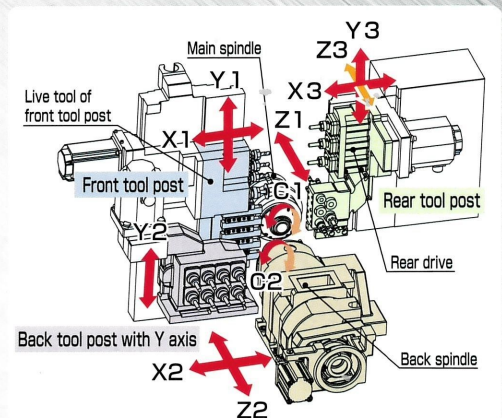
PRECISION TSUGAMI

CNC Precision Automatic Lathe BW389ZE

$\phi 38$ mm independent opposed gang
tool post machine now available



- Both heavy-duty machining and various types of simultaneous machining have been realized by optimizing machine design utilizing structural analysis.
- Enhanced dedicated code assists in creating complex 3-path programs.
- Reduced energy consumption by the latest servo system
- Energy saving functions are provided as standard: Energy saving mode, Power consumption monitor, ECO operation mode.



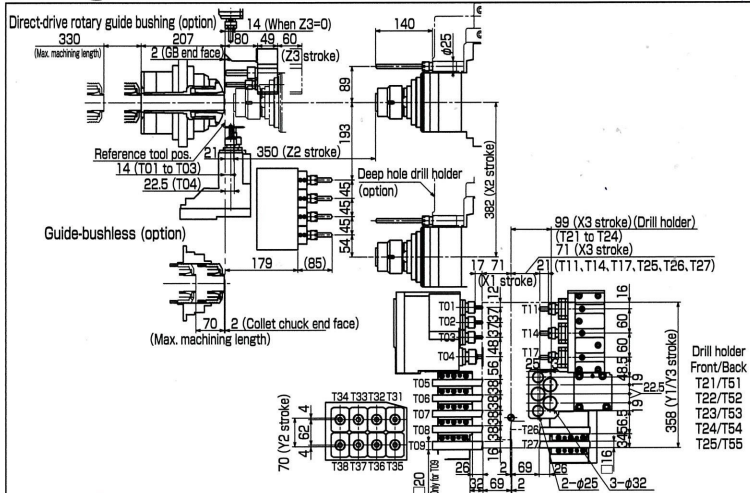
Machine specifications

Item	Specifications	
Machining range, Machining capacity	Bar stock chucking dia.	φ8 mm to φ38 mm
	Max. back spindle chucking dia.	φ38 mm
	Max. machining length	330 mm (Direct-drive rotary guide bushing) 70 mm (Guide-bushless)
	Max. main spindle drilling dia.	φ13 mm
	Max. main spindle tapping dia.	M12
	Max. back spindle drilling dia.	φ12 mm
	Max. back spindle tapping dia.	M12
	Max. deep hole drilling dia.	φ10 mm
	Max. live tool drilling dia.	φ10 mm
	Max. live tool tapping dia.	M8
Max. live tool slotting cutter dia.	φ45 mm (Front tool post: T04)	
Machine	Main spindle speed	Max. 6,000 min ⁻¹ (Rated speed : 5,000 min ⁻¹)* ¹
	Back spindle speed	Max. 7,000 min ⁻¹ (Rated speed : 5,000 min ⁻¹)* ¹
	Rotary guide bushing speed	Direct-drive: Max. 6,000 min ⁻¹ (Rated speed : 5,000 min ⁻¹)* ¹
	Live tool speed	Max. 6,000 min ⁻¹ (Front tool post/ Rear tool post/ Back tool post) (Rated speed : 4,800 min ⁻¹)* ¹
	Tool storage capacity	32
Tool size	□16 mm, □20 mm (Cut-off only)	
Rapid traverse rate	35 m/min (Z1, Z2, X2), 24 m/min (Y1, Y2, Y3), 12 m/min (X1, X3, Z3)	
Motors	Main spindle	7.5/11 kW
	Back spindle	3.7/5.5 kW
	Linear axes	0.75 kW (Y2), 1.0 kW (X1, Y1, Z1, X2, Z2, X3) 1.7 kW (Y3), 2.0 kW (Z3)
	Live tool	1.0 kW (Front tool post), 2.0 kW (Rear tool post/Back tool post)
	Coolant pump	0.4 kW
Lubricating oil pump	3.0 W	
Power supply and others* ²	Weight	5,600 kg
	Power source requirement	25.5 kVA
	Compressed air requirement	0.4 MPa or more
	Air discharge rate	250 NL/min
	Coolant tank capacity	220 L
	Width × Depth × Height	2,722 mm × 1,640 mm × 2,000 mm

*1 When the rotation of the spindle exceeds the rated speed, keep the exceeding speed range within 30% of one cycle of the machining process.

*2 Listed specifications may change depending on the mounted options.

Tooling zone



Export permission by the Japanese Government may be required for exporting our products in accordance with the Foreign Exchange and Foreign Trade Law. Please contact our sales office before exporting our products.

NC specifications

Item	Specifications
Controlled axes	X1, Z1, Y1, X2, Z2, Y2, X3, Z3, Y3, C1, C2
Least input increment	0.001 mm (X1/X2/X3-axis in diameter) / 0.001 deg
Max. programmable value	± 8 digits
Interpolation method	Linear, Circular
Feedrate	1 to 6,000 mm/min
Feedrate override	0 to 150% in 10% increments
Dwell	G04 0 to 99999.999
Absolute/incremental command	X, Y, Z, C: Absolute U, V, W, H: Incremental
Number of tool offset	200 (sum of all paths)
LCD/MDI	10.4" color LCD
Display language	English
Part program storage size	4 Mbyte (sum of all paths)
Number of registerable programs	1,000 (sum of all paths)
Miscellaneous functions	M5-digits
Spindle functions	S4-digits
Tool functions	T4-digits

Machine standard accessories

Main/back spindle adapter	Door interlock	Coolant level switch
Spindle cooling unit	Retractable coolant nozzle	Bed flush coolant
Live tool of front tool post: 4 tools	Rear drive: 3 tools	Back drive: 8 tools
Main/back spindle air purge	Live tool air purge	Shut-off valve for air purge

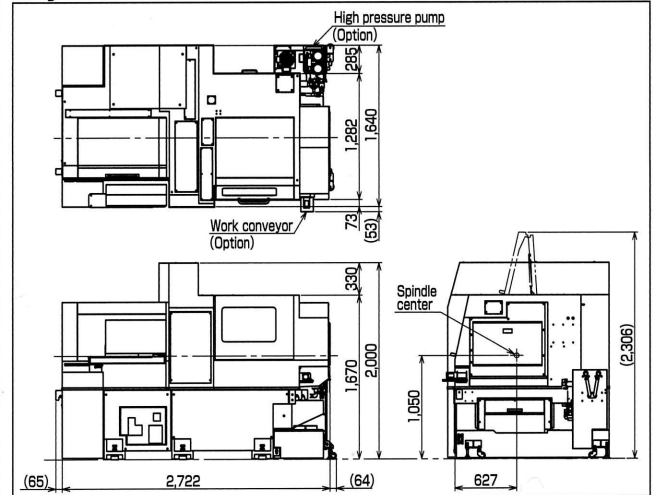
NC standard accessories

Chasing function	Continuous threading	Manual pulse generator
Memory card I/O interface	Background editing	Run time & parts number display
Custom macro	Constant surface speed control	Tool geometry/wear offset
Programmable data input	Chamfering & corner R	Multiple repetitive cycle
Canned drilling cycle	Rigid tap (main/back spindles)	Thermal displacement compensation
Energy saving mode	Power consumption monitor screen	ECO operation mode

Options

Direct-drive rotary guide bushing	Guide-bushless	Tool spindle
High pressure pump	M code oil blow	Internal tool tip coolant
Work catcher	Work conveyor	Front discharge
Rear discharge	Chip conveyor	Deep hole drill holder
Bar feeder interface	Rigid tap (live tool)	Abnormal load detection

Layout



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



TSUGAMI CORPORATION

12-20, TOMIZAWA-CHO, NIHONBASHI,
CHUO-KU, TOKYO 103-0006, JAPAN

Phone : +81-3-3808-1172

Facsimile : +81-3-3808-1175

<http://www.tsugami.co.jp/>