

TSUGAMI
AMERICA

BW329Z

CNC PRECISION AUTOMATIC LATHE

- 32mm Capacity Chucker Convertible Swissturn
- 3 Path Control Pinch Turning Milling Capable
- Main Side Gang with 7 Turning Tools, 7 Driven Tools (3 Modular), and 5 Id Tool Positions
- Sub Side Y Axis with Driven Tool Positions (4 Standard), up to 34 Total Tools Available
- Oscillation Cutting Capable
- Direct Drive Guide Bushing
- Fanuc 31i-B CNC Control

tsugamiamerica.com

BW329Z

9-AXIS INDEPENDENT GANG TOOL SWISS CNC LATHE

SPEED

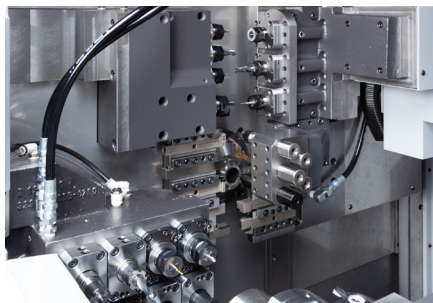
- The BW329Z is chucker convertible and has the capability to use 3 tools in the cut, two on the main and one on the sub.
- The ability to preposition tools will allow you to optimize your cycle time. The horizontally opposed gang tool layout offers the shortest tool to tool path and therefore the quickest possible chip to chip time.
- The BW329Z has Y-axis and up to 8 live tool positions on the sub spindle tool post allowing milling operations traditionally performed on the main spindle to be carried out on the sub spindle internal to the cycle time.

ACCURACY

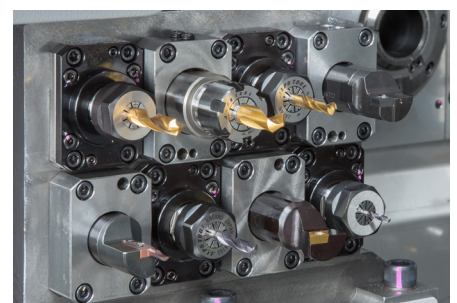
- Tsugami has a long-term reputation for machine accuracy. It all starts with their world-class engineering, incorporating symmetrically designed castings and an "A-frame" design of the gang slide. Utilizing the highest quality, motors, ball screws, rails and bearings assure precise motion control, and unique spindle cooling all work in concert and contribute to repeatable accuracy over the long life of the machine tool.

RIGIDITY

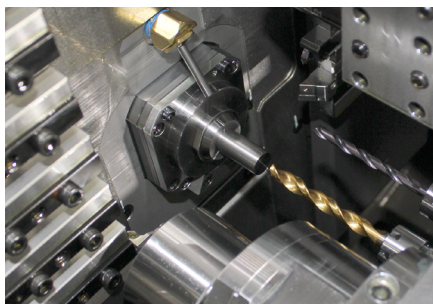
- Tsugami has the most rigid gang tool post in the industry due to opposing rail slides.
- Built on a heavy duty one piece cast iron base with thermally symmetrical construction, this machine features 0.1 micron axis resolution. A more rigid platform allows higher speeds and feeds.
- For extra peace of mind, the machines, motors, and Fanuc controls are covered by an industry leading two-year parts and service warranty.



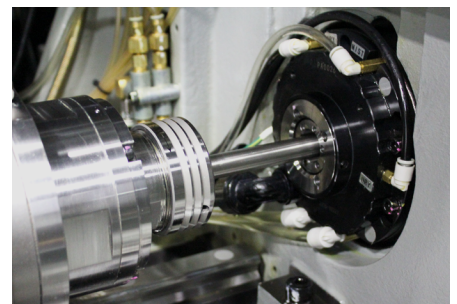
BW329Z Tool Zone



BW329Z Backworking Block

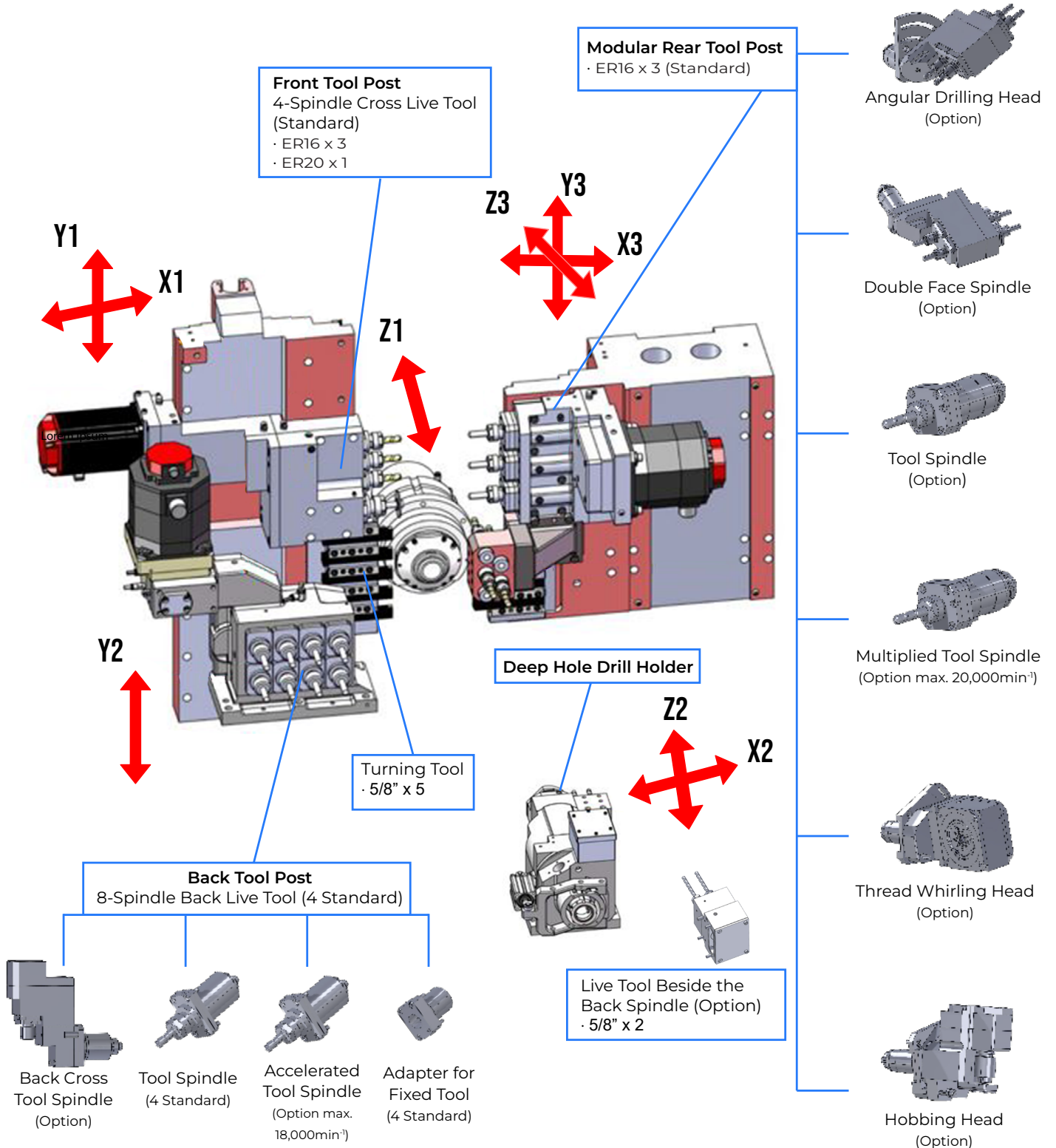


Deep Hole Drilling



Servo Driven Guide Bushing

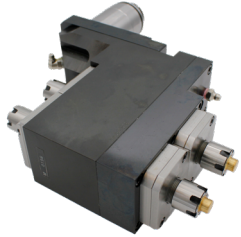
WORK ZONE & MODULAR TOOLING



Mounting Positions of these options are limited

ACCESSORIES

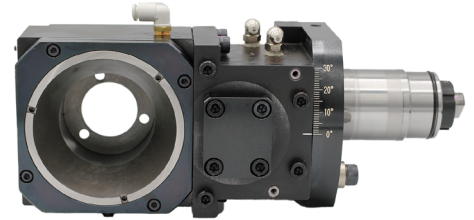
Your BW329Z can be accessorized with various tooling options. Some of these options include:



Double Face Spindle



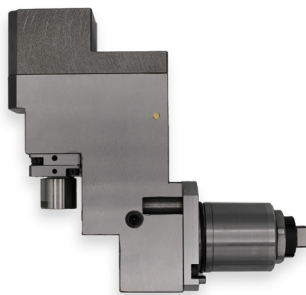
Quick Change Tooling



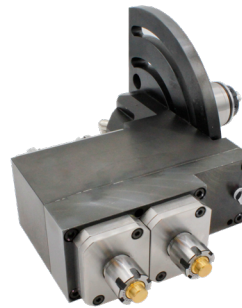
Thread Whirling Head



Back Tool Spindle



Back Cross Tool Spindle



Double Angular Drilling Head



Static Adapter

Our team can create anything needed to transform your tool zone to fit your part and process.

NEED SOMETHING CUSTOM?

From the machine Make Ready process, to integrating mechanical and robotic loading and unloading systems, to custom tool creation and spindle repair, IMG is dedicated to supporting all Tsgami users in North America!



Grinding Room



Make Ready Facility

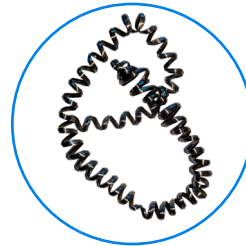


Milling Room

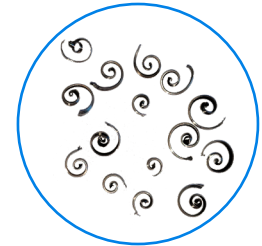
OSCILLATION CUTTING

Oscillation Cutting is a technological breakthrough that oscillates a servo axis to help break chips in tough to cut materials, reduces heat in the cut, while not diminishing tool life.

- ⚙ Productivity is increased by significantly reducing operator interruption to remove hanging or bird nesting chips.
- ⚙ Easy to program by special G code
- ⚙ Oscillation parameters can be changed easily within the program for machining multiple features with multiple tools.
- ⚙ Can be used for many machining operations including OD turning, drilling, boring, grooving, cutoff, circular interpolation, and most FANUC canned cycles.



**WITHOUT
OSCILLATION**

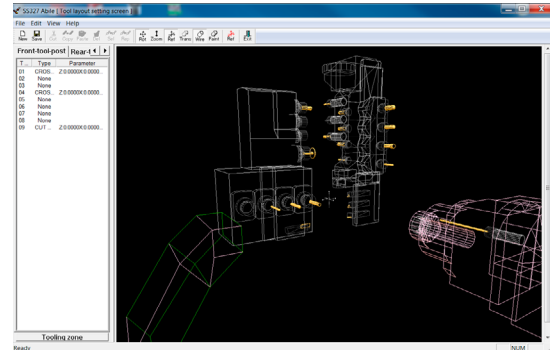


**WITH
OSCILLATION**

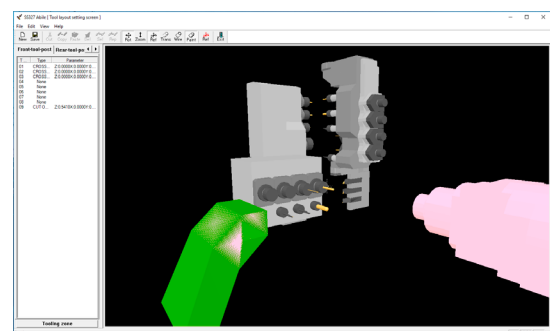
AVAILABLE ON ALL PATHS

ABILE SOFTWARE

- ⚙ Developed by Tsugami, Abile is capable of programming moderately complex machined parts. Abile incorporates all basic machines featured and several material types with predetermined feed rates.
- ⚙ Abile allows first time users to quickly become proficient with Swiss processing despite having limited knowledge. Abile comes free with your machine purchase and requires no license fees, maintenance agreements, or seat limitations.
- ⚙ Abile allows you to generate a 2 or 3-path part program, complete, with specific and editable codes in standard FANUC G Code format. Abile automatically generates machine process and provides component run times.



Program Generator



Tool Setting

MACHINE STANDARD SPECIFICATIONS

ITEMS

BW329Z

MACHINING RANGE

Working Barstock Diameter	ø32 mm (1.26 in.)
Max. Machining Length	330 mm (12.99 in.) (Direct-Drive Guide Bushing) 70 mm (2.76 in.) (Chucker Mode)
Max. Main Spindle Drilling Diameter	ø12 mm (.47 in.)
Max. Main Spindle Tapping Diameter	M10
Max. Back Spindle Chucking Diameter	ø32 mm (1.26 in.)
Max. Back Spindle Drilling Diameter	ø10 mm (.393 in.)
Max. Back Spindle Tapping Diameter	M8
Max. Tool Spindle Slotting Cutter Diameter	ø45 mm (1.77 in.)
Max. Back Drilling Diameter	ø8 mm (.31 in.)
Max. Back Live Tapping Diameter	M6

MACHINING CAPABILITY

Main Spindle Speed	200 to 8,000 min ⁻¹
Back Spindle Speed	200 to 8,000 min ⁻¹
Tool Spindle Speed	200 to 6,000 min ⁻¹
Total Tool Number (Standard Spec.)	29 Standard / 38 Optional
Tool Size	.625 in. x 3.94 in. (square) / 25 mm (round)
Rapid Traverse Rate	35 m/min (105 ft/min) [(X1, Y1, Y2: 24 m/min (78.74 ft/min)]
Spindle Index	C1 Axis and C2 Axis

MOTORS

Main Spindle	5/7.5 Hp (3.7/5.5 kW)
Back Spindle	5/7.5 Hp (3.7/5.5 kW)
Cross Drill of Front Tool Post	1.5 Hp (1.0 kW)
Cross Drill of Rear Tool Post Drive	1.9 Hp (1.4 kW)
Rotary Tool of Back Tool Post	1.9 Hp (1.4 kW)
Rotary Guide Bushing	2 Hp (1.5 kW)
Z1, Y1, X2, Z2, X3, Y3	1 Hp (0.75 kW)
X1, Y2	0.7 Hp (0.5 kW)
Z3	2 Hp (1.4 kW)
Coolant Pump	0.5 Hp (0.4 kW)
Lubricating Pump	4 Hp 3.7(3kW)

OTHER

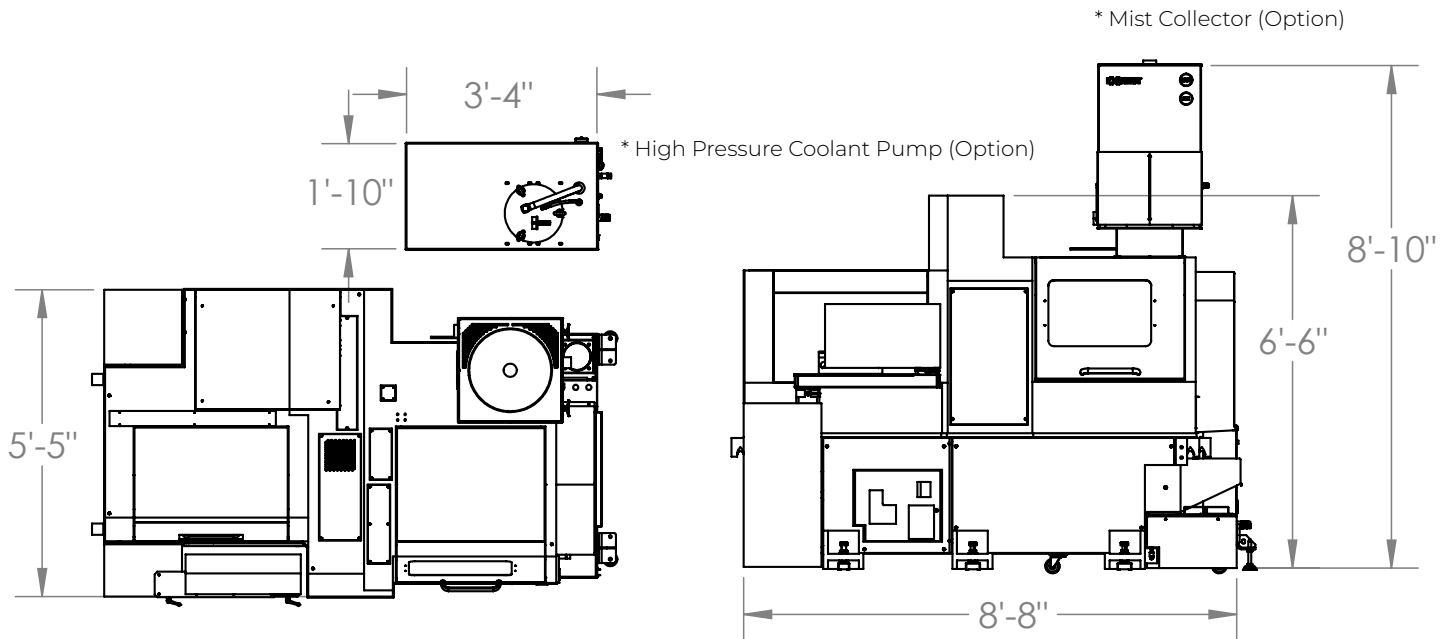
Compressed air requirement	.4 MPa or more
Air discharge rate	100 NL/min
Power Source Requirements	18.2 KVA
Coolant Tank Capacity	220 L
Width x depth x height	2655 x 1640 x 2000 mm 104.5" x 64.4" x 79"
Weight	5,200kg (11,460 lbs.)

NC SPECIFICATIONS

ITEMS

BW329Z

NC Unit	FANUC 31i-B
Axis Name	X1, Z1, Y1, X2, X3, Y2, Y3, Z2, Z3, C1, C2
Least Input Increment	0.001 mm (X1/X2 axis in diameter)
Least Command Increment	X1/X2 axis: 0.0005 mm, other: 0.001 mm
Maximum Programmable Value	± 8 digits
Interpolation Method	Linear/Circular/Polar/Helical/Cylindrical
Rapid Traverse Function	35 m/min (115 ft/min) (X1/Y1/Y2 24 m/min (78.74 ft/min))
Feedrate Function	1 to 6,000 mm/min
Feedrate Override	0 to 150%, 10% step
Dwell	G04 0 to 99999.999
ABS/INC Command	X, Z, Y, C: Absolute U, W, V, H: Incremental
Tool Offset Value	± 6 digits
Tool Offset Pairs	64, Each Path
LCD/MDI	10.4" color LCD
Display Language	English
Part Program Storage Size	1 MB
Registrable Programs	1000
Auxiliary Function	Main: M Code 5 digits
Spindle Function	S Code 5 digits
Tool Function	T Code 4 digits



Since 1978, Tsugami America (formerly known as Tsugami/Rem Sales) has been the exclusive source for Precision Tsugami CNC machine tools in North America. Headquartered in Windsor, CT, Tsugami America provides machine tools and engineering expertise through an extensive network of authorized distributors and technical centers. Technical support and customer service are available throughout North America. Our distributors' trained service personnel provide technical support throughout the long life-cycle of our Tsugami machine tools, and work hand-in-hand with Tsugami America's engineers to deliver common-sense solutions to everyday problems.

Our application engineers help customers tackle and solve the toughest high-precision manufacturing challenges, on-time and on-budget. We have a 35-year history and reputation of serving the needs of small parts manufacturers in North America with the highest level of expertise and customer care. Our industry-respected, knowledgeable staff is comprised of both long-time employees and fresh faces all who share a commitment to provide you, our customers, with the competitive advantage to "do more with less" every day.

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