

**TSUGAMI**  
AMERICA

# B0125-III

## CNC PRECISION AUTOMATIC LATHE

- 12mm Capacity Swissturn
- Direct Drive Rotary Guide Bushing
- High Rigidity Bed
- Fanuc Oi TF Plus CNC Control

[tsugamiamerica.com](http://tsugamiamerica.com)

# B0125-III

## 5-AXIS OPPOSED GANG TOOL SWISS CNC LATHE

### SPEED

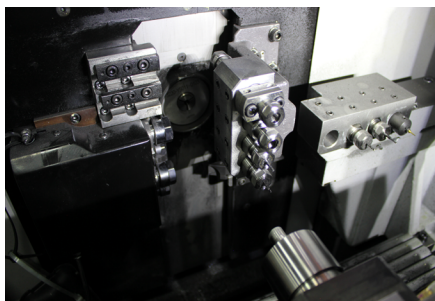
- The B0125-III features a state of the art Fanuc control for low idle times and high speed cutting.
- Your B0125-III is our fastest 20mm machine! The main spindle and the back spindle can run 12,000 rpm.
- The horizontally opposed gang tool layout offers the shortest tool path and therefore, the quickest possible chip to chip time.
- Rounding out the features are integral servo spindle motors and servo driven bushing for fastest possible acc/dec times and quick C-axis positioning.

### ACCURACY

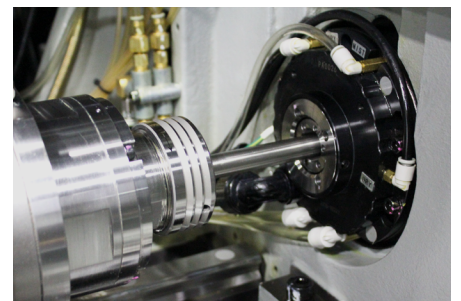
- Tsugami has a long-term reputation for machine accuracy. It all starts with their world-class engineering, incorporating symmetrically designed castings and an "A-frame" design of the gang slide. Utilizing the highest quality, motors, ball screws, rails and bearings assure precise motion control, and 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. 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.

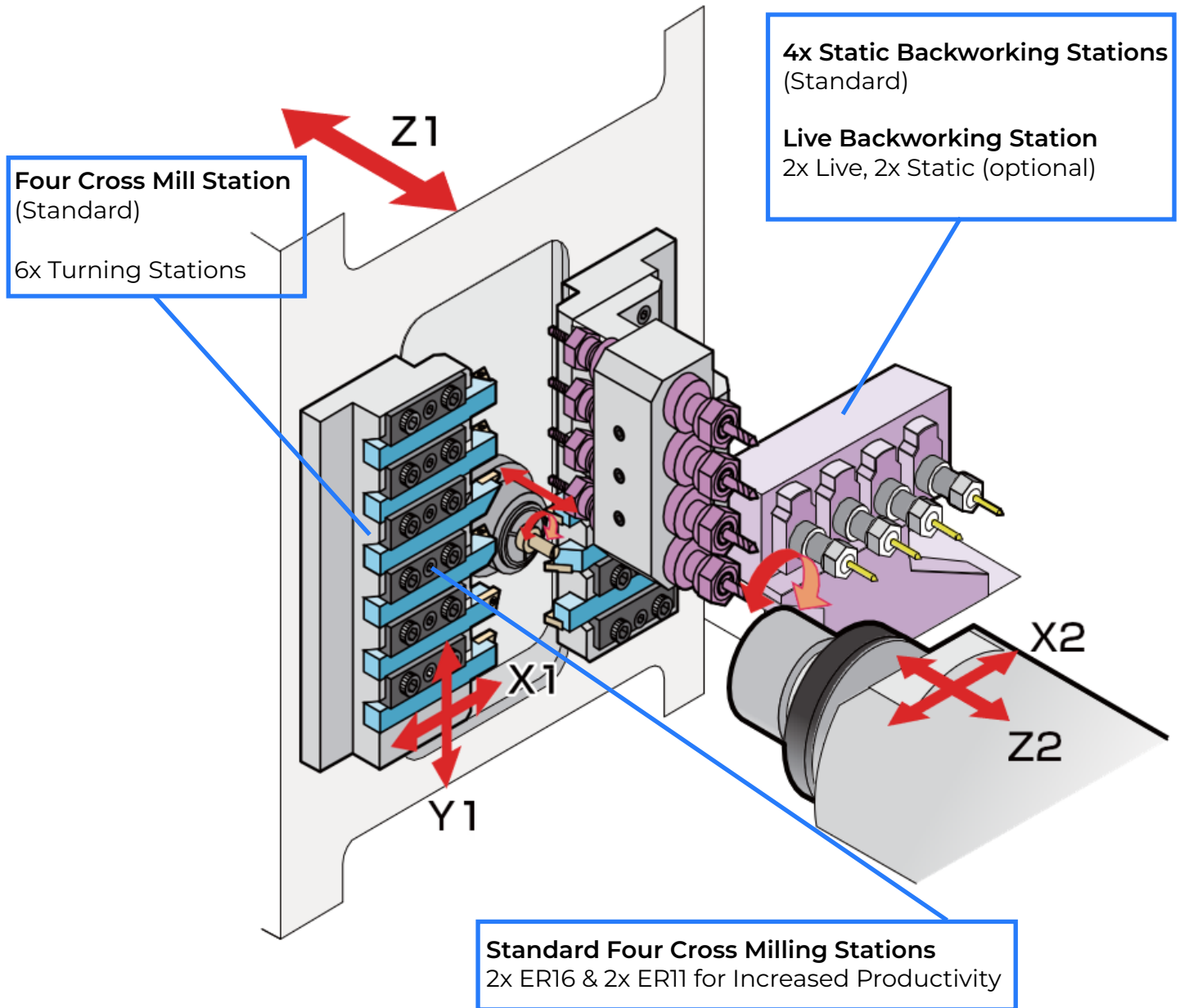


B0125-III Tool Zone



Servo Driven Guide Bushing

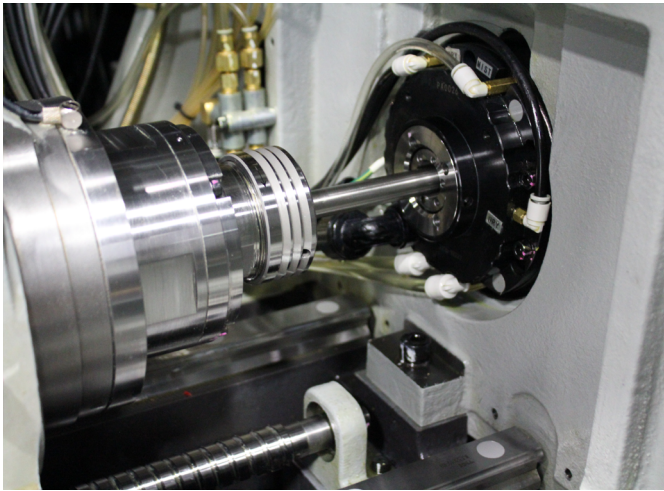
# WORK ZONES & MODULAR TOOLING



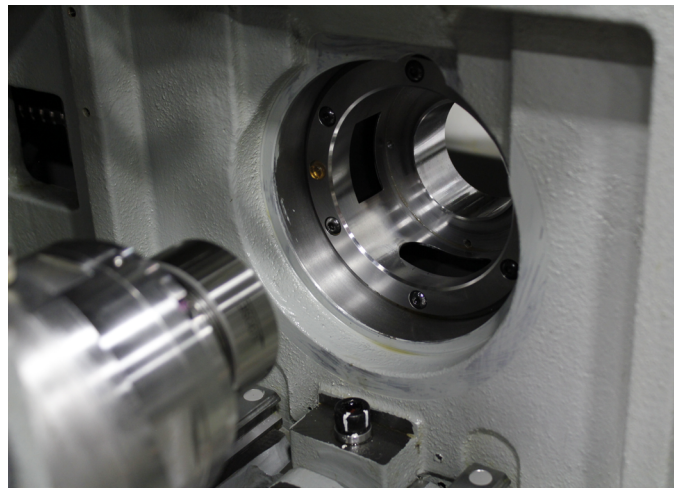
## B0125-III

# CHUCKER CONVERTIBLE

The B0125-III can be changed over in minutes. Adding a Chucker Kit allows you to convert your B0125-III from a traditional sliding headstock Swiss function to standard lathe-type chucker mode. This allows you to run high precision parts utilizing standard drawn barstock. Other benefits include shorter remnant, better concentricity and more. This quick-change flexibility makes these machines ready to tackle whatever job comes in the door.



Running in Swiss Mode



Running in Chucker Mode

## NEED CUSTOM ACCESSORIES?

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 Tsugami users in North America!



Grinding Room



Make Ready Facility

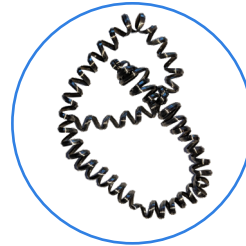


Milling Room

# 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**

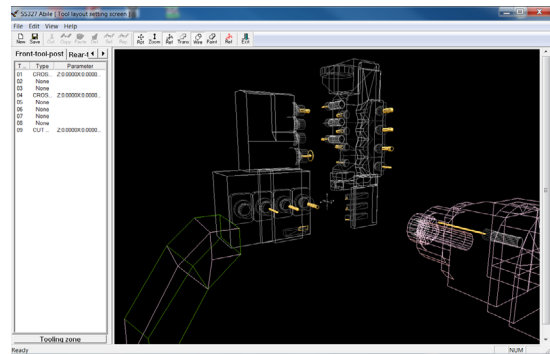


**WITH  
OSCILLATION**

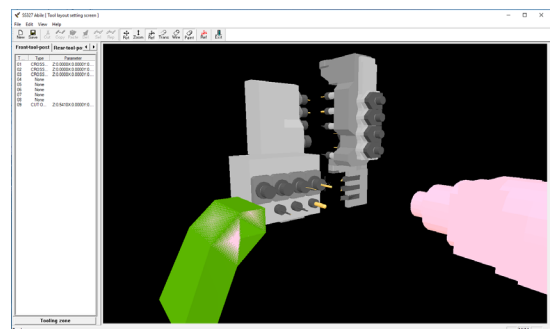
*AVAILABLE ON ALL PATHS*

## 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

## B0125-III

### MACHINING RANGE

Working Barstock Diameter	ø3 mm (.12 in.) to ø12.7 mm (.50 in.)
Max. Machining Length	170 mm (6.69 in.) (Rotary Guide Bushing) 45 mm (1.77 in.) (Chucker Mode)
Max. Main Spindle Drilling Diameter	ø7 mm (.28 in.)
Max. Main Spindle Tapping Diameter	M6 x 1
Max. Back Spindle Chucking Diameter	ø12 mm (.47 in.)
Max. Back Spindle Drilling Diameter	ø7 mm (.28 in.)
Max. Back Spindle Tapping Diameter	M8
Max. Cross Drilling Diameter	ø7 mm (.275 in.)/ER11 and ø10 mm (.393 in.)/ER16
Max. Cross Tapping Diameter	M5 x 0.8 (option)
Max. Tool Spindle Slotting Cutter Diameter	ø30 mm (1.18 in.)
Max. Back Live Drilling Diameter	ø6 mm (.24 in.)
Max. Back Live Tapping Diameter	M5

### MACHINING CAPABILITY

Main Spindle Speed	200 to 12,000 min-1
Back Spindle Speed	200 to 12,000 min-1 (10,000 max with ejector rod)
Rotary Guide Bushing Speed	200 to 12,000 min-1: Direct-drive rotary guide bushing 200 to 8,000 min-1: Carrier type rotary guide bushing
Live Tool Speed	200 to 8,000 min-1
Total Tool Storage Capacity	21
Tool Size	.5 in. x .5 in. square, 20 mm round
Rapid Traverse Rate	32 m/min (105 ft/min) [[X1/Y1: 24 m/min (78.74 ft/min)] Y2: 15m/min (49 ft/min)]
Controlled Axes (linear axes)	5-Axis

### MOTORS

Main Spindle	2/3 Hp (1.5/2.2kW)
Back Spindle	2/3 Hp (1.5/2.2kW)
Axis	0.7 Hp (0.5 kW) - X1,X2,Y1,Z1,Z2
Cross Drill	1 Hp (0.75 kW) (Option)
Coolant Pump	0.4 Hp (0.25 kW)
Lubricating Oil Pump	3 W

### OTHER

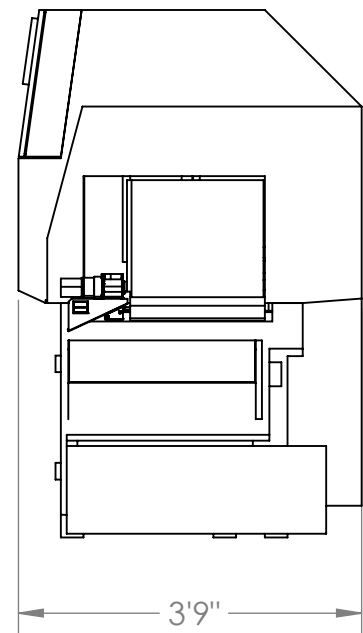
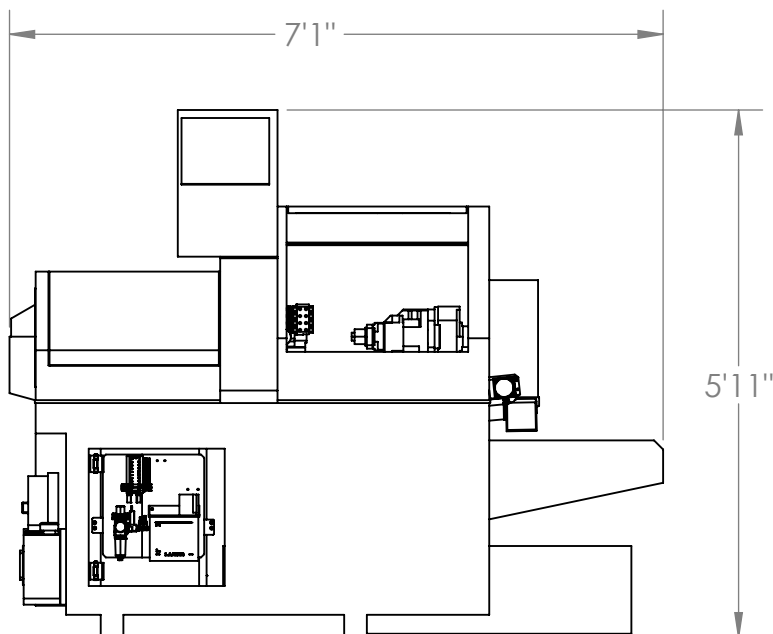
Power Source Requirement	11 kVA
Compressed Air Requirement	0.4 Mpa or above
Air Discharge Rate	50 NL/min
Coolant Tank Capacity	180 L
Width x Depth x Height	1,655 x 1,135 x 1,700mm 65.16" x 44.29" x 66.93"
Weight	2,000 kg (4,409.25 lbs.)

# NC SPECIFICATIONS

## ITEMS

## B0125-III

NC Unit	FANUC 0i-TF Plus
Controlled Axes	X1, Z1, Y1, X2, Z2, C1, C2
Least Input Increment	0.0001 mm (X1/X2 axis in diameter)
Least Command Increment	0.0001 mm (X1/X2 axis in diameter)
Maximum Programmable Value	± 8 digits
Interpolation Method	Linear/Circular
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 Pairs	Main: 64, Back: 64
LCD/MDI	10.4" color LCD
Display Language	Japanese/English
Part Program Storage Size	1 Mbyte (equivalent to 2560m) (main and back in total)
Registrable Programs	800 (main and back in total)
Miscellaneous Functions	M5 digits
Spindle Function	S5 digits
Tool Function	T4 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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