

**TSUGAMI**  
AMERICA

# B0325-III

## CNC PRECISION AUTOMATIC LATHE

- 32mm Capacity Swissturn
- Direct Drive Rotary Guide Bushing
- High Rigidity Bed
- FANUC Oi-TF Plus CNC Control

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

# B0325-III

## 5-AXIS OPPOSED GANG TOOL SWISS CNC LATHE

### SPEED

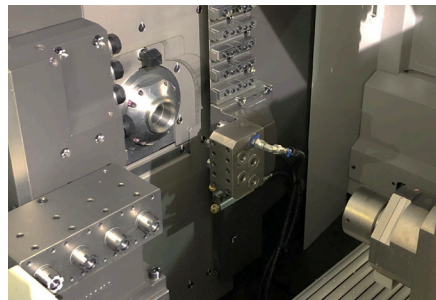
- The B0325-III is a two path lathe allowing operations traditionally performed on the main spindle to be carried out on the sub spindle, internal to the cycle time.
- The horizontally opposed gang tool layout offers the shortest tool to tool path and therefore the quickest possible chip to chip time.
- Other features include integral spindle motors and an integral guide bushing motor for the fastest possible acc/dec times and the most accurate C-axis positioning.

### ACCURACY

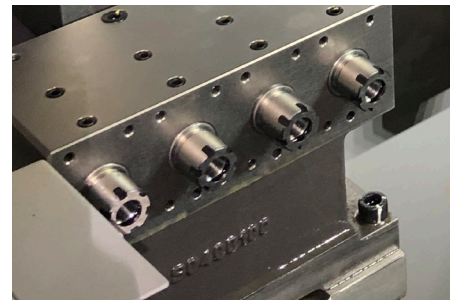
- Tsugami has a long-term reputation for machine accuracy. It all starts with their world-class engineering, incorporating symmetrically designed castings and an “A-frame” design of the gang slide. Utilizing the highest quality, motors, ball screws, rails and bearings assure precise motion control, and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

### RIGIDITY

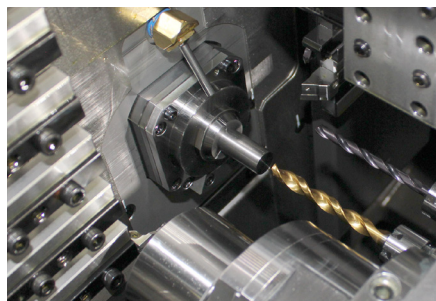
- Tsugami has the most rigid gang tool post in the industry thanks to opposing rail slides.
- Built on a heavy duty one piece cast iron base with thermally symmetrical construction, this machine features 0.1 micron axis resolution. A more rigid platform allows higher speeds and feeds.
- For extra peace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



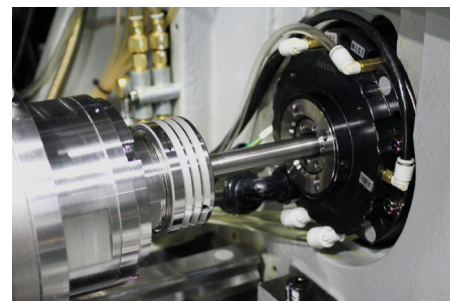
B0325-III Tool Zone



B0325-III Backworking Block



Deep Hole Drilling



Servo Driven Guide Bushing

# WORK ZONES & MODULAR TOOLING

**4 SPINDLE CROSS LIVE TOOL (STANDARD)**  
• ER16 X 3  
• ER20 X 1

**TURNING TOOL**  
• □5/8" X 5

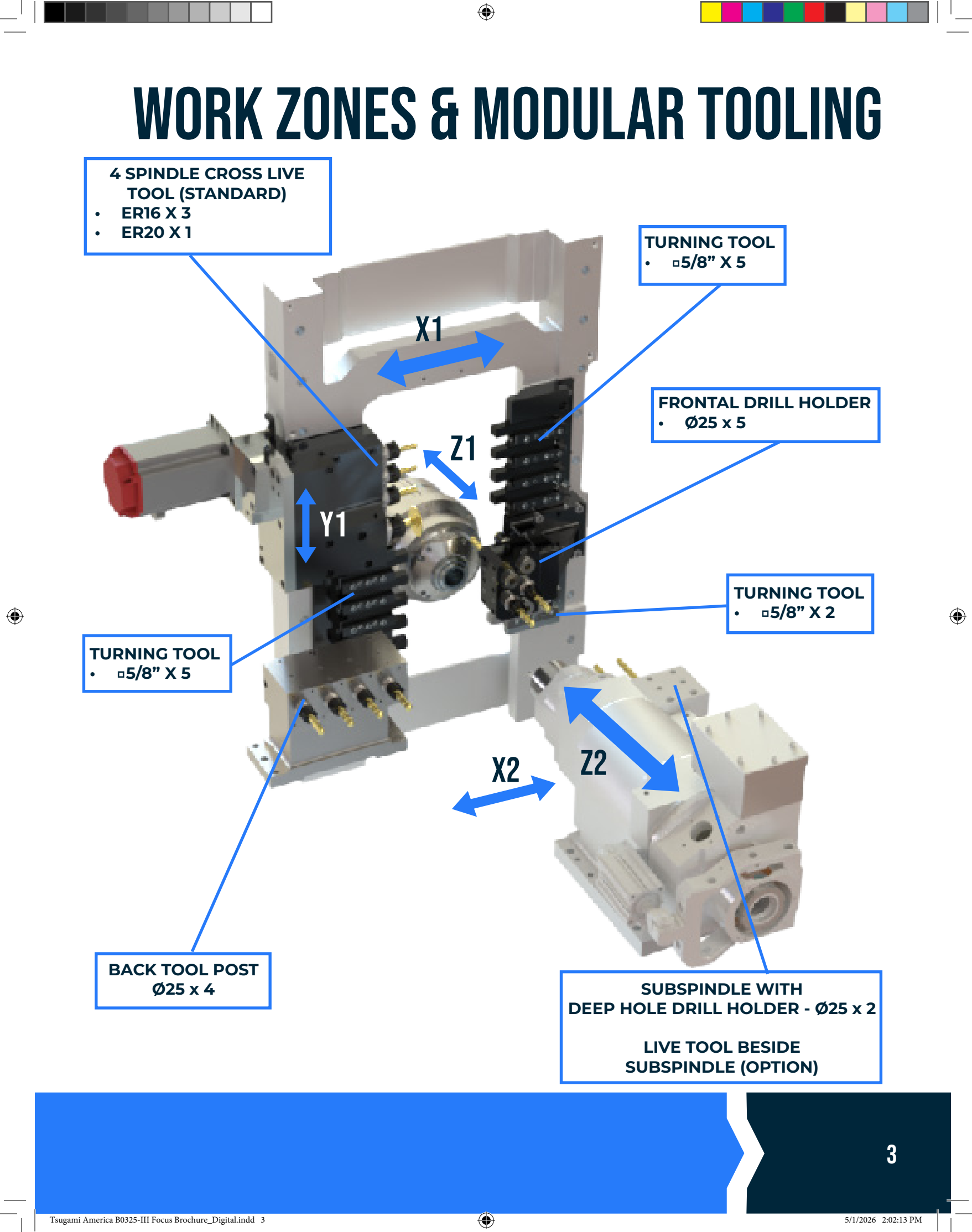
**FRONTAL DRILL HOLDER**  
• Ø25 x 5

**TURNING TOOL**  
• □5/8" X 2

**TURNING TOOL**  
• □5/8" X 5

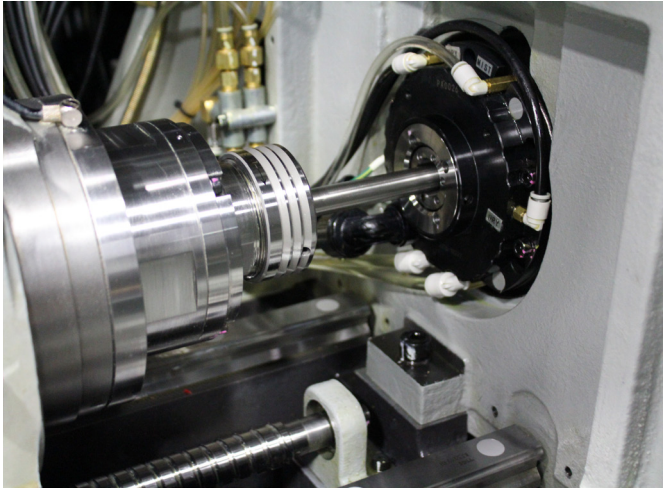
**BACK TOOL POST**  
Ø25 x 4

**SUBSPINDLE WITH DEEP HOLE DRILL HOLDER - Ø25 x 2**  
**LIVE TOOL BESIDE SUBSPINDLE (OPTION)**

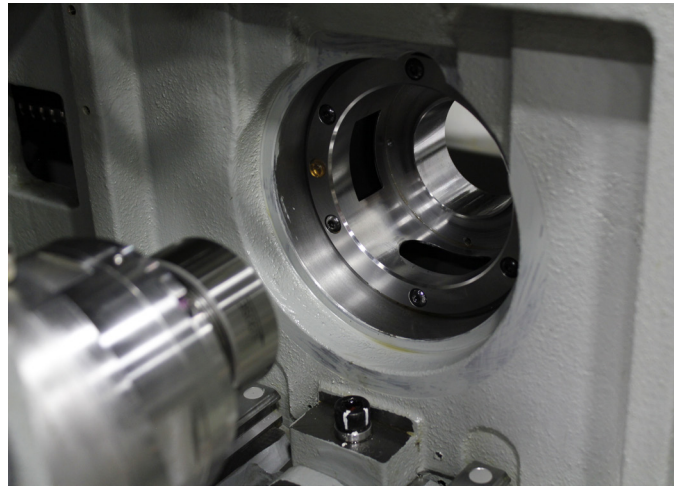


# CHUCKER CONVERTIBLE

The B0325-III can be changed over in minutes. Adding a Chucker Kit allows you to convert your B0325-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 flexibility makes these machines ready to tackle whatever job comes in the door.



Running in Swiss Mode



Running in Chucker Mode

## 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 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

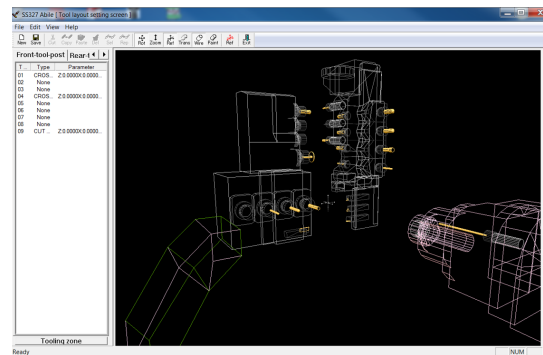


WITH OSCILLATION

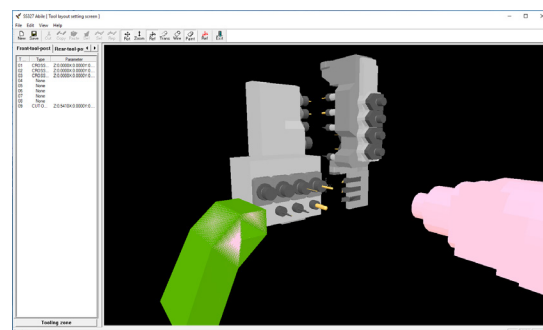
AVAILABLE ON ALL PATHS

## 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

## B0325-III

### MACHINING RANGE

Max. Barstock Diameter	1.25" (32 mm)
Max. Machining Length (One Grip)	330 mm (with Guide Bushing), 70 mm (without Guide Bushing)
Max. Drilling Diameter	Ø12
Max. Tapping Diameter	M10
Max. Back Spindle Chucking Barstock Diameter	Ø32
Max. Back Spindle Drilling Diameter	Ø10
Max. Back Spindle Tapping Diameter	M10
Max. Tool Spindle Drilling Diameter	Ø8
Max. Tool Spindle Tapping Diameter	M6
Max. Tool Spindle Slotting Cutter Diameter	Ø45 (T04)

### MACHINING CAPABILITY

Main Spindle Speed	8,000 rpm
Back Spindle Speed	8,000 rpm
Tool Spindle Speed	6000 min <sup>-1</sup> (Normal speed 4800 min <sup>-1</sup> )
Total Tool Number (Standard Spec.)	31
Tool Size	5/8" x 5/8" (12 pcs)
Rapid Traverse Rate	35 m/min (X1, Z1, 24 m/min)
Spindle Index	C1 Axis and C2 Axis

### MOTORS

Main Spindle	5/7.4 HP (3.7/5.5 kW)
Back Spindle	5/7.4 HP (3.7/5.5 kW)
Cross Drill of Front Tool Post	6,000min <sup>-1</sup> Max (Normal spindle speed 4,800min <sup>-1</sup> )
Rotary Guide Bushing	1-2 HP (0.75/1.5 kW)
X1, Y1, Z1, X2, Z2 axis	1 HP (0.75 kW)
Coolant Pump	0.54 HP (0.4 kW)
Lubricating Pump	3 W

### OTHER

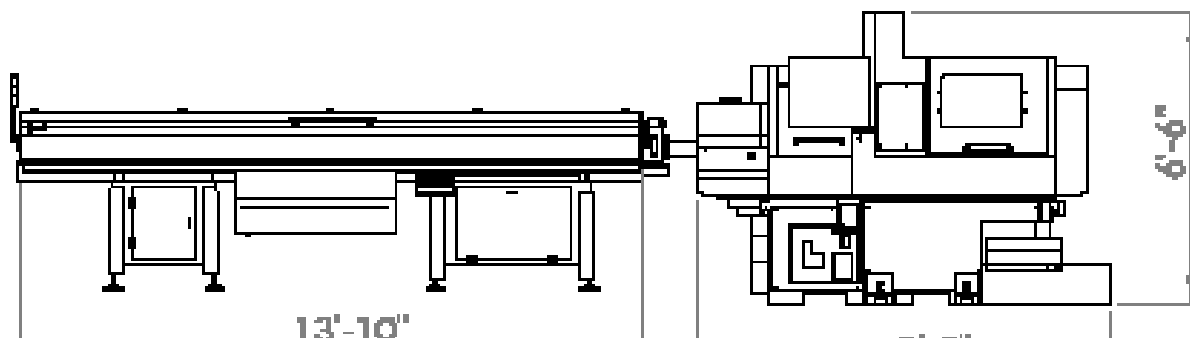
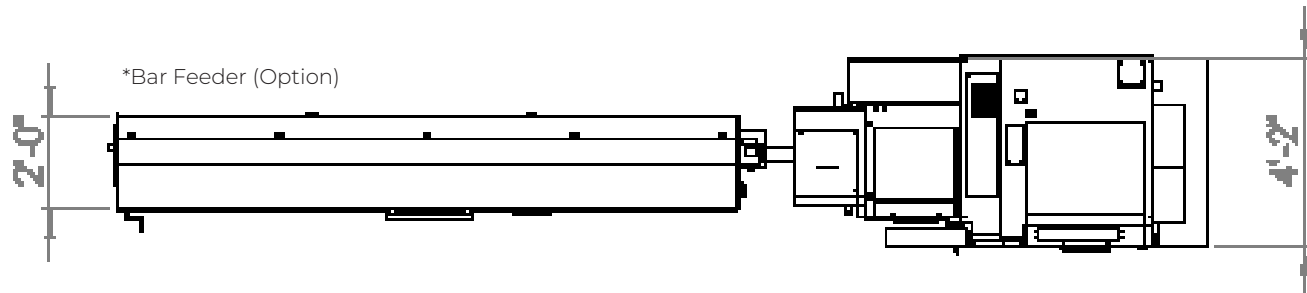
Compressed Air Requirement	0.4 MPa or more
Air Discharge Rate	100 NL/min
Power Source Requirements	22.4 KVA
Coolant Tank Capacity	260 L
Width x Depth x Height	84.64 x 50.4 x 77.5 inch 2150 x 1280 x 1970 mm
Weight	8,818 lbs (4,000 kg)

# NC SPECIFICATIONS

## ITEMS

## B0325-III

NC Unit	FANUC 0i-TF Plus
Axis Name	X1, Y1, Z1, X2, Z2, C1, C2
Least Input Increment	0.0001 mm (X1, X2 axes)
Least Command Increment	X1, X2, Y1 axes 0.000005 mm, other axes 0.0001 mm
Maximum Programmable Value	± 8 digits
Interpolation Method	Linear/circular/helical/cylindrical
Feedrate Function	1 - 6,000 mm/min
Feedrate Override	0 to 150%, 10% step
Dwell	G04 0 to 99999.999
ABS/INC Command	G04, 0 to 99999.999
Tool Offset Value	± 4 digits
Tool Offset Pairs	99
LCD/MDI	10.4" color LCD
Display Language	English
Data Server	1 MB
Registrable Programs	63 (main/back in total)
Spindle Function	S 4 digits
Tool Function	T 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 40-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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