

# B0386-III

## 6-AXIS OPPOSED GANG TOOL SWISS CNC LATHE

### SPEED

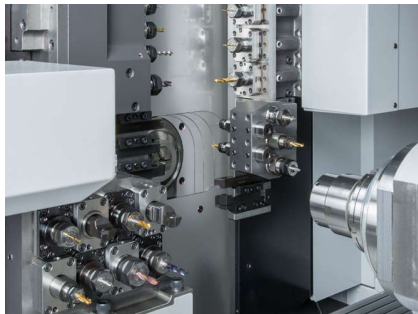
- The B0386-III is chucker convertible with overlap capabilities on the Y2 axis and its 8 modular driven tool positions (4 standard, 8 optional), meaning more work is done simultaneously to reduce your cycle time.
- Large linear guides and a three toggle collet clamping system, are just a few of engineering advancements made for optimal workholding, larger tools, and heavier cuts.
- Functions such as thread whirling, polygon turning, and angled drilling are available options to tackle whatever job comes in the door.

### ACCURACY

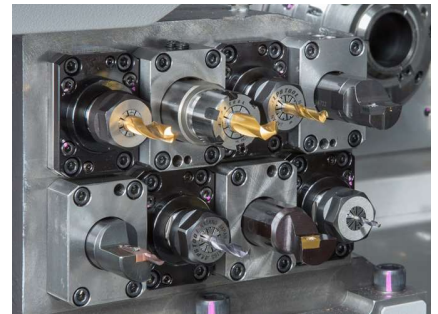
- Tsugami has a long-term reputation for machine accuracy. It all starts with their world-class engineering, incorporating symmetrically designed castings and an “A-frame” design of the gang slide. Utilizing the highest quality, motors, ball screws, rails and bearings assure precise motion control, and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



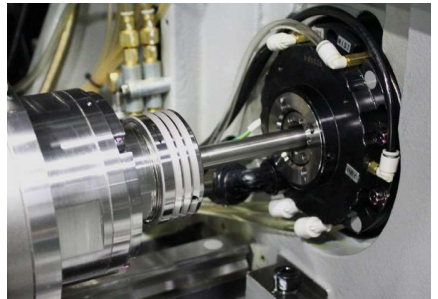
B0386-III Tool Zone



B0386-III Backworking Block

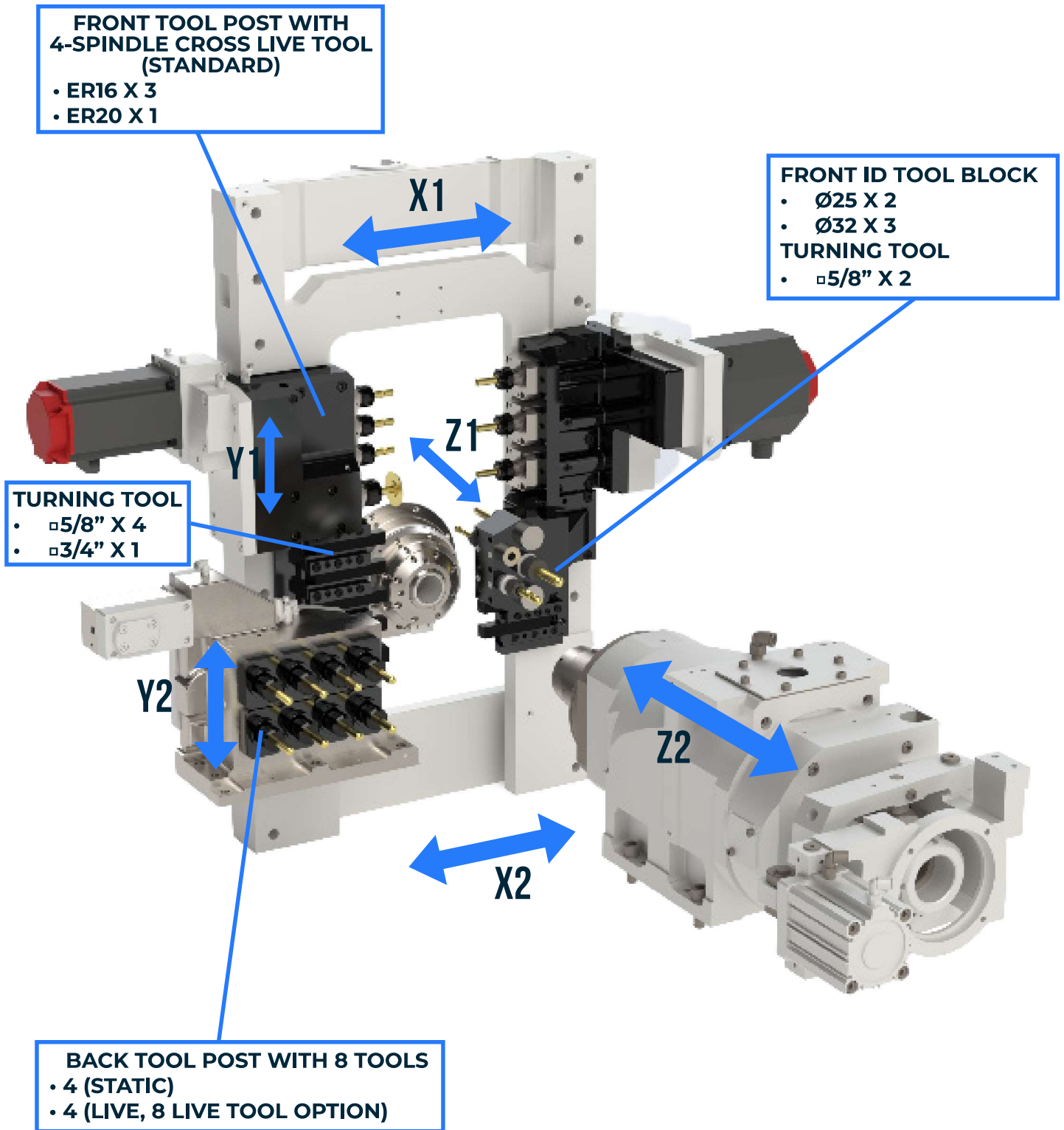


Chucker Mode



Servo Driven Guide Bushing

## WORK ZONE & MODULAR TOOLING



# ACCESSORIES

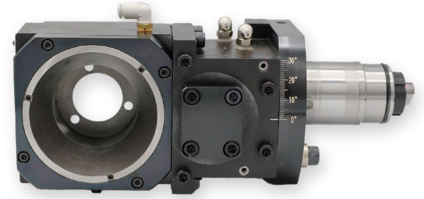
Your B0386-III can be accessorized with various tooling options. Some of these options include:



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 Tugami 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**

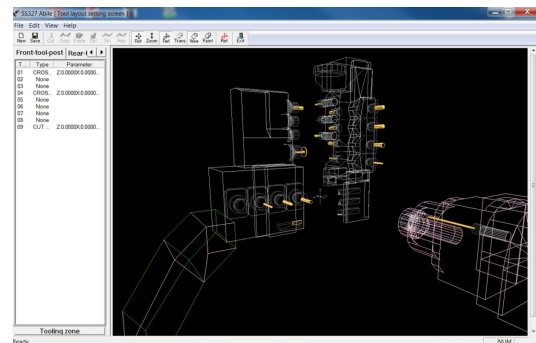


**WITH  
OSCILLATION**

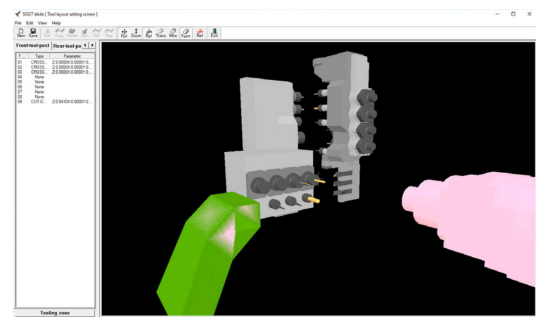
*AVAILABLE ON ALL PATHS*

## 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

## B0386-III

### MACHINING RANGE

### MACHINING CAPABILITY

### MOTORS

### OTHER

|                                             |                                                                              |
|---------------------------------------------|------------------------------------------------------------------------------|
| Working Barstock Diameter                   | ø38 mm (1.50 in.)                                                            |
| Max. Machining Length                       | 330 mm (12.60 in.) (with Guide Bushing)<br>70 mm (2.76 in.) (Chucker Mode)   |
| Max. Main Spindle Drilling Diameter         | ø13 mm (.51 in.)                                                             |
| Max. Main Spindle Tapping Diameter          | M12                                                                          |
| Max. Back Spindle Drilling Diameter         | ø12 mm (.47 in.)                                                             |
| Max. Back Spindle Tapping Diameter          | M12                                                                          |
| Max. Cross Drilling Diameter                | ø8 (Front tool post/Rear tool post/Back tool post)                           |
| Max. Cross Tapping Diameter                 | M6 (Front tool post/Rear tool post/Back tool post)                           |
| Max. Tool Spindle Slotting Cutter Diameter  | ø45 mm (1.77 in.) (T4)                                                       |
| Max. Back Drilling Diameter                 | ø10 mm (.39 in.)                                                             |
| Max. Back Live Tapping Diameter             | M8                                                                           |
| Main Spindle Speed                          | 200 to 6,000 min <sup>-1</sup>                                               |
| Back Spindle Speed                          | 200 to 7,000 min <sup>-1</sup>                                               |
| Rotary Guide Bushing Speed                  | 200 to 6,000 min <sup>-1</sup> : Direct-drive rotary guide bushing           |
| Tool Spindle Speed                          | 200 to 6000 min <sup>-1</sup> (Normal speed 4800 min <sup>-1</sup> )         |
| Total Tool Storage Capacity (Standard Spec) | 32                                                                           |
| Tool Size                                   | 5/8" (6 pcs), 3/4" mm (1 pc)                                                 |
| Rapid Traverse Rate                         | 32 m/min (X1, Z1, Y1, Y2: 24 m/min)                                          |
| Spindle Index                               | C1 Axis and C2 Axis                                                          |
| Main Spindle                                | 10/15 Hp (7.5/11 kW)                                                         |
| Back Spindle                                | 5/7.5 Hp (3.7/5.5 kW)                                                        |
| Cross Drill of Front Tool Post              | 200 to 6,000min <sup>-1</sup> (Normal spindle speed 4,800min <sup>-1</sup> ) |
| Cross Drill of Rear Tool Post Drive         | 200 to 6,000min <sup>-1</sup> (Normal spindle speed 4,800min <sup>-1</sup> ) |
| Rotary Tool of Back Tool Post               | 2 Hp (1.4 kW)                                                                |
| Y2 Axis                                     | 0.7 Hp (0.5 kW)                                                              |
| X1, Y1, Z1, X2, Z2 axis                     | 1 Hp (0.75 kW)                                                               |
| Coolant Pump                                | 0.5 Hp (0.4 kW)                                                              |
| Lubricating Oil Pump                        | 3 W                                                                          |
| Compressed Air Requirement                  | 0.4 MPa or above                                                             |
| Air Discharge Rate                          | 100 NL/min                                                                   |
| Power Source Requirements                   | 22.4 kVA                                                                     |
| Coolant Tank Capacity                       | 260L                                                                         |
| Width x Depth x Height                      | 2,240 x 1,515 x 2,050 mm/ 88 x 60 x 81in                                     |
| Weight                                      | 4,850 kg / 10,694 lbs.                                                       |

# NC SPECIFICATIONS

## ITEMS

## B0386-III

|                            |                                                   |
|----------------------------|---------------------------------------------------|
| NC Unit                    | FANUC 32i-B                                       |
| Controlled Axes            | X1, Y1, Z1, X2, Y2, Z2, C1, C2                    |
| Least Input Increment      | 0.001mm (Diametrical designation for X1, X2 axes) |
| Least Command Increment    | X1, X2 axes 0.0005 mm, other axes 0.001 mm        |
| Maximum Programmable Value | ± 8 digits                                        |
| Interpolation Method       | Linear/Circular                                   |
| Rapid Traverse Function    | 32 m/min (X1, Y1, Z1, Y2: 24 m/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            | G04, 0 to 99999.999                               |
| Tool Offset Pairs          | 99, Each Path                                     |
| LCD/MDI                    | 10.4" color LCD                                   |
| Display Language           | English                                           |
| Part Program Storage Size  | 256 Kbytes                                        |
| Registrable Programs       | 63 (main/back in total)                           |
| Spindle Function           | S Code 5 digits                                   |
| Tool Function              | T Code 4 digits                                   |

