

**TSUGAMI**  
AMERICA

# S205-II

## CNC PRECISION AUTOMATIC LATHE

- 20mm Capacity Swissturn
- Direct Drive Rotary Guide Bushing
- High Rigidity Bed
- Thermal Displacement Compensation
- Fanuc 32i-B CNC Control

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

# S205-II

## 5-AXIS OPPOSED GANG TOOL SWISS CNC LATHE

### SPEED

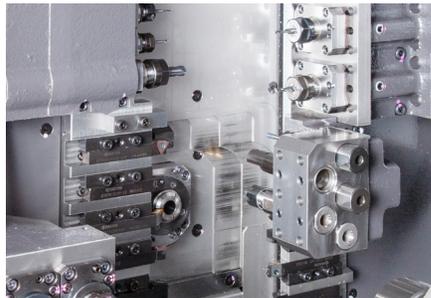
- The S205-II features the state of the art Fanuc control for low idle times and high speed cutting.
- The horizontally opposed gang tool layout offers the shortest path tool to tool and therefore, the quickest possible chip to chip time.
- Rounding out the features are integral servo spindle motors and servo driven bushing for fastest possible acc/dec times and quick C-axis positioning

### ACCURACY

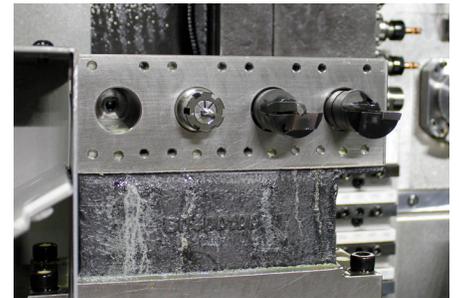
- Adding a Chucker Kit allows you to convert from a traditional sliding headstock Swiss function to standard lathe-type chucker mode.
- This allows you to run high-precision parts utilizing standard drawn barstock.
- Other benefits include shorter remnant, better concentricity and more.

### RIGIDITY

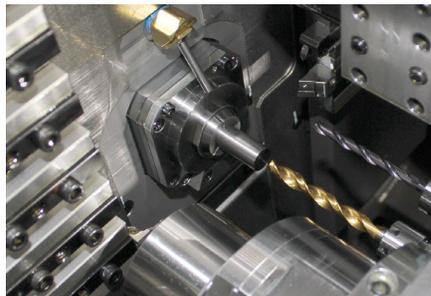
- Tsugami has the most rigid gang tool post in the industry due to opposing rail slides.
- Built on a heavy duty one piece cast iron base with thermally symmetrical construction, this machine features 0.1 micron axis resolution. A more rigid platform allows higher speeds and feeds.
- For extra peace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



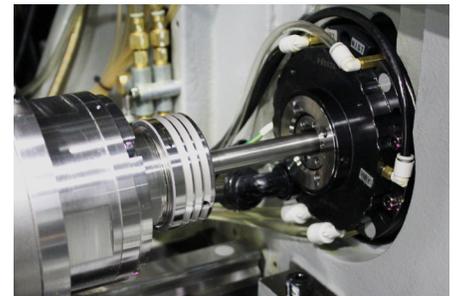
S205-II Tool Zone



S205-II Backworking Block

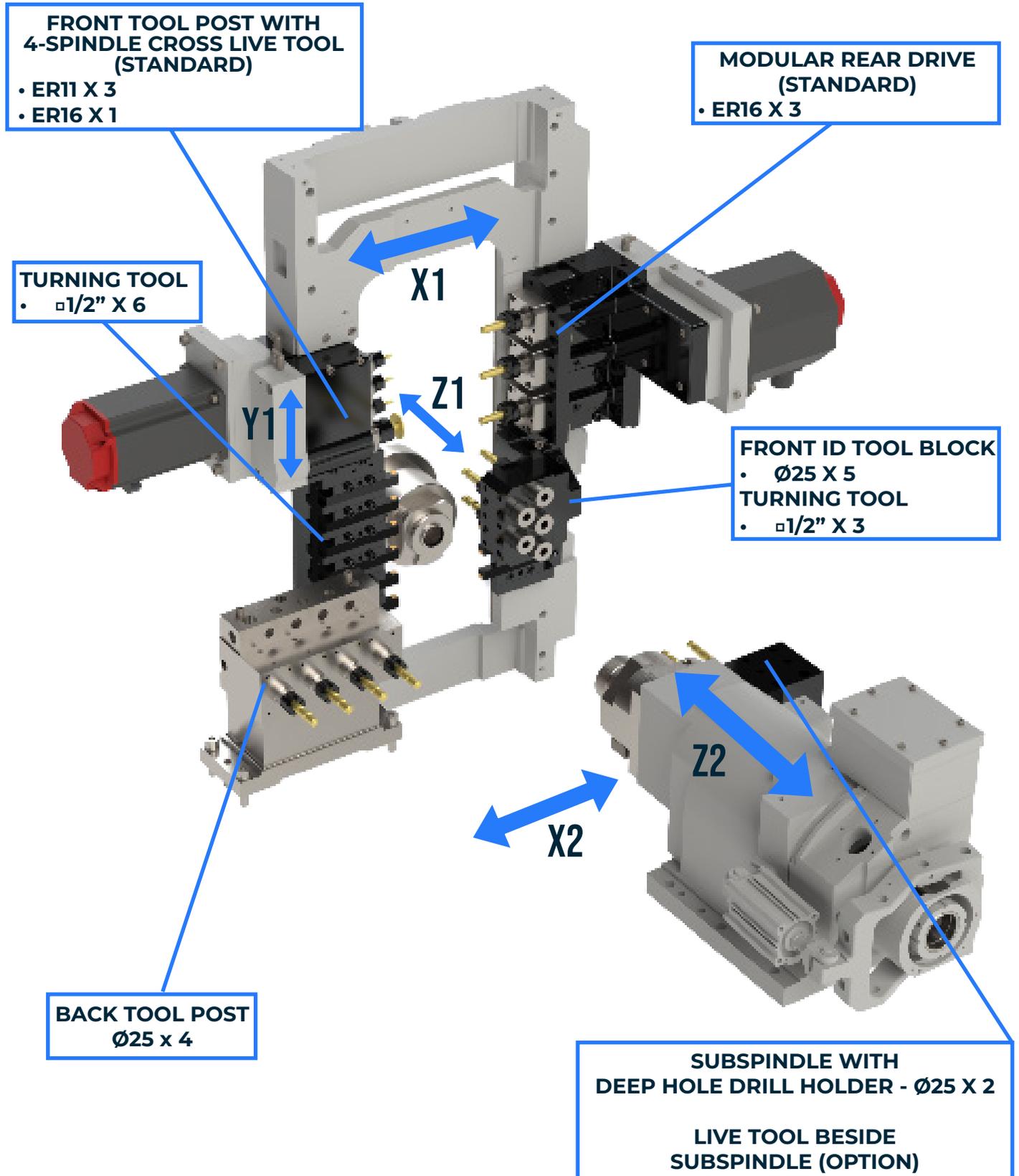


Deep Hole Drilling



Servo Driven Guide Bushing

# WORK ZONES & MODULAR TOOLING



# ACCESSORIES

Your S205-II can be accessorized with various tooling options. Some of these options include:



Double Face Spindle



Quick Change Tooling



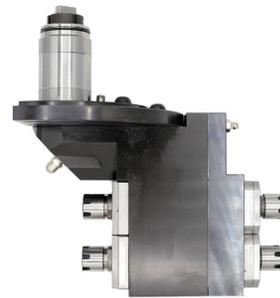
Thread Whirling Head



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 Tsumagi users in North America!



Grinding Room



Make Ready Facility

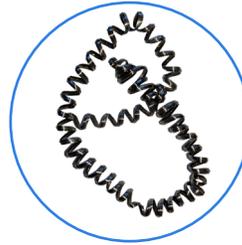


Milling Room

# 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.



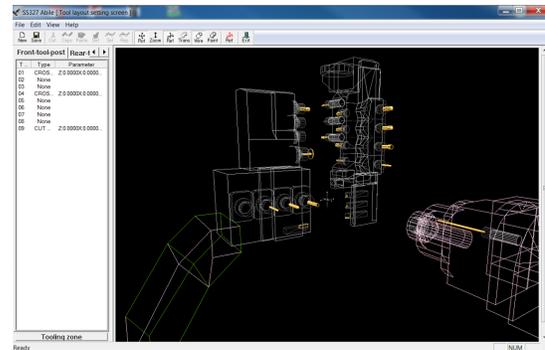
**WITHOUT  
OSCILLATION**



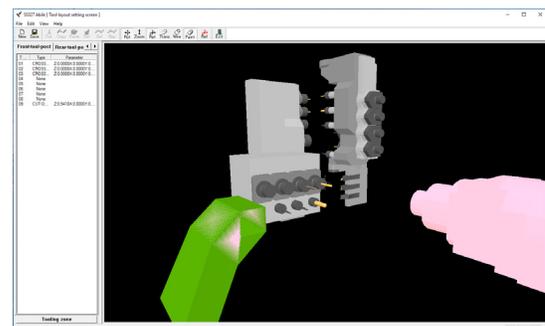
**WITH  
OSCILLATION**

## 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

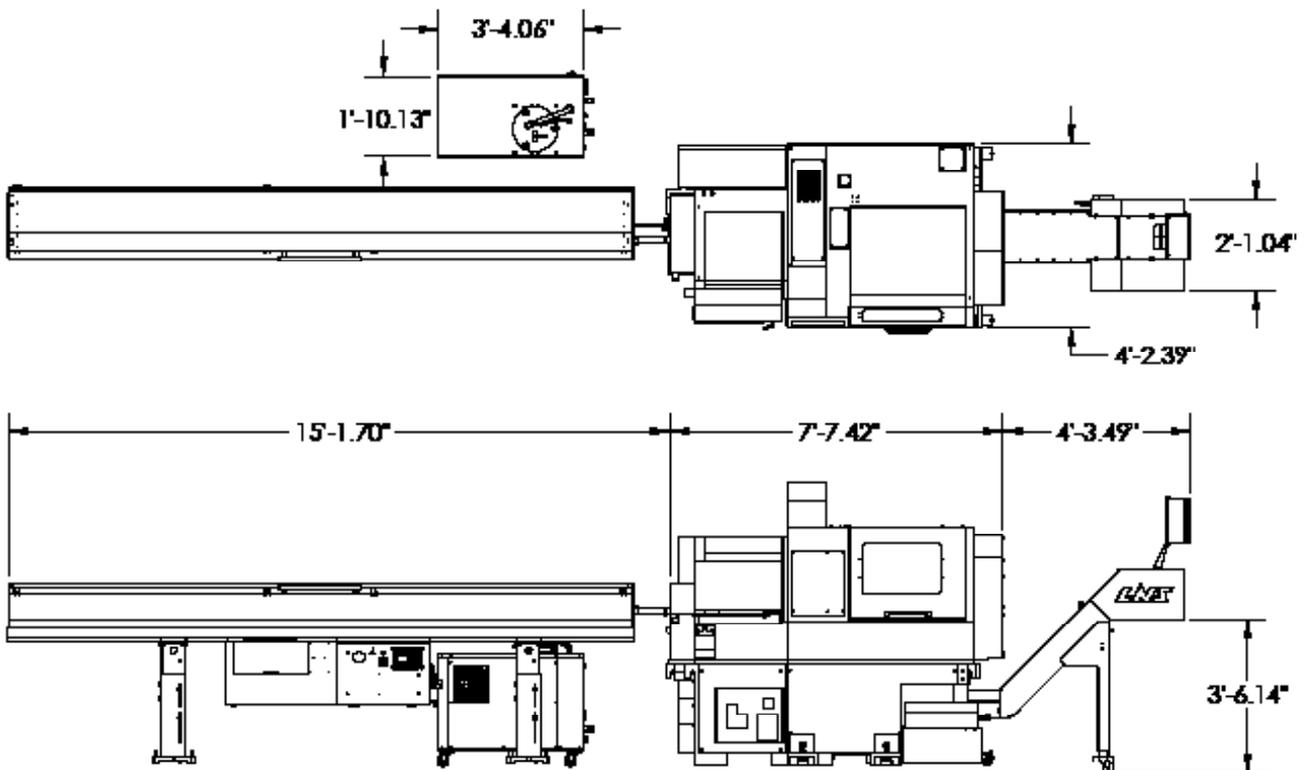
	ITEMS	S205-II
MACHINING RANGE	Max. Machining Length	210 mm (8.26 in.) (Rotary Guide Bushing) 45 mm (1.77 in.) (Chucker Mode)
	Max. Drilling Diameter	ø12 mm (.47 in.)
	Max. Tapping Diameter	M10
	Max. Deep hole drilling diameter	ø8 mm
	Max. Back Spindle Chucking Diameter	ø20 mm
	Max. Back Spindle Drilling Diameter	ø12
	Max. Back Spindle Tapping Diameter	M10
	Max. Tool Spindle Drilling Diameter	ø8 (Front tool post/Rear tool post/Back tool post)
	Max. Tool Spindle Tapping Diameter	M6 (Front tool post/Rear tool post/Back tool post)
	Max. Tool Spindle Slotting Cutter Diameter	ø30 (T04)
MACHINING CAPABILITY	Main Spindle Speed	200 to 10,000 min-1
	Back Spindle Speed	200 to 10,000 min-1
	Rotary Guide Bushing Speed (Optional)	200 to 10,000 min-1 (Direct-drive)
	Tool Spindle Speed	Cross tool spindle on front tool post: 200 to 10,000 min-1 Rear drive / Back drive: 200 to 8,000 min-1
	Total Tool Storage Capacity (Standard/Max. Option)	27/41
	Tool Size	ø12 mm
	Rapid Traverse Rate	35 m/min (X1,Y1,Y2: 24 m/min)
MOTORS	Main Spindle	3.7/5.5 kW
	Back Spindle	3.7/5.5 kW
	Cross Drill	1.0 kW (Front tool post), 1.0 kW (Rear tool post), 1.0 kW (Back tool post)
	Rotary Guide Bushing	0.75/1.1 kW (Direct-drive rotary guide bushing)
	X1/Y2-axis	0.5 kW
	Y1/Z1//X2/Z2-axis	0.75 kW
	Coolant Pump	.4 kW
	Lubricating Pump	3 W
		Compressed air requirement
OTHER	Air discharge rate	100 NL/min
	Power Source Requirements	12.1 kVA
	Width x Depth x Height	2,150 x 1,270 x 1,970 mm (84.64 x 50 x 77.56 in.)
	Weight	3,750 kg (8,267 lbs.)

# NC SPECIFICATIONS

## ITEMS

## S205-II

NC Unit	FANUC 32i-B
Axes Name	X1, Z1, Y1, X2, Z2, C1, C2
Least Input Increment	0.001 mm (X1/X2 axis in diameter)
Least Command Increment	X1, X2: 0.0005 mm, other axes: 0.001 mm
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	99
LCD/MDI	10.4" color LCD
Display Language	English
Part Program Storage Size	512 kbyte (equivalent to 1,280 m tape length)
Registrable Programs	1,000
Auxiliary Function	Main: M 5 digits
Spindle Function	S 5 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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