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Integrated Spindle Motion
CNC Spindle Control Machine

100% 100% / 7/NC

CNC Multi spindle turning lathe with live tooling

SHIMADA's other products

■ Multi-Spindle

- 6 Spindle Bar type B6-16 / 27 / 32
- 6 Spindle Chucker type CN-660
- 8 Spindle Chucker type SS-8NC

■ CNC Lathe

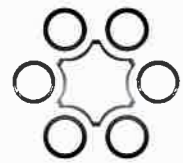
- 2 Spindle Indexer 2SI-6 / 8 / 10
- 4 Spindle Horizontal HS 4200
- 4 Spindle Vertical VT4-350



CNC SYSTEM SALES, INC.

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MULTI SPINDLE

With LIVE TOOLING and C-AXIS

SHIMADA's multi spindle ISM B6-27NC has 6 integrated spindle motors (Built-In motor spindles) that allow independent control of RPM by CNC program. Capabilities include; spindle stopping, C-axis positioning as well as constant surface speed control.

A variety of machining process can be performed with SHIMADA's new design which combines cutting-edge CNC and Hydraulic technologies.

With CNC slides it has the same accuracy as CNC lathes coupled with integrated motors individually programmed on all 6 spindles for maximum productivity and flexibility.

This standard package is equipped with six 5000rpm, 8.0hp (6.0kw) spindles and live tooling with C-axis.

Max bar diameter is 1.06" (27mm) and bar length is 130" (3.3M).

Offered with numerous Tooling and Attachment options, SHIMADA's ISM B6-27NC expands the realm of machining possibilities.

By uniquely combining the productivity advantages of traditional Multi-Spindle Automatics with C-Axis Milling capabilities and the precision and ease of CNC operations, the ISM B6-27NC provides a wide range of manufacturing solutions.

Models

ISM B6-27NC-S with 1 CNC Slide
ISM B6-27NC-W with 2 CNC Slides
ISM B6-27NC-T with 3 CNC Slides

Spindle

Equipped with six independent, direct-drive 5,000 RPM spindles, each employing an Oil-Air Mist and Oil-Jacket cooling system to ensure minimal thermal growth, the Shimada ISM delivers accurate and stable high speed turning. An Air-Purge device protects the spindles from Chips and Coolant.

The spindle bearing diameter is the $\varnothing 80\text{mm}$ (3.15") that is biggest in this class.

Bar Feeder

- ✓ Auto bar feeding with 130" (3.3M) bar length capacity. 157" (4.0M) bar length spec is optionally available.
- ✓ Bar remnants are automatically ejected at the rear end of the bar feeder.

Tool Slide

✓ Cross slide
Up to 3 CNC slides and 5 Hydraulic cross slides can be mounted.

✓ Main end slide

The main end tool slide is guided along a chevron-type (V-shaped) slide-way which are supported three points and prevents tension torque while ensuring smooth and accurate machining.

Up to 4 tools can be mounted on the Main End slide.

✓ Sub-spindle (Back-spindle)

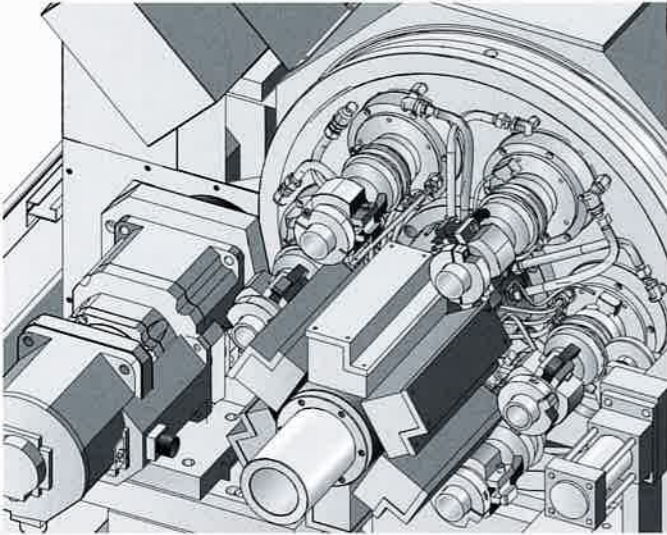
The spindles and Z axis are servo motor driven.

Merit

- ✓ Ideal spindle RPM and cutting feed rate are realized at each position.
- ✓ Spindle stopping and C-axis positioning are available at each spindle.
- ✓ Various milling tools make a variety of machining process.
- ✓ Combining cutting-edge CNC and Hydraulic technologies provides high performance and user-friendly operation, at a very affordable investment.



Machine Structure



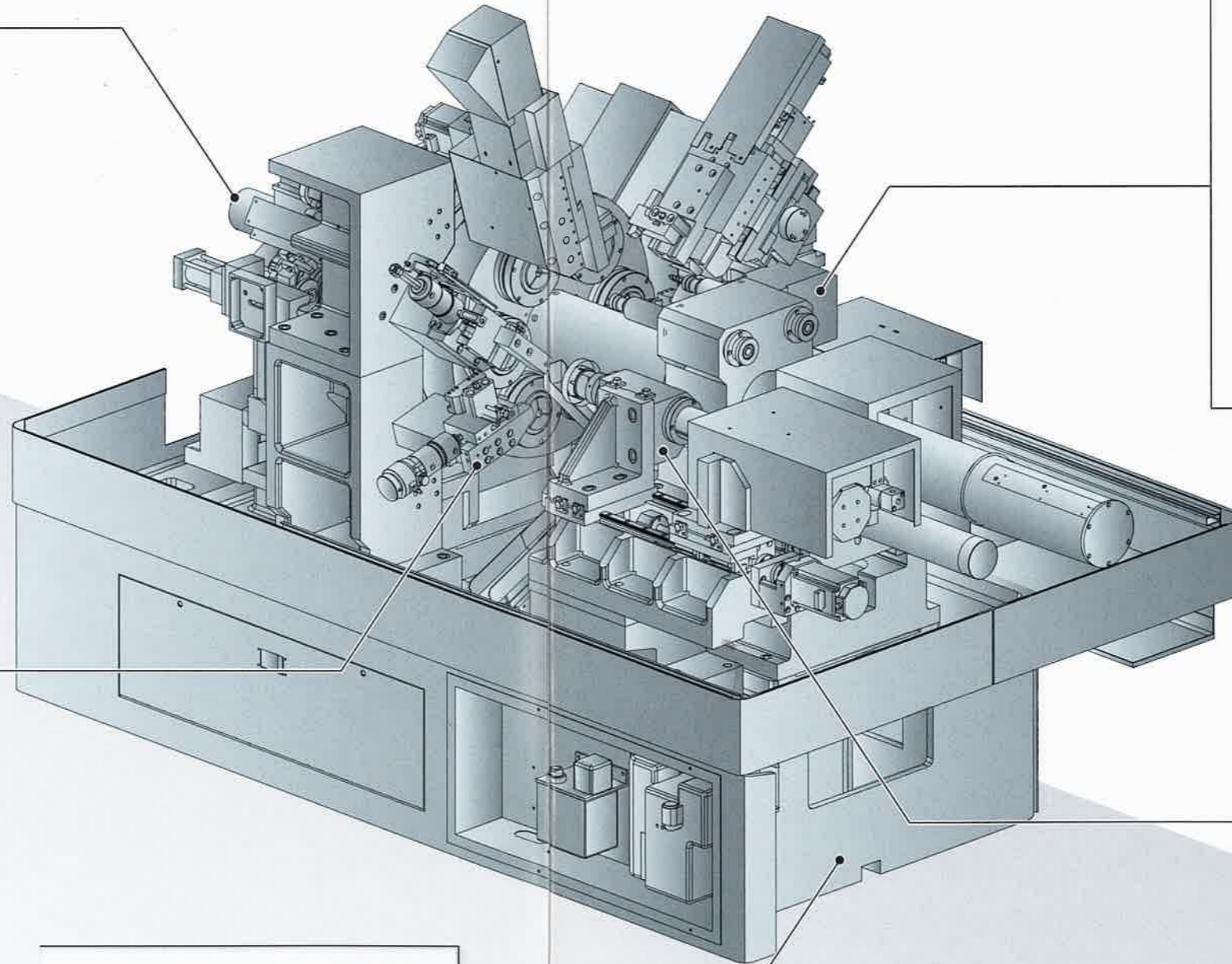
— Main Spindle



— One-touch Digital Adjust type Hydraulic Cross Slide

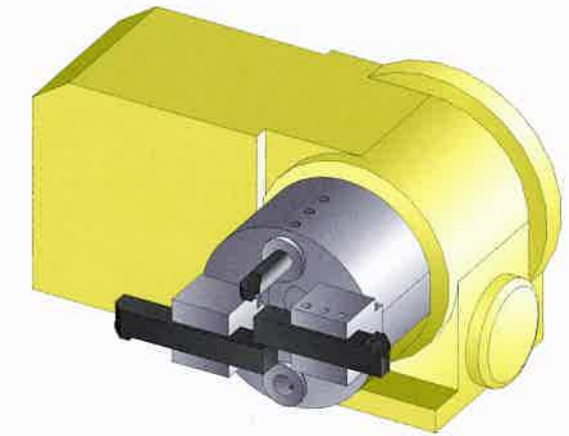
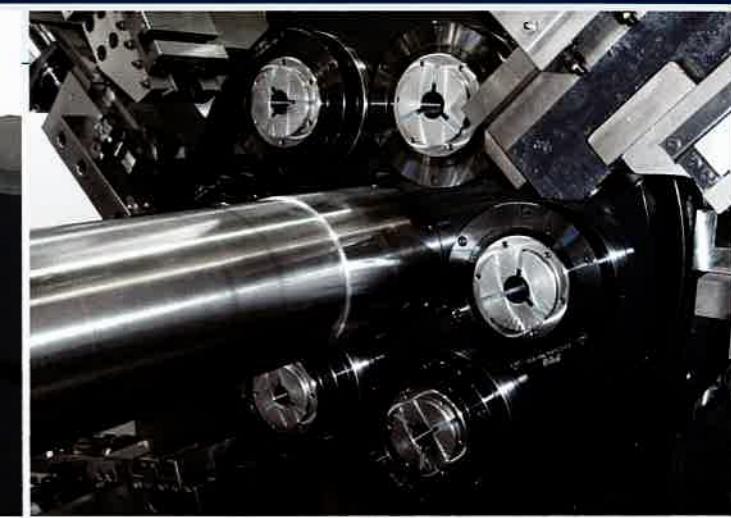
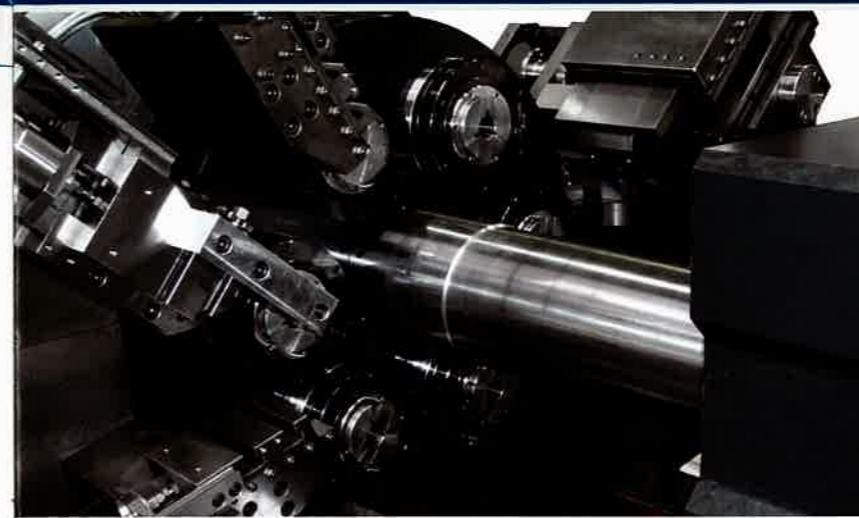
Shimada's expertise in hydraulics offers an adjustable, infinitely variable, reliable, and low-maintenance feed control system.

By monitoring the digital display, the operator will be able to easily touch-off, and set the stroke to the exact target.

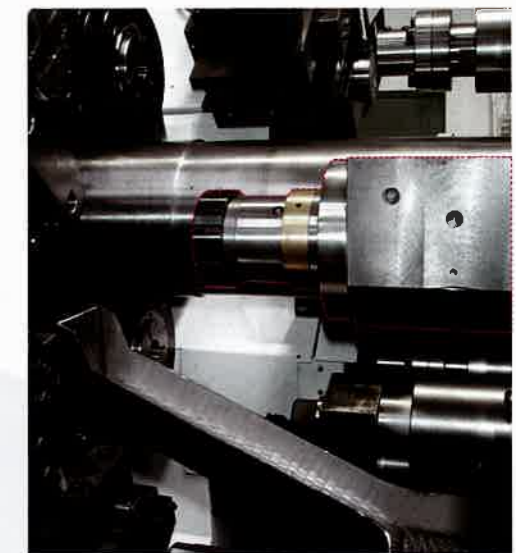


— Rigid Box Construction

A wide bed mounts on the box-shaped base allows stable heavy-duty cutting.



— (Pos. 4) 4 Station Turret Optional

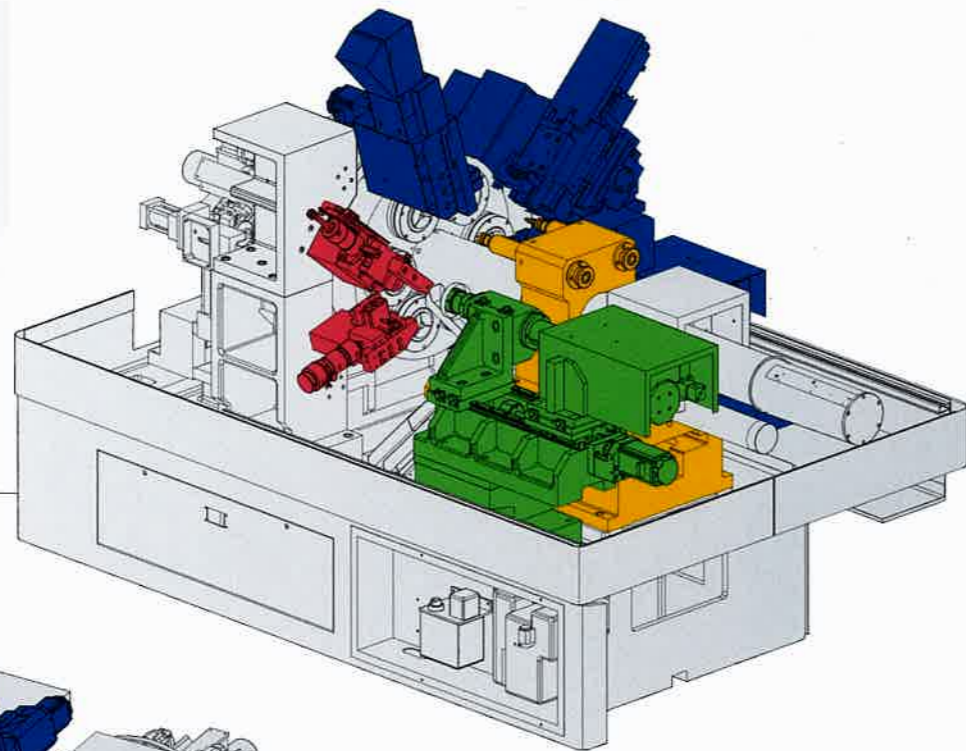


— Sub Spindle (Back Spindle)

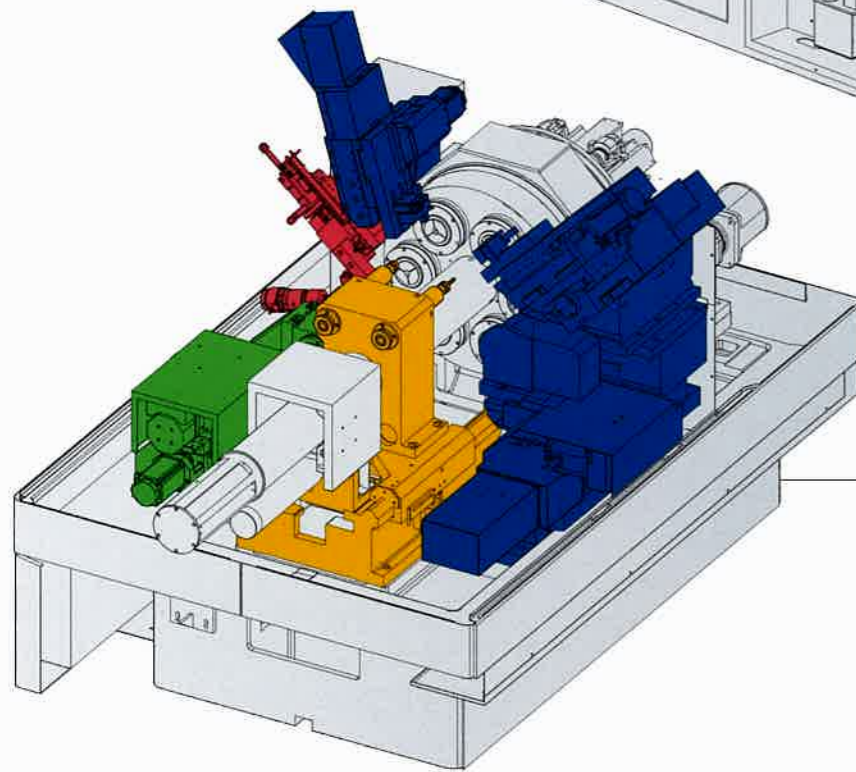
NC Slides / Cross Slides Mounting Position Layout

- NC Slides
(X1, X2, X3 / Z1, Z2, Z3)
- Cross Slides
- Main End Slide
- Sub Spindle Slide

FRONT



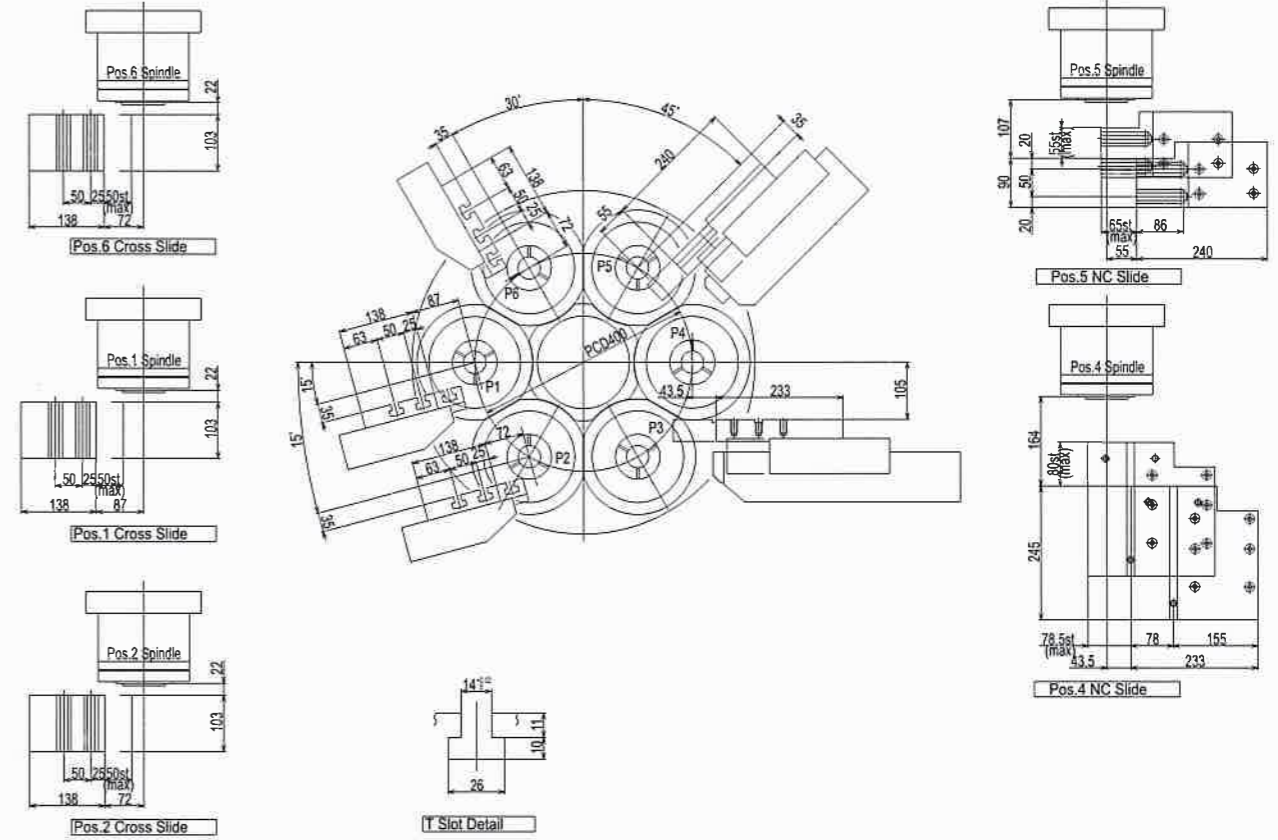
BACK



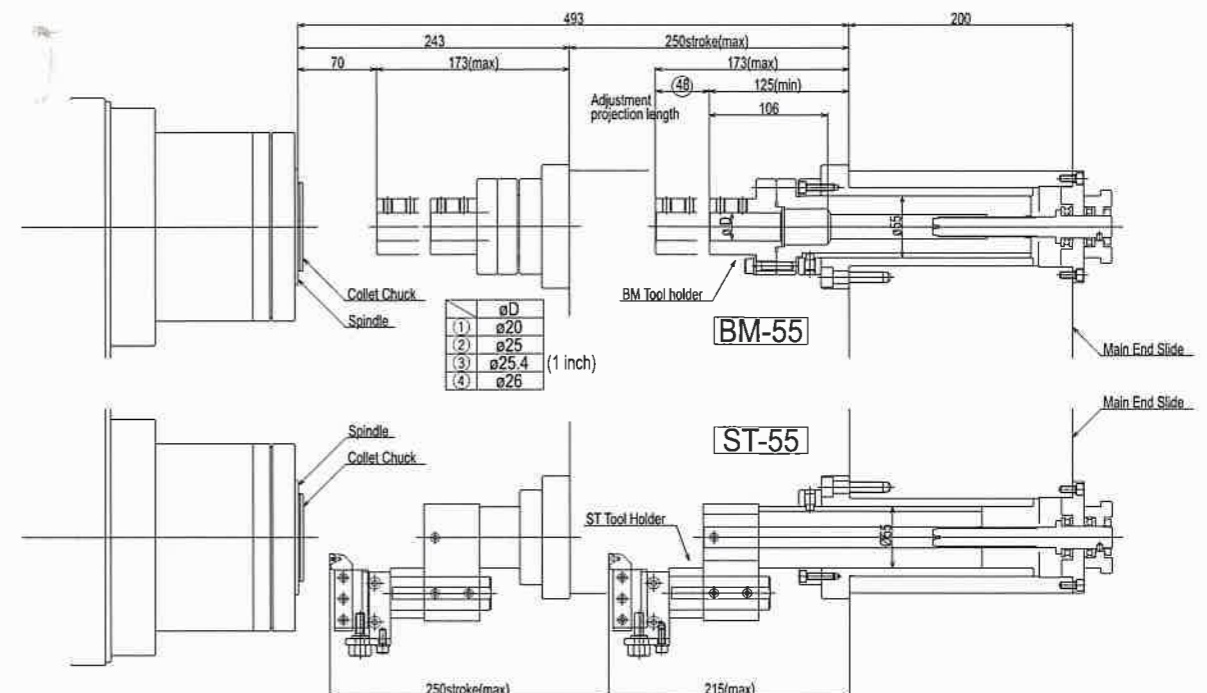
Mounting Pos. of Cutting Tools	Pos. 1	Pos. 2	Pos. 3	Pos. 4	Pos. 5	Pos. 6
ISM B6-27NC	★ & ★	★ & ★	★	★ or ★	★ or ★ & ★	★ or ★ & ★

Slide Stroke & Dimension Layout

| NC Slides / Hydraulic Cross Slides



| Main End Slide

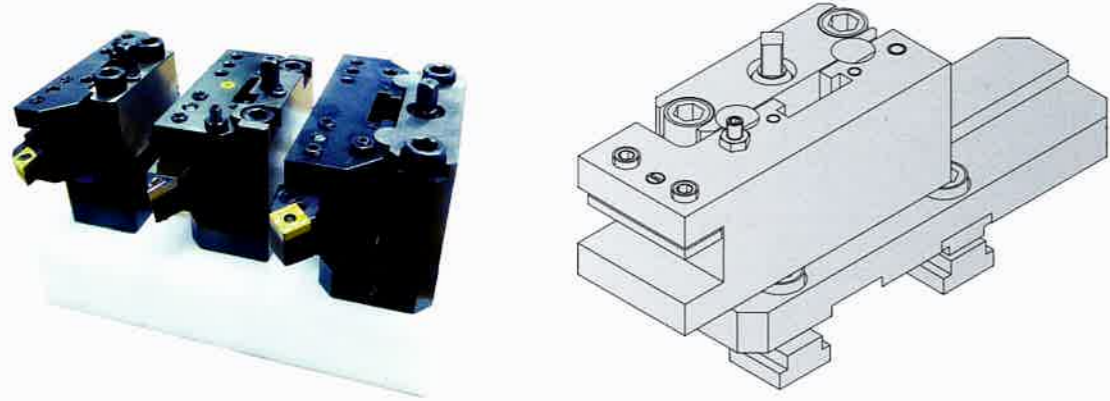


Tooling System

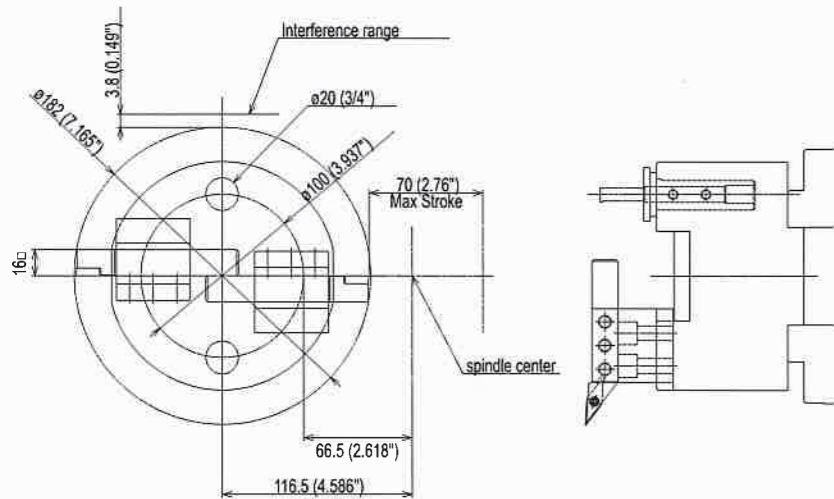
A Wide Range of Applications to Meet Various Needs

By using the machine with Quick Change Tool Holders and Collet Chucks and a Tool Pre-Setter, Part and Tool change-over is a very quick process, limiting lost time. Designed to provide easy positioning adjustments with excellent repeatability, the increase of the over-all operational efficiency, and total output, maximizes the operator's performance, regardless of skill level.

Quick Change Pre-set Holder

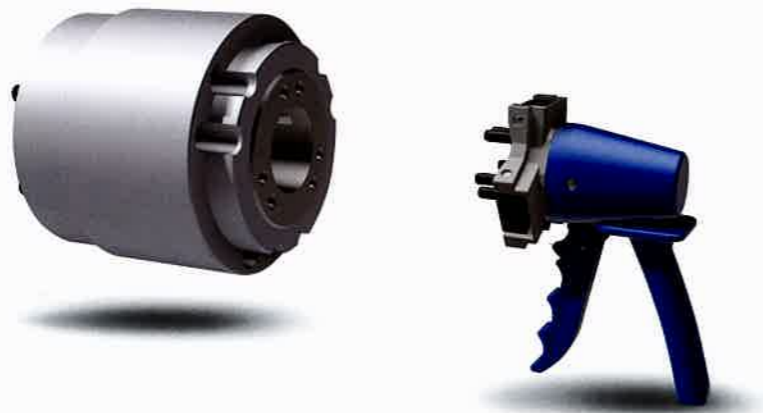


4 Station Turret Holder (Straight Sleeve)



No. 4 TRT - 20 - mm
 No. 4 TRT - 3/4" - inch

Quick Change Collet Chuck System



A Broad Range of cutting Variation

Main End Slide Tool Holder

Turning holder

No. ST - 55 - - -

Bits holder	Drill dia.	Number of tools
1) <input type="text"/> mm	1) <input type="text"/> mm	S: Single
2) <input type="text"/> inch	2) <input type="text"/> inch	W: Double
		(S in photo)



Aligning holder (for round tools and end mills)

No. BM - 55 -

Shank hole dia.
1) ϕ 25
2) ϕ 25.4 (1")
3) ϕ 26



Boring holder

No. BT - 55 - -

Bits holder	Number of tools
1) <input type="text"/> mm	S: Single
2) <input type="text"/> inch	W: Double
	(S in photo)



Drill holder

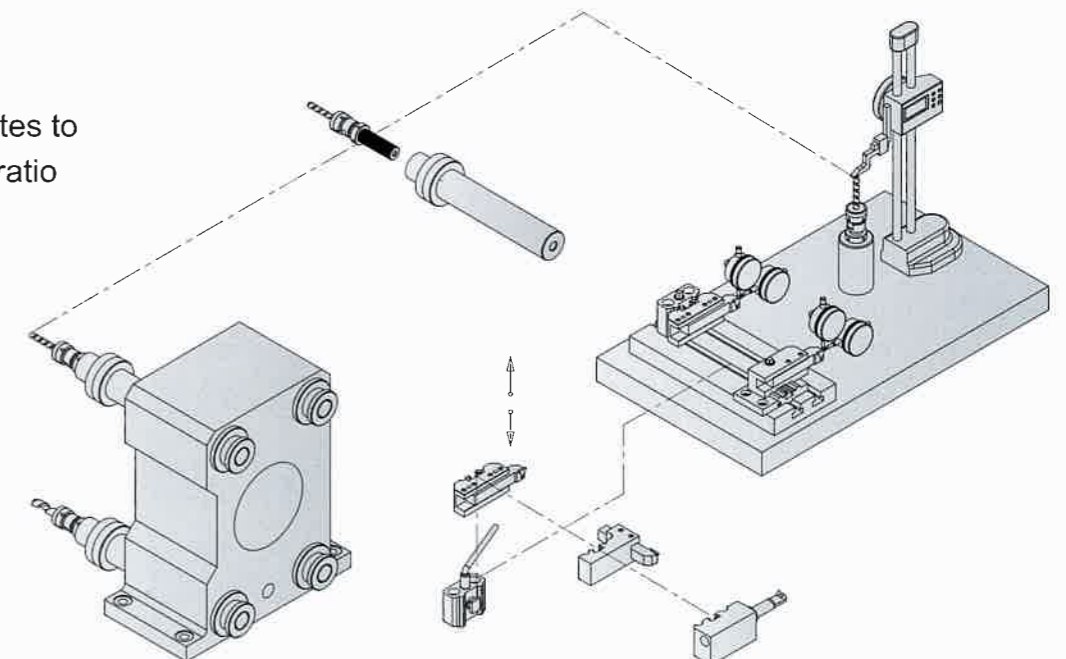
No. DTC - 55 - -

Shank hole dia.	Holder length
1) ϕ 25	1) 300 mm (11.8")
2) ϕ 25.4 (1")	2) 330 inch (13.0")
3) ϕ 26	3) Other



Tool Pre-Setter

Easy Set-up Contributes to improving production ratio



Machine Specifications

Main Spindle	Number of spindle	6
	Pitch diameter	ø400mm (15.748")
	Built in motor	4kw (S1)/6kw (S3)
	Torque at 100%	25.5Nm
	Torque at 25%	38.7Nm
	Speed	5000rpm
	Others	Air & Mist lubrication Spindle air purge Lubrication oil cooling
Bar capacity	Max. bar diameter	ø8-27mm (ø0.315"-1.06")
	Max. feed length	120mm (4.72")
	Max. bar length	3.3M (130") Optional : 4.0M (157")
	Bar change system	Automatic
Sub spindle	Drive motor power	2.2kw
	Drive motor torque	7Nm
	Max. chucking diameter	ø27mm (1.04")
	Speed	5000rpm
	Z-axis travel	200mm (7.87")
Main end slide	Rapid feed rate	12.5M/min
	Drive system	Camless Hydraulic Optional : FANUC Servo driven
	Number of tools	4
	Tool holder diameter	ø55mm (ø2.165")
NC slide	Z-axis travel	250mm (9.84")
	Number of NC slides	Max. 3
	X-axis travel	50-120mm (1.97-4.72")
Cross slide	Z-axis travel	50-120mm (1.97-4.72")
	Number of cross slides	3-5
	Travel of cross slide	40-50mm (1.57-1.97")
Control system	Driven system	Hydraulic
	Control system	FANUC 30i
Dimension and weight	Length (including 3.3M bar feeder)	10080mm (396.9")
	Length (without bar feeder)	3880mm (152.7")
	Width	2520mm (99.2")
	Height	2290mm (90.2")
	Weight	9000kg (19930lbs)
	Power supply	40KVA, 200A
Available Attachments (Optional)	sub spindle	
	cross drill attachment (for Radial & Axial)	
	Thread roll attachment	
	Polygon turning	
	Main end slide FANUC servo driven	
	Quick change collet chuck spec.	
	Quick change tooling system	
	One- touch digital adjust cross slide	
4 station Turret		

Standard Accessories

• Hydraulic Power Unit	• 3-colors Signal Tower	• Door Interlock SW.
• Collet Chuck (6pcs.)	• Work Light (LED)	• Hydraulic Cross Slide (Pos.1,2)
• Bar Feeder	• Parts Catcher	• Leveling Block
• Lubrication Oil Cooler	• Out Conveyor	• Hand Tool Kit
• Coolant Device		

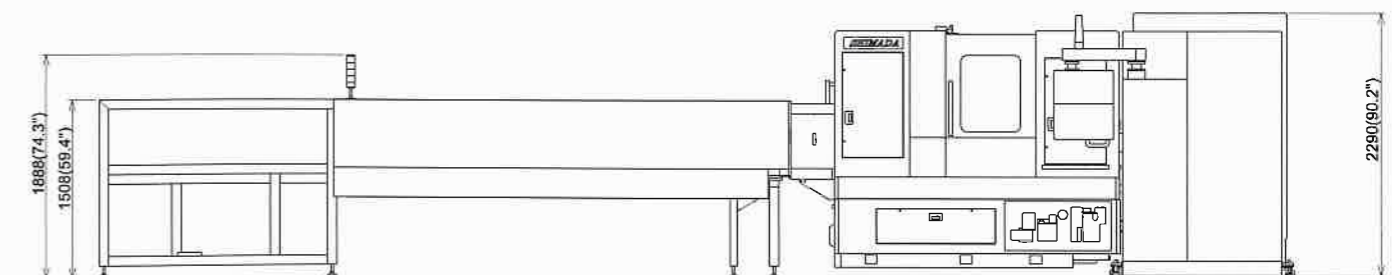
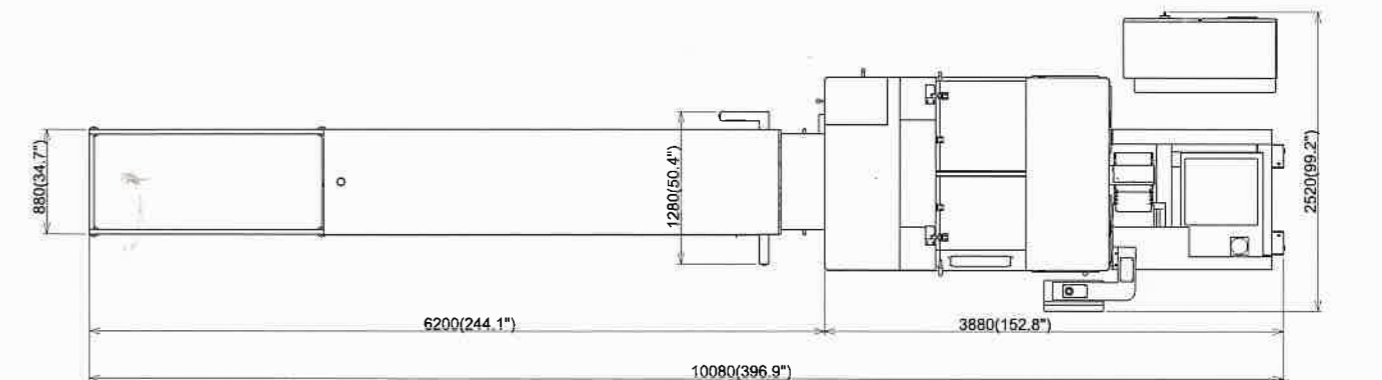
CNC Specifications

• FANUC - 30i controlled	• Rigid Tap
• Spindle Orientation	• Canned Cycle for Drilling
• Cs Contouring Control	• PMC-24000S
• Spindle Synchronous Control	• RS 232C
• 8.4" color Monitor	• Graphic Function etc.

Options

• Sub-Spindle	• Main End Slide NC driven
• Chip Conveyor	• Auto Fire Extinguisher
• High Pressure Coolant	• Mist Collector
• Coolant Cooler	• Bar feeder 4M Bar Length Spec.
• Semi-Dry Cutting Device	• Quick change tool system
• Drill Breakage Detector	• Quick change collet chuck system
• Sub Coolant Tank	• Power tool (Radial, Axial) etc.

Floor Plan



* Product specifications, accessories, and machine appearance are subjected change without notice.