

# Hi-TECH 550

15"-18" Chucker Horizontal Turning Center





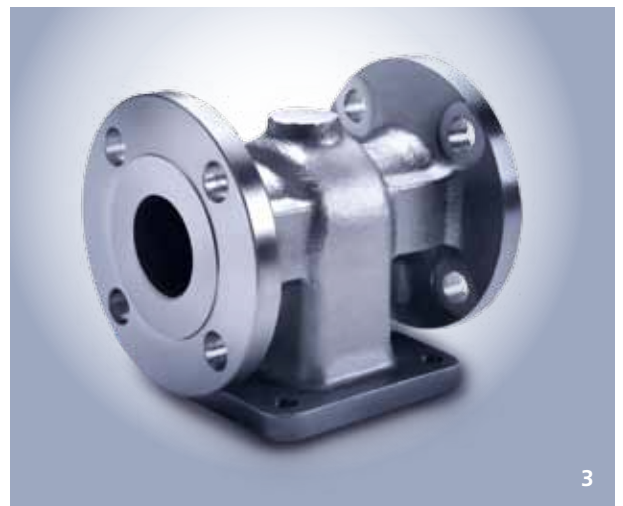
# 15"-18" CHUCKER HORIZONTAL TURNING CENTER

## High performance mid-size 15"-18" horizontal turning center

Hi-TECH 550 is equipped with the extra rigid tool post of highest durability to deliver the most stable, precision machining performance even at hard turning.

1 Spindle Housing/Machine Tool Industry/SM45C    2 Motor Housing/Machine Tool Industry/SM45C

3 Valve Body/Industrial Material/CF8M    4 Spindle Shaft/Machine Tool Industry/SNCF420



# HEAVY DUTY CUTTING WITH BOX WAY & GEAR BOX TYPE

Hwacheon's Hi-TECH 550 incorporates tough box way design which makes it an ideal turning center for heavy duty hard turning. It's equipped with a long bed for extra-length workpieces, and with the programmable tailstock and steady rest for stability and precision. Machining precision is enhanced even further because all of the Hi-TECH 550's axes can be installed with highly accurate linear scales; and the fast turret indexing time of 0.2 seconds per step will increase your productivity.







**Hand-scraped to perfection**

The guide-ways are hand-scraped and polished to the highest precision based on Hwacheon's 60 years craftsmanship experience, this to reduce vibration and allows precision feed during heavy operations.

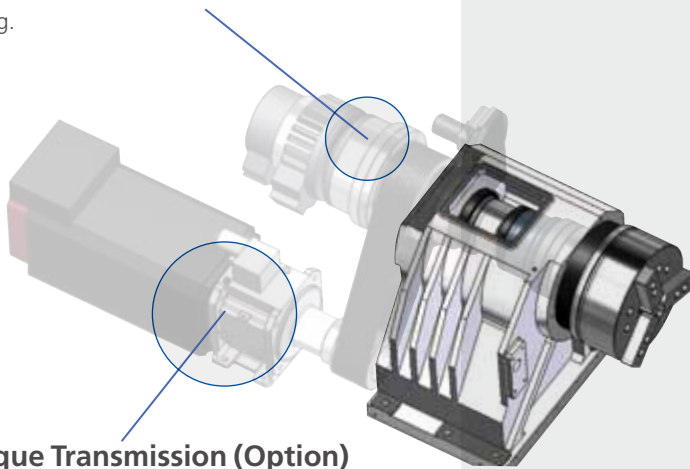


**Box Way Design**

Hi-TECH 550's box way guide design improves rigidity and precision after many hours of continued operation.

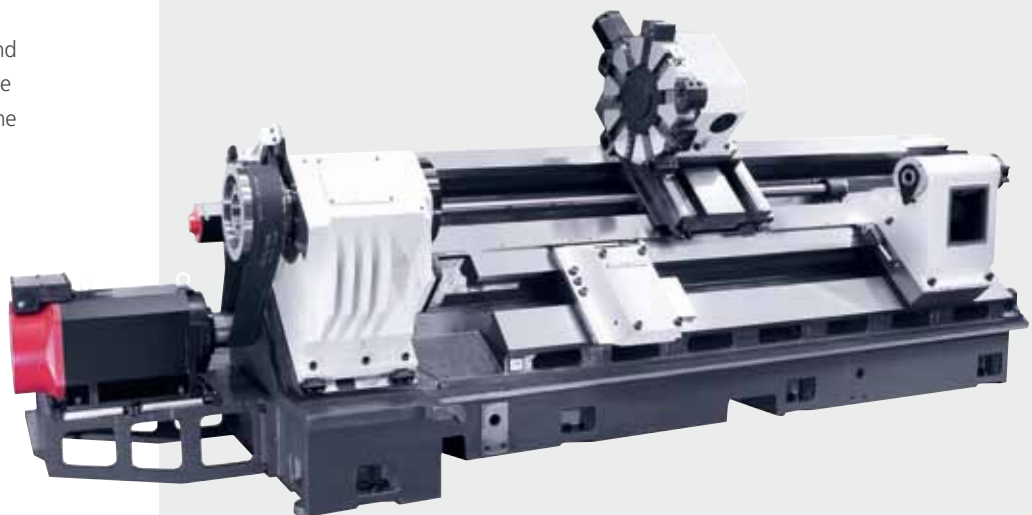
**High Performance Spindle**

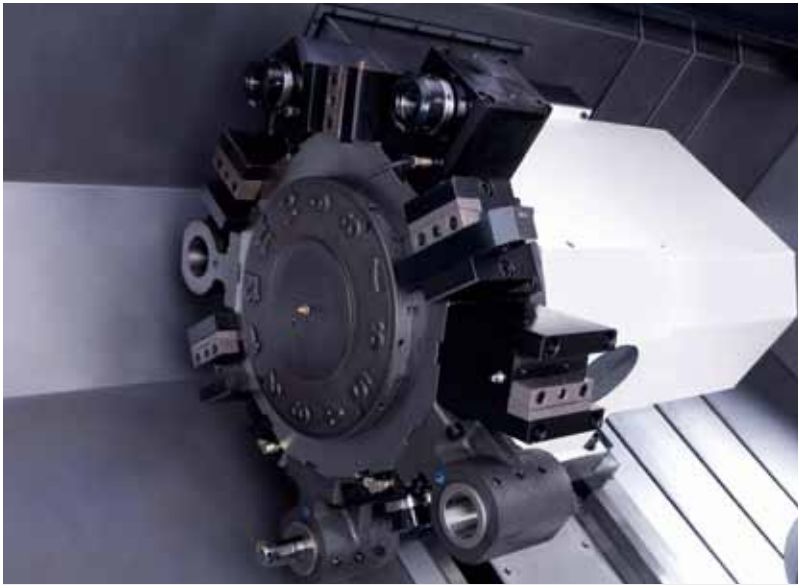
Hwacheon's unique spindle technology delivers quality and precision at high speed cutting.



**High Torque Transmission (Option)**

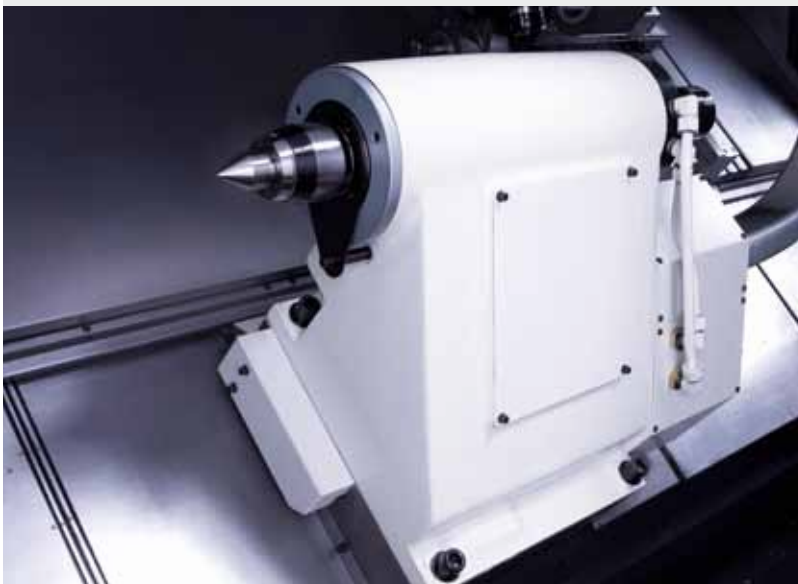
The gear-driven transmission provides power and versatility. It provides high torque at low speeds without compromising high-speed operation and performance. The transmission assembly and the spindle motor have been designed away from the spindle to limit heat and vibration transfer.





### **Tough, Rapid Indexing Turret**

The turret in Hi-TECH 550 with a powerful clamping force offers an index time of 0.2sec/step for faster, more stable machining.



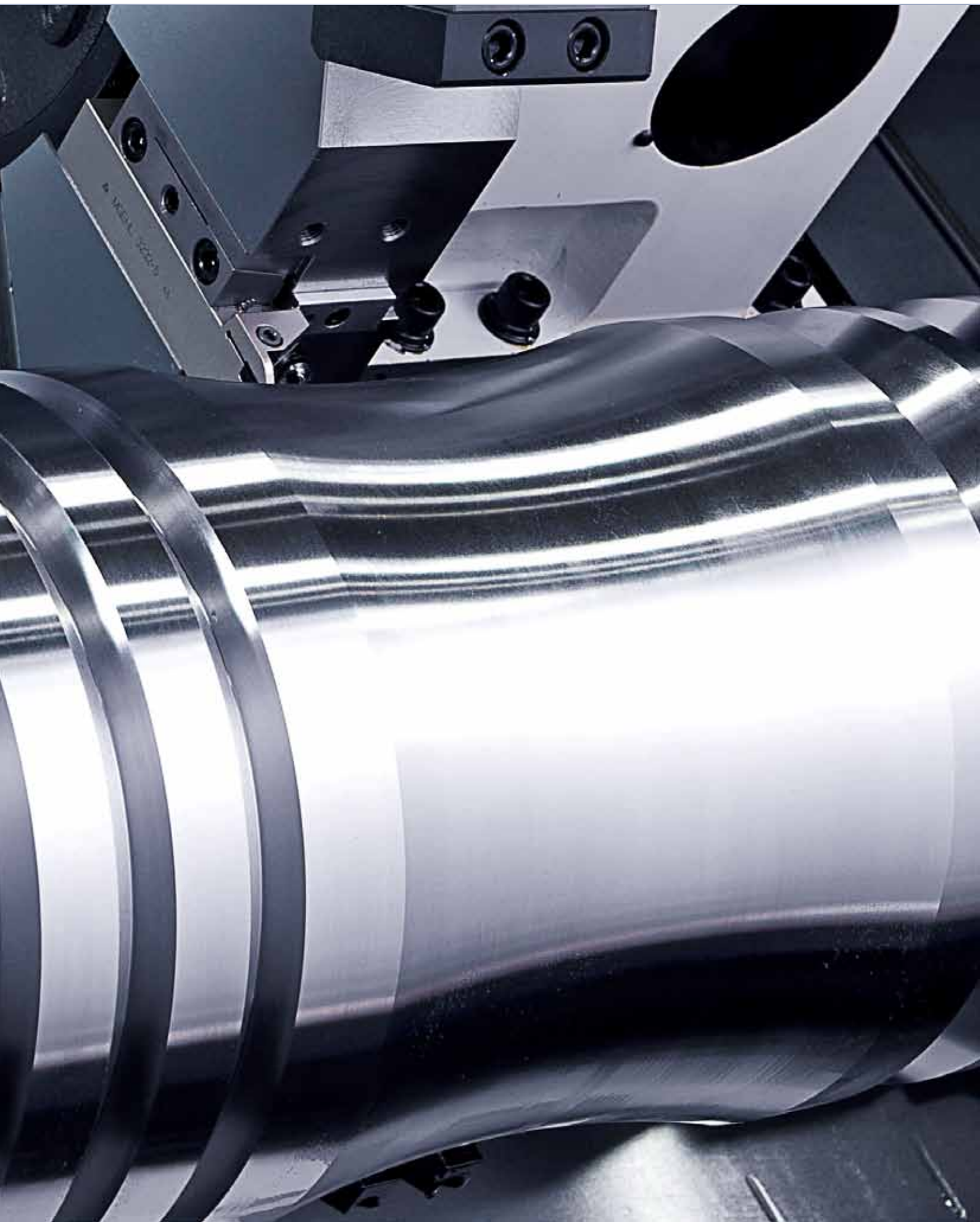
### **Programmable Tailstock (Standard)**

The tailstock can be programmed to position itself in semi-auto, and it provides firm support for extra-long workpieces to guarantee machining precision. The tail spindle can be operated either by the foot switch or by programming, while providing firm, stable oil-pressure chucking.



### **Steady Rest (Option)**

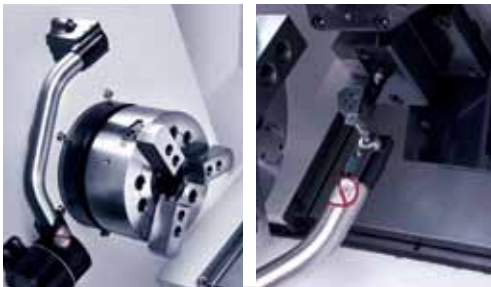
Add the Steady rest when working with extra-long workpieces to raise machining precision.





# USER FRIENDLY DESIGN, A WIDE RANGE OF OPTIONAL FEATURES

Hi-TECH 550 is designed to be user friendly, so you can concentrate on what you do best: creating quality products—without losing your valuable time to the worries of machine failure and safety. A wide variety of performance upgrade options are available for faster, more precise machining.



### Tool Presetter (Option)

The tool presetter employs a highly accurate sensor with the repeatability of 5µm or less to precisely compute for the coordinate settings in less than 15 seconds per tool. Different tool shapes and their tolerance values are entered automatically for the coordinate calculations.



### Linear Scale (Option)

To determine the coordinates with the highest of accuracy, and to correct the axis coordinate error caused by thermal displacement, the magnetic absolute output linear scales can be installed on all axes.

## L-HTLD: Hwacheon Lathe Tool Load Detect System (Option)



The Hwacheon Lathe Tool Load Detect System constantly detects and diagnoses the tool load under a process to prevent tool wear and damage, and to keep your machine and tools in optimal shape.

### Load Detection Limit 1

#### Alarm + Feed Hold

> When the LIMIT 1 Alarm sounds, the system holds the feed and the machine goes into standby.

### Load Detection Limit 2

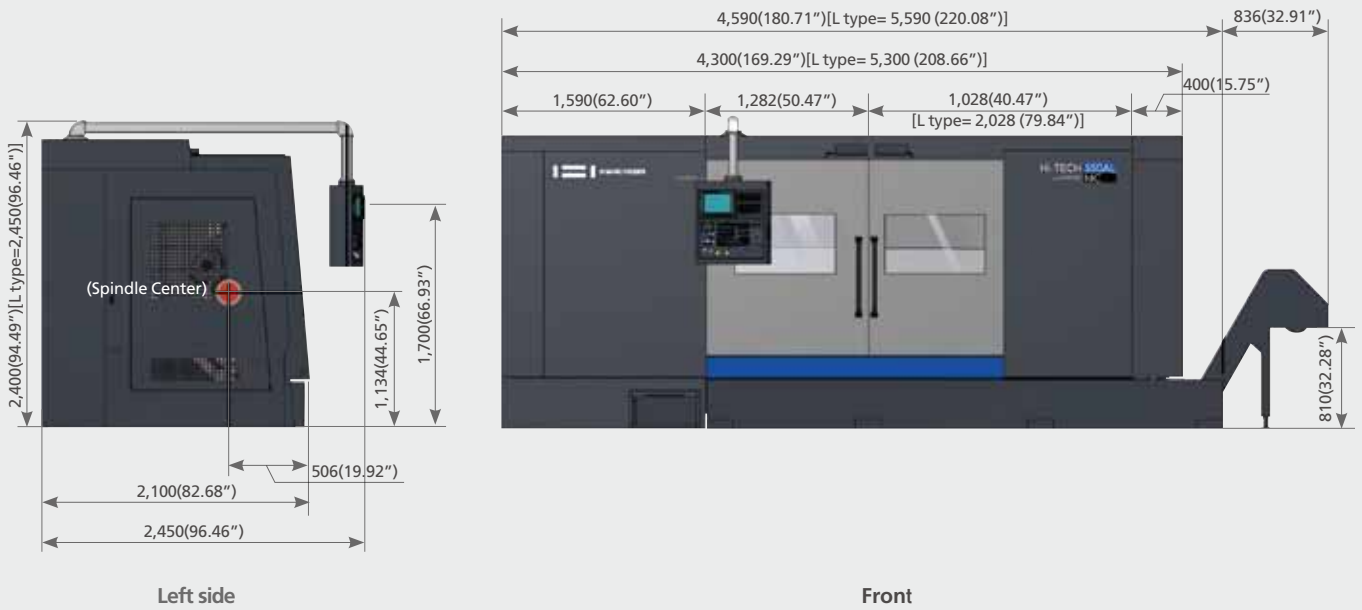
#### Alarm + Machine Stop

> When the LIMIT 2 Alarm sounds, the system stops the machine, and must be reset to operate it.



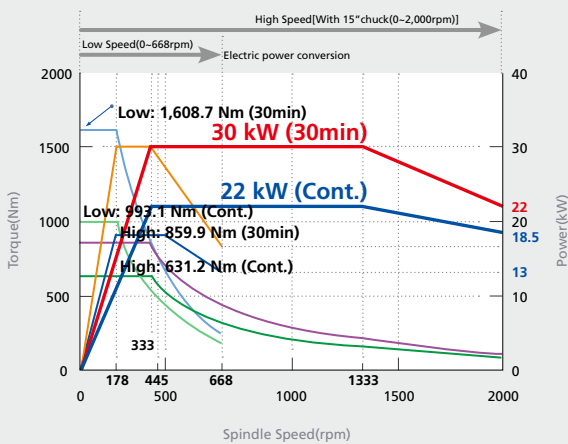
Product Data

\* Unit: mm(inch)

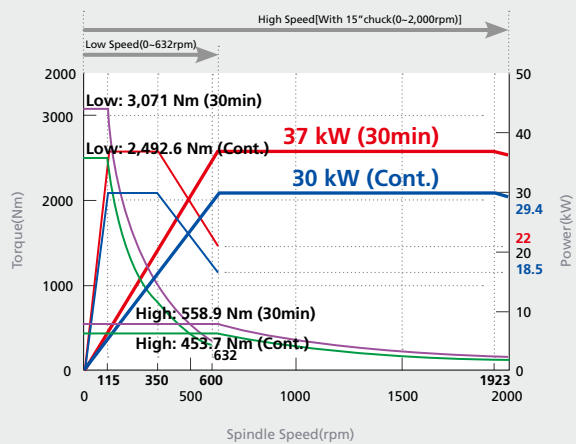


Spindle Power-Torque Diagram

Standard



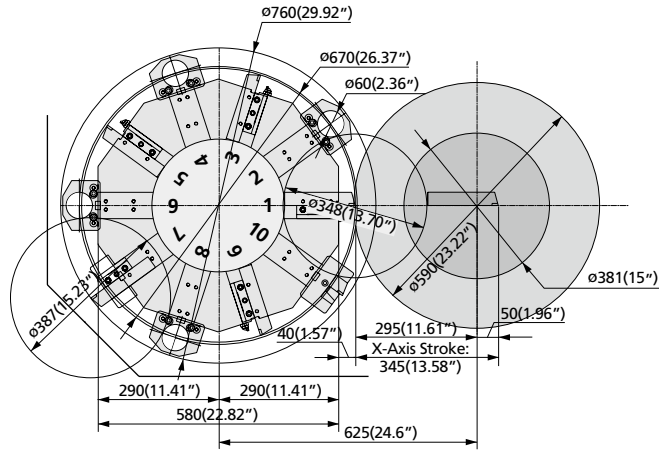
Option(with Z.F Gear Box)



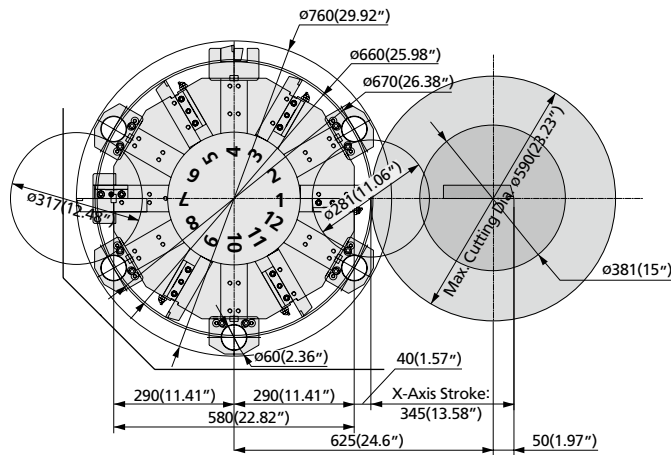
Tool Interference Diagram

※Unit : mm(inch)

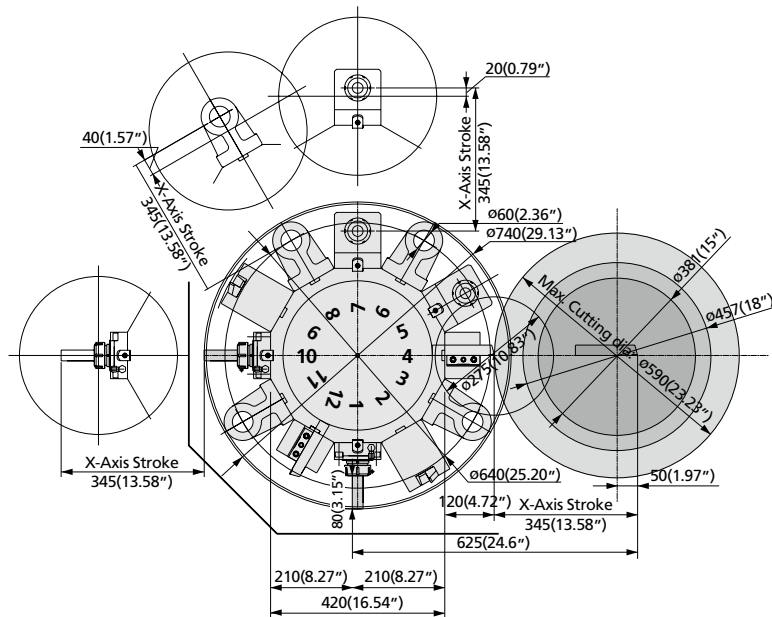
STD 10 Station



12 Station



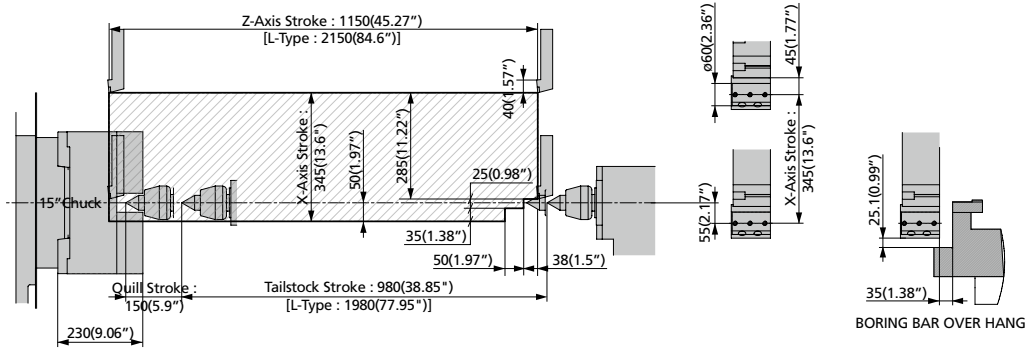
MC



Moving Range

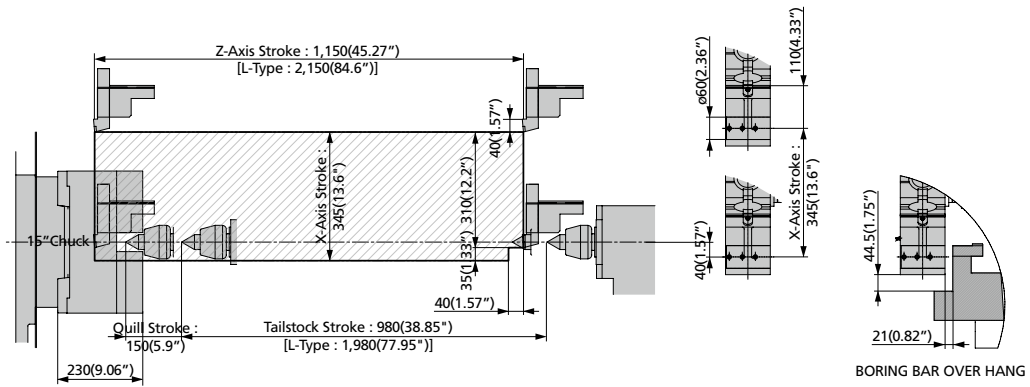
※Unit : mm(inch)

STD

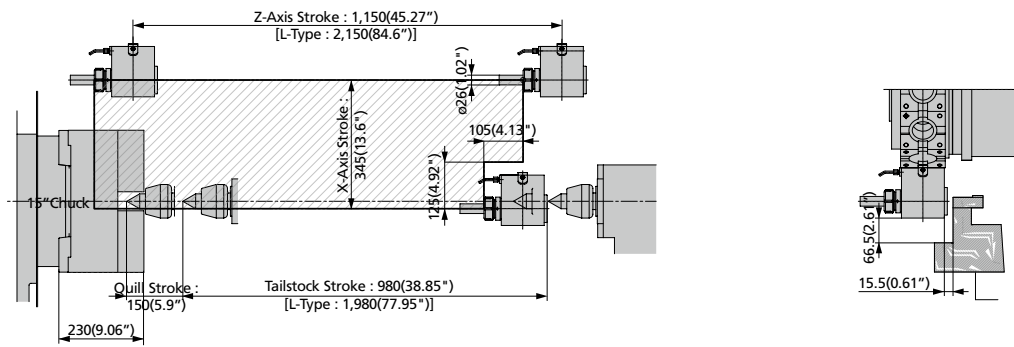


MC

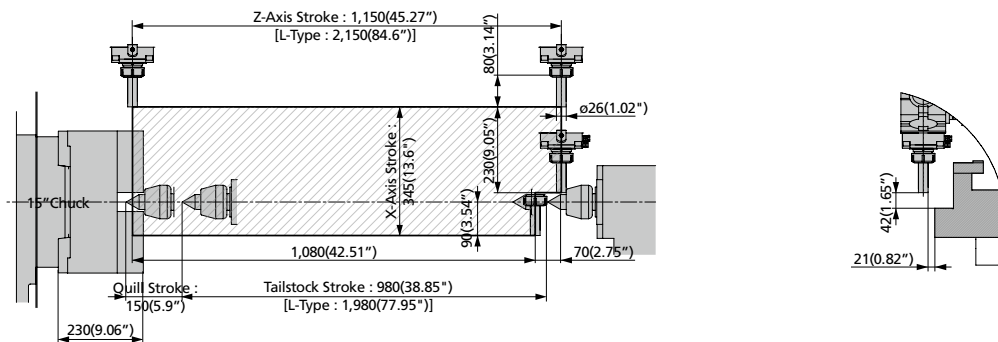
O.D Holder



Angular Turnmill Holder

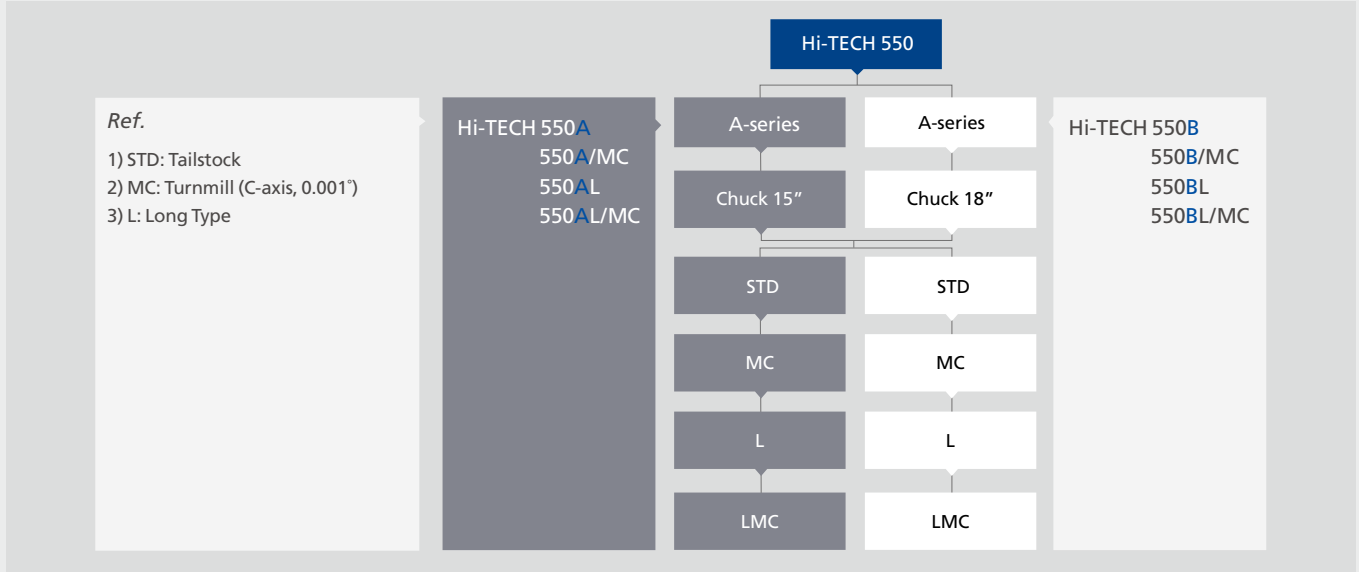


Straight Turnmill Holder



**Product Configuration**

Each product can be configured to fit your application.



Ref.

- 1) STD: Tailstock
- 2) MC: Turnmill (C-axis, 0.001")
- 3) L: Long Type

**Machine Specifications**

ITEM	Hi-TECH 550 SERIES							
	550A	550AL	550A/MC	550AL/MC	550B	550BL	550B/MC	550BL/MC
<b>Capacity</b>								
Swing over bed	mm (inch) Ø800 (31.50")							
Max. Cutting diameter	mm (inch) Ø590 (23.23")							
Standard Cutting diameter	mm (inch) Ø387 (15.23")		mm (inch) Ø275 (10.83")		mm (inch) Ø387 (15.23")		mm (inch) Ø275 (10.83")	
Max. Cutting length	mm (inch) 1,100 (43.31")	mm (inch) 2,100 (82.68")	mm (inch) 1,100 (43.31")	mm (inch) 2,100 (82.68")	mm (inch) 1,100 (43.31")	mm (inch) 2,100 (82.68")	mm (inch) 1,100 (43.31")	mm (inch) 2,100 (82.68")
Chuck Size	inch 15"				inch 18"			
<b>Spindle</b>								
Type of spindle nose	ASA A2-11							
Max. Spindle speed	rpm 2,000				rpm 1,800			
Through spindle hole diameter	mm (inch) Ø132 (5.20")							
Max. Bar size	mm (inch) Ø116 (4.57")							
Spindle bearing inner diameter	mm (inch) Ø180 (7.09")							
Spindle motor	kW (HP) 30 / 22 (40 / 30)							
<b>Turret</b>								
Number of tool station	ea 10 (Opt.: 12)		ea 12		ea 10 (Opt.: 12)		ea 12	
Tool size	mm (inch) □32 x Ø60 (□1.25" x Ø2.5")							
Turret indexing time	sec / step 0.2							
<b>Feedrates</b>								
Rapid speed (X/Z)	m/min 20 / 24		m/min 20 / 20		m/min 20 / 24		m/min 20 / 20	
Max. Stroke (X/Z)	mm (inch) 345 / 1,150 (13.58" / 45.28")	mm (inch) 345 / 2,150 (13.58" / 84.65")	mm (inch) 345 / 1,150 (13.58" / 45.28")	mm (inch) 345 / 2,150 (13.58" / 84.65")	mm (inch) 345 / 1,150 (13.58" / 45.28")	mm (inch) 345 / 2,150 (13.58" / 84.65")	mm (inch) 345 / 1,150 (13.58" / 45.28")	mm (inch) 345 / 2,150 (13.58" / 84.65")
Feed Motor (X/Z)	kW (HP) 4 / 4 (5.5 / 5.5)		kW (HP) 4 / 7 (5.5 / 9.5)		kW (HP) 4 / 4 (5.5 / 5.5)		kW (HP) 4 / 7 (5.5 / 9.5)	
<b>Tailstock</b>								
Quill dia.	mm (inch) Ø120 (4.72")							
Quill stroke	mm (inch) 150 (5.91")							
Quill taper	MT # 5							
<b>Turnmill (Opt.)</b>								
Spindle motor	kW (HP) -		kW (HP) 7.5 / 5.5 (10 / 7.5)		kW (HP) -		kW (HP) 7.5 / 5.5 (10 / 7.5)	
Max. Spindle speed	rpm -		rpm 4,000		rpm -		rpm 4,000	
Max. Drill/Tap size	mm -		mm Ø32 (1.26") / M20		mm -		mm Ø32 (1.26") / M20	
Min. Index angle	°(deg) -		°(deg) 0.001°		°(deg) -		°(deg) 0.001°	
<b>Tank Capacity</b>								
Lubrication	ℓ (gal) 12 (3.17)							
Hydraulic	ℓ (gal) 50 (13.21)							
Coolant	ℓ (gal) 250 (60)	ℓ (gal) 380 (100)	ℓ (gal) 250 (60)	ℓ (gal) 380 (100)	ℓ (gal) 250 (60)	ℓ (gal) 380 (100)	ℓ (gal) 250 (60)	ℓ (gal) 380 (100)
<b>Power Sources</b>								
Electrical power supply	kVA 75							
<b>Dimension</b>								
Height	mm (inch) 2,400(94.49")	mm (inch) 2,450(96.46")	mm (inch) 2,400(94.49")	mm (inch) 2,450(96.46")	mm (inch) 2,400(94.49")	mm (inch) 2,450(96.46")	mm (inch) 2,400(94.49")	mm (inch) 2,450(96.46")
Floor space (LxW)	mm (inch) 4,590 x 2,450 (180.71" x 96.46")	mm (inch) 5,590 x 2,450 (220.08" x 96.46")	mm (inch) 4,590 x 2,450 (180.71" x 96.46")	mm (inch) 5,590 x 2,450 (220.08" x 96.46")	mm (inch) 4,590 x 2,450 (180.71" x 96.46")	mm (inch) 5,590 x 2,450 (220.08" x 96.46")	mm (inch) 4,590 x 2,450 (180.71" x 96.46")	mm (inch) 5,590 x 2,450 (220.08" x 96.46")
Weight	kg (lb) 9,500 (20.944)	kg (lb) 12,000 (26.455)	kg (lb) 10,000 (22.046)	kg (lb) 12,500 (27.558)	kg (lb) 9,700 (21.385)	kg (lb) 12,200 (26.996)	kg (lb) 10,200 (22.487)	kg (lb) 12,700 (27.998)
NC Controller	Fanuc 0i-TD							



## Standard and Optional Product Components

Standard Accessories		Optional Accessories	
• Hydraulic chuck - hollow	• Signal lamp with 2 colors (R, G)	• Air blower	• Parts catcher
- Hi-TECH 550A: 15"	• Tailstock (MT#5)	• Air gun	• Signal lamp with 3 colors (R, G, Y)
- Hi-TECH 550B: 18"	- Tailstock Body program	• Auto door	• Spindle Motor Upgrade
• Coolant system	- Tailstock Quill program	• Bar feeder interface	37/30kW with ZF Gear box
• Door interlock	• Tooling System	• Chip conveyor & box (Side Type)	• Steady Rest
• Foot switch	• Tool kit & box	• Chuck dual pressure system	• Steady Rest Base
• Hydraulic unit (40kg/cm <sup>2</sup> )	• Work light	• Chuck pressure check switch	• Tool presetter
• Leveling bolt & plate		• Chuck pressure compensation	• Tool & work counter, External / Internal
• Manual Guide i		• Coolant gun	• Transformer
• Operation manual & part list		• High pressure coolant system, 6 bar / 15bar	• Turnmill function including C-Axis (0.001")
• Set of soft jaws		• Hard jaws	• Turnmill Spindle Motor Upgrade 11/7.5KW
		• L-HTLD (Lathe-Hwacheon Tool Load Detect)	• Turnmill holder (Axial / Radial)
		• Linear Scale (X / Z)	• U-Drill holder
		• NC cooler	

## NC Specifications [Fanuc Oi-TD]

※ - : Not available S : Standard O : Option

ITEM	SPECIFICATION	STD	MC	ITEM	SPECIFICATION	STD	MC
Controlled axis				Program input			
Controlled axis (Cs axis)	2-Axes	2-Axes	3-Axes	Tape code	EIA RS244 / ISO840	S	S
Simultaneously controlled axes	2-Axes	2-Axes	3-Axes	Optional block skip	1ea	S	S
Least input increment	0.001 mm, 0.001 deg, 0.0001 inch	S	S	Program number	O4-Digits	S	S
Least input increment 1/10	0.0001 mm, 0.0001 deg, 0.00001 inch	O	O	Sequence number	N5-Digits	S	S
inch/metric conversion	G20, G21	S	S	Decimal point programming		S	S
Stored stroke check 1		S	S	Coordinate system setting	G50	S	S
Stored stroke check 2,3		S	S	Coordinate system shift		S	S
Chamfering on/off		S	S	Workpiece coordinate system	G54-G59	S	S
Backlash compensation		S	S	Workpiece coordinate system preset	G92.1	S	S
Operation				Direct drawing dimension programming		S	S
Automatic & MDI operation		S	S	G code system	A	S	S
Program number search		S	S	Programmable data input	G10	S	S
Sequence number search		S	S	Sub program call	10 folds nested	S	S
Dry run, single block		S	S	Custom macro B		S	S
Manual handle feed	1Unit	S	S	Addition of custom macro common variables	#100-#199, #500-#999	S	S
Manual handle feed rate	x1, x10, x100	S	S	Canned cycles		S	S
Interpolation function				Multiple repetitive cycle		S	S
Positioning	G00	S	S	Multiple repetitive cycle II		S	S
Linear interpolation	G01	S	S	Canned cycles for drilling		S	S
Circular interpolation	G02, G03	S	S	Small-hole peck drilling cycle		S	S
Dwell (Per seconds)	G04	S	S	Manual guide i		S	S
Polar coordinate interpolation	G12.1 / G13.1	-	S	Spindle speed function			
Cylindrical interpolation	G7.1	-	S	Constant surface speed control	G96 / G97	S	S
Threading	G32	S	S	Spindle override	50 - 120 %	S	S
Multiple threading		S	S	Spindle orientation		S	S
Threading retract		S	S	Rigid tapping		O	S
Continuous threading		S	S	Spindle synchronous control		-	-
Variable lead threading	G34	S	S	Editing operation			
Reference position return 1st	G28	S	S	Part program storage length	1,280m (512kB)	S	S
Reference position return check	G27	S	S	Number of register able programs	400ea	S	S
2,3,4th reference position return	G30	S	S	Background editing		S	S
Feed function				Extended part program editing		S	S
Rapid traverse override	F0, F25, F50, F100	S	S	Play back		S	S
Feed per minute (mm/min)	G98	S	S	Clock function		S	S
Feed per revolution (mm/rev)	G99	S	S	Self-diagnosis function / Alarm history display		S	S
Rapid traverse bell-shaped acceleration/deceleration		S	S	Help function		S	S
Feedrate override	0-150%	S	S	Run hour and parts count display		S	S
Jog feed override	0-1,260 mm/min	S	S	Graphic function		S	S
Tool function / compensation				Dynamic graphic display		-	-
Tool function	T4-digits	S	S	Multi-language display			
Tool offset pairs	64pairs	S	S	English, German, French, Italian, Chinese, Spanish, Korean, Portuguese, Polish, Hungarian, Swedish, Russia			
Tool nose radius compensation		S	S	S			
Tool geometry/wear compensation		S	S	S			
Tool life management		O	O	Data input/output			
Automatic tool offset	Tool presetter option is required	O	O	Reader/Puncher interface CH1	RS232C	S	S
Direct input tool offset value measured B	Tool presetter option is required	O	O	Reader/Puncher interface CH2	RS232C	S	S
Others				Ethernet interface	Embedded Ethernet	S	S
Display unit	10.4" Color LCD	S	S	Memory card interface		S	S

## Hwacheon Global Network

 Hwacheon Headquarter  Hwacheon America  Hwacheon Europe  Hwacheon Asia



**HWACHEON**

Please call us for product inquiries.

[www.hwacheon.com](http://www.hwacheon.com)

The product design and specifications may change without prior notice.  
Read the operation manual carefully and thoroughly before operating the product,  
and always follow the safety instructions and warnings labels attached on the surfaces of the machines.

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