



Hi-TECH 700

Extra-Large Horizontal Turning Center



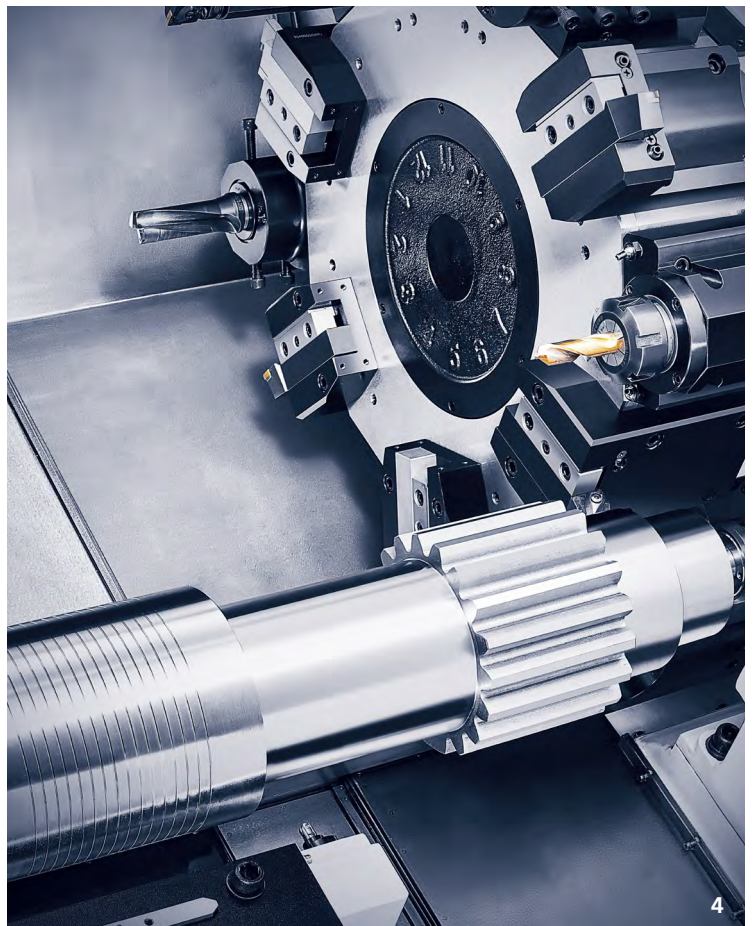
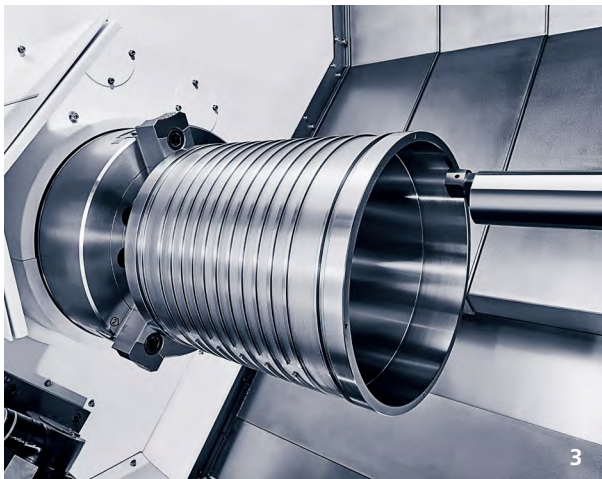
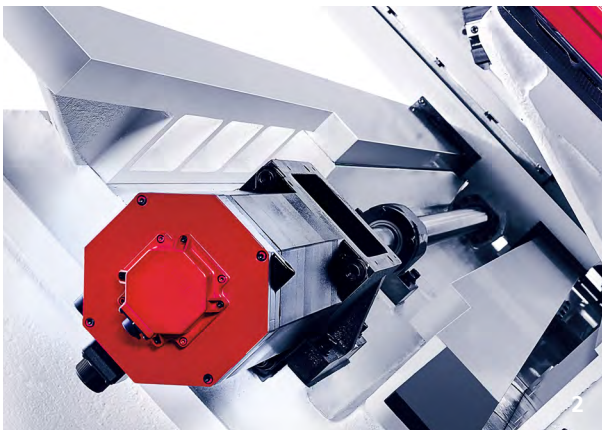


HEAVY-DUTY HORIZONTAL TURNING CENTER

Best structure for Heavy Duty Turning

Hi-TECH 700 is capable of handling heavy duty turning and milling in a single process. Its extra-rigid Turret, the stability provided by the one piece casting bed and box way design are ideal for turning of large sized workpieces.

1 Spindle Housing / Sample / SM45C 2 Box way slide
3 Motor Housing/Machine Tool Industry/SM45C 4 Customization Design



HIGH PERFORMANCE EXTRA-LARGE TURNING CENTER

Hi-TECH 700 has a integrated 45-degree slant bed frame to minimize heat distortion, all guide way are designed as solid Box guide ways to maintain rigidity and precision even during prolonged operations. Its automatic transmission system allows low-speed, high-torque turning as well as high-speed machining, Hwacheon's advanced, patented design prevents deterioration of the workpiece from thermal displacement





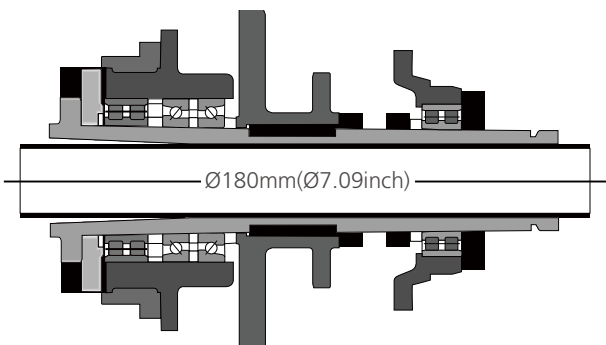
Hand-Scraped to Perfection

The guide-ways are hand-scraped and polished to the highest precision based on Hwacheon's 70 years craftsmanship experience, this to reduce vibration and allows precision feed during heavy operations.

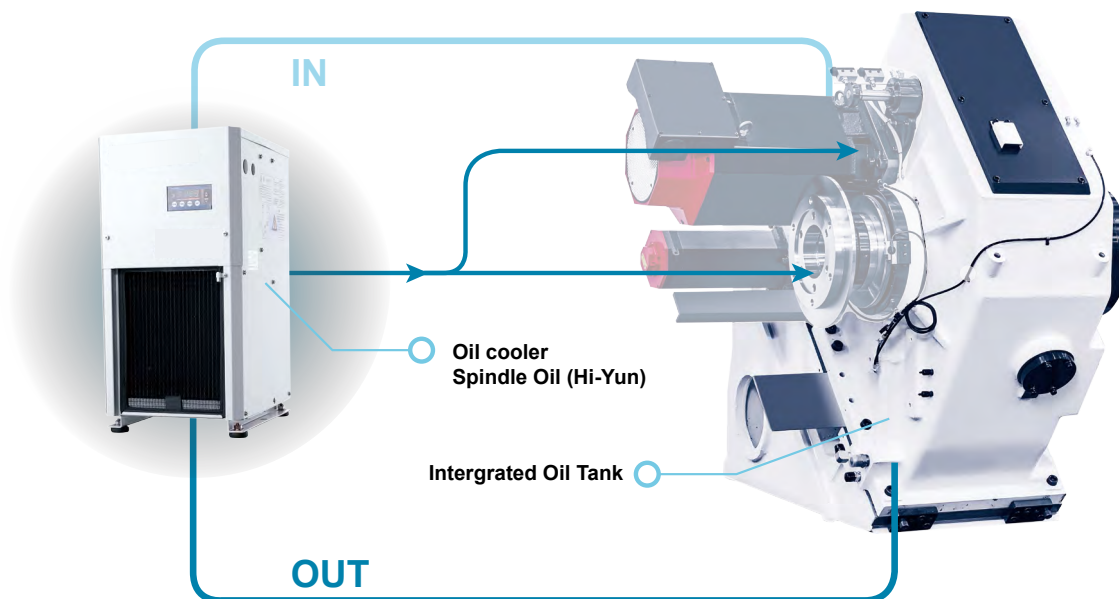


Box Way Design

Hi-TECH 700's box way guide design improves rigidity and precision after many hours of continued operation.



- Ultra-precision Ø180mm(Ø7.09inch) double row of cylindrical roller bearings in the front and duplex angular thrust bearings ensure excellent stability for heavy duty cutting
- By adopting the powerful spindle motor 37kW(Opt. 45kW). Heavy duty cutting and abnormal workpiece can be possible with superior machining



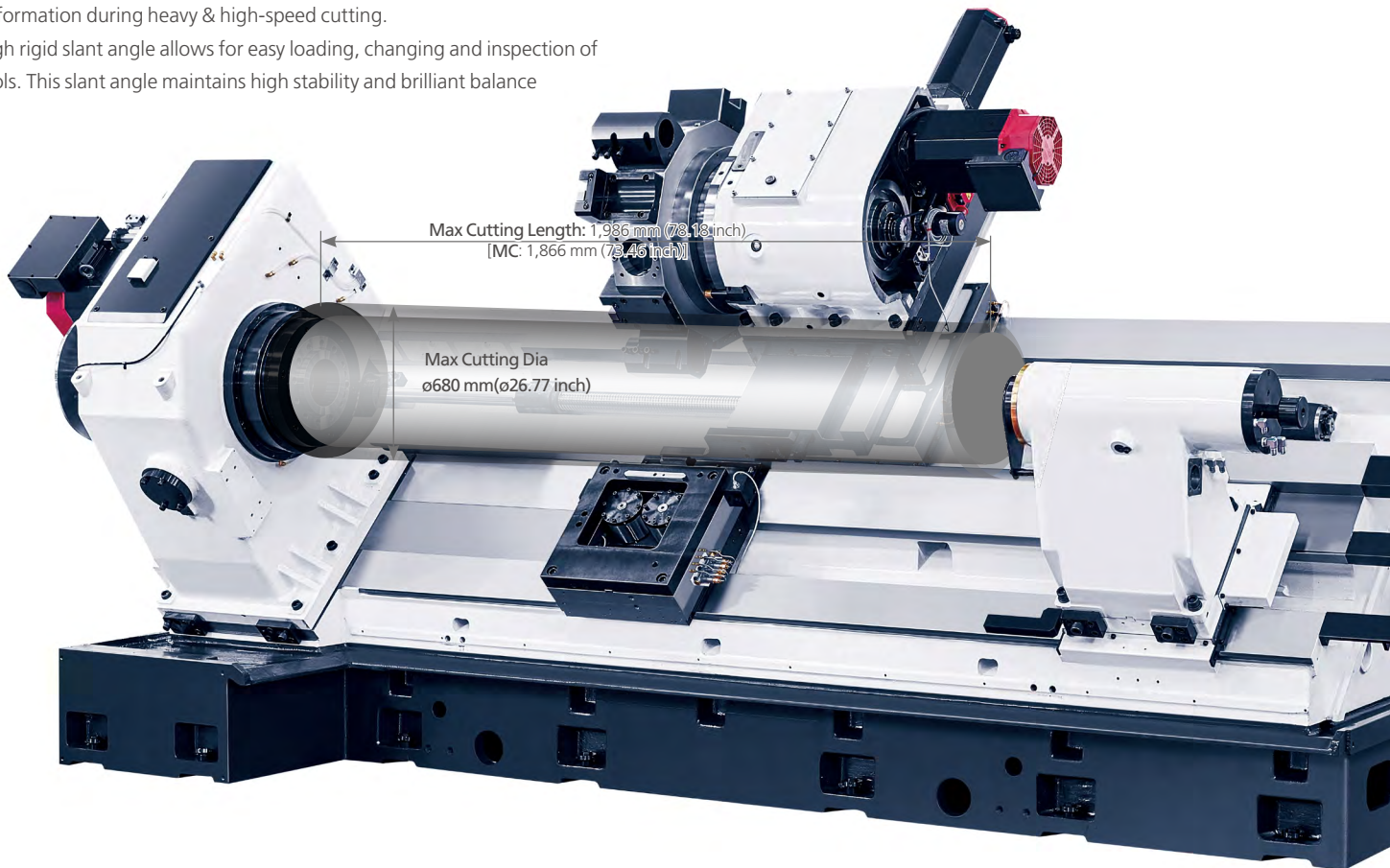
-The thermal deformation of the spindle is minimized. Because generated heat is removed by Jet Lubrication system as well as circulating jacket inside. For this reason, the accuracy of the machining is raised and constantly stabilized.

Chuck Size(inch)	: 15 (Opt. 18 / 21 / 24)
Type of Spindle Nose(ASA)	: A2-11
Max. Spindle speed(rpm)	: 1,800
Spindle Motor power(kW/HP)	: 37/30 (50/40)

High Rigid, Stable Bed Frame

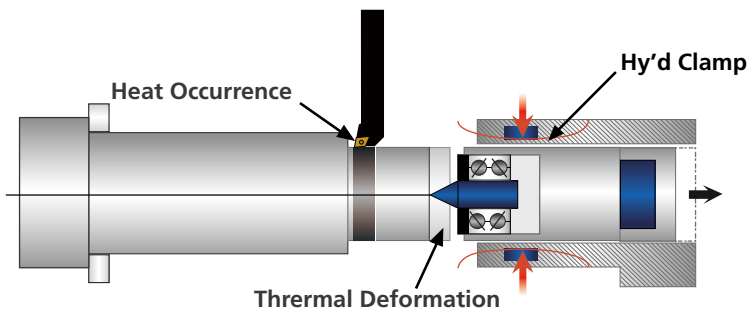
The heavily ribbed torque tube design processed with fine grain meehanite prevents twisting and deformation. This design ensure high rigidity with no deformation during heavy & high-speed cutting.

High rigid slant angle allows for easy loading, changing and inspection of tools. This slant angle maintains high stability and brilliant balance



The Programmable Hydraulic 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 built-in Tailstock can be operated either by the foot switch or by programming, while providing firm, stable oil-pressure chucking.



- The quill is activated by foot pedal or program.
- The Tailstock Body is activated by program.
- Absorbed thermal deformation ensures high precision machining



Quill Dia	: Ø150mm (Ø5.9inch)
Quill Stroke	: 150mm (5.9inch)
Tailstock Stroke	: 1,878mm (73.93inch)
Quill Taper	: MT#5



USER FRIENDLY DESIGN, A WIDE RANGE OF OPTIONAL FEATURES

Hi-TECH 700 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 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.

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



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

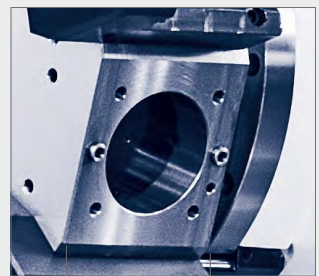
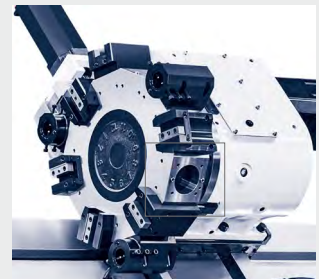
> When the LIMIT 1 Alarm sounds, the system holds the feed and the machine goes into standby.

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.

Wide type Turret Disk (Option)

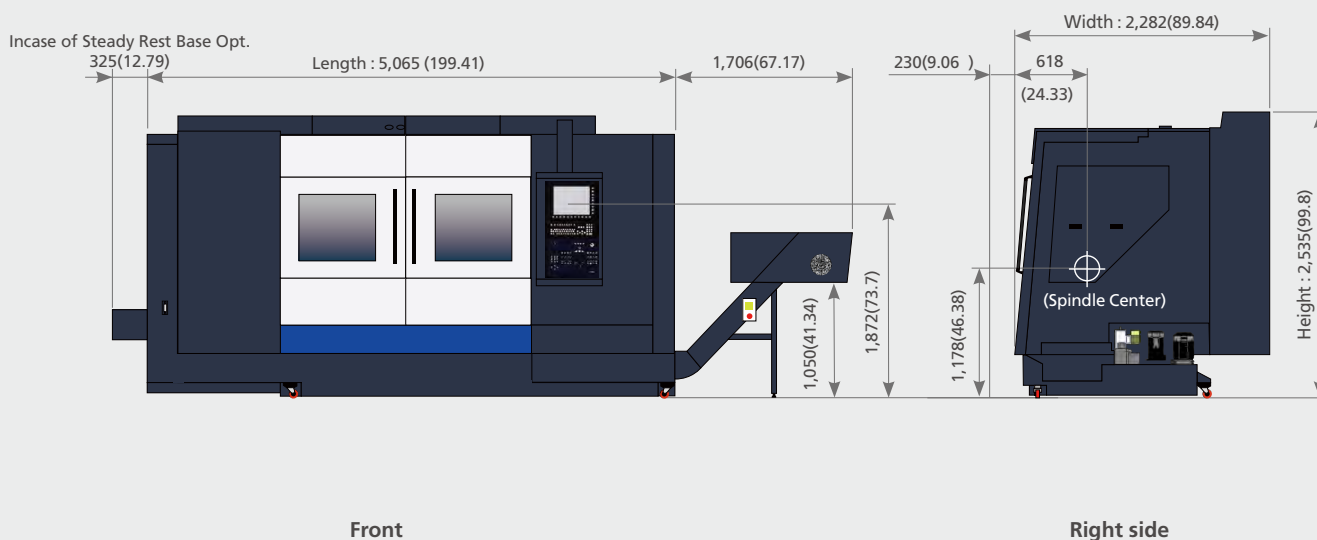


* Unit: mm(inch)

Width of Turret Disk	
Std. type Turret Disk	: 135(5.31)
Wide type Turret Disk	: 200(7.87)
MC type Turret Disk	: 166(6.53)
Wide type Turret Disk	: 200(7.87)

Product Data

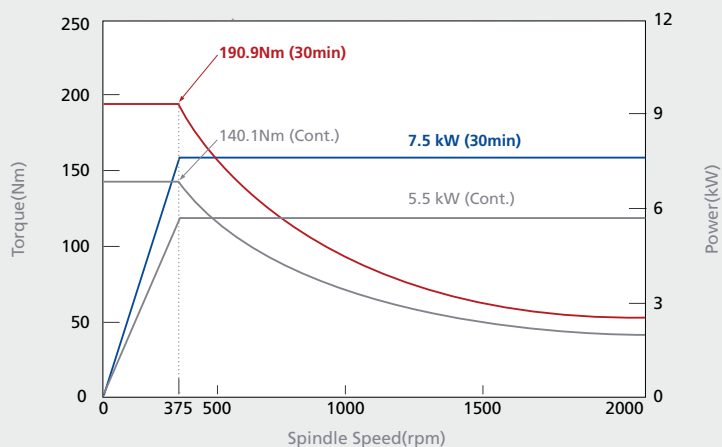
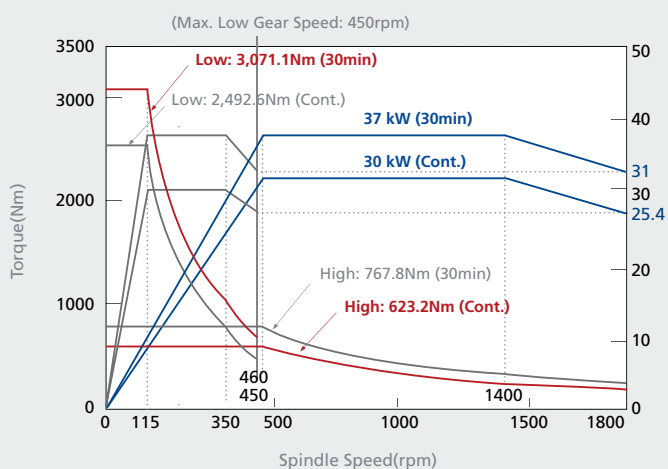
* Unit: mm(inch)



Spindle Power-Torque Diagram

Hi-TECH 700 / Std.

Hi-TECH 700 / MC (Turnmil)

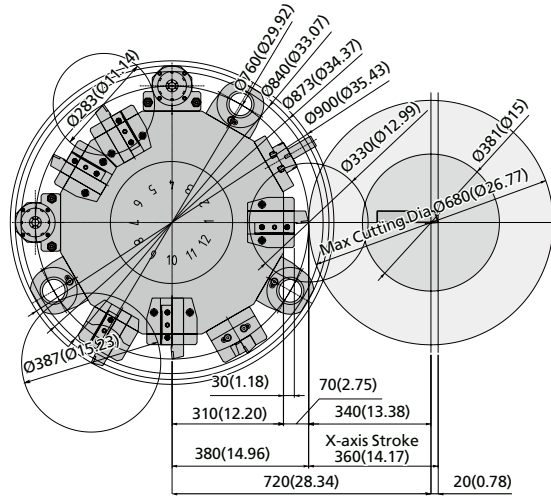
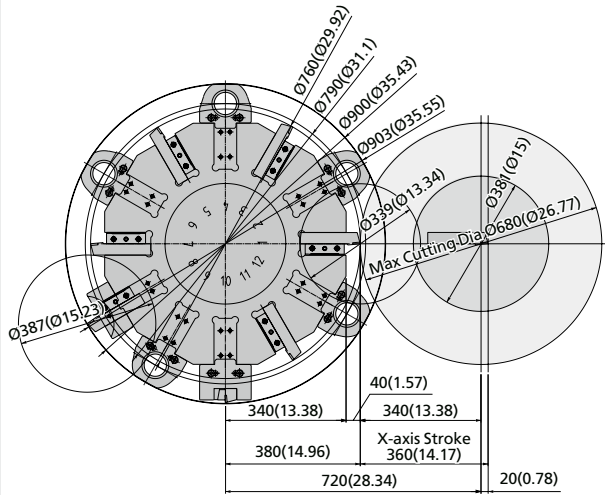


Tool Interference Diagram

※ Unit : mm(inch)

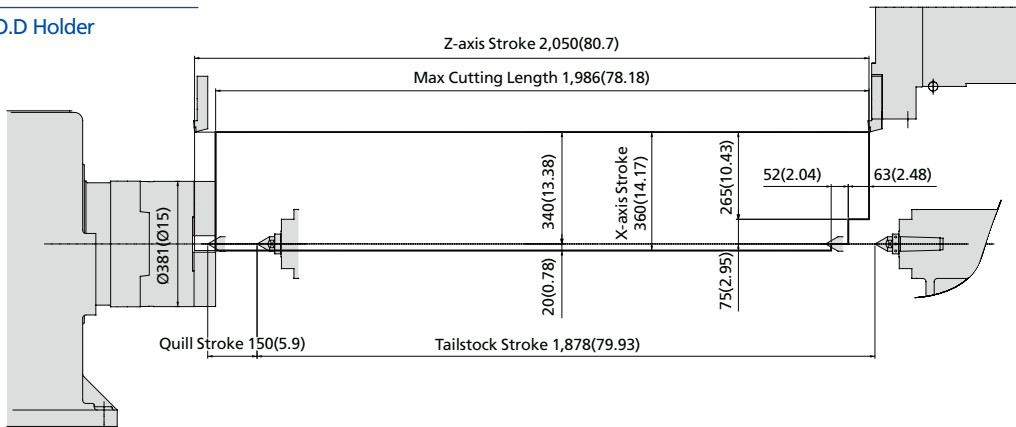
Hi-TECH 700 /Std.

Hi-TECH 700/MC

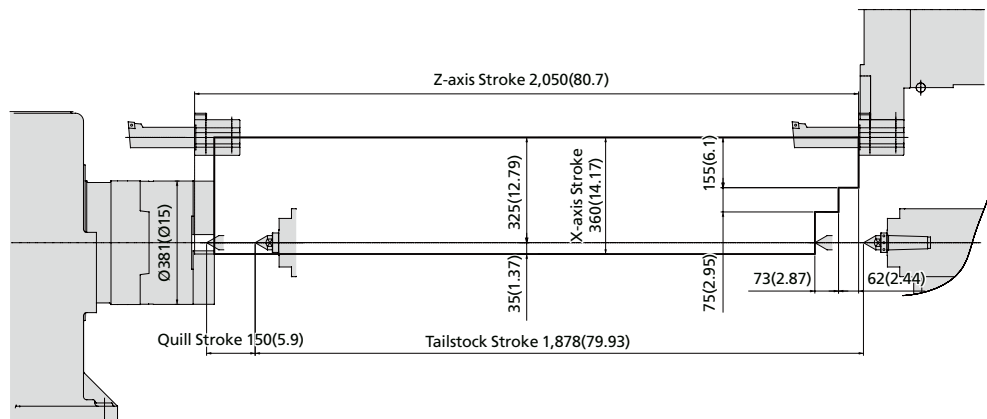


Moving Range Standard

O.D Holder



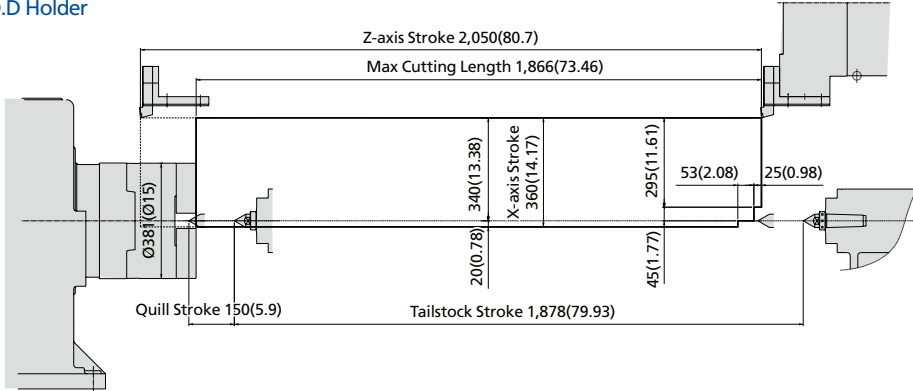
I.D Holder



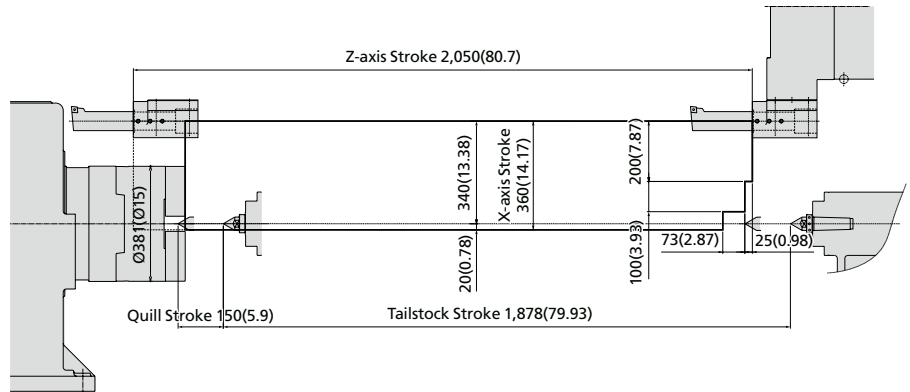
Moving Range
MC

※Unit: mm(inch)

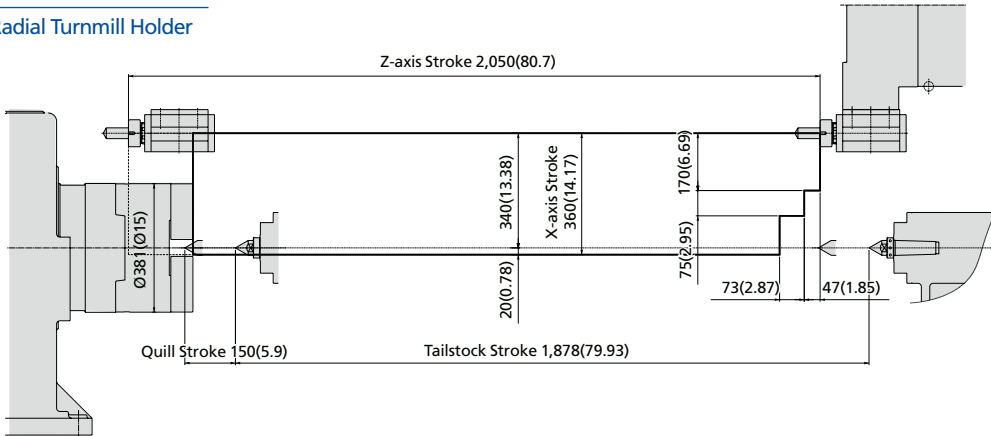
O.D Holder



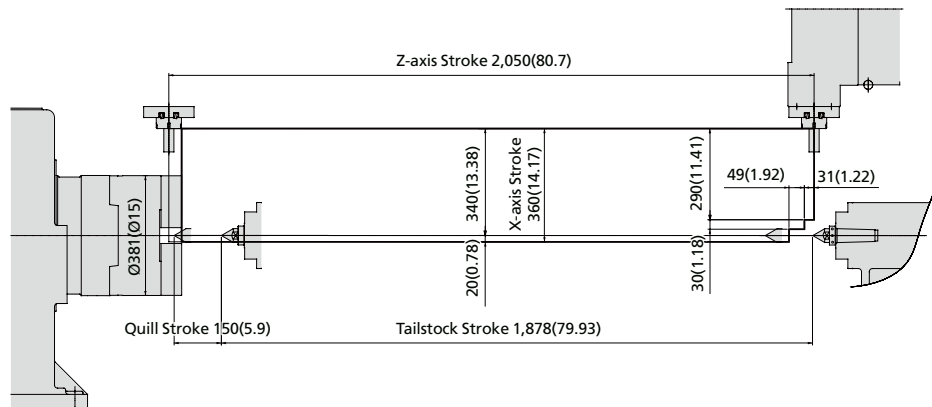
I.D Holder



Radial Turnmill Holder

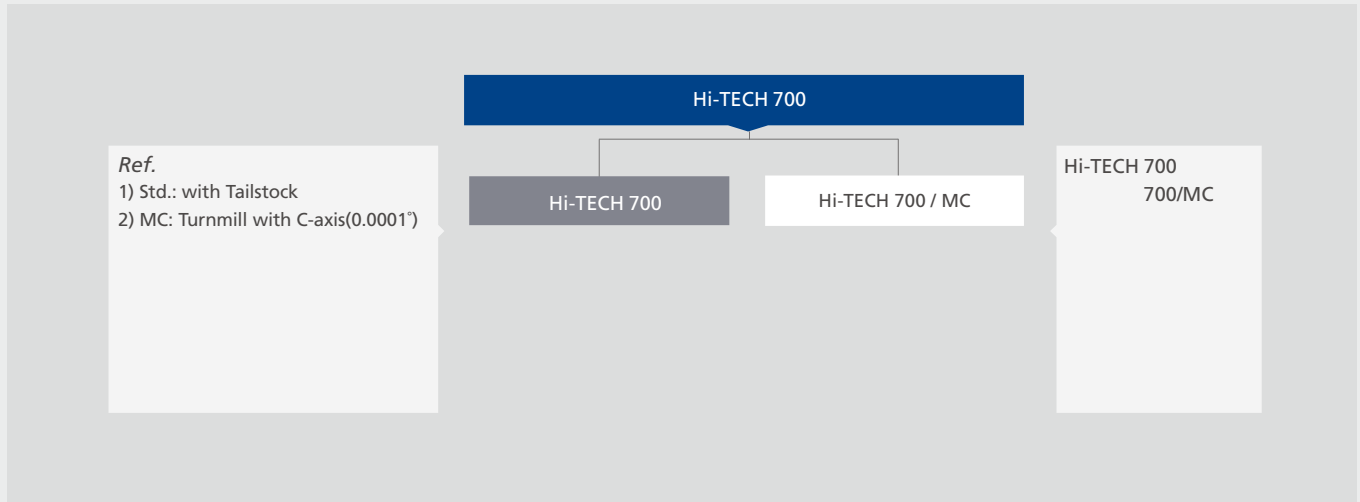


Axial Turnmill Holder



Product Configuration

Each product can be configured to fit your application.



Machine Specifications

ITEM	Hi-TECH 700 SERIES	
	Hi-TECH 700	Hi-TECH 700/MC
Capacity		
Swing over Bed	mm (inch)	Ø900 (Ø35.43)
Max Cutting Diameter	mm (inch)	Ø680 (Ø26.77)
Standard Cutting Diameter	mm (inch)	Ø387 (Ø15.23)
Max Cutting Length	mm (inch)	1,986 (78.18)
Chuck Size	inch	15
Spindle		
Type of Spindle Nose	ASA	A2-11
Max Spindle Speed	rpm	1,800
Through Spindle Hole Diameter	mm (inch)	Ø132 (Ø5.2)
Max Bar Size	mm (inch)	Ø116 (Ø4.56)
Spindle Bearing Inner Diameter	mm (inch)	Ø180 (Ø7.09)
Spindle Motor	kW (HP)	37 / 30 (50 / 40)
Turret		
Number of Tool Station	ea	12
Tool Size	mm (inch)	□32 x Ø60 (□1.25 x Ø2.5)
Turret Indexing Time	sec / step	0.4
Axes		
Rapid Traverse (X / Z)	m/min (ipm)	18 / 18 (709 / 709)
Max Stroke (X / Z)	mm (inch)	360 / 2,050 (14.17 / 80.70)
Feed Motor (X / Z)	kW (HP)	6 / 6 (8 / 8)
Tailstock		
Quill Dia	mm (inch)	Ø150 (Ø5.9)
Quill Stroke	mm (inch)	150 (5.9)
Quill Taper	MT	# 5
Turnmill		
Spindle Motor	kW (HP)	-
Max Spindle Speed	rpm	-
Max Drill / Tap Size	mm (inch)	-
Min Index Angle	deg	-
Tank Capacity		
Lubrication	ℓ (gal)	12 (3.2)
Hydraulic	ℓ (gal)	50 (13.2)
Coolant	ℓ (gal)	300 (79)
Power Sources		
Electrical Power Supply	kVA	75
Dimension		
Height	mm (inch)	2,535 (99.8)
Floor Space (L x W)	mm (inch)	5,065 x 2,282 (199.41 x 89.84)
Weight	kg _r (lb _r)	17,350 (38,250)
NC Controller		
Fanuc 0i-TF Plus		

Standard and Optional Product Components





Standard Accessories		Optional Accessories	
• Coolant System	• Manual Guide i	• Air Blower	• NC Cooler
• Door Interlock	• Operation Manual & Parts List	• Air Gun	• Oil Skimmer
• Dual Pressure (C-axis brake)	• Signal Lamp with 3 Colors (R, G, Y)	• Bar Feeder Interface	• Set of Hard Jaw (15" / 18" / 21" / 24")
• Foot Switch	• Spindle Air Curtain	• Chip Conveyor & Box, Side Type	• Spindle Motor Upgrade, 45/37kW (60/50HP)
• Hydraulic Chuck&Cylinder,15"Hollow	• Spindle Cooling System	• Chuck Clamp/Unclamp Confirm Switch	• Tool & Work Counter, External / Internal
• Hydraulic Unit	• Standard Turret, 12 Stations	• Chuck Pressure Check Switch	• Tool Presetter (Automatic)
• HLVC (Hwacheon Lathe Vibration Control)	• Tailstock with Dead Center (MT#5)	• Chuck Pressure Compensation	• Transformer
• L-HTLD (Lathe-Hwacheon Tool Load Detect)	- Tailstock Body Program	• Coolant Gun	• Turnmill Function Including C-axis (0.0001°)
• L-CAL (Lathe Calculator Function)	- Tailstock Quill Program	• Dual Pressure (Chuck)	• Turnmill Holder, Axial / Radial
• L-COUNT (Work / Tool Counter Management)	• Tooling System	• High Pressure Coolant	• Turret for VDI 60
• Leveling Bolt & Plate	• Tool Life Management	- 0.6 / 1.5 / 3 / 7 MPa	• U-Drill Holder
• Lubrication System	• Tool Kit & Box	*For 7 MPa, only water soluble	• Wide Type Turret Disk-BMT75
	• Work Light	coolants are available	• 15" Touch type display (only FANUC)
	• 15" Non touch display (only FANUC)	• Hydraulic Chuck, 18" / 21" / 24"	
		• Hydraulic Steady Rest Base Set	
		• Hydraulic Steady Rest Set	

NC Specifications [Fanuc Oi-TF Plus]

※ - : 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	Decimal point programming		S	S
Simultaneously controlled axes	2-Axes	2-Axes	3-Axes	Coordinate system setting	G50	S	S
Least input increment	0.001mm, 0.0001deg, 0.0001inch	S	S	Coordinate system shift		S	S
Least input increment 1/10	0.0001mm, 0.00001inch	O	O	Workpiece coordinate system	G52-G59	S	S
inch/metric conversion	G20, G21	S	S	Workpiece coordinate system preset	G92.1	S	S
Stored stroke check 1,2,3		S	S	Direct drawing dimension programming		S	S
Chamfering on/off		S	S	G code system	A	S	S
Backlash compensation		S	S	Programmable data input	G10	S	S
Operation				Sub program call	10Folds Nested	S	S
Automatic & MDI operation		S	S	Custom macro B		S	S
Program number search		S	S	Addition of custom macro -common variables	#100-#199, #500-#999	S	S
Sequence number search		S	S	Canned cycles		S	S
Dry run, single block		S	S	Multiple repetitive cycle		S	S
Manual handle feed	1Unit	S	S	Multiple repetitive cycle II		S	S
Manual handle feed rate	x1, x10, x100	S	S	Canned cycles for drilling		S	S
Interpolation function				Manual Guide i		S	S
Positioning	G00	S	S	Spindle speed function			
Linear interpolation	G01	S	S	Constant surface speed control	G96 / G97	S	S
Circular interpolation	G02, G03	S	S	Spindle override	0-150%	S	S
Dwell (Per seconds)	G04	S	S	Spindle orientation		S	S
Polar coordinate interpolation	G12.1/G13.1	-	S	Rigid tapping		S	S
Cylindrical interpolation	G7.1	-	S	Spindle synchronous control		-	-
Threading	G32	S	S	Editing operation			
Multiple threading		S	S	Part program storage length	5,120 m (2MB)	S	S
Threading retract		S	S	Number of register able programs	Max.1000 ea	S	S
Continuous threading		S	S	Background editing		S	S
Variable lead threading	G34	S	S	Extended part program editing		S	S
Reference position return 1st	G28	S	S	Play back		S	S
Reference position return check	G27	S	S	Operation/Display			
2,3,4th reference position return	G30	S	S	Clock function		S	S
Arbitrary speed threading		O	O	Self-diagnosis function		S	S
Feed function				Alarm history display		S	S
Rapid traverse override	F0, F25, F50, F100	S	S	Help function		S	S
Feed per minute (mm/min)	G98	S	S	Run hour and parts count display		S	S
Feed per revolution (mm/rev)	G99	S	S	Graphic function		S	S
Rapid traverse bell-shaped acceleration/deceleration		S	S	Multi-language display	English, German, French, Italian, Chinese, Spanish, Korean, Portuguese, Polish, Hungarian, Swedish, Russian	S	S
Feedrate override	0-150 %	S	S	Data input/output			
Jog feed override	0-1,260 mm/min	S	S	Ethernet interface		S	S
Tool function / compensation				Memory card interface		S	S
Tool function	T4-digits	S	S	USB card interface		S	S
Tool offset pairs	128pairs	S	S	Others			
Tool nose radius compensation		S	S	Display Unit	15" Non touch display	S	S
Tool geometry/wear compensation		S	S	Fanuc i-HMI	15" Touch type display	O	O
Tool life management		S	S	HWACHEON Machining Software			
Automatic tool offset	Tool presetter option is required	S	S	L-HTLD (Hwacheon Tool Load Detect System)		S	S
Direct input tool offset value measured B	Tool presetter option is required	S	S	L-CAL (Lathe Calculator Function)		S	S
Program input				L-COUNT (Work / Tool Counter Management)		S	S
Tape code	EIA / ISO	S	S	HLVC (Hwacheon Lathe Vibration Control)		S	S
Optional block skip	9ea	S	S	M-VISION Pro		O	O
Program number	O4-digits(1-9999)	S	S				
Sequence number	N8-Digits	S	S				

Hwacheon Global Network

 Hwacheon Headquarter  Hwacheon America  Hwacheon Europe  Hwacheon Asia



HWACHEON

Please contact us for product inquiries.

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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