

Hi-TECH 350

Box Way, Y-Axis, 8"-10" Chucker Horizontal Turning Center

HS-T127-R1.0-20150323



MULTI AXIS HEAVY DUTY CUTTING WITH BOX WAY

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Hi-TECH 350 is the pinnacle of Hwacheon technology. Its box way structure will enable to maintain high-rigidity and high-precision machining, while offering the largest turning diameter as well as turning length among today's mid-size lathes. A variety of options, such as Y-axis, provide higher flexibility. Hi-TECH 350 can be configured to ensure the perfect setup for your production needs and requirements - whether you have to manufacture is a hydraulic valve, connectors, flanges or long shafts.



※Main Features

1. High-Performance Large T/C

- Max. Cutting Dia. Ø 420mm (Best in its class)
- Max. Cutting Length 673mm ~ 1,273mm
- Chuck Size: 8"/10

2. Best Structure for Heavy Duty Cutting

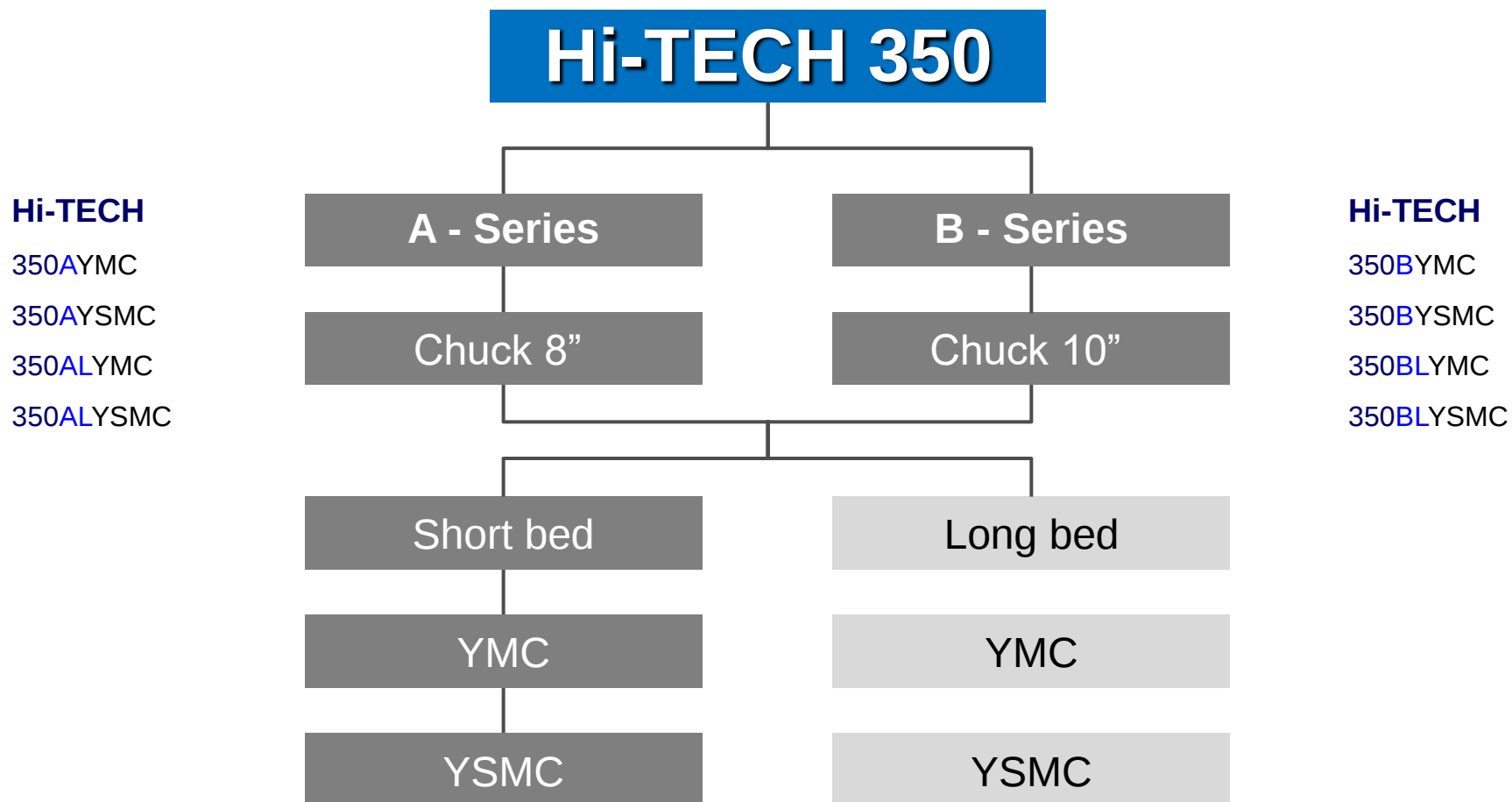
- High-Spindle Torque
 - A-Type : 18.5/15kW (Opt. 22/18.5kW)
 - B-Type : 22/18.5kW
 - Max. Torque: A-Type : 164.9Nm / B-Type : 245Nm
 - Max. Spindle Speed 5,000/4,000rpm
- High-Speed, High-Performance Servo Turret
 - Turret Indexing Time: 0.25sec/1step
 - BMT65 or VDI 40 holder
- The rigid bed frame with 30° slant angle

3. Realization of Multi Machining

- Y-Axis(Standard)
 - Stroke of Y-Axis: 120mm (±60mm)
 - Rapid speed of Y-Axis: 10m/min
- Sub Spindle
 - 8" Hy'd Chuck & Cylinder
 - Spindle Motor 7.5/5.5kW(10/7.5HP), 4,000rpm

4. Multi Functions

- Various Steady Rest (Max. Ø200mm)
 - Programmable Steady Rest-Body Program(Opt.)
- Tailstock Body & Quill Program (Std.)
- Automatic Tool Presetter (Opt.)



Ref. L : Long Type **YMC** : Y-axis + Turnmill [C-Axis(0.001°)] **YSMC** : Y-axis + Turnmill [C-Axis(0.001°)] + Sub Spindle

Machine Specification 【Hi-TECH 350】

Item		Hi-TECH350A YMC(YSMC)	Hi-TECH350AL YMC(YSMC)	Hi-TECH350B YMC(YSMC)	Hi-TECH350BL YMC(YSMC)
● <u>Capacity</u>					
Swing over Bed	mm(inch)	Ø700 (27.56")			
Swing over Saddle	mm(inch)	Ø550 (21.65")			
Max. Cutting Dia.	mm(inch)	Ø420 (16.54")			
Standard Cutting Dia.	mm(inch)	Ø254 (10")			
Max. Cutting Length	mm(inch)	673(26.49")	1,273(50.11")	661(26.02")	1,261(49.64")
Chuck Size (Main & Sub)	inch	8" [Sub: 8"]		10" [Sub: 8"]	
● <u>Spindle (Main & Sub)</u>					
Type of Spindle Nose	ASA	A2-6 [Sub: A2-6]		A2-8 [Sub: A2-6]	
Max. Spindle Speed	rpm	5,000 [Sub: 4,000]		4,000 [Sub: 4,000]	
Through Spindle Hole Dia.	mm(inch)	Ø75 (2.95") [Sub: Ø62(2.44")]		Ø90 (3.54") [Sub: Ø62(2.44")]	
Max. Bar Size	mm(inch)	Ø65 (2.56") [Sub: Ø51(2.01")]		Ø76 (2.99") [Sub: Ø51(2.01")]	
Spindle Bearing Inner Dia.	mm(inch)	Ø100 (3.94") [Sub: Ø100 (3.94")]		Ø130 (5.11") [Sub: Ø100 (3.94")]	
Spindle Motor	kW(HP)	18.5/15 (25/20) [Sub: 7.5/5.5 (10/7.5)] [Opt.: 22/18.5 (30/25) [Sub: 7.5/5.5 (10/7.5)]]		22/18.5 (30/25) [Sub: 7.5/5.5 (10/7.5)]	
● <u>Turret</u>					
Number of Tool Station	ea	12			
Tool Size (OD x ID)	mm(inch)	□ 25 x Ø 50 (□ 1" x Ø2")			
Turret Indexing Time	Sec/1step	0.25			
● <u>Axis</u>					
Rapid Speed (X/Z/Y/B)	m/min(ipm)	20/ 24/ 10/ 16 (787/ 945/ 394/ 630)			
Max. Stroke (X/Z/Y/B)	mm(inch)	YMC: 280/ 790/ 120/ - (11"/ 31.1"/ 4.7"/ -) YSMC: 260/ 790/ 120/ 726 (10.2"/ 31.1"/ 4.7"/ 28.58")	YMC: 280/ 1,390/ 120/ - (11"/ 54.7"/ 4.7"/ -) YSMC: 260/ 1,390/ 120/ 1,326 (10.2"/ 54.7"/ 4.7"/ 52.2")	YMC: 280/ 790/ 120/ - (11"/ 31.1"/ 4.7"/ -) YSMC: 260/ 790/ 120/ 714 (10.2"/ 31.1"/ 4.7"/ 28.11")	YMC: 280/ 1,390/ 120/ - (11"/ 54.7"/ 4.7"/ 51.73") YSMC: 260/ 1,390/ 120/ 1,314 (10.2"/ 54.7"/ 4.7"/ 51.73")
Feed Motor (X/Z/Y/B)	kW(HP)	4.0/ 4.0/ 4.0/ 1.6 (5.5/ 5.5/ 5.5/ 2.2)			

Machine Specification 【Hi-TECH 350】

Item		Hi-TECH350A YMC(YSMC)	Hi-TECH350AL YMC(YSMC)	Hi-TECH350B YMC(YSMC)	Hi-TECH350BL YMC(YSMC)
● <u>Tailstock</u>					
Tailstock Stroke	mm(inch)	750 (29.53")	1,350 (53.15")	750 (29.53")	1,350 (53.15")
Quill Dia.	mm(inch)	Ø100 (3.94")			
Quill Stroke	mm(inch)	120 (4.72")			
Quill Taper	MT	# 5			
● <u>Turnmill (Opt.)</u>					
Spindle Motor	kW	3.7/2.2			
Max. Spindle Speed	rpm	5,000			
Max. Drill / Collet Size	mm/inch	Ø20 (Ø0.79") / M16			
Min. Index Angle	°(deg)	0.001°[Sub: 0.001°]			
● <u>Tank</u>					
Lubrication	ℓ(gal)	12 (3.17)			
Hydraulic	ℓ(gal)	50 (13.21)			
Coolant	ℓ(gal)	190 (50.19)		240 (63.4)	
● <u>Power Sources</u>					
Electrical Power Supply	kVA	YMC: 50, YSMC: 55			
● <u>Dimension</u>					
Height	mm(inch)	2,205(86.81")			
Floor Space (L×W)	mm(inch)	3,500 x 2,045 [137.8" x 80.51"]	4,100 x 2,045 [161.42"x80.51"]	3,500 x 2,045 [137.8" x 80.51"]	4,100 x 2,045 [161.42"x80.51"]
Weight	kgf(lbf)	YMC: 6,400(14,110) / YSMC: 7,400(16,315)	YMC: 7,700(16,976) / YSMC: 8,700(19,181)	YMC: 6,400(14,110) / YSMC: 7,400(16,315)	YMC: 7,700(16,976) / YSMC: 8,700(19,181)
● <u>NC Controller</u>					
Fanuc 0i-TD					

※ — : Not available S: Standard O: Option

Item	Specification	YMC	YSMC
● <u>Controlled axis</u>			
✓Controlled axis (Cs axis)	2-axes	4-axes	5-axes
✓Simultaneously controlled axes	2-axes	4-axes	4-axes
✓Least input increment	0.001mm, 0.001deg, 0.0001inch	S	S
✓Least input increment 1/10	0.0001mm,0.0001deg, 0.00001inch	O	O
✓Inch/metric conversion	G20, G21	S	S
✓Stored stroke check 1		S	S
✓Stored stroke check 2,3		S	S
✓Chamfering on/off		S	S
✓Backlash compensation		S	S
● <u>Operation</u>			
✓Automatic & MDI operation		S	S
✓Program number search		S	S
✓Sequence number search		S	S
✓Dry run, Single block		S	S
✓Manual handle feed	1unit	S	S
✓Manual handle feed rate	x1, x10, x100	S	S
● <u>Interpolation function</u>			
✓Positioning	G00	S	S
✓Linear interpolation	G01	S	S
✓Circular interpolation	G02, G03	S	S
✓Dwell (Per seconds)	G04	S	S
✓Polar coordinate interpolation	G12.1/G13.1	S	S
✓Cylindrical interpolation	G7.1	S	S
✓Threading	G32	S	S
✓Multiple threading		S	S
✓Threading retract		S	S
✓Continuous threading		S	S

Item	Specification	YMC	YSMC
● <u>Interpolation function</u>			
✓Variable lead threading	G34	S	S
✓Ref. position return 1st	G28	S	S
✓Ref. position return check	G27	S	S
✓2/3/4th Ref. position return	G30	S	S
✓Arbitrary speed threading		O	O
● <u>Feed functions</u>			
✓Rapid traverse override	F0, F25, F50, F100	S	S
✓Feed per minute (mm/min)	G98	S	S
✓Feed per revolution (mm/rev)	G99	S	S
✓Rapid traverse bell-shaped acceleration /deceleration		S	S
✓Feedrate override	0-150%	S	S
✓Jog feed override	0-1,260 mm/min	S	S
● <u>Program input</u>			
✓Tape code	EIA RS244/ ISO840	S	S
✓Optional block skip	1ea	S	S
✓Program number	O4-digits	S	S
✓Sequence number	N5-digits	S	S
✓Decimal point programming		S	S
✓Coordinate system setting	G50	S	S
✓Coordinate system shift		S	S
✓Workpiece coordinate system (G54-G59)		S	S
✓Workpiece coordinate system preset (G92.1)		S	S
✓Direct drawing dimension programming		S	S
✓G code system	A	S	S

※ — : Not available S: Standard O: Option

Item	Specification	YMC	YSMC
● Program input			
✓Programmable data input	G10	S	S
✓Sub program call	10 folds nested	S	S
✓Custom macro B		S	S
✓Addition of custom macro common variables	#100-#199, #500-#999	S	S
✓Canned cycles		S	S
✓Multiple repetitive cycle		S	S
✓Multiple repetitive cycle II		S	S
✓Canned cycles for drilling		S	S
✓Manual guide I		S	S
● Spindle speed function			
✓Constant surface speed control	G96/G97	S	S
✓Spindle override	50-120%	S	S
✓Spindle orientation		S	S
✓Rigid tapping		S	S
✓Spindle synchronous control		S	S
● Tool function / compensation			
✓Tool function	T4-digits	S	S
✓Tool offset pairs	64pairs	S	S
✓Tool nose radius compensation		S	S
✓Tool geometry/wear compensation		S	S
✓Tool life management		O	O
✓Automatic tool offset	Tool Presetter option is required	O	O
✓Direct input tool offset value measured B	Tool Presetter option is required	O	O

Item	Specification	YMC	YSMC
● Editing operation			
✓Part program storage length	1,280m(512kB)	S	S
✓Number of register able programs	400ea	S	S
✓Background editing		S	S
✓Extended part program editing		S	S
✓Play back		S	S
● Operation/Display			
✓Clock function		S	S
✓Self-diagnosis function		S	S
✓Alarm history display		S	S
✓Help function		S	S
✓Run hour and parts count display		S	S
✓Dynamic Graphic function		O	O
✓Multi-language display (English, German, French, Italian, Chinese, Spanish, Korean, Portuguese, Polish, Hungarian, Swedish)		S	S
● Data input/output			
✓Reader/Puncher interface CH1	RS232C	S	S
✓Reader/Puncher interface CH2	RS232C	O	O
✓Ethernet interface		S	S
✓Memory card interface		S	S
✓USB card interface		S	S
● Others			
✓Display unit	10.4" color LCD	S	S

Item	Explanation
✓ Control Axes	4 Axis (X,Z,Y,B), C Axis (Opt) Least input increment X, Z, C-Axis : 0.001 mm C-Axis : 0.001°(Op.)
✓ Increment system	X-Axis : 0.0005 mm (Radial value) Least command increment X-Axis : 0.0005 mm C-Axis : 0.001°(Op.) Z-Axis : 0.001 mm
✓ Maximum command value	± 9999.999 mm
✓ Program memory capacity	1,280M(512kB)
✓ Part program edit	Part program editing as follows is possible by MDI operation. 1) Insert, Alter, Delete of word. 2) Delete of block or until the block designated. 3) Register, delete of program.
✓ Input format	Block, word, address, format, can be altered (Inch format) N4 G2 X(U)4.3 R(C)4.3 I4.3 C(H)4.3 K4.3 F3.4 B4.3 or S4, T4(2.2) M2 or 3 P4(7) Q4
✓ Decimal point edit	The following addresses can be used with a decimal point: X, Z, U, W, R, C, F, I, K, A, H, B
✓ Command method	Absolute / Incremental command is possible
✓ Positioning	Each axis can independently feed rapidly and position by G00 command
✓ Cutting federate	Feed per minute and feed per spindle revolution is possible. G98 : Feed per minute. (mm/min) G99 : Feed per revolution. (mm/rev) Feed rate range (Feed override 0 - 150% every 10%) Feed per minute 0 - 1,260 (mm/min) Feed per revolution 0.001 - 2,000 (mm/rev)
✓ Auto acceleration /deceleration	Rapid Feed : Linear type → acceleration/deceleration Cutting Feed : Exponential → acceleration/deceleration
✓ Coordinate system setting	By means of this command, a certain position of the tool for example, a coordinate system whereby the tip of the cutting edge becomes (X,Z) of the coordinate system. This coordinate is called as work coordinates.

Item	Explanation
✓ Automatic coordinate setting	By means of this command, a certain position of the tool for example, a coordinate system whereby the tip of the cutting edge becomes (X,Z) of the coordinate system. This coordinate is called as work coordinates.
✓ Work coordinate system shift	When the coordinate system actually set by the G50 command or the automatic coordinate system setting deviate from the programmed work coordinate system, the set coordinate system can be shifted
✓ Reference point return	1) Manual reference point return. 2) Automatic reference point return (G27, G28).
✓ Interpolation function	Linear interpolation : Done by G01 command at feed rate code designated. Circular interpolation : Any circular arc is interpolated by G02 or G03, at feed rate F code designated. G02 : Clockwise. G03 : Counter Clockwise. When circular radius is command as R, any circular arc of 0°- 180°is interpolated, and when circular radius is command as address I, K., any circular interpolation of 0°- 360°can be command
✓ Thread cutting	Can be cut using a G32 command in addition to equal lead. 1) Straight thread. 2) Tapered thread. 3) Scroll thread
✓ Dwell	Dwell is executed by the P, U, X commands. Setting Range 0 - 999.999 sec. Decimal point be used with P address
✓ Backlash compensation	This function compensations for lost motion of the machine. Compensation value (0-2,550 mm) is set by parameter, for each axis (by least command increment).
✓ MDI & LCD	All kinds of data information is input and displayed such as LCD character display, program alarm, diagnosis program, etc.,
✓ Program No. search	Program number of 4 digit continuous to 0 is searched by MDI & LCD Panel
✓ Sequence No. search	Sequence number in the program selected by MDI & LCD is searched. (word is also searched by the same way in edit mode.)
✓ Miscellaneous function (M function)	By the command of 3 digit figure after the address M, ON/OFF control from the machine is possible. Only one M code can be command per block

Item	Explanation
✓ Spindle function (S function)	Spindle speed is commanded by the 4-digit figure to address S. When this function is used with G96, it means cutting speed. When with G97, it means rpm
✓ Tool function (T function)	Turret position can be selected and tool position offset can be done by the command of 2 digits after the address T
✓ Tool position offset	Designating the number of tool position offset by the 2 lower digits of the 4 digits address T, can make tool wear offset possible. Offset pairs are 64, offset amount is ranging 0 ± 999.999 mm
✓ Dry run	Feed rate becomes jog speed (for both cutting feed and for rapid moves).
✓ Single block	Program can be executed one step at a time
✓ Optional block skip	Turning on the optional block skip switch ignores the block including "/" code at the beginning.
✓ Machine lock	When the switch is set to the Machine Lock position, move command pulses are suppressed. Consequently the display is updated as specified by the program, but the tool does not move. The M, S, T and 2nd auxiliary function are executed. This function is used to check a program
✓ Feed hold	Input/output of alarm display can be signaled by pressing alarm, DGNOS key of MDI panel
✓ Stored stroke limit 1	An area inside the area set by parameter is deemed as prohibited area, when stroke is commanded into this area, this function makes the axis decelerate and stop than OT alarm displayed
✓ Canned cycles	1) G90 : Cutting Cycle A --- Outer diameter/internal diameter cutting 2) G92 : Thread Cutting Cycle 3) G94 : Cutting Cycle B --- End face turning cycle
✓ Constant surface speed control	By the direct command of surface speed by S4-digit makes the motor rpm to be controlled continuously so that cutting speed of spindle can be constant, in spite of the alteration of tool position. G96 : Constant surface speed control is executed. G97 : Constant surface speed control is not executed
✓ Multiple repetitive cycle	(1) G70 : Finishing Cycle (2) G71 : Stock removal in turning. (3) G72 : Stock removal in facing. (4) G73 : Pattern repeating. (5) G74 : End face peck drilling cycle. (6) G75 : Outer diameter/internal diameter drilling cycle. (7) G76 : Multiple thread cutting cycle

Item	Explanation
✓ Tool nose radius compensation	G40 : Tool nose radius compensation cancel. G41 : Moving on the left side of the programmed path. G42 : Moving on the right side of the programmed path. Maximum offset value: + 999.999 mm
✓ Chamfering & corner R	In case of linear cutting perpendicular to or parallel with the axis, when next command is chamfering or corner R, linear cutting, chamfering or corner R cutting is accomplished by commanding one block
✓ Portable tape reader	Program, Parameter and etc., are used for reading out of NC
✓ Inch / Metric conversion	Inch system and Metric system are selected to input by G code cutting G20 : Inch input. G21 : Metric input
✓ Changing of tool offset amount	Offset value can be set program command (G10).
✓ Custom macro	Having registered macro commands as sub program, in memory. This function is able to recall at anytime the NC command program by this simple procedure
✓ Additional program memory	Impossible (Max. 1,280M(512kB))
✓ External tool compensation	This is the function to offset the tool offset value from out side the CNC. Offset value is automatically added to the input data of NC
✓ Additional tool offset	This number of tool position offsets and tool nose R, compensation is maximum 64 pairs.
✓ Tool geometry offset and tool wear offset	This is a special type of tool offset, offset value regarding tool installing position (geometry) and offset value regarding tool wear offset, both are stored and tool offset is done accordingly. Offset pairs are 64 pairs each.
✓ Run hour display	2 items, moving time and the number of parts are displays on the position screen. Part counter : The total number of parts are displayed . . . counted by either M02, M03. Run hour : Accumulated running to hour display . . . accumulated running to hour of automatic operation. Cycle time : Cycle time display . . . Running hour display of one automatic cycle.
✓ Solid tapping	When tapping, high speed and high accuracy tapping can be done by running the spindle and X, Z axis synchronous

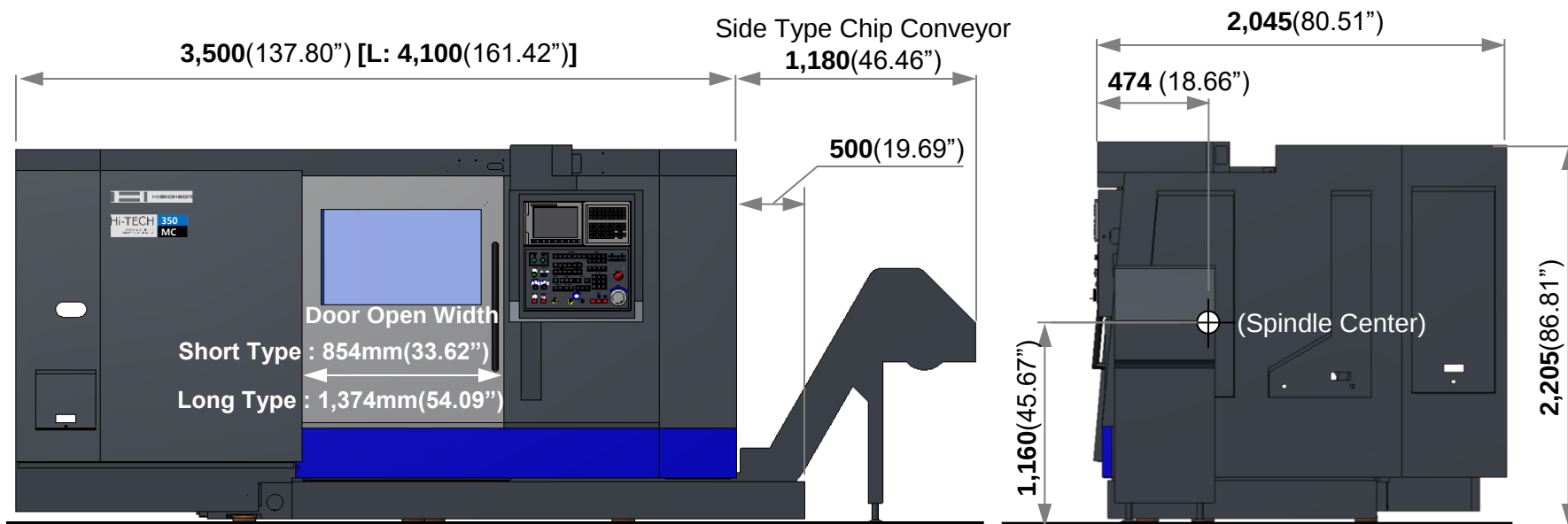
Standard Accessories

- 1) Coolant System
- 2) Door Interlock
- 3) Foot Switch
- 4) Function of Y-axis ($\pm 60\text{mm}$)
- 5) High Pressure Coolant Pump (6 Bar)
- 6) Hydraulic Chuck & Cylinder
 - A type: 8"
 - B type: 10"
- 6) Hydraulic Unit 40Kg/cm²
- 7) Leveling Bolt & Plate
- 8) Lubrication System
- 9) Manual Guide i
- 10) Operation Manual & Parts List
- 11) Set of Soft Jaws
- 12) Signal lamp with 2 colors (R,G)
- 13) Tail stock (MT#5)
 - Tail stock body program
 - Tail stock quill program
- 14) Tool Kit & Box
- 15) Tooling System
- 16) Turnmill Function including C-axis (0.001°)
- 17) Turret
- 18) Work light
- 19) 10.4" Color LCD

Optional Accessories

- 1) Air Blower
- 2) Air Gun
- 3) Auto Door(only Short Type)
- 4) Bar Feeder Interface
- 5) Chip Conveyor & Box (Side type)
- 6) Chuck Dual Pressure System
- 7) Chuck Pressure Check Switch
- 8) Chuck Pressure Compensation
- 9) Coolant Gun
- 10) High pressure Coolant Pump (15bar)
- 11) L-HTLD (Lathe-Hwacheon Tool Load Detect)
- 12) NC Cooler
- 13) Parts Catcher
- 14) Scale for X/Z-axis
- 15) Set of Hard Jaw
- 16) Signal Lamp with 3 Colors (R,G,Y)
- 17) Steady Rest Base (Manual, Programmable) –Only YMC
- 18) Tool & Work Counter, External/Internal
- 19) Tool Presetter (Automatic)
- 20) Tool Life Management
- 21) Transformer
- 22) Turnmill Holder, Axial / Radial
- 23) Turnmill Spindle Motor Upgrade (5.5/3.7kW)
- 24) U-drill Holder

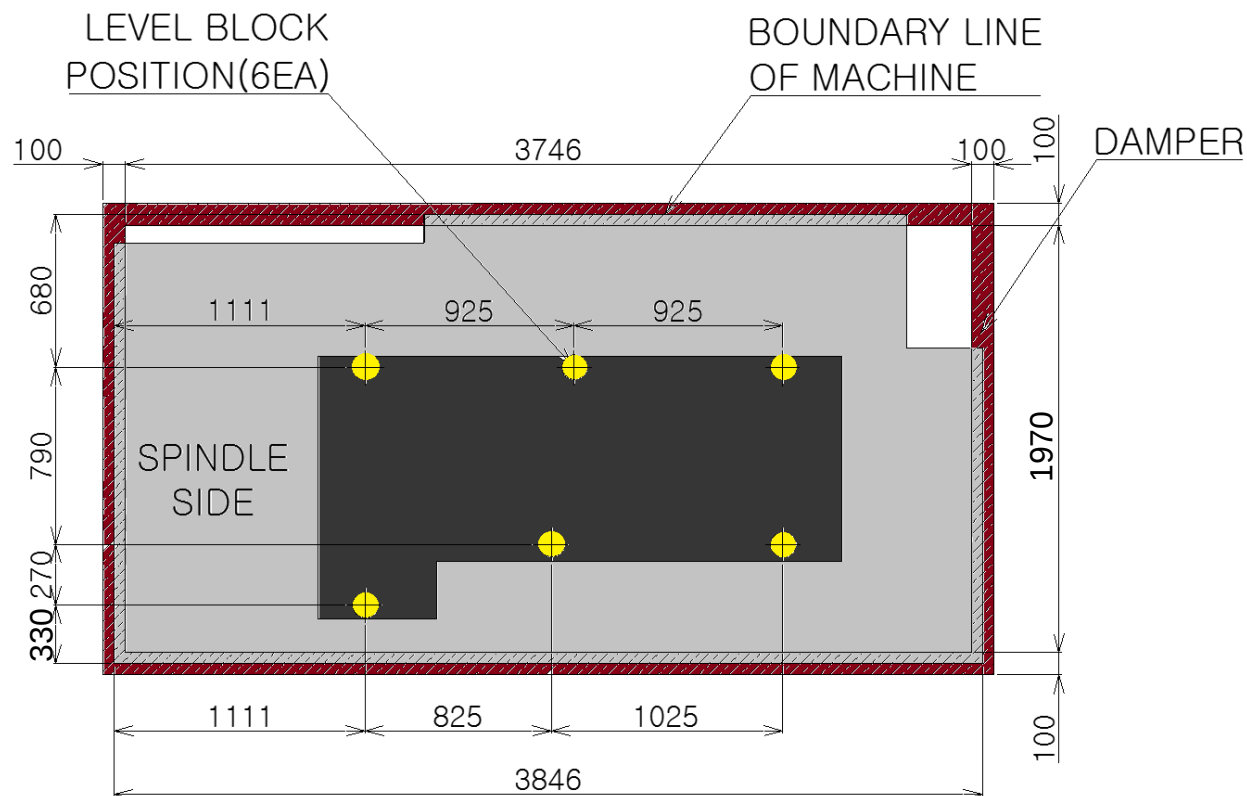
※Unit: mm(inch)



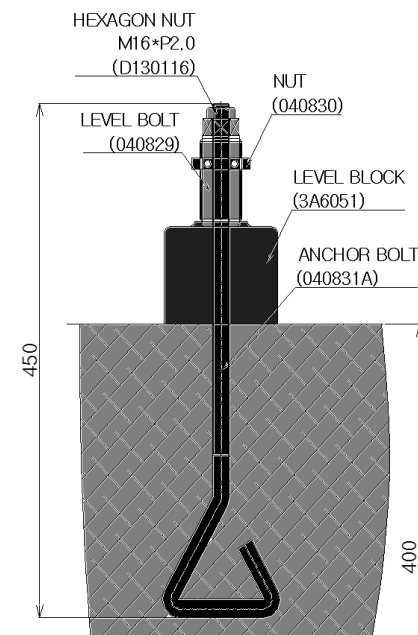
【 Front view 】

【 Side view 】

- Floor Space (LxWxH) → 3,500(137.8") x 2,045(80.51") x 2,205(86.81") mm(inch)
- Weight (kg_f) → YMC: 6,400, YSMC: 7,400
- Electric Power (kVA) → YMC: 50, YSMC: 55
- Transformer (kVA) → YMC: 50, YSMC: 55
- Size of Power Cable → 25 SQ

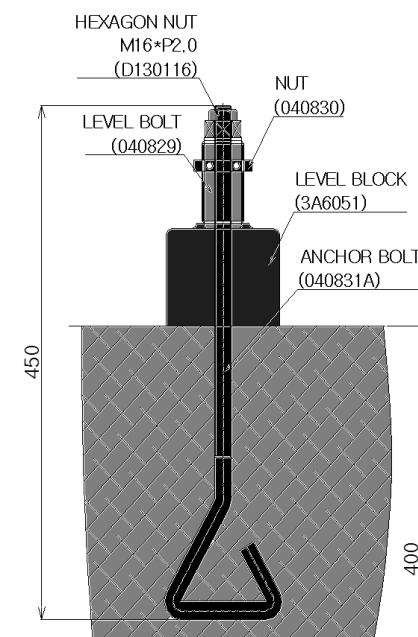
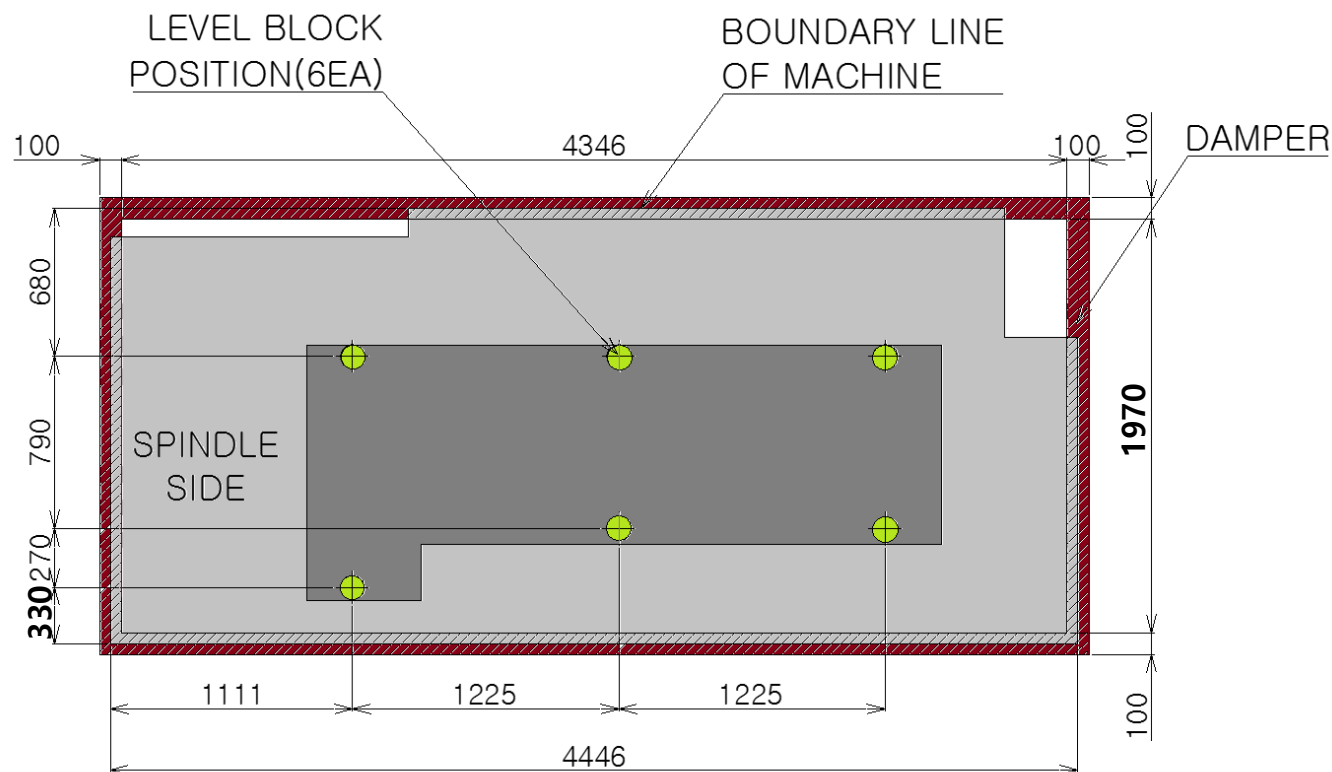


※Unit: mm



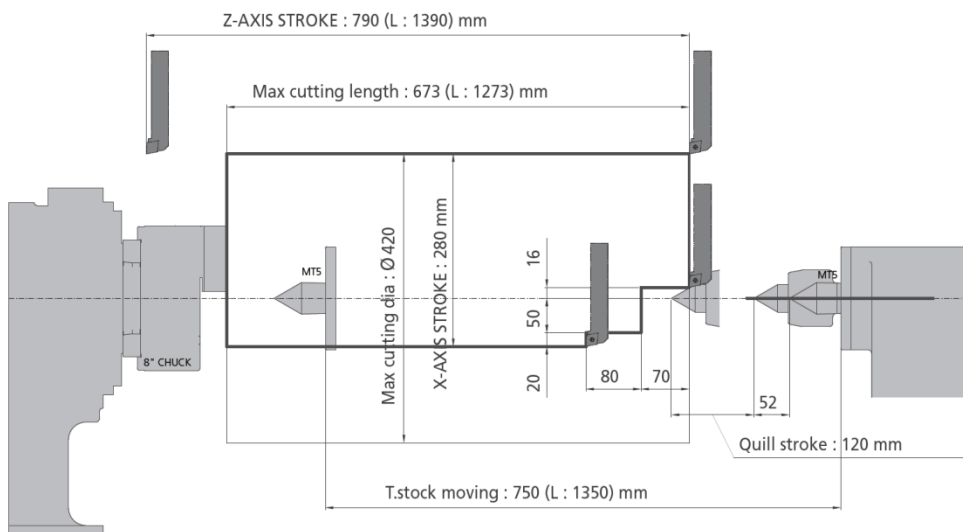
- Floor Space (LxWxH) → 4,100(161.42") x 2,045(80.51") x 2,205(86.81") mm(inch)
- Weight (kg_f) → YMC: 7,700, YSMC: 8,700
- Electric Power (kVA) → YMC: 50, YSMC: 55
- Transformer (kVA) → YMC: 50, YSMC: 55
- Size of Power Cable → 25 SQ

※Unit: mm

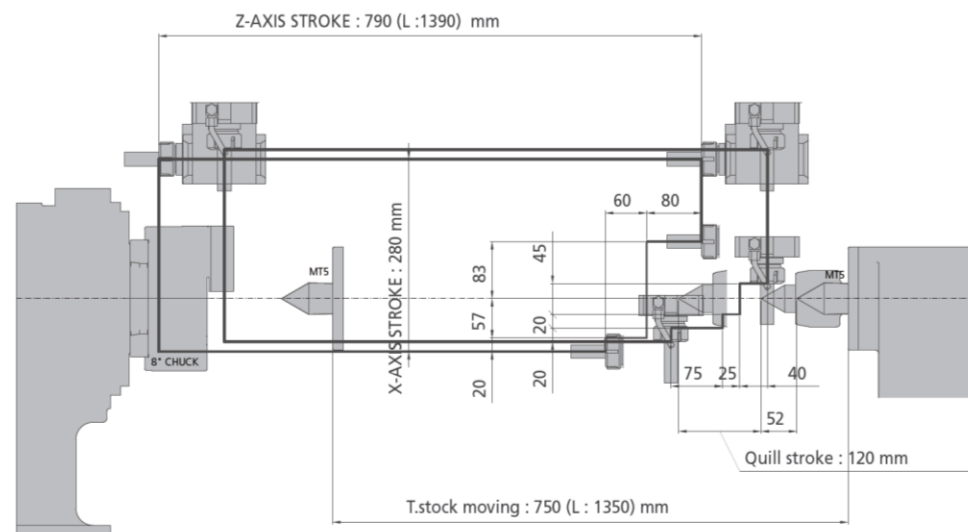


※Unit: mm(inch)

O.D Holder

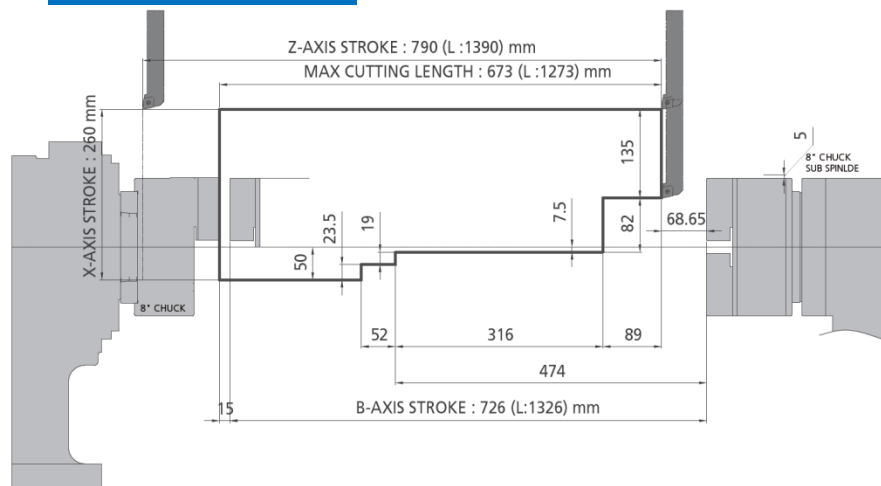


Axial & Radial Turnmill Holder

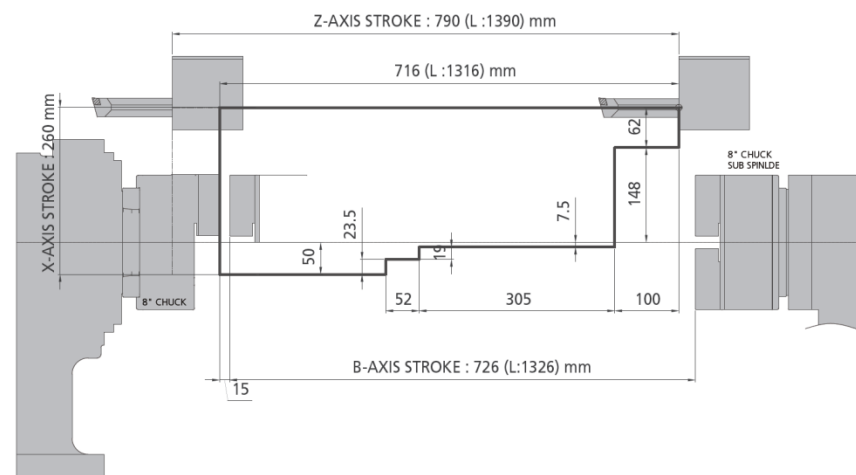


※L: Long type

O.D Holder

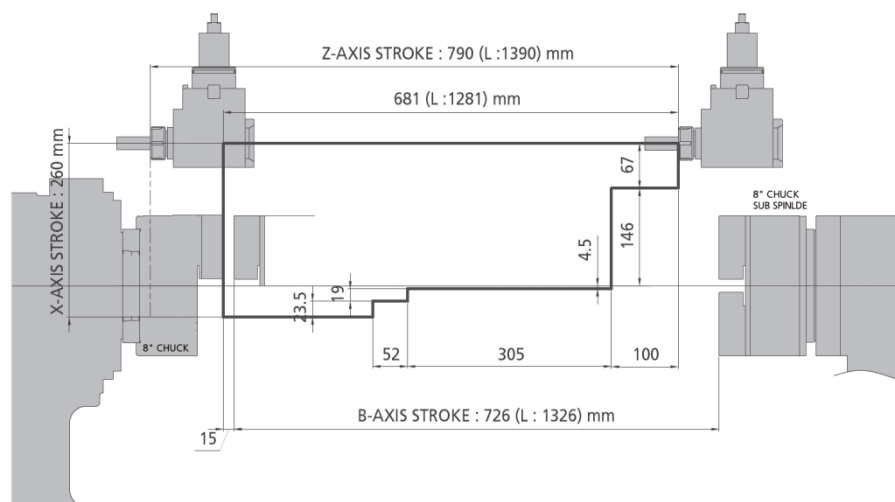


I.D Holder

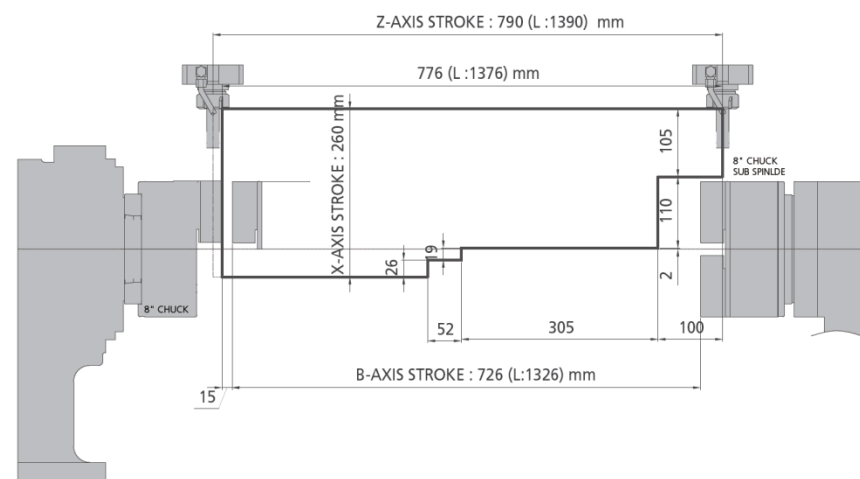


※Unit: mm(inch)

Radial Turnmill Holder

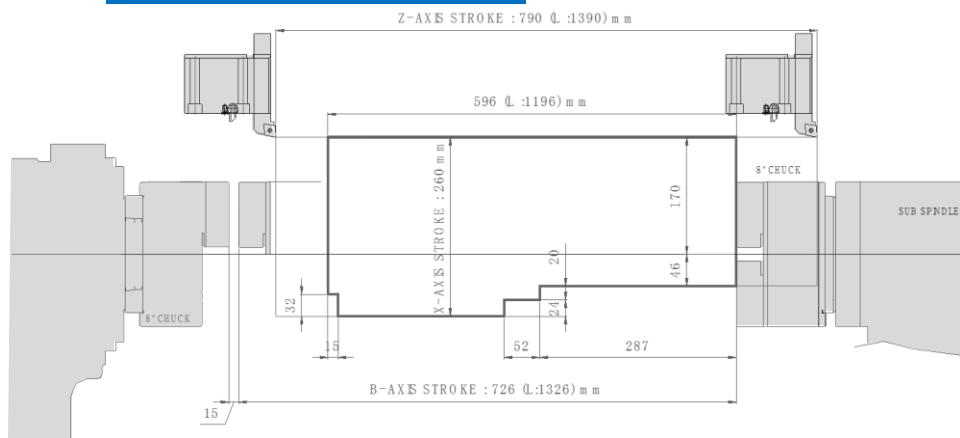


Axial Turnmill Holder



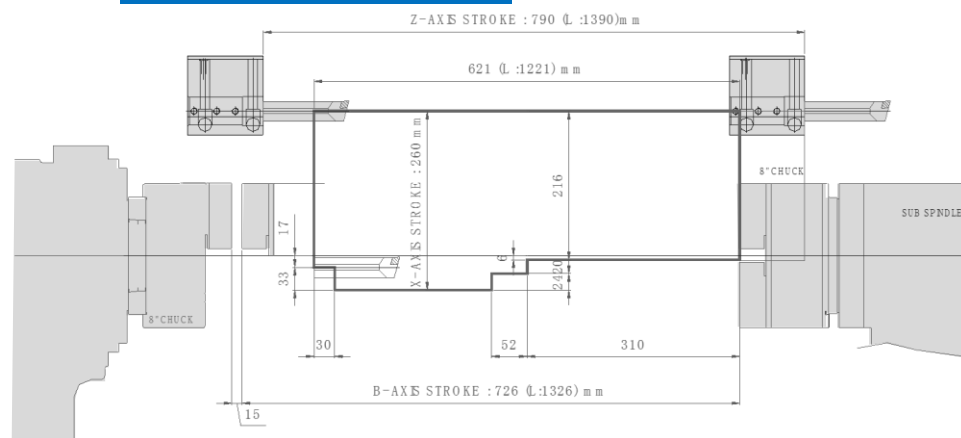
※L: Long type

Sub O.D Holder

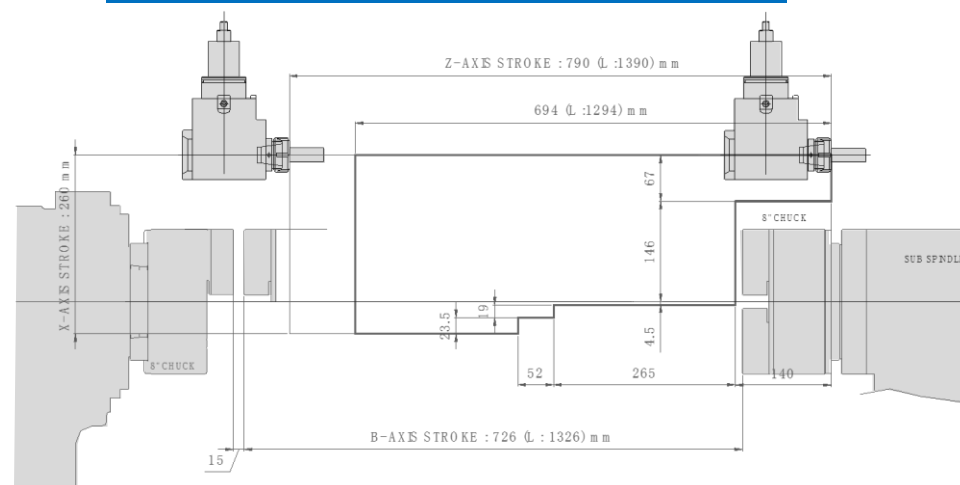


Sub I.D Holder

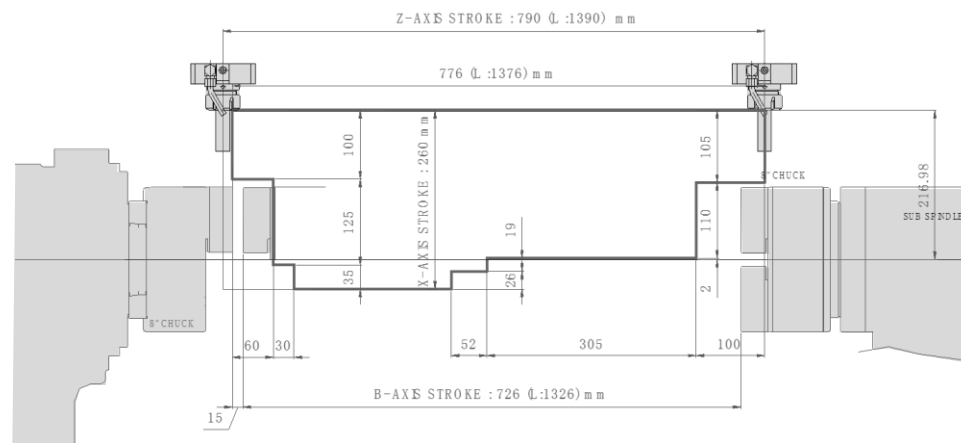
※Unit: mm(inch)



Sub Radial Turnmill Holder



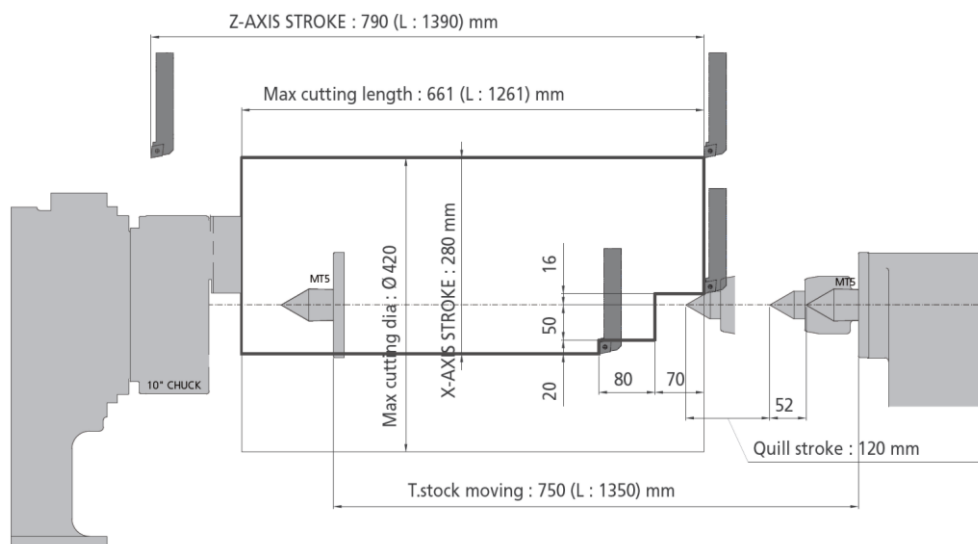
Sub Axial Turnmill Holder



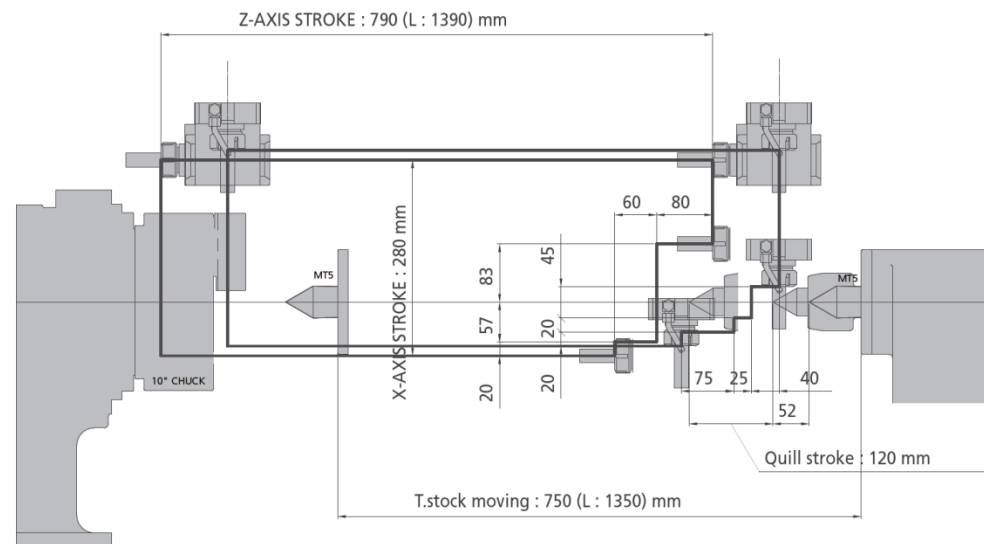
※L: Long type

※Unit: mm(inch)

O.D Holder

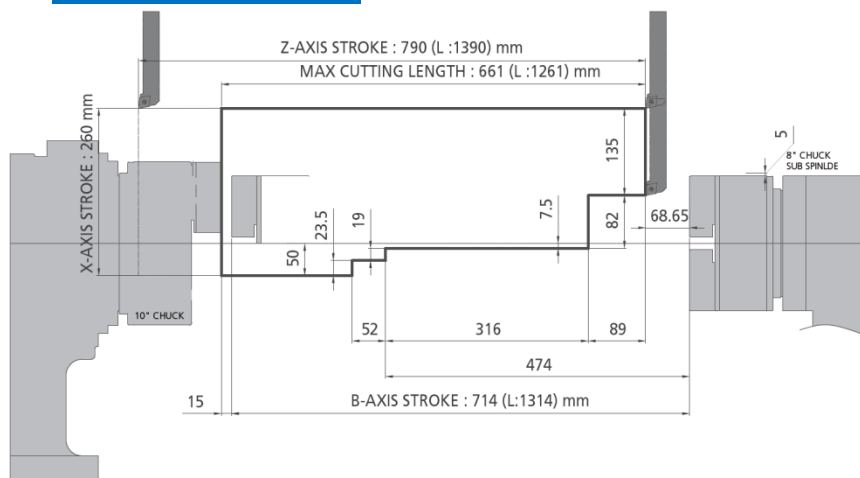


Axial & Radial Turnmill Holder



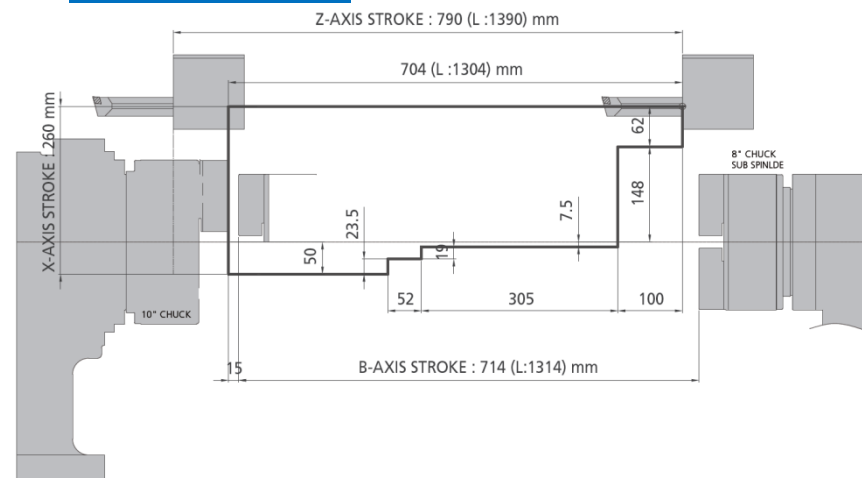
※L: Long type

O.D Holder

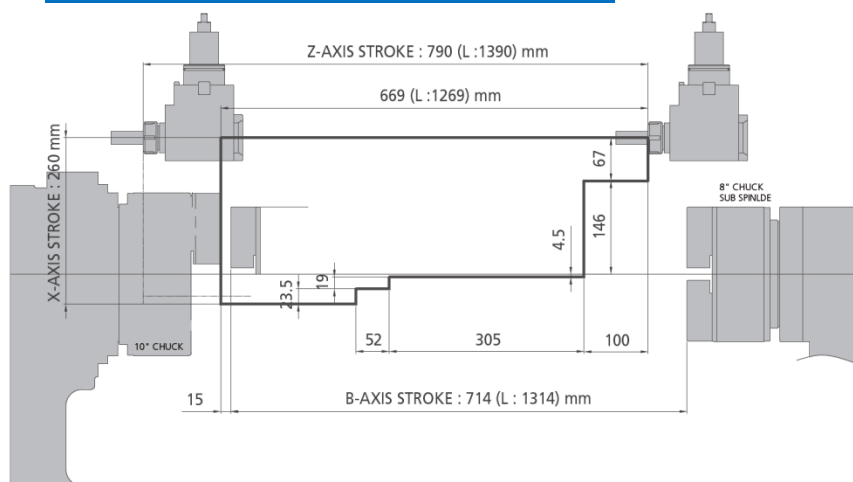


I.D Holder

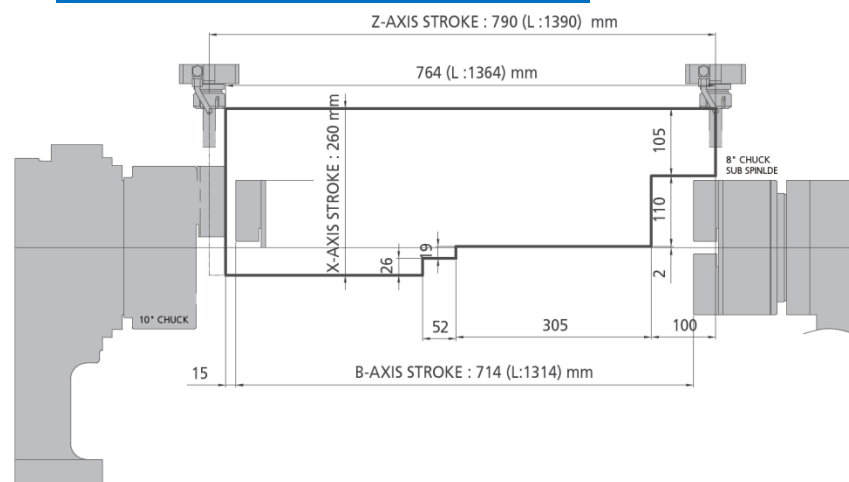
※Unit: mm(inch)



Radial Turnmill Holder

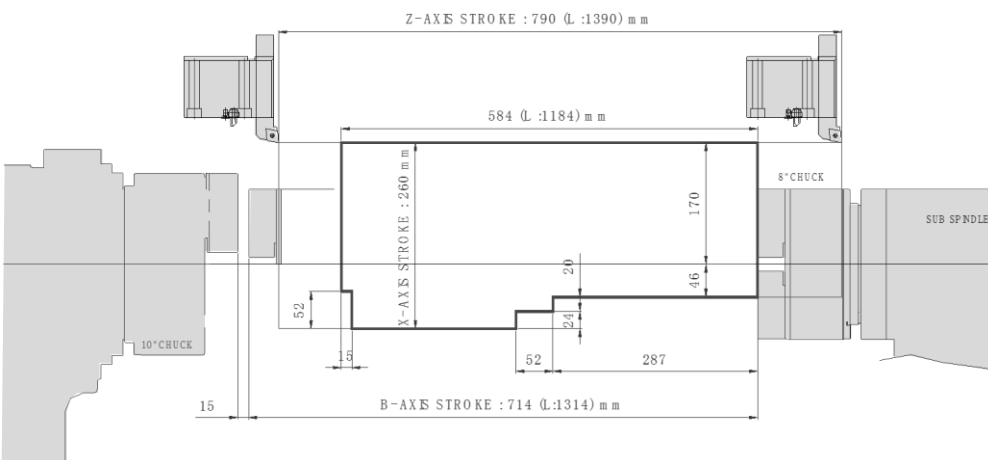


Axial Turnmill Holder



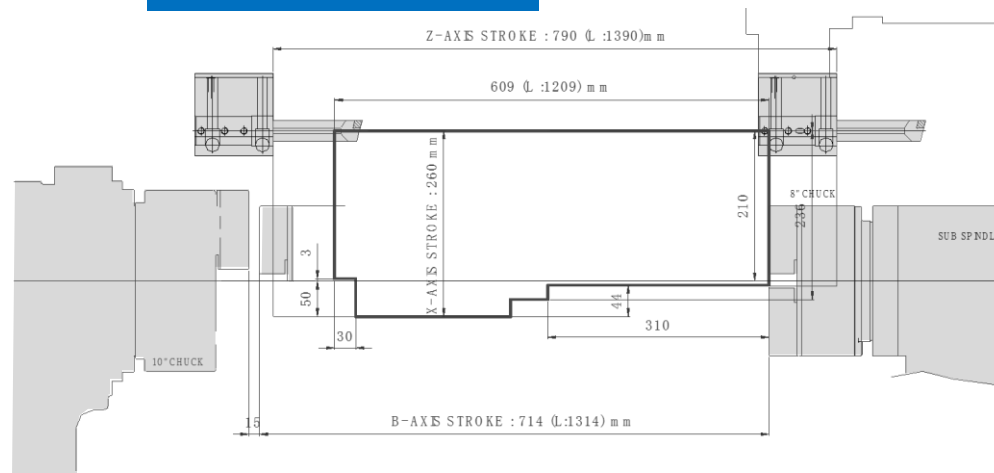
※L: Long type

Sub O.D Holder

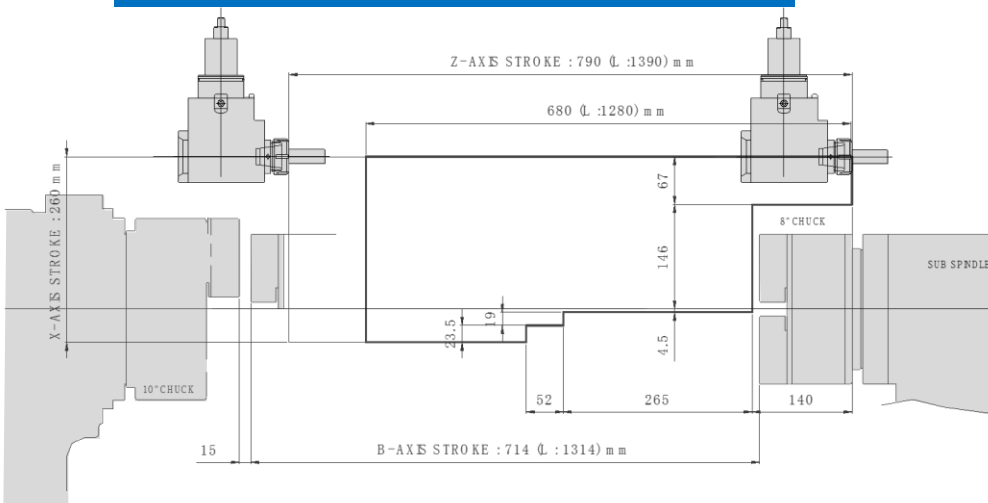


Sub I.D Holder

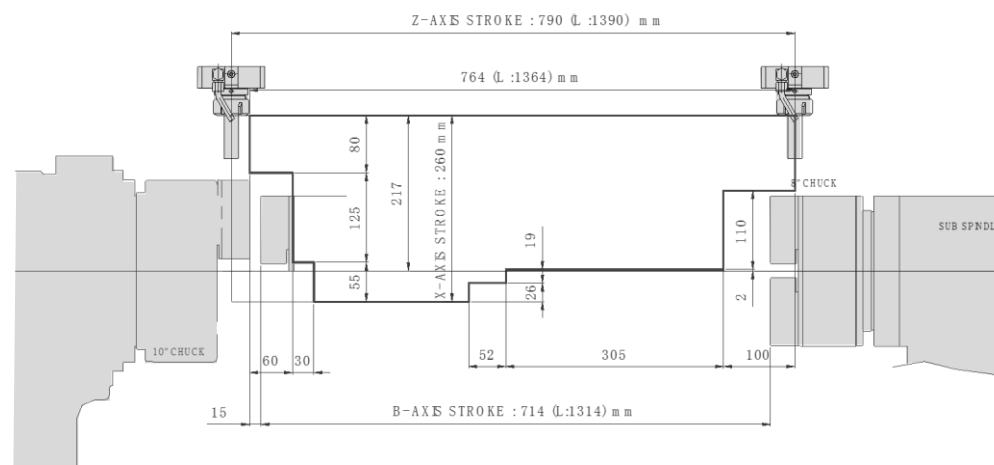
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Sub Radial Turnmill Holder

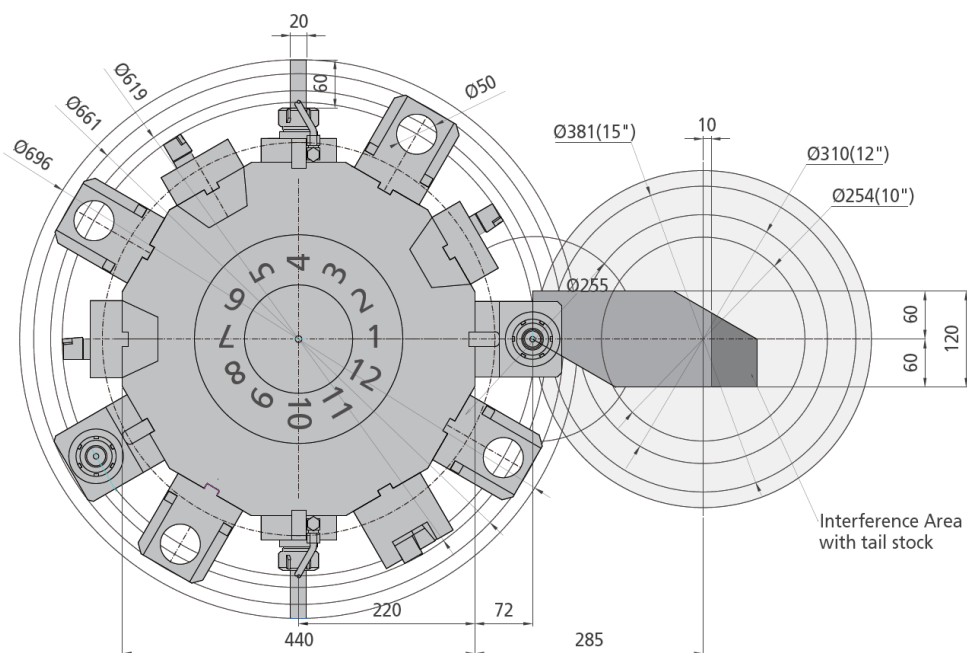


Sub Axial Turnmill Holder



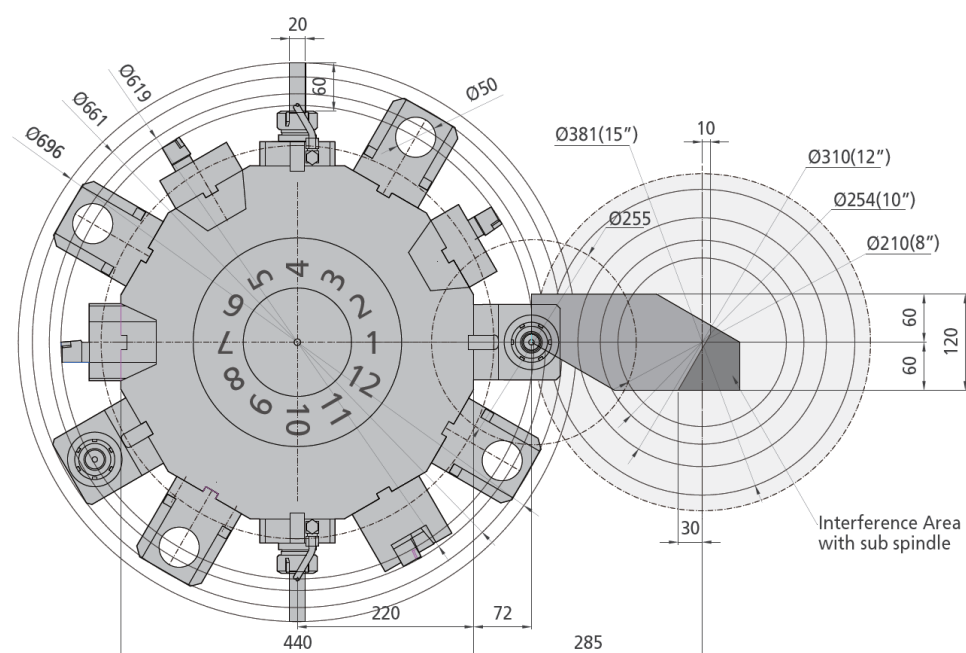
※L: Long type

Hi-TECH 350A,B/YMC

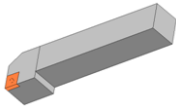
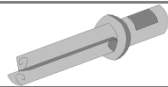
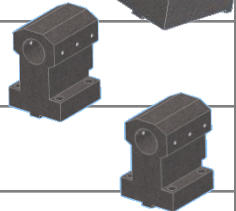
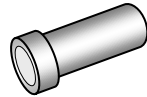
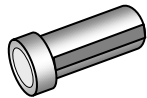
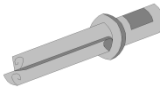
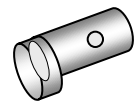


Hi-TECH 350A,B/YSMC

※Unit: mm(inch)

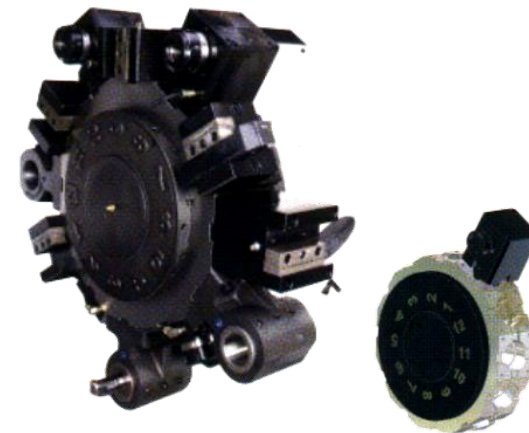
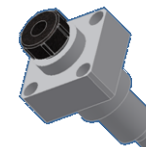


Tooling System [Hi-TECH 350A/B, YMC, 12 Pos.]

Tool	Part No.	Part name	Q'ty	Shape
 □ 25(1")	3A44008 (3A440081)	OD Cutting Holder	3	
	3A44007 (3A440071)	Face Holder	1	
	3A44009 (3A440091)	U-Drill Holder	Option	
 Ø50(2")	3A44006 (3A440061)	ID Holder	4	
	314305(314330)	Sleeve(Ø12, 1/2")	1	
	314306(314331)	Sleeve(Ø16, 5/8")	1	
	314307(314332)	Sleeve(Ø20, 3/4")	1	
	314308(314333)	Sleeve(Ø25, 1")	1	
	314309(314334)	Sleeve(Ø32, 1 1/4")	1	
	314310(314335)	Sleeve(Ø40, 1 1/2")	1	
	314311(314336)	Socket(MT#1)	1	
	314312(314337)	Socket(MT#2)	1	
	314313(314338)	Socket(MT#3)	1	
	314314(314339)	Socket(MT#4)	1	
	314315(314340)	U-Drill Sleeve(Ø20, 3/4")	Option	
	314316(314341)	U-Drill Sleeve(Ø25, 1")		
	314317(314342)	U-Drill Sleeve(Ø32, 1 1/4")		
	314318(314343)	U-Drill Sleeve(Ø40, 1 1/2")		
	219303 (SC4265)	ER32 Ø3,4,5,6,7,8,9,10,11,12, 13 Ø14, 15, 16, 17, 18, 19, 20 ER321 Ø1/8", Ø3/16", Ø1/4", Ø5/16", Ø3/8", Ø7/16", Ø1/2', Ø11/16"(inch)	Each 1	
	21L4466	Cap	12	

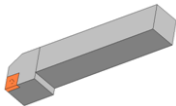
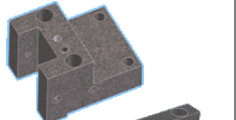
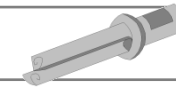
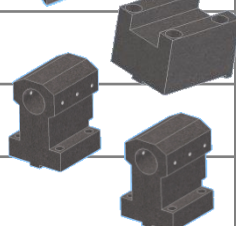
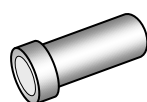
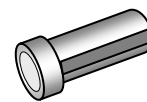
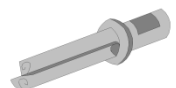
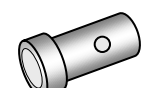
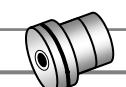
※Unit: ea

BMT 65


Axial T/Mill Holder **(Option)**
(SC4228)

Radial T/Mill Holder **(Option)**
(SC4227)

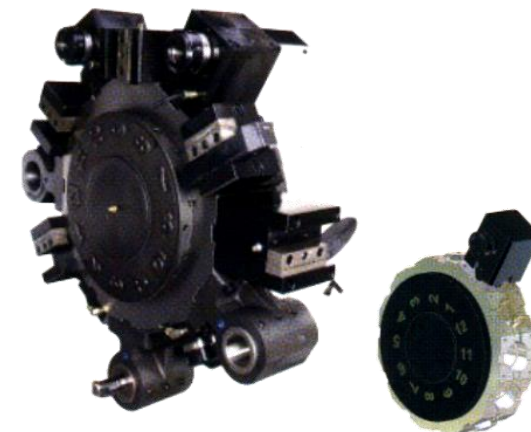

Tooling System [Hi-TECH 350A/B, YSMC, 12 Pos.]

HS-T127-R1.0-20150323

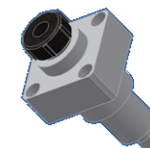
Tool	Part No.	Part name	Q'ty	Shape
 □ 25(1")	3A44008 (3A440081)	OD Cutting Holder(Main)	2	
	3A44011 (3A440111)	OD Cutting Holder(Sub)	2	
	3A44007 (3A440071)	Face Holder	1	
	3A44009 (3A440091)	U-Drill Holder	Option	
 Ø50(2")	3A44006 (3A440061)	ID Holder	3	
	314305(314330)	Sleeve(Ø12, 1/2")	1	
	314306(314331)	Sleeve(Ø16, 5/8")	1	
	314307(314332)	Sleeve(Ø20, 3/4")	1	
	314308(314333)	Sleeve(Ø25, 1")	1	
	314309(314334)	Sleeve(Ø32, 1 1/4")	1	
	314310(314335)	Sleeve(Ø40, 1 1/2")	1	
	314311(314336)	Socket(MT#1)	1	
	314312(314337)	Socket(MT#2)	1	
	314313(314338)	Socket(MT#3)	1	
	314314(314339)	Socket(MT#4)	1	
	314315(314340)	U-Drill Sleeve(Ø20, 3/4")	Option	
	314316(314341)	U-Drill Sleeve(Ø25, 1")		
	314317(314342)	U-Drill Sleeve(Ø32, 1 1/4")		
	314318(314343)	U-Drill Sleeve(Ø40, 1 1/2")		
	219303 (SC4265)	ER32 Ø3,4,5,6,7,8,9,10,11,12, 13 Ø14, 15, 16, 17, 18, 19, 20 ER32L Ø1/8", Ø3/16", Ø1/4", Ø5/16", Ø3/8", Ø7/16", Ø1/2', Ø11/16"(inch)	Each 1	
	21L4466	Cap	12	

※Unit: ea

BMT 65

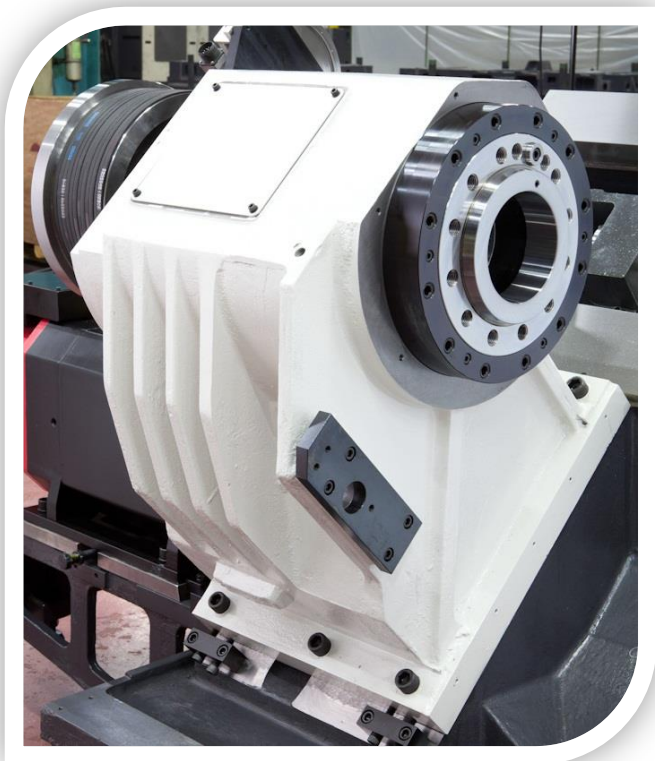


Axial T/Mill Holder **(Option)**
(SC4228)



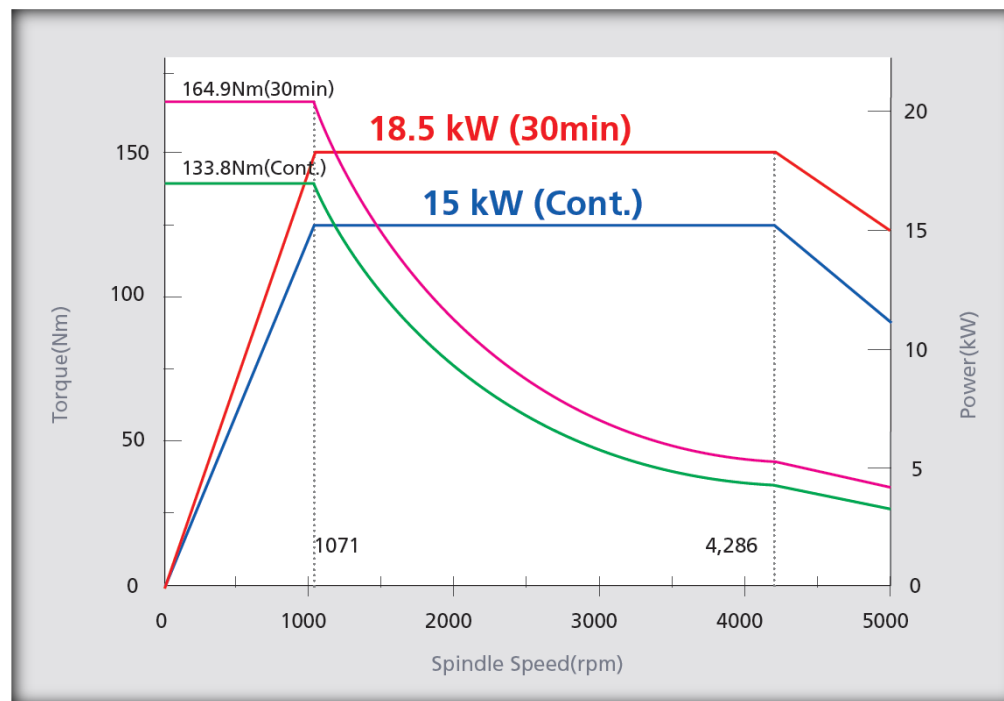
Radial T/Mill Holder **(Option)**
(SC4227)



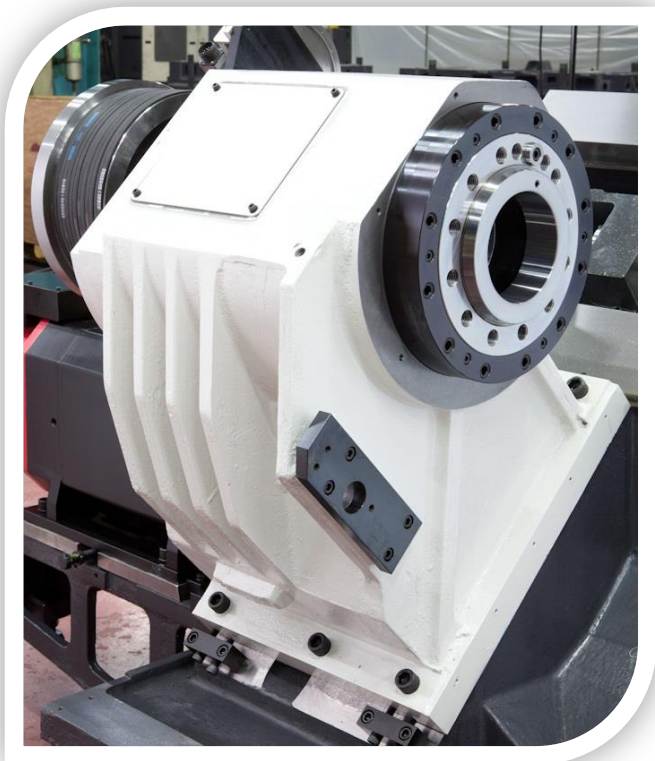


α15 / 7000i

- 18.5/15kW (25/20HP)
- Max. Spindle Speed : 5,000 rpm
- Max. Torque : 164.9Nm

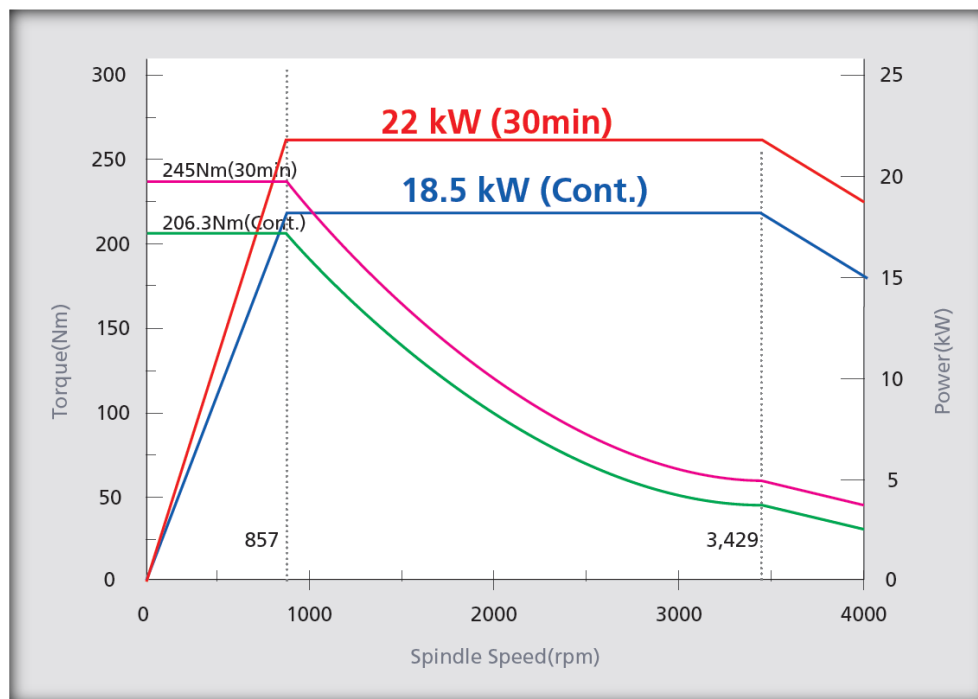


Hi-TECH 350A (8'')



α18 / 7000i

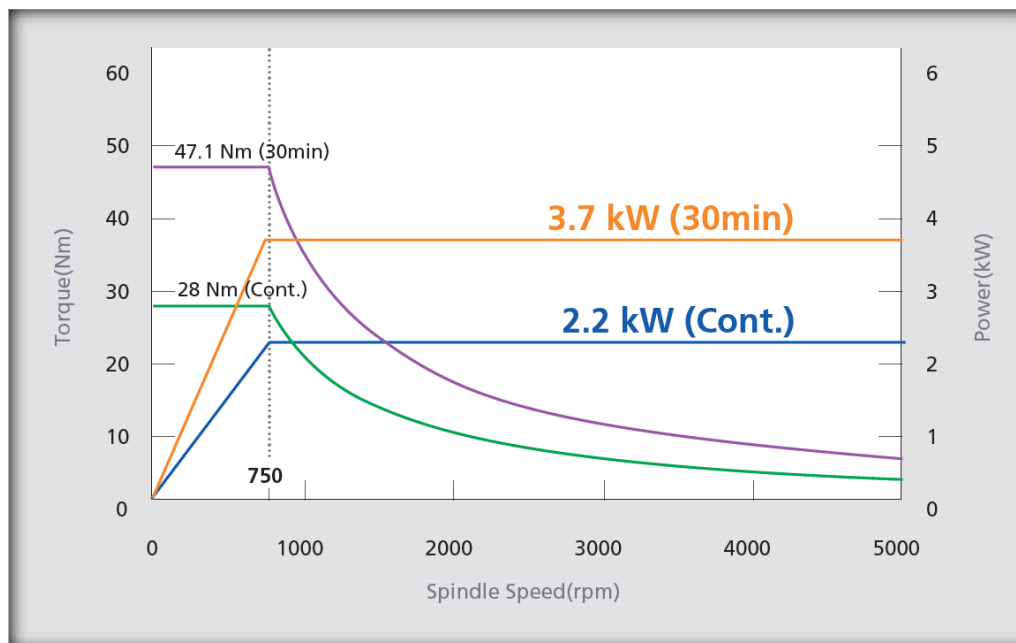
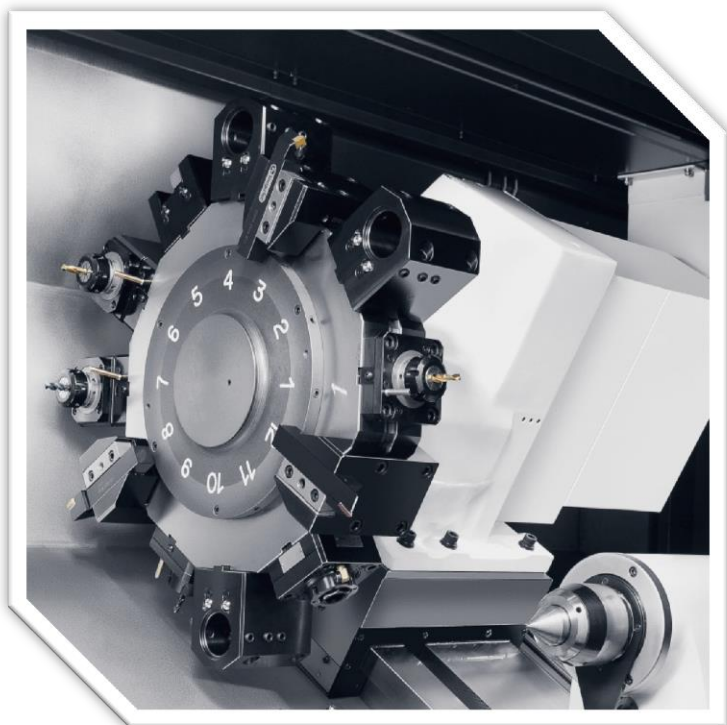
- 22/18.5kW (30/25HP)
- Max. Spindle Speed : 4,000 rpm
- Max. Torque : 245 Nm



Hi-TECH 350B (10")

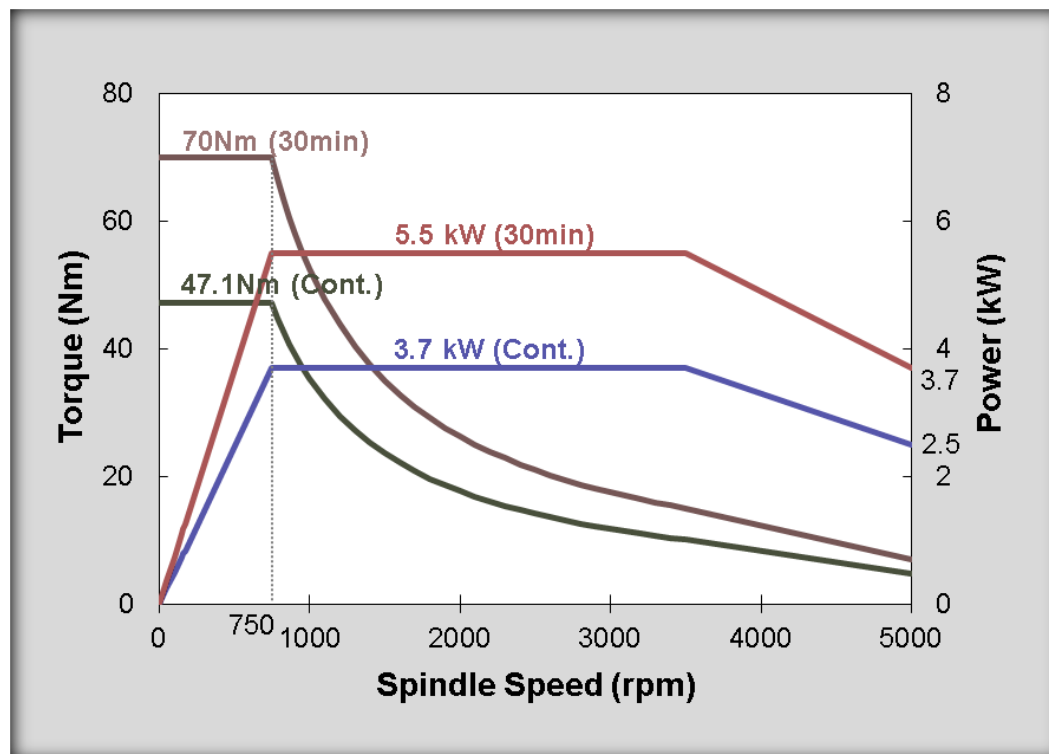
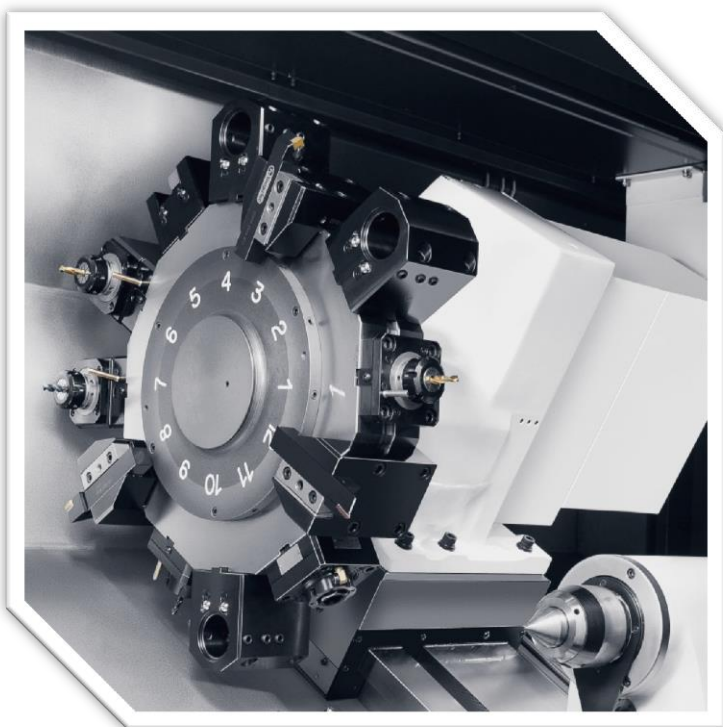
α2 / 10,000i

- 3.7/2.2kW (5/3HP)
- Max. Spindle Speed : 5,000 rpm
- Max. Torque : 47.1 Nm



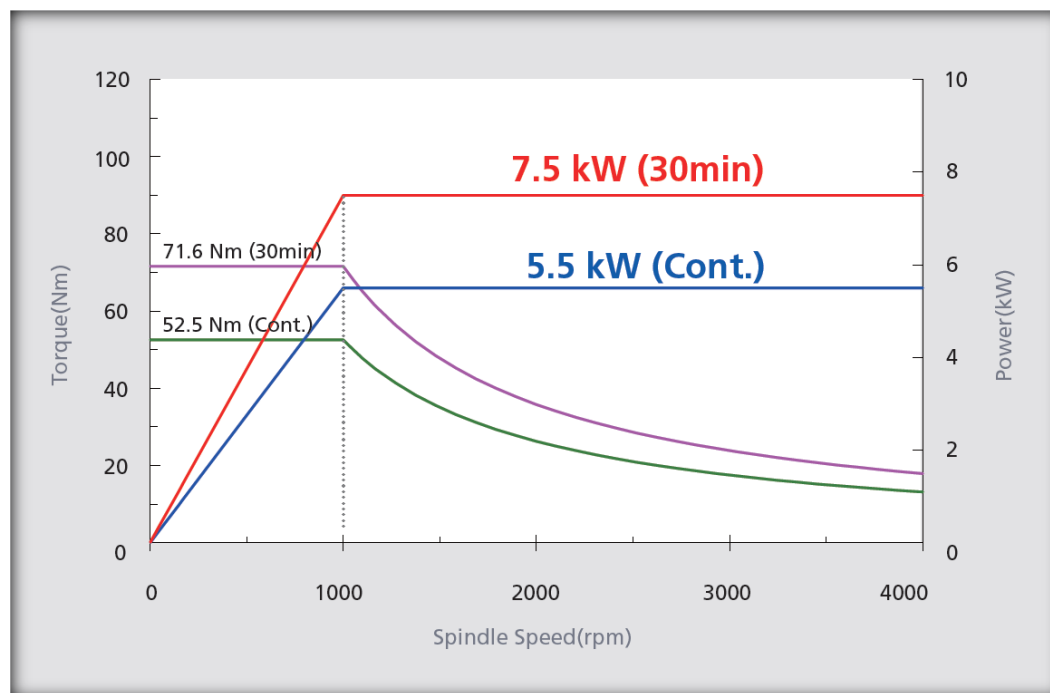
α3 / 10,000i

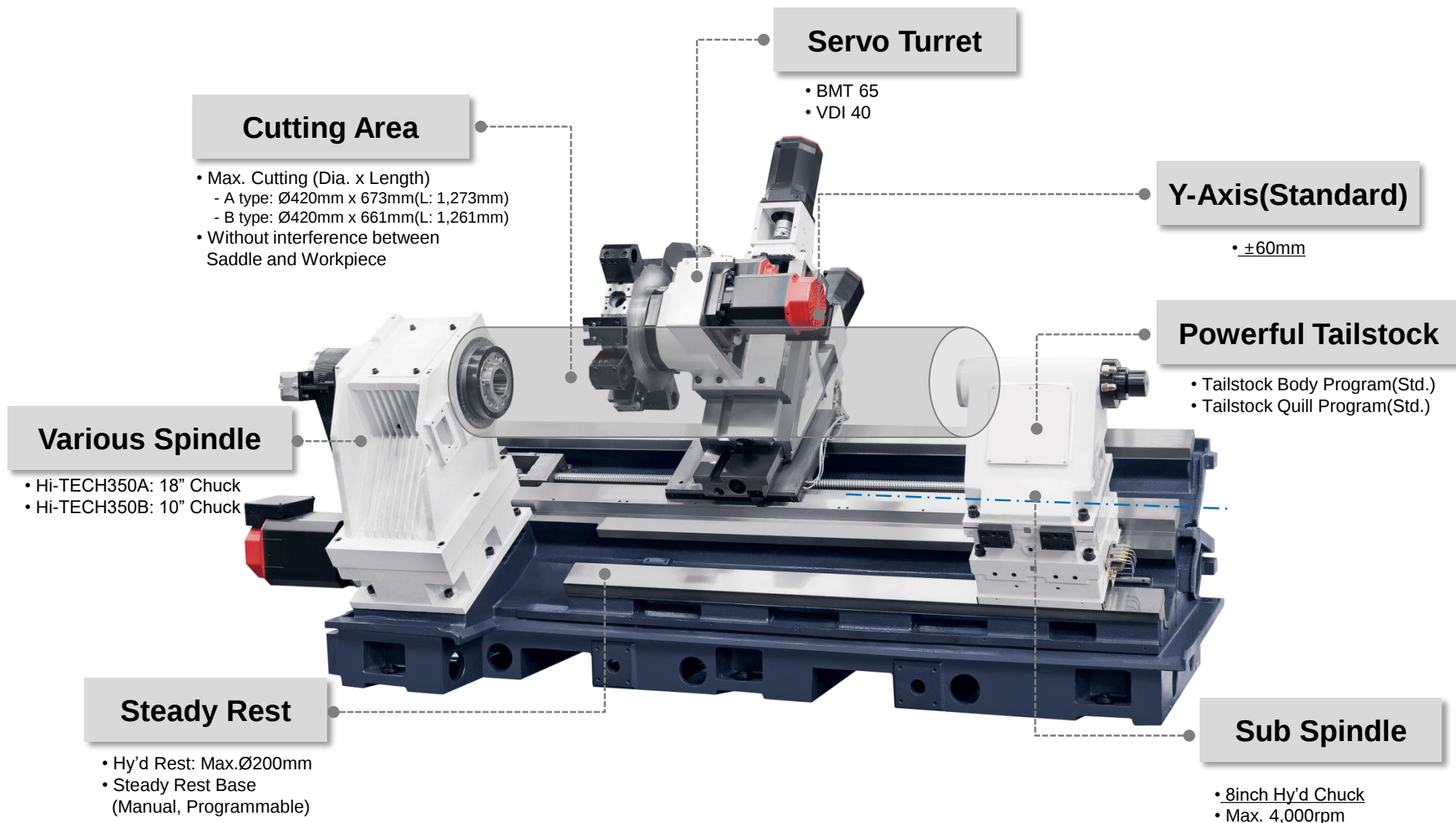
- 5.5/3.7kW (7/5HP)
- Max. Spindle Speed : 5,000 rpm
- Max. Torque : 70 Nm

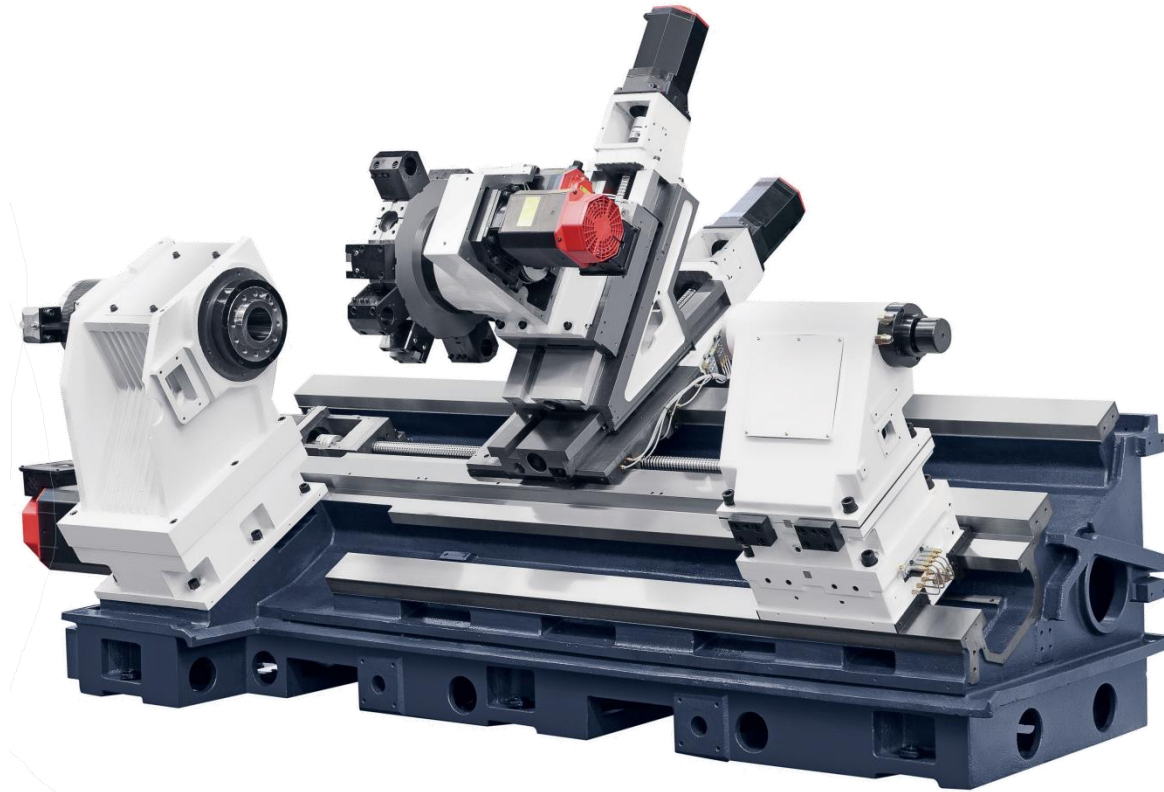


α6 / 10000i

- 7.5/5.5kW (10/7.5HP)
- Max. Spindle Speed : 4,000 rpm
- Max. Torque : 71.6 Nm

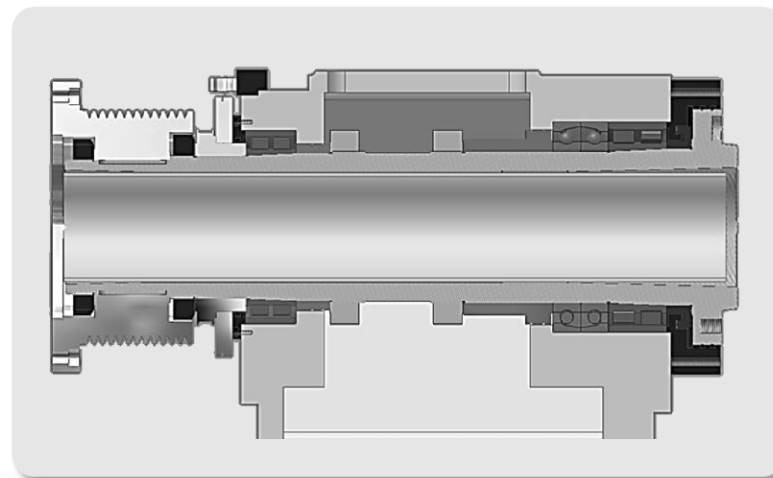






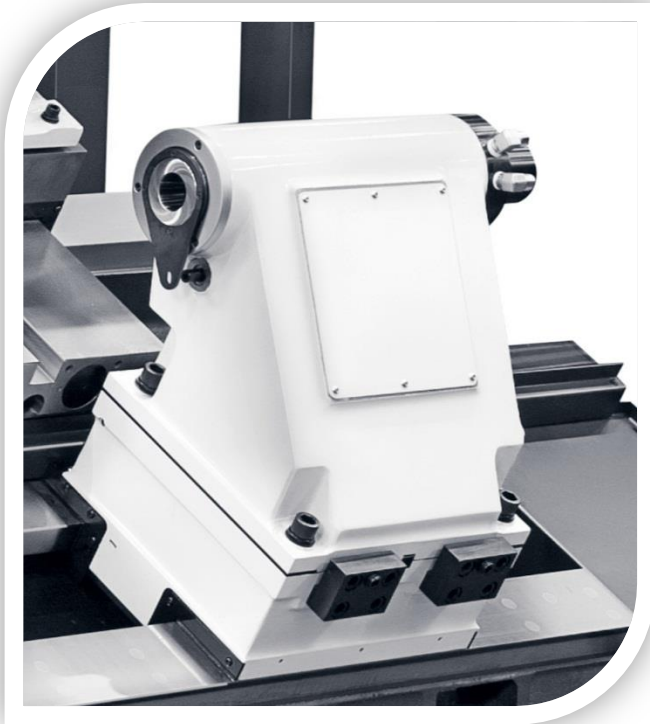
The single-frame bed structure eliminates heat distortion, absorbs vibration, and provides quality surface roughness and highest precision at high speed operations.

All guide way are designed as sturdy box way to maintain durability and highest precision even during prolonged machining operation.



	A type	B type
Chuck Size (inch)	8"	10"
Type of Spindle Nose (ASA)	A2-6	A2-8
Max. Spindle Speed (rpm)	5,000	4,000
Spindle Motor Power (kW/HP)	18.5/15(25/20)	22/18.5(30/25)

- The powerful chucking offers the stable cutting and high precision during machining.
- The headstock and main spindle are manufactured in a temperature controlled environment then assembled and tested in our clean room.
- All spindle bearings are lubricated with semi-permanent grease.



- **Quill Dia.:** Ø100(Ø3.94")
- **Quill Stroke:** 120mm(4.72")
- **Tailstock Stroke:**
 - ▶ Short Bed: 750mm(29.53")
 - ▶ Long Bed: 1,350mm(53.15")
- **Quill Taper:** MT#5(Live center)

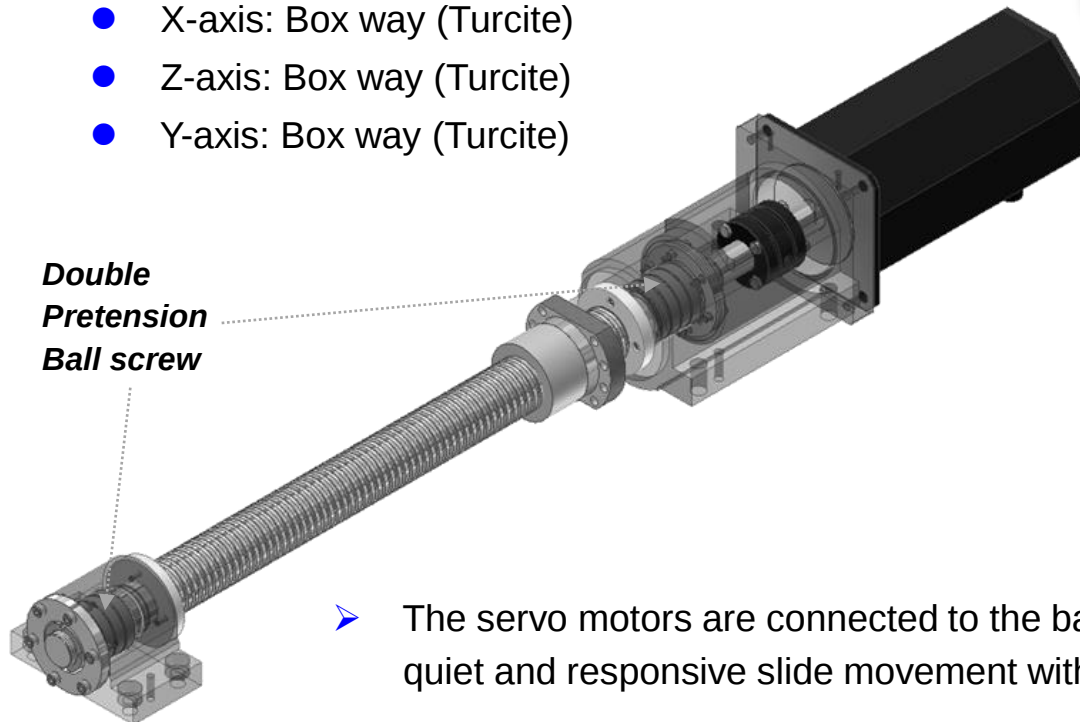
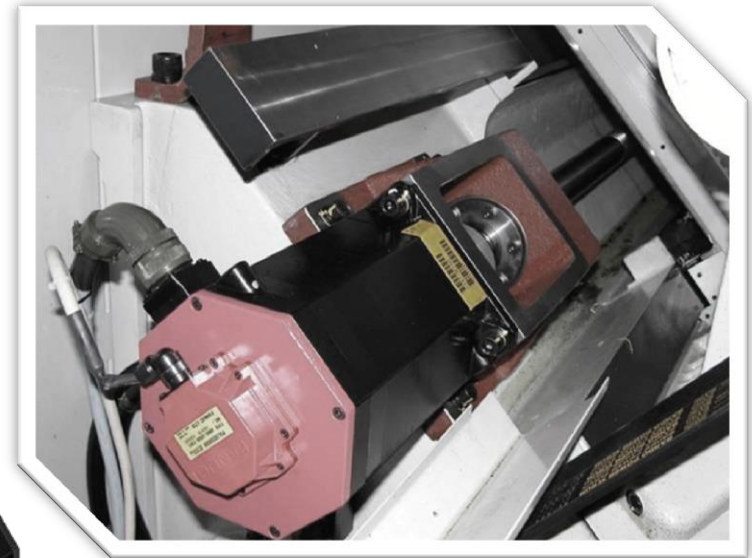
- The Quill is activated by foot pedal or program.
- Tailstock body of standard machine can be positioned by operator.
- Standard: Tailstock Body & Quill program (Programmable)

Driving Feed Motor

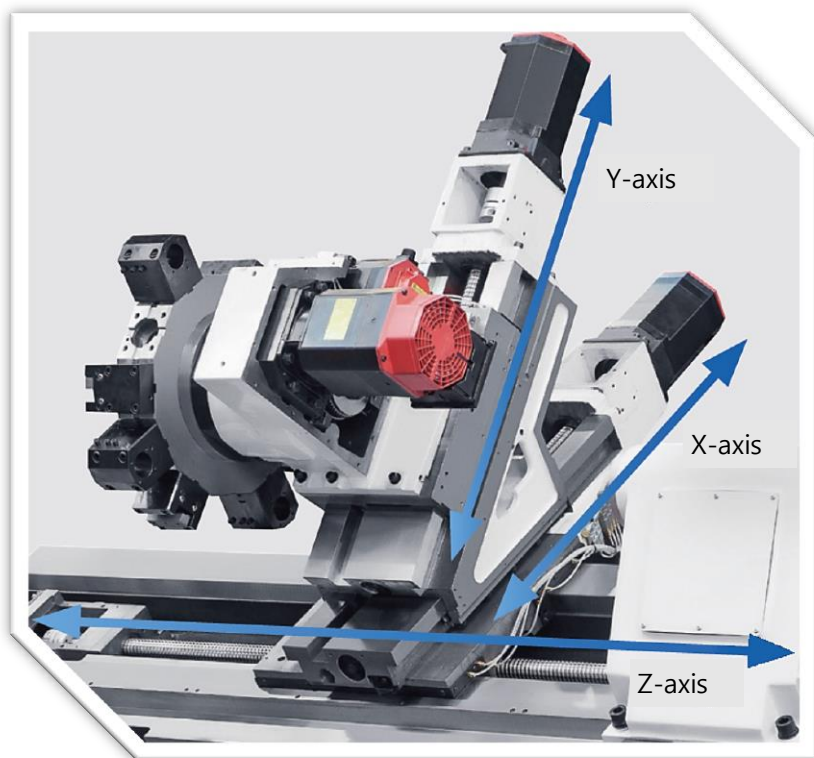
- Servo Motor(X/Z/Y): 4kW(5.5HP)
- Servo Motor(B): 1.6kW(2.2HP)
- Rapid Speed(X/Z/Y/B) : 20/24/10/16 m/min

Type of Slide way

- X-axis: Box way (Turcite)
- Z-axis: Box way (Turcite)
- Y-axis: Box way (Turcite)



- The servo motors are connected to the ball screws without intermediate gears for quiet and responsive slide movement with virtually no backlash.



■ High Performance Y-Axis(Standard)

- High-productivity machining (Y-Axis + Sub Spindle)
- Dual movement for heavy duty machining

- Y-Axis Stroke : 120mm (± 60 mm)
- Rapid speed : 10m/min

High Precision, Heavy Duty Turret

- Turret Type: Servo Motor Type

- Turret Station : 12Pos.

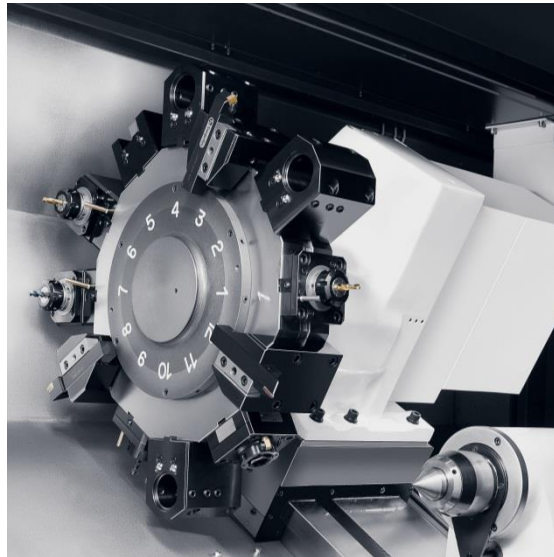
- Tool Size: □ 25 × Ø50

- Indexing Time: 0.25sec/step

- Clamping Power : 4,300kg_f

- Holder: BMT65 / VDI40

【 Turnmill - Standard】



※ Number of Max. Rotating Tool available : 12tools



Customization Design

► Applied pocket cover to prevent the interference using long boring bar.

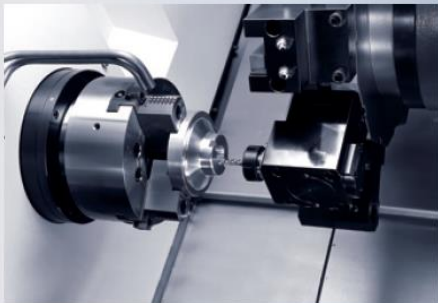
Main cover designed with the end user in mind during the machining for close area of chuck.

The pocket cover provide perfect solution for the interference between tool and cover without additional tool mounting.

First Process

Transfer (Synchronizing)

Second Process



① Main Spindle process



② Pick-up

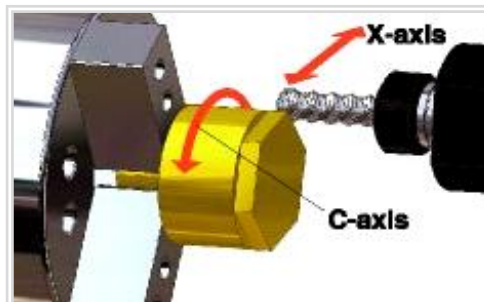


③ Sub Spindle process

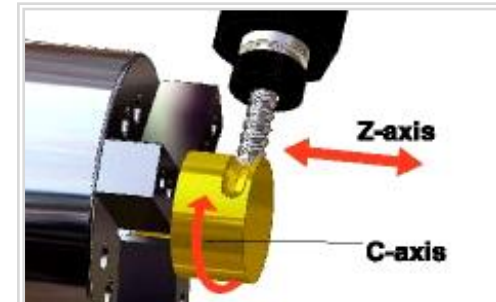
- The 1st and 2nd operations are consecutively done by transferring the work piece from main spindle to sub spindle, and as it is possible for rear machining, productivity is improved.



Polar coordinate interpolation

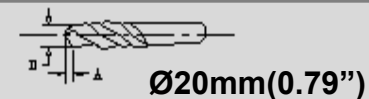


Cylindrical interpolation

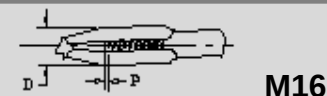


Max. Drill /
Tap size

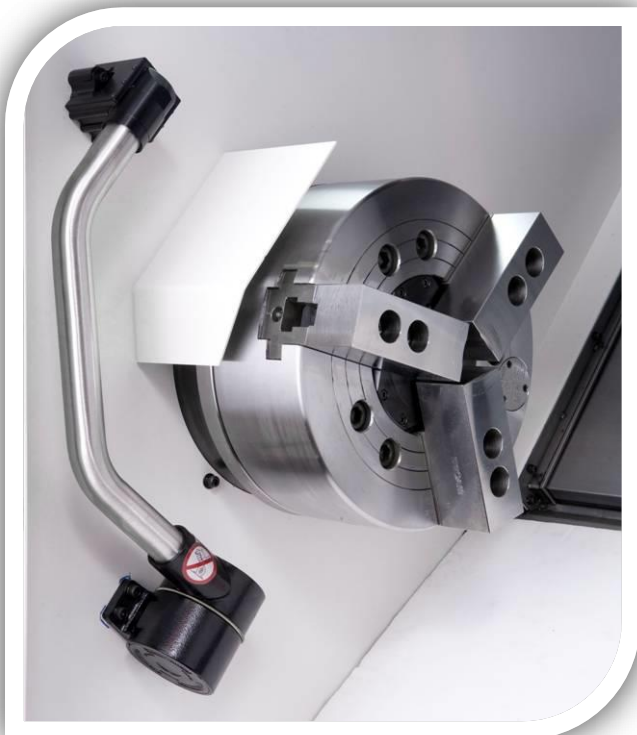
Drilling



Tapping

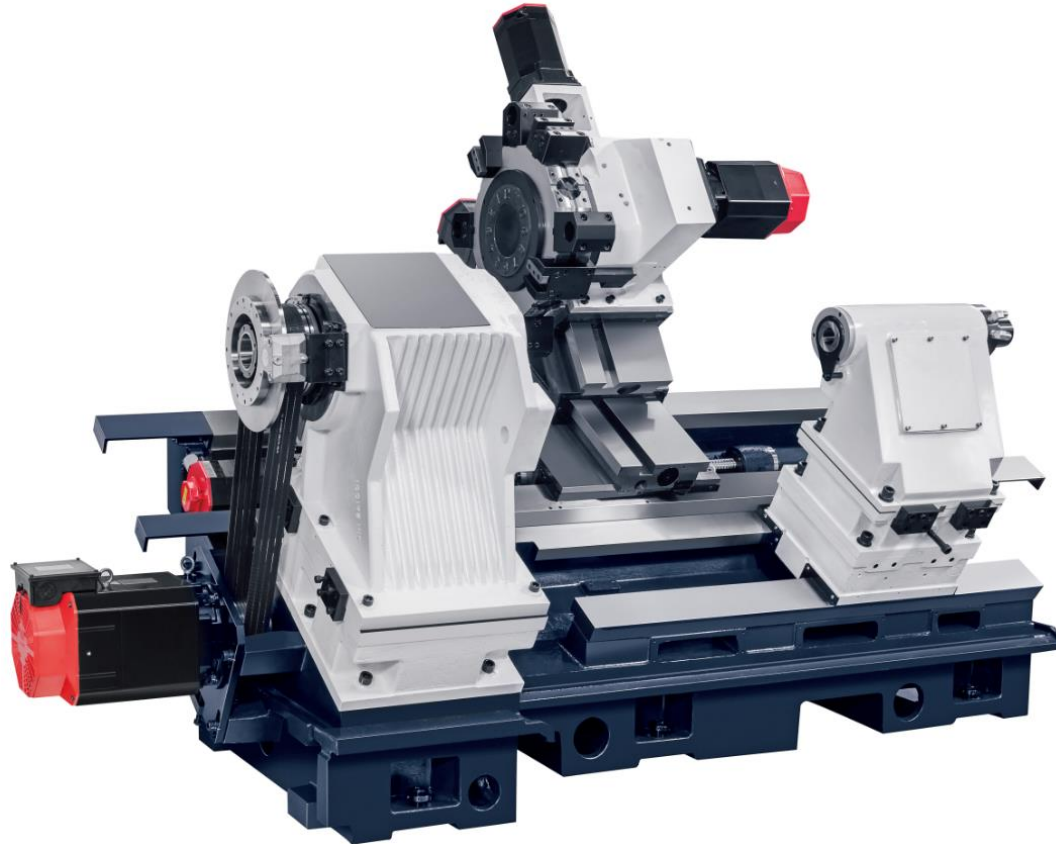


- Driven tools for Milling, Tapping and Drilling contribute to highly intensive process with spindle indexing (0.001°) by Spindle motor.
- Machining is one process can be achieved.



- **Various Functions**
 - Minimized coordinate setup time by easy touch sensor manipulation (less than 15sec.)
 - Auto calculation input of shape calibration value of tool coordinate
 - Auto tool coordinate correction on work shape change
- **Programmable Tool Presetter**

- X-Axis: 20m/min(787ipm), Z-Axis: 24m/min(945ipm), Y-Axis: 10m/min(394ipm)



- Rapid traverse in its class maximized the productivity, High-machining in spite of a long running time is achieved by box way slide.



The large capacity coolant tank and chip cover are separated from the machine bed to prevent heat transfer and easy cleaning.

► Short type: **190ℓ(50.19gal)**

► Long type: **240ℓ(63.4gal)**

Standard

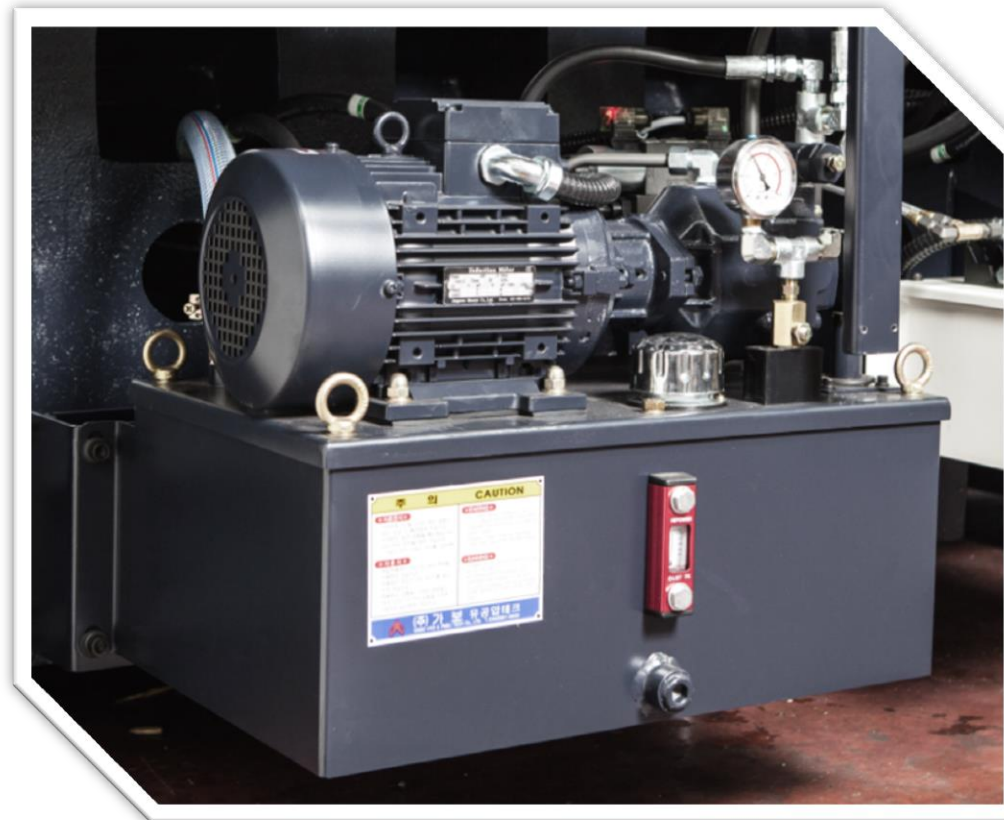
6 bar

└ High Pressure

Option

15/30/70 bar

└ High Pressure



- Operation for Turret, Chuck Cylinder, Tailstock and Steady Rest.

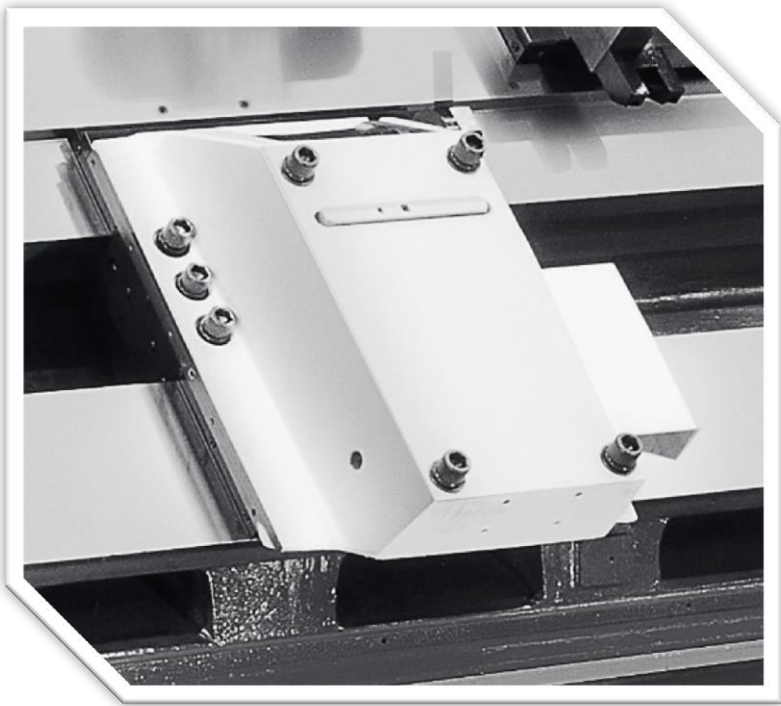


- Automatic lubrication is provided to all guide ways and ball screws.
- A low level alarm prevents the machine from restarting without lubricant.



※ 10.4" Color LCD , Fanuc Full Key type

- The operator panel is mounted on the right hand side and it rotates to 90 degrees for easy viewing and accessibility during set-up and operation.
- The layout and location of the panel is ergonomically designed to be efficient and convenient for the operator.



- **Prepared accessory with Rest Base**

- ▶ Hy'd Line with Valves for Open & Close of Rest Fingers
- ▶ Lubrication Line of Rest Finger Rollers
- ▶ Interlock Switch between Rest Base and Tailstock
- ▶ All necessary PLC ladder with M-code

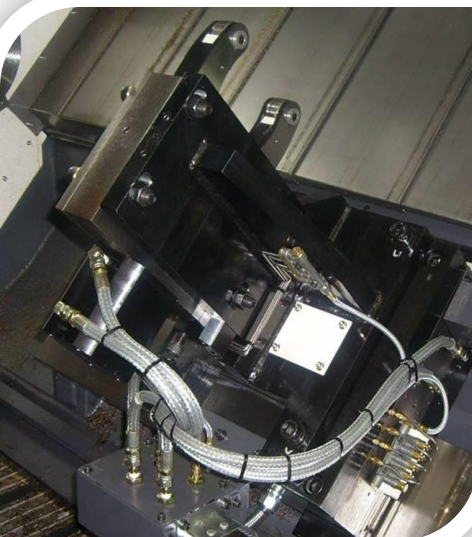
- **Method of Feed**

- ▶ Programmable Type
- ▶ Manual Type



(KHAN)

Model Item	ASR 1	ASR 2	ASR 3	ASR 3.1	ASR 3.2
Min. Clamp Dia.	Ø 4	Ø 8	Ø 12	Ø 20	Ø 50
Max. Clamp Dia.	Ø 64	Ø 101	Ø 152	Ø 165	Ø 200



(SMW)

Model Item	SLU 1	SLU 2	SLU 3	SLU 3.1	SLU 3.2
Min. Clamp Dia.	Ø 4	Ø 8	Ø 12	Ø 20	Ø 50
Max. Clamp Dia.	Ø 64	Ø 101	Ø 152	Ø 165	Ø 200

(Communication Programming Manual Guide i)

All-in-one Screen

Only one screen concentrated all operations

Machine status window

Machine status such as actual position, feed rate and load meter are displayed always

Easy programming

Based on ISO-code program format, complex machining motions can be created easily by menu form

Realistic machining simulation

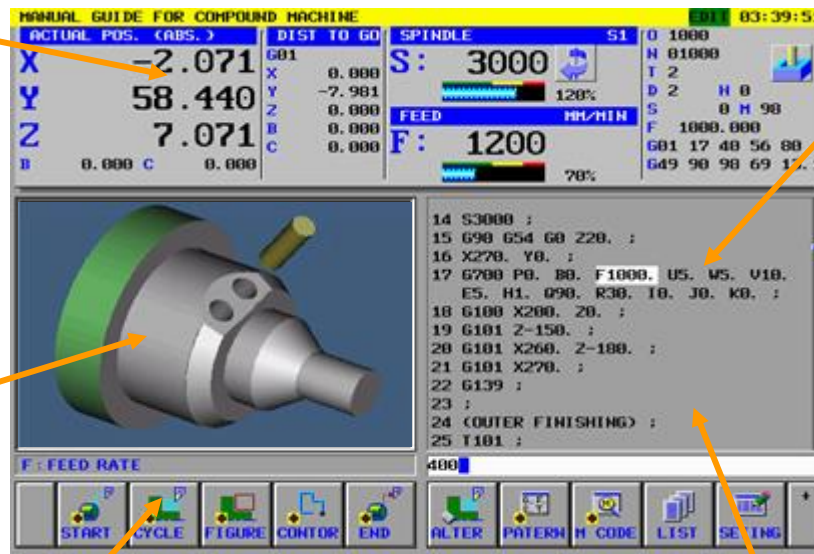
3-D solid model machining simulation is available

Intuitive menu selecting

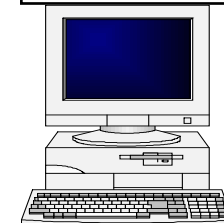
Menu can be selected easily and intuitively by soft-key with icon

Good affinity with CAD/CAM

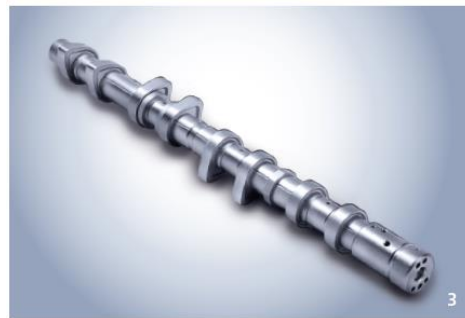
Most popular ISO-code program format on CAD/CAM can be dealt as it is



CAD/CAM



- (1) Valve Body / Plant Industry / CF8M (2) Flange / Automobile / SCM415
 (3) Cam Shaft / Automobile / Sintered Alloy (4) Valve Body / Plant Industry / SCW410



Sample parts for standard turning center

[1] Hydraulic

- Control v/v
- Connector



[2] Automotive

- Axle parts
- Flange parts
- Cam parts



[3] Others

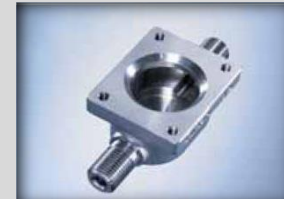
- Axle parts
- Journal
- Cam parts



Sample part with Y axis

[1] Hydraulic

- Valve Housing
- Flange parts



[2] Automotive

- Housing parts
- Flange parts



[3] Special

- Ball screw Nut
- Special Valve
- Cam Follower



No	Model	Contents	Packing	Measurement(mm)			CBM	Weight(kg)	
				Length	Width	Height		N/W	G/W
1	Hi-TECH 350A	Machine	With Wooden Box	4,300	2,290	2,200	21,663		
2	Hi-TECH 350A	Machine		4,500	2,290	2,200	22,671		
	Accessory	Transformer							
3	Hi-TECH 350A	Machine		5,000	2,290	2,200	25,190		
	Accessory	Transformer + Chip conveyor							
4	Hi-TECH 350AL	Machine		4,880	2,300	2,550	28,621		
5	Hi-TECH 350AL	Machine		5,080	2,300	2,550	29,794		
	Accessory	Transformer							
6	Hi-TECH 350AL	Machine		5,500	2,300	2,550	32,258		
	Accessory	Transformer + Chip conveyor							
7	Hi-TECH 350B	Machine		4,300	2,290	2,200	21,663		
8	Hi-TECH 350B	Machine		4,500	2,290	2,200	22,671		
	Accessory	Transformer							
9	Hi-TECH 350B	Machine		5,000	2,290	2,200	25,190		
	Accessory	Transformer + Chip conveyor							
10	Hi-TECH 350BL	Machine		4,880	2,350	2,600	29,817		
11	Hi-TECH 350BL	Machine		5,080	2,350	2,600	31,039		
	Accessory	Transformer							
12	Hi-TECH 350BL	Machine	5,500	2,350	2,600	33,605			
	Accessory	Transformer + Chip conveyor							

Comparison data with Competitor

Maker	Model	Chuck size (inch)	Max. Cutting Dia.(mm)	Max. Cutting Length (mm)	Stroke (X/Z) (mm)	Max. speed (rpm)	Main spindle motor (kW)	Controller
HWACHEON	Hi-TECH 350AYMC (ALYMC)	8"	Ø420	673(L : 1,273)	280/ 790(1,390)	5,000	18.5/15(25/20) [Opt. 22/18.5]	FANUC 0i-TD
	Hi-TECH 350BYMC (BLYMC)	10"	Ø420	661(L : 1,261)	280/ 790(1,390)	4,000	22/18.5(30/25)	FANUC 0i-TD
DOOSAN	PUMA 2100Y(LY)	8"	Ø406	520(L : 760)	260/ 590(830)	4,500	18.5/15(25/20)	
	PUMA 2600Y(LY)	10"	Ø376	760(L : 1,280)	242/ 830(1,350)	3,500	22/18.5(30/25)	

Update History

- (1) Last Update : Mar. 23rd, 2015
- (2) Responsible: Marketing team of Institute of R&D
- (3) Rectification:

[1.0] Mar. 23rd, 2015: The first edition

Thank you for your attention.