

LV

500/1100 Series

Flexible, Productive Automation System Vertical Turning Center

HYUNDAI WIA Vertical Turning Center

Technical Leader

Flexible, Productive Automation System Vertical Turning Center

The CNC Turning Center LV500/1100 Series, designed by Hyundai WIA with years of expertise and the latest technology, is designed to maximize productivity by high speed and accurate performance.

		LV500 Series	LV1100 Series
Max. Turning Dia.	mm(in)	Ø550 (21.7")	Ø1,160 (45.7")
Max. Turning Length	mm(in)	600 (23.6")	1,000 (39.4")
Chuck Size	inch	15" [18"]	32" [40"]
Spindle Speed	r/min	2,000	800 [630]
Spindle Motor (10min./30min./Cont.)	kW(HP)	26/18.5 (35/25) [30/22 (40/30)] [30/22 (40/30)]	65/55/45 (87/74/60)
Travel (X/Z)	mm(in)	325/625 (12.8"/24.6")	620/1,000 (24.4"/39.4")
No. of Tools	EA	8 [12], BMT : 12	12

[] : Option

LV

500/1100 Series

Automation System Vertical Turning Center

- Stable spindle structure with excellent heavy duty cutting ability
- 2 step chuck pressure mechanism adopted to minimize workpiece deformation
- Various peripheral equipment can be used for optimized machining
- Designed for optimal chip disposal
- “Right” and “Left” structure for practical automation construction (LV500 Series)



01 BASIC STRUCTURE

High Productivity, State-of-the-art Vertical CNC Turning Center

Fixed Type Column

LV500 Series

Moving Column

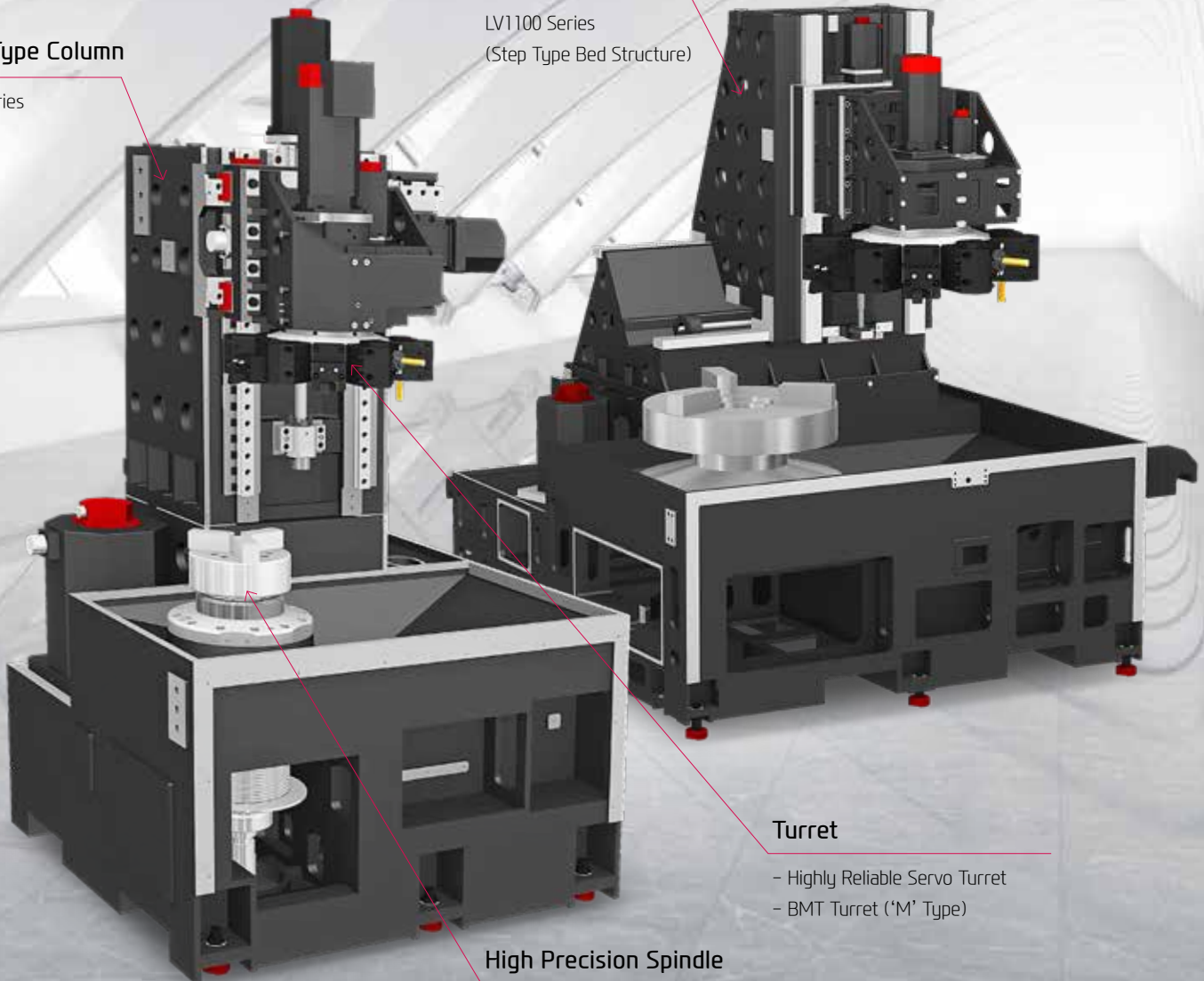
LV1100 Series
(Step Type Bed Structure)

Turret

- Highly Reliable Servo Turret
- BMT Turret ('M' Type)

High Precision Spindle

- 2 Step Pressure Chucking Device
- Various Spindle Configurations by Model
- C-Axis Control : 0.001° ('M' Type)



STRUCTURE FOR HEAVY CUTTING & HIGH PRECISION

HIGH-PRECISION STRUCTURE

Right and Left Machine Structure

The LV500 Series consists of Left and Right machine configuration, allowing for more efficient automation options. (Except LV1100)

Front Operation Structure

The power supply, hydraulic device and lubrication device are all designed to be controlled on the front side of the machine, leading to enhanced user convenience.



COLUMN

Fixed Type Column (LV500 Series)

The LV500 Series is designed with a fixed column to minimize vibration during axial movements.

Moving Column (LV1100 Series)

The LV1100 Series Features a traveling column to maintain superior accuracy when turning larger work pieces.

Step Type Bed Structure

For the LV1100 Series, the column feed unit of the bed is designed to form steps, so that the load generated in the front during machining operations may be minimized. Also, by optimizing the weight of the column, feed stability is enhanced.

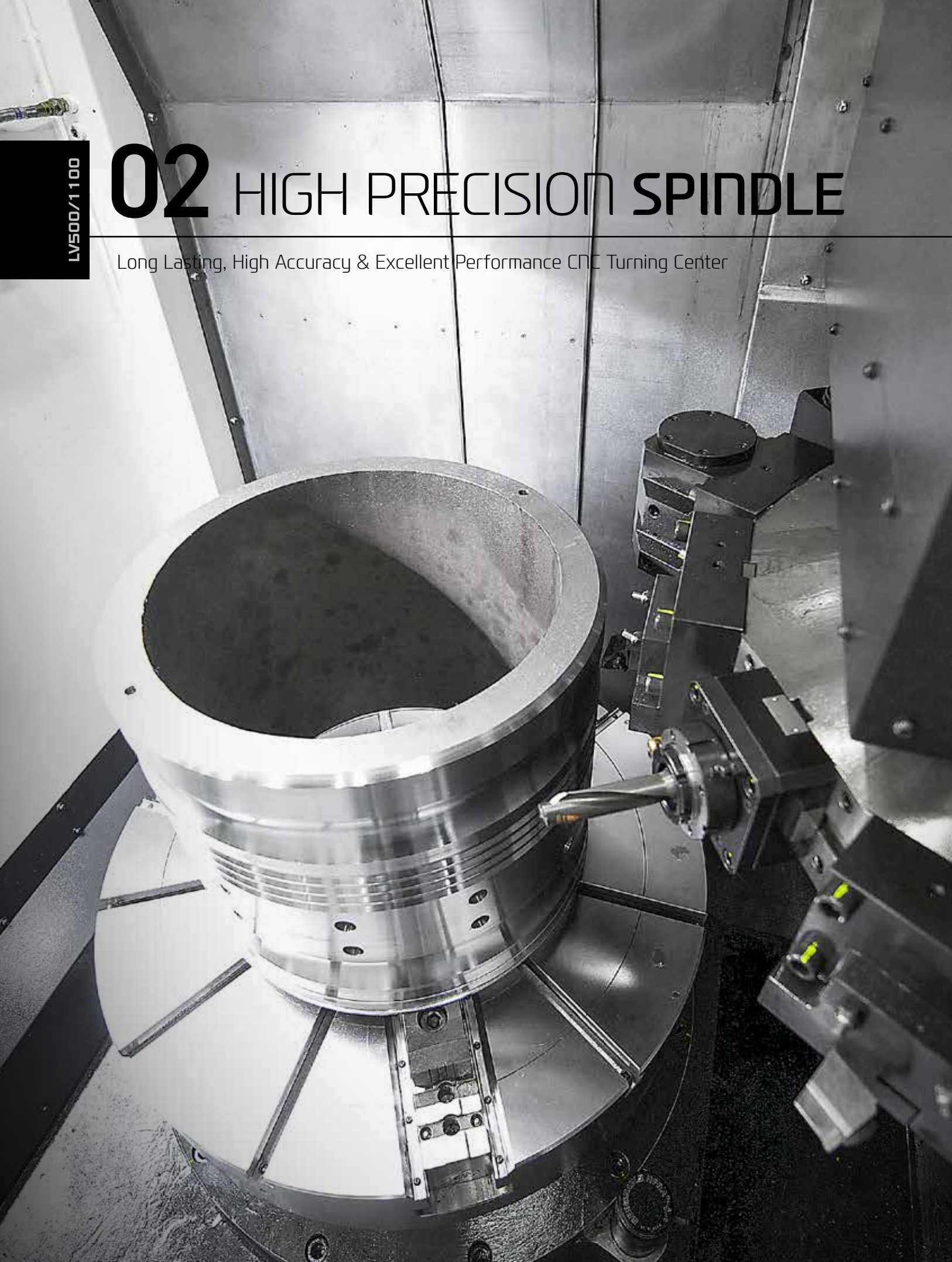
Guideway

ITEM	LV500 Series	LV1100 Series
Slide Type	LM Guide	Box Guide
Travel (X/Z)	325/625 mm (12.8"/24.6")	620/1,000 mm (24.4"/39.4")
Rapid Traverse Rate (X/Z)	20/18 m/min	24/24 m/min

LV500/1100

02 HIGH PRECISION SPINDLE

Long Lasting, High Accuracy & Excellent Performance CNC Turning Center



HEAVY DUTY CUTTING & HIGH ACCURACY

SPINDLE

Spindle for Heavy Cutting

The use of both cylindrical roller bearings and angular contact bearings provide high speed and rigidity. This enables machining of heavy workpieces. Also, LV1100 Series is with a gear box spindle, which provides high torque at low rpm and stability at high rpm.



C-Axis Control ('M' Type)

The C-axis is capable of 0.001° control when milling turret is applied. Machining capability is strengthened with turning and milling operations.

2 Step Pressure Chucking Device

The 2 step pressure chucking system enables high pressure chucking during rough cutting and low pressure chucking during precision cutting.

Spindle Specifications

[] : Option

Model	Spindle Speed	Motor (Max./Cont.)	Torque (Max./Cont.)	Type
LV500 Series	2,000 r/min	26/18.5 kW (35/25 HP)	975/693 N·m (719.1/511.1 lbft·ft)	Belt
	[2,000 r/min]	[30/22 kW (40/30 HP)]	[1,124/824 N·m (829/607.8 lbft·ft)]	
	[2,000 r/min]	[30/22 kW (40/30 HP)]	[1,619/1,188 N·m (1,194.1/876.2 lbft·ft)]	
LV1100 Series	800 [630] r/min	65/45 kW (87/60 HP)	7,671/5,310 N·m (5,657.8/3,916.5 lbft·ft)	Gear Box

CHIP INFLUX PROTECTION

The LV Series is incorporated with a protection device to keep chips and other foreign materials from entering the main spindle, ensuring long term high precision performance.

Chute Structure

The sloped bed design improves chip flow and disposal of cutting fluids minimizing thermal displacement.



03 SERVO TURRET

High speed, High Accuracy, Highly Reliable Servo Turret

Servo Turret

[] : Option

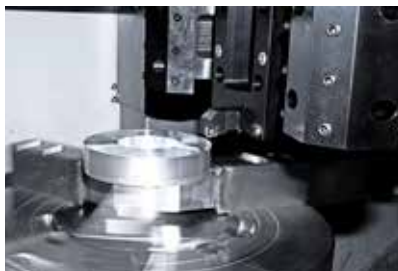
Model	No. of Tools	Tool Size (O.D/i.D)	Indexing Time
LV500R/L	8 [12] EA	□ 32/Ø50 mm (□ 1.3"/Ø2")	0.2 sec
LV500RM/LM	12 EA		
LV1100 Series	12 EA	□ 32/Ø80 mm (□ 1.3"/Ø3.1")	0.6 sec

Mill Turret

Model	Speed	Motor (Max./Cont)	Torque (Max./Cont)	Type
LV500 Series	3,000 r/min	3.7/2.2 kW (5/3 HP)	58.9/35 N·m (43.4/25.8 lbft·ft)	BMT75
LV1100 Series	3,000 r/min	11/7.5 kW (15/10 HP)	70/47.8 N·m (51.6/35.3 lbft·ft)	BMT85

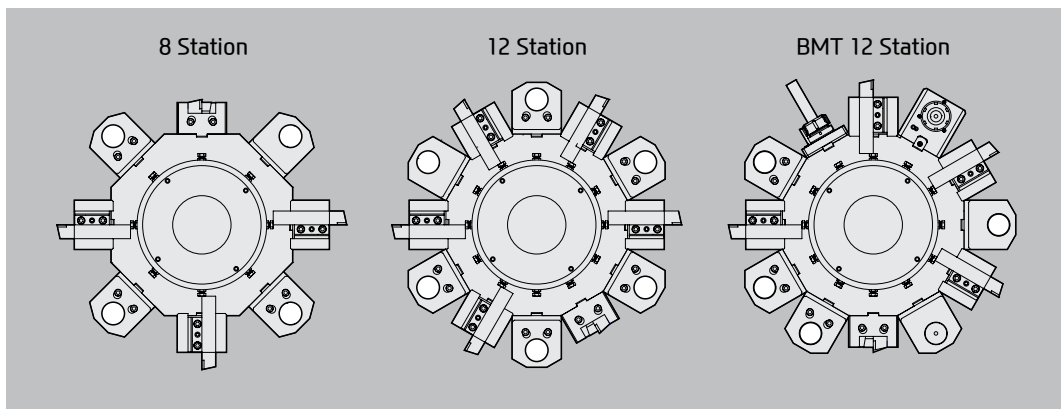
VARIOUS DRIVEN PRECISION BMT TOOL HOLDERS

SERVO TURRET



Servo Turret

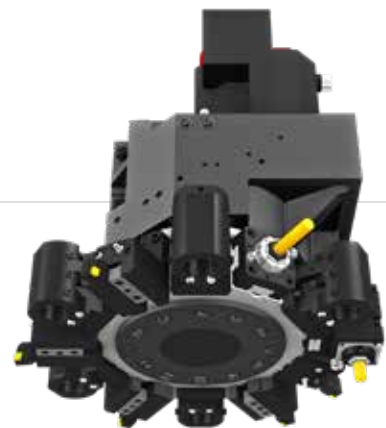
The LV500/1100 Series' machining reliability is enhanced by incorporating a high performance AC servo motor to the turret drive mechanism. Also, the turrets are installed with 3 piece couplings to improve indexing accuracy. Powerful hydraulic tool clamping exhibits great heavy duty machining performance by minimizing tool tip deviation due to work load.



MILL TURRET

BMT Turret ('M' Type)

The BMT turret secures the tool with four bolts and key on the tool mounting surface of the turret, making it possible to powerfully fix the tool, ensuring high reliability in rigidity and precision.



STRAIGHT MILLING HEAD



ANGULAR MILLING HEAD



Mill Tool Holder

Machining capability has increased with the addition of straight milling head tool holder, which can machine workpieces from the side, and angular milling head tool holder, which can perform I.D. operations.

SPECIFICATIONS

Standard & Optional

Spindle		LV500	LV1100
Main Spindle Hollow Chuck 3 Jaw			
	12"	-	-
	15"	●	-
Main Spindle	18"	○	-
Solid Chuck 3 Jaw	32"	-	●
	40"	-	○
Standard Soft Jaw (1set)			
Chuck Clamp Foot Switch			
2 Steps Hyd. Pressure Device			
Spindle Inside Stopper			
5" Index			
Cs-Axis (0.001")			
2 Steps Chuck Foot Switch			
Chuck Open/Close Confirmation Device			
High Power Main Spindle	30/22kW (40.2/29.5 HP)	○	-
Turret			
Tool Holder			
8 station Turret			
12 station Turret			
Mill Turret	BMT	- (M : ●)	- (M : ●)
Straight Milling Head(Radial)	Collet Type, 1ea	- (M : ●)	- (M : ●)
Angular Milling Head(Axial)	Collet Type, 1ea	- (M : ●)	- (M : ●)
Straight Milling Head	Adapter Type	- (M : ○)	- (M : ○)
Angular Milling Head	Adapter Type	- (M : ○)	- (M : ○)
Boring Sleeve		●	●
Drill Socket		●	●
Angle Head		- (M : ☆)	- (M : ☆)
Coolant & Air Blow			
Standard Coolant (Nozzle)			
Bed Flushing Coolant			
Jet Coolant System			
Chuck Coolant (Upper Chuck)			
Gun Coolant			
Though Spindle Coolant (Only for Special Chuck)			
Thru Coolant for Live Tool			
Chuck Air Blow (Upper Chuck)			
Turret Air Blow			
Air Gun			
Though Spindle Air Blow (Only for Special Chuck)			
High Pressure Coolant	0.5Bar	●	-
	6Bar	○	●
	20Bar	○	☆
	30Bar	☆	☆
	70Bar	○	☆
Power Coolant System (For Automation)			
Coolant Chiller			
Chip Disposal			
Coolant Tank	300 ℓ (79.3 gal)	●	-
	340 ℓ (89.8 gal)	-	-
	420 ℓ (111 gal)	-	●
Chip Conveyor (Hinge/Scraper)	Front (Side)	○	○
	Rear (Rear)	○	○
Special Chip Conveyor (Drum Filter)			
Chip Wagon	Standard (180 ℓ [47.5 gal])	○	○
	Swing (200 ℓ [52.8 gal])	○	○
	Large Swing (290 ℓ [76.6 gal])	○	○
	Large Size (330 ℓ [87.2 gal])	○	○
	Customized	☆	☆
Safety Device			
Total Splash Guard			
Chuck hydraulic pressure maintenance interlock			

● : Standard ○ : Option ☆ : Prior Consultation - : Non Applicable

Electric Device		LV500	LV1100
Call Light	1Color : ●	●	●
Call Light & Buzzer	3Color : ● ■ ■ B	○	○
Electric Cabinet Light			
Remote MPG			
Work Counter	Digital	○	○
Total Counter	Digital	○	○
Tool Counter	Digital	○	○
Multi Tool Counter			
Electric Circuit Breaker			
AVR (Auto Voltage Regulator)			
Transformer	30kVA	-	-
	35kVA	○	-
	60kVA	-	○
Auto Power Off			
Measurement			
Q-Setter	Removable Type	○	○
Automatic Q-Setter			
Work Close Confirmation Device	TACO	☆	☆
	SMC	☆	☆
Work Setter			
Linear Scale	X Axis	○	○
	Z Axis	☆	○
Coolant Level Sensor (Only for Chip Conveyor)			
Environment			
Air Conditioner			
Oil Mist Collector			
Oil Skimmer (Only for Chip Conveyor)			
MLQ (Minimal Quantity Lubrication)			
Fixture & Automation			
Auto Door	Standard	○	○
	High Speed	☆	☆
Auto Shutter (Only for Automatic System)			
Sub Operation Pannel			
Extra M-Code 4ea			
Automation Interface			
I/O Extension (IN & OUT)	16 Contact	○	○
	32 Contact	○	○
Turret Work Pusher (For Automation)			
Hyd. Device			
Standard Hyd. Cylinder	Solid	●	●
	35bar/14 ℓ (3.7 gal)	-	-
	60bar/20 ℓ (5.3 gal)	-	●
	70bar/50 ℓ (13.2 gal)	●	-
Standard Hyd. Unit			
S/W			
Automatic CAM (HW-ACAM)			
Dialogue Program (HW-DPRO)			
DNC software (HW-eDNC)			
Machine Monitoring System (HW-MMS Cloud)			
Machine Monitoring System (Customer Installation : HW-MMS Edge)			
Smart Guide-i : FANUC		● (F32i-B : ☆)	● (F32i-B : ☆)
Smart S/W			
ETC			
Tool Box			
Customized Color	Need Munsel No.	☆	☆
CAD & CAM			
Special Level Seat	Only with Air Zero	☆	☆

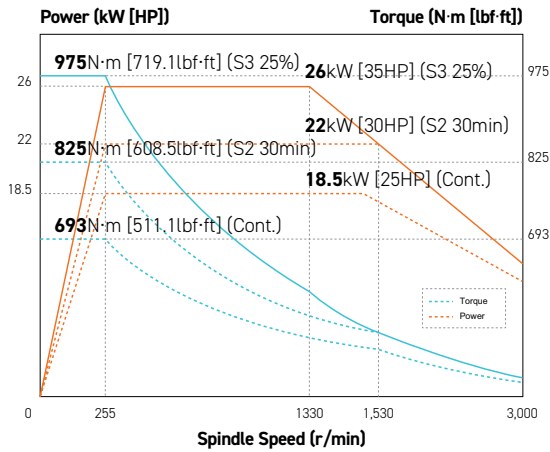
❖ 4 channel of TDC(Thermal Displacement Compensation) device is recommended, when more than 6 bar of high pressure coolant is applied, for the high quality machining.

Specifications are subject to change without notice for improvement. / Please refer to the S/W catalog (iRIS) for details by S/W product.

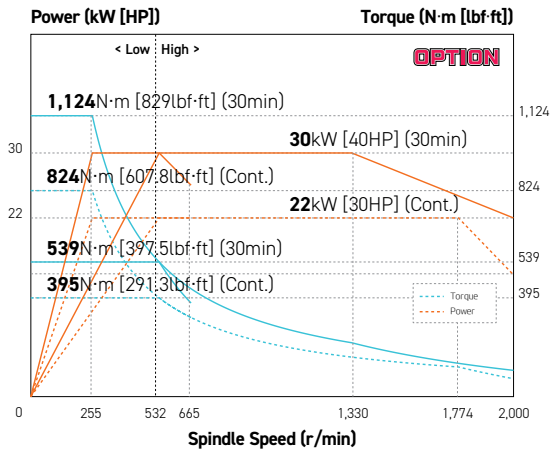
SPECIFICATIONS

Spindle Output/Torque Diagram

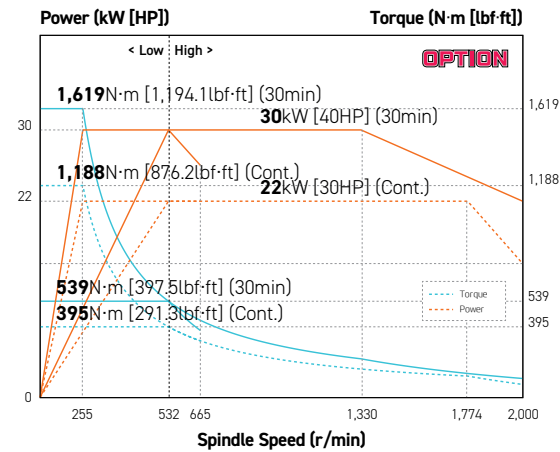
LV500 Series 2,000rpm (Belt)



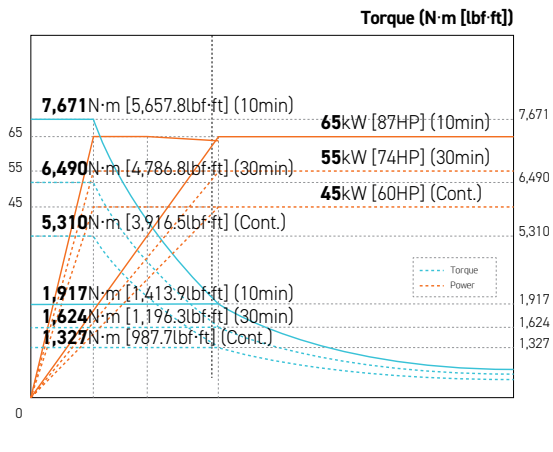
LV500 Series 2,000rpm (Belt) OPTION



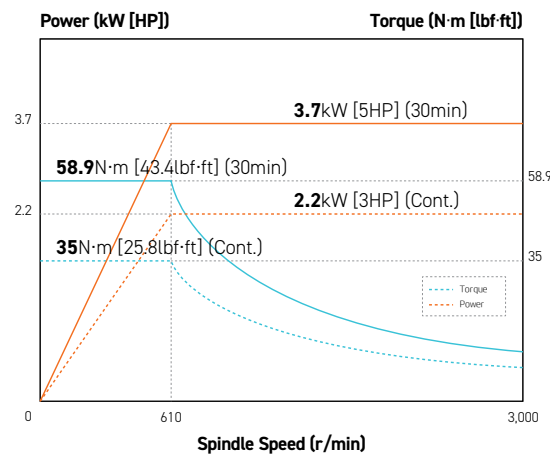
LV500 Series 2,000rpm (Belt) OPTION



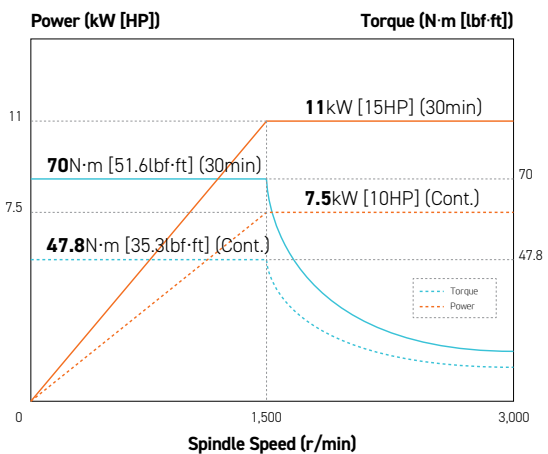
LV1100 Series 800rpm (Gear)



LV500 Series 3,000rpm (Mill Turret)



LV1100 Series 300rpm (Mill Turret)

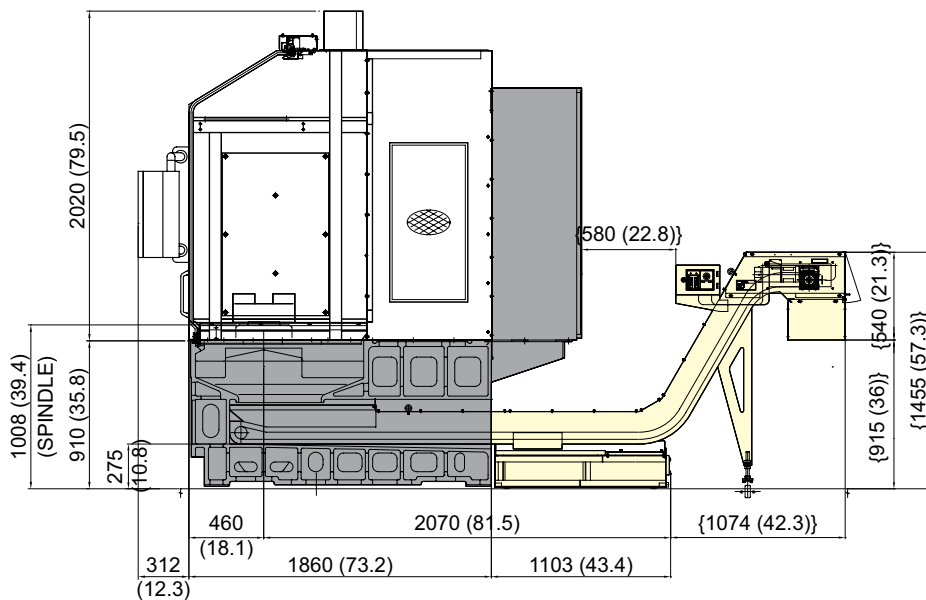
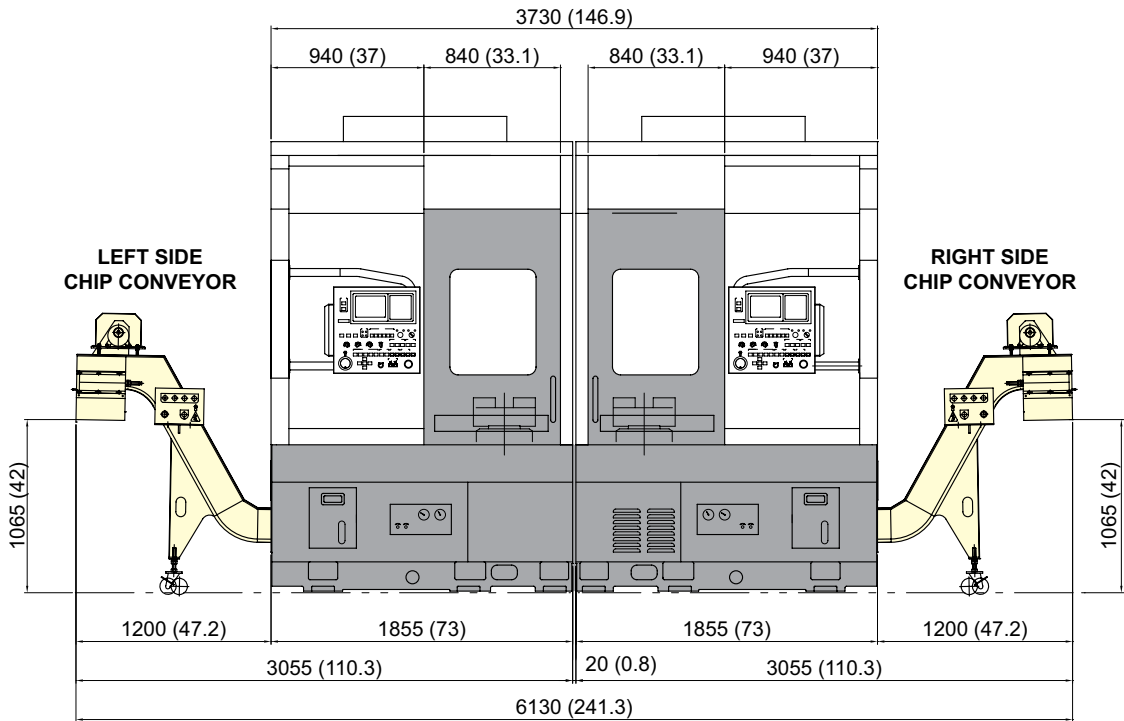


SPECIFICATIONS

External Dimensions

unit : mm(in)

LV500 Series



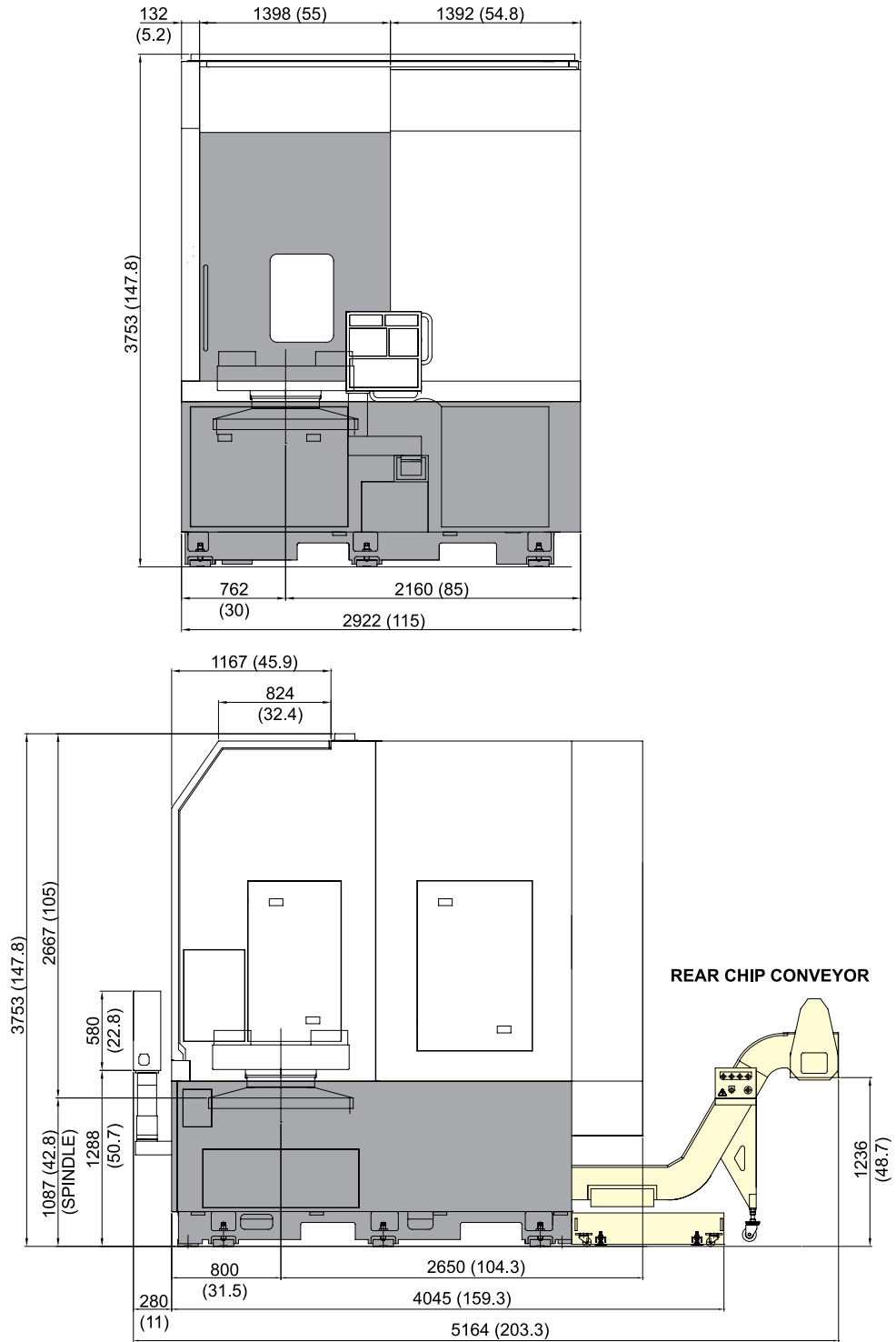
{ } : This may vary according to options.

SPECIFICATIONS

External Dimensions

unit : mm(in)

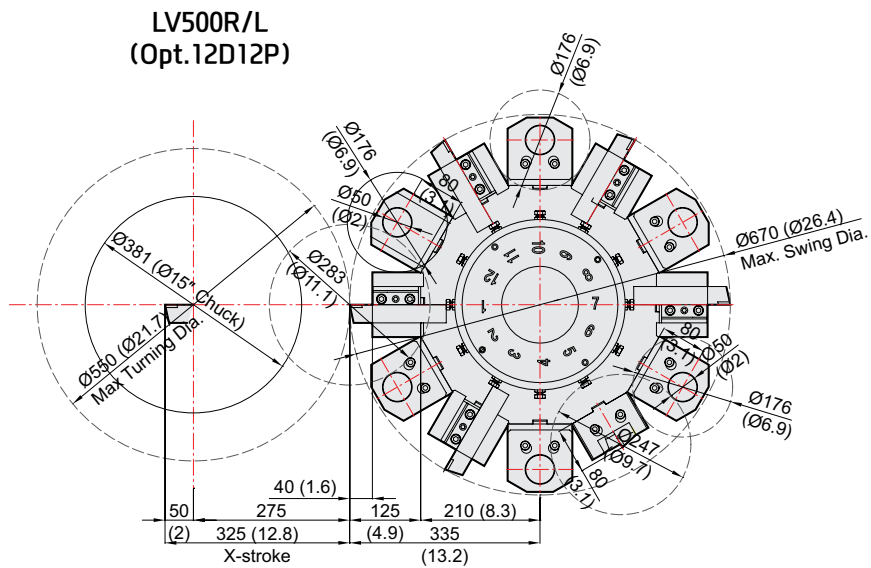
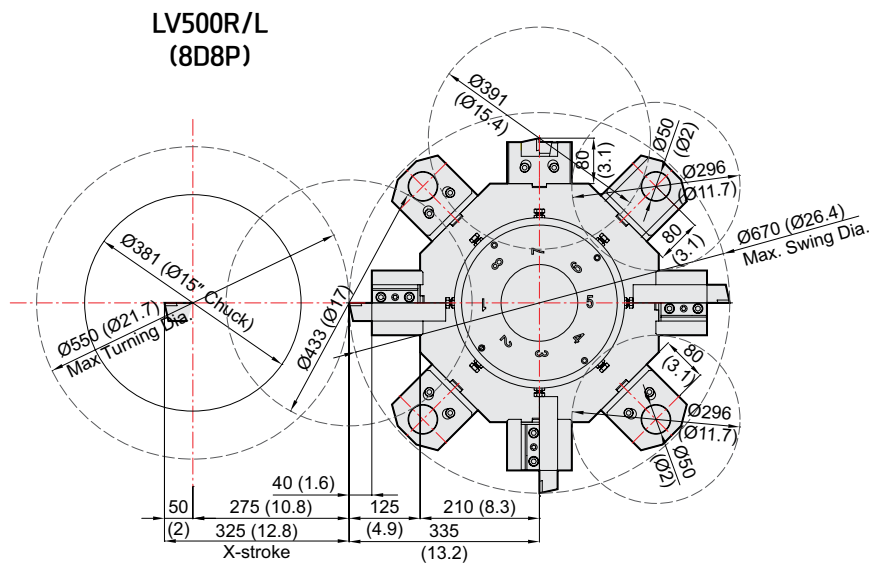
LV1100RM



SPECIFICATIONS

Interference

unit : mm(in)

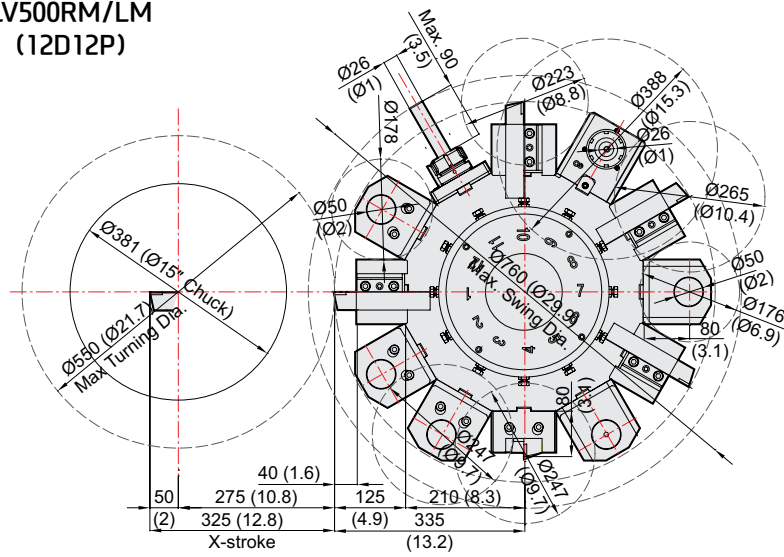


SPECIFICATIONS

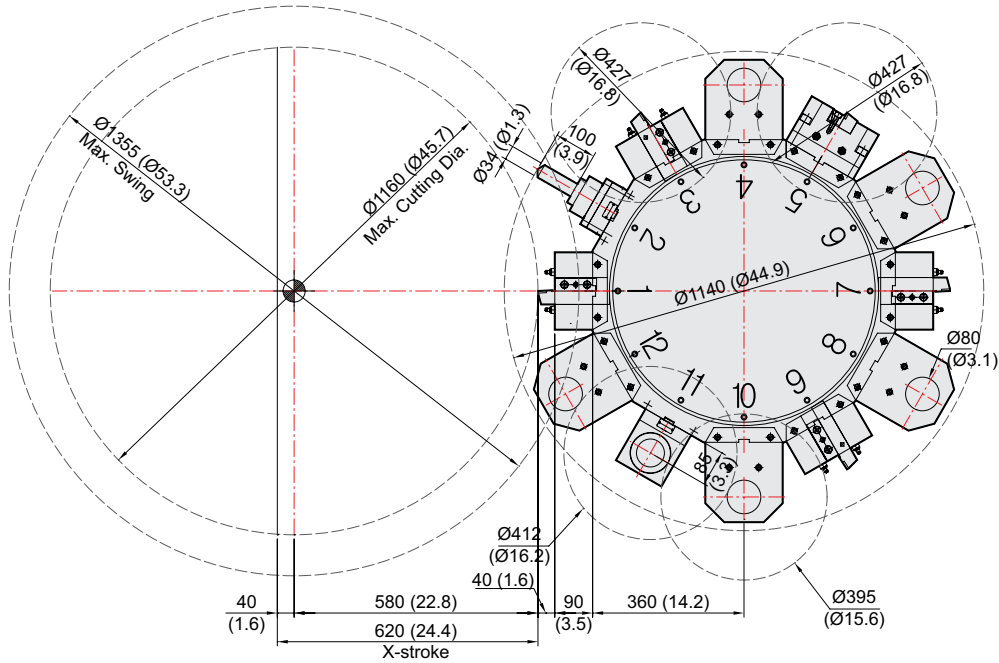
Interference

unit : mm(in)

**LV500RM/LM
(12D12P)**



**LV1100RM
(12D12P)**

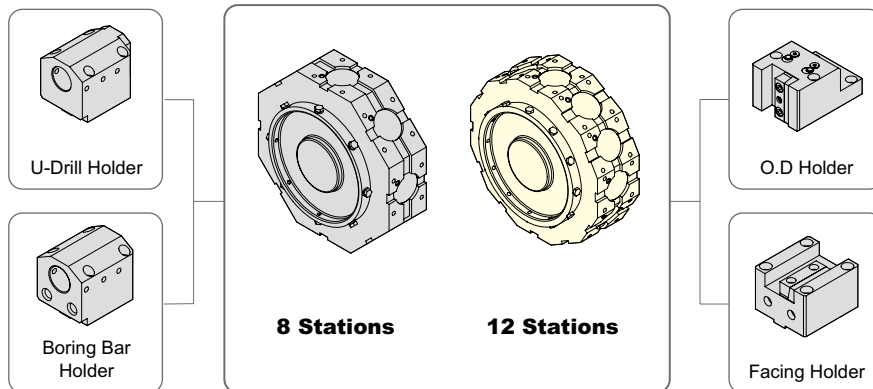


SPECIFICATIONS

Tooling System

unit : mm(in)

LV500R/L



Tooling Parts Detail

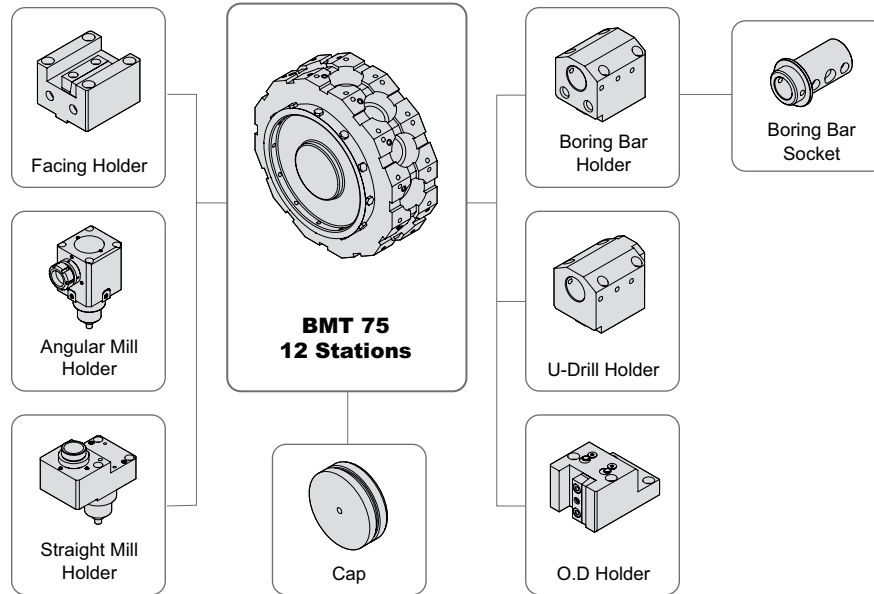
ITEM			LV500R/L (8 Station)		LV500R/L (12 Station)		
			mm Unit	inch Unit	mm Unit	inch Unit	
Turning Holder	O.D Holder	Right/Left	3	3	5	5	
	Facing Holder		1	1	1	1	
Boring Holder	I.D Holder	Single	3	3	5	5	
	U-Drill Holder	Tool Holder	1	1	1	1	
Driven Holder	Straight Mill Holder	Standard	-	-	-	-	
	Angular Mill Holder	Standard	-	-	-	-	
Socket	Boring	Ø16 (Ø5/8")	1	1	1	1	
		Ø20 (Ø3/4")	1	1	1	1	
		Ø25 (Ø1")	1	1	1	1	
		Ø32 (Ø1 1/4")	1	1	1	1	
		Ø40 (Ø1 1/2")	1	1	1	1	
	Drill	MT 2		1	1	1	1
		MT 3		1	1	1	1
		MT 4		1	1	1	1
	ER Collet		-	-	-	-	

SPECIFICATIONS

Tooling System

unit : mm(in)

LV500RM/LM



Tooling Parts Detail

ITEM			LV500RM/LM		
			mm Unit	inch Unit	
Turning Holder	O.D Holder	Right/Left	4	4	
	Facing Holder		1	1	
Boring Holder	I.D Holder	Single	4	4	
	U-Drill Holder	Tool Holder	1	1	
Driven Holder	Straight Mill Holder	Standard	1	1	
	Angular Mill Holder	Standard	1	1	
Socket	Boring	Ø16 (Ø5/8")	1	1	
		Ø20 (Ø3/4")	1	1	
		Ø25 (Ø1")	1	1	
		Ø32 (Ø1 1/4")	1	1	
		Ø40 (Ø1 1/2")	1	1	
	Drill	MT 2		1	1
		MT 3		1	1
		MT 4		1	1
	ER Collet		-	-	

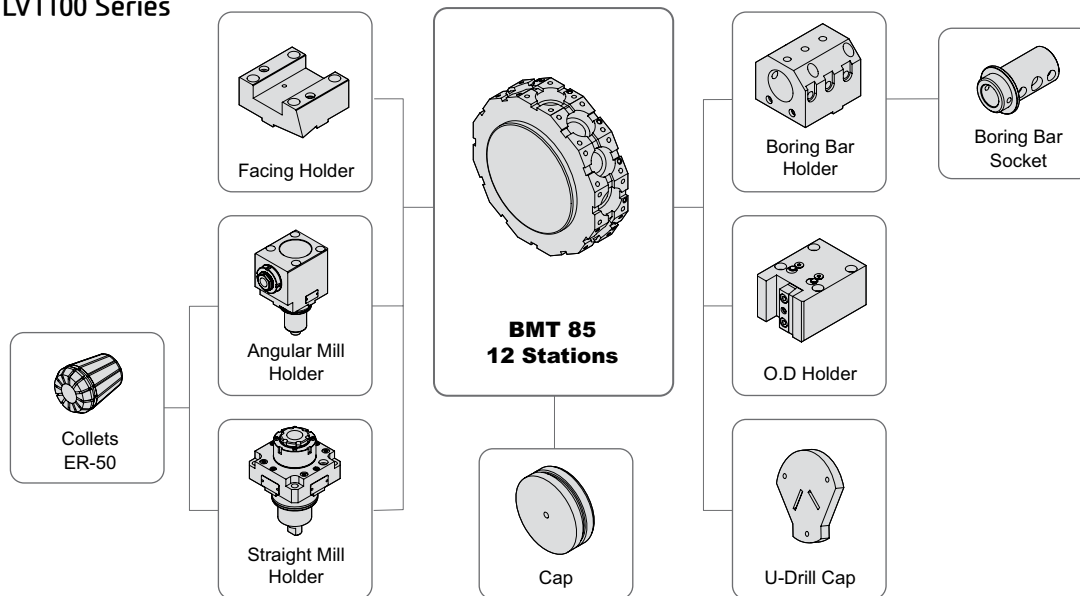
Specifications are subject to change without notice for improvement.

SPECIFICATIONS

Tooling System

unit : mm(in)

LV1100 Series



Tooling Parts Detail

ITEM			LV1100R/L		LV1100RM/LM		
			mm Unit	inch Unit	mm Unit	inch Unit	
Turning Holder	O.D Holder	Right/Left	5	5	4	4	
	Facing Holder		1	1	1	1	
Boring Holder	I.D Holder	Single	6	6	5	5	
	U-Drill Holder	Cap	1	1	1	1	
Driven Holder	Straight Mill Holder	Standard	-	-	1	1	
	Angular Mill Holder	Standard	-	-	1	1	
Socket	Boring	Ø20 (Ø3/4")	1	1	1	1	
		Ø25 (Ø1")	1	1	1	1	
		Ø32 (Ø1 1/4")	1	1	1	1	
		Ø40 (Ø1 1/2")	1	1	1	1	
		Ø50 (Ø2")	1	1	1	1	
		Ø60 (Ø2 1/4")	1	1	1	1	
	Drill	MT 3		1	1	1	1
		MT 4		1	1	1	1
		MT 5		1	1	1	1
	Adapter Set		-	-	1 Set	1 Set	
	ER Collet		-	-	1 Set	1 Set	

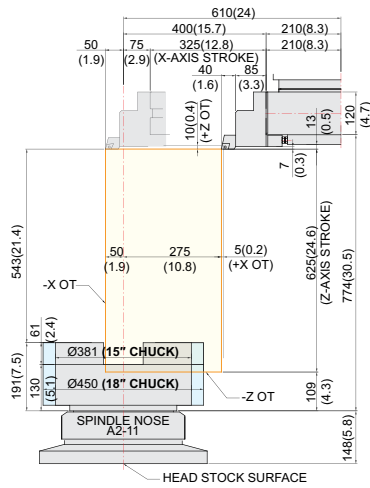
SPECIFICATIONS

Tooling Travel Range

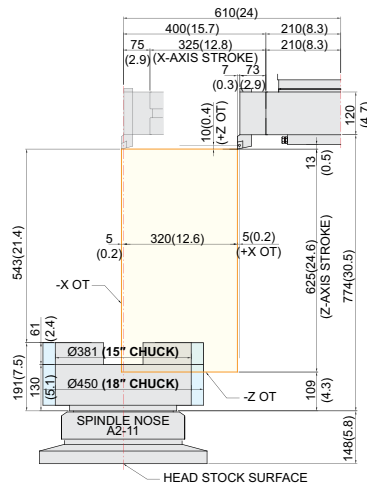
unit : mm(in)

LV500R/L

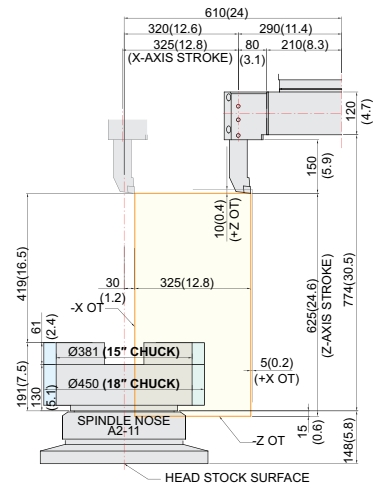
(O.D TURNING HOLDER)



(FACING HOLDER)

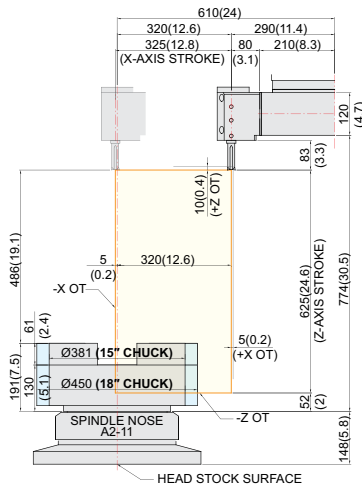


(BORING BAR HOLDER)

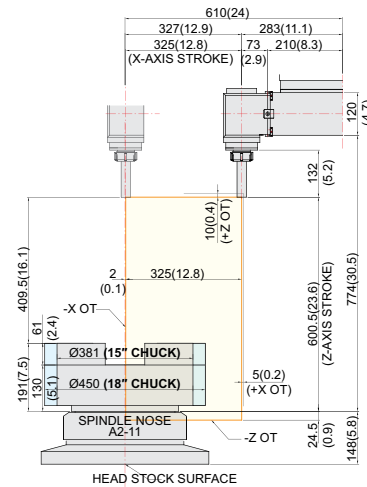


LV500RM/LM

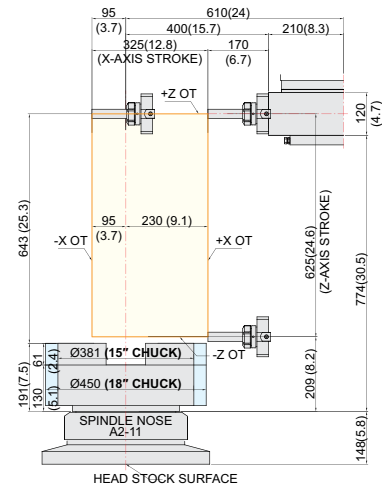
(U-DRILL HOLDER)



(ANGULAR MILLING HEAD)



(STRAIGHT MILLING HEAD)



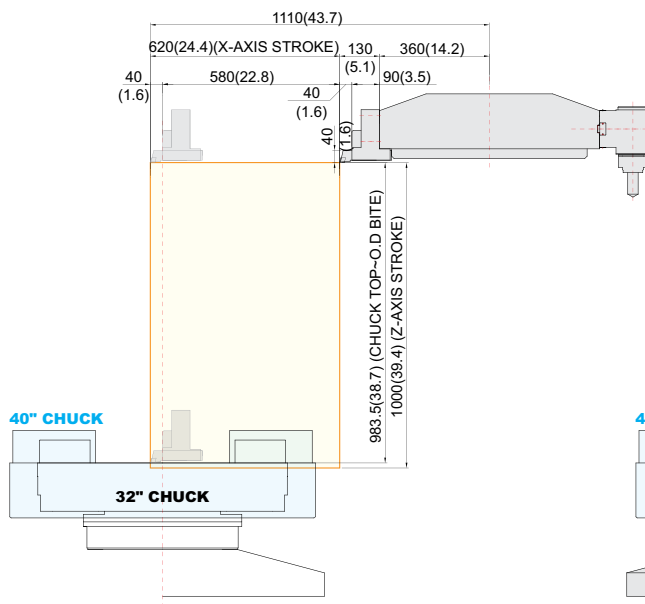
SPECIFICATIONS

Tooling Travel Range

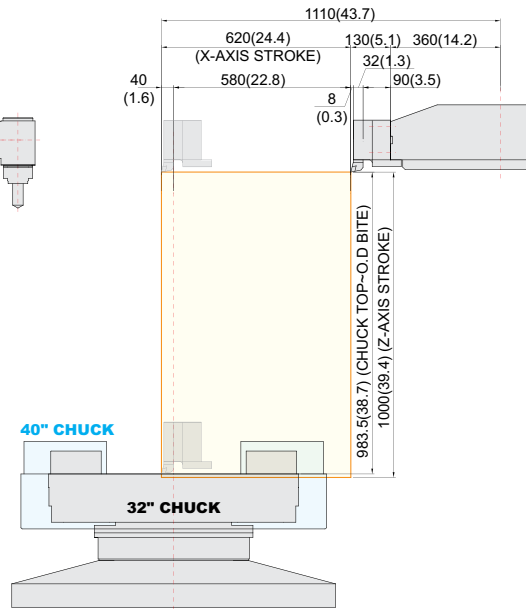
unit : mm(in)

LV1100RM

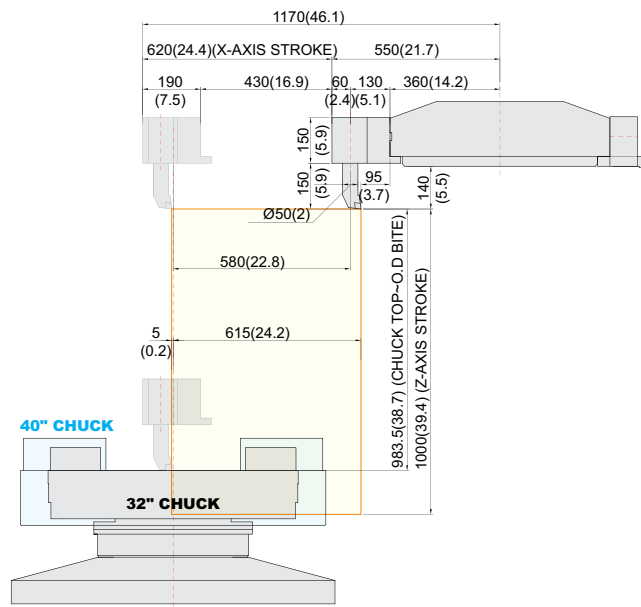
(O.D. HOLDER)



(FACING HOLDER)



(I.D. HOLDER)



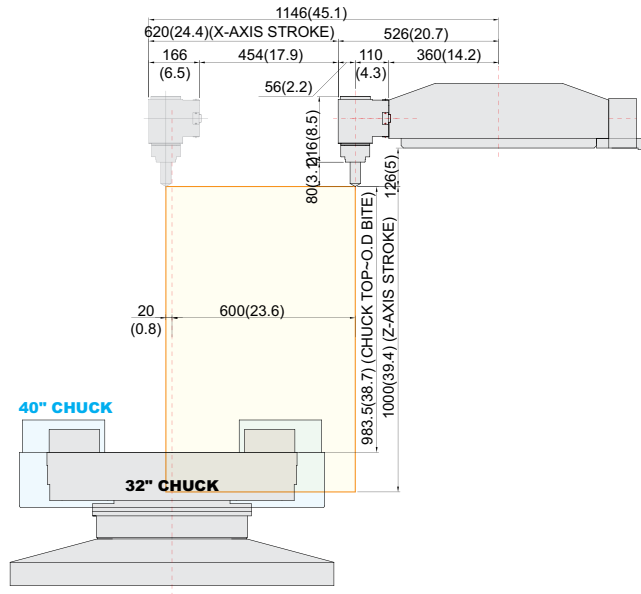
SPECIFICATIONS

Tooling Travel Range

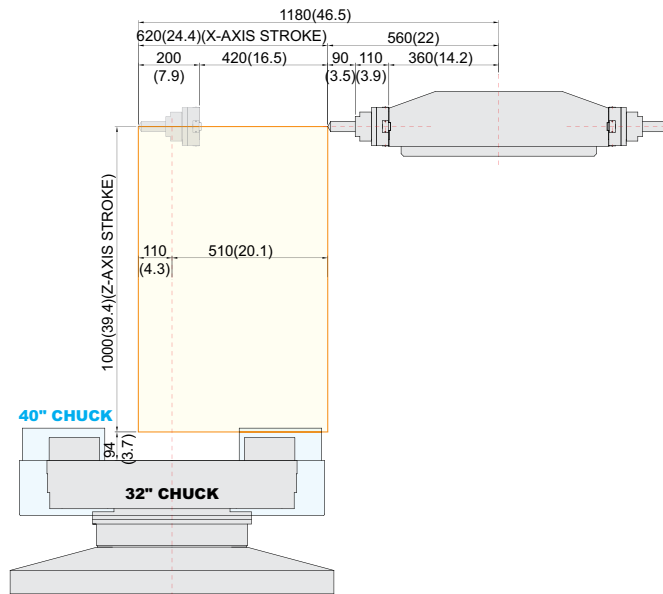
unit : mm(in)

LV1100RM

(ANGULAR MILLING HEAD)



(STRAIGHT MILLING HEAD)



SPECIFICATIONS

Specifications

[] : Option

ITEM		LV500R/L	LV500RM/LM	
CAPACITY	Swing Over the Bed	mm(in)	Ø760 (29.9")	
	Swing Over the Carriage	mm(in)	Ø560 (22")	
	Max. Turning Dia.	mm(in)	Ø550 (21.7")	
	Max. Turning Length	mm(in)	600 (23.6")	
SPINDLE	Chuck Size	inch	15" [18"]	
	Spindle Bore	mm(in)	Ø100 (3.9")	
	Spindle Speed (rpm)	r/min	2,000	
	Motor (Max/Cont.)	kW(HP)	26/18.5 (35/25) [30/22 (40/30)] [30/22 (40/30)]	
	Torque (Max/Cont.)	N·m(lbf·ft)	975/693 (719.1/511.1) [1,124/824 (829/607.8)] [1,619/1,188 (1,194.1/876.2)]	
	Spindle Type	-	Belt	
	Spindle Nose	-	A2-11	
	C-axis Indexing	deg	-	0.001°
FEED	Travel (X/Z)	mm(in)	325/625 (12.8"/24.6")	
	Rapid Traverse Rate (X/Z)	m/min(ipm)	20/18 (787/709)	
	Slide Type	-	LM GUIDE	
TURRET	No. of Tools	EA	8 [12]	
	Tool Size	OD	mm(in)	□ 32 (1.3")
		ID	mm(in)	Ø50 (2")
	Indexing Time	sec/step		0.2
LIVE TOOL	Motor (Max/Cont.)	kW(HP)	-	3.7/2.2 (5/3)
	Milling Tool Speed (rpm)	r/min	-	3,000
	Torque (Max/Cont.)	N·m(lbf·ft)	-	58.9/35 (43.4/25.8)
	Collet Size	mm(in)	-	Ø26 (1") (ER40)
	Type	-	-	BMT75
TANK CAPACITY	Coolant Tank	ℓ (gal)		300 (79.3)
	Lubricating Tank	ℓ (gal)		2 (0.5)
POWER SUPPLY	Electric Power Supply	kVA	29	32
	Thickness of Power Cable	mm ²		Over 25
	Voltage	V/Hz		220/60 (200/50*)
MACHINE	Floor Space (L×W)	mm(in)		1,855×2,842 (73"×111.9") <Excluding Chip Conveyor>
	Height	mm(in)		2,930 (115.4")
	Weight	kg(lb)		10,000 (22,046)
NC	Controller	-		FANUC 32i-B [HYUNDAI WIA FANUC i Series - Smart Plus]

*) Using 50Hz voltage instead of 60Hz may lower the output of motors. (excluding servo motors and inverter motors)

Prior consultation is required when applying spindle contouring control for gear driven spindle.
Specifications are subject to change without notice for improvement.

SPECIFICATIONS

Specifications

[] : Option

ITEM		LV1100R	LV1100RM	
CAPACITY	Swing Over the Bed	mm(in)	Ø1,355 (53.3")	
	Swing Over the Carriage	mm(in)	Ø1,250 (49.2")	
	Max. Turning Dia.	mm(in)	Ø1,160 (45.7")	
	Max. Turning Length	mm(in)	1,000 (39.4")	
SPINDLE	Chuck Size	inch	32" [40"]	
	Spindle Bore	mm(in)	Ø110 (4.3")	
	Spindle Speed (rpm)	r/min	800 [630]	
	Motor (10min./30min./Cont.)	kW(HP)	65/55/45 (87/74/60)	
	Torque (10min./30min./Cont.)	N·m(lbf·ft)	7,671/6,490/5,310 (5,657.8/4,786.8/3,916.5)	
	Spindle Type	-	Gear Box	
	Spindle Nose	-	Ø380 (15") Flat	
	C-axis Indexing	deg	-	0.001°
FEED	Travel (X/Z)	mm(in)	620/1,000 (24.4"/39.4")	
	Rapid Traverse Rate (X/Z)	m/min(ipm)	24/24 (945/945)	
	Slide Type	-	Box Guide	
TURRET	No. of Tools	EA	12	
	Tool Size	OD	mm(in)	□ 32 (1.3")
		ID	mm(in)	Ø80 (3.1")
	Indexing Time	sec/step		0.6
LIVE TOOL	Motor (Max/Cont.)	kW(HP)	-	11/7.5 (15/10)
	Milling Tool Speed (rpm)	r/min	-	3,000
	Torque (Max/Cont.)	N·m(lbf·ft)	-	70/47.8 (51.6/35.3)
	Collet Size	mm(in)	-	Ø34 (1.3") (ER50)
	Type	-	-	BMT85
TANK CAPACITY	Coolant Tank	ℓ (gal)	420 (111)	
	Lubricating Tank	ℓ (gal)	4 (1.1)	
POWER SUPPLY	Electric Power Supply	kVA	61	70
	Thickness of Power Cable	mm ²		Over 50
	Voltage	V/Hz		220/60 (200/50*)
MACHINE	Floor Space (L×W)	mm(in)	2,922×4,325 (115"×170.3")	<Excluding Chip Conveyor>
	Height	mm(in)	3,776 (148.7")	
	Weight	kg(lb)	22,000 (48,502)	
NC	Controller	-	FANUC 32i-B [HYUNDAI WIA FANUC i Series - Smart Plus]	

*) Using 50Hz voltage instead of 60Hz may lower the output of motors. (excluding servo motors and inverter motors)

※ Prior consultation is required when applying spindle contouring control for gear driven spindle.

Specifications are subject to change without notice for improvement.

CONTROLLER

FANUC 32i-B

[] : Option

Controlled axis / Display / Accuracy Compensation	
Control axes	2 axes (X, Z) / 3 axes (X, Z, C) / 4 axes (X, Z, Y, C) 5 axes (X, Z, B, C, A) / 6 axes (X, Z, Y, B, C, A)
Simultaneously controlled axes	2 axes [Max. 4 axes]
Designation of spindle axes	4 axes (1 path), 6 axes (2 path Total)
Least setting Unit	X, Z, Y, B axes : 0.001 mm (0.0001 inch) C, A axes : 0.001 deg
Least input increment	X, Z, Y, B axes : 0.001 mm (0.0001 inch) C, A axes : 0.001 deg
Inch / Metric conversion	G20 / G21
High response vector control	
Interlock	All axes / Each axis
Machine lock	All axes
Backlash compensation	± 0 ~ 9999 pulses (Rapid traverse / Cutting feed)
Position switch	
LCD / MDI	10.4 inch color LCD
Feedback	Absolute motor feedback
Stored stroke check 1	Over travel
Stored stroke check 2, 3	
PMC axis control	
Operation	
Automatic operation (Memory)	
MDI operation	
DNC operation	Needed DNC software / CF card
Program restart	
Wrong operation prevention	
Program check function	Dry run, Program check
Single block	
Search function	Program Number / Sequence Number
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Circular interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference : G28 2nd reference : G30 Ref. position check : G27
Thread synchronous cutting	
Thread cutting retract	
Variable lead thread cutting	
Multi / Continuous threading	
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse Jog : 0~2,000 mm/min (79 ipm) Manual handle : x1, x10, x100 pulses Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	F1%, F25%, 50%, F100%
Override cancel	
Feed per minute	G98
Feed per revolution	G99
Look-ahead block	1 block
Program input	
Tape Code	EIA / ISO
Optional block skip	1 ea
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999,999.999 mm (± 99,999.9999 inch)
Plane selection	X-Y : G17 / Z-X : G18 / Y-Z : G19
Workpiece coordinate system	G52, G53, 6 pairs (G54 ~ G59)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #149, #500 ~ #549
G code system	A
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G41
Multiple repetitive cycles I, II	

Program input	
Canned cycle for turning	
Manual Guide i	Conversational auto program
Auxiliary function / Spindle speed function	
Auxiliary function	M 4 digit
Level-up M Code	High speed / Multi / Bypass M code
Spindle speed function	S 4 digit, Binary output
Spindle override	0% ~ 150% (10% Unit)
Multi position spindle orientation	M19
Rigid tapping	
Constant surface speed control	G96, G97
Tool function / Tool compensation	
Tool function	T 2 digit + Offset 2 digit
Tool life management	
Tool offset pairs	32 pairs
Tool nose radius compensation	G40, G41, G42
Geometry / Wear compensation	
Direct input of offset measured B	
Editing function	
Part program storage size	640m (256KB)
No. of registerable programs	500 ea
Program protect	
Background editing	
Extended part program editing	Copy, move and change of NC program
Memory card program edit	
Data input / output & Interface	
I/O interface	CF card, USB memory Embedded Ethernet interface
Screen hard copy	
External message	
External key input	
External workpiece number search	
Automatic data backup	
Setting, display and diagnosis	
Self-diagnosis function	
History display & Operation	Alarm & Operator message & Operation
Run hour / Parts count display	
Maintenance information	
Actual cutting feedrate display	
Display of spindle speed / T code	
Graphic display	
Operating monitor screen	Spindle / Servo load etc.
Power consumption monitoring	Spindle & Servo
Spindle / Servo setting screen	
Multi language display	Support 20 languages
Display language switching	Selection of 5 optional Languages
LCD Screen Saver	Screen saver
Unexpected disturbance torque	BST (Back spin torque limit)
Function for machine type	
Cs contour control (C & A axes)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Polar coordinate interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Cylindrical interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Canned cycle for drilling	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Spindle orientation expansion	MS, SY TTS, TTMS, TTSY
Spindle synchronous control	MS, SY TTS, TTMS, TTSY
Torque control	MS, SY TTS, TTMS, TTSY
Y axis offset	Y, SY, TTSY
Arbitrary angular control	Y, SY, TTSY
Composite / Superimposed control	MS, SY TTS, TTMS, TTSY
Balance cutting	MS, SY TTS, TTMS, TTSY
Option	
Additional optional block skip	9 ea
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Tool offset pairs	64 pairs / 99 pairs / 200 pairs
Part program storage size	1280 m (512KB) / 2560m (1MB)
Polygon turning (2 Spindles)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Helical interpolation	
Dynamic graphic display	
Direct drawing dimension program	Including Chamfering / Corner R

Figures in inch are converted from metric values.

The FANUC controller specifications are subject to change based on the policy of company CNC supplying.

CONTROLLER

HYUNDAI WIA FANUC i Series – Smart Plus

[] : Option

Controlled axis / Display / Accuracy Compensation	
Control axes	2 axes (X, Z) / 3 axes (X, Z, C) / 4 axes (X,Z,Y,C) 5 axes (X, Z, B, C, A) / 6 axes (X, Z, Y, B, C, A) 7 axes (X1/Z1, X2/Z2, B2, C1/C2)
Simultaneously controlled axes	2 axes [Max. 4 axes]
Designation of spindle axes	3 axes [Max. 4 axes]
Least setting Unit	X, Z, Y, B axes : 0.001 mm (0.0001 inch) C, A axes : 0.001 deg
Least input increment	X, Z, Y, B axes : 0.001 mm (0.0001 inch) C, A axes : 0.001 deg
Inch / Metric conversion	G20 / G21
High response vector control	
Interlock	All axes / Each axis
Machine lock	All axes
Backlash compensation	± 0~9999 pulses (exc.Rapid traverse / Cutting feed)
Position switch	
LCD / MDI	15 inch LCD unit (with Touch Panel)
Feedback	Absolute motor feedback
Stored stroke check 1	Over travel
Stored stroke check 2, 3	
PMC axis control	
Operation	
Automatic operation (Memory)	
MDI operation	
DNC operation	Needed DNC software / CF card
Program restart	
Wrong operation prevention	
Program check function	Dry run
Single block	
Search function	Program Number / Sequence Number
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Circular interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference : G28, 2nd reference : G30 Ref. position check : G27
Thread synchronous cutting	G33
Thread cutting retract	
Variable lead thread cutting	
Multi / Continuous threading	
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse Jog : 0~2,000 mm/min (79 ipm) Manual handle : x1, x10, x100 pulses Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	1%, F25%, 50%, 100%
Override cancel	
Feed per minute	G98
Feed per revolution	G99
Look-ahead block	1 block
Program input	
Tape Code	EIA / ISO
Optional block skip	9 ea
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999,999.999 mm (± 99,999.9999 inch)
Plane selection	X-Y : G17 / Z-X : G18 / Y-Z : G19
Workpiece coordinate system	G52, G53, 6 pairs (G54 ~ G59)
Manual absolute	Fixed ON
Programmable data input	G10
Sub program call	10 folds nested
Custom macro	#100 ~ #199, #500 ~ #999
G code system	A, B/C
Programmable mirror image	G51.1, G50.1
G code preventing buffering	G4.1
Direct drawing dimension program	Including Chamfering / Corner R
Conversational Program	SmartGuide-i

Program input	
Multiple repetitive cycles	I, II
Canned cycle for turning	
Auxiliary function / Spindle speed function	
Auxiliary function	M & 4 digit
Level-up M Code	High speed / Multi / Bypass M code
Spindle speed function	S & 5 digit, Binary output
Spindle override	0% ~ 150% (10% Unit)
Multi position spindle orientation	M19 (S##)
Rigid tapping	
Constant surface speed control	G96, G97
Tool function / Tool compensation	
Tool function	T & 2 digit + Offset 2 digit
Tool life management	
Tool offset pairs	128 pairs
Tool nose radius compensation	G40, G41, G42
Geometry / Wear compensation	
Direct input of offset measured B	
Editing function	
Part program storage size	5,120m (2MB)
No. of registerable programs	1,000 ea
Program protect	
Background editing	
Extended part program editing	Copy, move and change of NC program
Memory card program edit	
Data input / output & Interface	
I/O interface	CF card, USB memory Embedded Ethernet interface
Screen hard copy	
External message	
External key input	
External workpiece number search	
Automatic data backup	
Setting, display and diagnosis	
Self-diagnosis function	
History display & Operation	Alarm & Operator message & Operation
Run hour / Parts count display	
Maintenance information	
Actual cutting feedrate display	
Display of spindle speed / T code	
Graphic display	
Operating monitor screen	Spindle / Servo load etc.
Power consumption monitoring	Spindle & Servo
Spindle / Servo setting screen	
Multi language display	Support 24 languages
Display language switching	Selection of 5 optional Languages
LCD Screen Saver	Screen saver
Unexpected disturbance torque	BST (Back spin torque limit)
Function for machine type	
Cs contour control (C & A axes)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Polar coordinate interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Cylindrical interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Polygon turning (2 Spindles)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Canned cycle for drilling	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Spindle orientation expansion	MS, SY, TTS, TTMS, TTSY
Spindle synchronous control	MS, SY, TTS, TTMS, TTSY
Torque control	MS, SY, TTS, TTMS, TTSY
Y axis offset	Y, SY, TTSY
Arbitrary angular control	Y, SY, TTSY
Composite / Superimposed control	MS, SY, TTS, TTMS, TTSY
Balance cutting	TTS, TTMS, TTSY
Option	
Fast ethernet	Needed option board
Data server	Needed option board
Protection of data at 8 levels	
Tool offset pairs	200 pairs
Helical interpolation	
Optional block skip	40 ea, 200 ea (AICC II)

Figures in inch are converted from metric values.

The FANUC controller specifications are subject to change based on the policy of company CNC supplying.

MOVEMENT FOR BETTER TOMORROW



ECO FRIENDLY

Minimizing Environmental Impact and Maintaining Sustainable Ecology

01

**Achieve
carbon
neutrality**

- Develop Net-zero Roadmap
- Heighten carbon emissions management
- Achieve carbon neutrality goals

02

**Boost
resource
circulation**

- Detail plans to reduce environmental impact
- Gradually reduce pollutant emissions
- Build eco-friendly supply chain

03

**Establish
environmental
management
framework**

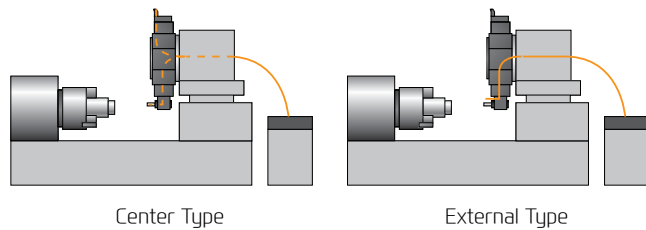
- Set up environmental management process
- Assess business impact of climate change risks

HYUNDAI WIA ECO SYSTEM

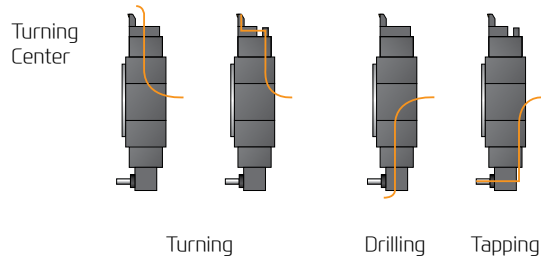
MQL (Minimal Quantity Lubrication)

The goal of this system is to spray only the amount of lubricant required to prevent heat and chip build up at the cutting tool or work piece face.

Example of Turning Center Application



Example of Etc.



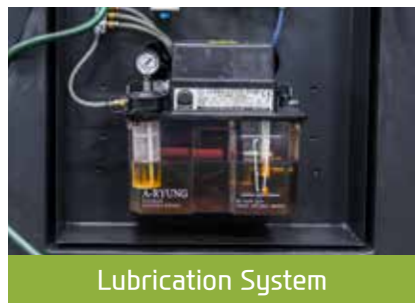
Oil Skimmer

An oil skimmer can increase coolant and tool life by removing tramp oil contaminants.



Mist Collector

Mist Collector reduces the amount of smoke and oil mist in the air. This helps build a safe and comfortable working environment and improve durability.



Lubrication System

By applying lubricant only when the machines axis are moving lubrication consumption is reduced by compared to standard systems.

HYUNDAI WIA ENERGY SAVING

HW-ESS (HYUNDAI WIA Energy Saving System)

HYUNDAI WIA Machine tool provides the optimum power saving function that can easily save energy with an intuitive user interface.



1. **Machine-ready power saving function** : Put all servo motors and other motors into sleep mode when no control or operation is done for a set time
2. **Work light auto-off function** : The work light is turned off automatically when no control or operation is done for a set time
3. **Chip conveyor auto power saving** : Operation/non operation time (timer) can be set to save energy
4. **Auto Power-off** : Auto power off after ending the an operation after a period of time
5. **Eco function** : Machine ready sleep mode can be activated/de-activated from the controller panel
6. **Power consumption monitor** : Real time power consumption can be monitored through the OP screen



LV1100RM
Movie



YouTube HYUNDAI WIA MT

www.youtube.com/HYUNDAIWIAMT

EXPERIENCE THE NEW TECHNOLOGY

With its top-quality HYUNDAI WIA machine tool creates a new and better world.



<http://machine.hyundai-wia.com>

HYUNDAI WIA Machine Tools
Global Links

HEADQUARTER

Changwon Technical Center/R&D Center/Factory 153, Jeongdong-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Korea TEL : +82 55 280 9114 FAX : +82 55 282 9114

Overseas Sales Team /R&D Center 37, Cheoldobangmulgwan-ro, Uiwang-si, Gyeonggi-do, Korea TEL : +82 31 8090 2539

OVERSEAS OFFICES

HYUNDAI WIA Machine America corp. 450 Commerce Blvd, Carlstadt, NJ 07072, USA TEL : +1-201-987-7298

HYUNDAI WIA Europe GmbH Alexander-Fleming-Ring 57, 65428 Rüsselsheim Germany TEL : +49-0-6142-9256-0

HYUNDAI WIA Machine Tools China 2-3F, Bldg6, No.1535 Hongmei Road, Xuhui District, Shanghai, China TEL : +86-21-6427-9885

India Branch Office #4/169, 1st Floor, LOTTE BLDG, Rajiv Gandhi Salai, (OMR), Kandanchavadi, Chennai - 600096, Tamilnadu, India TEL : +91-76-0490-3348

Vietnam Branch Office Flat number 05, Service and Trade Center of Viet Huong Industrial Zone, Highway 13, Thuan Giao, Thuan An, Binh Duong, Vietnam TEL : +84-3-5399-5099