

**LV**

# 4500/8500 Series

Flexible, Productive Automation System Vertical Turning Center

WIA Machine Tools Vertical Turning Center

**WIA** MACHINE TOOLS

# Technical Leader

## Flexible, Productive Automation System Vertical Turning Center

The CNC turning center LV4500/8500 series, designed by WIA machine tools with years of expertise and the latest technology, is designed to maximize productivity by high speed and accurate performance.

		LV4500 Series		LV8500 Series		
Max. Turning Dia.	mm(in)	Ø495 (Ø19.5")		Ø850 (Ø35")		
Max. Turning Length	mm(in)	465 (18.3")		800 (31.5")		
Chuck Size	inch	12"	[15"]	18"	[21"]	[24"]
Spindle Speed	r/min	3,000	[2,700]	2,000	[1,940]	[1,760]
Spindle Motor (10min./30min./Cont.)	kW(HP)	26/22/18.5 (35/29.5/25) [37/30/22 (50/40/29.5)]		Belt : 37/30/22 (50/40/29.5) [Gear Box : 45/37/30 (60/50/40 HP)]		
Travel (X/Z)	mm(in)	320/495 (12.6"/19.5")		465/800 (18.3"/31.5")		
No. of Tools	EA	12		12		

[ ] : Option

# LV

## 4500/8500 Series

Automation System Vertical Turning Center

- "Right" and "Left" structure for practical automation construction
- Stable spindle structure with excellent heavy duty cutting ability
- 2 step chuck pressure mechanism adopted to minimize workpiece deformation (Opt.)
- High rigidity BMT turret
- Designed for optimal chip disposal



# 01 LV4500 Series

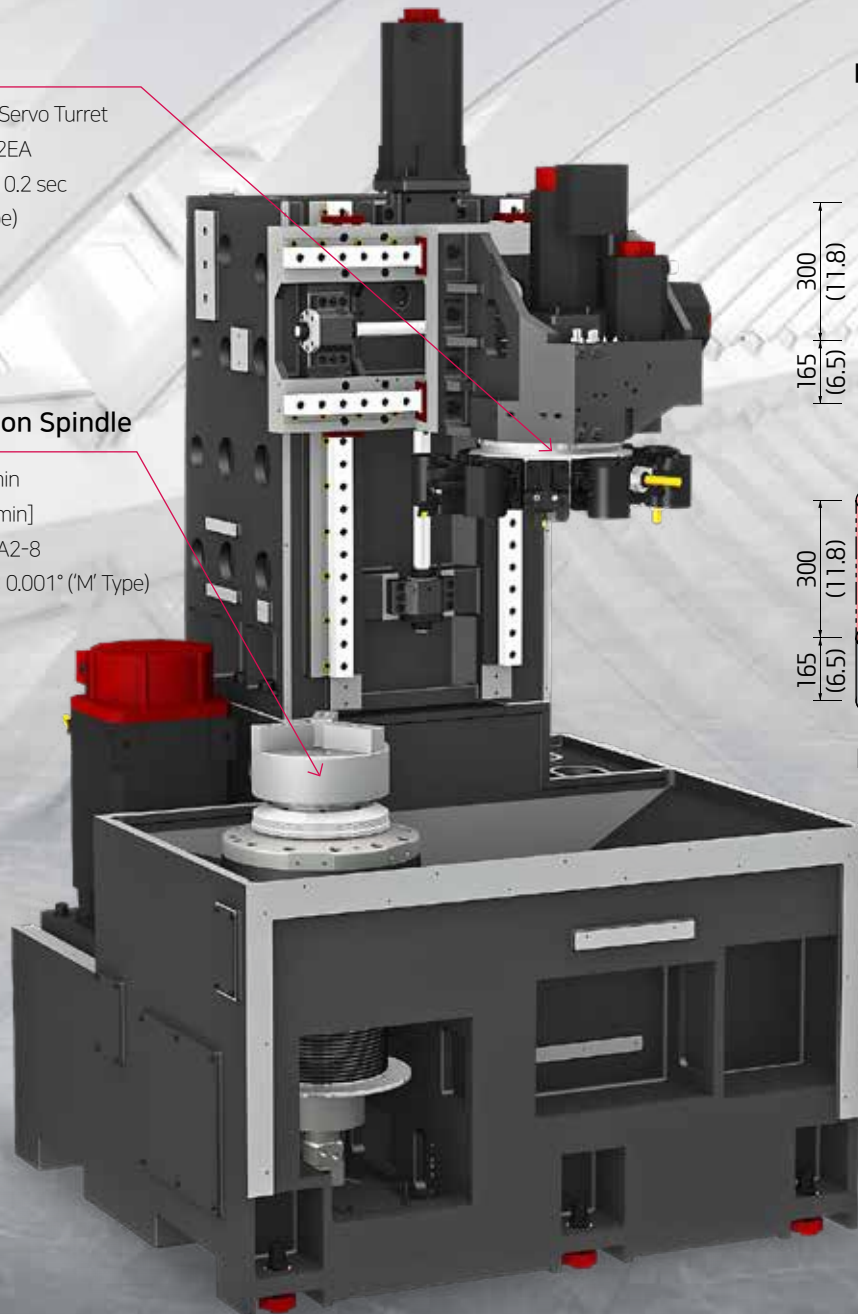
High Productivity, State-of-the-art Vertical CNC Turning Center

## Turret

- Highly Reliable Servo Turret
- No. of Tools : 12EA
- Indexing Time : 0.2 sec
- BMT65 ('M' Type)

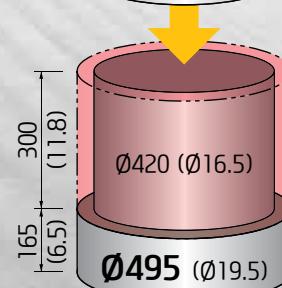
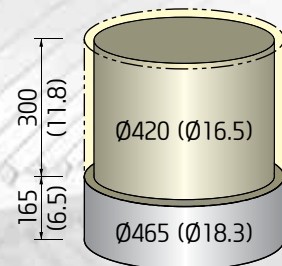
## High Precision Spindle

- 12" : 3,000 r/min  
[15" : 2,700 r/min]
- Spindle Nose : A2-8
- C-Axis Control : 0.001° ('M' Type)



## Max. Turning Dia. Increase

Previous model



**LV4500 Series**

# REDUCTION OF NON-CUTTING TIME BY FAST RAPID

## HIGH-PRECISION STRUCTURE

### Right and Left Machine Structure

The LV4500 Series consists of Left and Right machine configuration, allowing for more efficient automation options.

### 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.



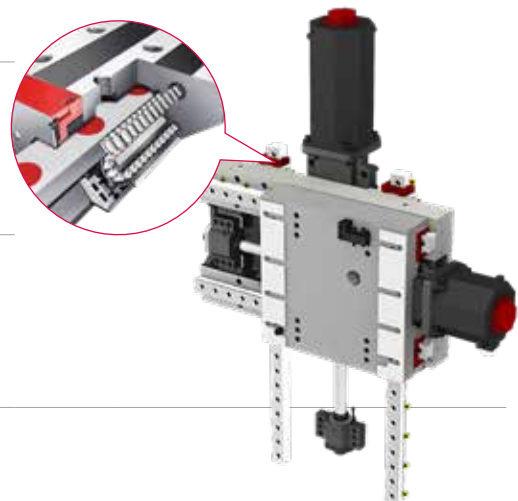
## GUIDEWAY

### Roller LM Guideway

By applying an roller LM guide structure with high speed and rigidity, a rapid traverse rate of 24m/min is achieved based on the all axis.

### Ball Screw

The pretensioned ball screw minimizes the expansion and contraction according to the heat and further reinforces the rigidity by the double anchor support method.



### ⊙ Improved rapid traverse speed

Previous model 310 mm

LV4500 Series **320 mm** Up by **10 mm**

Previous model 20 m/min

LV4500 Series **24 m/min** Up by **4 m/mim**

### Travel (X/Z)

**320/495** mm (12.6"/19.5")

### Rapid Traverse Rate (X/Z)

**24/24** m/min (945/945 ipm)

# 02 LV8500 Series

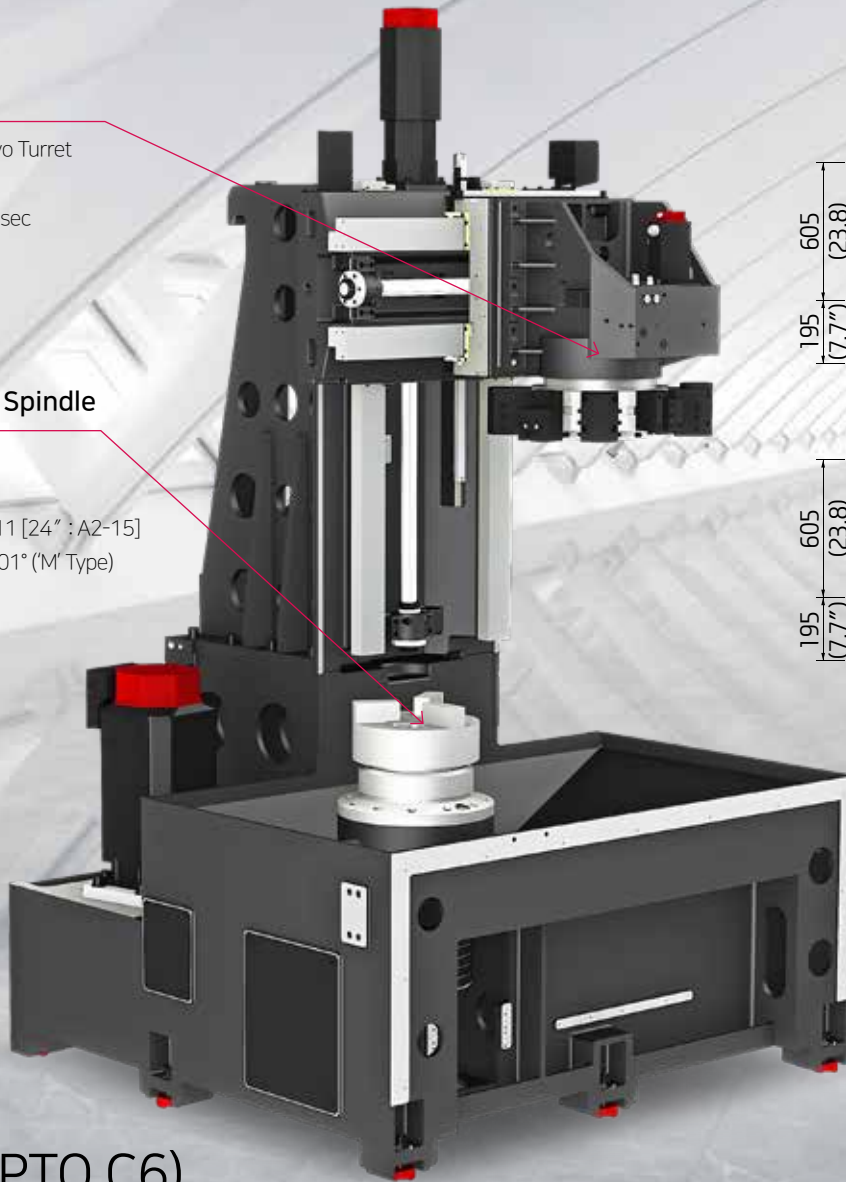
High Speed & Heavy Duty Cutting Vertical CNC Turning Center

### Turret

- Highly Reliable Servo Turret
- No. of Tools : 12EA
- indexing Time : 0.2 sec
- BMT75 ('M' Type)

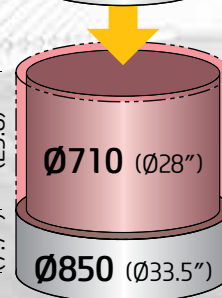
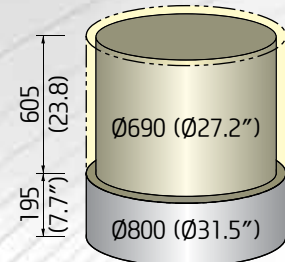
### High Precision Spindle

- 18" [21"/24"]
- 2,000 r/min
- Spindle Nose : A2-11 [24" : A2-15]
- C-Axis Control : 0.001° ('M' Type)



Max. Turning Dia. Increase

Previous model



**LV8500 Series**

## ATC (CAPTO C6)



- Improved machining capability with max. 12 tools
- Minimized the interference of long-boring bar by putting long-boring bar into a magazine
- When machining difficult-to-cut materials, worn out tools can be replaced with the spare tools → Increased productivity

**OPTION**

Max. Tool Length/ Weight	Max. Tool Dia. (W.T/W.O)	No. of Tools	Tool Type
400mm (15.7") / 12kg (26 lb)	Ø100/Ø150mm (Ø3.9"/Ø5.9")	12 EA	Fixed Tool

# STRUCTURE FOR HEAVY CUTTING & HIGH PRECISION

## HIGH-PRECISION STRUCTURE

### Automation Configuration Structure

The LV8500 Series consists of Left and Right machine configuration, allowing for more efficient automation options.

Oil and Air devices are located in front of the machine for easy repair and maintenance.

### 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.



## GUIDEWAY

### Box Guideway

All axis of the LV8500 Series feature box guideways. Box guideways provide long term rigidity and accuracy even during heavy duty operations.

### Ball Screw

Large diameter ball screws with preloading prevent deformation due to heat. Also double-anchor support method improves rigidity.



### ⊙ Z-axis Ball Screw : Increased dynamic rigidity

Previous model 6,356 kgf

LV8500 Series 12,323 kgf Up by 90%

### Travel (X/Z)

**465/800** mm (18.3"/31.5")

### Rapid Traverse Rate (X/Z)

**20/20** m/min (787/787 ipm)

# 03 HIGH PRECISION SPINDLE

Long Lasting, High Accuracy & Excellent Performance CNC Turning Center



## Spindle Specifications

[ ]: Option

Model	Chnuck Size	Spindle Speed	Motor (Max./30min/Cont.)	Torque (Max./30min/Cont.)	Driving Method
LV4500 Series	12"	3,000 r/min	26/22/18.5 kW	863/730/614 N.m	Belt
			[37/30/22 kW]	[588/478/350 N.m]	
	[15"]	[2,700 r/min]	[26/22/18.5 kW]	[863/730/614 N.m]	
			[37/30/22 kW]	[588/478/350 N.m]	
LV8500 Series	18"	2,000 r/min	37/30/22 kW	1,660/1,346/986 N.m	Belt
			[45/37/30 kW]	[3,185/2,619/2,124 N.m]	Gear Box
	[21"]	[1,940 r/min]	[37/30/22 kW]	[1,660/1,346/986 N.m]	Belt
			[45/37/30 kW]	[3,185/2,619/2,124 N.m]	Gear Box
	[24"]	[1,760 r/min]	[37/30/22 kW]	[1,660/1,346/986 N.m]	Belt
			[45/37/30 kW]	[3,494/2,873/2,329 N.m]	Gear Box

# 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, LV8500 Series is with a gear box type spindle (Option), 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 **OPTION**

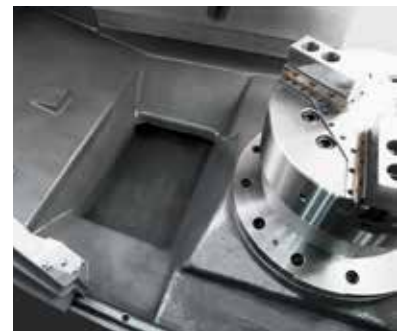
The 2 step pressure chucking system enables high pressure chucking during rough cutting and low pressure chucking during precision cutting.

### Chip Influx Protection

The LV4500/8500 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.



## LPS CHUCKING CONFIRMATION

### LPS (Linear Position Sensor) **OPTION**

Monitoring the clamping position of the chuck jaw and the status of clamping are possible with LPS.

This easy to use control feature improves safety and convenience during frequent workpiece changes.



LV4500/8500

# 04 SERVO TURRET

High speed, High Accuracy, Highly Reliable Servo Turret

## Servo Turret

Model	No. of Tools	Tool Size (O.D/i.D)	Indexing Time
LV4500 Series	12 EA	□25/Ø50 mm (□1"/Ø2")	0.2 sec
LV8500 Series	12 EA	□32/Ø63 mm (□1.3"/Ø2.5")	

## Mill Turret

Model	Type	Speed	Motor (Max./Cont)	Torque (Max./Cont)	Collet Size
LV4500 Series	BMT65	5,000 rpm	5.5/3.7 kW	70/35.3 N·m	ER32 : Ø20 (0.8")
LV8500 Series	BMT75	4,000 rpm	11/5.5 kW	140/70 N·m	ER40 : Ø26 (1")

# VARIOUS DRIVEN PRECISION BMT TOOL HOLDERS

## TURRET



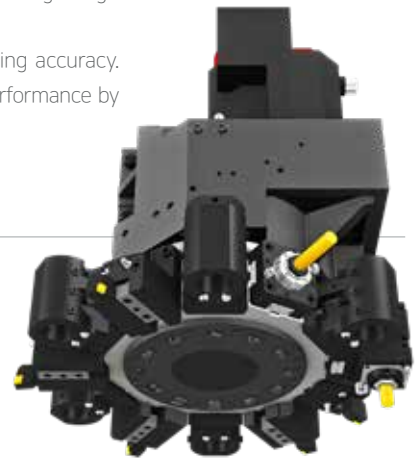
### Servo Turret

The LV4500/8500 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.

### BMT Turret

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.



### Special Tool

**OPTION**

The LV4500/8500 series can process high value-added products using a variety of rotating tools. In particular, there is a multi-holder for attaching a variety of tools to one holder, and an eccentric rotary tool for handling eccentric parts without additional axis travel, which can realize integration of process with one machine.

※ Consultation needed when ordering these options.

# 05 FANUC - SMART PLUS

The Compatible All-round Control

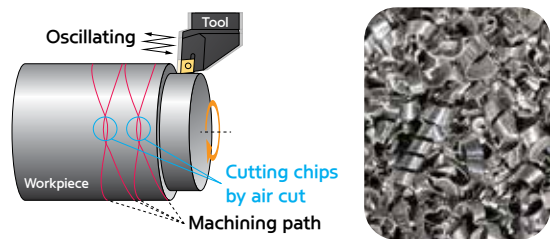


## 15" Touch-type Monitor as a standard

Smart Machine Control	Fast Cycle Time Technology
Conversational Program	Fine Surface Technology
i-HMI	Smart Servo Control Technology
Part Program Storage	SmartGuide-i
No. of Registerable Programs	Machining-aid Function
	5120M (2MB)
	1000 EA

## Servo Learning Oscillation Function for Chip Breaking **OPTION**

- **Machining Method** : The tool cuts the workpiece moving in a zigzag pattern. (Oscillating) → Air cut section occurs → Long chips break
- **Advantage** : Increase tool life, Enhance surface finishing, Improve chip disposal
- **Machine** : All turning centers with FANUC controller (Option)



(Developed special screen page for servo learning oscillation function / Even when this function is applied, the cycle time remains same.)

## 8Ch. Thermal displacement compensation **OPTION**



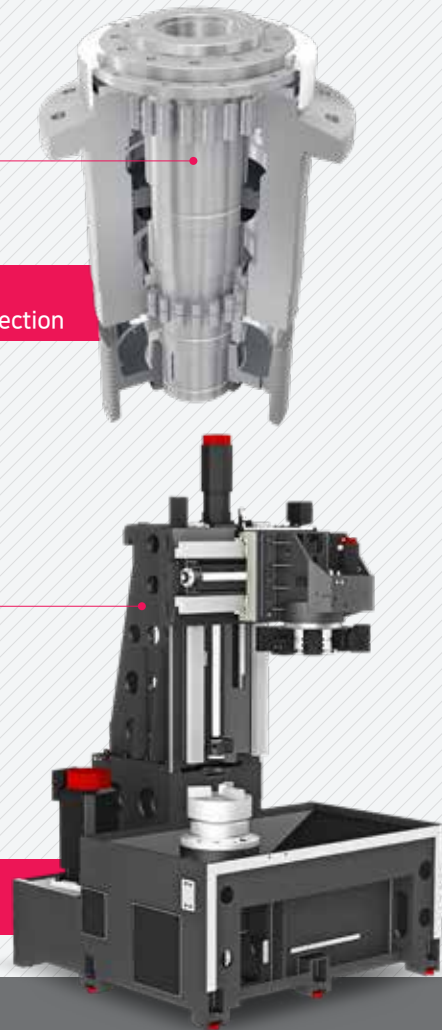
Control Software

Thermal Sensor

Spindle thermal displacement error correction

Thermal Sensor

Structure thermal displacement error correction



Machine tools generate thermal displacement due to heat during machining. WIA MACHINE TOOLS detect thermal changes through thermal sensors installed on the main thermal sources of the machine. In addition, a thermal displacement compensation device that predicts the amount of thermal displacement according to the amount of thermal change and provides a command to the motor with a compensated value to maintain consistent precision is provided as an option.

## SMART CNC (FANUC Smart Plus)



### 1. Dialogue Program (Smart Guide-i)

This software offers the maximum user convenience through dialogue manipulation from setup to processing. This includes writing processing programs and simulation checks.

### 2. LAUNCHER

This software offers shortcuts for quick access to specialized features and frequently used features.

# SPECIFICATIONS

## Standard & Optional (LV4500 Series)

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

Spindle		LV4500R/L	LV4500RM/LM
Belt (26/18.5kW)	A2-8	●	●
Belt (37/22kW)	A2-8	○	○
Chuck Size	12"	●	●
	15"	○	○
Standard Soft Jaw (1set)		●	●
Chuck Clamp Foot Switch		●	●
2 Steps Hyd, Pressure Device		○	○
5" Index		☆	☆
Cs-Axis (0.001")		-	●
2 Steps Chuck Foot Switch		○	○
Chuck Open/Close Confirmation Device		●	●
<b>Turret</b>			
Tool Holder		●	●
12 station Turret		●	●
Mill Turret	BMT	-	●
Straight Milling Head	Collet Type,1ea	-	●
Angular Milling Head	Collet Type,1ea	-	●
Straight Milling Head	Adapter Type	-	○
Angular Milling Head	Adapter Type	-	○
Boring Sleeve		●	●
Drill Socket		○	○
Angle Head		-	☆
<b>Coolant &amp; Air Blow</b>			
Standard Coolant (Nozzle)		●	●
Bed Flushing Coolant		○	○
Shower Coolant		○	○
Gun Coolant		○	○
Thru Coolant for Live Tool		-	☆
Chuck Air Blow (Upper Chuck)		○	○
Turret Air Blow		☆	☆
Air Gun		○	○
Through Spindle Air Blow (Only for Special Chuck)		☆	☆
High Pressure Coolant	1.5Bar	●	●
	6Bar	☆	☆
	20Bar	○	○
	70Bar	☆	☆
Power Coolant System (For Automation)		☆	☆
Coolant Chiller		☆	☆
<b>Chip Disposal</b>			
Coolant Tank	300 ℓ (79.3 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	☆	☆
<b>Safety Device</b>			
Back Spin Torque Limiter (BST)		●	●
Total Splash Guard		●	●
Chuck Hydraulic Pressure Maintenance Interlock		☆	☆

Electric Device		LV4500R/L	LV4500RM/LM
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	Digital	○	○
Electric Circuit Breaker		○	○
AVR (Auto Voltage Regulator)		☆	☆
Transformer	30kVA	○	○
Auto Power Off		○	○
<b>Measurement</b>			
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)		☆	☆
<b>Environment</b>			
Air Conditioner		○	○
Oil Mist Collector		☆	☆
Oil Skimmer		○	○
MQL (Minimal Quantity Lubrication)		☆	☆
<b>Fixture &amp; Automation</b>			
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)		☆	☆
<b>Hyd. Device</b>			
Standard Hyd. Cylinder	Solid	●	●
	35bar/14 ℓ (3.7 gal)	●	●
	60bar/20 ℓ (5.3 gal)	-	-
Standard Hyd. Unit	70bar/50 ℓ (13.2 gal)	-	-
<b>S/W</b>			
Dialogue Program (HW-DPRO)		○	○
DNC software (HW-eDNC)		○	○
Smart Guide-i : FANUC		●	●
Smart S/W		☆	☆
<b>ETC</b>			
Tool Box		●	●
Customized Color	Need Munsel No.	☆	☆
CAD & CAM		☆	☆
Special Level Seat	Only with Air Zero	☆	☆
Thermal displacement compensation		○	○

※ 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.

# SPECIFICATIONS

## Standard & Optional (LV8500 Series)

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

		LV8500R/L	LV8500RM/LM
<b>Spindle</b>			
Belt (37/30/22kW)	A2-11	●	●
Gear Box (45/37/30kW)	A2-11	○	○
Belt (37/30/22kW)	A2-15	○	○
Gear Box (45/37/30kW)	A2-15	○	○
Chuck Size	18"	●	●
	21"	○	○
	24"	○	○
Standard Soft Jaw (1set)		●	●
Chuck Clamp Foot Switch		●	●
2 Steps Hyd, Pressure Device		○	○
5" Index		☆	☆
Cs-Axis (0.001")		-	●
2 Steps Chuck Foot Switch		○	○
Chuck Open/Close Confirmation Device		●	●
<b>Travel System</b>			
X-axis Motor	Power Up	○	○
<b>Turret</b>			
Tool Holder		●	●
12 station Turret		●	●
Mill Turret	BMT	-	●
Straight Milling Head	Collet Type,1ea	-	●
Angular Milling Head	Collet Type,1ea	-	●
Straight Milling Head	Adapter Type	-	○
Angular Milling Head	Adapter Type	-	○
Boring Sleeve		●	●
Drill Socket		○	○
Angle Head		-	☆
<b>Coolant &amp; Air Blow</b>			
Standard Coolant (Nozzle)		●	●
Bed Flushing Coolant		○	○
Shower Coolant		○	○
Gun Coolant		○	○
Thru Coolant for Live Tool		-	☆
Chuck Air Blow (Upper Chuck)		○	○
Turret Air Blow		☆	☆
Air Gun		○	○
Through Spindle Air Blow (Only for Special Chuck)		☆	☆
High Pressure Coolant	1.5Bar	●	●
	6Bar	○	○
	20Bar	○	○
	70Bar	○	○
Power Coolant System (For Automation)		☆	☆
Coolant Chiller		☆	☆
<b>Chip Disposal</b>			
Coolant Tank	300 ℓ (79.3 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	☆	☆
<b>Safety Device</b>			
Back Spin Torque Limiter (BST)		●	●
Total Splash Guard		●	●
Chuck Hydraulic Pressure Maintenance Interlock		☆	☆

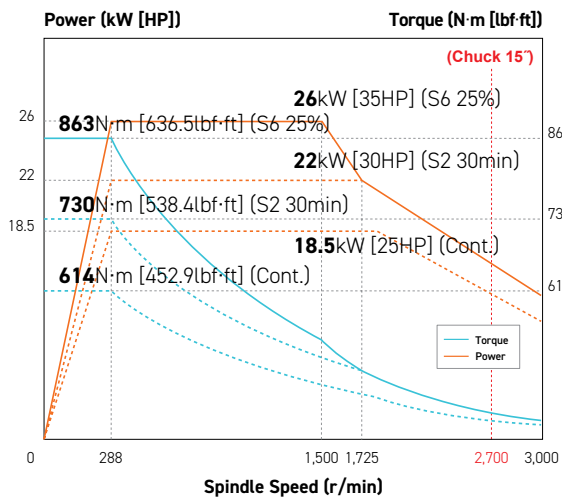
		LV8500R/L	LV8500RM/LM
<b>Electric Device</b>			
Call Light	1Color : ●	●	●
Call Light & Buzzer	3Color : ●●●B	○	○
Electric Cabinet Light		○	○
Remote MPG		○	○
Work Counter	Digital	○	○
Total Counter	Digital	○	○
Tool Counter	Digital	○	○
Multi Tool Counter	Digital	○	○
Electric Circuit Breaker		○	○
AVR (Auto Voltage Regulator)		☆	☆
Transformer	45kVA	○	○
Auto Power Off		○	○
<b>Measurement</b>			
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)		☆	☆
<b>Environment</b>			
Air Conditioner		○	○
Oil Mist Collector		☆	☆
Oil Skimmer		○	○
MQL (Minimal Quantity Lubrication)		☆	☆
<b>Fixture &amp; Automation</b>			
Auto Door	Standard	○	○
	High Speed	-	-
Auto Shutter (Only for Automatic System)		-	-
Sub Operation Panel		☆	☆
Extra M-Code 4ea		○	○
Automation Interface		☆	☆
I/O Extension (IN & OUT)	16 Contact	○	○
	32 Contact	○	○
Turret Work Pusher (For Automation)		☆	☆
<b>Hyd. Device</b>			
Standard Hyd. Cylinder	Solid	●	●
	35bar/42 ℓ (11 gal)	-	-
	70bar/24 ℓ (6.3 gal)	●	●
Standard Hyd. Unit	70bar/50 ℓ (13.2 gal)	-	-
<b>S/W</b>			
Dialogue Program (HW-DPRO)		○	○
DNC software (HW-eDNC)		○	○
Smart Guide-i: FANUC		●	●
Smart S/W		☆	☆
<b>ETC</b>			
Tool Box		●	●
Customized Color	Need Munsel No.	☆	☆
CAD & CAM		☆	☆
Special Level Seat	Only with Air Zero	☆	☆
Thermal displacement compensation		○	○

※ Thermal Displacement Compensation device is recommended, when more than 6 bar of high pressure coolant is applied, for the high quality machining.  
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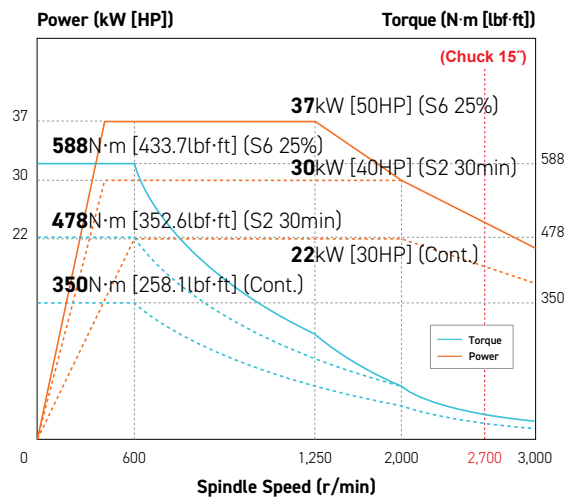
# SPECIFICATIONS

Spindle Output/Torque Diagram (LV4500 Series)

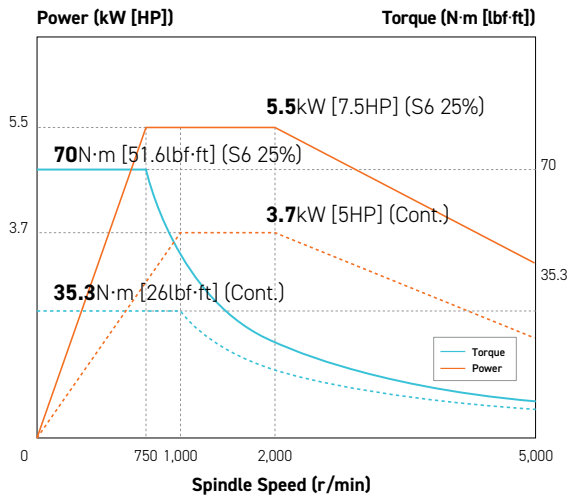
## 12" 3,000 rpm [Otp. 15" 2,700 rpm]



## [Otp. 12" 3,000 rpm / 15" 2,700 rpm]



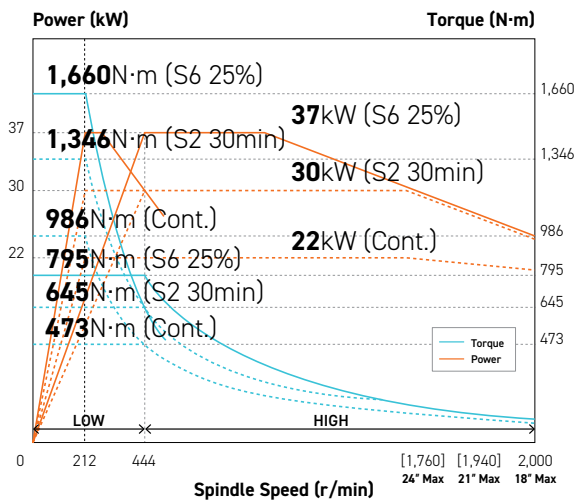
## Mill Turret



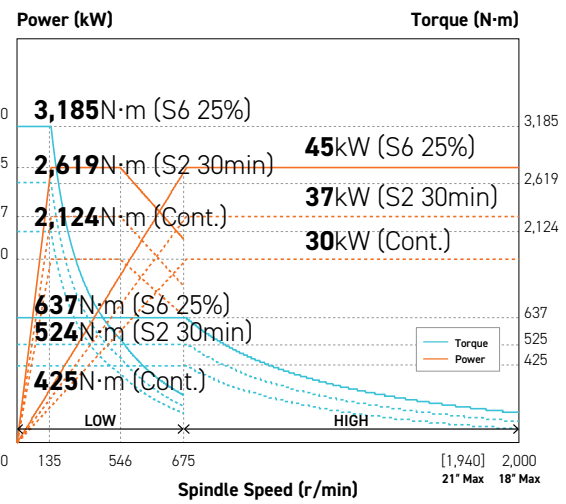
# SPECIFICATIONS

Spindle Output/Torque Diagram (LV8500 Series)

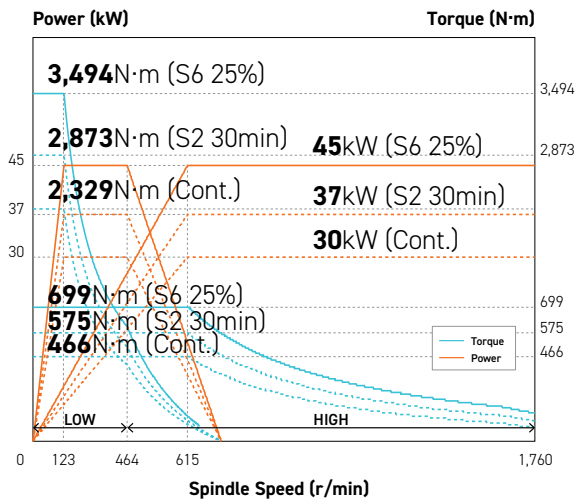
## 18" [21"] [24"] (Belt)



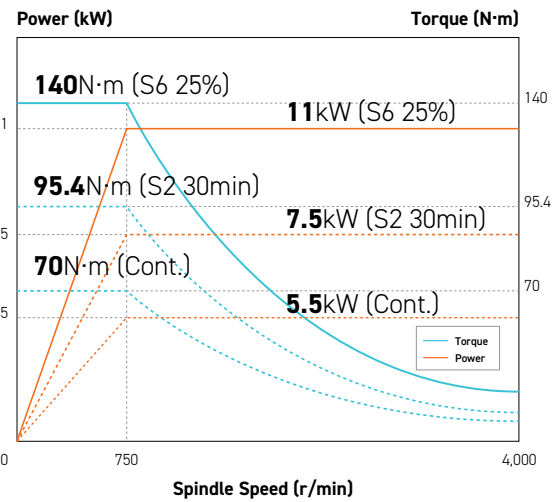
## 18" [21"] (Gear Box) OPTION



## 24" (Gear Box) OPTION



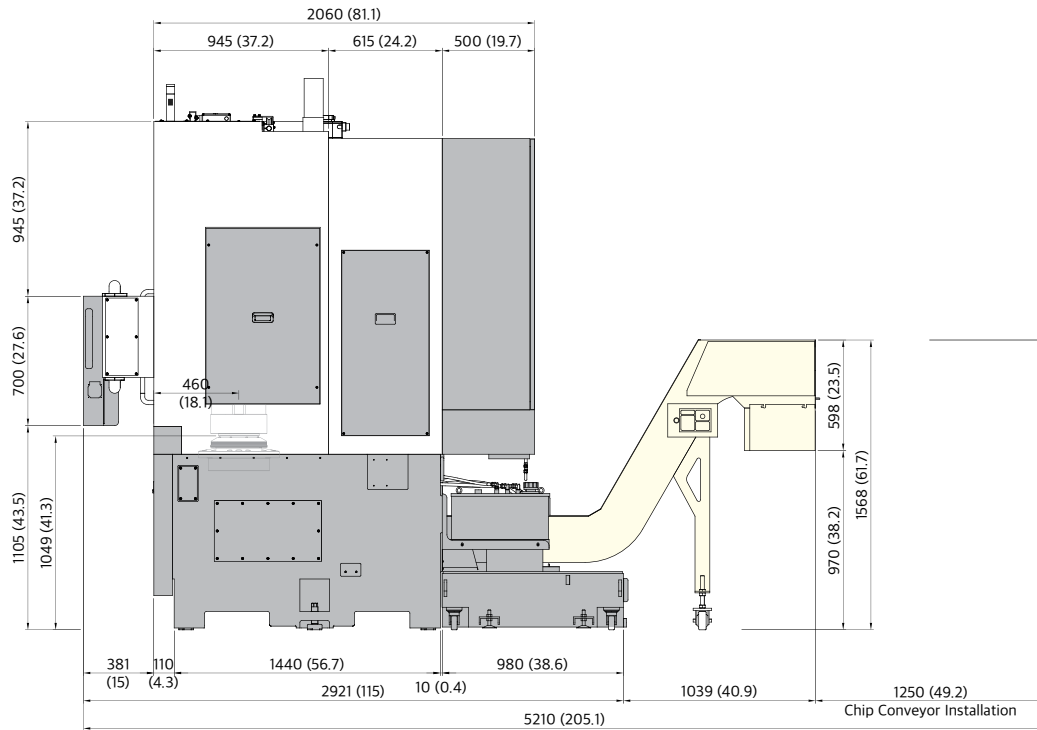
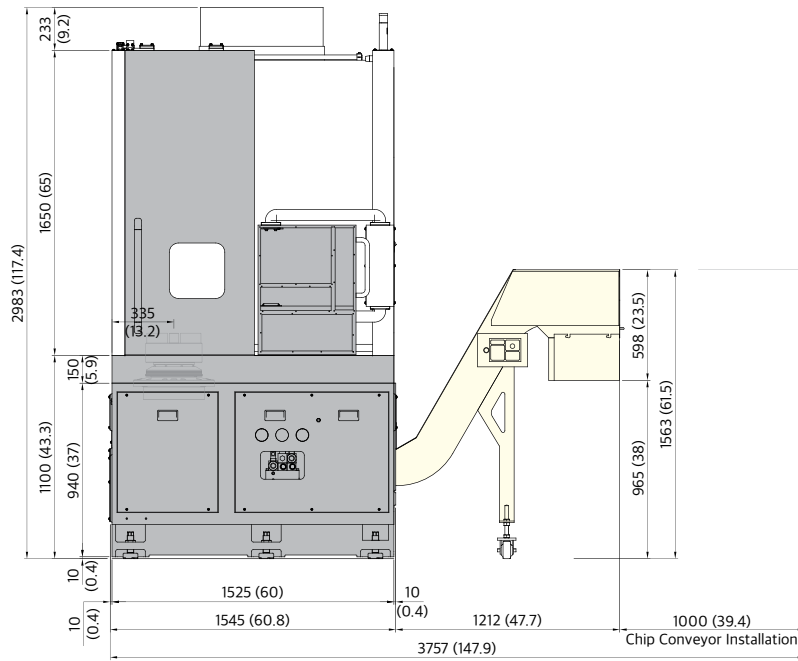
## Mill Turret



# SPECIFICATIONS

## External Dimensions (LV4500 Series)

unit : mm(in)



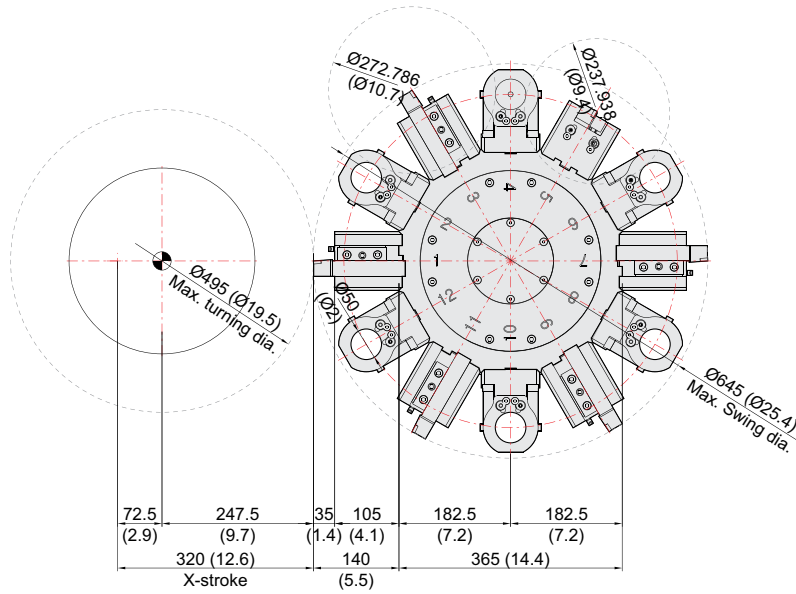


# SPECIFICATIONS

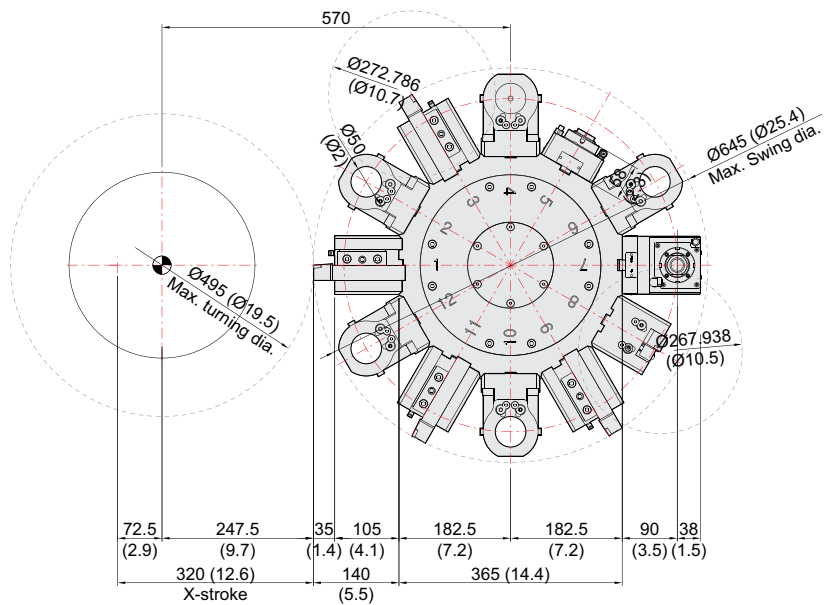
Interference (LV4500 Series)

unit : mm(in)

LV4500R/L



LV4500RM/LM

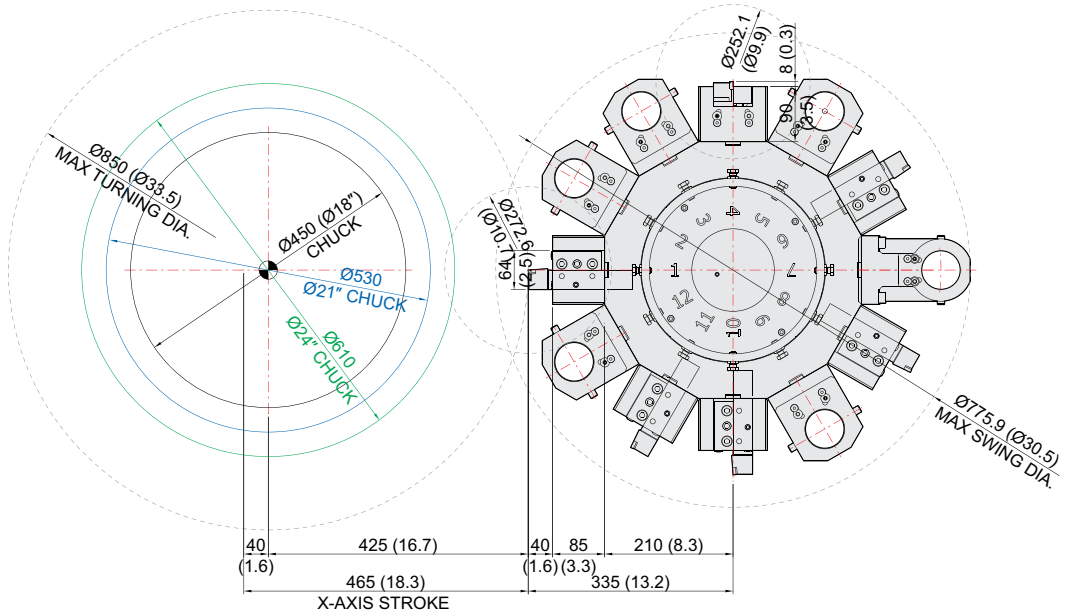


# SPECIFICATIONS

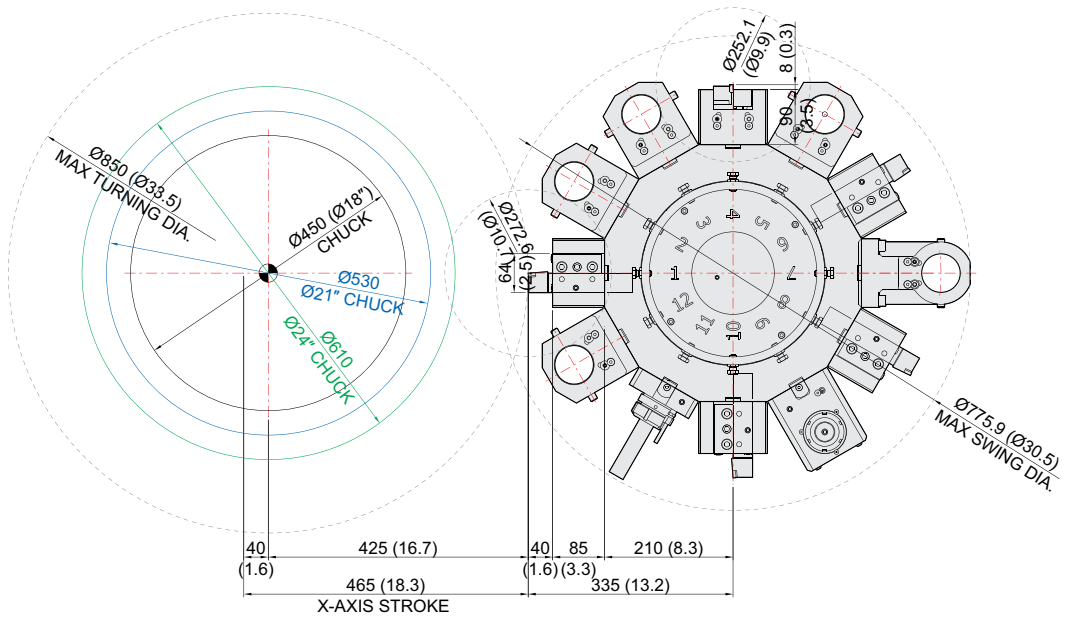
Interference (LV8500 Series)

unit : mm(in)

LV8500R/L



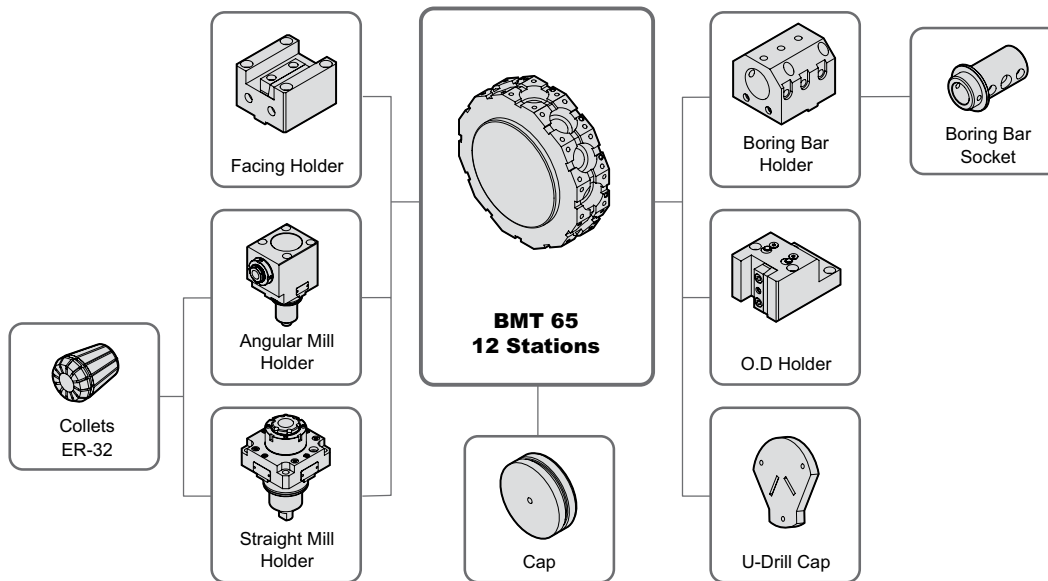
LV8500RM/LM



# SPECIFICATIONS

Tooling System (LV4500 Series)

unit : mm



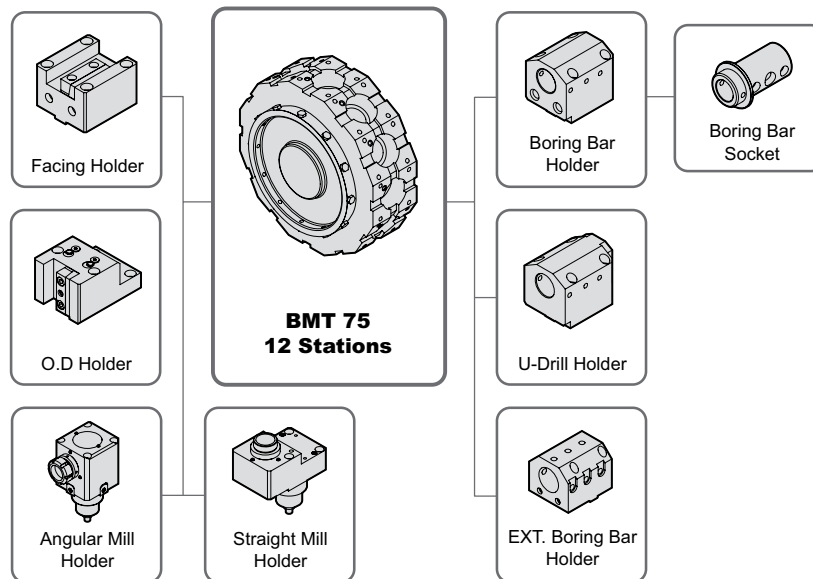
## Tooling Parts Detail

ITEM			LV4500R/L		LV4500RM/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	
		TTC (Tool through coolant)	-	-	Opt	Opt	
	Angular Mill Holder	Standard	-	-	1	1	
		TTC (Tool through coolant)	-	-	Opt	Opt	
Socket	Boring	Ø16 (Ø5/8")	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	
		Ø45 (Ø1 3/4")	-	1	-	1	
	Drill	MT 2		1	1	1	1
		MT 3		1	1	1	1
		MT 4		1	1	1	1
	ER Collet		-	-	1 Set	1 Set	

# SPECIFICATIONS

Tooling System (LV8500 Series)

unit : mm



## Tooling Parts Detail

ITEM			LV8500R/L	LV8500RM/LM	
Turning Holder	O.D Holder	Right/Left	5	4	
	Facing Holder		1	1	
Boring Holder	I.D Holder	Single	4	3	
		Extension	1	1	
	U-Drill Holder		1	1	
Driven Holder	Straight Mill Holder	Standard	-	1	
	Angular Mill Holder	Standard	-	1	
Socket	Boring	Ø20 (Ø3/4")	1	1	
		Ø25 (Ø1")	1	1	
		Ø32 (Ø1 1/4")	1	1	
		Ø40 (Ø1 1/2")	1	1	
		Ø50 (Ø2")	1	1	
	Drill	MT 3		Opt.	Opt.
		MT 4		Opt.	Opt.
		MT 5		Opt.	Opt.

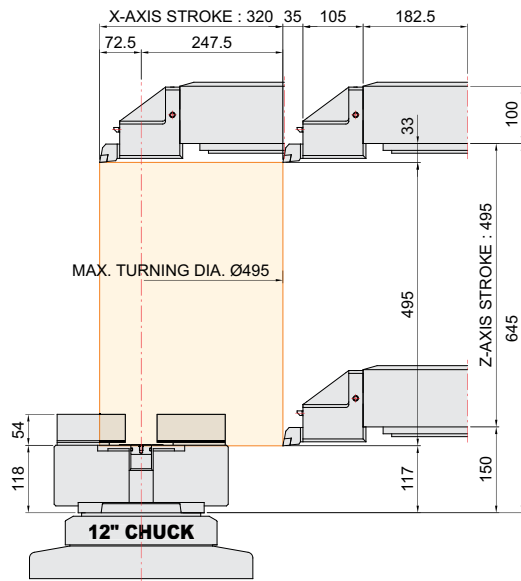
Specifications are subject to change without notice for improvement.

# SPECIFICATIONS

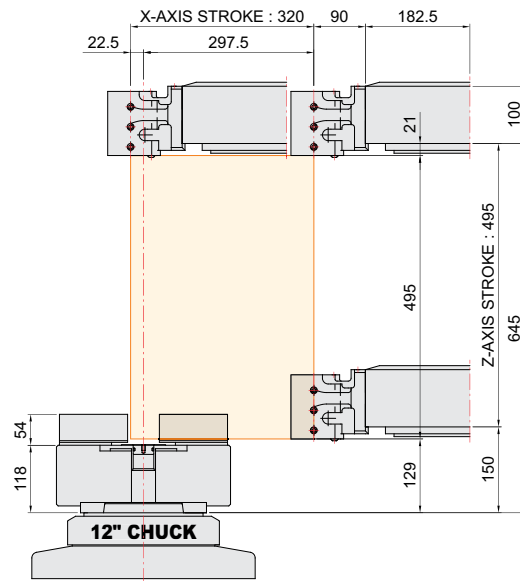
Tooling Travel Range (LV4500R/L | LV4500RM/LM)

unit : mm(in)

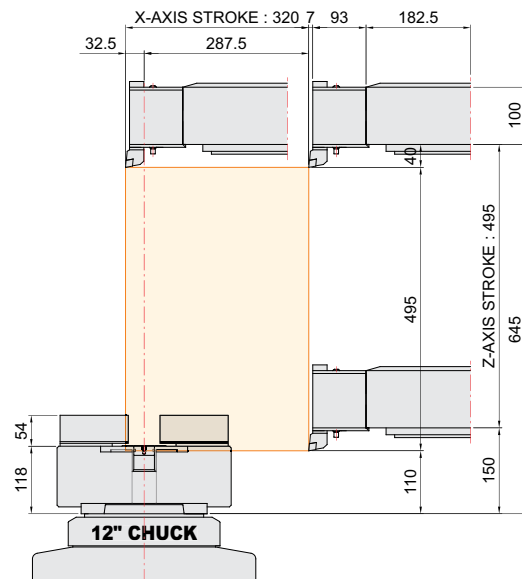
## O.D.



## I.D.



## FACING

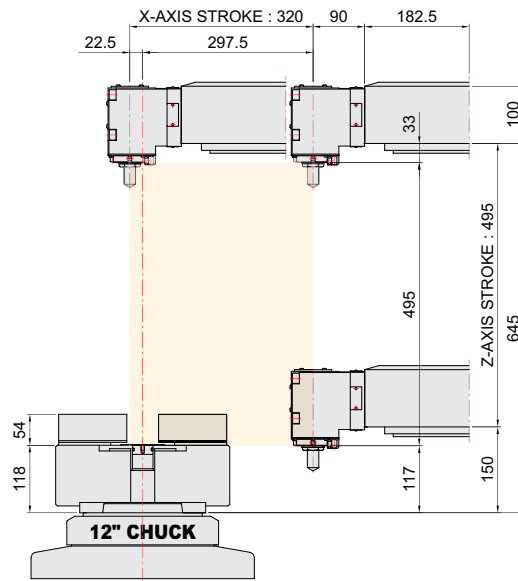


# SPECIFICATIONS

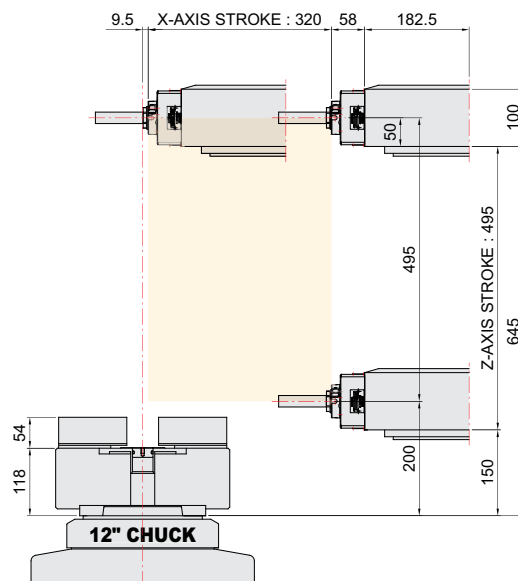
Tooling Travel Range (LV4500RM/LM)

unit : mm(in)

## Angular driven



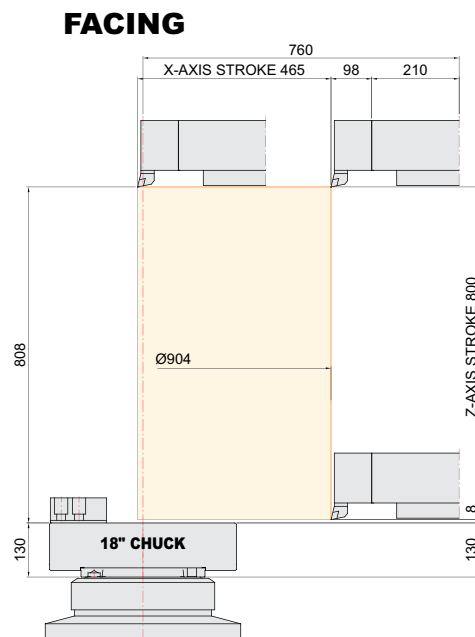
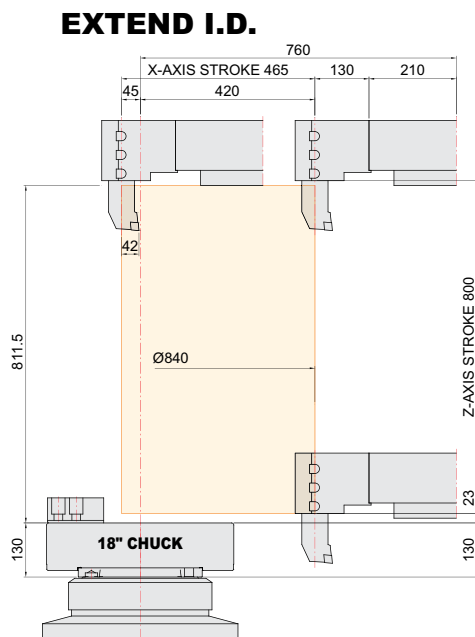
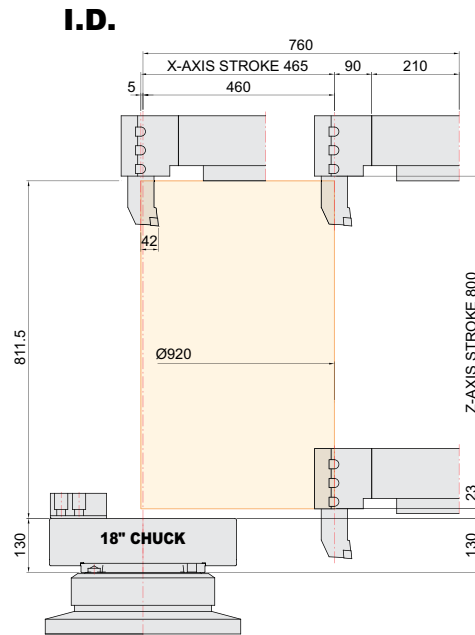
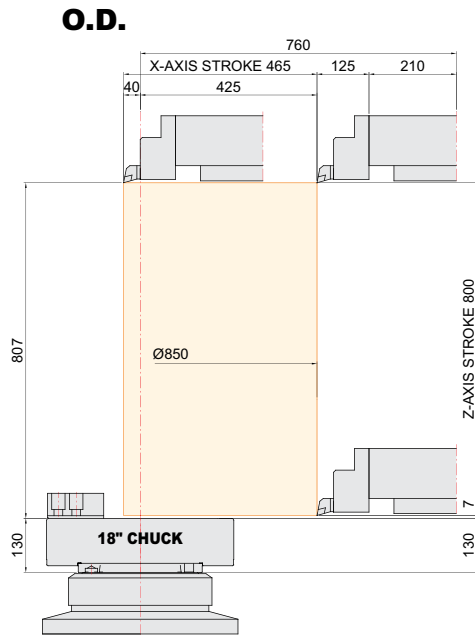
## Straight Driven



# SPECIFICATIONS

Tooling Travel Range (LV8500R/L | LV8500RM/LM\_std. 18" chuck)

unit : mm(in)

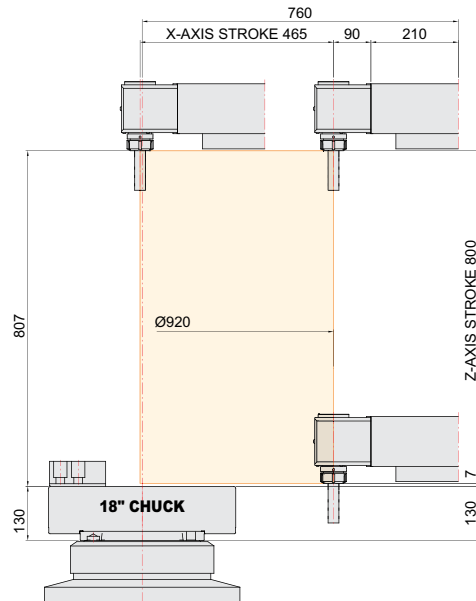


# SPECIFICATIONS

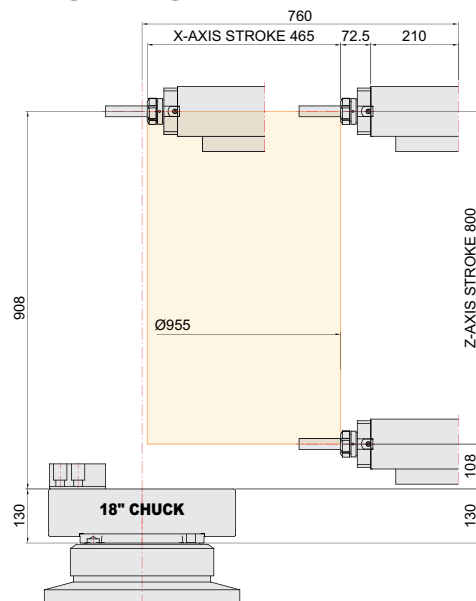
Tooling Travel Range (LV8500RM/LM\_std. 18" chuck)

unit : mm(in)

## ANGULAR DRIVEN



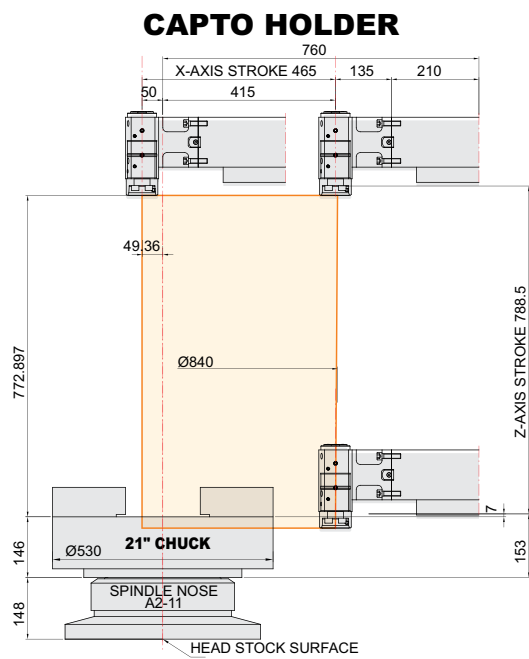
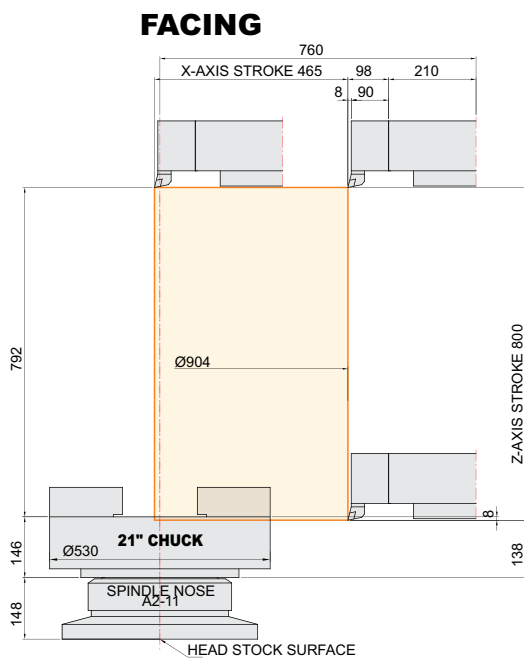
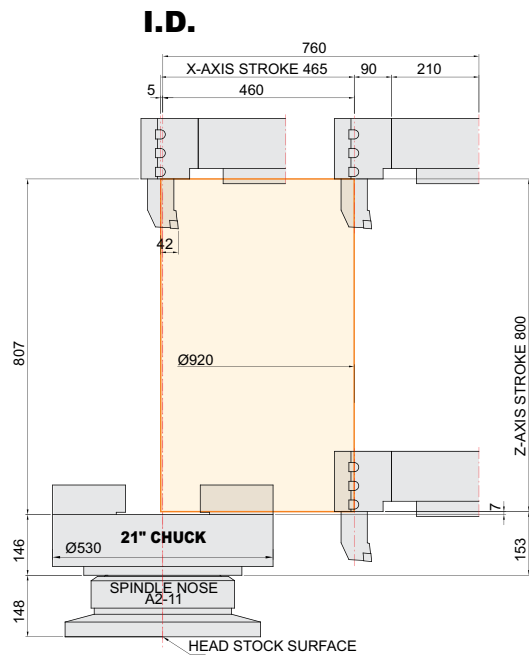
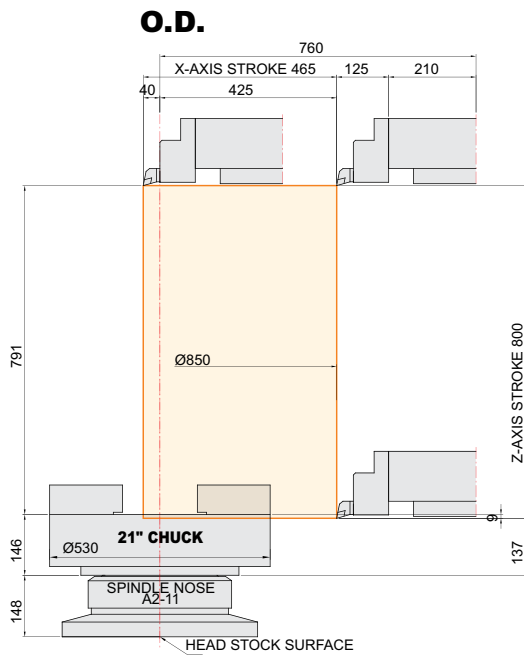
## STRAIGHT DRIVEN



# SPECIFICATIONS

Tooling Travel Range (LV8500R/L | LV8500RM/LM \_ Opt. 21" chuck)

unit : mm(in)

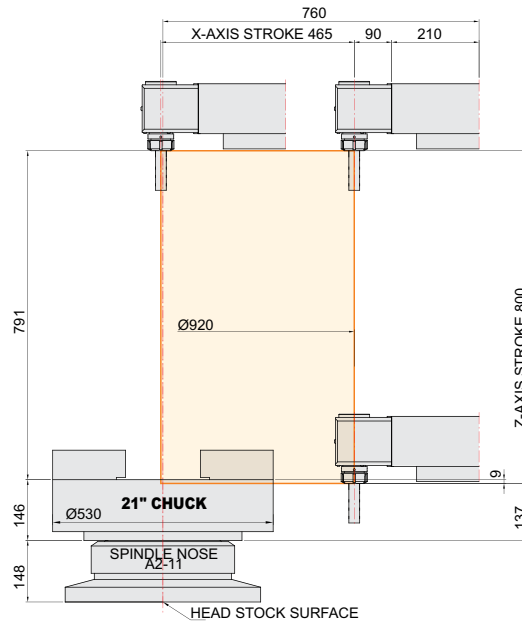


# SPECIFICATIONS

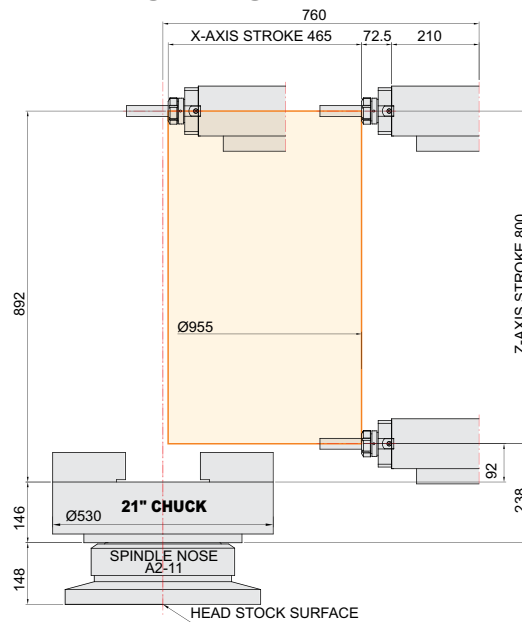
Tooling Travel Range (LV8500RM/LM \_ Opt. 21" chuck)

unit : mm(in)

## ANGULAR DRIVEN



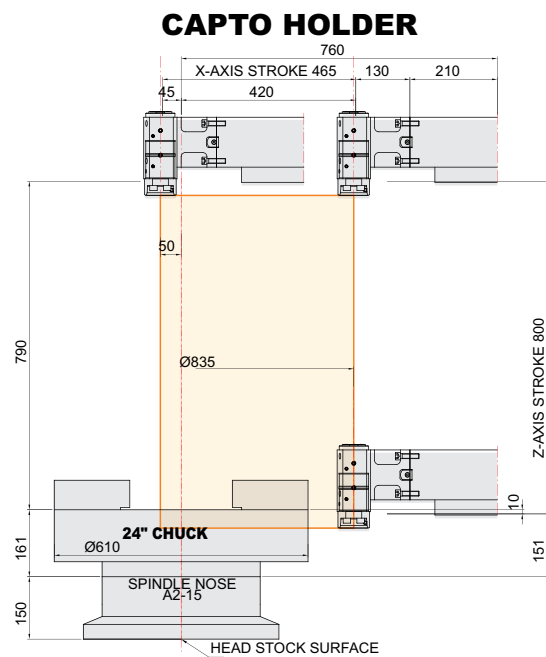
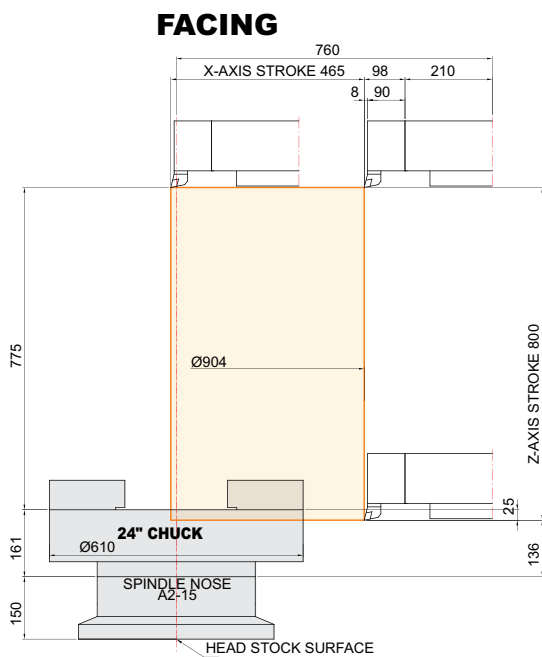
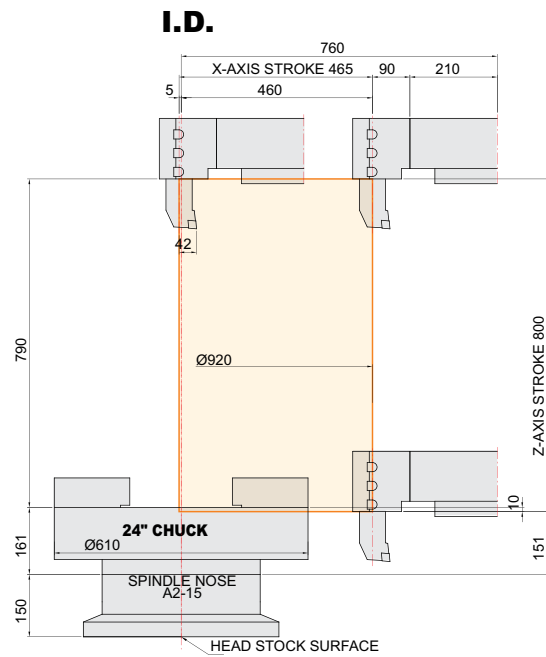
## STRAIGHT DRIVEN



# SPECIFICATIONS

Tooling Travel Range (LV8500R/L | LV8500RM/LM \_ Opt. 24" chuck)

unit : mm(in)

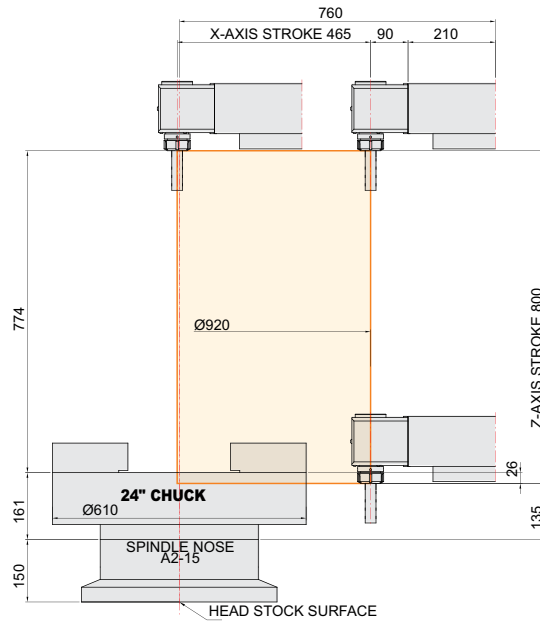


# SPECIFICATIONS

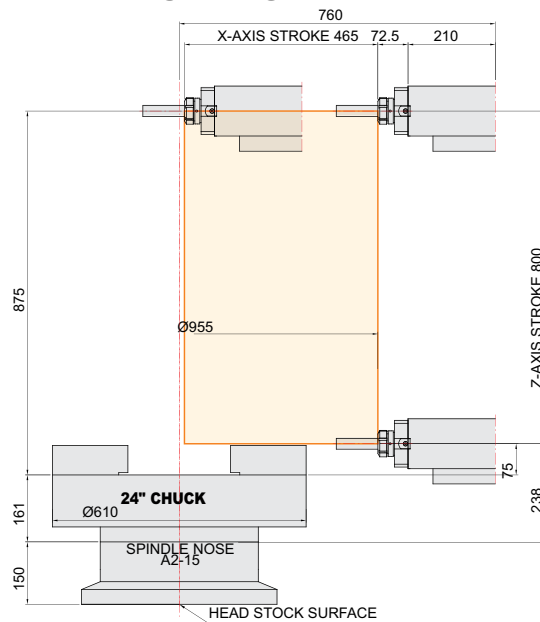
Tooling Travel Range (LV8500RM/LM \_ Opt. 24" chuck)

unit : mm(in)

## ANGULAR DRIVEN



## STRAIGHT DRIVEN



# SPECIFICATIONS

## Specifications

[ ]: Option

ITEM			LV4500R/L	LV4500RM/LM
CAPACITY	Swing Over the Bed	mm(in)	Ø620 (Ø24.4")	
	Swing Over the Carriage	mm(in)	Ø420 (Ø16.5")	
	Max. Turning Dia.	mm(in)	Ø495 (Ø19.5")	
	Max. Turning Length	mm(in)	465 (18.3")	
FEED	Travel (X/Z)	mm(in)	320/495 (12.6"/19.5")	
	Rapid Traverse Rate (X/Z)	m/min(ipm)	24/24 (945/945)	
	Slide Type	-	ROLLER GUIDE	
TURRET	No. of Tools	EA	12	
	Tool Size (O.D./I.D.)	mm(in)	□25/Ø50 (1"/Ø2")	
	Indexing Time	sec/step	0.2	
LIVE TOOL	Power (Max./30min/Cont.)	kW(HP)	-	5.5/3.7 (7.5/5)
	Speed(rpm)	r/min	-	5,000
	Torque (Max./30min/Cont.)	N·m(lbf·ft)	-	70/35.3 (51.6/26)
	Collet Size	mm(in)	-	Ø20 (0.8") - ER32
	Type	-	-	BMT65
TANK CAPACITY	Coolant Tank	ℓ (gal)	300 (79.3)	
	Lubricating Tank	ℓ (gal)	2.0 (0.52)	
POWER SUPPLY	Electric Power Supply	kVA	24	
	Thickness of Power Cable	mm <sup>2</sup>	Over 25	
	Voltage	V/Hz	220/60 (200/50)	
MACHINE	Floor Space (L×W)	mm(in)	1,545×2,921 (60.8"×115")	
	Height	mm(in)	2,983 (117.4")	
	Weight	kg(lb)	7,000 (15,432)	
NC	Controller	-	FANUC i Series - Smart Plus	

## Spindle

Chuck	Spindle Nose	Speed r/min	Power (Max./30min/Cont.)	Torque (Max./30min/Cont.)	
12"	A2-8	3,000 rpm	26/22/18.5 kW (35/29.5/25 HP)	863/730/614 N·m (636.5/538.4/452.9 lbf·ft)	Belt
			[37/30/22 kW] [(50/40/29.5 HP)]	[588/478/350 N·m] [(433.7/352.6/258.1 lbf·ft)]	
[15"]		[2,700 rpm]	[26/22/18.5 kW] [(35/29.5/25 HP)]	[863/730/614 N·m] [636.5/538.4/452.9 lbf·ft)]	
			[37/30/22 kW] [(50/40/29.5 HP)]	[588/478/350 N·m] [(433.7/352.6/258.1 lbf·ft)]	

# SPECIFICATIONS

## Specifications

[ ] : Option

ITEM			LV8500R/L	LV8500RM/LM
CAPACITY	Swing Over the Bed	mm(in)	Ø890 (Ø35")	
	Swing Over the Carriage	mm(in)	Ø710 (Ø28")	
	Max. Turning Dia.	mm(in)	Ø850 (Ø33.5")	
	Max. Turning Length	mm(in)	800 (31.5")	
FEED	Travel (X/Z)	mm(in)	465/800 (18.3"/31.5")	
	Rapid Traverse Rate (X/Z)	m/min(ipm)	20/20 (787/787)	
	Slide Type	-	BOX GUIDE	
TURRET	No. of Tools	EA	12	
	Tool Size (O.D./I.D)	mm(in)	□32/Ø63 (□1.3"/Ø2.5")	
	Indexing Time	sec/step	0.2	
LIVE TOOL	Power (Max./30min/Cont.)	kW(HP)	-	11/7.5/5.5 (15/10/7.4)
	Speed(rpm)	r/min	-	4,000
	Torque (Max./30min/Cont.)	N·m(lbf·ft)	-	140/95.4/70 (103.3/70.4/51.6)
	Collet Size	mm(in)	-	Ø26(1") - ER40
	Type	-	-	BMT75
ATC (Option)	Number of Tools	ea	-	[12]
	Tool Shank	-	-	[CAPTO C6]
	Max. Tool Dia. (W.T / W.O)	mm(in)	-	[100/150 (3.9"/5.9")]
	Max. Tool Length	mm(in)	-	[400 (15.7")]
	Max. Tool Weight	kg(lb)	-	[12 (26)]
TANK CAPACITY	Coolant Tank	ℓ (gal)	300 (79.3)	
	Lubricating Tank	ℓ (gal)	3 (0.8)	
POWER SUPPLY	Electric Power Supply	kVA	Belt : 36 / Gear : 41	
	Thickness of Power Cable	mm <sup>2</sup>	Over 35	
	Voltage	V/Hz	220/60 (200/50)	
MACHINE	Floor Space (L×W)	mm(in)	2,000×3,540 (78.7"×139.4")	
	Height	mm(in)	3,845 (151.4")	
	Weight	kg(lb)	9,500 (20,944)	
NC	Controller	-	FANUC i Series - Smart Plus	

## Spindle

Chuck	Spindle Nose	Speed r/min	Power (Max./30min/Cont.)	Torque (Max./30min/Cont.)	Driving Method
18"	A2-11	2,000 rpm	37/30/22 kW (50/40/29.5 HP)	1,660/1,346/986 N·m (1,224.4/992.8/727.2 lbf·ft)	Belt
			[45/37/30 kW] [(60/50/30 HP)]	[3,185/2,619/2,124 N·m] [(2,349.1/1,931.7/1,566.6 lbf·ft)]	Gear Box
[21"]	[A2-11]	[1,940 rpm]	[37/30/22 kW] [(50/40/29.5 HP)]	[1,660/1,346/986 N·m] [(1,224.4/992.8/727.2 lbf·ft)]	Belt
			[45/37/30 kW] [(60/50/30 HP)]	[3,185/2,619/2,124 N·m] [(2,349.1/1,931.7/1,566.6 lbf·ft)]	Gear Box
[24"]	[A2-15]	[1,760 rpm]	[37/30/22 kW] [(50/40/29.5 HP)]	[1,660/1,346/986 N·m] [(1,224.4/992.8/727.2 lbf·ft)]	Belt
			[45/37/30 kW] [(60/50/30 HP)]	[3,494/2,873/2,329 N·m] [(2,577/2,119/1,717.8 lbf·ft)]	Gear Box

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

# CONTROLLER

## FANUC i Series - Smart Plus

[ ] : Option

Controlled axis / Display / Accuracy compensation	
Control axis	2 axis (X, Z) / 3 axis (X, Z, C) / 4 axis (X, Z, Y, C) 5 axis (X, Z, B, C, A) / 6 axis (X, Z, Y, B, C, A) 7 axis (X1/Z1, X2/Z2, B2, C1/C2)
Simultaneously controlled axis	2 axis [Max. 4 axis]
Designation of spindle axis	3 axis [Max. 4 axis] X, Z, Y, B axis : 0.001 mm (0.0001 inch)
Least setting Unit	C, A axis : 0.001 deg
Least input increment	X, Z, Y, B axis : 0.001 mm (0.0001 inch) C, A axis : 0.001 deg
Inch / Metric conversion	G20 / G21
High response vector control	
Interlock	All axis / Each axis
Machine lock	All axis
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	1, 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 axis)	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	
Look-ahead Block	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.

# GLOBAL NETWORK



## WIA MACHINE TOOLS

**Headquarter / R&D Center** 106, Yongji-ro, Seongsan-gu, Changwon-si, Gyeongsangnam-do, Republic of Korea TEL : +82 55 225 9999

**Overseas Sales Team** 13, Iljik-ro 12beon-gil, Gwangmyeong-si, Gyeonggi-do, Republic of Korea TEL : +82 55 225 9645

### OVERSEAS OFFICES

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

**Europe GmbH** Alexander-Fleming-Ring 57, 65428 Russelsheim Germany TEL : +49-0-6142-9256-0

**China** Company No.16 Fenghuang Road, Fenghuang Town, Zhangjiagang City, Jiangsu Province, China TEL : +86-21-6427-9885

**CIS Branch Office** 050051, Kazakhstan, Almaty, Elebekova street 10, B.3 Office no. 103 TEL : +7-727-355-7133

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

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