

# 300 Series

L300A/LA/MA/LMA/MSA/LMSA | L300C/LC/MC/LMC/MSC

HYUNDAI WIA CNC Turning Center

# Technical Leader

L300 series, designed by Hyundai WIA with years of expertise and the latest technology, is a Turning Center that maximizes productivity and performance.

MODEL	Chuck Size					Bed		Turret	
	10"	12"	15"	Big Bore	Sub 8"	Standard	Long	Standard	BMT65
L300A	●					●		●	
L300LA	●						●	●	
L300MA	●					●			●
L300LMA	●						●		●
L300MSA	●				●	●			●
L300LMSA	●				●		●		●
L300C		●	○	●		●		●	
L300LC		●	○	●			●	●	
L300MC		●	○	●		●			●
L300LMC		●	○	●			●		●
L300MSC		●	○	●	●	●			●

● : Standard ○ : Option

# 300 Series

Versatile, High Production CNC Turning Center

- Rigidity secured through box guideways
- Highly accurate direct link and solid one-piece structure
- Main spindle heat displacement minimized
- All gearless type spindle machines applied with mill turret.
- Integrated process realized through adoption of 8" sub spindle
- Optional big bore spindle is available (L300C series)



# 01 BASIC STRUCTURE

Powerful Cutting Capability & Large Working Area CNC Turning Center

## Turret

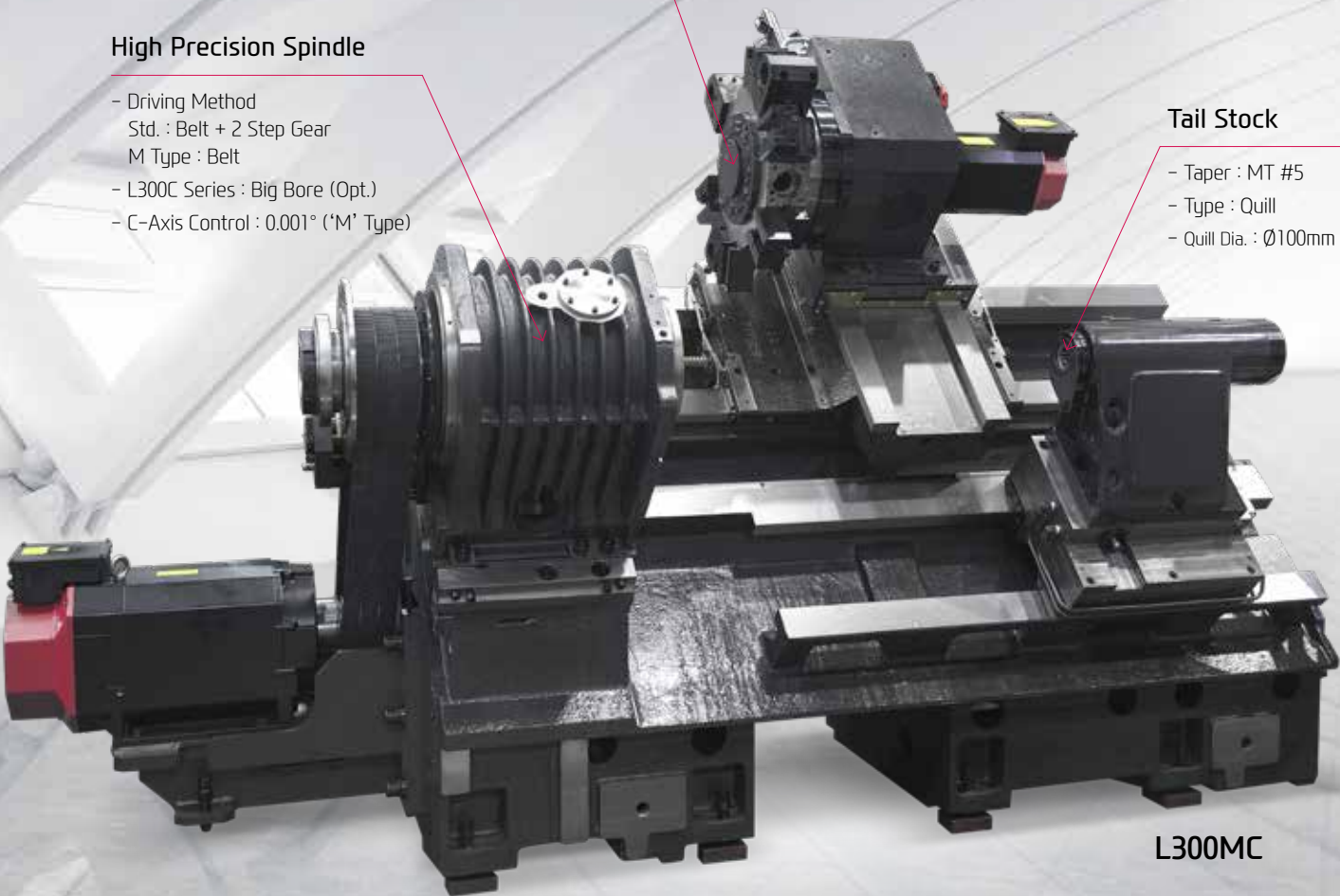
- No. of Tools : 12 EA
- Tool Size (O.D/I.D) :  $\square 25/\square 50$  ( $\square 1"/\square 2"$ )
- Mill Turret : BMT65

## High Precision Spindle

- Driving Method  
Std. : Belt + 2 Step Gear  
M Type : Belt
- L300C Series : Big Bore (Opt.)
- C-Axis Control : 0.001° ('M' Type)

## Tail Stock

- Taper : MT #5
- Type : Quill
- Quill Dia. :  $\varnothing 100\text{mm}$  ( $\varnothing 3.9"$ )



L300MC



## MT#5 Tail Stock

The large (MT#5) tail stock ensures high accuracy even during heavy duty cutting. The quill can be operated by a foot pedal or a program. The quill body which is attached to the saddle, is operated manually by using the JOG button or MPG. (MT 4 Built-in Tail Stock : Option)

# POWERFUL CUTTING CAPABILITY & WIDE CUTTING AREA

## ALL-IN-ONE TYPE OF BED

### High Precision & Rigidity, One-Piece Structure

The L300 features a 45° slant bed design which is developed through finite element analysis (FEA) to absorb vibration and minimize thermal growth. This ensures a stabilized platform for powerful, precise cutting capabilities.



## GUIDEWAY

### High-Speed Roller LM Guideway

All axes of L300 Series are designed with Box Guideways for better travel ability. Box Guideways show great performance in offsetting vibrations caused by heavy duty cutting.

### Ball Screw

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



**Rapid Traverse Rate (X/Z/ZB)** **20/24/20** m/min  
(787/945/787 ipm)

### Travel (X/Z/ZB)

unit : mm(in)

L300A/MA	L300MSA	L300LA/LMA	L300LMSA
290/750 (11.4"/29.5")	290/750/700 (11.4"/29.5"/27.6")	290/1,350 (11.4"/53.1")	290/1,350/1,200 (11.4"/53.1"/47.2")
L300C/MC	L300LC/LMC	L300MSC	
355/750 (14"/29.5")	355/1,350 (14"/53.1")	355/750/700 (14"/29.5"/27.6")	



# 02 HIGH PRECISION SPINDLE

Long Lasting, High Accuracy & Excellent Performance CNC Turning Center

## Spindle Specifications

[ ] : Option

MODEL	Spindle Speed	Motor (Max./Cont.)	Torque (Max./Cont.)	Driving Method
L300A/LA	3,600 rpm (FANUC)	22/18.5 kW (30/25 HP)	739.5/622 N·m (545/458.8 lbf-ft)	Belt + 2 Step Gear
	[3,500 rpm (iTROL)]	[22/18.5 kW (30/25 HP)]	[783.2/652.7 N·m (577.7/481.4 lbf-ft)]	
L300C/LC	3,000 rpm (FANUC)	26/22 kW (35/30 HP)	1,131/957 N·m (834.2/705.8 lbf-ft)	
	[2,800 rpm (BIG BORE)]	[26/22 kW (35/30 HP)]	[1,325/1,121 N·m (977.3/826.8 lbf-ft)]	
	[3,000 rpm (iTROL)]	[26.4/22 kW (35.4/30 HP)]	[1,137/947.6 N·m (838.7/698.9 lbf-ft)]	
L300MA Series	3,500 rpm (FANUC)	22/18.5 kW (30/25 HP)	493.4/414.9 N·m (363.9/306 lbf-ft)	
	3,000 rpm (FANUC)	22/18.5 kW (30/25 HP)	787.3/465 N·m (580.7/343 lbf-ft)	
L300MC Series	[2,800 rpm (BIG BORE)]	[22/18.5 kW (30/25 HP)]	[787.3/465 N·m (580.7/343 lbf-ft)]	
	[3,500 rpm (iTROL)]	[33.6/28 kW (45.1/37.5 HP)]	[481.1/400.9 N·m (354.8/295.7 lbf-ft)]	
Sub Spindle	4,000 rpm (FANUC)	11/7.5 kW (15/10 HP)	140.1/95.5 N·m (103.2/70.4 lbf-ft)	Belt

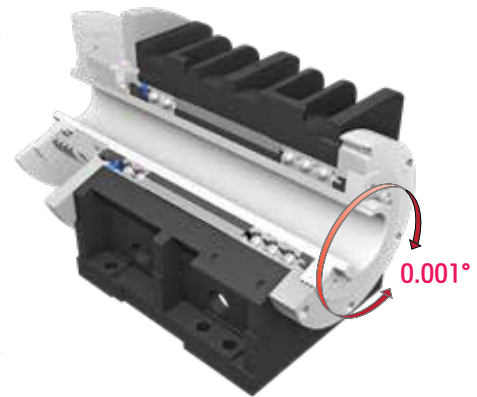
# HEAVY DUTY CUTTING & HIGH ACCURACY

## MAIN SPINDLE

### Spindle Ideal for Heavy Cutting

The main spindle has a wide range of constant power and utilizes the same structure as high speed turning centers. It is designed to minimize thermal displacement and to maintain stable cutting Capability during high speed machining.

In particular, the enhanced processing and assembling accuracy of bearings enables the spindle unit to maintain high precision for a long time.



### 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.

### Gear Type Spindle

A two-step driving method is applied inside the main spindle as standard to non mill turret models.(L300A/C/LA/LC) It provides powerful torque at low speeds and stable rotation at high speeds.

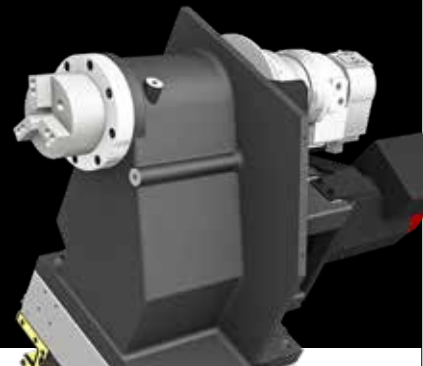


### Gearless Type Spindle

Mill turret(BMT turret) equipped models are driven by the gearless method thereby reducing noise and providing outstanding surface finish.

## 8" SUB SPINDLE ('S' Type)

The Belt-type sub spindle is designed to minimize thermal displacement during the continuous machining, offering from the heavy-duty cutting to the high-speed machining. When the main spindle cutting is completed, the sub spindle rotation is synchronized with the main spindle allowing the workpiece to be transferred to the sub spindle, and machining can begin on the back side of the workpiece.





# 03 SERVO TURRET

High speed, High Accuracy, Highly Reliable Servo Turret

## Servo Turret

No. of Tools

12<sup>EA</sup>

Tool Size (O.D./I.D.)

□ 25/Ø50 mm (□ 1"/Ø2")

Indexing Time

0.3<sup>sec</sup>

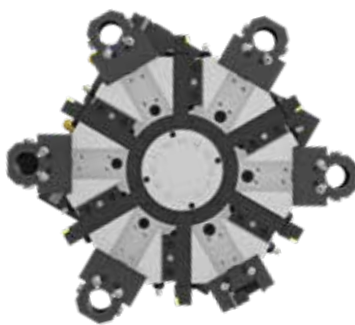
## Mill Turret

ITEM	Speed	Motor (Max./Cont)	Torque (Max./Cont)	Collet Size
BMT65	4,000 rpm	5.5/3.7 kW (7.5/5HP)	35/23.5 N·m (25.8/17.3 lbf·ft)	Ø20 (Ø3/4") /ER32



# VARIOUS DRIVEN PRECISION BMT TOOL HOLDERS

## TURRET



### Servo Turret

The turret of L300 series are applied with high performance AC servo motor, improving machining reliability. 3-piece coupling shows excellent performance in indexing. Powerful hydraulic tool clamping minimizes tool tip deviation caused by load.

### 20 Bar(290 psi) High Pressure Coolant **OPTION**

Turret is designed to utilize 20 bar (290 psi) high pressure coolant and it shows optimum performance in machining difficult-to-cut material.

### BMT65 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.



### Special Tool

**OPTION**

The L300 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.

# 04 USER CONVENIENCE

Various Devices for User Friendly

## BAR FEEDER SYSTEM

### Bar Feeder

Bar feeder system enables automation which leads to efficiency improvement.

Long Type	: 3 m (118.1")	Short Type	: 1.5 m (59.1")
Bar Capacity	: Ø42 (1.7")	Bar Capacity	: Ø65 (2.6")



#### Parts Catcher

An optional parts catcher collects finished parts without the need to open the door, adding productivity, especially when a bar feeder is attached.



#### Auto Door

Using M-code, the doors can be automatically opened and closed which brings productivity and convenience for automation.



#### Parts Conveyor

The parts conveyor transfers the finished workpiece unloaded by the parts catcher for user convenience.



#### Auto Shutter

Using auto shutter, automation system with gantry loader is possible without opening the machine's door.

## HIGH PRECISION SYSTEM



### Automatic Q-Setter

Cutting tools are calibrated quickly and accurately with the addition of a q-setter. Each tool tip is touched off manually using a sensor that inputs the position automatically.



### Linear Scale

Linear scales increase positioning accuracy and reduce distortion caused by thermal growth, thus ensuring a more accurate finished part



### Work Probe

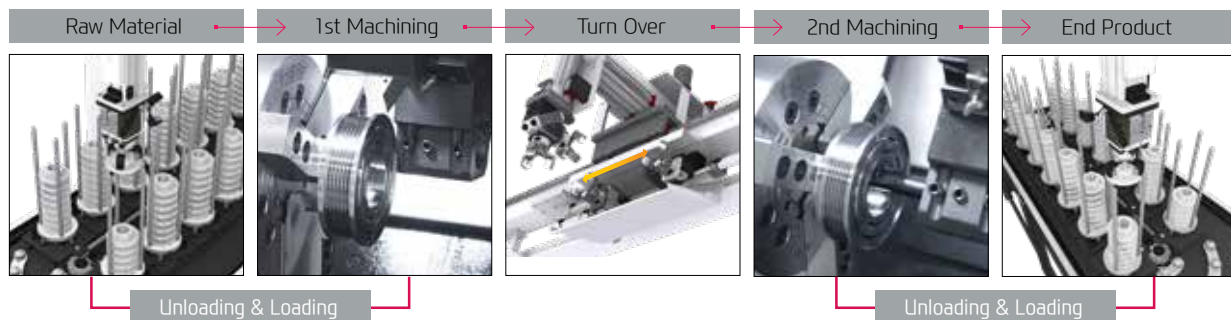
Workpiece coordinate values can be set automatically using the optional spindle probe.

Optional

## GANTRY LOADER SYSTEM

### Gantry Loader Machining Process

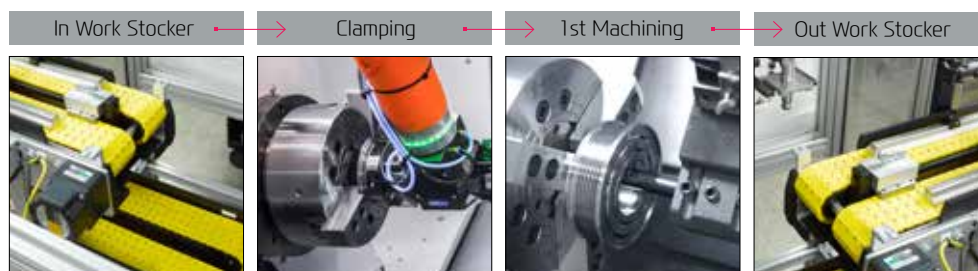
The high speed gantry loaders and the work stocker allow the implementation of automation cells. This enables flexible machining process and productivity enhancement. Optimization of the installation space is also possible.



## ROBOT AUTOMATION SYSTEM

### Robot System Machining Process

Hyundai WIA is able to deliver high quality factory automation system through the precision technologies accumulated by a long time experience of machine tool manufacturing, and the operation capability acquired from the automobile parts manufacturing business.





# 05 HYUNDAI WIA FANUC – SMART PLUS

The Compatible All-round Control



**15" Touch-type Monitor as a standard**

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



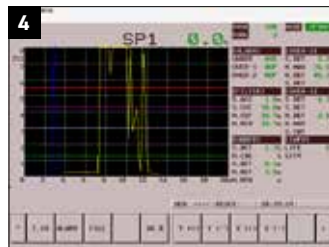
# SMART SOFTWARE



## 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.

## Convenience Function S/W



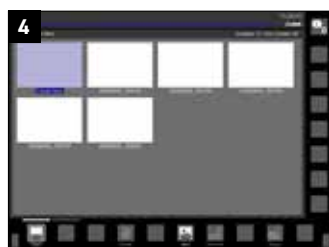
1. Thermal Displacement Compensation (HW-TDC) **OPTION**  
This software improves processing precision by minimizing thermal deformation from changes in external environments and machining.

2. Machine Guidance (HW-MCG)  
This software offers various user convenience functions such as tool manipulation, maintenance, tool monitoring, and a pop-up/status

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

4. Tool Monitoring (HW-TM) **OPTION**  
This tool status monitoring software monitors and protects workpiece, tools, and equipment through real-time monitoring of the motor load from machining.

## Machining Support S/W



1. Premium Tool Operation  
This software offers premium graphic functions for more intuitive tool operation. (Only in iHMI tools)

2. Manual Viewer  
This software enables users to view electronic manuals right from the tool. (Only in iHMI tools)

3. Scheduling  
This software enables viewing/setting up directly from the tool. This allows such actions as managing customer's tool schedules and schedule notification. (Only in iHMI tools)

4. Operation Memo  
This software is capable of managing customer notes such as tool information and issues. (Only in iHMI tools)

# SPECIFICATIONS

## L300 Series Standard & Optional

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

Spindle		A(LA)	MA(LMA)	MSA(LMSA)
Main Spindle	10"	●	●	●
Hollow Chuck 3 Jaw	12"	○	○	○
Main Spindle	10"	○	☆	☆
Solid Chuck 3 Jaw	12"	☆	☆	☆
Sub Spindle	8"	-	-	●
Hollow Chuck 3 Jaw	10"	-	-	-
Sub Spindle	8"	-	-	○
Solid Chuck 3 Jaw	10"	-	-	-
Standard Soft Jaw (1set)		●	●	●
Chuck Clamp Foot Switch		●	●	●
2 Steps Hyd. Pressure Device		○	○	○
Spindle Inside Stopper		☆	☆	☆
Cs-Axis (0.001")		○	●	●
Chuck Open/Close Confirmation Device		●	●	●
2 Steps Chuck Foot Switch		○	○	○
<b>Turret</b>				
Tool Holder		●	●	●
Mill Turret	BMT	-	●	●
Straight Milling Head (Radial)	Collet Type,2ea	-	●	●
Angular Milling Head (Axial)	Collet Type,2ea	-	●	●
SUB Angular Milling Head (Axial)	Collet Type,1ea	-	-	●
Straight Milling Head (Radial)	Adapter Type	-	○	○
Angular Milling Head (Axial)	Adapter Type	-	○	○
SUB Angular Milling Head (Axial)	Adapter Type	-	-	○
Boring Sleeve		●	●	●
Drill Socket		●	●	●
U-Drill Holder		○	○	○
U-Drill Holder Sleeve		○	○	○
O.D Extension Holder	For Out-Dia	○	-	-
Angle Head		-	☆	☆
<b>Tail Stock &amp; Steady Rest</b>				
Quill Type Tail Stock (Foot Switch)		●	●	-
Built in Tail Stock (MT#4)		○	○	-
Programmable Tail Stock		○	○	-
Programmable Hyd. Steady Rest		○	○	-(○)
Manual Steady Rest		☆	☆	-(☆)
Standard Live Center		●	●	-
High Precision Live Center		☆	☆	-
2 Steps Tail Stock Pressure System		☆	☆	-
Quill Forward/Reverse Confirmation Device		○(CE:●)	○(CE:●)	-
<b>Coolant &amp; Air Blow</b>				
Standard Coolant (Nozzle)		●	●	●
Chuck Coolant (Upper Chuck)		○	○	○
Gun Coolant		○	○	○
Through Spindle Coolant (Only for Special Chuck)		☆	☆	☆
Thru Coolant for Live Tool		-	☆	☆
Chuck Air Blow (Upper Chuck)		○	○	○
Sub Spindle Air Blow		-	-	○
Tail Stock Air Blow (Upper Tail Stock)		○	○	-
Turret Air Blow		☆	☆	☆
Air Gun		○	○	○
Through Spindle Air Blow (Only for Special Chuck)		☆	☆	☆
High Pressure Coolant	1.5Bar	●	●	●
	6Bar	○	○	○
	14.5Bar	○	○	○
	20Bar	○	○	○
Power Coolant System (For Automation)		☆	☆	☆
Coolant Chiller		☆	☆	☆
<b>Chip Disposal</b>				
Coolant Tank	220ℓ (58.1 gal)	A (●)	MA (●)	MSA (●)
	270ℓ (71.3 gal)	LA (●)	LMA (●)	LMSA (●)
Chip Conveyor (Hinge/Scraper)	Front (Rear)	○ (-)	○ (-)	-
	Front (Right)	○	○	○
Special Chip Conveyor (Drum Filter)		☆	☆	☆
Chip Wagon - Standard (180ℓ [47.5 gal])		○	○	○
Chip Wagon - Swing (200ℓ [52.8 gal])		○	○	○
Chip Wagon - Large Swing (290ℓ [76.6 gal])		○	○	○
Chip Wagon - Large Size (330ℓ [87.2 gal])		○	○	○
Chip Wagon - Customized		☆	☆	☆
<b>Safety Device</b>				
Total Splash Guard		●	●	●
Back Spin Torque Limiter (BST)		●	●	●
Chuck Hydraulic Pressure Maintenance Interlock		☆	☆	☆

Electric Device		A(LA)	MA(LMA)	MSA(LMSA)
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		○	○	○
Transformer	30kVA	○	-	-
	35kVA	-	○	○
Auto Power Off		○	○	○
<b>Measurement</b>				
Q-Setter		●	●	●
Automatic Q-Setter		○	○	○
Work Close Confirmation Device (Only for Special Chuck)	TACO	☆	☆	☆
	SMC	☆	☆	☆
Work Setter (REFINSHAW/MARPOSS)		○	☆	☆
Linear Scale	X axis	○	○	○
	Z axis	○	○	○
Coolant Level Sensor (Only for Chip Conveyor)		☆	☆	☆
<b>Environment</b>				
Air Conditioner	FANUC	○	○	○
	HYUNDAI-ITROL	●	-	-
Oil Mist Collector		☆	☆	☆
Oil Skimmer (Only for Chip Conveyor)		○	○	○
MQL (Minimal Quantity Lubrication)		☆	☆	☆
<b>Fixture &amp; Automation</b>				
Auto Door	Standard	○	○	○
	High Speed	☆	☆	☆
Auto Shutter (Only for Automatic System)		☆	☆	☆
Sub Operation Pannel		○	○	○
Bar Feeder Interface		☆	☆	☆
Bar Feeder (FEDEK)		○	○	○
Extra M-Code 4ea		☆	☆	☆
Automation Interface		○	○	○
I/O Extension (IN & OUT)	16 Contact	○	○	○
	32 Contact	○	○	○
Parts Catcher	Main SP.	-	-	○
	Sub SP.	-	-	○
Sub Sp. Work Pusher (Pneumatic Type)		☆	☆	☆
Turret Work Pusher (For Automation)		☆	☆	☆
Parts Conveyor		☆	☆	☆
<b>Hyd. Device</b>				
Standard Hyd. Cylinder	Hollow	●	●	●
Standard Hyd. Unit	35bar/20ℓ (5.3gal)	●	●	●
<b>S/W</b>				
DNC software (HW-eDNC)		○	○	○
Machine Monitoring System (HW-MMS Cloud/Edge/Remote)		○	○	○
Machine Monitoring System & Analysis (HW-MMS Edge Plus)		☆	☆	☆
Automation CAM program (HW-ACAM)		○	-	-
Conversational program (HW-DPRO)		○	○	○
SmartGuide-i : FANUC		●	●	●
Thermal Displacement Compensation (HW-TDC)		○	○	○
Tool Monitoring (HW-TM) : FANUC		○	○	○
Machine Guidance (HW-MCG) : FANUC		●	●	●
Energy Saving System (HW-ESS) : FANUC		●	●	●
Premium Tool Operation : FANUC		●	● (F32i : -)	-
Manual Viewer : FANUC		●	● (F32i : -)	-
Scheduling : FANUC		●	● (F32i : -)	-
Operation Memo : FANUC		●	● (F32i : -)	-
<b>ETC</b>				
Tool Box		●	●	●
Customized Color	Need Munsell No.	☆	☆	☆
CAD & CAM		☆	☆	☆

❖ 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.



# SPECIFICATIONS

## L300 Series Standard & Optional

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

Spindle		C(LC)	MC(LMC)	MSC
Main Spindle	12"	●	●	●
Hollow Chuck 3 Jaw	15"	○	○	○
Main Spindle	12"	☆	☆	☆
Solid Chuck 3 Jaw	15"	○	☆	☆
Sub Spindle	8"	-	-	●
Hollow Chuck 3 Jaw	10"	-	-	-
Sub Spindle	8"	-	-	☆
Solid Chuck 3 Jaw	10"	-	-	-
Standard Soft Jaw (1set)		●	●	●
Chuck Clamp Foot Switch		●	●	●
2 Steps Hyd. Pressure Device		○	○	○
Spindle Inside Stopper		☆	☆	☆
Cs-Axis (0.001")		-	●	●
Chuck Open/Close Confirmation Device		●	●	●
2 Steps Chuck Foot Switch		○	○	○
<b>Turret</b>				
Tool Holder		●	●	●
Mill Turret		-	●	●
Straight Milling Head (Radial)	BMT	-	●	●
Collet Type,2ea		-	●	●
Angular Milling Head (Axial)	Collet Type,2ea	-	●	●
SUB Angular Milling Head (Axial)	Collet Type,1ea	-	-	●
Straight Milling Head (Radial)	Adapter Type	-	○	○
Angular Milling Head (Axial)	Adapter Type	-	○	○
SUB Angular Milling Head (Axial)	Adapter Type	-	-	○
Boring Sleeve		●	●	●
Drill Socket		●	●	●
U-Drill Holder		○	○	○
U-Drill Holder Sleeve		○	○	○
O.D Extension Holder	For Out-Dia	●	-	-
Angle Head		-	☆	☆
<b>Tail Stock &amp; Steady Rest</b>				
Quill Type Tail Stock (Foot Switch)		●	●	-
Built in Tail Stock (MT#4)		○	○	-
Programable Tail Stock		○	○	-
Programable Hyd. Steady Rest		○	○	-
Manual Steady Rest		☆	☆	-
Standard Live Center		●	●	-
High Precision Live Center		☆	☆	-
2 Steps Tail Stock Pressure System		☆	☆	-
Quill Forward/Reverse Confirmation Device		○(CE:●)	○(CE:●)	-
<b>Coolant &amp; Air Blow</b>				
Standard Coolant (Nozzle)		●	●	●
Chuck Coolant (Upper Chuck)		○	○	○
Gun Coolant		○	○	○
Through Spindle Coolant (Only for Special Chuck)		☆	☆	☆
Thru Coolant for Live Tool		-	☆	☆
Chuck Air Blow (Upper Chuck)		○	○	○
Sub Spindle Air Blow		-	-	-
Tail Stock Air Blow (Upper Tail Stock)		○	○	-
Turret Air Blow		☆	☆	☆
Air Gun		○	○	○
Through Spindle Air Blow (Only for Special Chuck)		☆	☆	☆
High Pressure Coolant	1.5Bar	●	●	●
	6Bar	○	○	○
	14.5Bar	○	○	○
	20Ba	○	○	○
Power Coolant System (For Automation)		☆	☆	☆
Coolant Chiller		☆	☆	☆
<b>Chip Disposal</b>				
Coolant Tank	220 ℓ (58.1 gal)	C (●)	MC (●)	●
	270 ℓ (71.3 gal)	LC (●)	LMC (●)	-
Chip Conveyor (Hinge/Scraper)	Front (Rear)	○(-)	○(-)	-
	Front (Right)	○	○	○
Special Chip Conveyor (Drum Filter)		☆	☆	☆
Chip Wagon - Standard (180 ℓ [47.5 gal])		○	○	○
Chip Wagon - Swing (200 ℓ [52.8 gal])		○	○	○
Chip Wagon - Large Swing (290 ℓ [76.6 gal])		○	○	○
Chip Wagon - Large Size (330 ℓ [87.2 gal])		○	○	○
Chip Wagon - Customized		☆	☆	☆
<b>Safety Device</b>				
Total Splash Guard		●	●	●
Back Spin Torque Limiter (BST)		●	●	●
Chuck Hydraulic Pressure Maintenance Interlock		☆	☆	☆

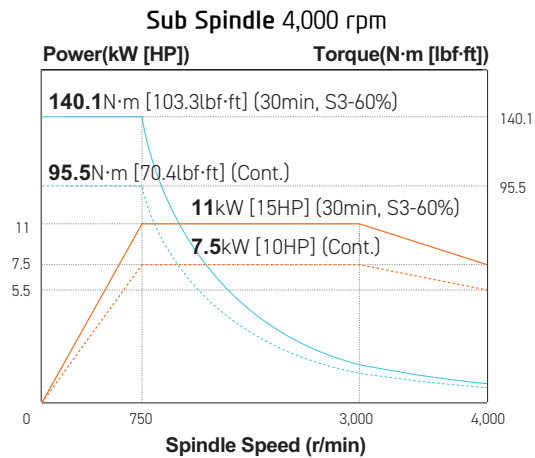
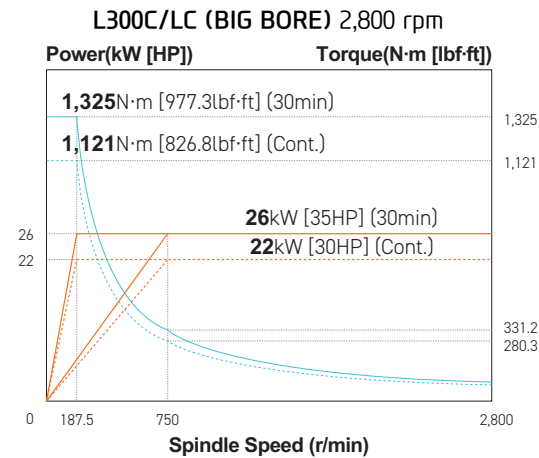
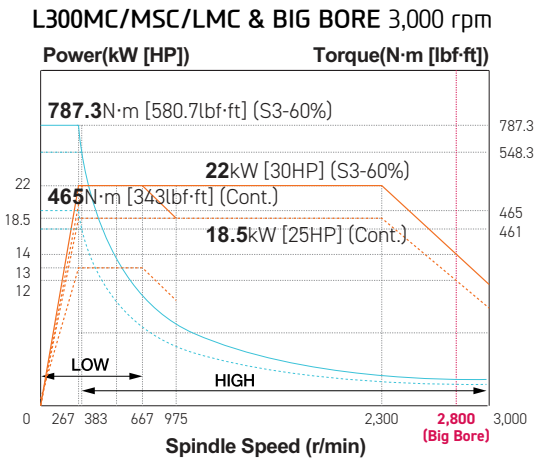
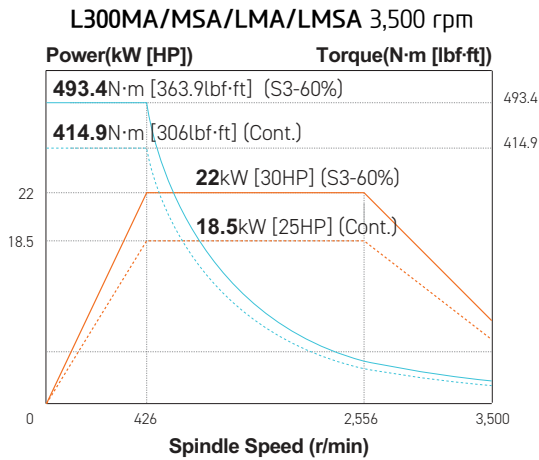
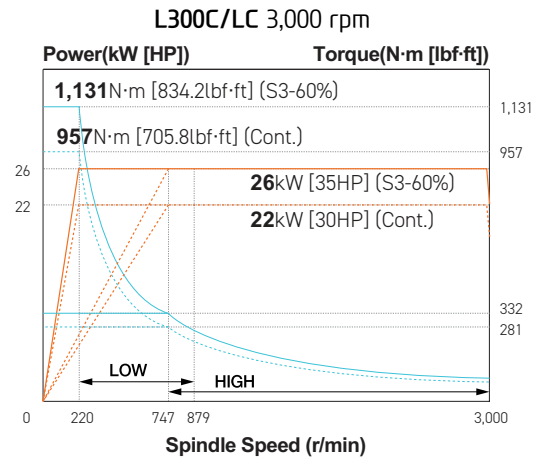
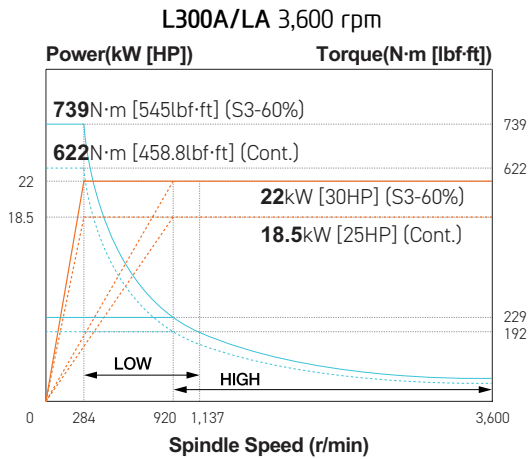
Electric Device		C(LC)	MC(LMC)	MSC
Call Light	1Color : ●	●	●	●
Call Light & Buzzer	3Color : ●●● B	○	○	○
Electric Cabinet Light		○	○	○
Remote MPG		○	○	○
Work Counter	Digital	○	○	○
Total Counter	Digital	○	○	○
Tool Counter	Digital	○	○	○
Multi Tool Counter	Digital	○	○	○
Electric Circuit Breaker		○	○	○
AVR (Auto Voltage Regulator)		☆	☆	☆
Transformer	35kVA	○	○	○
Auto Power Off		○	○	○
<b>Measurement</b>				
Q-Setter		●	●	●
Automatic Q-Setter		○	○	○
Work Close Confirmation Device (Only for Special Chuck)	TACO	☆	☆	☆
	SMC	☆	☆	☆
Work Setter (RENISHAW/MARPOSS)		☆	☆(○)	☆
Linear Scale	X axis	○	○	○
	Z axis	○	○	○
Coolant Level Sensor (Only for Chip Conveyor)		☆	☆	☆
<b>Environment</b>				
Air Conditioner	FANUC	○	○	○
	HYUNDAI-ITROL	●	●	-
Oil Mist Collector		☆	☆	☆
Oil Skimmer (Only for Chip Conveyor)		○	○	○
MLQ (Minimal Quantity Lubrication)		☆	☆	☆
<b>Fixture &amp; Automation</b>				
Auto Door	Standard	○	○	○
	High Speed	☆	☆	☆
Auto Shutter (Only for Automatic System)		☆	☆	☆
Sub Operation Panel		○	○	○
Bar Feeder Interface		☆	☆	☆
Bar Feeder (FEDEK)		○	○	○
Extra M-Code 4ea		☆	☆	☆
Automation Interface		○	○	○
I/O Extension (IN & OUT)	16 Contact	○	○	○
	32 Contact	○	○	○
Parts Catcher	Main SP.	-	-	○
	Sub SP.	-	-	○
Sub Sp. Work Pusher (Pneumatic Type)		☆	☆	☆
Turret Work Pusher (For Automation)		☆	☆	☆
Parts Conveyor		☆	☆	☆
<b>Hyd. Device</b>				
Standard Hyd. Cylinder	Hollow	●	●	●
Standard Hyd. Unit	35bar/20 ℓ (5.3gal)	●	●	●
<b>S/W</b>				
DNC software (HW-eDNC)		○	○	○
Machine Monitoring System (HW-MMS Cloud/Edge/Remote)		○	○	○
Machine Monitoring System & Analysis (HW-MMS Edge Plus)		☆	☆	☆
Automation CAM program (HW-ACAM)		○	-	-
Conversational program (HW-DPRO)		○	○	○
SmartGuide-i : FANUC		●	●	●
Thermal Displacement Compensation (HW-TDC)		○	○	○
Tool Monitoring (HW-TM) : FANUC		○	○	○
Machine Guidance (HW-MCG) : FANUC		●	●	●
Energy Saving System (HW-ESS) : FANUC		●	●	●
Premium Tool Operation : FANUC		●(F32i : -)	●(F32i : -)	-
Manual Viewer : FANUC		●(F32i : -)	●(F32i : -)	-
Scheduling : FANUC		●(F32i : -)	●(F32i : -)	-
Operation Memo : FANUC		●(F32i : -)	●(F32i : -)	-
<b>ETC</b>				
Tool Box		●	●	●
Customized Color	Need Munsell No.	☆	☆	☆
CAD & CAM		☆	☆	☆

❖ 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.

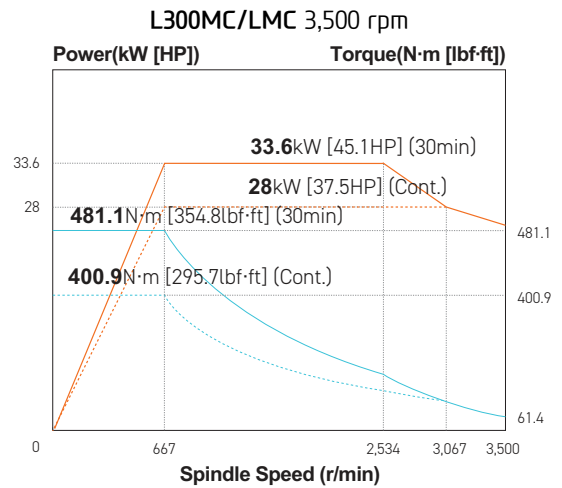
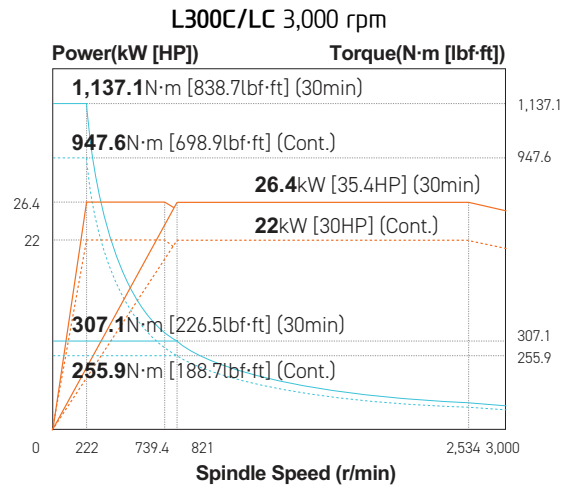
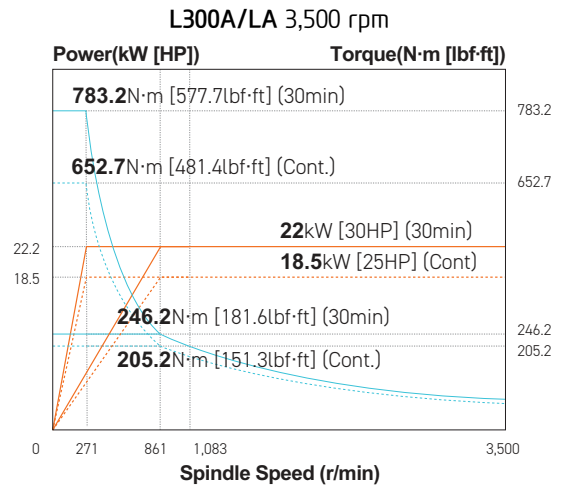
# SPECIFICATIONS

## Spindle Output/Torque Diagram (HYUNDAI WIA FANUC)



# SPECIFICATIONS

## Spindle Output/Torque Diagram (HYUNDAI-iTROL)



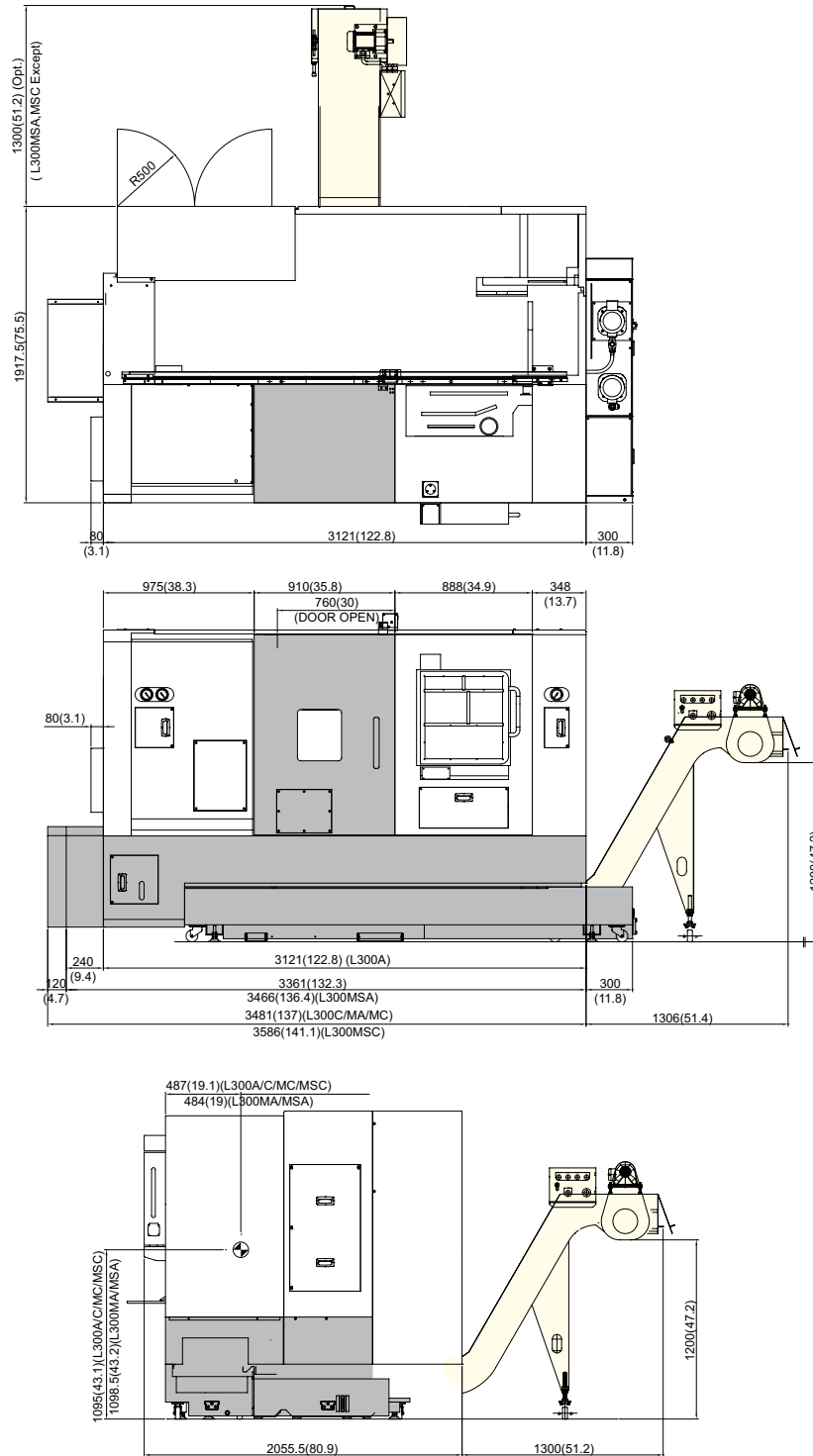


# SPECIFICATIONS

## External Dimensions

unit : mm(in)

L300A/MA//MSA  
L300C/MC//MSC

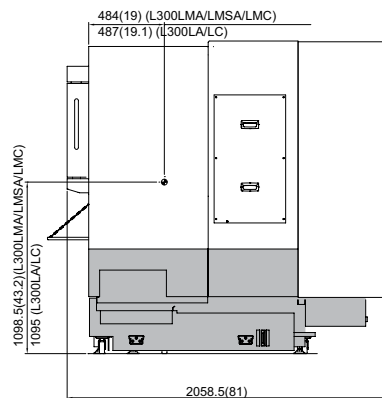
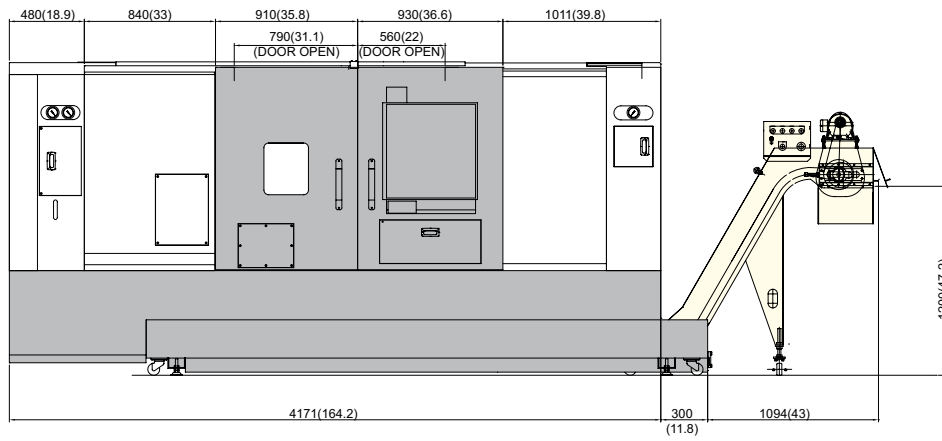
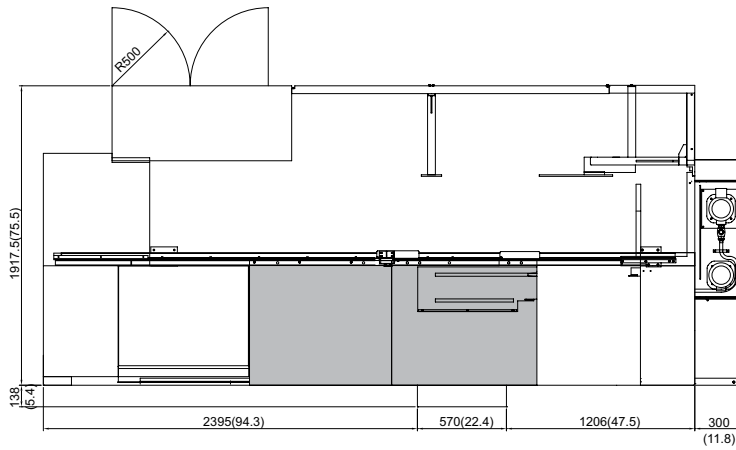


# SPECIFICATIONS

## External Dimensions

unit : mm(in)

L300LA/LMA/LMSA  
L300LC/LMC/LMSC

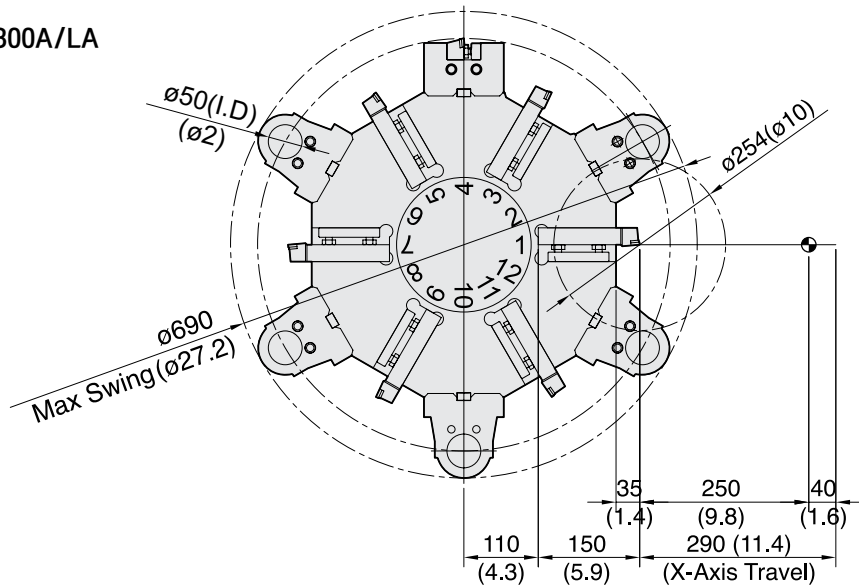


# SPECIFICATIONS

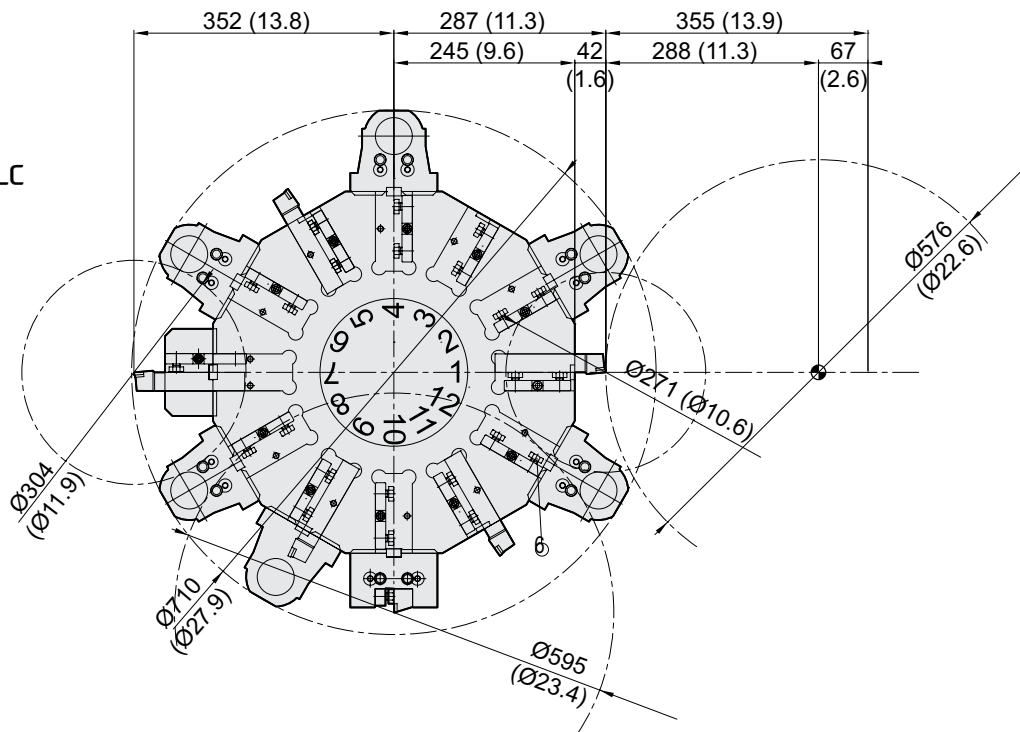
Interference

unit : mm(in)

L300A/LA



L300C/LC





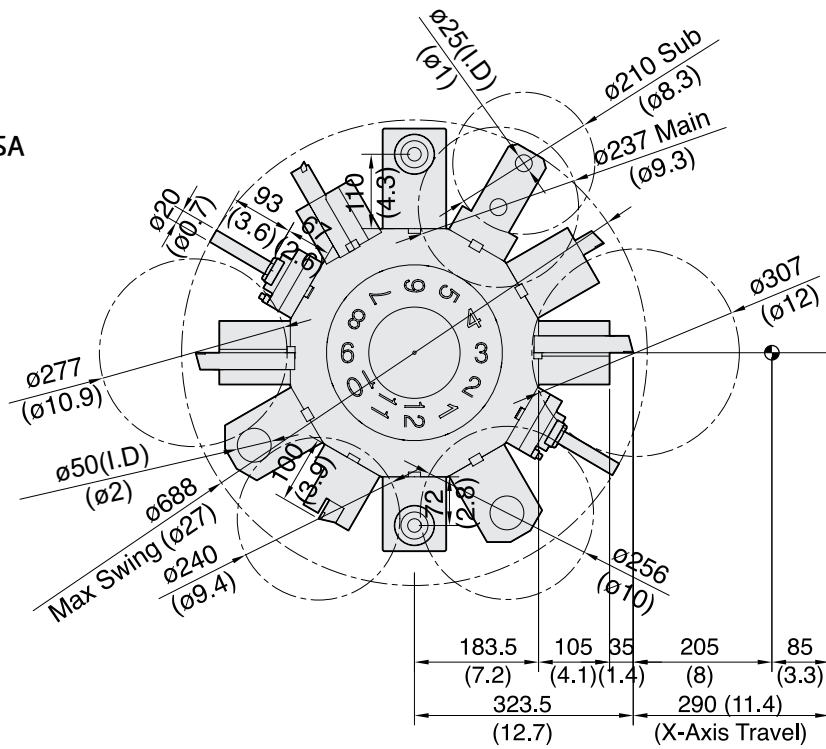


# SPECIFICATIONS

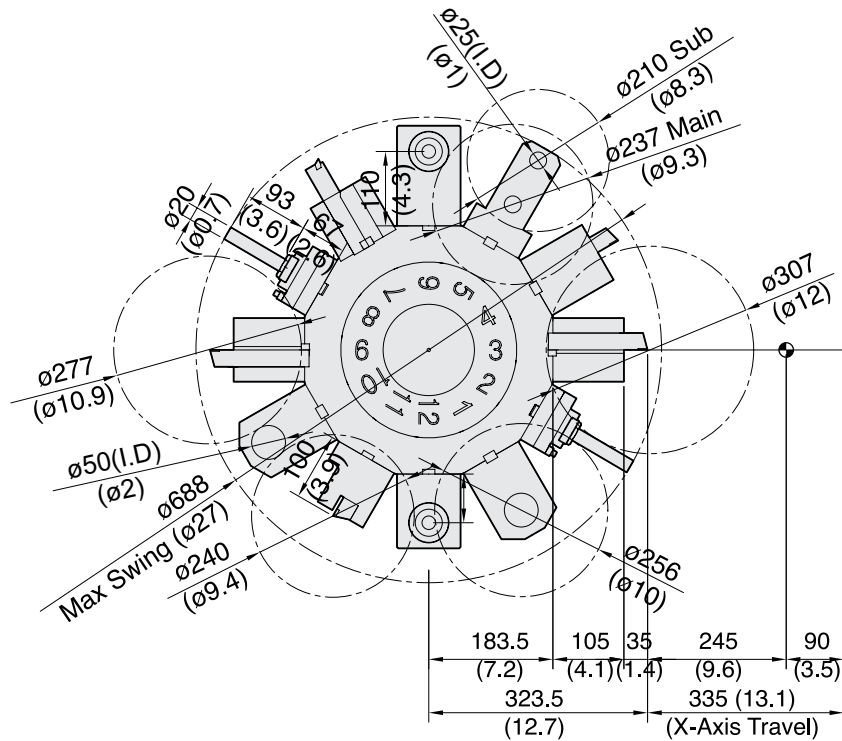
Interference

unit : mm(in)

L300MSA/LMSA



L300MSC

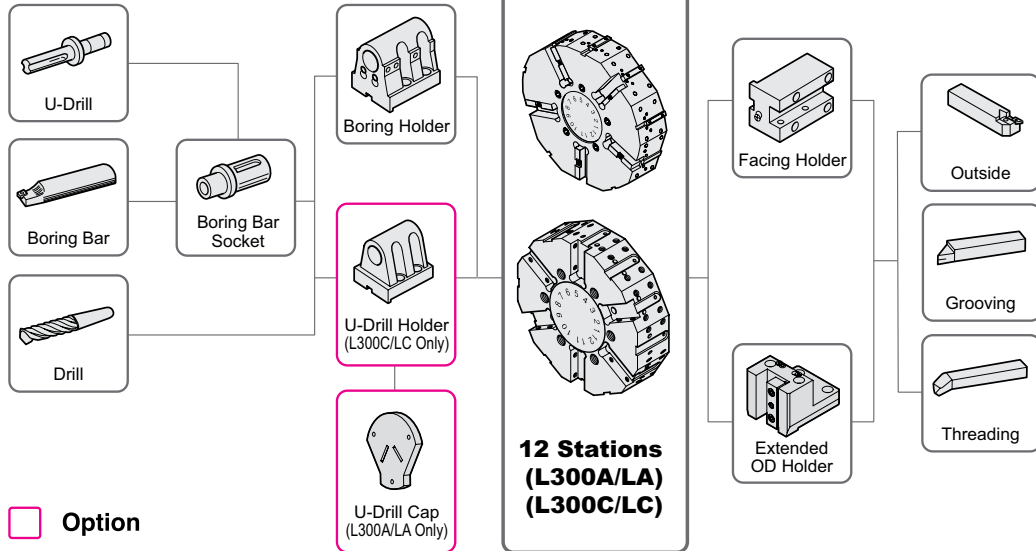


# SPECIFICATIONS

## Tooling System

unit : mm(in)

L300A/LA L300C/LC



## Tooling Parts Detail

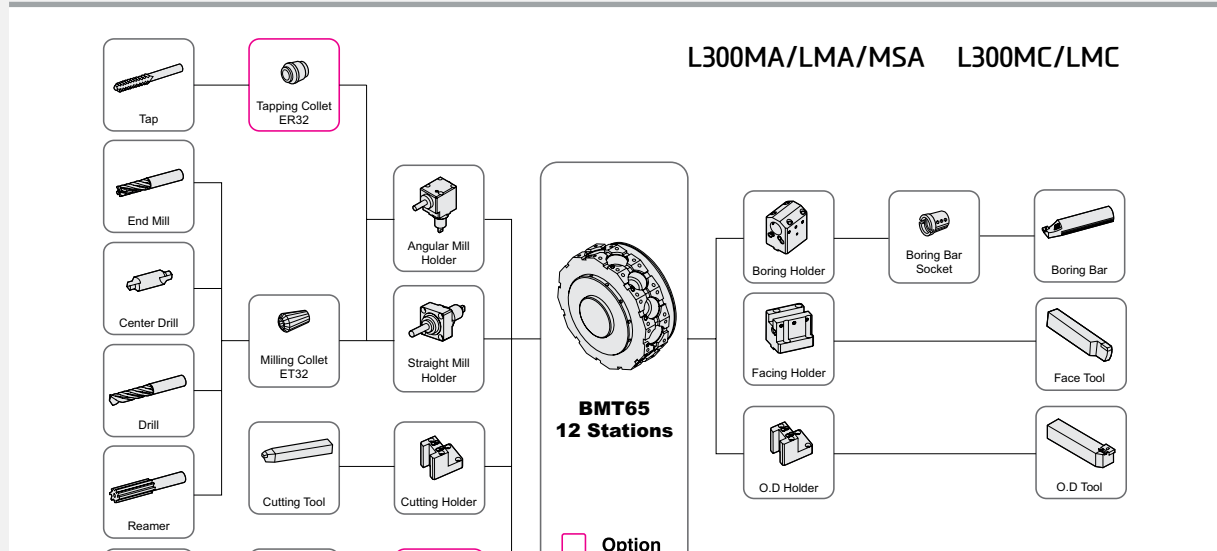
ITEM			A/LA		C/LC		
			mm Unit	inch Unit	mm Unit	inch Unit	
Turning Holder	O.D Holder	Right/Left	-	-	-	-	
		Extension	-	-	1	1	
	Facing Holder		1	1	1	1	
	Cutting Holder		-	-	-	-	
Boring Holder	I.D Holder	Single	5	5	5	5	
	U-Drill Holder	Tool Holder	Opt.	Opt.	Opt.	Opt.	
		Cap	Opt.	Opt.	-	-	
Driven Holder	Straight Mill Holder	Standard	-	-	-	-	
	Angular Mill Holder	Standard	-	-	-	-	
Socket	Boring Main	Ø16 (Ø5/8")	-	-	-	-	
		Ø20 (Ø3/4")	1	1	1	1	
		Ø25 (Ø1")	-	-	-	-	
		Ø32 (Ø1 1/4")	1	1	1	1	
		Ø40 (Ø1 1/2")	-	-	-	-	
		Ø45 (Ø1 3/4")	-	-	-	-	
		Ø6×Ø25 (1/4")	-	-	-	-	
	Boring Sub	Ø12×Ø25 (1/2")	-	-	-	-	
		Ø20×Ø25 (3/4")	-	-	-	-	
		MT 2	1	1	1	1	
	ER Collet	MT 3	1	1	1	1	
		MT 4	1	1	1	1	
				-	-	-	-

Specifications are subject to change without notice for improvement.

# SPECIFICATIONS

## Tooling System

unit : mm(in)



## Tooling Parts Detail

ITEM			MA/MC/LMA/LMC		MSA		MSC/LMSA/LMSC		
			mm Unit	inch Unit	mm Unit	inch Unit	mm Unit	inch Unit	
Turning Holder	O.D Holder	Right/Left	4	4	1	1	1	1	
		Double	-	-	1	1	1	1	
		Sub	-	-	1	1	1	1	
	Facing Holder		1	1	1	1	1	1	
	Cutting Holder		-	-	1	1	1	1	
Boring Holder	I.D Holder	Single	3	3	2	2	2	2	
		Double	-	-	1	1	1	1	
	U-Drill Holder	Tool Holder/Cap	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	
Driven Holder	Straight Mill Holder	Standard	2	2	2	2	2	2	
		Angular Mill Holder	Standard	2	2	2	2	2	2
			Long	-	-	-	-	1	1
Socket	Boring Main	Ø16 (Ø5/8")	1	-	1	-	1	-	
		Ø20 (Ø3/4")	1	1	1	1	1	1	
		Ø25 (Ø1")	1	1	1	1	1	1	
		Ø32 (Ø1 1/4")	1	1	1	1	1	1	
		Ø40 (Ø1 1/2")	1	1	1	1	1	1	
		Ø45 (Ø1 3/4")	-	1	-	1	-	1	
	Boring Sub	Ø6×Ø25 (1/4")	-	-	1	1	1	1	
		Ø12×Ø25 (1/2")	-	-	1	1	1	1	
		Ø20×Ø25 (3/4")	-	-	1	1	1	1	
	Drill		MT 1 × MT 2	1	1	1	1	1	1
			MT 2	1	1	1	1	1	1
			MT 3	1	1	1	1	1	1
			MT 4	1	1	1	1	1	1
	ER Collet		1 Set	1 Set	1 Set	1 Set	1 Set	1 Set	

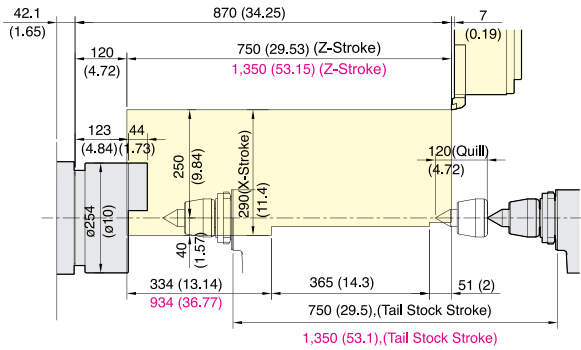
# SPECIFICATIONS

## Tooling Travel Range

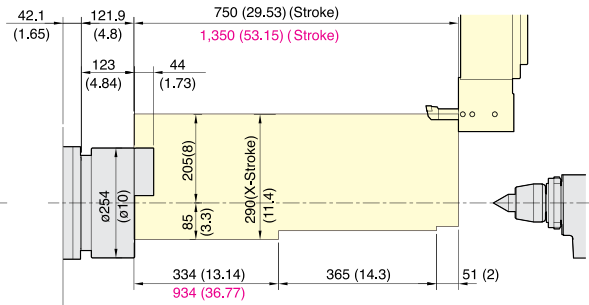
unit : mm(in)

### L300A L300LA

#### OD TOOL HOLDER

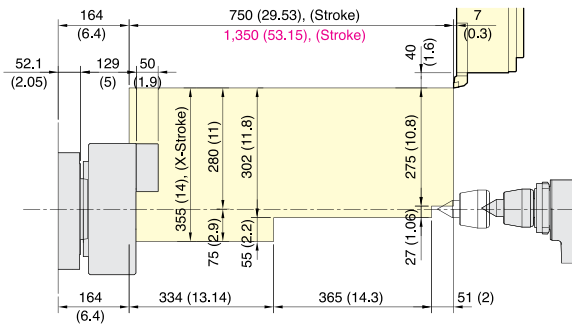


#### ID TOOL HOLDER

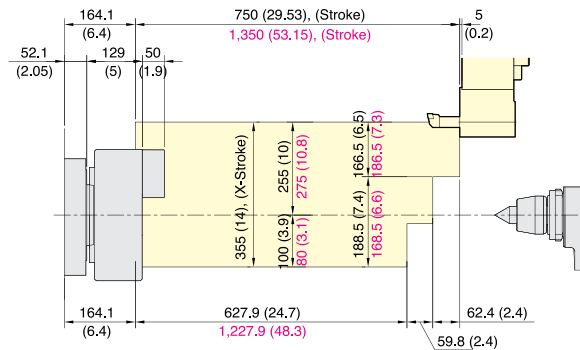


### L300C L300LC

#### OD TOOL HOLDER



#### ID TOOL HOLDER





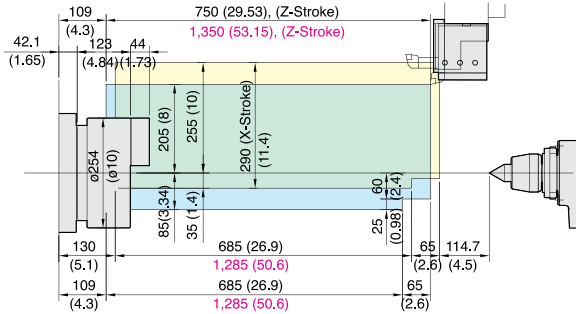
# SPECIFICATIONS

## Tooling Travel Range

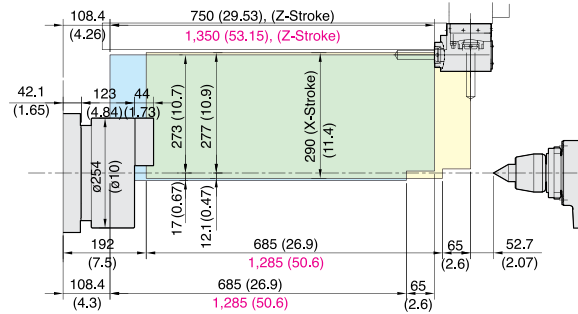
unit : mm(in)

### L300MA L300LMA

#### OD/ID TOOL HOLDER

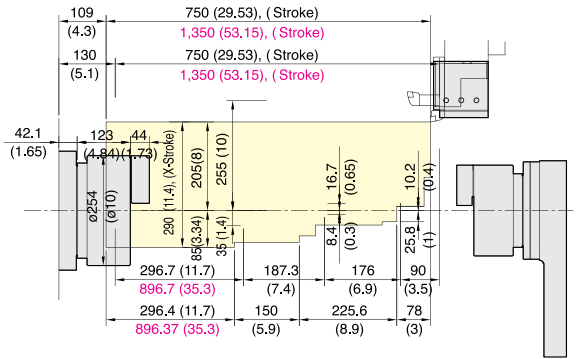


#### DRILL/END MILL TOOL HOLDER

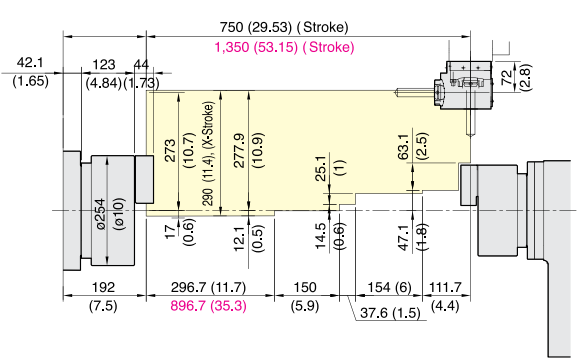


### L300MSA L300LMSA

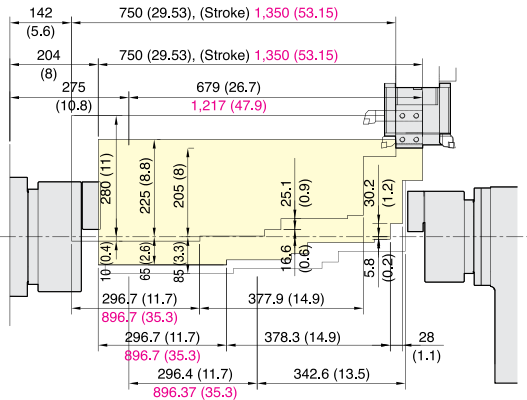
#### OD/ID TOOL HOLDER



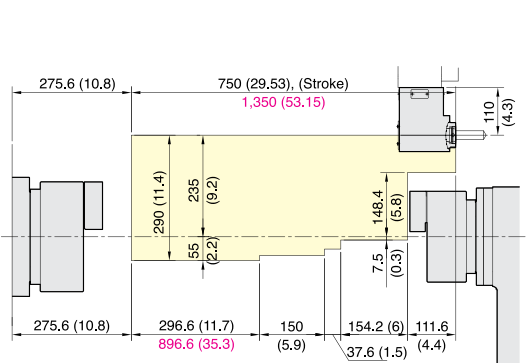
#### DRILL/END MILL TOOL HOLDER



#### DOUBLE OD/ID TOOL HOLDER



#### SUB MILL TOOL HOLDER



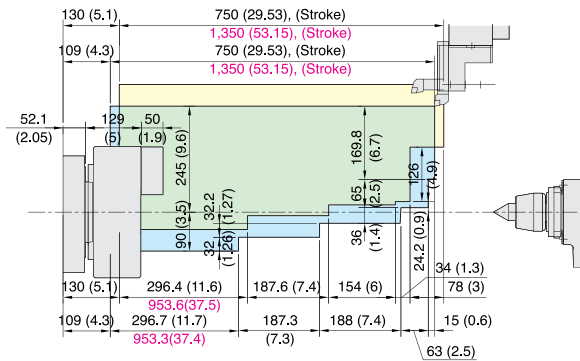
# SPECIFICATIONS

## Tooling Travel Range

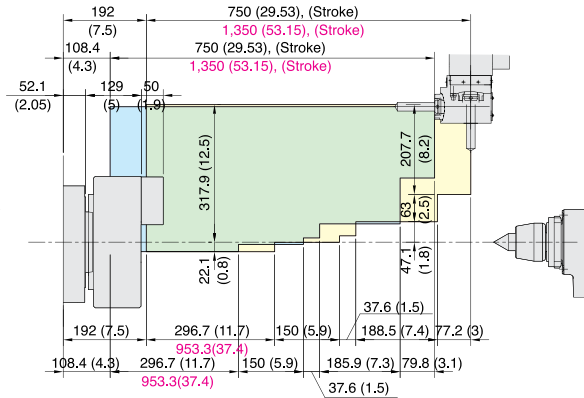
unit : mm(in)

### L300MC L300LMC

#### OD/ID TOOL HOLDER

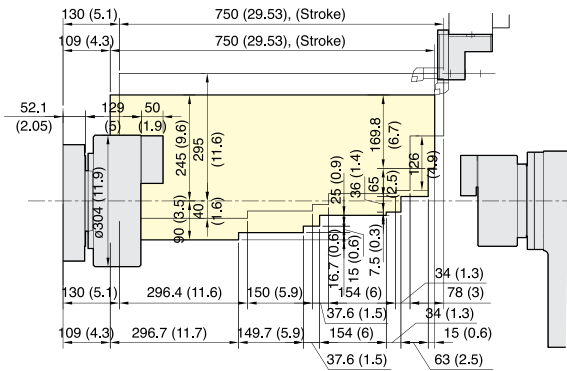


#### DRILL/END MILL TOOL HOLDER

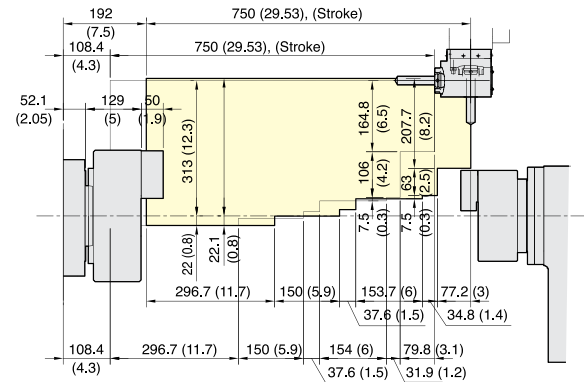


### L300MSC

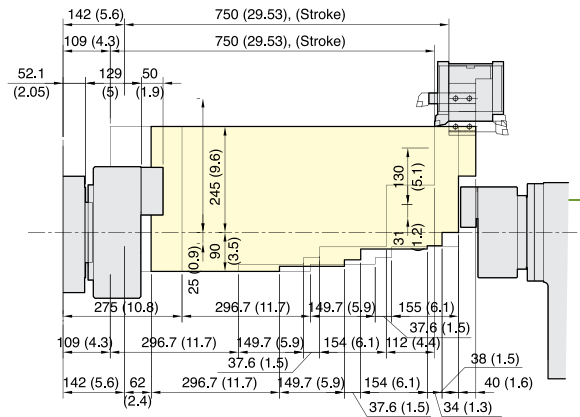
#### OD/ID TOOL HOLDER



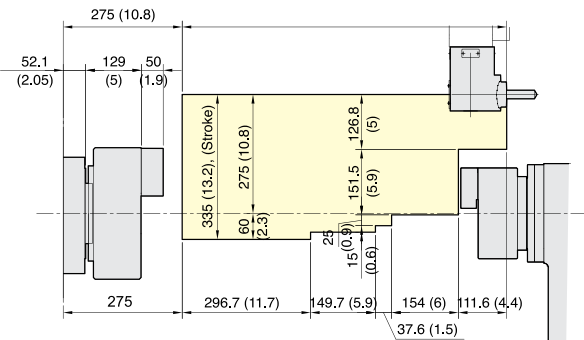
#### DRILL/END MILL TOOL HOLDER



#### DOUBLE OD/ID TOOL HOLDER



#### SUB MILL TOOL HOLDER



# SPECIFICATIONS

## Specifications

[ ] : Option

ITEM			L300A	L300MA	L300MSA
CAPACITY	Swing Over the Bed	mm(in)	Ø750 (29.5")		
	Swing Over the Carriage	mm(in)	Ø480 (18.9")		
	Max. Turning Dia.	mm(in)	Ø500 (19.7")	Ø410 (16.1")	
	Max. Turning Length	mm(in)	720 (28.3")	680 (26.8")	
	Bar Capacity	Main	mm(in)	Ø76 (3")	
Sub		mm(in)	-	Ø65 (2.6")	
Chuck Size	Main	inch	10"		
	Sub	inch	-	8"	
Spindle Bore	Main	mm(in)	Ø90 (3.5")	Ø95(3.7")	
	Sub	mm(in)	-	Ø78 (3.1")	
Spindle Speed (rpm)	Main	r/min	3,600 [3,500]	3,500	
	Sub	r/min	-	4,000	
Motor (Max/Cont.)	Main	kW(HP)	22/18.5 (30/25) [22/18.5 (30/25)]	22/18.5 (30/25)	
	Sub	kW(HP)	-	11/7.5 (15/10)	
Torque (Max/Cont.)	Main	N·m(lbf·ft)	739/622 (545/458.8) [783.2/652.7 (577.7/481.4)]	493.4/414.9 (363.9/306)	
	Sub	N·m(lbf·ft)	-	140.1/95.5	
Spindle Type	Main	-	Belt+2Step Gear	Belt	
	Sub	-	-	Belt	
Spindle Nose	Main	-	A2-8		
	Sub	-	-	A2-6	
C-axis Indexing	deg	-	0.001°		
FEED	Travel (X/Z/ZB)	mm(in)	290/750 (11.4"/29.5")		290/750/700 (11.4"/29.5"/27.5")
	Rapid Traverse Rate (X/Z/ZB)	m/min	20/24		20/24/20
	Slide Type	-	BOX GUIDE		
TURRET	No. of Tools	EA	12		
	Tool Size	OD	mm(in)	□ 25 (1")	
		ID	mm(in)	Ø50 (2")	
	Indexing Time	sec/step	0.3		
LIVE TOOL	Motor (Max/Cont.)	kW(HP)	-	5.5/3.7 (7.4/4.7)	
	Milling Tool Speed (rpm)	r/min	-	4,000	
	Torque (Max/Cont.)	N·m(lbf·ft)	-	35/23.5 (25.8/17.3)	
	Collet Size	mm(in)	-	Ø20 (0.8") - ER32	
	Type	-	-	BMT65	
TAIL STOCK	Taper	-	MT5		-
	Quill Dia.	mm(in)	Ø100 (3.9")		-
	Quill Travel	mm(in)	120 (4.72)		-
	Travel	mm(in)	750 (29.5)		-
TANK CAPACITY	Coolant Tank	ℓ (gal)	220 (58.1)		
	Lubricating Tank	ℓ (gal)	1.8 (0.5)		
POWER SUPPLY	Electric Power Supply	kVA	25	27	35
	Thickness of Power Cable	Sq	Over 25	Over 35	
	Voltage	V/Hz	220/60 (200/50*)		
MACHINE	Floor Space (L×W)	mm(in)	3,200×2,002(126"×78.8")	3,360×2,002(132.3"×78.8")	3,470×2,002(136.6"×78.8")
	Height	mm(in)	1,997 (78.6")		
	Weight	kg(lb)	6,300 (13,889)	6,500 (14,330)	7,000 (15,432)
NC	Controller	-	HW F i Series - Smart Plus [iTROL]	HW F i Series - Smart Plus [FANUC 32i-B]	FANUC 32i-B

\*) 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		L300LA	L300LMA	L300LSA	
CAPACITY	Swing Over the Bed	mm(in)	Ø750 (29.5")		
	Swing Over the Carriage	mm(in)	Ø480 (18.9")		
	Max. Turning Dia.	mm(in)	Ø500 (19.7")	Ø410 (16.1")	
	Max. Turning Length	mm(in)	1,320 (52")	1,280 (50.4")	1,250 (49.2")
	Bar Capacity	Main	mm(in)	Ø76 (3")	
Sub		mm(in)	-	Ø65 (2.6")	
SPINDLE	Chuck Size	Main	10"		
		Sub	-	8"	
	Spindle Bore	Main	mm(in)	Ø90 (3.5")	Ø95(3.7")
		Sub	mm(in)	-	Ø78 (3.1")
	Spindle Speed (rpm)	Main	r/min	3,600 [3,500]	3,500
		Sub	r/min	-	4,000
	Motor (Max/Cont.)	Main	kW(HP)	22/18.5 (30/25) [22/18.5 (30/25)]	22/18.5 (30/25)
		Sub	kW(HP)	-	11/7.5 (15/10)
	Torque (Max/Cont.)	Main	N·m(lbf·ft)	739/622 (545/458.8) [783.2/652.7 (577.7/481.4)]	493.4/414.9 (363.9/306)
		Sub	N·m(lbf·ft)	-	140.1/95.5
	Spindle Type	Main	-	Belt+2Step Gear	Belt
		Sub	-	-	Belt
Spindle Nose	Main	-	A2-8		
	Sub	-	-	A2-6	
C-axis Indexing	deg	-	0.001°		
FEED	Travel (X/Z/ZB)	mm(in)	290/1,350(11.4"/53.1")		
	Rapid Traverse Rate (X/Z/ZB)	m/min	20/24		
	Slide Type	-	BOX GUIDE		
TURRET	No. of Tools	EA	12		
	Tool Size	OD	mm(in)		
		ID	mm(in)		
	Indexing Time	sec/step	0.3		
LIVE TOOL	Motor (Max/Cont.)	kW(HP)	-	5.5/3.7 (7.4/4.7)	
	Milling Tool Speed (rpm)	r/min	-	4,000	
	Torque (Max/Cont.)	N·m(lbf·ft)	-	35/23.5 (25.8/17.3)	
	Collet Size	mm(in)	-	Ø20 (0.8") -ER32	
	Type	-	-	BMT65	
TAIL STOCK	Taper	-	MT5		
	Quill Dia.	mm(in)	Ø100 (3.9")		
	Quill Travel	mm(in)	120 (4.72)		
	Travel	mm(in)	1,350 (53.1)		
TANK CAPACITY	Coolant Tank	ℓ (gal)	270 (71.3)		
	Lubricating Tank	ℓ (gal)	1.8 (0.5)		
POWER SUPPLY	Electric Power Supply	kVA	25	27	35
	Thickness of Power Cable	sq	Over 25	Over 35	
	Voltage	V/Hz	220/60 (200/50*)		
MACHINE	Floor Space (L×W)	mm(in)	4,171×2,002 (164.2"×78.8")		
	Height	mm(in)	1,997 (78.6")		
	Weight	kg(lb)	7,500 (16,535)	7,700 (16,976)	8,200 (18,078)
PC	Controller	-	HW F i Series - Smart Plus [iTROL]	FANUC 32i-B [HW F i Series - Smart Plus]	FANUC 32i-B

\*) 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			L300C	L300LC	
CAPACITY	Swing Over the Bed	mm(in)	Ø750 (29.5")		
	Swing Over the Carriage	mm(in)	Ø480 (18.9")		
	Max. Turning Dia.	mm(in)	Ø560 (22")		
	Max. Turning Length	mm(in)	720 (28.3")	1,320 (52")	
	Bar Capacity	Main	mm(in)	Ø90 (3.5") [Big Bore : Ø102 (4")]	
Sub		mm(in)	-		
SPINDLE	Chuck Size	Main	inch	12" [15"] [Big Bore : 12", 15"]	
		Sub	inch	-	
	Spindle Bore	Main	mm(in)	Ø102 (4") [Big Bore : Ø115 (4.5")]	
		Sub	mm(in)	-	
	Spindle Speed (rpm)	Main	r/min	3,000 [2,800] [3,000]	
		Sub	r/min	-	
	Motor (Max/Cont.)	Main	kW(HP)	26/22 (35/30) [26/22 (35/30)] [26.4/22 (35.4/30)]	
		Sub	kW(HP)	-	
	Torque (Max/Cont.)	Main	N·m(lbf·ft)	1,131/957(834.2/705.8) [1,325/1,121(977.3/826.8)] [1,137.1/947.6(838.7/698.9)]	
		Sub	N·m(lbf·ft)	-	
	Spindle Type	Main	-	BELT+2STEP GEAR	
Sub		-	-		
Spindle Nose	Main	-	A2-8 [A2-11]		
	Sub	-	-		
C-axis Indexing	deg	-			
FEED	Travel (X/Z/ZB)	mm(in)	355/750(14"/29.5")	355/1,350(14"/53.1")	
	Rapid Traverse Rate (X/Z/ZB)	m/min	20/24		
	Slide Type	-	BOX GUIDE		
TURRET	No. of Tools	EA	12		
	Tool Size	OD	mm(in)	□ 25 (1")	
		ID	mm(in)	Ø50 (2")	
	Indexing Time	sec/step	0.3		
LIVE TOOL	Motor (Max/Cont.)	kW(HP)	-		
	Milling Tool Speed (rpm)	r/min	-		
	Torque (Max/Cont.)	N·m(lbf·ft)	-		
	Collet Size	mm(in)	-		
	Type	-	-		
TAIL STOCK	Taper	-	MT5		
	Quill Dia.	mm(in)	Ø100 (3.9")		
	Quill Travel	mm(in)	120 (4.7")		
	Travel	mm(in)	750 (29.5")	1,350 (53.1)	
TANK CAPACITY	Coolant Tank	ℓ (gal)	220 (58.1)	270 (71.3)	
	Lubricating Tank	ℓ (gal)	1.8 (0.5)		
POWER SUPPLY	Electric Power Supply	kVA	30		
	Thickness of Power Cable	Sq	Over 35		
	Voltage	V/Hz	220/60 (200/50*)		
MACHINE	Floor Space (L×W)	mm(in)	3,506×2,002 (138"×78.8")	4,170×2,002 (164.2"×78.8")	
	Height	mm(in)	1,997 (78.6")		
	Weight	kg(lb)	6,400 (14,110)	7,600 (16,755)	
PC	Controller	-	HW FANUC i Series - Smart Plus [FANUC 32i-B] [iTROL]		

\*) 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		L300MC	L300LMC	L300MSC	
CAPACITY	Swing Over the Bed	mm(in)	Ø750 (29.5")		
	Swing Over the Carriage	mm(in)	Ø480 (18.9")		
	Max. Turning Dia.	mm(in)	Ø500 (19.7")		
	Max. Turning Length	mm(in)	600 (23.6")	1,260 (49.6")	600 (23.6")
Bar Capacity	Main	mm(in)	Ø90 (3.5") [Big Bore : Ø102 (4")]		
	Sub	mm(in)	-	Ø65 (2.6")	
Chuck Size	Main	inch	12" [15"] [Big Bore : 12", 15"]		
	Sub	inch	-	8"	
Spindle Bore	Main	mm(in)	Ø102 (4") [Big Bore : Ø115 (4.5")]		
	Sub	mm(in)	-	Ø78 (3.1")	
Spindle Speed (rpm)	Main	r/min	3,000 [Big Bore : 2,800] [3,500]		
	Sub	r/min	-	4,000	
Motor (Max/Cont.)	Main	kW(HP)	22/18.5 (30/25)[Big Bore : 22/18.5 (30/25)] [33.6/28 (45.1/37.5)]		
	Sub	kW(HP)	-	11/7.5 (14.7/10)	
Torque (Max/Cont.)	Main	N·m(lb·ft)	787.3/465 (580.7/343) [Big Bore : 787.3/465 (580.7/343)] [481.1/400.9 (354.8/295.7)]		
	Sub	N·m(lb·ft)	-	140/95.5	
Spindle Type	Main	-	Belt		
	Sub	-	-	Belt	
Spindle Nose	Main	-	A2-8 [A2-11]		
	Sub	-	-	A2-6	
C-axis Indexing	deg	0.001°			
FEED	Travel (X/Z/ZB)	mm(in)	355/750 (14"/29.5")	355/1,350 (14"/53.1")	355/750/700 (14"/29.5"/27.6")
	Rapid Traverse Rate (X/Z/ZB)	m/min(ipm)	20/24 (787/945)		20/24/20 (787/945/787)
	Slide Type	-	BOX GUIDE		
TURRET	No. of Tools	EA	12		
	Tool Size	OD	mm(in)		
		ID	mm(in)		
Indexing Time	sec/step	0.3			
LIVE TOOL	Motor (Max/Cont.)	kW(HP)	5.5/3.7 (7.4/4.7)		
	Milling Tool Speed (rpm)	r/min	4,000		
	Torque (Max/Cont.)	N·m(lb·ft)	35/23.5 (25.8/17.3)		
	Collet Size	mm(in)	Ø20 (0.8") - ER32		
	Type	-	BMT65		
TAIL STOCK	Taper	-	MT5		-
	Quill Dia.	mm(in)	Ø100 (3.9")		-
	Quill Travel	mm(in)	120 (4.72)		-
	Travel	mm(in)	750 (29.5)	1,350 (53.1)	-
TANK CAPACITY	Coolant Tank	ℓ (gal)	220 (58.1)	270 (71.3)	220 (58.1)
	Lubricating Tank	ℓ (gal)	1.8 (0.5)		
POWER SUPPLY	Electric Power Supply	kVA	30		38
	Thickness of Power Cable	Sq	Over 35		
	Voltage	V/Hz	220/60 (200/50*)		
MACHINE	Floor Space (L×W)	mm(in)	3,480×2,002 (137"×78.8")	4,170×2,002 (164.2"×78.8")	3,586×2,002 (141.2"×78.8")
	Height	mm(in)	1,997 (78.6")		
	Weight	kg(lb)	6,600 (14,550)	7,800 (17,196)	7,100 (15,653)
PC	Controller	-	FANUC 32i-B [HW FANUC i Series - Smart Plus] [iTROL]		FANUC 32i-B

\*) 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

## 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	
Pano 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, 11
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 11)

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

## 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)
Simultaneously controlled axes	5 axes (X, Z, B, C, A) / 6 axes (X, Z, Y, B, C, A)
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
Absolute / Incremental program	G90 / G91
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	G4.1
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	RS 232C serial port, 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-iTROL (SIEMENS 828D)

[ ] : Option ☆ Needed technical consultation

Controlled axis / Display / Accuracy Compensation	
Control axes	2 axes (X, Z) - Std.
	3 axes (X, Z, C) - Mill
	4 axes (X, Z, Y, C) - Y
	5 axes (X, Z, B, C, A) - MS
	6 axes (X, Z, Y, B, C, A) - SY
	Max. 4 axes
Simultaneously controlled axes	Max. 4 axes
Least setting Unit	X, Z, Y, B axes : 0.001 mm (0.0001 inch)
	C, A axes : 1 deg [0.001] deg
Least input increment	X, Z, Y, B axes : 0.001 mm (0.0001 inch)
	C, A axes : 1 deg [0.001] deg
Inch / Metric changeover	G70 (inch) / G71 (metric)
Interlock	All axes / Each axis
Backlash compensation	
Pitch error compensation	Leadscrew pitch error compensation
LCD / MDI	10.4 inch color LCD
	[15 inch color LCD (With Touch panel)]
Keyboard	QWERTY full keyboard
Stored stroke check	Over travel
Operation	
Automatic operation	
MDI operation	
Program restart	
Program check function	Dry run / Program check / Machine lock
Single block	
Block search	Block search
Reposition	
Working area limit	Working area limitations
Interpolation functions	
Positioning	G00
Linear interpolation	G01
Circular interpolation	Circular interpolation CW (G02)
	Circular interpolation CCW (G03)
	Single block exact stop (G09)
Exact position stop	Exact stop G60 (G601, G602, G603)
Dwell	Dwell (G04)
Reference position return	Return to reference point
	Return to 2nd reference point
Helical interpolation	
Thread synchronous cutting	
Thread cutting retract	
Spline interpolation	Non-uniform rational B splines
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse
	Jog
	Manual handle
	Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	1%, 25%, 50%, 100%
Feed per minute	G94
Feed per revolution	G95
Look-ahead block	1 block
Program input	
ISO support	G291 (ISO) / G290 (SIEMENS)
	(ISO G Code system-A)
Optional block skip	2
Program stop / end	M00, M01 / M02, M30
Maximum command unit	± 999,999.999 mm, ± 99,999.9999 inch
Plane selection	X-Y : G17, X-Z : G18, Y-Z : G19
	G54 ~ G57, G505~G549
Workpiece coordinate system	G500 (Basic frame - settable zero offset)
	G53 (Work offset non modal)
	G153 (basic frame non modal)
Sub program call	11 folds nested
G code preventing buffering	STOPRE
Turning Cycle	Turning programing (Cycle 93, 94, 95, 97)
User Cycle	

Auxiliary function / Spindle speed function	
Auxiliary function	M Code 4 digit
Spindle speed function	S Code 5 digit
Spindle override	0% ~ 150% (10% Unit)
Spindle orientation	SPOS
Rigid tapping	
Automatic mode interchange	Spindle / Axis mode
Constant surface speed control	G96, G97
Spindle speed limitation	LIMS
Tool function / Tool compensation	
Tool function	Tool number & Tool name
Tool life management	Tool : T + Offset : D
Tools in tool list	128 ea : Std.
	256 ea : Mill
	768 ea : Y, MS, SY
Cutting Edges in tool list	256 ea : Std.
	512 ea : Mill
Tool nose radius compensation	1,536 ea : Y, MS, SY
	ISO (G40, G41, G42)
Geometry / Wear compensation	
Measurement of tool length	
Tool management function	
Editing function	
Part program storage size	3MB - Std.
	5MB - Mill
	10MB - Y, MS, SY
No. of registerable programs	750 ea
External Storage devices	Local network, Server, USB, Flash drive
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 interface (ONLY 10.4")
	USB memory interface
	Embedded Ethernet memory interface
Screenshot	
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.
Multi language display	Support 9 languages
	Chinese (Simplified/Traditional), English, French, German, Italian, Korean, Portuguese, Spanish
	[☆ Support 22 languages : Inquiry need]
LCD Screen Saver	Screen saver & Motion sensing
Function for machine type	
Cs contour control (C & A axes)	Mill, MS, Y, SY model
Polar coordinate interpolation	Mill, MS, Y, SY model
Cylindrical interpolation	Mill, MS, Y, SY model
Canned cycle for drilling	Mill, MS, Y, SY model
[Polygon turning (CP-Basic)]	Mill, MS, Y, SY model
[Hobbing / Skybing (CP-Comfort)]	Mill, MS, Y, SY model
Spindle synchronous control	MS, SY model
Servo tailstock function	MS, SY model
Option	
Additional optional block skip	10
Contour handwheel	
3D simulation	
Real time simulation	
Shop Turn	Machining step programming for turning

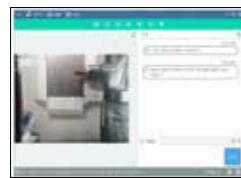
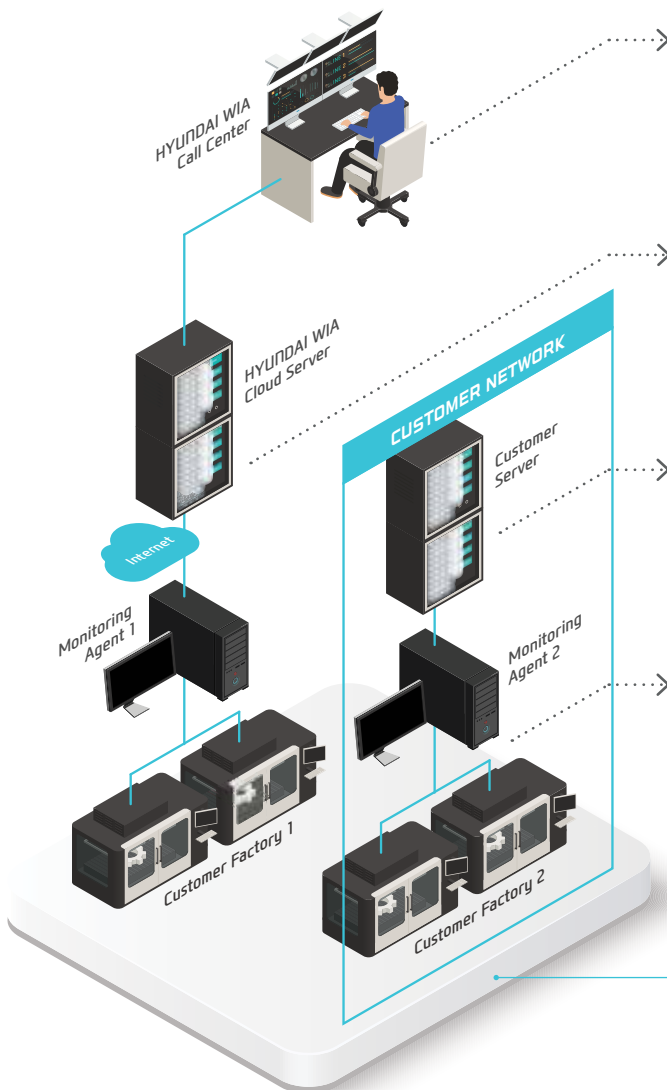


# HW-MMS

HYUNDAI WIA Machine Monitoring System



A manufacturing machine self-developed by Hyundai Wia, HW-MMS is a unique software capable of monitoring the operation status of manufacturing machines in factories, a smart solution to improve manufacturing conditions of customers



### HW-MMS Remote

Hyundai Wia Call Center's remote diagnosis service provides a HMI/video diagnostic function.



### HW-MMS Cloud

A cloud server-based equipment monitoring system for collecting and analyzing facility operation data.



### HW-MMS Edge

A client server-based tool monitoring system for collection/analysis of facility operation data. (Compatible with client MES / ERP interface)



### HW-MMS Edge Plus

This is a facility big data-based smart factory solution that collects and analyzes spindle/feed data, tool lifespan, PC processing files, etc. in real time

HYUNDAI WIA  
Smart Factory Solution



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[www.youtube.com/HYUNDAIWIAMT](http://www.youtube.com/HYUNDAIWIAMT)

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