

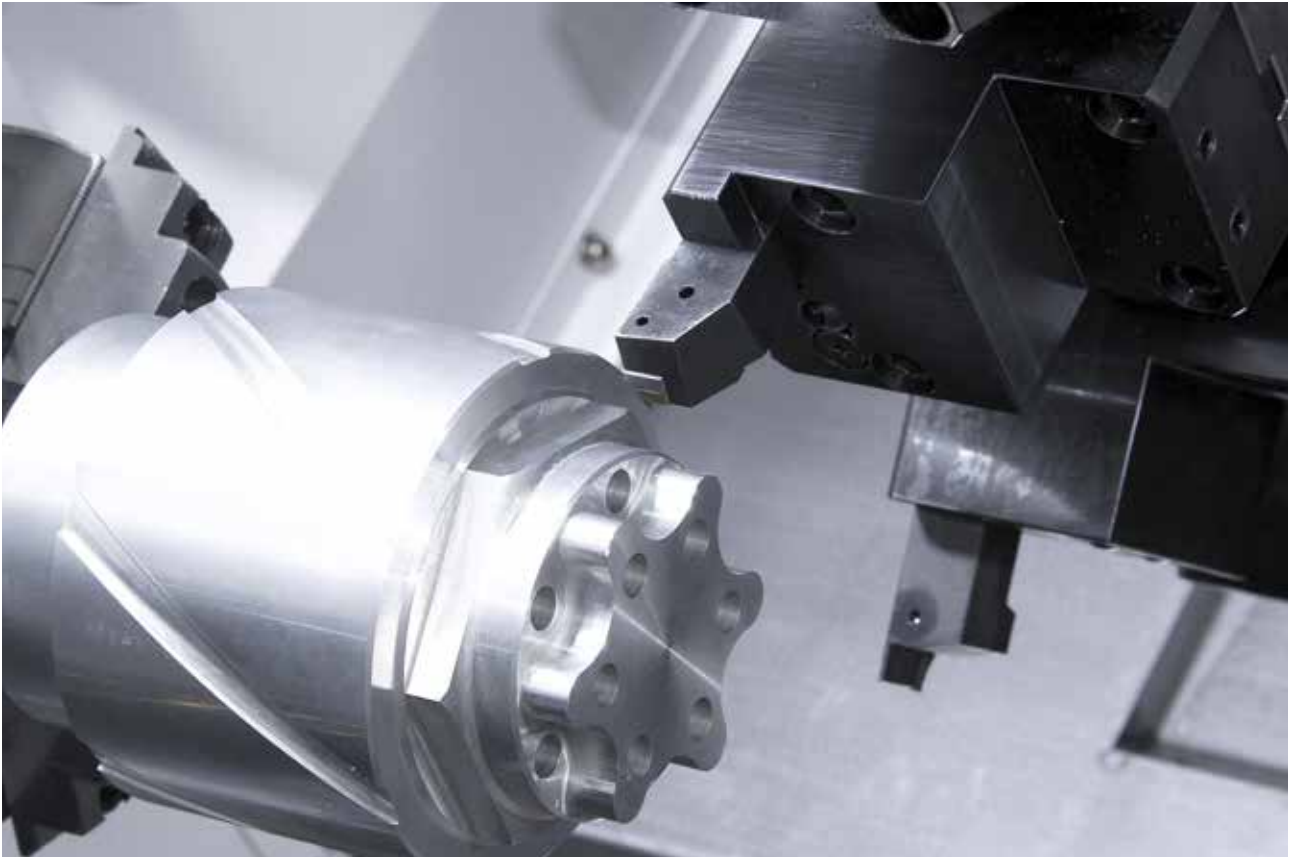
L300 Series

HYUNDAI WIA CNC Turning Center



Technical Leader

The CNC Turning Center Series, 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				Bed		Turret
	10"	12"	Sub 8"	Big Bore	Standard	Long	Turn Mill
L300A	●				●		
L300LA	●					●	
L300MA	●				●		●
L300LMA	●					●	●
L300MSA	●		●		●		●
L300LMSA	●		●			●	●
L300C	●			○			
L300LC		●		○		●	
L300MC		●		○	●		●
L300LMC	●			○	●	●	
L300MSC	●	●	●	○		●	

CNC Turning Center for Heavy Duty Cutting

L300 Series

- Rigidity secured through box guideways
- Highly accurate direct link and solid one-piece structure
- Pretension double-anchored method for high precision
- 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)

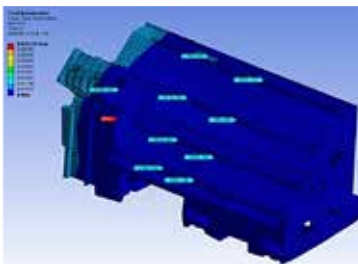


01

L300 Series

Basic Features

Powerful Cutting Capability & Large Working Area
CNC Turning Center



01

High Precision, High 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.

Box Guideway

Box guideways provide unsurpassed long term rigidity and accuracy, even during heavy duty cutting.



02

Main Spindle

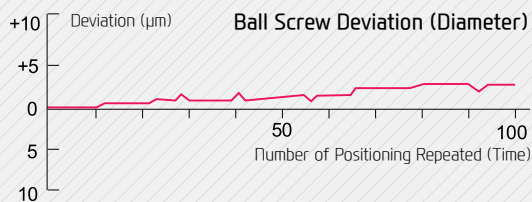
The main spindle has become sturdier by enlarging the diameter and thickness. Rigidity and accuracy are maintained incorporating high precision angular ball bearings.



03

Ball Screw

Travel is stabilized by fastening both ends of the ball screw using the double anchored method. In particular, a large diameter ball screw with proper preload reinforces sturdiness and resistance to thermal displacement.



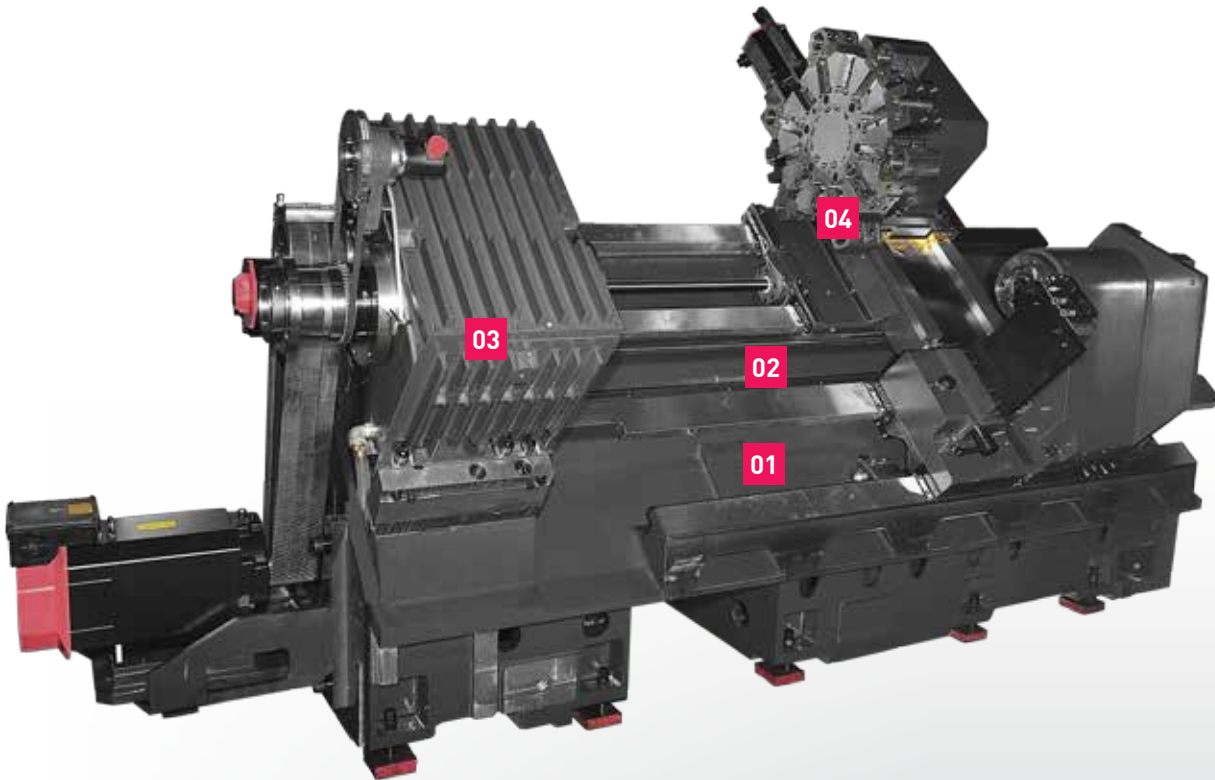
BMT Turret (Mill Turret)

The BMT turret, with 4 screws solidly fastening the holder, shows outstanding performance in powerful cutting and is capable of machining complex products by using rotation tools.



04

Basic Features



Travel (X/Z/ZB axis)

L300MSA : 290/750/700 mm (11.4"/29.5"/27.5") L300LMSA : 290/1,350/1,200 mm (11.4"/53.1"/47.2")
 L300MSC : 335/750/700 mm (13.1"/29.5"/27.5")

Spindle Speed

L300A/LA : 3,600 [3,500] rpm L300MA/LMA : 3,500 rpm
 L300C/LC : 3,000 [3,000] rpm L300MC/LMC : 3,000 [3,000] rpm L300C Series Big Bore : 2,800 rpm
 L300MSA/LMSA : Main 3,500 rpm, Sub 4,000 rpm L300MSC : Main 3,000 rpm, Sub 4,000 rpm

Spindle Output (Max.)

L300A/LA : 22 [22] kW (29.5 [29.5] HP) L300MA/LMA : 22 kW (29.5 HP)
 L300C/LC : 26 [26.4] kW (35 [35.4] HP) L300C Series Big Bore : 26 kW (35 HP)
 L300MC/LMC : 22 [33.6] kW (29.5 [45] HP) L300MSA/LMSA/MSC : Main 22 kW (29.5 HP), Sub 11 kW (15 HP)

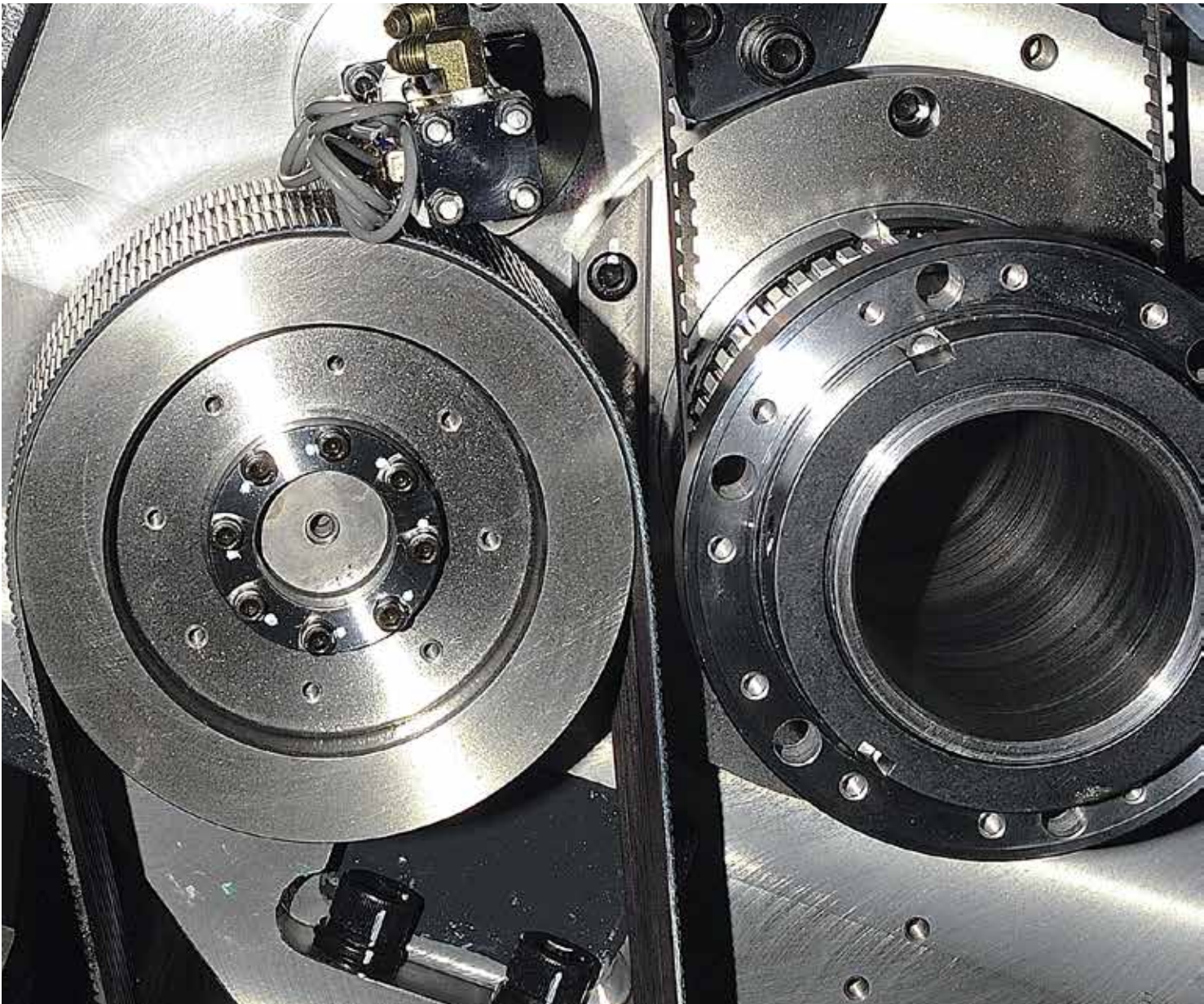
Spindle Torque (Max.)

L300A/LA : 755.8 [783.2] N·m (557.4 [577.6] lbf·ft) L300C/LC : 1,098.7 [1,137.1] N·m (810.4 [838.7] lbf·ft)
 L300C Series Big Bore : 1,325 N·m (977.3 lbf·ft) L300MA/LMA : 493.2 N·m (363.8 lbf·ft)
 L300MC/LMC : 786.9 [481.1] N·m (580.4 [354.8] lbf·ft)
 L300MSA/LMSA : Main 493.2 N·m (363.8 lbf·ft), Sub 140 N·m (103.2 lbf·ft)
 L300MSC : Main 786.9 N·m (580.4 lbf·ft), Sub 140 N·m (103.2 lbf·ft)

02
L300 Series

High Precision Spindle

Long Lasting High Accuracy & Excellent Performance
CNC Turning Center

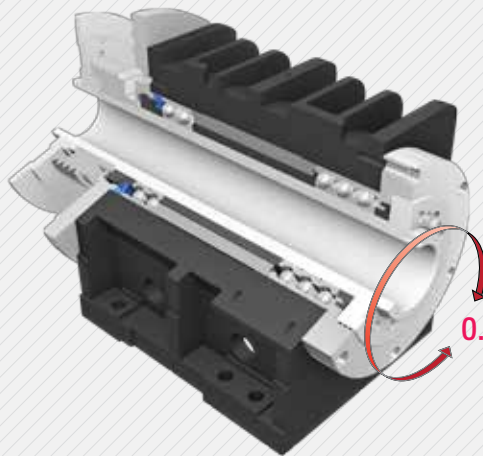


Gear Type Spindle

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.



Main Spindle

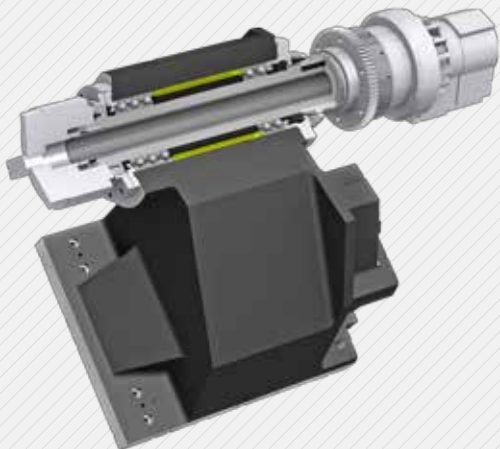
The main spindle has a wide range of constant power and utilizes the same structure as high speed turning centers. It is designed to minimize thermal displacement and to maintain stable cutting Capability during high speed machining.

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

0.001° Big Bore Spindle (L300C Series) **OPTION**

The big bore spindle of $\varnothing 115 (\varnothing 4.5")$ provides excellent performance during pipe machining.

Also, spindle torque of 1,325N·m(977.3lbf·ft) is optimal for heavy duty cutting.



Sub Spindle

The 8" sub spindle with C-axis, is designed to minimize thermal growth, even under long, continuous machining, to ensure high precision and accuracy.

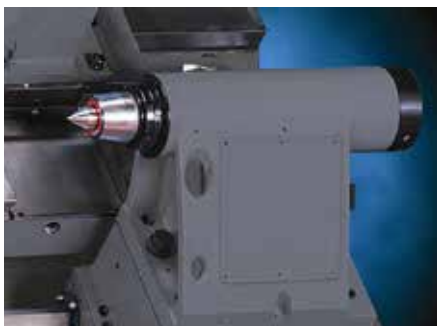
Easy Work Coordinate Setting

Once the processing on the main spindle is completed, the sub spindle rotates at the same rate as the main spindle and the workpiece is handed over to the sub spindle.

Once the workpiece is secured in the sub spindle rear processing is possible. Thus, workpiece setup time is reduced and productivity is enhanced.

Chuck : 8" Motor : 11/7.5 kW (14.7/10 HP)

C-axis Indexing : 0.001° Spindle Bore : $\varnothing 45 (\varnothing 1.7")$



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.

(Built-in Tail Stock : MT #4) OPTION

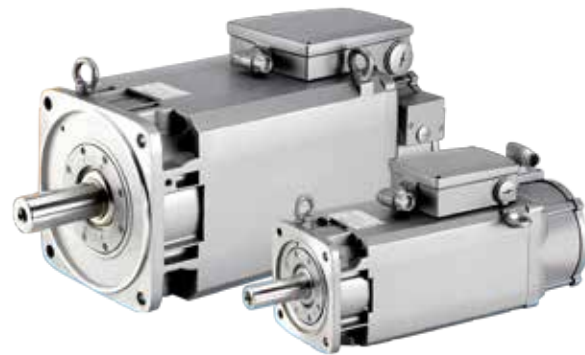
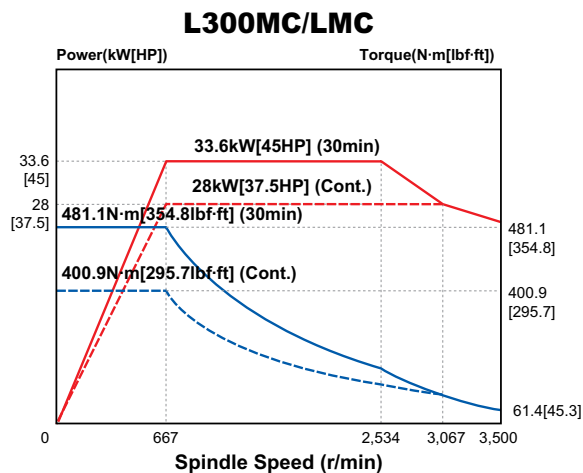
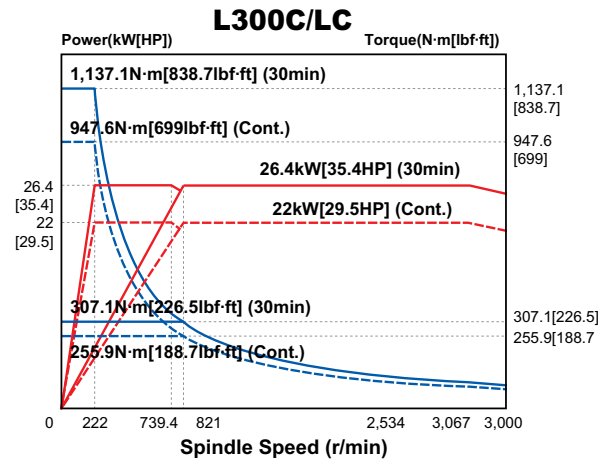
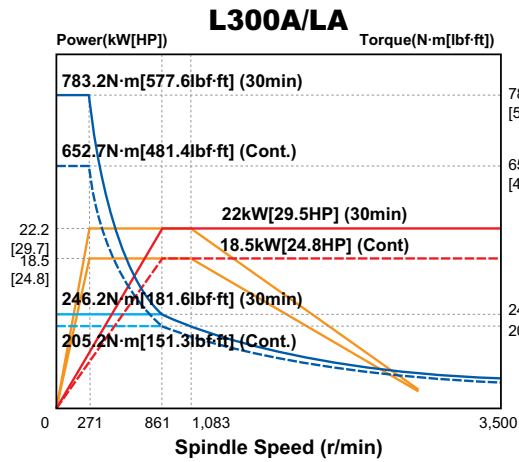
Taper : MT #5 Travel : 750/1,350 mm (29.5"/53.1")

Quill Dia. : $\varnothing 100 (\varnothing 3.9")$ Quill Weight : 740 kgf (1,631 lbf)



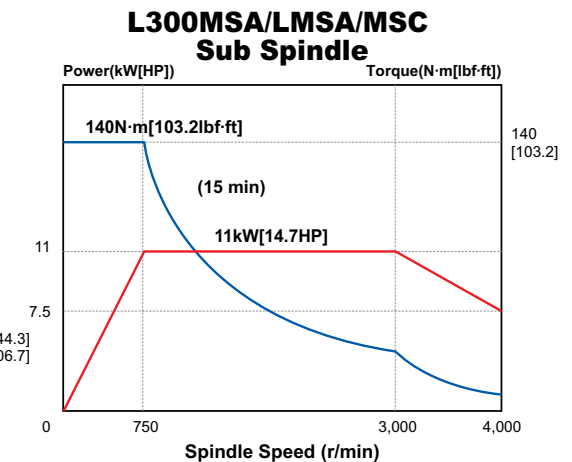
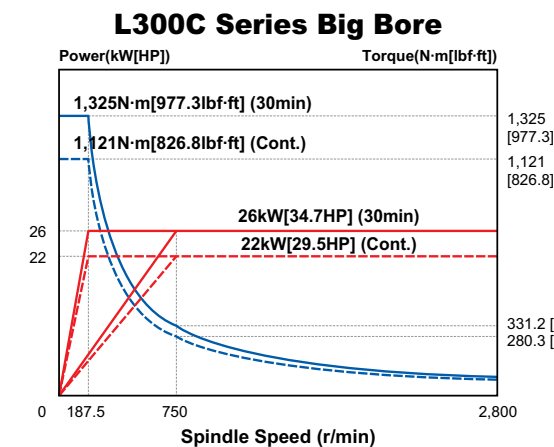
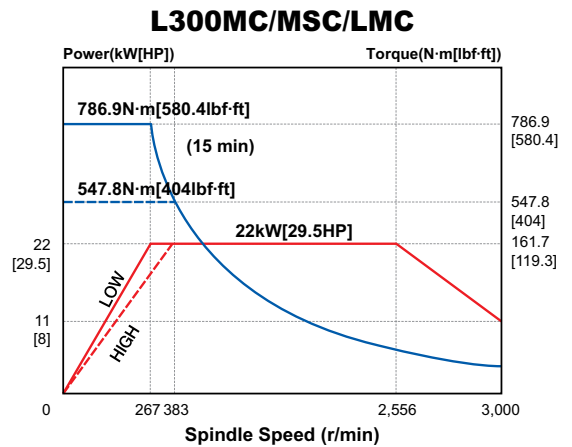
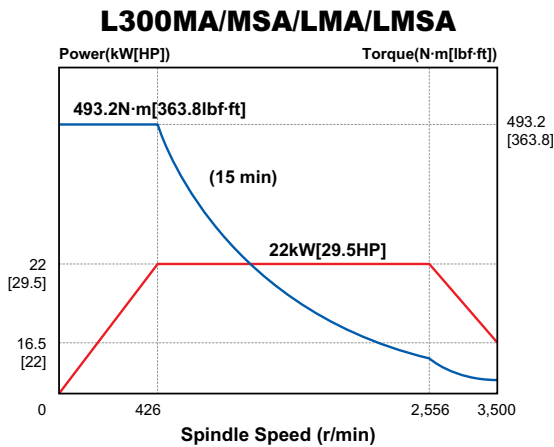
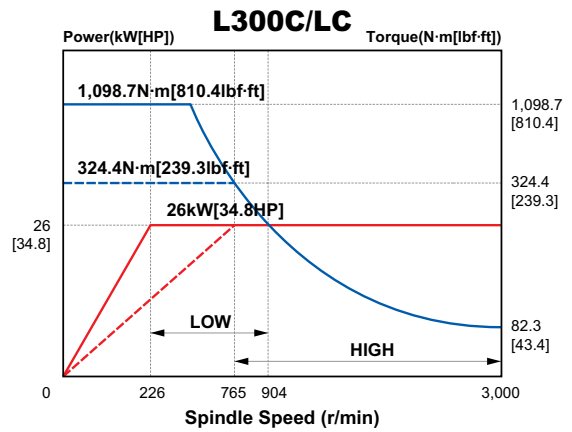
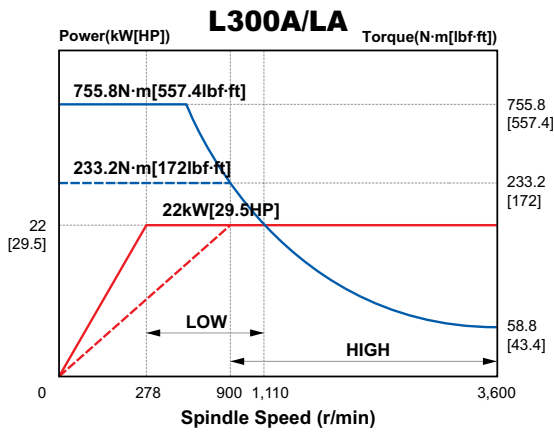
SIEMENS 1PH8 Spindle Motor

The 1PH8 Series is a high quality performance motor providing concentricity of 10 μ m and fast response time.



Spindle Output/Torque Diagram

FANUC Spindle



N3

L300 Series

Servo Turret

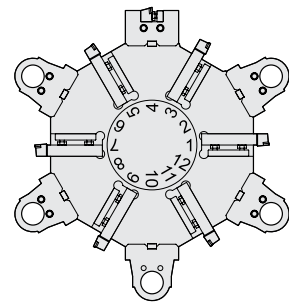
High speed, High Accuracy, Highly Reliable
Servo Turret



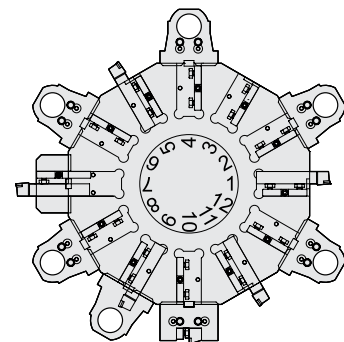
Servo Turret

- Number of Tool : 12 EA
- Tool Size (O.D) : □ 25 (□ 1")
- Tool Size (I.D) : Ø50 (Ø1.9")

L300A Series



L300C Series



Turret

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

BMT Turret (Mill Turret)



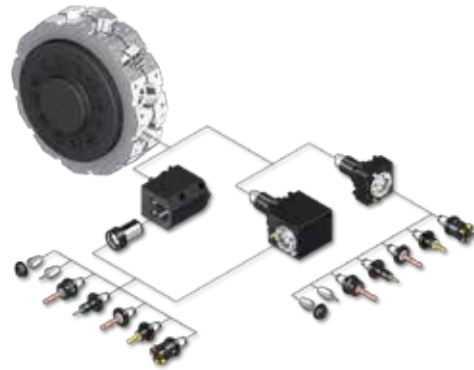
BMT turret applied in L300M series, with 4 screws solidly fastening the holder, shows outstanding performance in milling, drilling and tapping during heavy duty cutting.



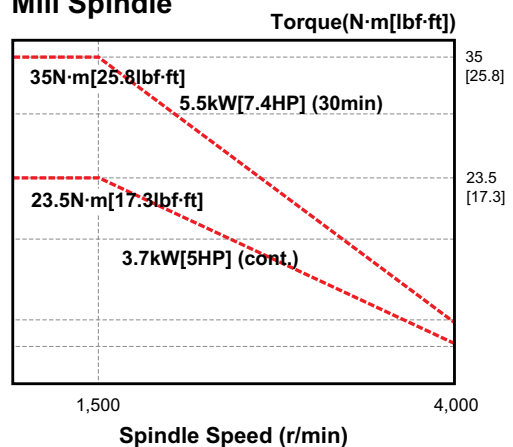
Mill Tool Holder

Machining capability has increased with the addition of a Straight Milling Head which can remove material from the side and an Angular Milling Head which can perform I.D. operations.

A wide variety of additional tool holders enable further enhanced machining such as drilling, tapping and endmilling.



Mill Spindle



- ⊙ Output : 5.5/3.7 kW (7.4/4.7 HP)
- ⊙ Speed (rpm) : 4,000 r/min
- ⊙ Collet size : Ø20 (Ø0.8") (ER32)
- ⊙ Live Tool Type : BMT65P

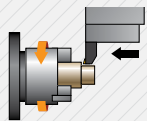
04
L300 Series

Machining Capability

Excellent Performance, High Accuracy Cutting
CNC Turning Center



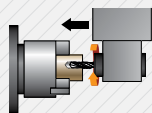
L300A



Cutting (O.D)

Turning (Material(JIS):S45C(Carbon steel))

Processing diameter	Ø280
Side cutting depth	12 mm
Cutting speed	110 m/min
Spindle rpm	280 r/min
Forwarding speed	0.45 mm/rev
Chip discharge	594 cc/min



U-Drilling

Drilling (Material(JIS):S45C(Carbon steel))

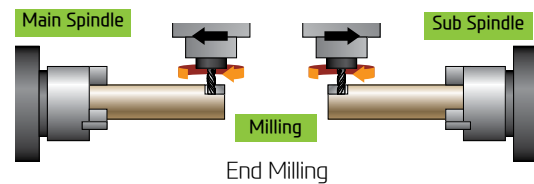
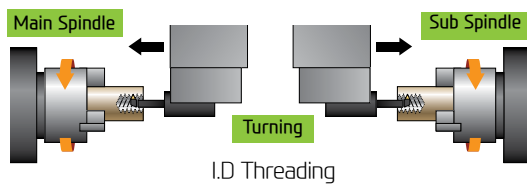
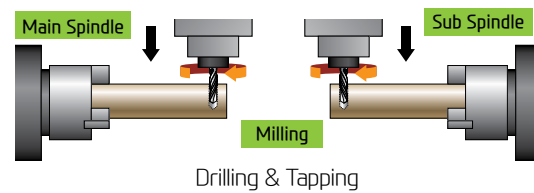
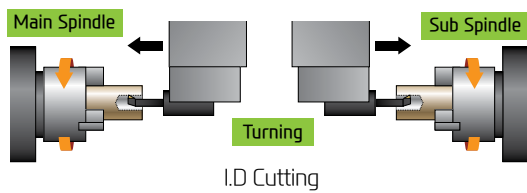
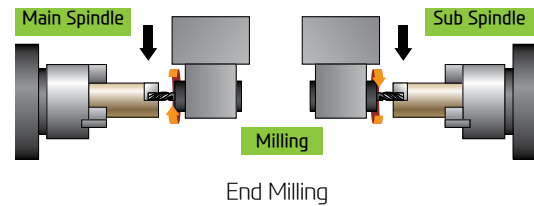
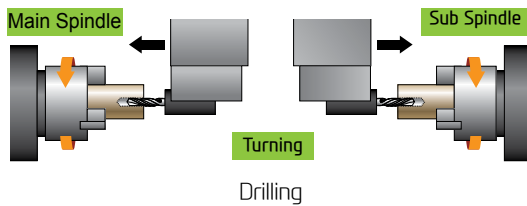
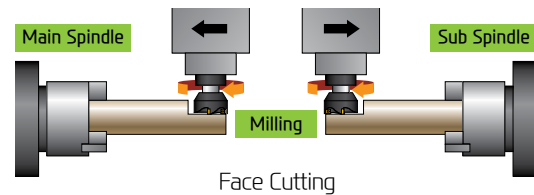
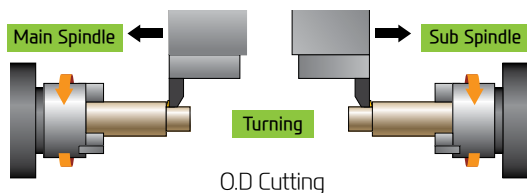
Work diameter	Ø70
Drill diameter	Ø40
Cutting speed	140 m/min
Spindle rpm	895 r/min
Forwarding speed	0.4 mm/rev
Chip discharge	469 cc/min

Sample Workpiece



❖ The above results might be different by types of processing circumstances.

Machining Variation



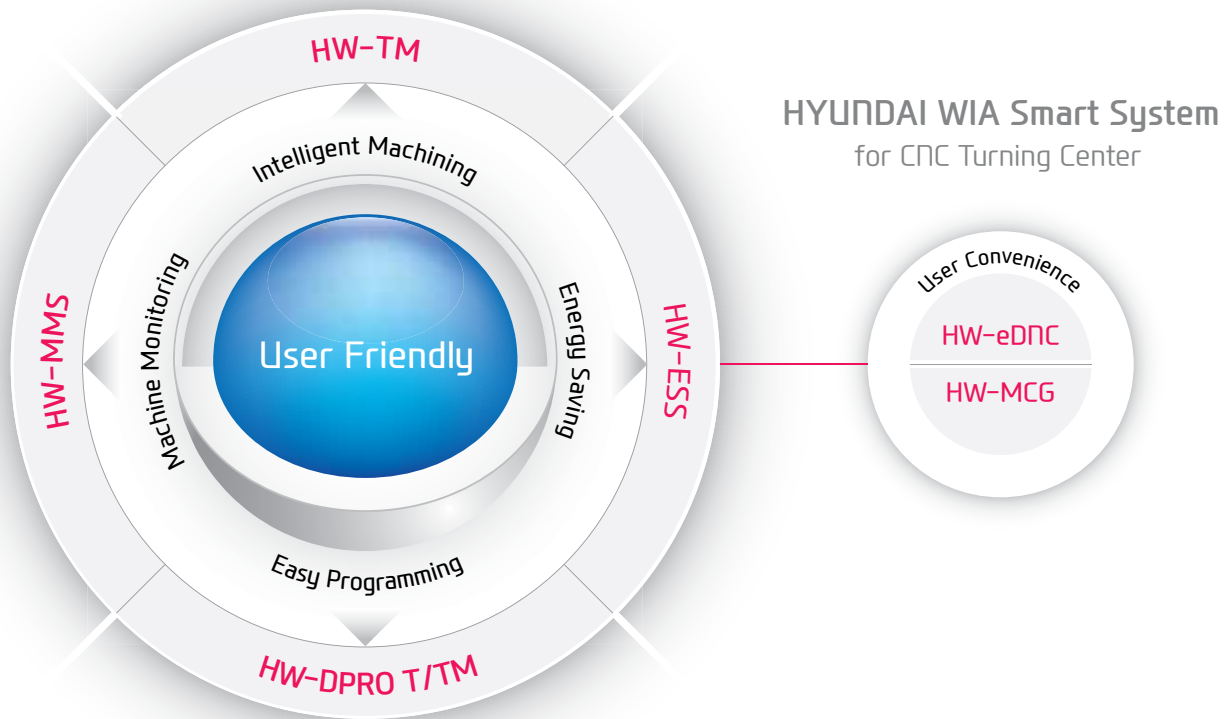
05

L300 Series

Smart System



Software for Smart Operating and Machining



HYUNDAI WIA Smart System
for CNC Turning Center

HW-PGi F (HYUNDAI WIA Programming Guide i for Fanuc System)

(Standard when applying FANUC 31/32i)



Realistic 3D solid animation

Programming simulation



Example of easy programming

Easy programming interactively
without code



Engraving Cycle

Programming with only entering text by
controlling C-axis

HYUNDAI WIA Smart System

Faster processing and enhanced accuracy in are possible through the **HYUNDAI WIA Smart System**. The user friendly software and equipment monitoring of the Smart System maximizes productivity.



HW-eDNC
HYUNDAI WIA ethernet
Direct Numerical Control

This software allows transimtion of NC data between PC and a machine's CNC. The processing programs can be managed on the PC through the ethernet or serial communication.



HW-MCG
HYUNDAI WIA
Machine Guidance

(FANUC)

Software that offers operation, maintenance, management monitoring and various user friendly features.



HW-TM
HYUNDAI WIA
Tool Monitoring

(FANUC)

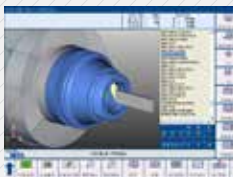
A tool monitoring software which analyzes the load of the spindle motor to determine and monitor possible damage of tools.



HW-ESS
HYUNDAI WIA
Energy Saving System

(FANUC)

An environmental friendly software that reduces the unnecessarily wasted standby power waiting for an operation.



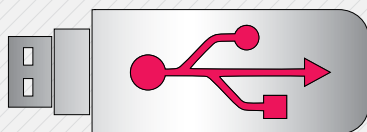
HW-DPRO T/TM
HYUNDAI WIA Dialogue
PROgram Turn/TurnMill

Using a dialogue method, this software makes it easy to work out a program for a lathe processing operation with complicated configurations. (Can be installed on a PC.)



HW-MMS
HYUNDAI WIA
Machine Monitoring System

This software is for remote control monitoring of equipment status (mobile, PC.) It checks and manages the state of multiple machines and the progress of processing on a real time basis.



USB Port (HW FANUC i Series & SIEMENS 828D)

Convenience is increased when inputting and outputting program. The USB port is available in addition to the former input output methods such as CF memort card and LAN.

SIEMENS

DIFFERENTIATED CAPABILITIES, INTEGRATED ENGINEERING PERFECTLY INTERLINKED

SIEMENS 828D is a latest model CNC. It is designed for horizontal/vertical all-purpose equipments.

Its 80-bit control reduces processing time and increases productivity. The 828D is easy to maintain and run, with its easy setup functions.



SIEMENS Technology

Shop Turn

- Dialogue-type programming, simple and convenient
- Effective specifications for small quantity batch production
- Step-by-step operation possible without knowledge of the DIN/ISO code



OPTION

3D Simulation

- 3D confirmation of the completed processing configuration of the NC program is possible.
- Offers standards for 2D simulation.
- Possible to confirm the simulation of the NC program during processing.



OPTION

Easy Extend

- Easy to install/uninstall an option (Ex : barfeeder and chip conveyor, etc.)
- Possible to install in one motion without revision of individual perimeters.
- A spate list is unnecessary as option items are indicated with letters.



SIEMENS Communication Function

Variable Communication Port

RJ 45 Ethernet

USB 2.0

Compact Flash Card



Easy input/output of a program is possible as a USB memory card, a CF memory card and LAN can all be used.

ISO Code Programming



If the ISO Dialect (G291) is ordered, JIS-based G-code programs can be used. (Standard)

SIEMENS Convenience Function

Easy Tool Measuring

- Easy calculation (automatic and manual) of the offset values of the installed equipment
- Automatic input of the measured offset values of equipment into the equipment list



Work Offset Measuring

- Supports the function of work offset calculation
- Automatic application of the measured work offset value as the activated work offset



Real Time PLC Monitoring

- Real time monitoring of PLC programs is possible. Supports the "search" and "cross reference" functions.
- Real time verification of I/O variables and PLC interface
- Input/change of the values of variables



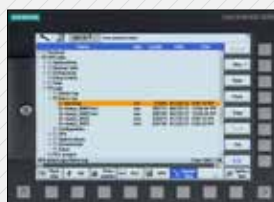
Block Searching

- Program can be re-started from a particular location without editing the processing program.
- Provides safety to the user.

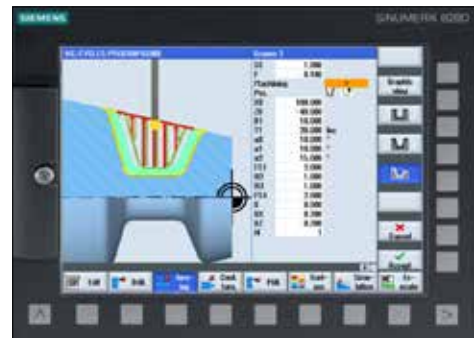


Alarm Log

- A maximum of 500 alarms can be stored.
- The entire alarm log can be stored as a data file in the I/O
- The overall alarm history can be checked through the alarm log.



SIEMENS Easy Programming



Program Guide

Simple Program, High Productivity

- Use of cycle program minimizes program capacity.
- When cycle variables are input, graphic images are provided.
- Tool path and simulation of completed cycle program are available.
- Various configurations can be processed using cycles.



Engraving Cycle

Simple Letter Processing is Possible.

- Letters can be processed on products by establishing a plane and inputting letters.
- Letter size/angle/location/direction can be designated.
- Capital and small letters of English can be processed.

n6

L300 Series

Automation System



Various Devices for User Convenience

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.

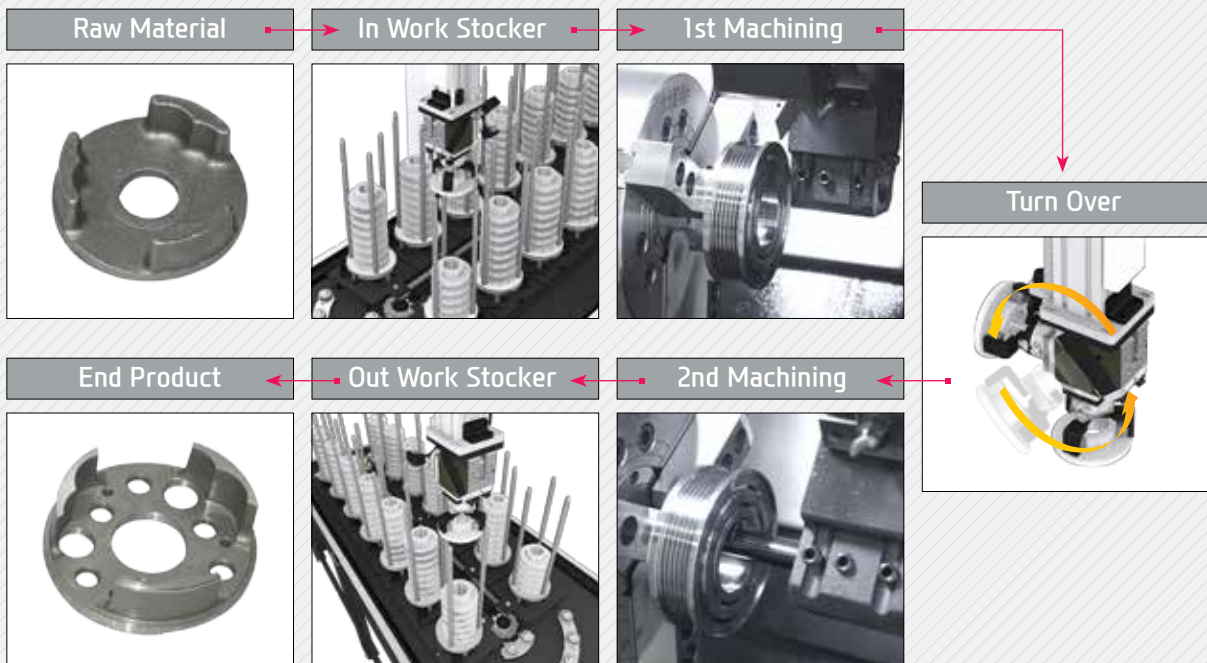


Gantry Loader System



Gantry Loader Machining Process

The high speed gantry loaders and the work stocker allow the implementation of automation cells. This enables machining process flexibility and productivity enhancement.



SPECIFICATIONS

L300 Series Standard & Optional

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

Spindle & Chuck		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		○ (CE:●)	○ (CE:●)	○ (CE:●)
2 Steps Chuck Foot Switch		○	○	○
Sub Spindle Foot Switch		-	-	☆
Turret				
Tool Holder		●	●	●
Mill Turret	Radial	-	●	●
Straight Milling Head (Radial)	Collet Type,1ea	-	●	●
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	○	-	-
Swivel Head		-	☆	☆
Tail Stock & Steady Rest				
Quill Type Tail Stock		●	●	-
Built in Tail Stock (MT#4)		○	○	-
Programmable Tail Stock		○	○	-
Manual Steady Rest		○	○	☆
Manual Hyd. Steady Rest		○	○	-
Standard Live Center		●	●	-
High Precession Live Center		☆	☆	-
2 Steps Tail Stock Pressure System		☆	☆	-
Quill Forward/Reverse Confirmation Device		○	○	-
Tail Stock Foot Switch		○	○	-
Coolant & Air Blow				
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 (21.7psi)	●	●	●
	6Bar (87psi)	○	○	○
	14.5Bar (210.2psi)	○	○	○
	20Bar (290psi)	○	○	○
Power Coolant System (For Automation)		☆	☆	☆
Coolant Chiller		☆	☆	☆
Chip Disposal				
Coolant Tank	220 ℓ (58.1 gal)	●	-	-
	270 ℓ (71.3 gal)	-	●	●
Chip Conveyor (Tank Position/Chip Disposal)	Hinge Front (Rear)	○ (-)	○ (-)	○ (-)
	Scraper Front (Right)	○	○	○
Special Chip Conveyor (Drum Filter)		☆	☆	☆
	Standard (180 ℓ [47.5 gal])	○	○	○
Chip Wagon	Swing (200 ℓ [52.8 gal])	○	○	○
	Large Swing (290 ℓ [76.6 gal])	○	○	○
	Large Size (330 ℓ [87.2 gal])	○	○	○
	Customized	☆	☆	☆

Safety Device		A(LA)	MA(LMA)	MSA(LMSA)
Door Inter-Lock		●	●	●
Total Splash Guard		●	●	●
Chuck hydraulic pressure maintenance interlock		○ (CE:●)	○ (CE:●)	○ (CE:●)
Back Spin Torque Limiter (BST : FANUC)		●	●	●
Torque Limiter		☆	☆	☆
Electric Device				
Call Light	1Color : ●	●	●	●
Call Light	3Color : ●●●	○	○	○
Call Light & Buzzer	3Color : ●●●B	○	○	○
Electric Cabinet Light		○	○	○
Remote MPG		○	○	○
Spindle Load Meter	FANUC (Mounted Type)	○	○	○
	SIEMENS (Built-in Type)	●	-	-
Spindle Speed Meter	FANUC (Mounted Type)	○	○	○
	SIEMENS (Built-in Type)	●	-	-
Work Counter	Digital	○	○	○
Total Counter	Digital	○	○	○
Tool Counter	Digital	○	○	○
Multi Tool Counter	6ea	○	○	○
	9ea	○	○	○
Electric Circuit Breaker		○	○	○
ABS Encoder	FANUC	●	●	●
	SIEMENS	○	-	-
AVR (Auto Voltage Regulator)		☆	☆	☆
Transformer	30kVA	○	-	-
	35kVA	-	○	○
Auto Power Off		○	○	○
Measurement				
Q-Setter		●	●	●
Automatic Q-Setter		○	○	○
Work Close Confirmation Device	TACO	○	○	○
(Only for Special Chuck)	SMC	○	○	○
Work Setter (RENISHAW/MARPOSS)		○	☆	☆
Linear Scale	X axis	○	○	○
	Z axis	○	○	○
Coolant Level Sensor (Only for Chip Conveyor)		☆	☆	☆
Environment				
Air Conditioner	FANUC	○	○	○
	SIEMENS	●	●	●
Dehumidifier		○	○	○
Oil Mist Collector		○	○	○
Oil Skimmer (Only for Chip Conveyor)		○	○	○
MQL (Minimal Quantity Lubrication)		☆	☆	☆
Fixture & Automation				
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)	16Contact	○	○	○
	32Contact	○	○	○
Parts Catcher	Main SP.	○	○	○
	Sub SP.	-	-	○
Sub Sp. Work Pusher (Pneumatic Type)		-	-	○
Turret Work Pusher (For Automation)		☆	☆	☆
Parts Conveyor		☆	☆	☆
Hyd. Device				
Standard Hyd. Cylinder	Hollow	●	●	●
Standard Hyd. Unit	35bar (507.6 psi)/ 20 ℓ (5.3gal)	●	●	●
S/W				
Machine Guidance (HW-MCG : FANUC)		☆	☆	☆
Tool Monitoring (HW-TM : FANUC)		○	○	○
DNC software (HW-eDNC : FANUC)		○	○	○
Interactive Program		○	○	-
Energy Saving System (HW-ESS : FANUC)		☆	☆	☆
Machine Monitoring System (HW-MMS : FANUC)		☆	☆	☆
ETC				
Tool Box		●	●	●
Customized Color	Need Munsel No.	☆	☆	☆
CAD & CAM		☆	☆	☆

Specifications are subject to change without notice for improvement.

SPECIFICATIONS

L300 Series Standard & Optional

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

Spindle & Chuck		C(LC)	MC(LMC)	MSC	
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		○(CE:●)	○(CE:●)	○(CE:●)	
2 Steps Chuck Foot Switch		☆	☆	☆	
Sub Spindle Foot Switch		-	-	☆	
Turret					
Tool Holder		●	●	●	
Mill Turret	Radial	-	●	●	
Straight Milling Head (Radial)	Collet Type,1ea	-	●	●	
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	○	-	-	
SWIVEL HEAD		-	☆	☆	
Tail Stock & Steady Rest					
Quill Type Tail Stock		●	●	-	
Built in Tail Stock (MT#4)		○	○	-	
Programmable Tail Stock		○	○	-	
Manual Steady Rest		○	○	☆	
Manual Hyd. Steady Rest		○	○	-	
Standard Live Center		●	●	-	
High Precision Live Center		☆	☆	-	
2 Steps Tail Stock Pressure System		☆	☆	-	
Quill Forward/Reverse Confirmation Device		○	○	-	
Tail Stock Foot Switch		○	○	-	
Coolant & Air Blow					
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 (21.7psi)	●	●	●	
	6Bar (87psi)	○	○	○	
	14.5Bar (210.2psi)	○	○	○	
	20Bar (290psi)	○	○	○	
Power Coolant System (For Automation)		☆	☆	☆	
Coolant Chiller		☆	☆	☆	
Chip Disposal					
Coolant Tank	220ℓ (58.1 gal)	●	●	●	
Chip Conveyor	Hinge	Front(Rear)	○(-)	○(-)	-
	Scraper	Front(Right)	○	○	○
Special Chip Conveyor (Drum Filter)		☆	☆	☆	
Chip Wagon	Standard (180ℓ [47.5 gal])	○	○	○	
	Swing (200ℓ [52.8 gal])	○	○	○	
	Large Swing (290ℓ [76.6 gal])	○	○	○	
	Large Size (330ℓ [87.2 gal])	○	○	○	
	Customized	☆	☆	☆	

Safety Device		C(LC)	MC(LMC)	MSC
Door Inter-Lock		●	●	●
Total Splash Guard		●	●	●
Chuck hydraulic pressure maintenance interlock		○(CE:●)	○(CE:●)	○(CE:●)
Back Spin Torque Limiter (BST : FANUC)		●	●	●
Torque Limiter		☆	☆	☆
Electric Device				
Call Light	1Color : ●	●	●	●
Call Light	3Color : ●●●	○	○	○
Call Light & Buzzer	3Color : ●●●B	○	○	○
Electric Cabinet Light		○	○	○
Remote MPG		○	○	○
Spindle Load Meter	FANUC (Mounted Type)	○	○	○
	SIEMENS (Built-in Type)	●	●	-
Spindle Speed Meter	FANUC (Mounted Type)	○	○	○
	SIEMENS (Built-in Type)	●	●	-
Work Counter	Digital	○	○	○
Total Counter	Digital	○	○	○
Tool Counter	Digital	○	○	○
Multi Tool Counter	6ea	○	○	○
	9ea	○	○	○
Electric Circuit Breaker		○	○	○
ABS Encoder	FANUC	●	●	●
	SIEMENS	●	●(○)	-
AVR (Auto Voltage Regulator)		☆	☆	☆
Transformer	35kVA	○	○	○
Auto Power Off		○	○	○
Measurement				
Q-Setter		●	●	●
Automatic Q-Setter		○	☆	☆
Work Close Confirmation Device (Only for Special Chuck)	TACO	○	○	○
	SMC	○	○	○
Work Setter (RENISHAW/MARPOSS)		○	☆	☆
Linear Scale	Xaxis	○	○	○
	Zaxis	○	○	○
Coolant Level Sensor (Only for Chip Conveyor)		☆	☆	☆
Environment				
Air Conditioner	FANUC	○	○	○
	SIEMENS	●	●	●
Dehumidifier		○	○	○
Oil Mist Collector		○	○	○
Oil Skimmer (Only for Chip Conveyor)		○	○	○
MQL (Minimal Quantity Lubrication)		☆	☆	☆
Fixture & Automation				
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)	16Contact	○	○	○
	32Contact	○	○	○
Parts Catcher	Main SP.	○	○	○
	Sub SP.	-	-	○
Sub Sp. Work Pusher (Pneumatic Type)		-	-	○
Turret Work Pusher (For Automation)		☆	☆	☆
Parts Conveyor		☆	☆	☆
Hyd. Device				
Standard Hyd. Cylinder	Hollow	●	●	●
Standard Hyd. Unit	35bar (507.6 psi)/20ℓ (5.3gal)	●	●	●
SAW				
Machine Guidance (HW-MCG : FANUC)		☆	☆	☆
Tool Monitoring (HW-TM : FANUC)		○	○	○
DFC software (HW-eDNC : FANUC)		○	○	-
Interactive Program		○	○	○
Energy Saving System (HW-ESS : FANUC)		☆	☆	☆
Machine Monitoring System (HW-MMS : FANUC)		☆	☆	☆
ETC				
Tool Box		●	●	●
Customized Color	Need Munsel No.	☆	☆	☆
CAD & CAM		☆	☆	☆

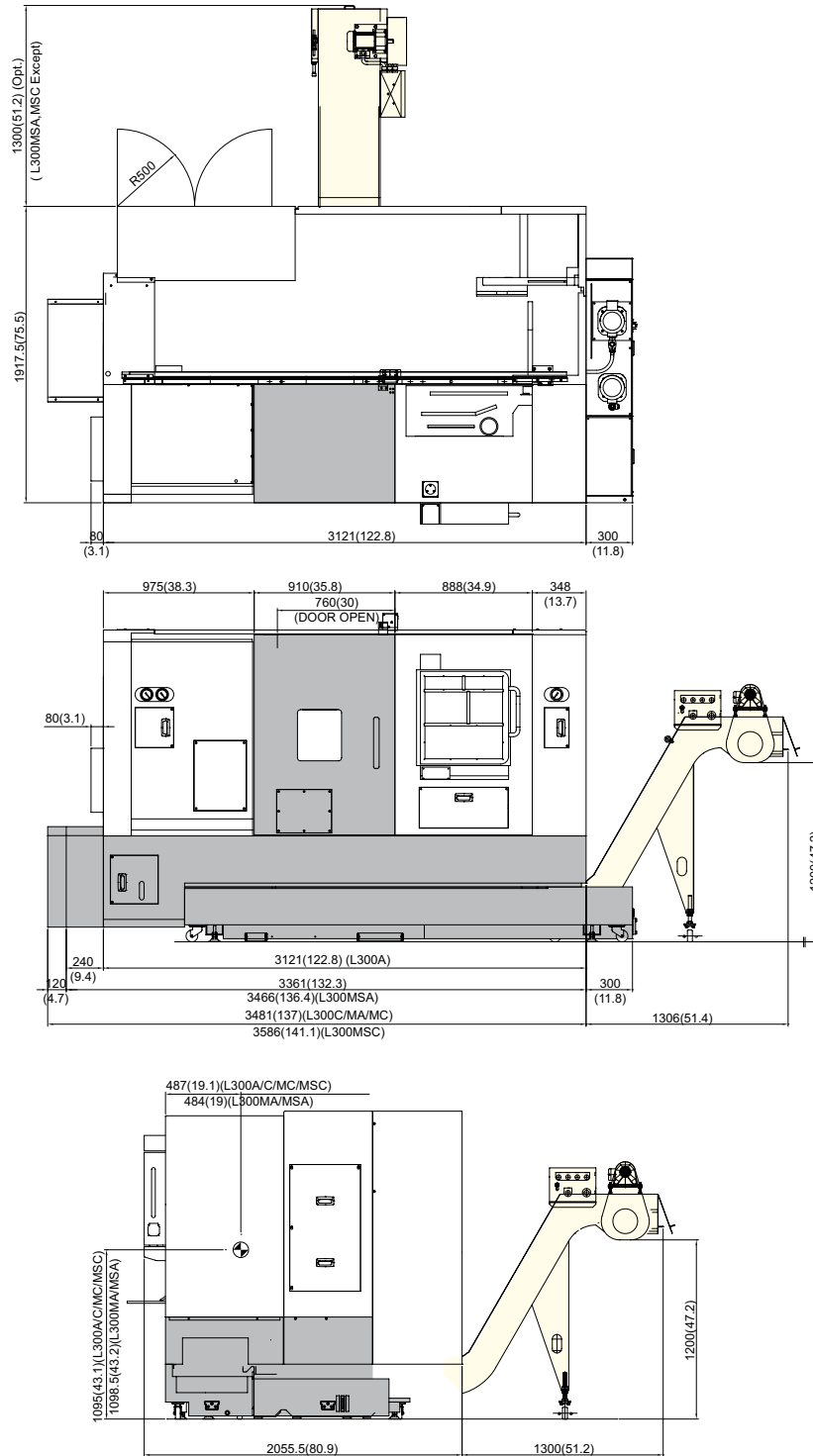
Specifications are subject to change without notice for improvement.

SPECIFICATIONS

External Dimensions

unit : mm(in)

L300A/MA//MSA(RIGHT ONLY)
L300C/MC//MSC(RIGHT ONLY)

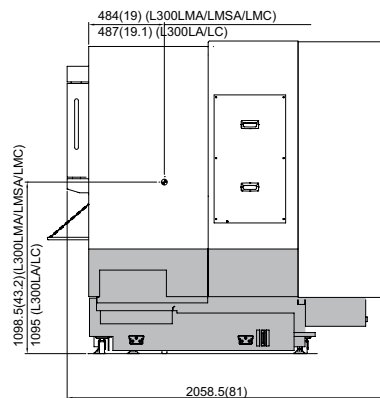
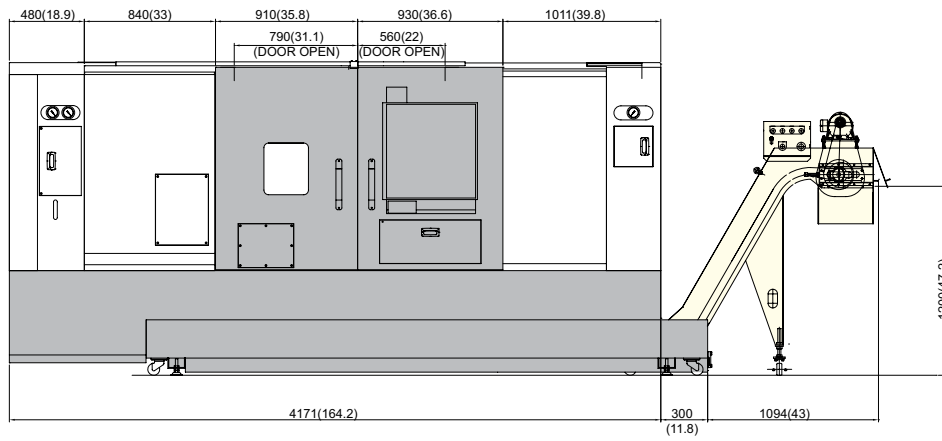
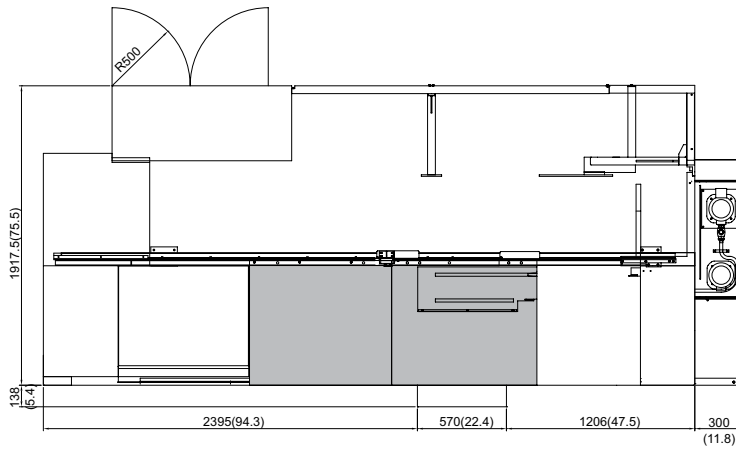


SPECIFICATIONS

External Dimensions

unit : mm(in)

L300LA/LMA/LMSA
L300LC/LMC/LMSC

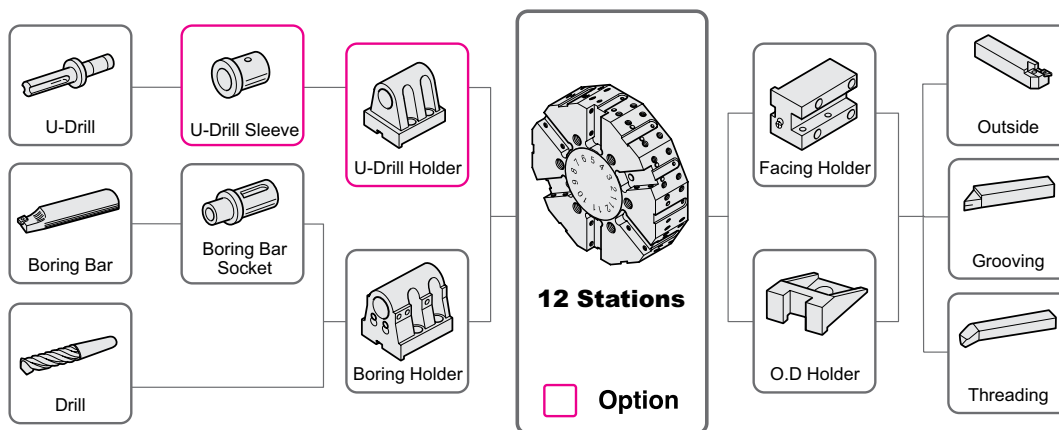


SPECIFICATIONS

Tooling System

unit : mm(in)

L300A/LA L300C/LC



Tooling Parts Detail

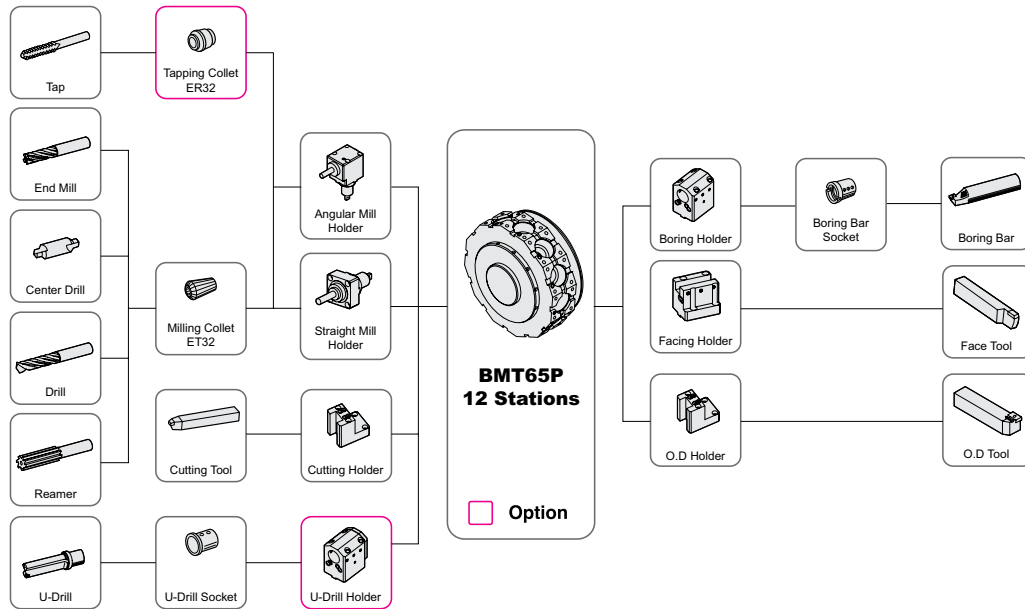
ITEM			L300A/LA	L300C/LC
Turning Holder	Facing Holder		1	1
	I.D. Tool Holder	Single	5	5
Boring Holder	U-Drill Tool Holder	Tool Holder	Opt	-
		Cap	-	Opt
Socket	Boring Bar Socket	Ø20 (3/4")	1	1
		Ø32 (1 1/4")	1	1
	Drill	MT 2	1	1
		MT 3	1	1
		MT 4MT 3	1	1

SPECIFICATIONS

Tooling System

unit : mm(in)

L300MA/LMA/MSA L300MC/LMC



Tooling Parts Detail

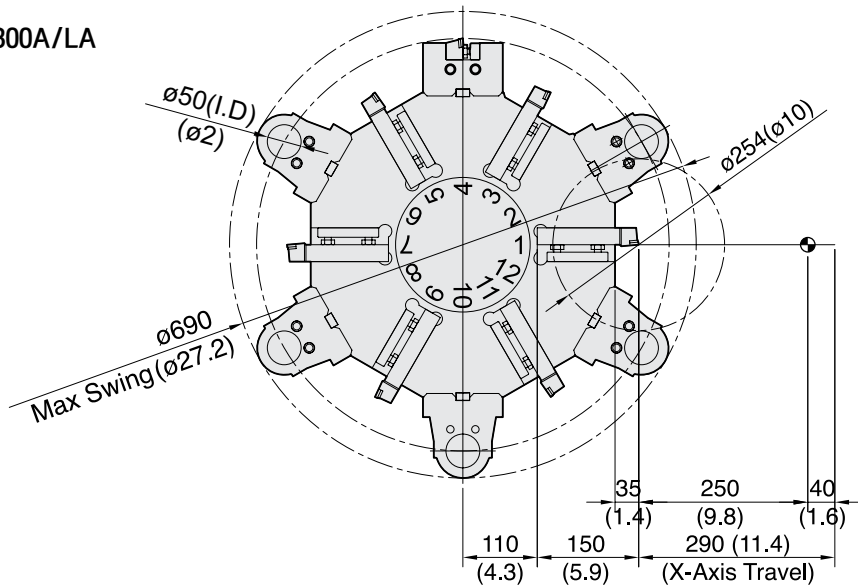
ITEM		L300MA/MC/LMA/LMC	L300MSA/LMSA/MSC	
Turning Holder	O.D Holder	Right/Left	4	1
		Double	-	1
	Facing Holder	1	1	
	Cutting Holder	-	1	
Boring Holder	I.D Holder	Single	3	2
		Double	-	1
	U-Drill Holder	Tool Holder Cap	opt.	opt.
Driven Holder	Straight Mill Holder	Standard	2	2
	Angular Mill Holder	Standard	2	2
		Long	-	1
Socket	Boring Main	Ø16 (5/8")	1	-
		Ø20 (3/4")	1	1
		Ø25 (1")	1	1
		Ø32 (1 1/4")	1	1
		Ø40 (1 1/2")	1	1
	Boring Sub	Ø6 (1/4")	-	1
		Ø12 (1/2")	-	1
		Ø20 (3/4")	-	1
	Drill	MT 1 × MT 2	1	1
		MT 2	1	1
		MT 3	1	1
		MT 4MT 3	1	1
ER Collet		1 Set	1 Set	

SPECIFICATIONS

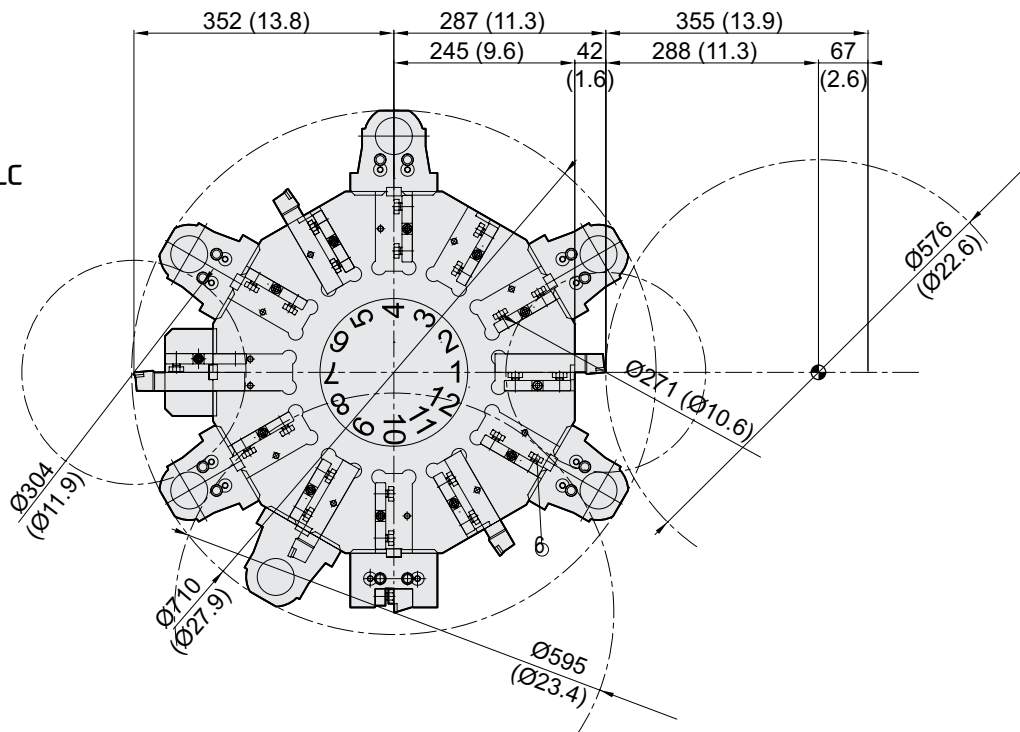
Interference

unit : mm(in)

L300A/LA



L300C/LC

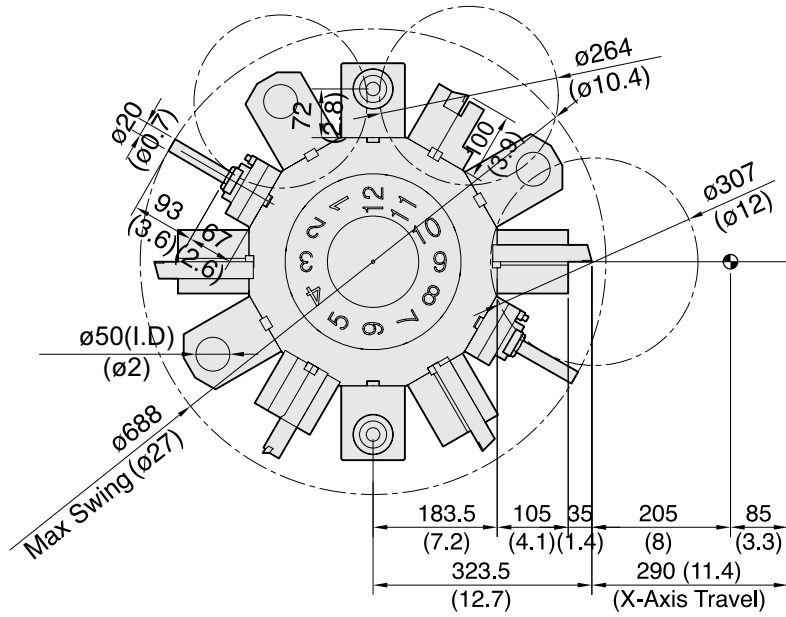


SPECIFICATIONS

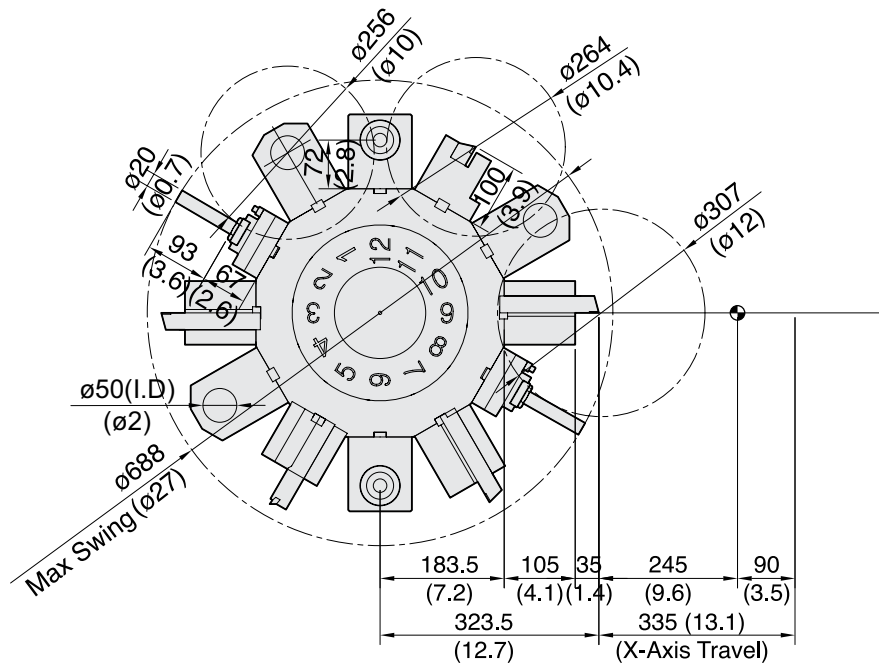
Interference

unit : mm(in)

L300MA/LMA



L300MC/LMC

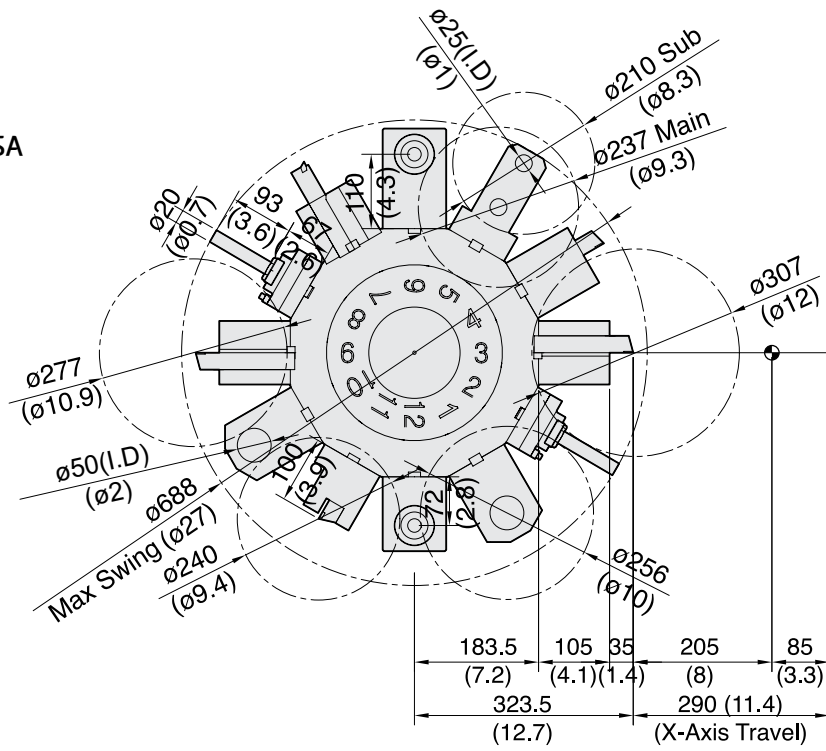


SPECIFICATIONS

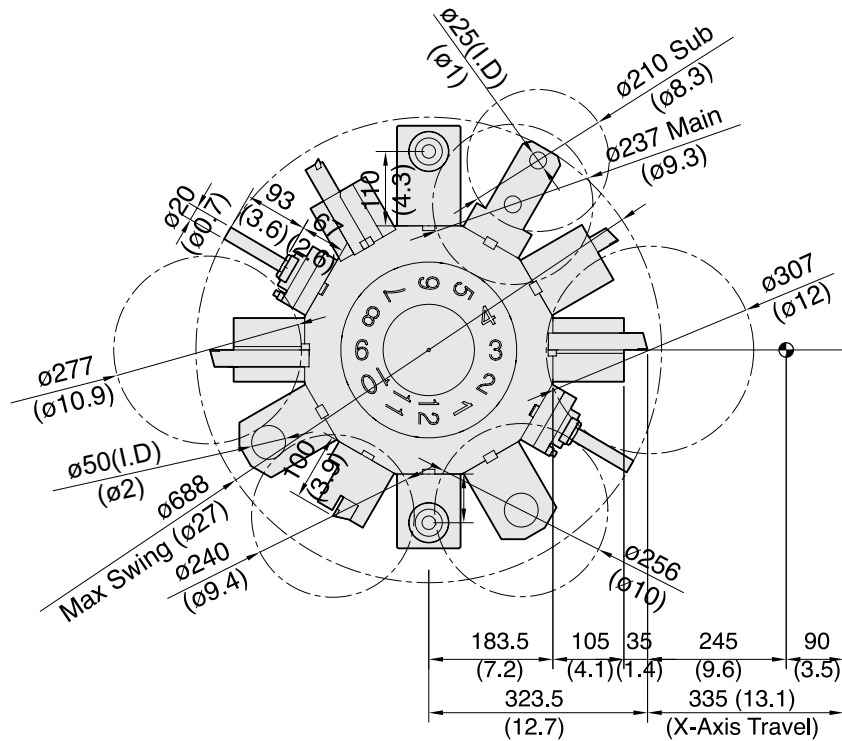
Interference

unit : mm(in)

L300MSA/LMSA



L300MSC



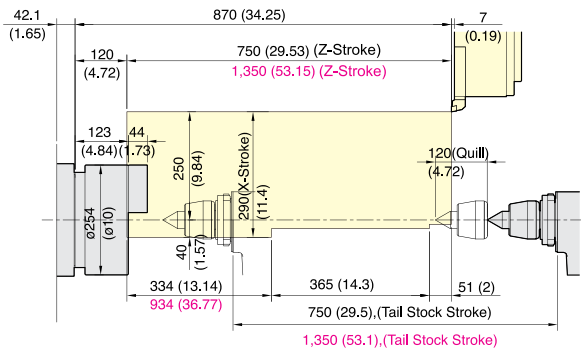
SPECIFICATIONS

Tooling Travel Range

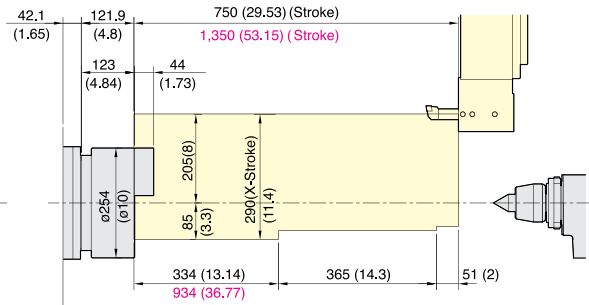
unit : mm(in)

L300A L300LA

OD TOOL HOLDER

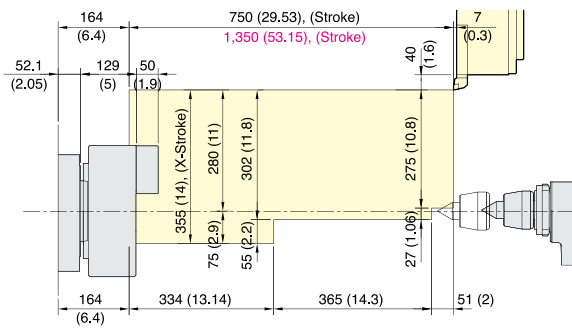


ID TOOL HOLDER

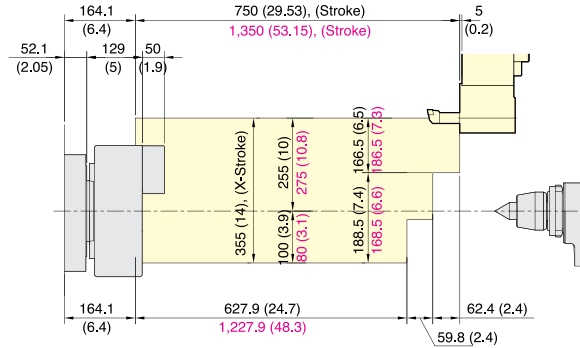


L300C L300LC

OD TOOL HOLDER



ID TOOL HOLDER



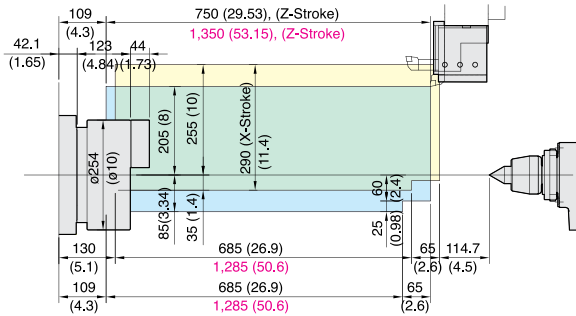
SPECIFICATIONS

Tooling Travel Range

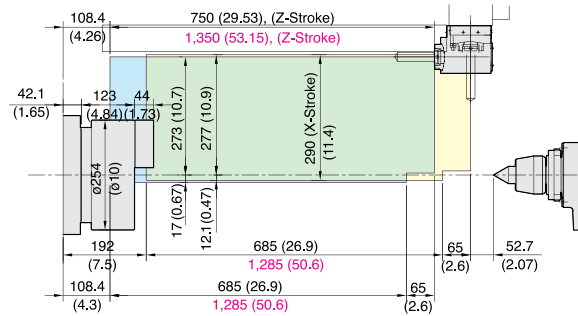
unit : mm(in)

L300MA L300LMA

OD/ID TOOL HOLDER

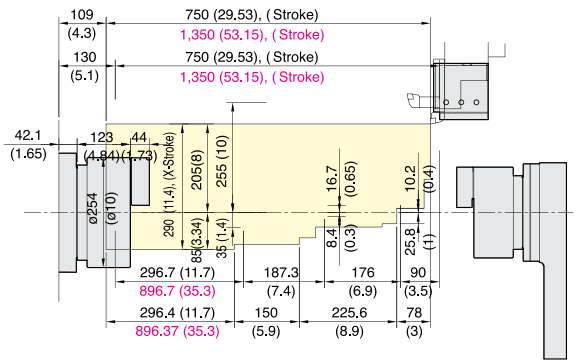


DRILL/END MILL TOOL HOLDER

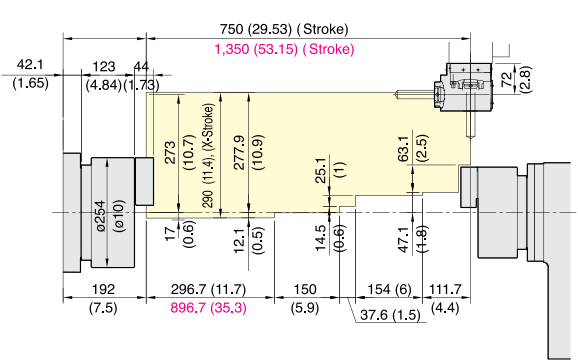


L300MSA L300LMSA

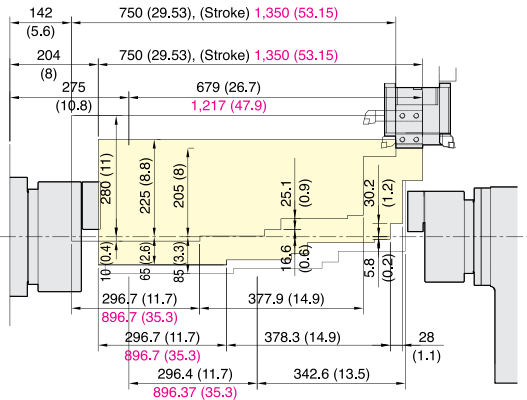
OD/ID TOOL HOLDER



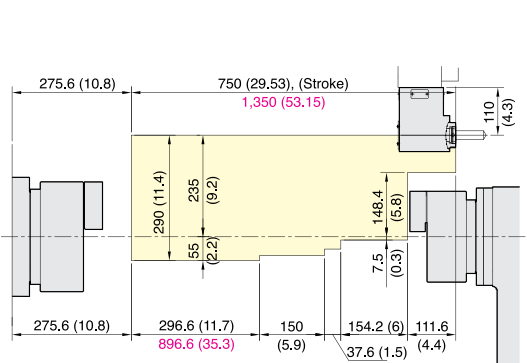
DRILL/END MILL TOOL HOLDER



DOUBLE OD/ID TOOL HOLDER



SUB MILL TOOL HOLDER



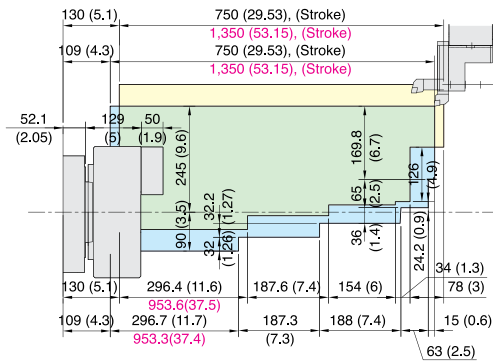
SPECIFICATIONS

Tooling Travel Range

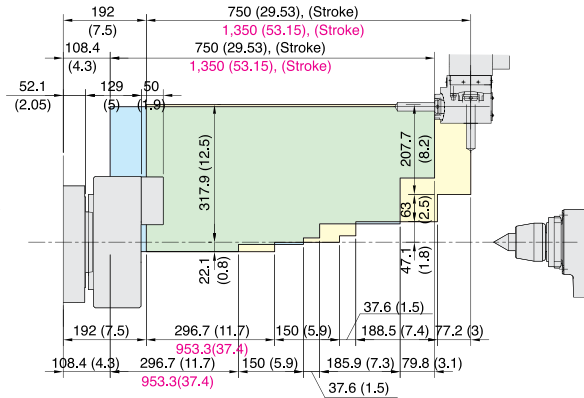
unit : mm(in)

L300MC L300LMC

OD/ID TOOL HOLDER

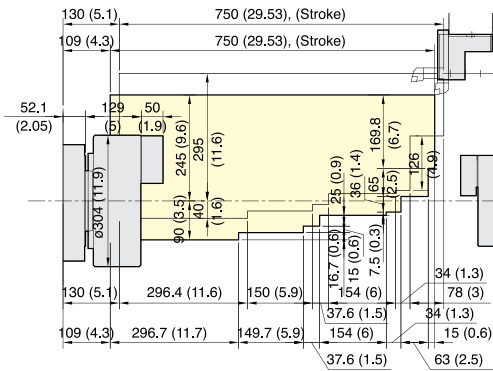


DRILL/END MILL TOOL HOLDER

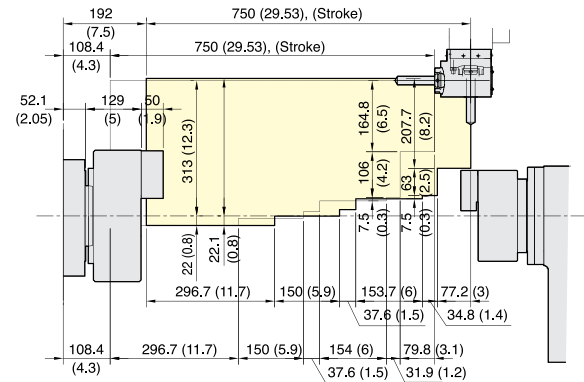


L300MSC

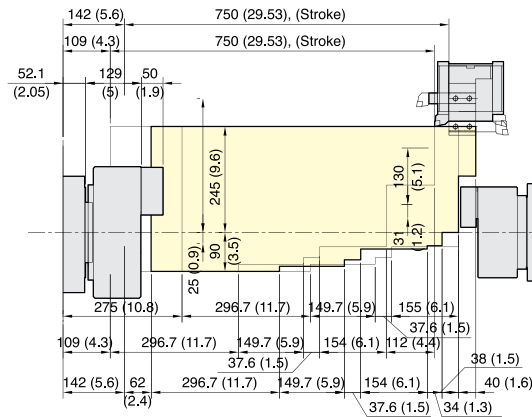
OD/ID TOOL HOLDER



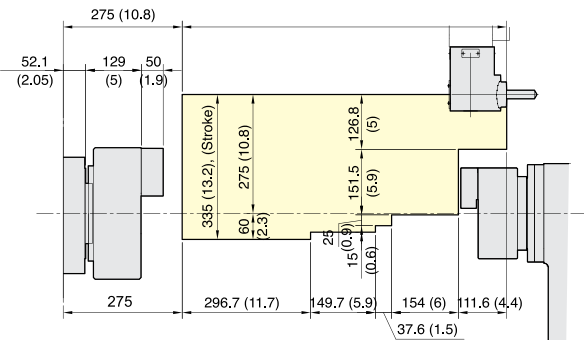
DRILL/END MILL TOOL HOLDER



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 Diameter	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")	
SPINDLE	Chuck Size	Main	Ø254 (10")		
		Sub	-	Ø210 (8")	
	Spindle Bore	Main	Ø90 (3.5")	Ø95(3.7")	
		Sub	-	Ø78 (3.1")	
	Spindle Speed (rpm)	Main	3,600 [3,500]	3,500	
		Sub	-	4,000	
	Motor (Max/Cont.)	Main	22/18.5 (30/25) [22/18.5 (30/25)]	22/18.5 (30/25)	
		Sub	-	11/7.5 (15/10)	
	Torque (Max/Con.)	Main	755.8/635.5 (557.4/468.7) [783.2/652.7(577.6/481.4)]	493.2/414.7(363.7/305.9)	
		Sub	-	140/95.5 (103.2/0.4)	
	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)	mm(in)	290/750 (11.4"/29.5")		290/750/700 (11.4"/29.5"/27.6")
	Rapid Traverse Rate (X/Y)	m/min(ipm)	20/24 (787/944.8)		20/24/20 (787/944.8/787)
	Slide Type	-	BOX GUIDE		
TURRET	No. of Tool	EA	12		
	Tool Size	OD	□ 25 (1")		
		ID	Ø50 (2")		
	Indexing Time	sec/step	0.3		
LIVE TOOL	Motor (Max/Cont.)	kW(HP)	-	5.5/3.7 (7/5)	
	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	-	-	BMT65P	
TAIL STOCK	Taper	-	MT5		-
	Quill Diameter	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)
PC	Controller	-	L300A : HW F i Series [S 828D] L300MA : F 32i-B [HW F i Series] L300MSA : F 31i-A [F 32i-A]		

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	L300LMSA
CAPACITY	Swing Over the Bed	mm(in)	Ø750 (29.5")		
	Swing Over the Carriage	mm(in)	Ø480 (18.9")		
	Max. Turning Diameter	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	Ø254 (10")		
		Sub	-	Ø210 (8")	
	Spindle Bore	Main	Ø90 (3.5")	Ø95 (3.7")	
		Sub	-	Ø78 (3.1")	
	Spindle Speed (rpm)	Main	3,600 [3,500]	3,500	
		Sub	-	4,000	
	Motor (Max/Cont.)	Main	22/18.5 (30/25) [22/18.5 (30/25)]	22/18.5(30/25)	
		Sub	-	11/7.5 (15/10)	
	Torque (Max/Con.)	Main	755.8/635.5 (557.4/468.7) [783.2/652.7(577.6/481.4)]	493.2/414.7 (63.7/305.8)	
		Sub	-	140/95.5 (103.2/70.4)	
	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)	mm(in)	290/1,350(11.4"/53.1")		290/1,350/1,200 (11.4"/53.1"/47.2")
	Rapid Traverse Rate (X/Y)	m/min(ipm)	20/24 (787/944.8)		20/24/20 (787/944.8/787)
	Slide Type	-	BOX GUIDE		
TURRET	No. of Tool	EA	12		
	Tool Size	OD	□ 25 (1")		
		ID	Ø50 (2")		
	Indexing Time	sec/step	0.3		
LIVE TOOL	Motor (Max/Cont.)	kw(HP)	-	5.5/3.7 (7/5)	
	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	-	-	BMT65P	
TAIL STOCK	Taper	-	MT5		-
	Quill Diameter	mm(in)	Ø100 (3.94")		-
	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	-	L300LA : HW F i Series [S 828D] L300LMA : F 32i-B [HW F i Series] L300LMSA : F 31i-A		

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 Diameter	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	mm(in)	Ø305 (12")	
		Sub	mm(in)	-	
	Spindle Bore	Main	mm(in)	Ø102 (4") [Big Bore : Ø115 (4.5")]	
		Sub	mm(in)	-	
	Spindle Speed (rpm)	Main	r/min	3,000 [Big Bore : 2,800] [3,300]	
		Sub	r/min	-	
	Motor (Max/Cont.)	Main	kW(HP)	26/22 (35/30) [Big Bore : 26/22 (35/30)] [26.4/22 (35.4/30)]	
		Sub	kW(HP)	-	
	Torque (Max/Con.)	Main	N·m(lbf·ft)	1,098.7/929.7(810.3/685.7) [Big Bore : 1,325/1,121(810.3/685.7)] [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 [Big Bore : A2-11]		
	Sub	-	-		
C-axis Indexing	deg	-			
FEED	Travel (X/Z)	mm(in)	335/750(13.2"/29.5")	355/1,350(14"/53.1")	
	Rapid Traverse Rate (X/Y)	m/min(ipm)	20/24 (787/944.8)		
	Slide Type	-	BOX GUIDE		
TURRET	No. of Tool	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 Diameter	mm(in)	Ø100 (3.9")		
	Quill Travel	mm(in)	120 (4.7")		
	Travel	mm(in)	750 (29.5")		
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 x 2,002 (138" x 78.8")	4,170 x 2,002 (164.2" x 78.8")	
	Height	mm(in)	1,997 (78.6")		
	Weight	kg(lb)	6,400 (14,110)	7,600 (16,755)	
PC	Controller	-	HW F i Series [F 32i-A] [S 828D]		

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 Diameter	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)	-		
SPINDLE	Chuck Size	Main	Ø305 (12")		
		Sub	-		
	Spindle Bore	Main	Ø102 (4")		
		Sub	-		
	Spindle Speed (rpm)	Main	r/min	3,000 [Big Bore : 2,800] [3,500]	3,000 [Big Bore : 2,800]
		Sub	r/min	-	
	Motor (Max/Cont.)	Main	kW(HP)	22/18.5 (30/25)[Big Bore : 26/22 (35/30)] [33.6/28(40/37.5)]	26/22 (35/30) [Big Bore : 26/22 (35/30)]
		Sub	kW(HP)	-	
	Torque (Max/Con.)	Main	N·m(lbf·ft)	786.9/661.7(580.4/488.0) [Big Bore : 1,325/1,121(977.3/826.8)] [481.1/400.9(354.8/395.7)]	786.9/661.7 (580.4/488.0) [Big Bore : 1,325/1,121(977.3/826.8)]
		Sub	N·m(lbf·ft)	-	
	Spindle Type	Main	-	BELT	
		Sub	-	-	
	Spindle Nose	Main	-	A2-8 [Big Bore : A2-11]	
		Sub	-	-	
C-axis Indexing	deg	0.001°			
FEED	Travel (X/Z)	mm(in)	335/750 (13.2"/29.5")	335/1,350 (13.2"/53.1)	335/750/700 (13.2"/29.5"/27.6")
	Rapid Traverse Rate (X/Y)	m/min(ipm)	20/24 (787/944.8)		20/24/20 (787/944.8/787)
	Slide Type	-	BOX GUIDE		
TURRET	No. of Tool	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 (7/5)
	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	-	-		BMT65P
TAIL STOCK	Taper	-	MT5		-
	Quill Diameter	mm(in)	Ø100 (3.9")		-
	Quill Travel	mm(in)	120 (4.7")		-
	Travel	mm(in)	750 (29.5")		-
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		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)
NC	Controller	-	F 32i-B [HW F i Series] [S 828D]		F 32i-B [F 31i-A]

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

CONTROLLER

SIEMENS 828D (L300A/LA/C/LC/MC/LMC)

Control function		Program function	
Max. configuration of Axes	3 Axes(MS / SY exception) 4 Axes(MS / SY machine only)	ISO Dialect Interpreter(G291) (Fanuc Program exe)	
Max. configuration of Axes and sp.	6 Axes(MS / SY exception) 8 Axes(MS / SY machine only)	Maximum number of tools/cuttings	128/256 (MS / SY exception) PPU26x.x 256/512 (MS / SY machine only) PPU28x.x
Least Command/input	0.0001mm / 0.00001inch	Number of levels for skip blocks 1	
Feed function		Protection Function	
Feedrate Override	0 – 120%	Emergency Stop	
Rapid Traverse Override	F1, 5, 25/50, 100%	Over Travel	Soft Limit & Hard O.T
Acceleration with jerk limitation		Contour Monitoring	
Programmable acceleration		Program Protection	
Follow-up mode		Automation Support Fun.	
Measuring system 1 and 2, selectable		Actual Speed Display(Monitor)	
Separate path feed for corners and chamfers		Tool Life Management	(Time, Parts)
Travel to fixed stop		Work Count Function	(Internal)
Spindle function		Language Function	
Spindle Override	50% – 120%		(6EA)
Spindle Orientation		Two Language switchable	Chinese Traditional, Czech, Danish, Dutch, Finnish, Hungarian, Japanese, Korean, Polish, Russian, Swedish, Portuguese, Turkish
Spindle Speed Limitation			
Rigid Tapping			
Interpolation function		Data Transfer	
Linear interpolation Axis	Max. 4 axis	RS 232C I/F / Ethernet	
Circle via center point and end point		USB Memory Stick & CF Card	
Circle via interpolation point			
Helical interpolation		Option	
Universal interpolator NURBS (non-uniform rational B splines)		Shop Turn	
Continuous-path mode with programmable rounding clearance		3D Simulation	
Tool function		DRF offset	
Tool Radius Comp.		Teach -in	
Zero Offset (G54, G55, G56, G57, G58, G59)	100 EA	Number of levels for skip blocks 8	
Programmable Zero Offset		TRACYL (Cylinder interpolation)	
Tool management		TRANSMIT (Pole coordinate command)	
Display		Sister Tool	
CRT / MDI	10.4" Color LCD	A,B,C SPLINE INTERPOLATION	
SCREEN SAVER	None	RCS HOST (Remote Control)	
Manual Operation		Simultaneous Recording (real time monitoring)	
Manual Handle/Jog Feed		Analysis of Internal Drive Values	
Reposition		Network Drive Management	
Reference Approach	Ref 1, 2 Approach		
Spindle Control	Start, Stop, Rev, Jog, Ort.		
Auto Operation			
Single Block			
Feed Hold			
Optional Block Skip			
Machine Lock			
Dry Run			
Simulation	(2 dimensional)		
Diagnosis function			
Alarm Display			
Spindle Load/rpm Meter			
PLC status/LAD display			
Program function			
Part Program Storage Length	3MB (MS / SY exception) PPU26x.x 5MB (MS / SY machine only) PPU28x.x		
Program Name	23 digit		
Subroutine Call	(7 level)		
Absolute/incremental Command	G90 – G91		
Scaling, ROT			
Inch / Metric Conversion			
Conversational Cycle Program	(22 Machine)		
Block Search			
Variable Program (Macro)			
Read / Write System Variable			
BackGround Editing			
Miscellaneous Functions	M – Code		
Label Skip			
Program Stop/End	M00, M01, M02, M30		
Lookahead, Jerk Limitation Feed & forward control			

CONTROLLER

HYUNDAI WIA FANUC i Series

Axis control / Display unit		Sub / Main spindle function	
Controlled Axes		Max. 4 Axes are available	M-Code function
		X, Z axis	M4 digits
		X, Z, C axis (M type machine)	M-Code function lock
		X, Z, Y, C axis (Y type machine)	Lock sp. speed command
Simultaneous controllable Axes		X, Z, B, C axis (MS type machine)	S4 digits, binary output
		2axes / Linear and circular (Max. 4axes)	Main sp. constant control
Least input increment		X, Z, Y, B axis : 0.001 mm (0.0001")	G96, G97
		C axis : 0.001 deg	Spindle speed override
Least command increment		X, Z, Y, B axis : 0.001 mm (0.0001")	50% to 150% (10% units)
		C axis : 0.001 deg	Spindle position decision
High speed HRV control			Rigid tapping
Inch / Metric conversion		G20 / G21	Tool function / Tool compensation
Interlock		Each axis / All axis	Tool function
Machine lock		All axis	T2 + 2
Emergency stop			Tool offset pairs
Stored stroke check 1		Over-travel	Tool offset
Stored stroke check 2			Tool nose radius compensation
Stored stroke check 3			G40, G41, G42
Follow-up			Direct input of measured tool compensation value B
Servo-off			Tool life management
Backlash compensation		+/- 0~9999 pulses	Data in/output & editing functions
		(Rapid traverse & cutting feed)	Reader / Puncher interface
Position switch			RS232C
Unexpected disturbance torque detection		Back-spin torque limiter (BST)	Memory card input/output
High resolution transfer control (HRM)			Part program storage length
LCD / MDI		8.4" Color LCD	1280m/512kb
Operation			Number of registrable programs expansion
Automatic operation (memory)			Max. 500 programs
MDI operation			Memory lock
Search function		Sequence, program	Background editing
Program restart			Extended part program edition
Wrong operation prevention			Copy, move, change of NC program
Buffer register			Display, diagnosis & setting functions
Program check function		Dry run., program check	Self-diagnosis function
Single block			History display
Feed functions			Alarm & operation display
Manual jog feed		Rapid, jog, handle	Help function
Manual handle feedrate		x1, x10, x100	External message
Feed command		F code feedrate direct command	Run hour / Parts count display
Feedrate override		0~200 % (10% units)	Display of actual spindle speed and T code
Jog override		0~2,000 mm/min[79 ipm]	Actual cutting feedrate display
Rapid traverse override		F1, F5, F25/F50, F100%	Operating monitor screen
Override cancel			Rod meter light
Feed per minute / rotation			Graphic display
Program input & interpolation functions			Spindle / Servo setting screen
Piano interpolation		Positioning/Linear/Circular (G00/G01/G02, G03)	Selection of 5 optional language
Dwell		G04, 0~9999.9999 sec	LCD screen save
Thread retract			Screen saver
Variable lead threading			Automatic data backup
1st reference point return		G28, manual	Functions according to machine specification
Reference point return check		G27	Cs contouring control
2nd reference point return		G30	Turn mill
Program stop / End		M00, M01 / M02, M30	Stored pitch error compensation
Tape code		EIA / ISO	Turn mill
Optional block skip		1 ea	Polar coordinate interpolation
Maximum programmable dimensions		+/- 9999.9999"	Cylindrical interpolation
Program number		0+4 digits	Turn mill
Absolute and incremental programming			Canned cycles for drilling
Decimal point input			Turn mill
Plane selection		G17, G18, G19	spindle orientation expansion
Work coordinate system selection		G52 to G59	Turn mill, Sub spindle
Manual absolute		"ON" fixed	Sub spindle
Direct drawing dimension programming		Included chamfering / Corner R'	Spindle synchronous control
G code system		A	Torque control
Programmable data input		G10	Sub spindle
Sub program call		10 Step	Y axis offsetset
Custom macro B			Y type machine
Addition of custom macro common variable		#100 to #199, #500 to #999	Angular axis control
Multiple repetitive cycles			Y type machine
Multiple repetitive cycles II			
Canned cycles for turning			
			Option
			High speed ethernet
			100 Mbps (Option board is required)
			Optional block skip
			9 ea
			3rd & 4th reference point return
			G code system
			B / C
			Polygon turning
			Helical interpolation
			Dynamic graphic display
			Protection of data at 8 levels
			Manual guide i
			Interactive program (10.4" Color LCD)

Figures in inch are converted from metric values.
Specifications are subject to change without notice for improvement.

CONTROLLER

FANUC 31i-A (L300MSA/LMSA/L300MSC | L300MSC BIGBORE)

Axis control / Display unit

Controlled axes	Max. 9 axes are available X1, Z1, X2, Z2 axes X1, Z1, X2, Z2, C, C2 axes X1, Z1, X2, Z2, XG, YG, ZG axes X1, Z1, X2, Z2, C1, C2, XG, YG, ZG axes
Simultaneous controllable axes	2axes / Linear and circular (Max. 4axes)
Least input increment	X, Z, Y, B axis : 0.001 mm (0.0001") C axis : 0.001 deg
Least command increment	X, Z, Y, B axis : 0.001 mm (0.0001") C axis : 0.001 deg
High speed HRV control	
Inch / Metric conversion	G20 / G21
Interlock	Each axis / All axis
Machine lock	All axis
Emergency stop	
Stored stroke check 1	Over-travel
Stored stroke check 2	
Stored stroke check 3	
Follow-up	
Servo-off	
Backlash compensation	+/- 0~9999 pulses (Rapid traverse & cutting feed)
Position switch	
Unexpected disturbance torque detection	Back-spin torque limiter (BST)
High resolution transfer control (HRM)	
LCD / MDI	10.4" Color LCD
Operation	
Automatic operation (memory)	
MDI operation	
Search function	Sequence, program
Program restart	
Wrong operation prevention	
Buffer register	
Program check function	Dry run., program check
Single block	
Feed functions	
Manual jog feed	Rapid, jog, handle
Manual handle feedrate	x1, x10, x100
Feed command	F code feedrate direct command
Feedrate override	0~200 % (10% units)
Jog override	0~2,000 mm/min[79 ipm]
Rapid traverse override	F1, F5, F25 / 50, F100%
Override cancel	
Feed per minute / rotation	
Program input & interpolation functions	
Nano interpolation	Positioning/Linear/Circular (G00/G01/G02, G03)
Dwell	G04, 0~9999.9999 sec
Thread retract	
Variable lead threading	
1st reference point return	G28, manual
Reference point return check	G27
2nd reference point return	G30
Program stop / End	M00, M01 / M02, M30
Tape code	EIA / ISO
Optional block skip	1 ea
Maximum programmable dimensions	+/- 9999.9999"
Program number	0+4 digits
Absolute and incremental programming	
Decimal point input	
Plane selection	G17, G18, G19
Work coordinate system selection	G52 to G59
Manual absolute	"ON" fixed
Direct drawing dimension programming	
G code system	Included chamfering / Corner R'
Programmable data input	A
Sub program call	G10
Custom macro B	10 Step
Addition of custom macro common variable	#100 to #199, #500 to #999
Multiple repetitive cycles	
Multiple repetitive cycles II	
Canned cycles for turning	

Sub / Main spindle function

M-Code function	M4 digits
M-Code function lock	
Lock sp. speed command	S4 digits, binary output
Main sp. constant control	G96, G97
Spindle speed override	50% to 150% (10% units)
Spindle position decision	
Rigid tapping	
Tool function / Tool compensation	
Tool function	T2 + 2
Tool offset pairs	64 pairs
Tool offset	
Tool nose radius compensation	G40, G41, G42
Direct input of measured tool compensation value B	
Tool life management	
Data in/output & editing functions	
Input/Output interface	RS232C
Memory card input/output	
Embed ethernet	100Mbps
Part program storage length	256 Kbyte
Number of registrable programs expansion	Max. 1,000 programs
Memory lock	
Background editing	
Extended part program edition	Copy, move, change of NC program
Display, diagnosis & setting functions	
Self-diagnosis function	
History display	Alarm & operation display
Help function	
External message	
Run hour / Parts count display	
Display of actual spindle speed and T code	
Actual cutting feedrate display	
Operating monitor screen	Rod meter light
Graphic display	
Spindle / Servo setting screen	
Selection of 5 optional language	
LCD screen save	Screen saver
Automatic data backup	
Functions according to machine specification	
Cs contouring control	Turn mill
Stored pitch error compensation	Turn mill
Polar coordinate interpolation	Turn mill
Cylindrical interpolation	Turn mill
Canned cycles for drilling	Turn mill
spindle orientation expansion	Turn mill

Option

High speed ethernet	100 Mbps (Option board is required)
Optional block skip	9 ea
3rd & 4th reference point return	
G code system	B / C
Part program storage length	1mb / 2mb
Tool Offset	99 / 200 / 400 EA
Poligon Turning	
Helical interpolation	
Dynamic graphic display	
Protection of data at 8 levels	
Manual guide i	Interactive program

CONTROLLER

FANUC 32i-A (L300MSA | L300C/LC BIGBORE)

Axis control / Display unit

Controlled axes	Max. 4 axes are available X, Z axes X, Z, C axes (M type machine) X, Z, Y, C axes (Y type machine) X, Z, B, C axes (MS type machine)
Simultaneous controllable axes	2axes / Linear and circular (Max. 4axes)
Least input increment	X, Z, Y, B axes : 0.001 mm (0.0001") C axis : 0.001 deg
Least command increment	X, Z, Y, B axes : 0.001 mm (0.0001") C axis : 0.001 deg
High speed HRV control	
Inch / Metric conversion	G20 / G21
Interlock	Each axis / All axes
Machine lock	All axes
Emergency stop	
Stored stroke check 1	Over-travel
Stored stroke check 2	
Stored stroke check 3	
Follow-up	
Servo-off	
Backlash compensation	+/- 0~9999 pulses (Rapid traverse & cutting feed)
Position switch	
Unexpected disturbance torque detection	Back-spin torque limiter (BST)
High resolution transfer control (HRM)	
LCD / MDI	10.4" Color LCD
Operation	
Automatic operation (memory)	
MDI operation	
Search function	Sequence, program
Program restart	
Wrong operation prevention	
Buffer register	
Program check function	Dry run., program check
Single block	
Feed functions	
Manual jog feed	Rapid, jog, handle
Manual handle feedrate	x1, x10, x100
Feed command	F code feedrate direct command
Feedrate override	0~200 % (10% units)
Jog override	0~2,000 mm/min[79 ipm]
Rapid traverse override	F1, F5, F25/F50, F100%
Override cancel	
Feed per minute / rotation	
Program input & interpolation functions	
Piano interpolation	Positioning / Linear / Circular (G00 / G01 / G02, G03)
Dwell	G04, 0~9999.9999 sec
Thread retract	
Variable lead threading	
1st reference point return	G28, manual
Reference point return check	G27
2nd reference point return	G30
Program stop / End	M00, M01 / M02, M30
Tape code	EIA / ISO
Optional block skip	1 ea
Maximum programmable dimensions	+/- 9999.9999"
Program number	0+4 digits
Absolute and incremental programming	
Decimal point input	
Plane selection	G17, G18, G19
Work coordinate system selection	G52 to G59
Manual absolute	"ON" Fixed
Direct drawing dimension programming	Included chamfering / Corner R
G code system	A
Programmable data input	G10
Sub program call	10 folds nested
Custom macro B	
Addition of custom macro common variable	#100 to #199, #500 to #999

Program input & interpolation functions

Multiple repetitive cycles	
Multiple repetitive cycles II	
Canned cycles for turning	
Manual guide i	Interactive programming
Sub / Main spindle function	
M-Code function	M4 digits
M-Code function lock	
Lock sp. speed command	S4 digits, binary output
Main sp. constant control	G96, G97
Spindle speed override	50% to 150% (10% units)
Spindle position decision	
Rigid tapping	
Tool function / Tool compensation	
Tool function	T2 + 2
Tool offset pairs	64 pairs
Tool offset	
Tool nose radius compensation	G40, G41, G42
Direct input of measured tool compensation value B	
Tool life management	
Data in/output & editing functions	
Reader / Puncher interface	RS232C
Memory card input/output	
Part program storage length	256 Kbyte
Number of registrable programs expansion	Max. 500 programs
Memory lock	
Background editing	
Extended part program editing	Copy, move, change of NC program
Display, diagnosis & setting functions	
Self-diagnosis function	
History display	Alarm & operation display
Help function	
External message	
Run hour / Parts count display	
Display of actual spindle speed and T code	
Actual cutting feedrate display	
Operating monitor screen	Rod meter light
Graphic display	
Spindle / Servo setting screen	
Selection of 5 optional language	
Erase CRT screen display	Screen saver
Automatic data backup	
Functions according to machine specification	
Cs contouring control	Turn mill
Stored pitch error compensation	Turn mill
Polar coordinate interpolation	Turn mill
Cylindrical interpolation	Turn mill
Canned cycles for drilling	Turn mill
spindle orientation expansion	Turn mill, Sub spindle
Spindle synchronous control	Sub spindle
Torque control	Sub spindle
Y axis offset	Y type machine
Angular axis control	Y type machine

Option

High speed Ethernet	100 Mbps (Option board is required)
Optional block skip	9 ea
3rd & 4th reference point return	
G code system	B / C
Part program storage length	512 Kbyte
Polygon turning	
Helical interpolation	
Dynamic graphic display	
Protection of data at 8 levels	

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CONTROLLER

FANUC 32i-B (L300MA/LMA/MC/LMC)

[] : Option, ☆ Technical consultation needed

Controlled axis / Display / Accuracy compensation		Auxiliary function / Spindle speed function	
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)	Auxiliary function	M & 4 digit
Simultaneously controlled axes	2 axes [Max. 4 axes]	Level-up M code	High speed / Multi / Bypass M code
Designation of spindle axes	4 axes (1 path), 6 axes (2 path Total)	Spindle speed function	S & 4 digit , Binary output
Least setting Unit / Least input increment	X, Z, Y, B axes : 0.001 mm (0.0001") C, A axes : 0.001°	Spindle override	50% ~ 150% (10% Unit)
Inch / Metric conversion	G20/G21	Multi position spindle orientation	M19
High response vector control		FSSB high speed rigid tapping	
Interlock	All axes / Each axis	Constant surface speed control	G96, G97
Machine lock	All axes	Tool function / Tool compensation	
Backlash compensation	± 0 ~ 9999 pulses (Rapid traverse / Cutting feed)	Tool function	T & 2 digit + Offset 2 digit
Position switch		Tool life management	☆ 256 pairs
LCD / MDI	10.4" color LCD	Tool offset pairs	32 pairs
Feedback	Absolute motor feedback	Tool nose radius compensation	G40, G41, G42
Stored stroke check 1	Over travel	Geometry / Wear compensation	
Stored stroke check 2, 3		Direct input of offset measured B	
PMC axis control		Editing function	
Operation		Part program storage size	640m (256KB)
Automatic operation (Memory)		No. of registerable programs	500 EA
MDI operation		Program protect	
DNC operation	Needed DNC software / CF card	Background editing	
Program restart		Extended part program editing	Copy, move and change of PIC program
Wrong operation prevention		Memory card program edit	
Program check function	Dry run, Program check	Data input / output & Interface	
Single block		I/O interface	RS 232C, CF card, USB memory Embedded Ethernet interface
Search function	Program number / Sequence number	Screen hard copy	
Interpolation functions		External message	
Nano interpolation		External key input	
Positioning	G00	External workpiece number search	
Linear interpolation	G01	Automatic data backup	
Cylindrical interpolation	G02, G03	Setting, display and diagnosis	
Exact stop mode	Single : G09, Continuous : G61	Self-diagnosis function	
Dwell	G04 0~9999.9999 sec	History display	Alarm & Operator message & Operation
Skip	G31	Run hour / Parts count display	
Reference position return	1st reference : G28 Ref. position check : G27 2nd reference : G30	Maintenance information	
Thread synchronous cutting		Actual cutting feedrate display	
Thread cutting retract		Display of spindle speed / T code	
Variable lead thread cutting		Graphic display	
Multi / Continuous threading		Operating monitor screen	Spindle / Servo load etc...
Feed function / Acc. & Dec. control		Power consumption monitoring	Spindle & Servo
Manual feed	Rapid traverse Jog : 0~2,000 mm/min (79 ipm) Manual handle : x1, x10, x100 pulses Reference position return	Spindle / Servo setting screen	
Cutting Feed command	Direct input F code	Multi language display	Support 20 languages
Feedrate override	0 ~ 200% (10% Unit)	Display language switching	Selection of 5 optional Languages
Rapid traverse override	F1%, F5%, F25% / 50%, F100%	LCD Screen Saver	Screen saver
Override cancel		Unexpected disturbance torque	BST (Back spin torque limit)
Feed per minute	G98	Function for machine type	
Feed per revolution	G99	Cs contour control (C & A axes)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Look-ahead block	1 block	Polar coordinate interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Program input		Cylindrical interpolation	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Tape Code	EIA/ISO	Canned cycle for drilling	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Optional block skip	1EA	Spindle orientation expansion	MS, SY TTS, TTMS, TTSY
Absolute / Incremental program	G90/G91	Spindle synchronous control	MS, SY TTS, TTMS, TTSY
Program stop / end	M00, M01/M02, M30	Torque control	MS, SY TTS, TTMS, TTSY
Maximum command unit	±999,999.999 mm (±99,999.9999 inch)	Y axis offset	Y, SY, TTSY
Plane selection	X-Y : G17, X-Z : G18, Y-Z : G19	Arbitrary angular control	Y, SY, TTSY
Workpiece coordinate system	G52, G53, 6 pairs (G54 ~ G59)	Composite / Superimposed control	MS, SY TTS, TTMS, TTSY
Manual absolute	Fixed ON	Balance cutting	MS, SY TTS, TTMS, TTSY
Programmable data input	G10	Option	
Sub program call	10 folds nested	Additional optional block skip	☆ 9 EA
Custom macro	#100~#199, #500~#999	Fast ethernet	Needed option board
G code system	A	Data server	Needed option board
Programmable mirror image	G51.1, G50.1	Protection of data at 8 levels	
G code preventing buffering	G41	Tool offset pairs	64 pairs / 99 pairs
Direct drawing dimension program	Including Chamfering / Corner R	Part program storage size	1280m (512KB)/2560m (1MB)
Multiple repetitive cycles I, II		Polygon turning (2 Spindles)	Mill, MS, Y, SY, LF-Mill, TTMS, TTSY
Canned cycle for turning		Helical interpolation	
Manual Guide i	Conversational auto program	Dynamic graphic display	☆

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