

LY Series

HYUNDAI WIA CNC Turning Center with Y-Axis

Technical Leader

The CNC Turning Center LY Series, designed by Hyundai WIA with years of expertise and the latest technology, is designed to maximize productivity by enhancing rigidity and accuracy of machining.



MODEL	Chuck Size					Turret		Y-Axis	Tail Stock
	Main 6"	Main 8"	Main 10"	Sub 5"	Sub 6"	VDI 30	VDI 40		
L150Y	●					●		●	●
L150SY	●			●		●		●	
L200Y		●					●	●	●
L200SY		●		●			●	●	
L250Y			●				●	●	●
L250SY			●		●		●	●	

Multiple Processing Turning Center with Y-axis

LY Series

- True Y-axis design enables variety of high accuracy machining
- Main spindle with angular ball bearing for high rigidity and low thermal emission
- Multiple processing through implementation of sub spindle (L150/200/250SY)
- VDI turret for fast and convenient tool change
- Box guideway design for efficient heavy duty cutting (L250Y/SY)
- Improved maintenance through locating lubrication mechanisms on the front of machine

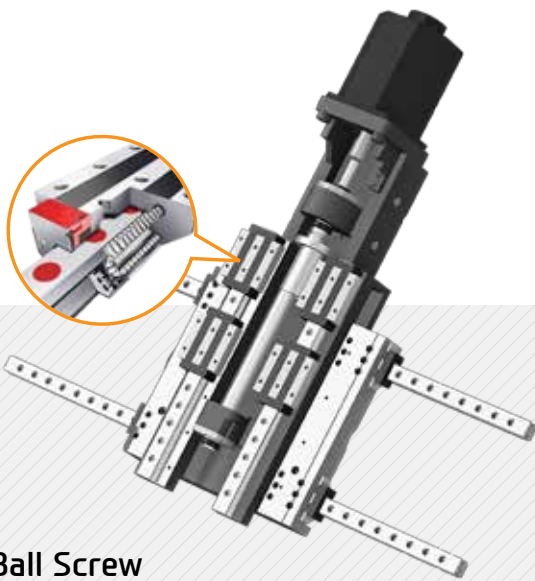


01

LY Series

L150/200SY Basic Features

High productivity Y-axis CNC turning center



Ball Screw

In order to eliminate thermal growth and increase accuracy, all axes are driven by high precision double anchored ballscrews. The double anchored and pretensioned design provides outstanding positioning and repeatability with minimal thermal growth. Ball screws are connected directly to the servo motor to eliminate backlash.

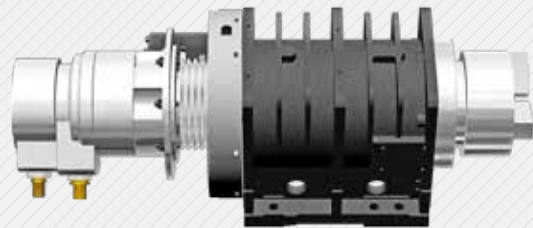
01 Roller Type LM Guide

To minimize non-cutting time, L150/200SY Series is designed with roller type LM guides which is superior in acc/deceleration.

❖ Y-Axis : Ball Type LM Guide

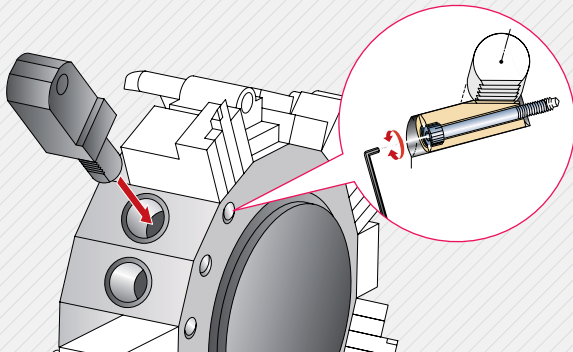
02 Main Spindle

Heat produced by the main spindle is blocked by applying a symmetric one-piece base and an insulation plate. This enables maintenance of high accuracy even during a long period of machining.



03 VDI Turret

The VDI turret secures tools with a single bolt, allowing quick and easy change of tools.



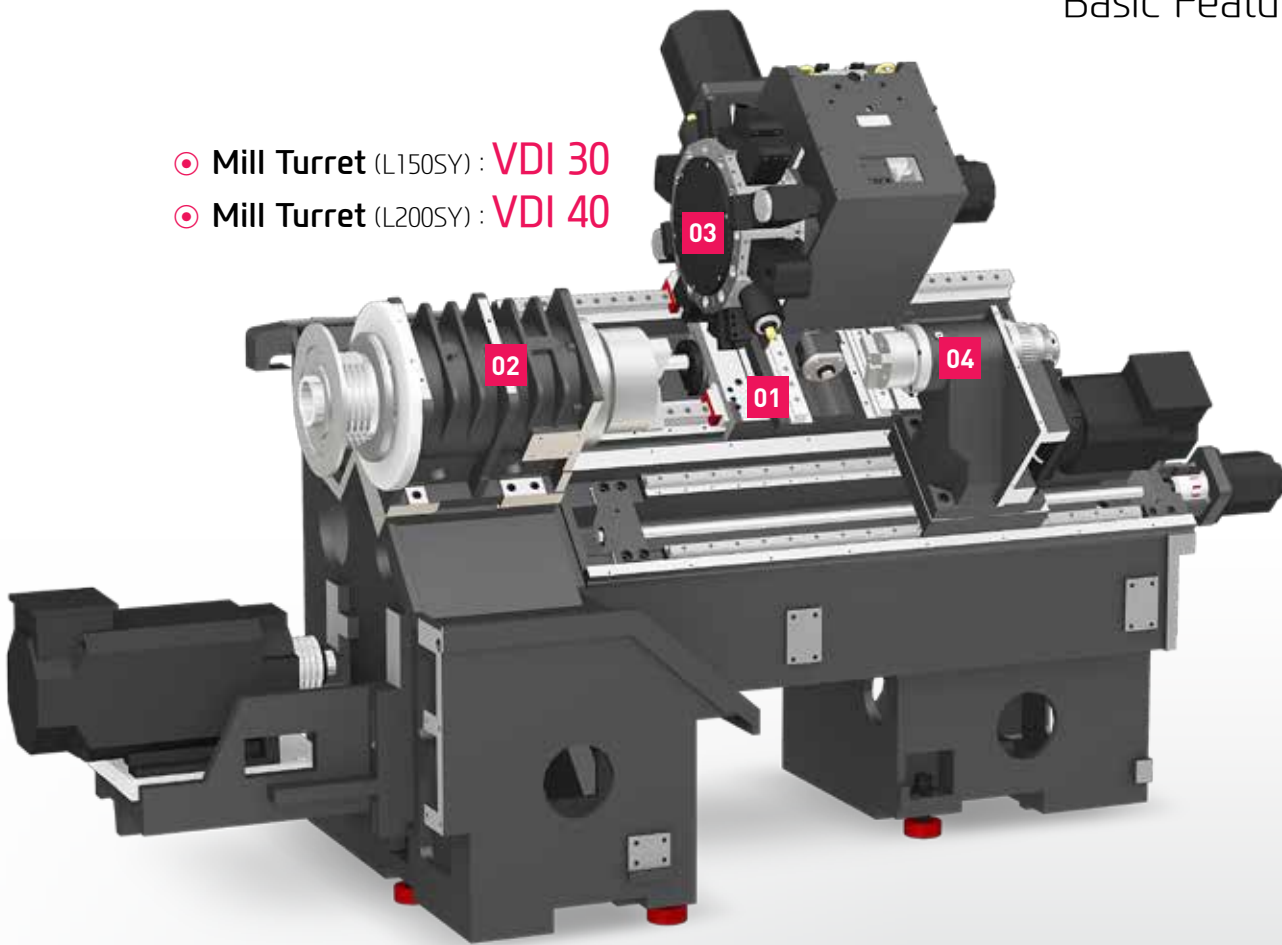
04 5" Sub Spindle

5" sub spindle joined with Y-axis allows variety of complex machining leading to enhanced productivity.



Basic Features

- ⊙ Mill Turret (L150SY) : VDI 30
- ⊙ Mill Turret (L200SY) : VDI 40



Reduction of non-cutting time

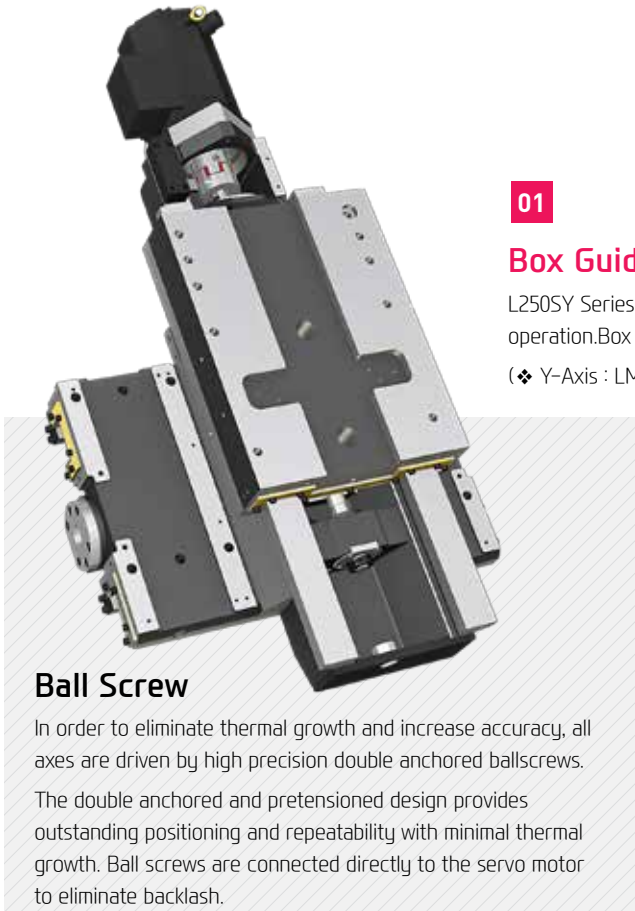
- ⊙ **Rapid Traverse Rate** (X/Y/Z/ZB axis)
L150Y | L200Y : 36/10/36 m/min (1,417/393.7/1,417 m/min)
L150SY | L200SY : 36/10/36/30 m/min (1,417/393.7/1,417/1,181 m/min)
- ⊙ **Travel** (X/Y/Z/ZB axis)
L150Y | L200Y : 220/80(±40)/550 mm (8.6"/3.1"(±1.6")/21.7")
L150SY | L200SY : 220/80(±40)/550/750 mm (8.6"/3.1"(±1.6")/21.7"/29.5")
- ⊙ **Spindle Speed** L150SY : Main 6,000 r/min, Sub 6,000 r/min
L200Y : 4,000 [4,000] r/min L200SY : Main 4,000, Sub 6,000 r/min
- ⊙ **Spindle Motor** (Max/Cont.) L150SY : Main 11/7.5 kW, Sub 3.7/2.2 kW (Main 14.7/10 HP, Sub 5/3 HP)|
L200Y : 15/11 [22/18.5] kW (20/14.7 [29.5/24.8] HP)
L200SY : Main 15/11 kW, Sub 3.7/2.2 kW (Main 20/14.7 HP, Sub 5/3 HP)
- ⊙ **Spindle Torque** (Max/Cont.) L150SY : Main 70/47.7 N·m (51.6/35.2 lbf·ft), Sub 23.5/14 N·m (17.3/10.3 lbf·ft)
L200Y : 286.6/210.2 [252/211.9] N·m (211.4/155 [185.9/156.3] lbf·ft)
L200SY : Main 286.6/210.2 N·m (211.4/155 lbf·ft), Sub 23.5/14 N·m (17.3/10.3 lbf·ft)

02

LY Series

L250SY Basic Features

High productivity Y-axis CNC turning center



01

Box Guideway

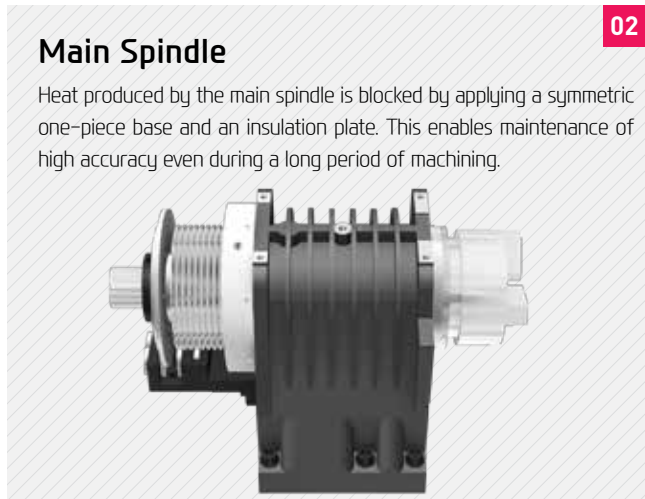
L250SY Series X/Z-axis is designed with box guideways to reduce vibration during operation.Box guideway enables high precision heavy duty cutting.

(❖ Y-Axis : LM Guide)

Ball Screw

In order to eliminate thermal growth and increase accuracy, all axes are driven by high precision double anchored ballscrews.

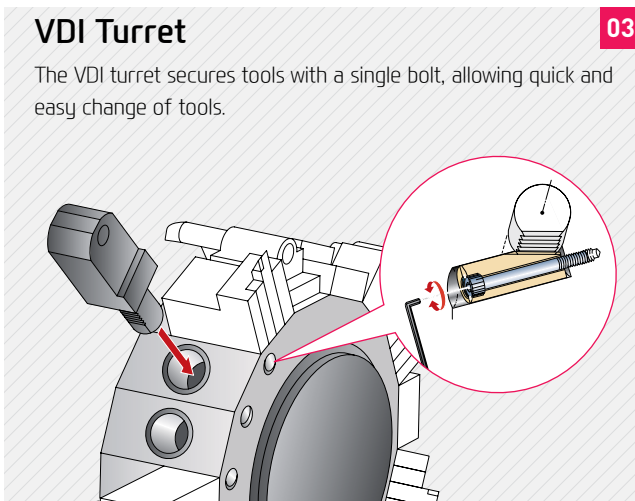
The double anchored and pretensioned design provides outstanding positioning and repeatability with minimal thermal growth. Ball screws are connected directly to the servo motor to eliminate backlash.



02

Main Spindle

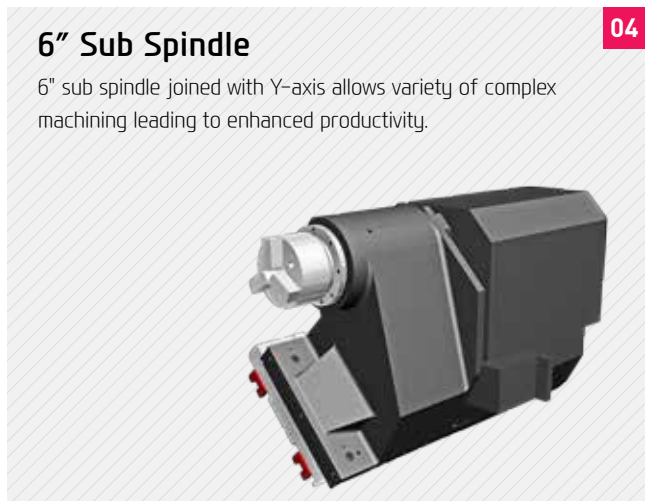
Heat produced by the main spindle is blocked by applying a symmetric one-piece base and an insulation plate. This enables maintenance of high accuracy even during a long period of machining.



03

VDI Turret

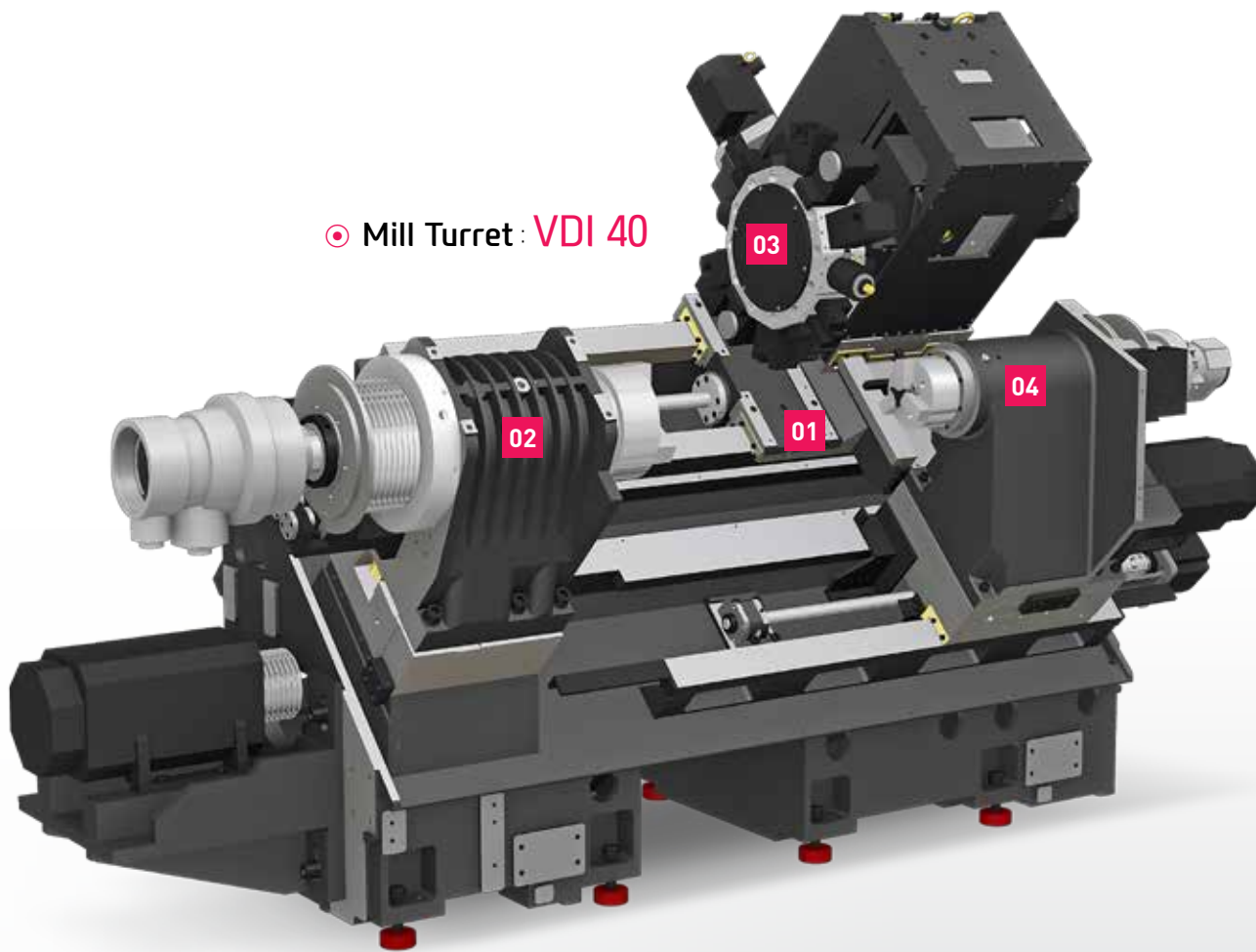
The VDI turret secures tools with a single bolt, allowing quick and easy change of tools.



04

6" Sub Spindle

6" sub spindle joined with Y-axis allows variety of complex machining leading to enhanced productivity.



⦿ Mill Turret : VDI 40

Powerful & High Precision Cutting Capability

- ⦿ **Rapid Traverse Rate** (X/Y/Z/ZB axis) L250Y : 20/10/24 m/min (787.4/393.7/944.9 ipm)
L250SY : 20/10/24/20 m/min (787.4/393.7/944.9/787.4 ipm)
- ⦿ **Travel** (X/Y/Z/ZB axis) L250Y : 230/110(±55)/675 mm (9.1"/4.3"(±2.2)"/26.6")
L250SY : 230/110(±55)/675/700 mm (9.1"/4.3"(±2.2)"/26.6"/27.6")
- ⦿ **Spindle Speed** : Main 3,500 [3,500], Sub 6,000 [6,000] r/min
- ⦿ **Spindle Motor** (Max/Cont.) : Main 22/18.5 [22.2/18.5] kW (29.5/24.8 [29.8/24.8] HP),
Sub 7.5/5.5 [8.4/7] kW (10/7.4 [11.3/9.4] HP)
- ⦿ **Spindle Torque** (Max/Cont.) : Main 238.2/200.3 [240.2/200.1] N·m (175.7/147.7 [177.2/147.6] lbf·ft),
Sub 60/35 [66.8/55.7] N·m (44.3/25.8 [49.3/41] lbf·ft)

03
LY Series

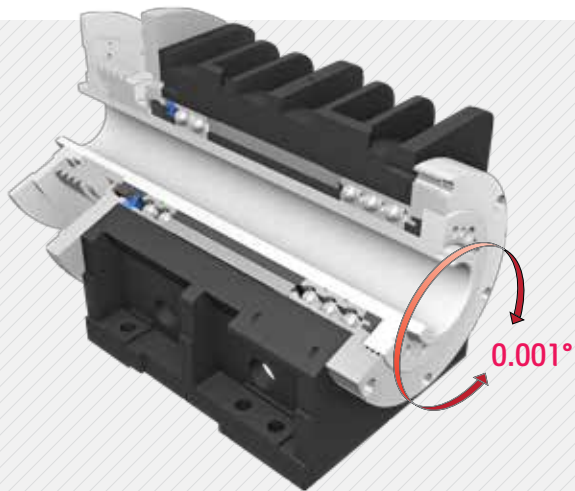
High Precision Spindle

Long Lasting High Accuracy & Excellent Performance
CNC Turning Center



Main Spindle

The spindle with high torque and precision provides minimized thermal displacement and high accuracy even during long time processing.



Symmetrical Heat Behavior Structure Headstock

Rigidity is significantly improved by enlarging spindle diameter and thickness. Also accuracy is increased due to the use of highly reliable bearings.

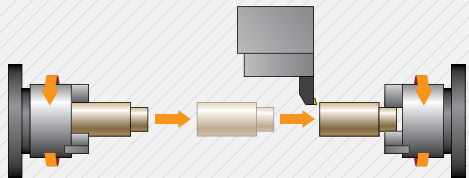
This improves durability and provides a high quality surface finish on every machined parts.

C-Axis Control

C-axis control of main and sub spindle allows machining of various products. Especially with the use of live tools on the Y-axis.

Sub Spindle

L150SY/200SY/250SY also feature sub spindles for multiple processing, enabling various processing needs with C-axis control.

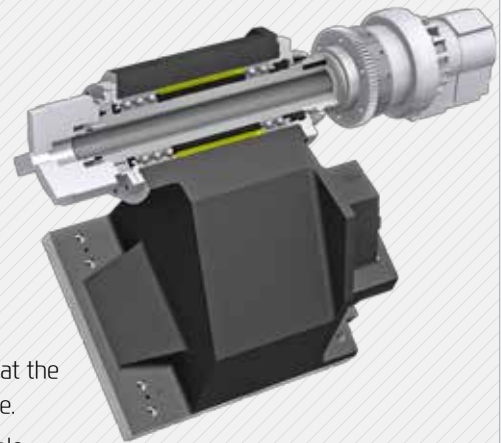


- ⦿ L150SY/200SY : 5"
- ⦿ L250SY : 6"

Conveniently saving workpiece setup time

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

Once the workpiece is secured in the sub spindle back side processing is possible. This enhanced productivity by saving workpiece setup time.



Tail Stock



The standard equipped tail stock can be controlled with M-code or a button on the control panel. (L150Y/200Y)

To support the workpiece even more, L250Y is designed with a quill type tail stock.

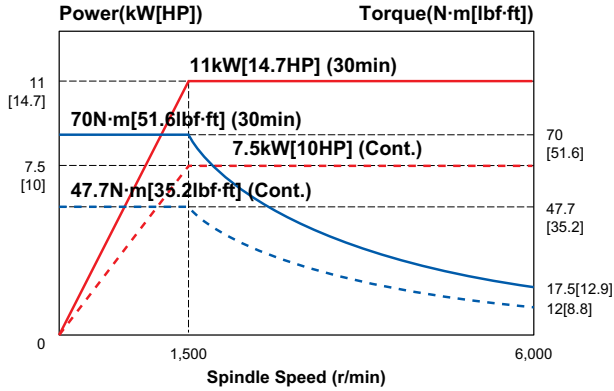
⦿ Taper

L150Y/200Y : **MT#4** (One Touch Type) L250Y : **MT#5** (Quill Type)

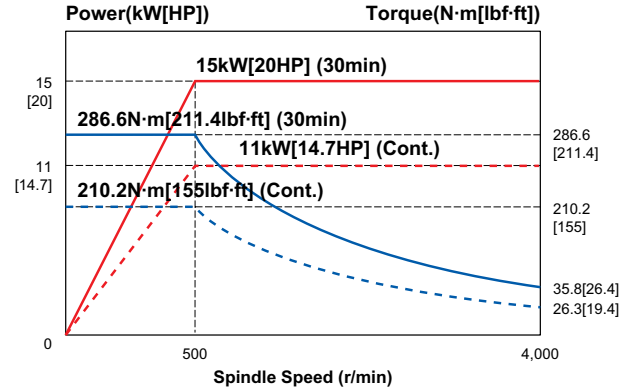
⦿ **Quill Dia.** L150Y/200Y : **Ø56 (2.2")** L250Y : **Ø100 (3.9")**

FANUC

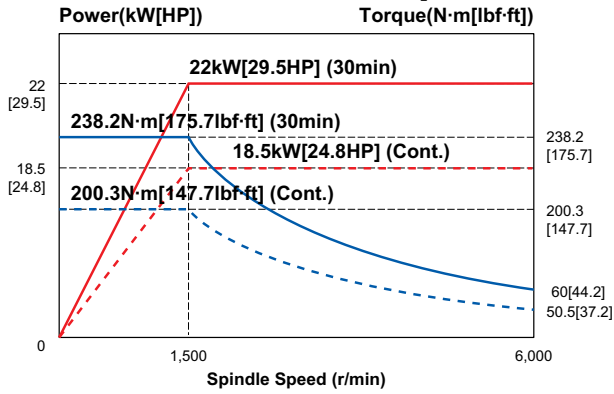
L150Y/SY Main Sp.



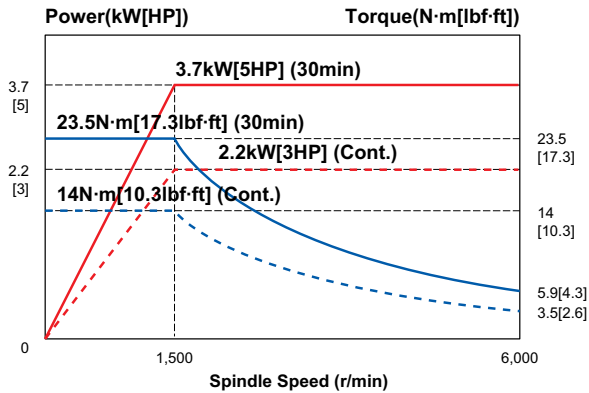
L200Y/SY Main Sp.



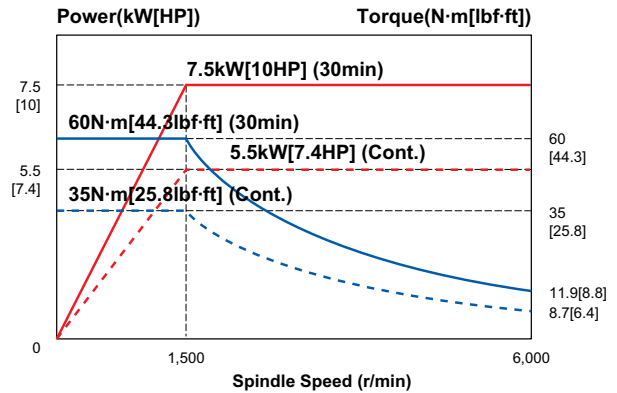
L250Y/SY Main Sp.



L150Y/SY L200Y/SY Sub Sp.



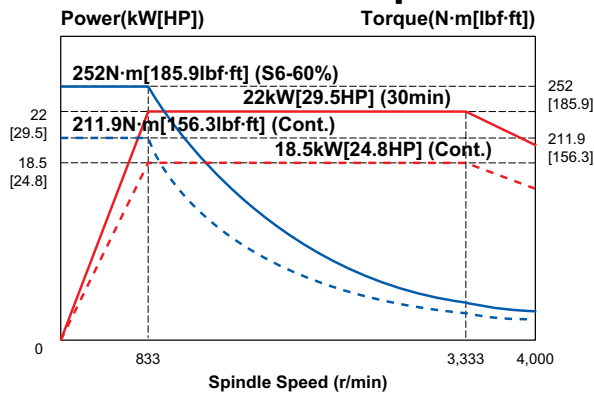
L250Y/SY Sub Sp.



SIEMENS 1PH8 Spindle Motor

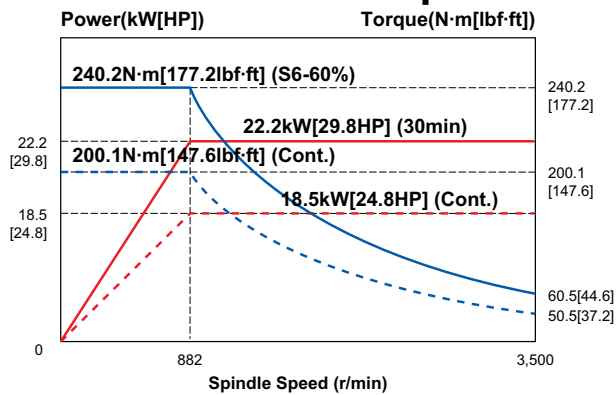


L200Y Main Sp.

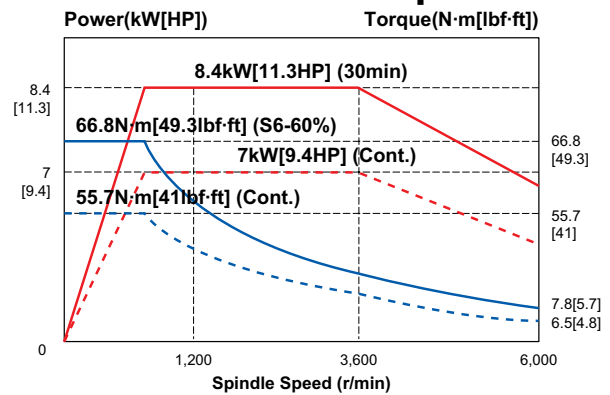


The 1PH8 Series Motor is a high quality and performance motor with the characteristics of maximum concentricity of 10 μ m and short driving time.

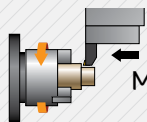
L250Y/SY Main Sp.



L250Y/SY Sub Sp.



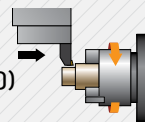
Machining ability L250SY



Main Spindle (O.D)

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

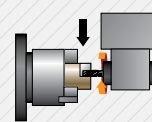
Processing diameter	Ø108
Side cutting depth	6 mm
Spindle rpm	498 r/mim
Forwarding speed	0.3 mm/rev
Chip discharge	216 cc/min



Sub Spindle (O.D)

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

Processing diameter	Ø94
Side cutting depth	3 mm
Spindle rpm	407 r/mim
Forwarding speed	0.2 mm/rev
Chip discharge	72 cc/min



End Mill

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

Spindle rpm	500 r/mim
Forwarding speed	0.05 mm/rev
Drill diameter	Ø20
Processing depth	10 mm
Chip discharge	10 cc/min

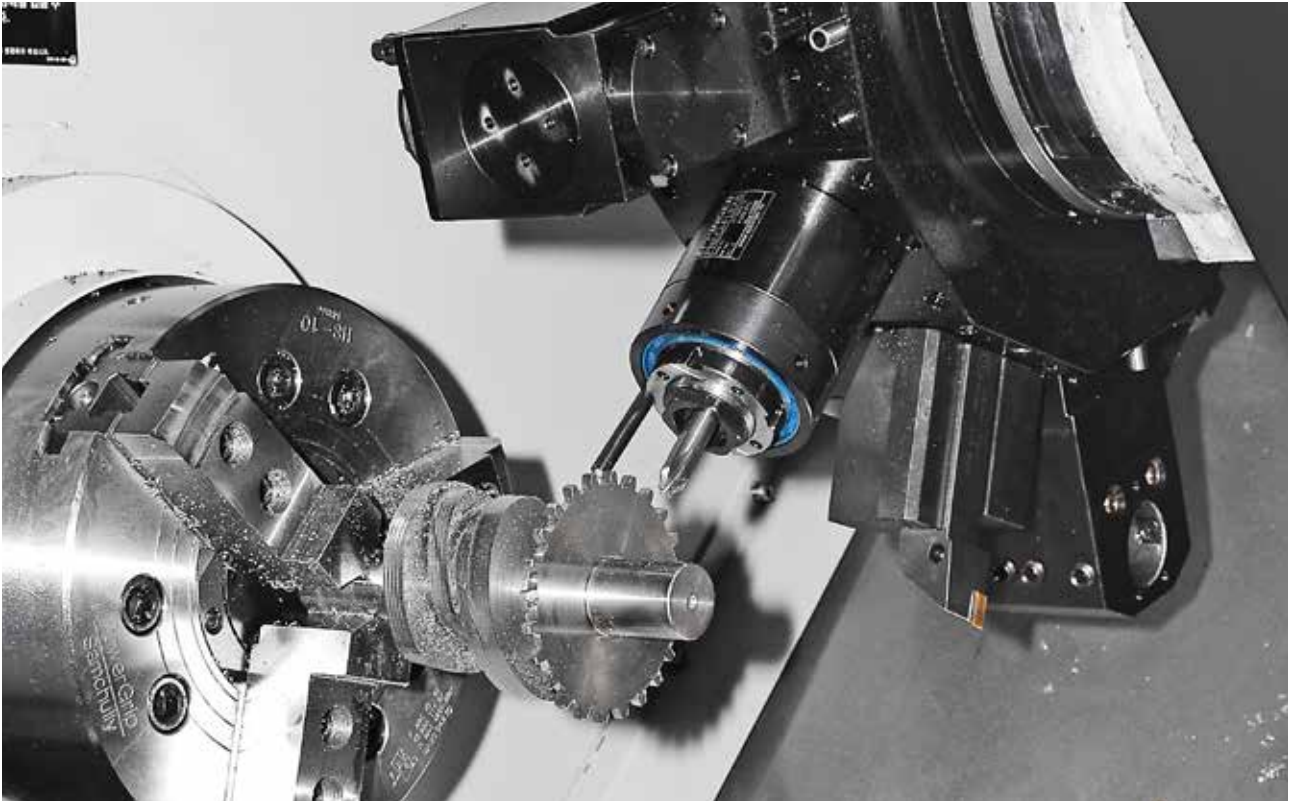
❖ The above results might be different by types of processing circumstances.

04

LY Series

Y-Axis Function

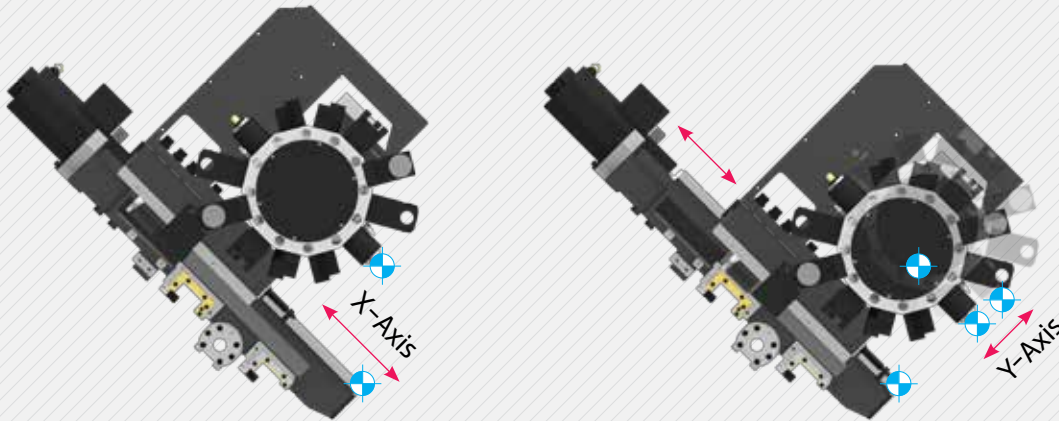
High speed, High Accuracy, Highly Reliable
VDI Turret



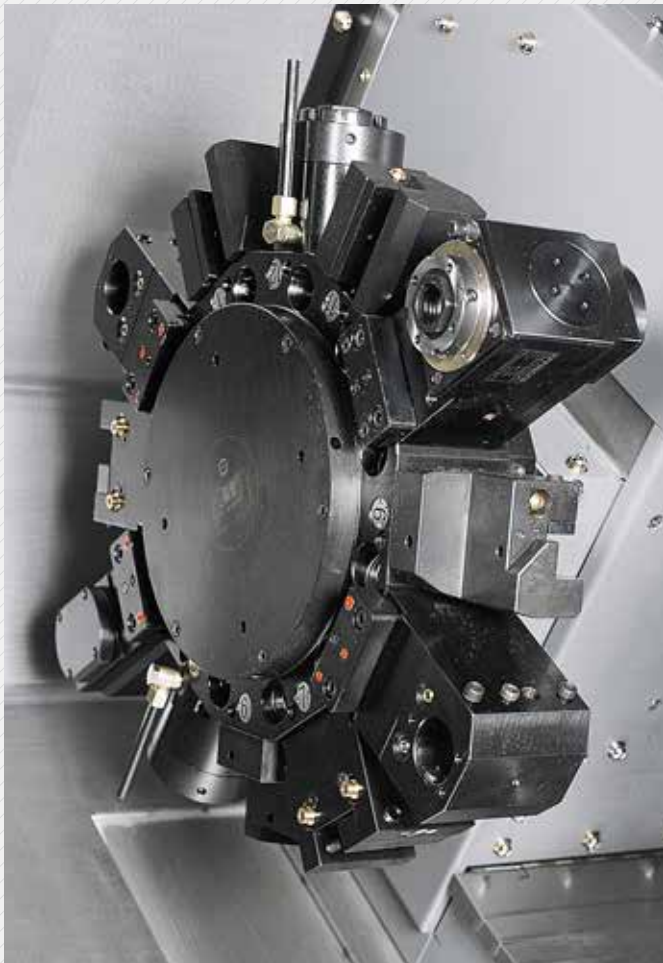
True Y-axis Design

The VDI turret's true Y-axis design provides accurate positioning.

True Y-axis control and VDI turret allows multi-tasking with single chucking. Also, the compact design provides more flexibility when installing, while maintaining the same machining capability.

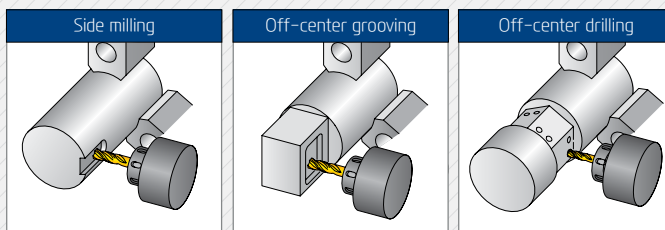


Mill Turret (VDI)



The 12 station VDI turret is designed with 3 piece curvic couplings to reduce vibration during heavy duty cutting, which lengthens tool life.

Y-Axis Machining



Straight Milling Head



Angular Milling Head

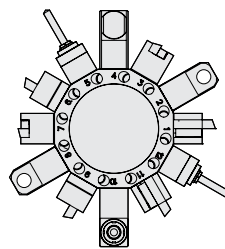


Mill Tool Holder

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

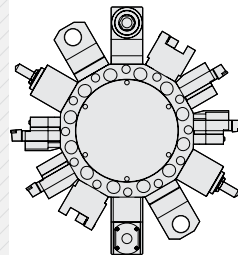
A wide variety of additional tool holders for drilling and tapping can further enhance machining operations.

L150SY Series



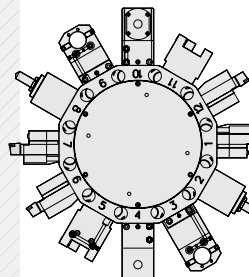
- Speed : **4,000** rpm
- Output (Max.) : **2.7** kW (3.6 HP)
- Collet size : **Ø16(0.6")** (ER25)
- Live Tool Type : **VDI 30**

L200SY Series



- Speed : **4,000** rpm
- Output (Max.) : **2.7** kW (3.6 HP)
- Collet size : **Ø20 (0.8")** (ER32)
- Live Tool Type : **VDI 40**

L250SY Series



- Speed : **4,000** rpm
- Output (Max.) : **5.5** kW (7.4 HP)
- Collet size : **Ø20 (0.8")** (ER32)
- Live Tool Type : **VDI 40**

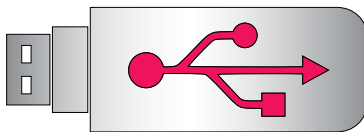
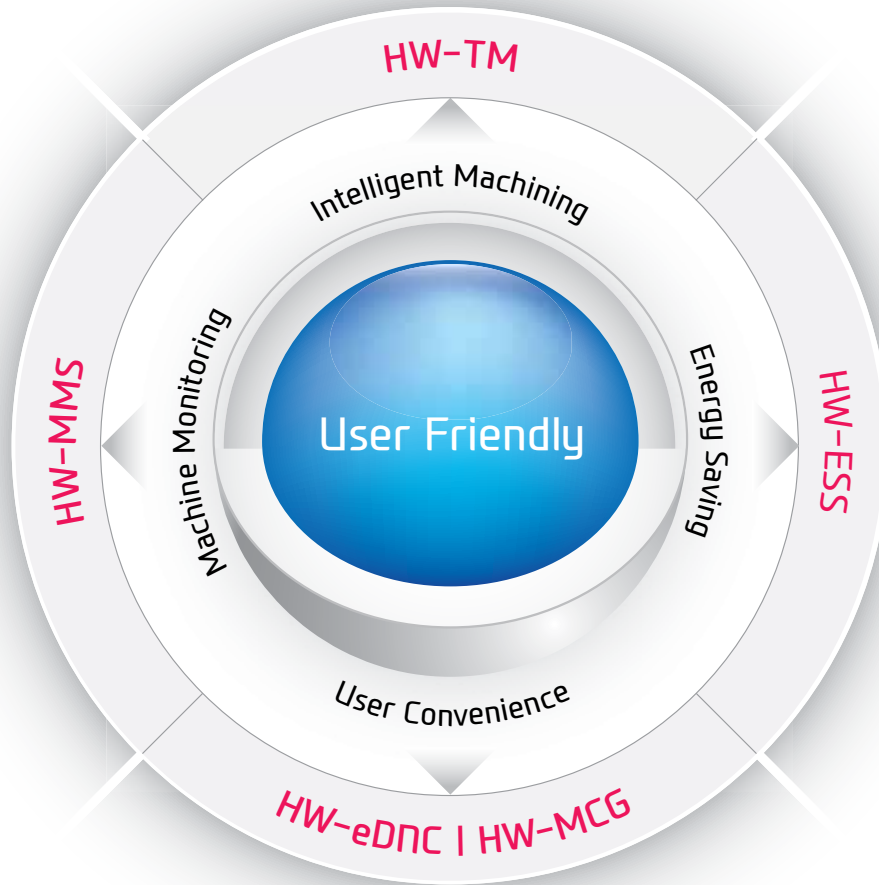
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LY Series

Smart System

Software for Smart Operating and Machining

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.



USB Port (Standard)

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.

Smart Factory HW-MMS (HYUNDAI WIA-Machine Monitoring System)

A brand new manufacturing machine 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.



- 01 Real-time monitoring of machine operation status (Cloud)
- 02 History and statistics of machine operation (Cloud)
- 03 History and statistics of alarm occurrence (Cloud)
- 04 History and statistics of work count (Cloud)
- 05 Remote diagnosis (Remote)



HW-eDNC
HYUNDAI WIA ethernet
Direct Numerical Control

This software allows transmission of CNC 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

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



HW-TM
HYUNDAI WIA
Tool Monitoring

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



HW-ESS (Standard)
HYUNDAI WIA
Energy Saving System

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

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



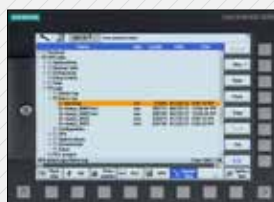
Block Searching

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

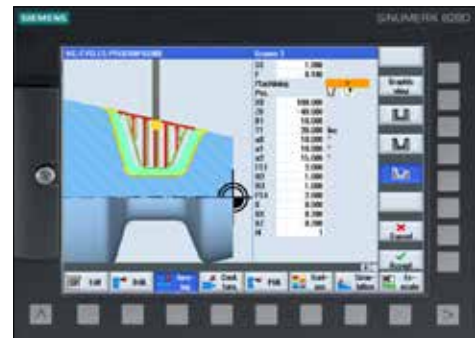


Alarm Log

- 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

LY Series

User Convenience

Various Devices for User Convenience

Automatic Q-Setter



Quick and accurate tool calibration can be done by contacting the tool tip with the sensor. This process is done easily with the use of M-Code and the calibration process takes roughly 30 seconds.

Precision Device **OPTION**

Z-Axis Linear Scale

Linear scale increases positioning accuracy and reduces thermal displacement, this ensures high quality end product manufacturing.



Environment Device **OPTION**

Oil Skimmer

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



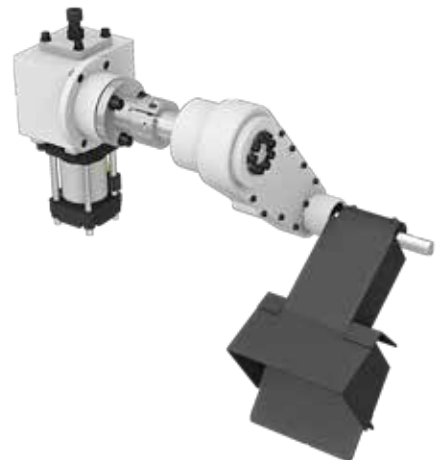
Mist Collector

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

Automation System **OPTION**

Parts Catcher

Parts catcher collects machined products without the need to open the door. This option can increase productivity especially in automation system.



Optional

Bar Feeder System **OPTION**

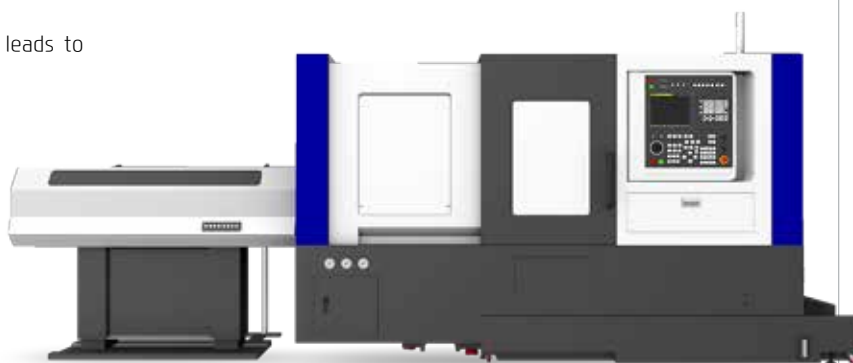
Bar Feeder

Bar feeder system enables automation which leads to efficiency improvement.

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

Parts Conveyor

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



SPECIFICATIONS

Standard & Optional

Spindle		L150Y/SY	L200Y/SY	L250Y/SY
Main Spindle Hollow Chuck 3 Jaw	6"	●	-	-
	8"	○	●	-
	10"	-	○	●
	12"	-	-	○
Main Spindle Solid Chuck 3 Jaw	6"	○	-	-
	8"	○	○	-
	10"	-	○	○
Sub Spindle Hollow Chuck 3 Jaw Sub Spindle Solid Chuck 3 Jaw	12"	-	-	○
	5"	SY ●	SY ●	-
	6"	-	-	SY ●
5"	-	-	-	
6"	-	-	-	
Standard Soft Jaw (1set)	●	●	●	
Chuck Clamp Foot Switch	●	●	●	
2 Steps Hyd. Pressure Device	○	○	○	
Spindle Inside Stopper	☆	☆	☆	
5" Index	☆	☆	☆	
Cs-Axis (0.001")	●	●	●	
2 Steps Chuck Foot Switch	○	○	○	
Chuck Open/Close Confirmation Device	○(CE:●)	○(CE:●)	○(CE:●)	
Sub Spindle Foot Switch	SY ●	SY ●	SY ●	
Turret				
Tool Holder	●	●	●	
Mill Turret	VDI ●	●	●	
Straight Milling Head	Collet Type, 2ea	●	●	●
	Collet Type, 1ea	Y ●	Y ●	Y ●
Angular Milling Head	Collet Type, 2ea	SY ●	SY ●	SY ●
	Collet Type, 1ea	SY ●	SY ●	SY ●
Sub Angular Milling Head	Collet Type, 1ea	SY ●	SY ●	SY ●
Straight Milling Head	Adapter Type	○	○	○
Angular Milling Head	Adapter Type	○	○	○
Sub Angular Milling Head	Adapter Type	○	○	○
Boring Sleeve / Drill Socket	●	●	●	
U-Drill Holder / U-Drill Holder Sleeve	○	○	○	
Swivel Head	☆	☆	☆	
Tail Stock & Steady Rest				
One Touch Tail Stock	Y ●	Y ●	-	
Quill Type Tail Stock	-	-	Y ●	
Built-In Tail Stock	-	-	Y ○	
Programmable Tail Stock	-	-	Y ○	
Manual Type Hyd. Steady Rest	-	-	Y ☆	
Standard Live Center	Y ●	Y ●	Y ●	
High Precision Live Center	Y ○	Y ○	Y ○	
2 Steps Tail Stock Pressure System	Y ☆	Y ☆	Y ☆	
Tail Stock Foot Switch	Y ●	Y ●	Y ●	
Quill Forward/Reverse Confirmation Device	-	-	Y ○(CE:●)	
Coolant & Air Blow				
Standard Coolant (Nozzle)	●	●	●	
Chuck Coolant (Upper Chuck)	○	○	○	
Gun Coolant	○	○	○	
Through Spindle Coolant (Only for Special Chuck)	☆	☆	☆	
Chuck Air Blow (Upper Chuck)	○	○	○	
Sub Spindle Air Blow	SY ○	SY ○	SY ○	
Tail Stock Air Blow (Upper Tail Stock)	Y ○	Y ○	Y ○	
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)	-	-	●
	230 ℓ (60.8 gal)	●	●	-
Chip Conveyor (Hinge/Scraper)	Front (Right)	○	○	○
	Rear (Rear)	○	○	-
Special Chip Conveyor (Drum Filter)	☆	☆	☆	
Chip Wagon	Standard (180 ℓ [47.5 gal])	○	○	○
	Swing (200 ℓ [52.8 gal])	○	○	○

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

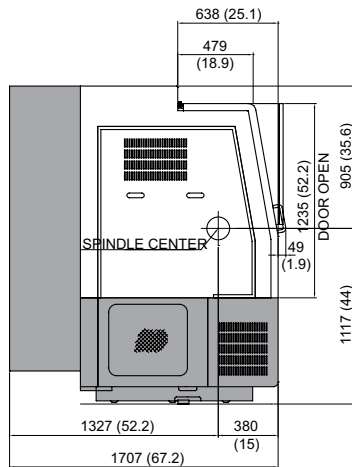
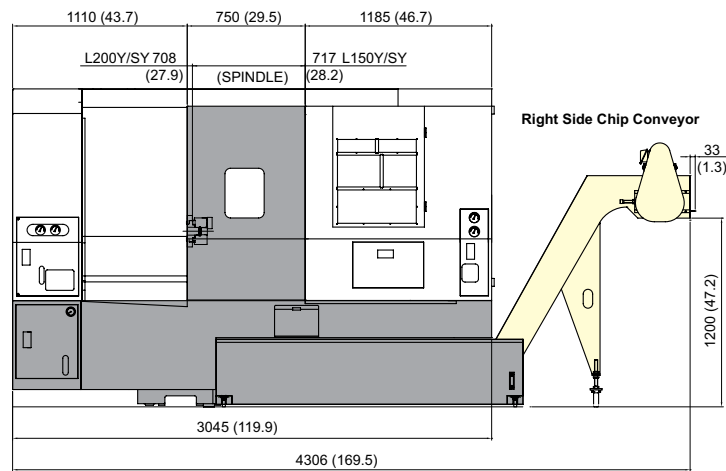
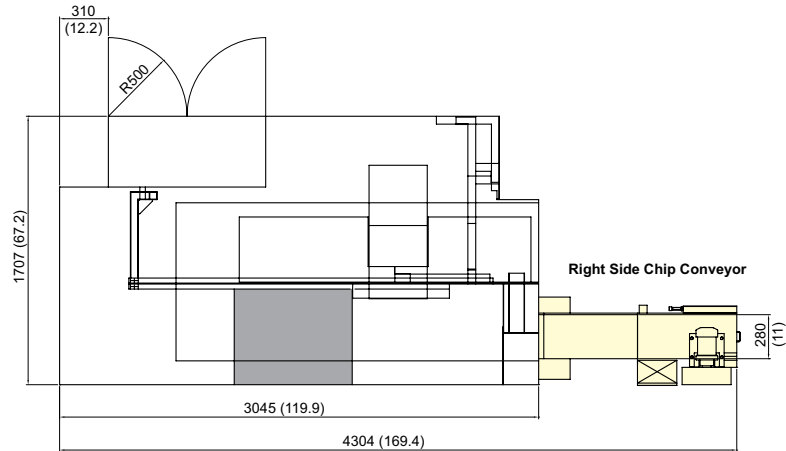
Chip Disposal		L150Y/SY	L200Y/SY	L250Y/SY
Chip Wagon	Large Swing (290 ℓ [76.6 gal])	○	○	○
	Large Size (330 ℓ [87.2 gal])	○	○	○
	Customized	☆	☆	☆
Safety Device				
Total Splash Guard		●	●	●
Chuck hydraulic pressure maintenance interlock		○(CE:●)	○(CE:●)	○(CE:●)
Electric Device				
Call Light	1Color : ●	●	●	●
Call Light	2Color : ● ●	○	○	○
Call Light	3Color : ● ● ●	○	○	○
Call Light & Buzzer	3Color : ● ● ● B	○	○	○
Electric Cabinet Light		○	○	○
Work Counter	Digital	○	○	○
Total Counter	Digital	○	○	○
Tool Counter	Digital	○	○	○
Multi Tool Counter	6ea	○	○	○
	9ea	○	○	○
Electric Circuit Breaker		○	○	○
AVR (Auto Voltage Regulator)		☆	☆	☆
Transformer	25kVA	○	Y ○	-
	30kVA	-	SY ○	-
	35kVA	-	-	Y ○
	40kVA	-	-	SY ○
Auto Power Off		○	○	○
Measurement				
Q-Setter		○	○	○
Automatic Q-Setter		●	●	●
Work Close Confirmation Device (Only for Special Chuck)	TACO	○	○	○
	SMC	○	○	○
Work Setter		☆	☆	☆
Linear Scale	Z Axis	○	○	○
Coolant Level Sensor (Only for Chip Conveyor)		☆	☆	☆
Environment				
Air Conditioner		○	○	○
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)	16 Contact	○	○	○
	32 Contact	○	○	○
Parts Catcher	Main SP.	○	○	○
	Sub SP.	SY ○	SY ○	SY ○
Sub Spindle Work Pusher (Spring Type)		SY ○	SY ○	SY ○
Turret Work Pusher (For Automation)		☆	☆	☆
Parts Conveyor		☆	☆	☆
Hyd. Device				
Standard Hyd. Cylinder		●	●	●
Standard Hyd. Unit	50bar(725psi)/ 15 ℓ (4gal)	●	●	-
	50bar(725psi)/ 20 ℓ (5.3gal)	-	-	●
S/W				
Machine Guidance (HW-MCG)		☆	☆	☆
Energy Saving System (HW-ESS)		●	●	●
Tool Monitoring (HW-TM)		○	○	○
DfNC software (HW-eDfNC)		○	○	○
Machine Monitoring System (HW-MMS)		☆	☆	☆
Conversational program (HW-DPRO)		-	-	-
ETC				
Tool Box		●	●	●
Customized Color	Need Munsell No.	☆	☆	☆
CAD & CAM		☆	☆	☆

SPECIFICATIONS

External Dimensions

unit : mm(in)

L150SY Series
L200SY Series

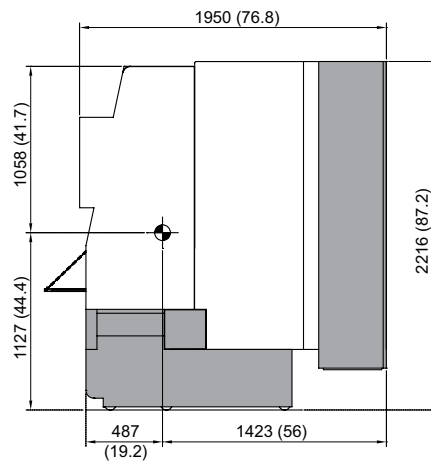
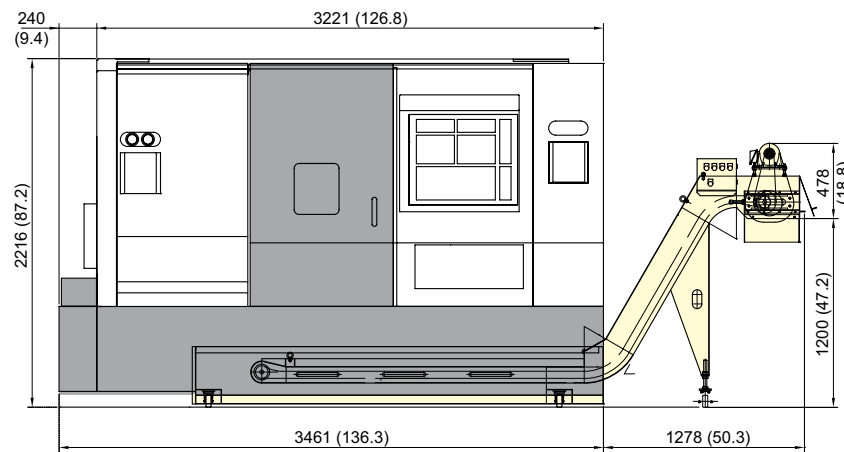
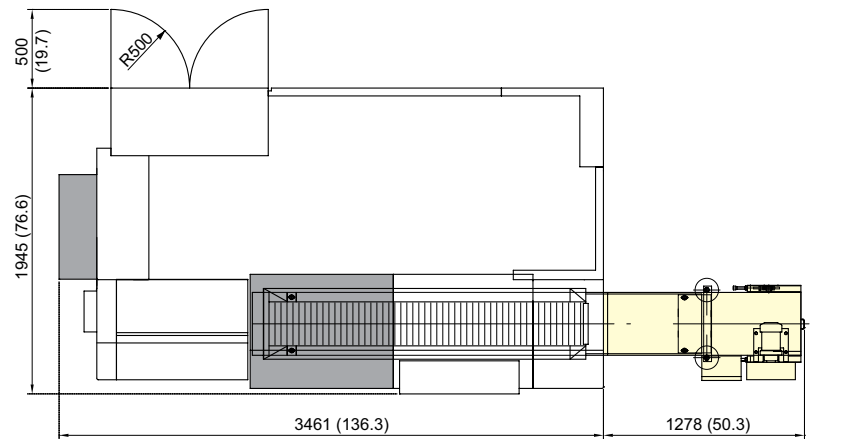


SPECIFICATIONS

External Dimensions

unit : mm(in)

L250SY Series

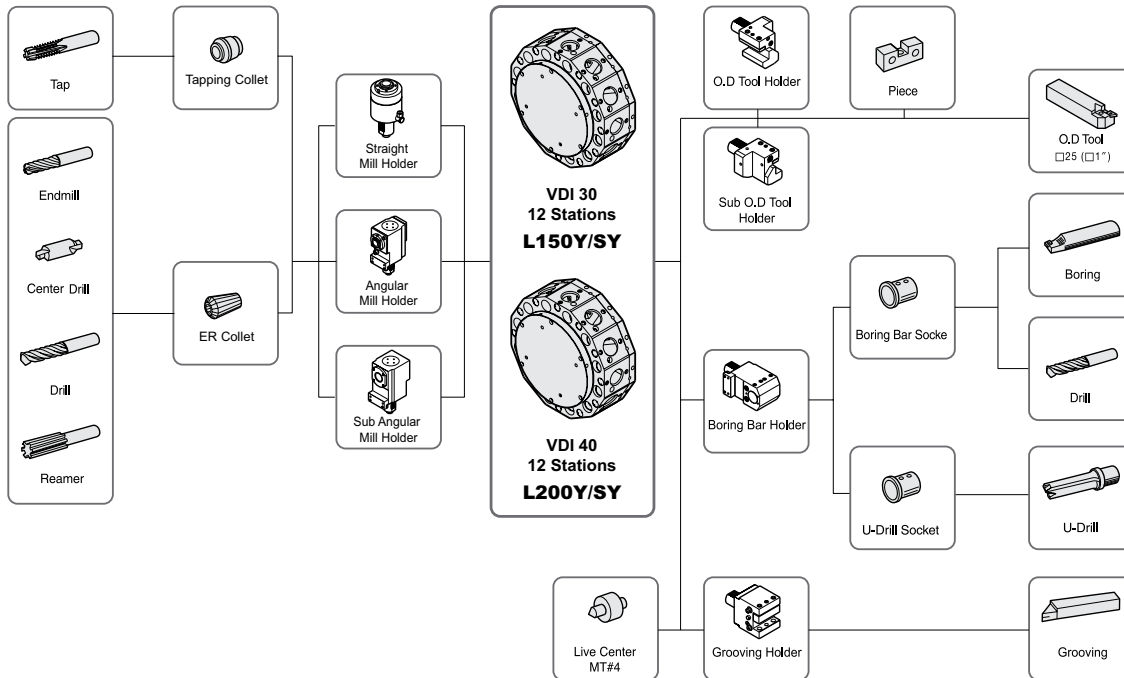


SPECIFICATIONS

Tooling System

unit : mm(in)

L150/200SY Series



Tooling Parts Detail

ITEM			L150Y		L150SY		L200Y		L200SY		
			mm Unit	inch Unit	mm Unit	inch Unit	mm Unit	inch Unit	mm Unit	inch Unit	
Turning Holder	O.D Holder	Main : Right/Left	4	4	2	2	4	4	2	2	
		Sub : Right/Left	-	-	2	2	-	-	2	2	
	Facing Holder		2	2	2	2	2	2	2	2	
Boring Holder	I.D Holder	Single	2	2	2	2	2	2	2	2	
Driven Holder	Straight Mill Holder	Standard	2	2	2	2	2	2	2	2	
		Angular Mill Holder	Main	2	2	1	1	2	2	1	1
			Sub	-	-	1	1	-	-	1	1
Socket	Boring	Ø8 (5/16")	1	1	1	1	1	1	-	-	
		Ø10 (3/8")	1	1	1	1	1	1	1	1	
		Ø12 (1/2")	1	1	1	1	1	1	1	1	
		Ø16 (5/8")	1	1	1	1	1	1	1	1	
		Ø20 (3/4")	1	1	1	1	1	1	1	1	
		Ø25 (1")	1	1	1	1	1	1	1	1	
		Ø32 (1 1/4")	-	-	-	-	1	1	1	1	
	Drill	MT 1 × MT 2	1	1	1	1	1	1	1	1	
		MT 2	1	1	1	1	1	1	1	1	
	ER Collet			1 Set	1 Set	1 Set	1 Set	1 Set	1 Set	1 Set	

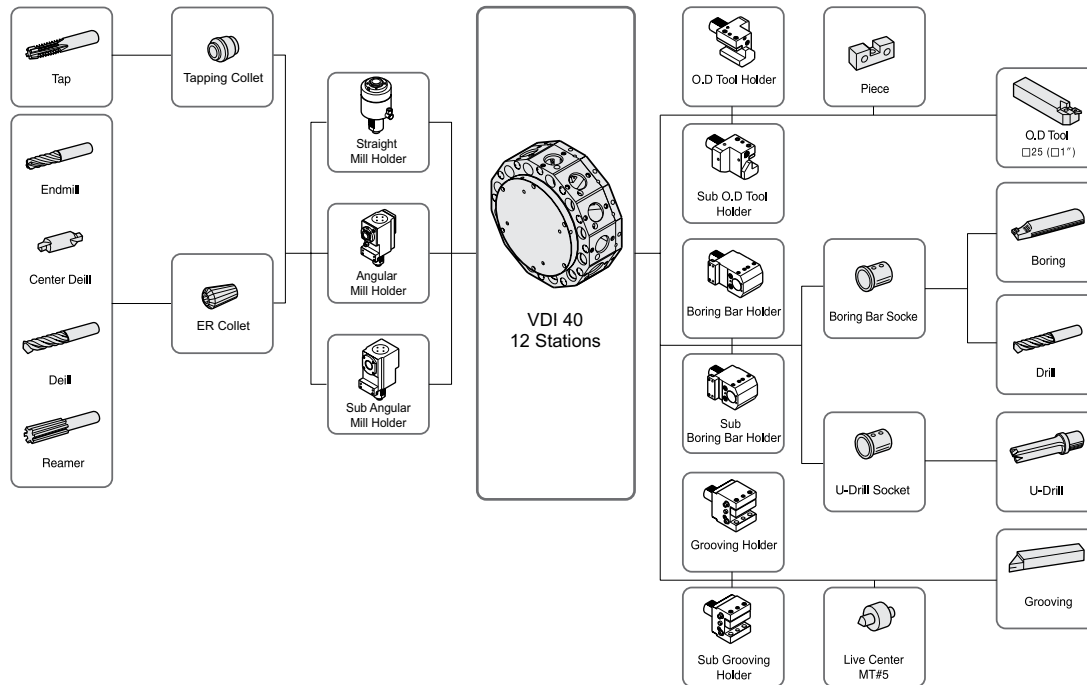
Specifications are subject to change without notice for improvement.

SPECIFICATIONS

Tooling System

unit : mm(in)

L250SY Series



Tooling Parts Detail

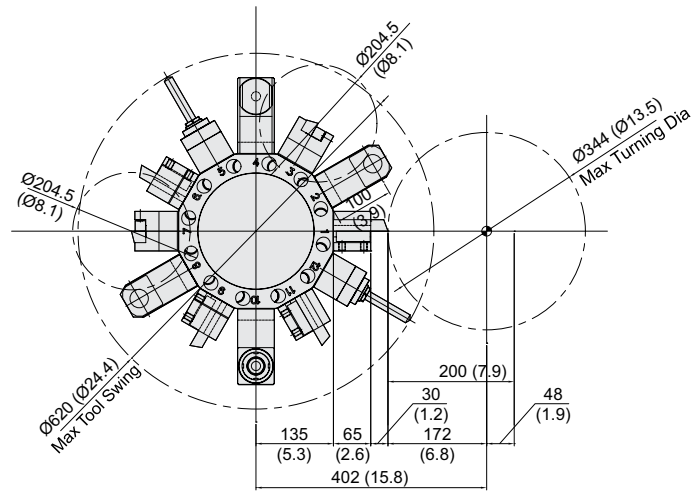
ITEM			L250Y		L250SY	
			mm Unit	inch Unit	mm Unit	inch Unit
Turning Holder	O.D Holder	Main : Right/Left	4	4	2	2
		Sub : Right/Left	-	-	2	2
	Facing Holder	Main	2	2	1	1
		Sub	-	-	1	1
Boring Holder	I.D Holder	Single	2	2	2	2
Driven Holder	Straight Mill Holder	Standard	2	2	2	2
	Angular Mill Holder	Main	2	2	2	2
		Sub	-	-	1	1
Socket	Boring	Ø8 (5/16")	1	1	-	-
		Ø10 (3/8")	1	1	1	1
		Ø12 (1/2")	1	1	1	1
		Ø16 (5/8")	1	1	1	1
		Ø20 (3/4")	1	1	1	1
		Ø25 (1")	1	1	1	1
		Ø32 (1 1/4")	-	-	1	1
	Drill	MT 1 × MT 2	1	1	1	1
		MT 2	1	1	1	1
		ER Collet		1 Set	1 Set	1 Set

SPECIFICATIONS

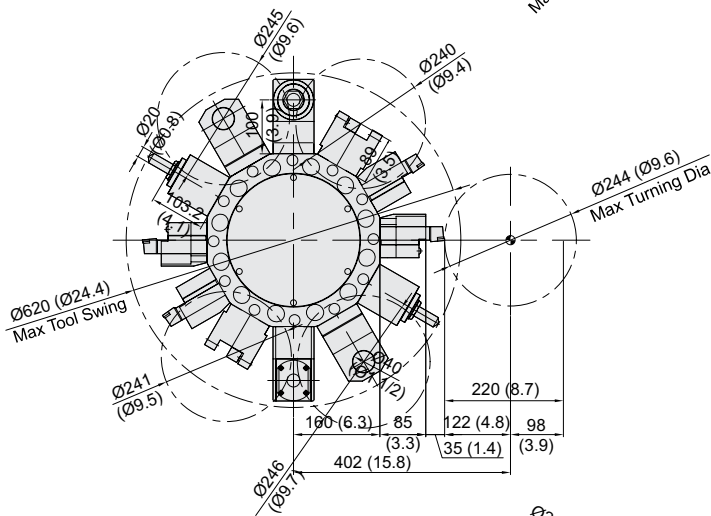
Interference

unit : mm(in)

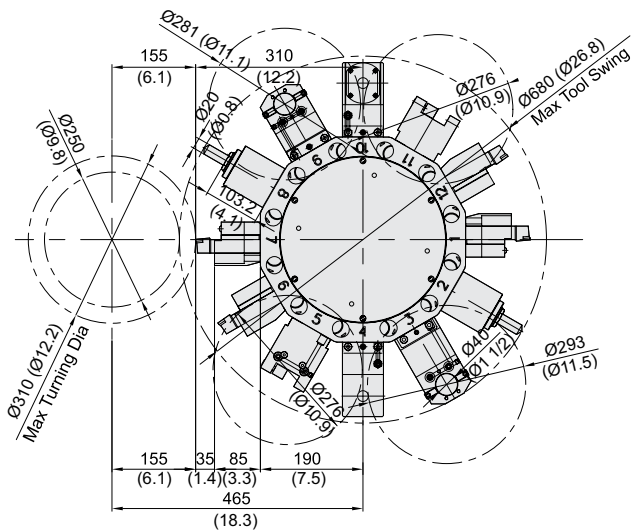
L150SY



L200SY



L250SY



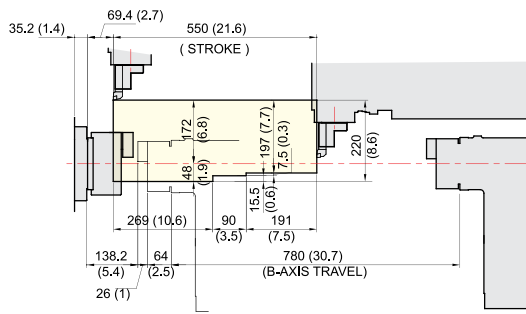
SPECIFICATIONS

Tooling Travel Range

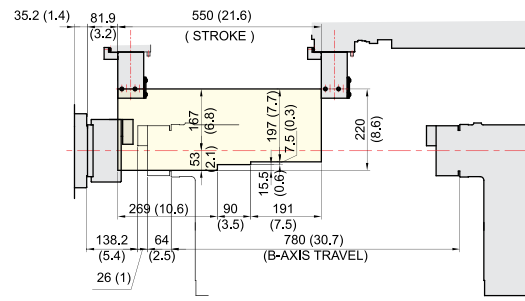
unit : mm(in)

L150SY

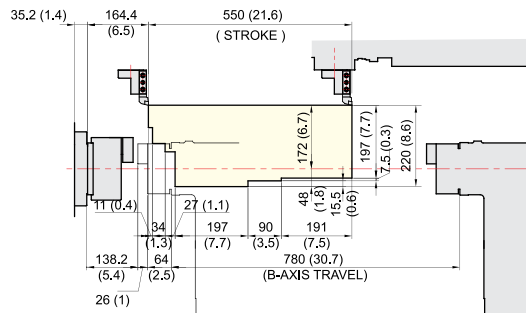
O.D Tool Holder



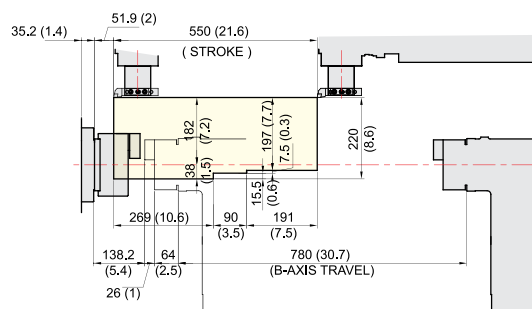
I.D Tool Holder



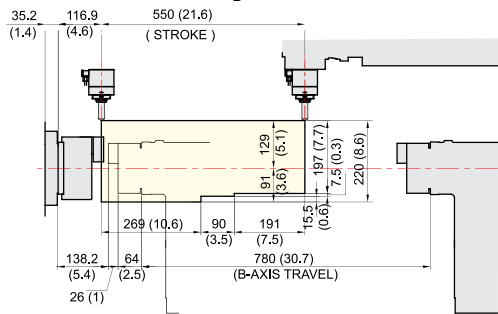
Sub O.D Tool Holder



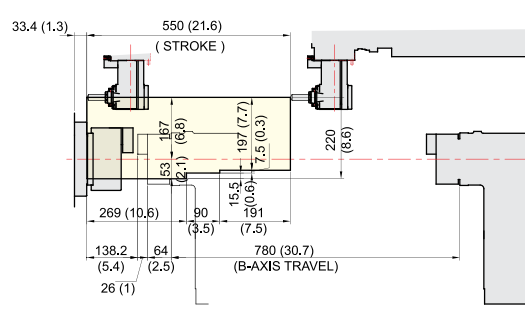
Facing Tool Holder



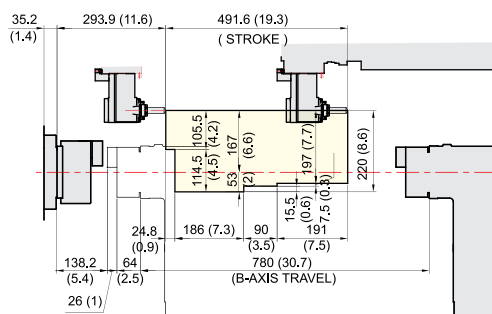
Straight Mill Holder



Angular Mill Holder



Sub Angular Mill Holder



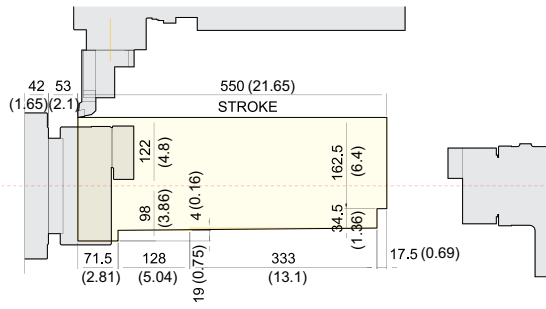
SPECIFICATIONS

Tooling Travel Range

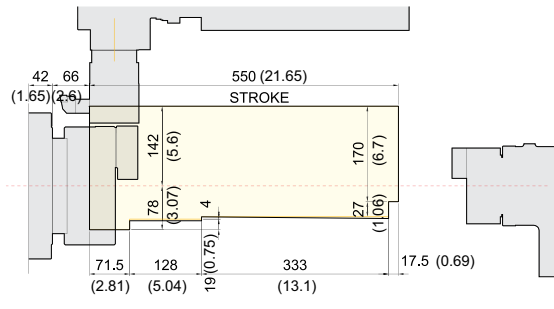
unit : mm(in)

L200SY

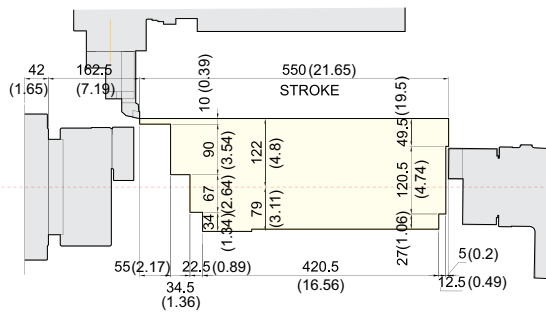
O.D Tool Holder



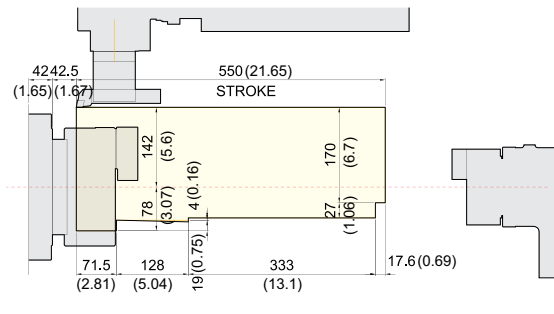
I.D Tool Holder



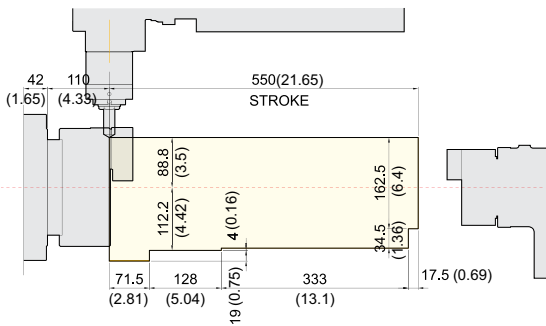
Sub O.D Tool Holder



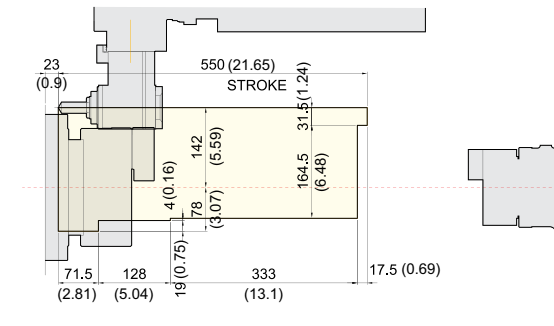
Facing Tool Holder



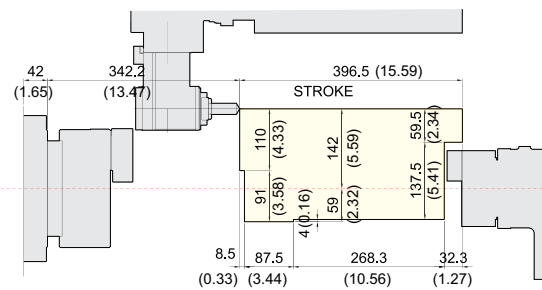
Straight Mill Holder



Angular Mill Holder



Sub Angular Mill Holder



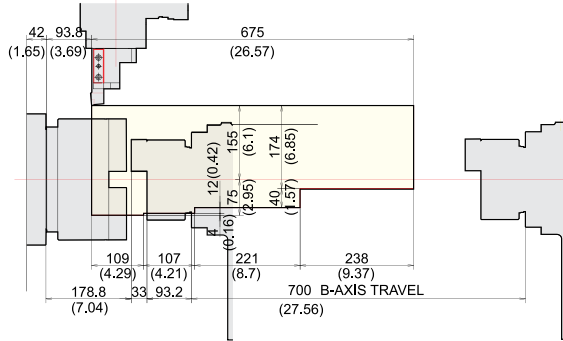
SPECIFICATIONS

Tooling Travel Range

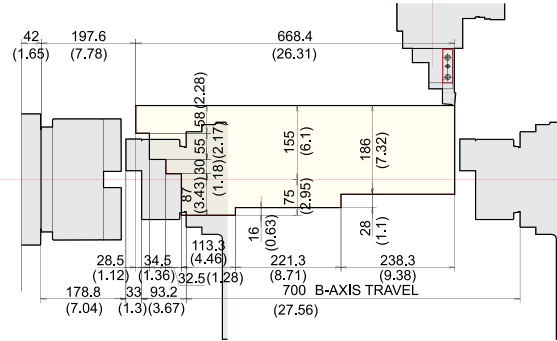
unit : mm(in)

L250SY

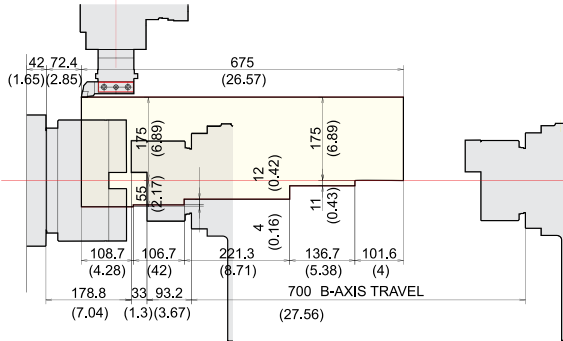
O.D Tool Holder



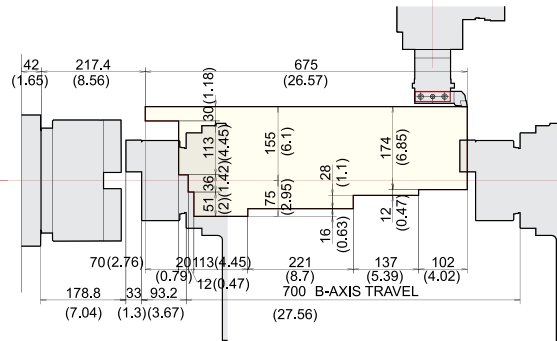
Sub O.D Tool Holder



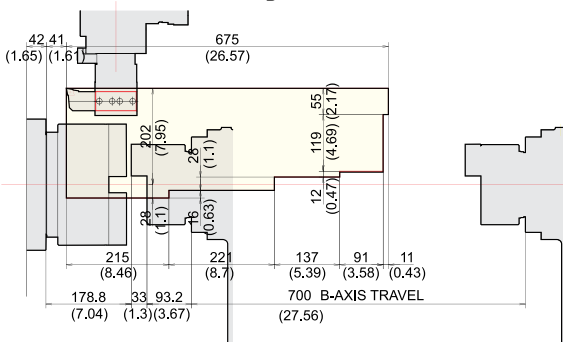
Grooving Holder



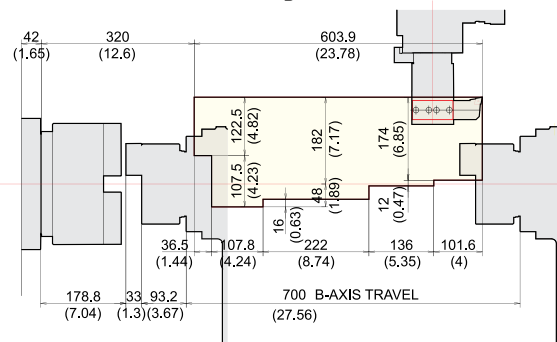
Sub Grooving Holder



Boring Holder



Sub Boring Holder



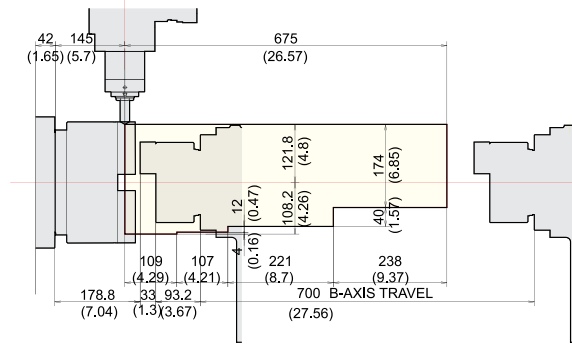
SPECIFICATIONS

Tooling Travel Range

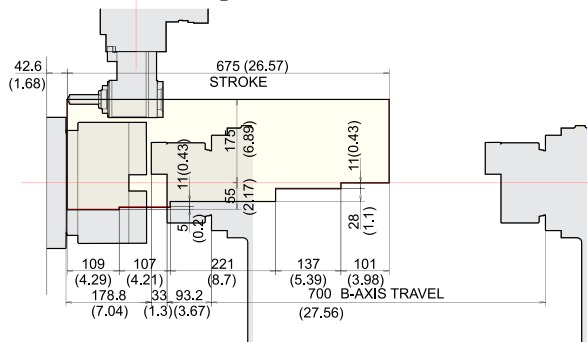
unit : mm(in)

L250SY

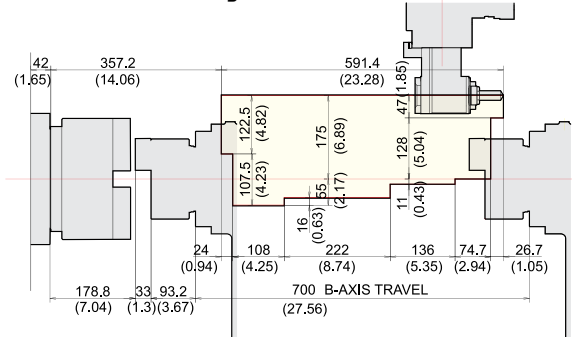
Straight Mill Holder



Angular Mill Holder



Sub Angular Mill Holder



SPECIFICATIONS

Specifications

[] : Option

ITEM			L150Y	L150SY	
CAPACITY	Swing Over the Bed	mm(in)	Ø550 (21.7")		
	Swing Over the Carriage	mm(in)	Ø350 (13.8")		
	Max. Turning Dia.	mm(in)	Ø240 (9.4")		
	Max. Turning Length	mm(in)	530 (20.9")		
	Bar Capacity	Main	mm(in)	Ø45 (1.8")	
Sub		mm(in)	-	Ø33 (1.3")	
SPINDLE	Chuck Size	Main	mm(in)	Ø169 (6.7")	
		Sub	mm(in)	-	Ø135 (5.3")
	Spindle Bore	Main	mm(in)	Ø53 (2.1")	
		Sub	mm(in)	-	Ø43 (1.7")
	Spindle Speed (rpm)	Main	r/min	6,000	
		Sub	r/min	-	6,000
	Motor (Max/Cont.)	Main	kW(HP)	11/7.5 (14.7/10)	
		Sub	kW(HP)	-	3.7/2.2 (5/3)
	Torque (Max/Cont.)	Main	N·m(lbf·ft)	70/47.7 (51.6/35.2)	
		Sub	N·m(lbf·ft)	-	23.5/14 (17.3/10.3)
	Spindle Type	Main	-	BELT	
		Sub	-	-	BELT
	Spindle Nose	Main	-	A2-5	
Sub		-	-	FLAT Ø110 (4.3")	
C-axis Indexing	deg	0.001°			
FEED	Travel	X/Y	mm(in)	220/80 {±40} (8.7"/3.1")	
		Z/ZB	mm(in)	550 (21.7")	550/750 (21.7"/29.5")
	Rapid Traverse Rate	X/Y	m/min(ipm)	36/10 (1,417/393.7)	
		Z/ZB	m/min(ipm)	36 (1,417)	36/30 (1,417/1,181)
Slide Type	-	LM GUIDE			
TURRET	No. of Tools	EA	12		
	Tool Size	OD	mm(in)	□ 20 (0.8")	
		ID	mm(in)	Ø32 (1.3")	
	Indexing Time	sec/step	0.3		
Y-Axis Type	-	Perpendicular Type			
LIVE TOOL	Motor (Max/Cont.)	kW(HP)	2.7 (3.6)		
	Milling Tool Speed (rpm)	r/min	4,000		
	Torque (Max/Cont.)	N·m(lbf·ft)	12 (8.8)		
	Collet Size	mm(in)	Ø16 (0.6") ER25		
	Type	-	VDI30		
TAIL STOCK	Taper	-	MT4	-	
	Quill Dia.	mm(in)	Ø56 (2.2")	-	
	Quill Travel	mm(in)	-		
	Travel	mm(in)	720 (28.3")	-	
TANK CAPACITY	Coolant Tank	ℓ (gal)	230 (60.8)		
	Lubricating Tank	ℓ (gal)	1.8 (0.5)		
POWER SUPPLY	Electric Power Supply	kVA	19	23	
	Thickness of Power Cable	Sq	OVER 25		
	Voltage	V/Hz	220/60 (200/50*)		
MACHINE	Floor Space (L×W)	mm(in)	3,045×1,705 (119.9"×67.1")		
	Height	mm(in)	2,021 (79.6")		
	Weight	kg(lb)	4,400 (9,700)	4,500 (9,921)	
PC	Controller	-	FANUC 32i-A	FANUC 31i-A	

*) Using 50Hz voltage instead of 60Hz may lower the output of motors. (excluding servo motors and inverter motors)
Specifications are subject to change without notice for improvement.

SPECIFICATIONS

Specifications

[] : Option

ITEM			L200Y	L200SY	
CAPACITY	Swing Over the Bed	mm(in)	Ø550 (21.7")		
	Swing Over the Carriage	mm(in)	Ø350 (13.8")		
	Max. Turning Dia.	mm(in)	Ø240 (9.4")		
	Max. Turning Length	mm(in)	530 (20.9")		
	Bar Capacity	Main	mm(in)	Ø65 (2.6")	
Sub		mm(in)	-	Ø33 (1.3")	
SPINDLE	Chuck Size	Main	mm(in)	Ø210 (8.3")	
		Sub	mm(in)	-	Ø135 (5.3")
	Spindle Bore	Main	mm(in)	Ø78 (3.1")	
		Sub	mm(in)	-	Ø43 (1.7")
	Spindle Speed (rpm)	Main	r/min	4,000[4,000]	4,000
		Sub	r/min	-	6,000
	Motor (Max/Cont.)	Main	kW(HP)	15/11 (20/14.7) [22/18.5(29.5/24.8)]	15/11 (20/14.7)
		Sub	kW(HP)	-	3.7/2.2 (5/3)
	Torque (Max/Cont.)	Main	N·m(lbf·ft)	286.6/210.2(211.4/155) [252/211.9(185.9/156.3)]	286.6/210.2 (211.4/155)
		Sub	N·m(lbf·ft)	-	23.5/14 (17.3/10.3)
	Spindle Type	Main	-	BELT	
		Sub	-	-	BELT
	Spindle Nose	Main	-	A2-6	
Sub		-	-	FLAT Ø110 (4.3")	
C-axis Indexing	deg	0.001°			
FEED	Travel	X/Y	mm(in)		
		Z/ZB	mm(in)	550 (21.7")	550/750 (21.7"/29.5")
	Rapid Traverse Rate	X/Y	m/min(ipm)	36/10 (1,417/393.7)	
		Z/ZB	m/min(ipm)	36 (1,417)	36/30 (1,417/1,181)
Slide Type	-	LM GUIDE			
TURRET	No. of Tools	EA	12		
	Tool Size	OD	mm(in)	□ 25 (1")	
		ID	mm(in)	Ø40 (1.6")	
	Indexing Time	sec/step	0.28		
Y-Axis Type	-	Perpendicular Type			
LIVE TOOL	Motor (Max/Cont.)	kW(HP)	2.7 (3.6)		
	Milling Tool Speed (rpm)	r/min	4,000		
	Torque (Max/Cont.)	N·m(lbf·ft)	12 (8.8)		
	Collet Size	mm(in)	Ø20 (0.8") ER32		
	Type	-	VDI 40		
TAIL STOCK	Taper	-	MT4	-	
	Quill Dia.	mm(in)	Ø56 (2.2")	-	
	Quill Travel	mm(in)	-		
	Travel	mm(in)	720 (28.3")	-	
ТАПК CAPACITY	Coolant Tank	ℓ (gal)	230 (60.8)		
	Lubricating Tank	ℓ (gal)	1.8 (0.5)		
POWER SUPPLY	Electric Power Supply	kVA	22	26	
	Thickness of Power Cable	Sq	OVER 25		
	Voltage	V/Hz	220/60 (200/50*)		
МАШИПЕ	Floor Space (L×W)	mm(in)	3,045×1,705 (119.9"×67.1")		
	Height	mm(in)	2,021 (79.6")		
	Weight	kg(lb)	4,500 (9,921)	4,600 (10,141)	
PC	Controller	-	FANUC 32i-B [SIEMENS 828D]	FANUC 31i-A	

*) Using 50Hz voltage instead of 60Hz may lower the output of motors. (excluding servo motors and inverter motors)
Specifications are subject to change without notice for improvement.

SPECIFICATIONS

Specifications

[] : Option

ITEM			L250Y	L250SY	
CAPACITY	Swing Over the Bed	mm(in)	Ø620 (24.4")		
	Swing Over the Carriage	mm(in)	Ø490 (19.3")		
	Max. Turning Dia.	mm(in)	Ø310 (12.2")		
	Max. Turning Length	mm(in)	620 (24.4")		
	Bar Capacity	Main	mm(in)	Ø76 (3")	
Sub		mm(in)	-	Ø45 (1.8")	
SPINDLE	Chuck Size	Main	mm(in)	Ø255 (10")	
		Sub	mm(in)	-	Ø169 (6.6")
	Spindle Bore	Main	mm(in)	Ø95 (3.7")	
		Sub	mm(in)	-	Ø53 (2.1")
	Spindle Speed (rpm)	Main	r/min	3,500 [3,500]	
		Sub	r/min	-	6,000 [6,000]
	Motor (Max/Cont.)	Main	kW(HP)	22/18.5 (29.5/24.8) [22.2/18.5 (29.8/24.8)]	
		Sub	kW(HP)	-	7.5/5.5 (10/7.4) [8.4/7 (11.3/9.4)]
	Torque (Max/Cont.)	Main	N·m(lbf·ft)	238.2/200.3(175.7/147.7) [240.2/200.1 (177.2/147.6)]	
		Sub	N·m(lbf·ft)	-	60/35 (44.3/25.8) [66.8/55.7 (49.3/41)]
	Spindle Type	Main	-	BELT	
		Sub	-	-	BELT
Spindle Nose	Main	-	A2-8		
	Sub	-	-	A2-5	
C-axis Indexing	deg	0.001°			
FEED	Travel	X/Y	mm(in)		
		Z/ZB	mm(in)	230/110 {±55} (9.1"/4.3")	
	Rapid Traverse Rate	X/Y	m/min(ipm)	675 (26.6")	675/700 (26.6"/27.6")
		Z/ZB	m/min(ipm)	24 (944.9)	24/20 (944.9/787.4)
Slide Type	-	BOX GUIDE			
TURRET	No. of Tools	EA	12		
	Tool Size	OD	mm(in)	□ 25 (1")	
		ID	mm(in)	Ø40 (1.6")	
	Indexing Time	sec/step	0.33		
Y-Axis Type	-	Perpendicular Type			
LIVE TOOL	Motor (Max/Cont.)	kW(HP)	5.5 (7.4)		
	Milling Tool Speed (rpm)	r/min	4,000		
	Torque (Max/Cont.)	N·m(lbf·ft)	30 (22.1)		
	Collet Size	mm(in)	Ø20 (0.8") ER32		
	Type	-	VDI 40		
TAIL STOCK	Taper	-	MT5	-	
	Quill Dia.	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)		
	Lubricating Tank	ℓ (gal)	1.8 (0.5)		
POWER SUPPLY	Electric Power Supply	kVA	29	37	
	Thickness of Power Cable	Sq	OVER 35		
	Voltage	V/Hz	220/60 (200/50*)		
MACHINE	Floor Space (L×W)	mm(in)	3,202×1,988 (126.1"×78.3")		
	Height	mm(in)	2,181 (85.9")		
	Weight	kg(lb)	6,500 (14,330)		
PC	Controller	-	FANUC 32i-B [SIEMENS 828D]	FANUC 31i-B [SIEMENS 828D]	

*) Using 50Hz voltage instead of 60Hz may lower the output of motors. (excluding servo motors and inverter motors)
 Specifications are subject to change without notice for improvement.

CONTROLLER

SIEMENS 828D (L200Y | L250Y/SY)

Control function

Max. configuration of axis	3 axis(MS / SY exception) 4 axis(MS / SY machine only)
Max. configuration of axis and sp.	6 axis(MS / SY exception) 8 axis(MS / SY machine only)
Least Command/input	0.0001mm / 0.00001inch

Feed function

Feedrate Override	0 - 120%
Rapid Traverse Override	F1, 5, 25/50, 100%
Acceleration with jerk limitation	
Programmable acceleration	
Follow-up mode	
Measuring system 1 and 2, selectable	
Separate path feed for corners and chamfers	
Travel to fixed stop	

Spindle function

Spindle Override	50% - 120%
Spindle Orientation	
Spindle Speed Limitation	
Rigid Tapping	

Interpolation function

Linear interpolation axis	Max. 4 axis
Circle via center point and end point	
Circle via interpolation point	
Helical interpolation	
Universal interpolator NURBS (non-uniform rational B splines)	
Continuous-path mode with programmable rounding clearance	

Tool function

Tool Radius Comp.	
Zero Offset (G54, G55, G56, G57, G58, G59)	100 EA
Programmable Zero Offset	
Tool management	

Display

CRT / MDI	10.4" Color LCD
SCREEN SAVER	

Manual Operation

Manual Handle/Jog Feed	
Reposition	
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 Meter/RPM Meter (monitor)	
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 LimitationFeed & forward control	
ISO Dialect Interpreter(G291) (Fanuc Program exe)	
Maximum number of tools/cuttings	128/256 (MS / SY exception) PPU26x.x 256/512 (MS / SY machine only) PPU28x.x
Number of levels for skip blocks 1	

Protection Function

Emergency Stop	
Over Travel	Soft Limit & Hard O.T
Contour Monitoring	
Program Protection	

Automation Support Fun.

Actual Speed Display(Monitor)	
Tool Life Management	(Time, Parts)
Work Count Function	(Internal)

Language Function

Two Language Switchable	(6EA) Chinese Traditional, Czech, Danish, Dutch, Finnish, Hungarian, Japanese, Korean, Polish, Russian, Swedish, Portuguese, Turkish
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Data Transfer

RS 232C I/F / Ethernet	
USB Memory Stick & CF Card	

Option

Shop Turn	
3D Simulation	
DRF offset	
Teach -in	
Number of levels for skip blocks 8	
TRACYL (Cylinder interpolation)	
TRANSMIT (Pole coordinate command)	
Sister Tool	
A,B,C SPLINE INTERPOLATION	
RCS HOST (Remote Control)	
Simultaneous Recording (Real time monitoring)	
Analysis of Internal Drive Values	
Network Drive Management	

Figures in inch are converted from metric values.

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

CONTROLLER

FANUC 32i-A (L150Y)

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	
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
G code system	A
Programmable data input	G10
Sub program call	10 folds nested
Custom macro B	

Program input & interpolation functions	
Addition of custom macro common variable	#100 to #199, #500 to #999
Multiple repetitive cycles	
Multiple repetitive cycles II	
Canned cycles for turning	
Manual guide i	Conversational 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 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 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	
Direct drawing dimension programming	Included chamfering / Corner R'

Figures in inch are converted from metric values.

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CONTROLLER

FANUC 31i-A (L150SY | L200SY)

Axis control / Display unit	
Controlled axes	Max. 6 axes are available X, Z axes X, Z, C axes (M type machine) X, Z, B, C, A axes (MS type machine) X, Z, Y, B, C, A axes (SY type machine)
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
G code system	A
Programmable data input	G10
Sub program call	10 folds nested
Custom macro B	
Program input & interpolation functions	
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. 1,00 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 specificatio	
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
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 / 1024 Kbyte
Tool Offset	99 / 200 / 400 EA
Poligon Turning	
Helical interpolation	
Dynamic graphic display	
Protection of data at 8 levels	
Manual guide i	Conversational programming
Direct drawing dimension programming	Included chamfering / Corner R'

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CONTROLLER

FANUC 32i-B (L200Y | L250Y)

[] : Option

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

Program input	
Canned cycle for turning	
Manual Guide i	Conversational auto program
Auxiliary function / Spindle speed function	
Auxiliary function	M & 4 digit
Level-up M Code	High speed / Multi / Bypass M code
Spindle speed function	S & 4 digit, Binary output
Spindle override	0% ~ 150% (10% Unit)
Multi position spindle orientation	M19
FSSB high speed 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

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CONTROLLER

FANUC 31i-B (L250SY)

[] : Option

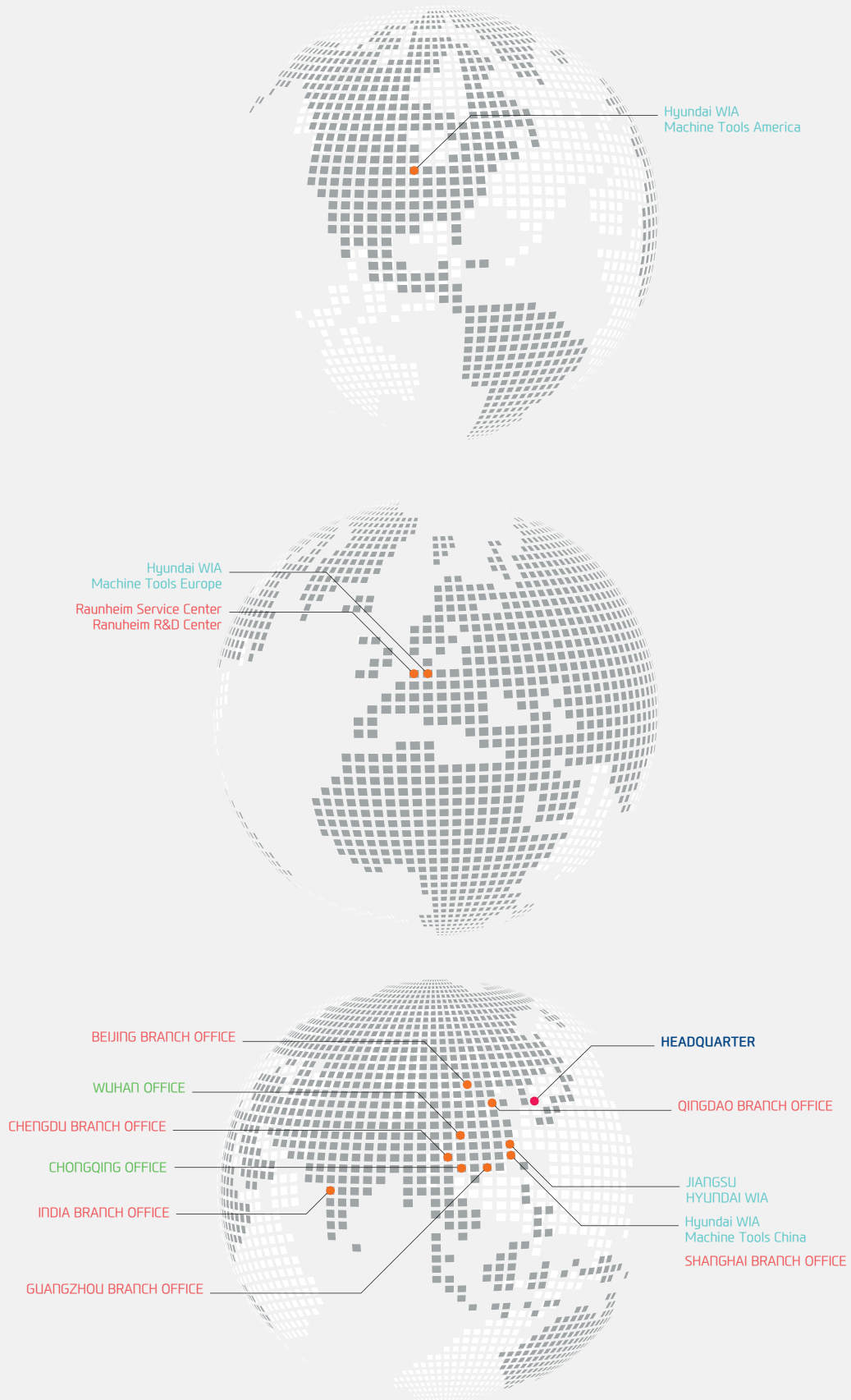
Controlled axis / Display / Accuracy Compensation	
Control axes	4 axes (X, Z, Y, C) / 6 axes (X, Z, Y, B, C, A) 7 axes (X1/Z1, X2/Z2, B2, C1/C2) 8 axes (X1/Z1, X2/Z2, Y1, B2, C1/C2)
Simultaneously controlled axes	2 axes [Max. 4 axes]
Designation of spindle axes	4 axes (1 path), 6 axes (2 path Total)
Least setting Unit	X, Z, Y, B axes : 0.001 mm (0.0001 inch) C, A axes : 0.001 deg
Least input increment	X, Z, Y, B axes : 0.001 mm (0.0001 inch) C, A axes : 0.001 deg
Inch / Metric conversion	G20 / G21
High response vector control	
Interlock	All axes / Each axis
Machine lock	All axes
Backlash compensation	± 0 ~ 9999 pulses (Rapid traverse / Cutting feed)
Position switch	
LCD / MDI	10.4 inch color LCD
Feedback	Absolute motor feedback
Stored stroke check 1	Over travel
Stored stroke check 2, 3	
PMC axis control	
Operation	
Automatic operation (Memory)	
MDI operation	
DNC operation	Needed DNC software / CF card
Program restart	
Wrong operation prevention	
Program check function	Dry run, Program check
Single block	
Search function	Program Number / Sequence Number
Interpolation functions	
Nano interpolation	
Positioning	G00
Linear interpolation	G01
Circular interpolation	G02, G03
Exact stop mode	Single : G09, Continuous : G61
Dwell	G04, 0 ~ 9999.9999 sec
Skip	G31
Reference position return	1st reference : G28 / 2nd reference : G30 Ref. position check : G27
Thread synchronous cutting	
Thread cutting retract	
Variable lead thread cutting	
Multi / Continuous threading	
Feed function / Acc. & Dec. control	
Manual feed	Rapid traverse Jog : 0~2,000 mm/min (79 ipm) Manual handle : x1, x10, x100 pulses Reference position return
Cutting Feed command	Direct input F code
Feedrate override	0 ~ 200% (10% Unit)
Rapid traverse override	F1%, F25%, 50%, F100%
Override cancel	
Feed per minute	G98
Feed per revolution	G99
Look-ahead block	1 block
Program input	
Tape Code	EIA / ISO
Optional block skip	1 ea
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 1, 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
FSSB high speed 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	64 pairs
Tool nose radius compensation	G40, G41, G42
Geometry / Wear compensation	
Direct input of offset measured B	
Editing function	
Part program storage size	1280m (512KB)
No. of registerable programs	1000 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	99 pairs / 200 pairs
Part program storage size	2560m (1MB) / 5120m (2MB)
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.

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