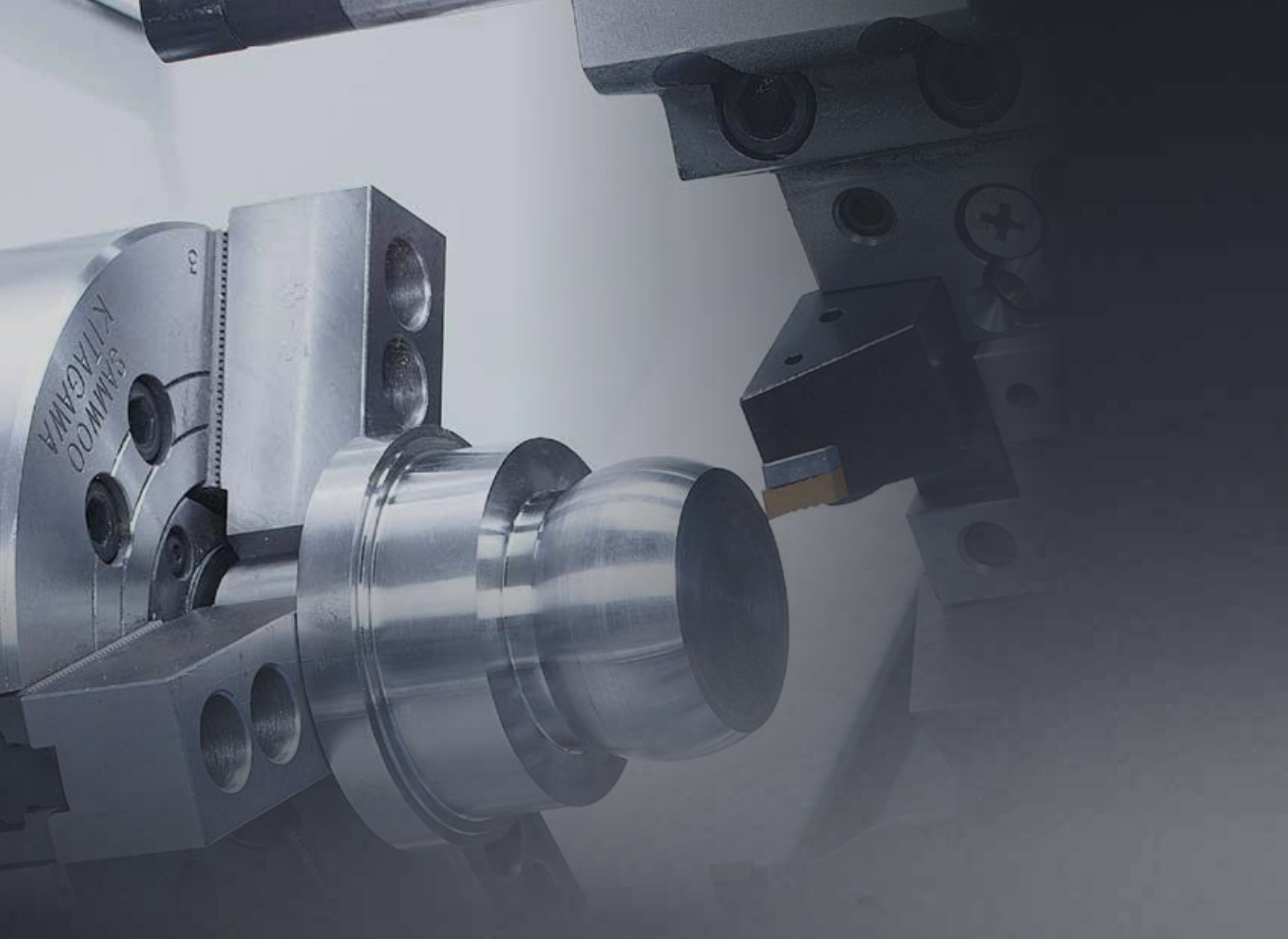


# 280 Series

L280 | L280L | L280LM

HYUNDAI WIA CNC Turning Center



# Technical Leader

L280 series, designed by Hyundai WIA with years of expertise and the latest technology, is a Turning Center that maximizes productivity and performance.

|                        |        | L280                                | L280L                  | L280LM                 |
|------------------------|--------|-------------------------------------|------------------------|------------------------|
| Max. Turning Dia.      | mm(in) | Ø410 (16.1")                        |                        | Ø300 (11.8")           |
| Max. Turning Length    | mm(in) | 720 (28.3")                         | 1,070 (42.1")          | 1,000 (39.4")          |
| Chuck Size             | inch   | 10"                                 |                        |                        |
| Bar Capacity           | mm(in) | Ø76 (3")                            |                        |                        |
| Sp. Speed              | r/min  | 3,000 [3,000]                       |                        | 3,500 [3,500]          |
| Sp. Motor (Max./Cont.) | kW(HP) | 22/18.5 (30/25) [33.6/28 (45/37.5)] |                        |                        |
| Travel (X/Z)           | mm(in) | 220/750 (8.7"/29.5")                | 220/1,100 (8.7"/43.3") | 220/1,020 (8.7"/40.2") |
| No. of Tools           | EA     | 10 [12]                             |                        | 12 (VDI40)             |

[ ] : Option ■ : iTROL

# 280 Series

New Leader in Middle/Large CNC Turning Center

- Utilizes roller bearings of  $\varnothing 140$  ( $\varnothing 5.5''$ ) and double angular contact bearings for the main spindle
- Highly sturdy and reliable servo turret
- Main body designed to achieve high rigidity and accuracy
- A powerful tailstock with a thrust of 7,252 N·m
- Highly efficient HYUNDAI iTROL (Option)



# 01 BASIC STRUCTURE

The Best Productivity Popular 10 inch CNC Turning Center

## High Precision Spindle

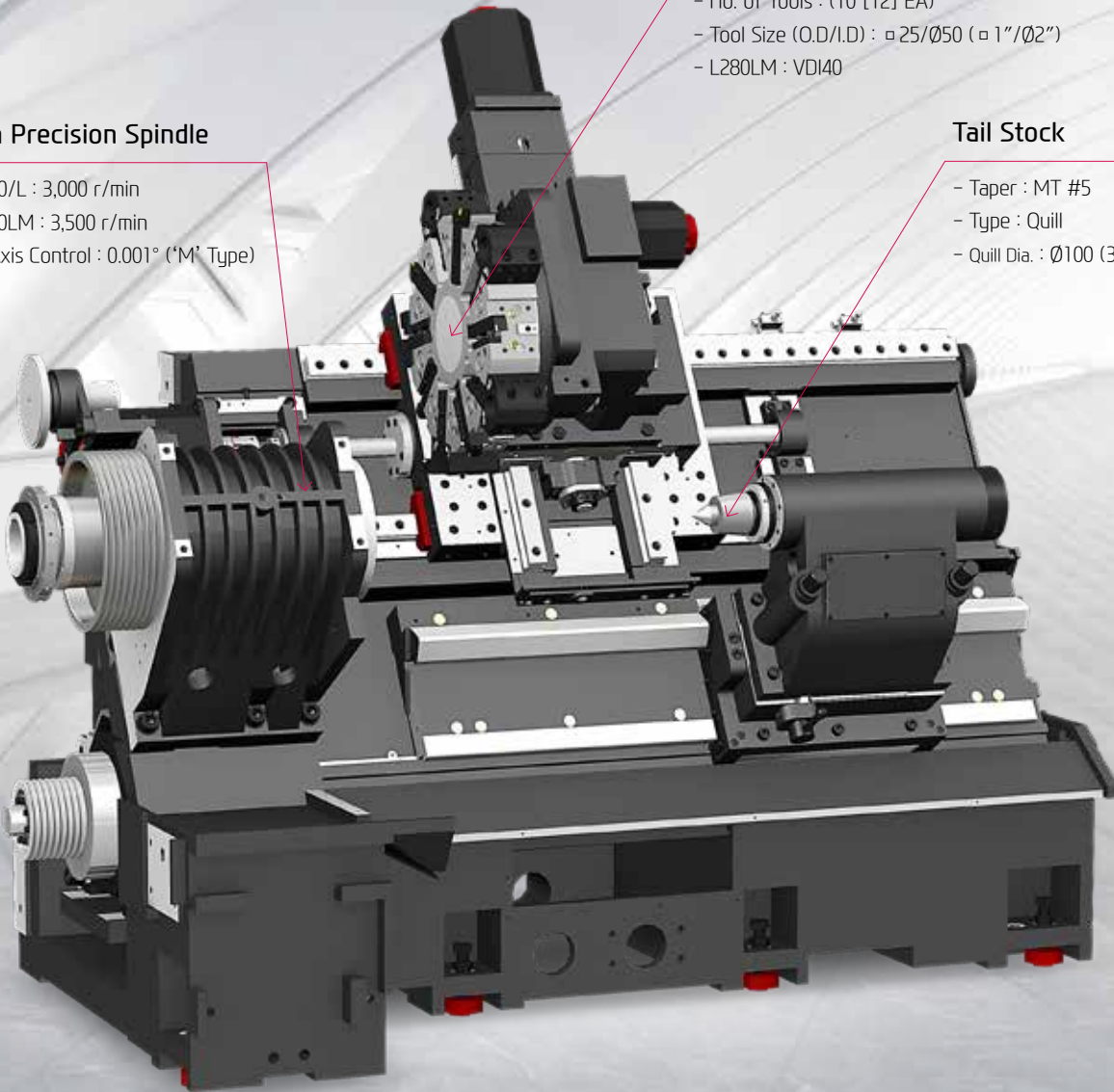
- L280/L : 3,000 r/min
- L280LM : 3,500 r/min
- C-Axis Control : 0.001° (\*M' Type)

## Turret

- No. of Tools : (10 [12] EA)
- Tool Size (O.D./I.D.) :  $\square 25/\varnothing 50$  ( $\square 1''/\varnothing 2''$ )
- L280LM : VDI40

## Tail Stock

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

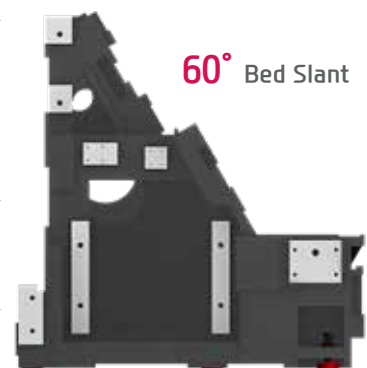


# REDUCTION OF NON-CUTTING TIME BY FAST RAPID SPEED

## ALL-IN-ONE TYPE OF BED

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

The L280 features a 60° slant bed design which was developed using finite element analysis (FEM) to effectively absorb vibration for stable and precise machining.



#### Floor Space (L×W)

L280

**3,090×1,894** mm

L280L/LM

**3,670×1,894** mm

## GUIDEWAY

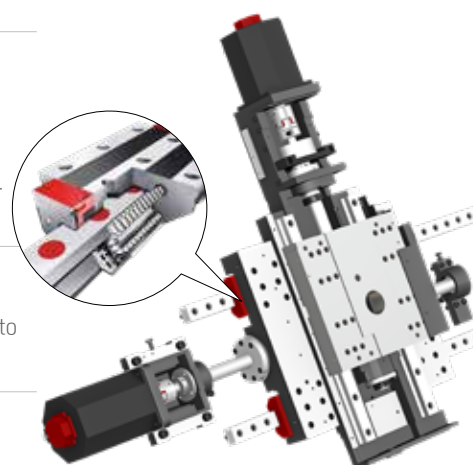
### High-Speed Roller LM Guideway

L280 series applies roller type LM guideway on Z-axis which shows excellent performance in travel.

Great repeatability accuracy makes it suitable for precise machining.  
(X-axis : Ball Type LM Guide)

### Ball Screw

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



#### Rapid Traverse Rate (X/Z)

**25/30** m/min

#### Travel (X/Z)

(984/1,181 ipm)

L280

L280L

L280LM

**220/750** mm

**220/1,100** mm

**220/1,020** mm

(8.7"/18.1")



# 02 HIGH PRECISION SPINDLE

Long Lasting, High Accuracy & Excellent Performance CNC Turning Center

## Spindle Specifications

[ ] : Option

| MODEL  | Spindle Speed       | Motor (Max./Cont.)       | Torque (Max./Cont.)                  | Driving Method |
|--------|---------------------|--------------------------|--------------------------------------|----------------|
| L280/L | 3,000 rpm (FANUC)   | 22/18.5 kW (30/25HP)     | 729.5/613.5 N·m (538/452.5 lbf·ft)   | Belt           |
|        | [3,000 rpm (iTROL)] | [33.6/28 kW (45/37.4HP)] | [641.4/534.5 N·m (473/394.2 lbf·ft)] |                |
| L280M  | 3,500 rpm (FANUC)   | 22/18.5 kW (30/25HP)     | 493.2/414.7 N·m (363.8/305.9 lbf·ft) |                |
|        | [3,500 rpm (iTROL)] | [33.6/28 kW (45/37.4HP)] | [433/360.8 N·m (319.4/266.1 lbf·ft)] |                |

# HEAVY DUTY CUTTING & HIGH ACCURACY

## MAIN SPINDLE

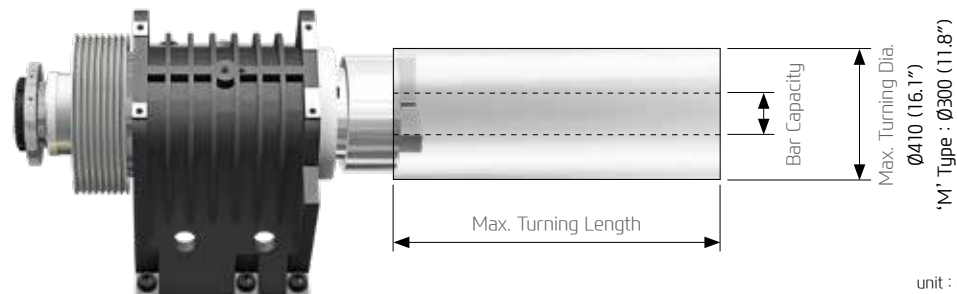
### Specialized in High-speed and Rough Cutting

The main spindle unit is designed with  $\varnothing 140$  ( $\varnothing 5.5''$ ) roller bearings and double angular contact bearings to maintain stability during high speed machining.

The unit is able to maintain precision for a long time where the outer bearing part is assembled to the highest precision standards. Also, stable machining is possible by AC motor which controls spindle at constant speed.

### C-Axis Control (L280LM)

C-axis of L280LM can be controlled to  $0.001^\circ$  which makes it possible to machine various shapes.



unit : mm(in)

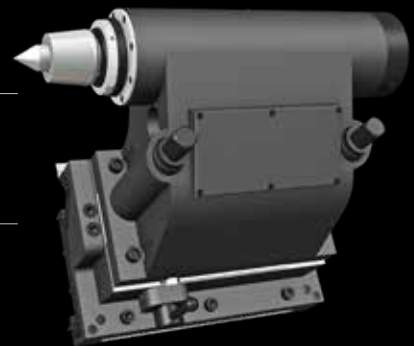
| ITEM                | L280        | L280L         | L280LM        | Bar Capacity          |
|---------------------|-------------|---------------|---------------|-----------------------|
| Max. Turning Length | 720 (28.3") | 1,070 (42.1") | 1,000 (39.4") | $\varnothing 76$ (3") |

## TAIL STOCK

### MT#5 Tail Stock

Tailstock enables stable machining of high quality products where quill travels up to 80mm (3").

- Quill Dia. :  $\varnothing 100$  mm ( $\varnothing 3.9''$ )
- Quill Travel : 120 mm (4.7")





# 03 SERVO TURRET

High speed, High Accuracy, Highly Reliable Servo Turret

## Servo Turret

No. of Tools

10 [12]<sup>EA</sup>

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

□ 25/Ø50 mm (□ 1"/Ø2")

Indexing Time

0.3<sup>sec</sup>

## Mill Turret

| Type   | Speed     | Motor (Max./Cont)    | Torque (Max./Cont)             | Collet Size |
|--------|-----------|----------------------|--------------------------------|-------------|
| VDI 40 | 4,000 rpm | 5.5/3.7 kW (7.4/5HP) | 35/23.5 N·m (25.8/17.3 lbf·ft) | ER32 (Ø20)  |



# HIGH PERFORMANCE TURRET WITH SERVO MOTOR

## SERVO TURRET

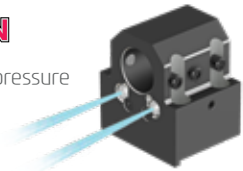


### HD2200/C Servo Turret

The L280 series has a high performance AC servo motor and 3-piece coupling attached which enhances its machining reliability. Powerful hydraulic tool clamping minimizes tool tip deviation due to load, which enhances heavy duty cutting ability.

### High Pressure Coolant **OPTION**

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



## MILL TURRET

### VDI 40 (L280LM)

The VDI turret engages the holder of each cutting tool with a single bolt, to provide quick tool change convenience.

STRAIGHT MILLING HEAD

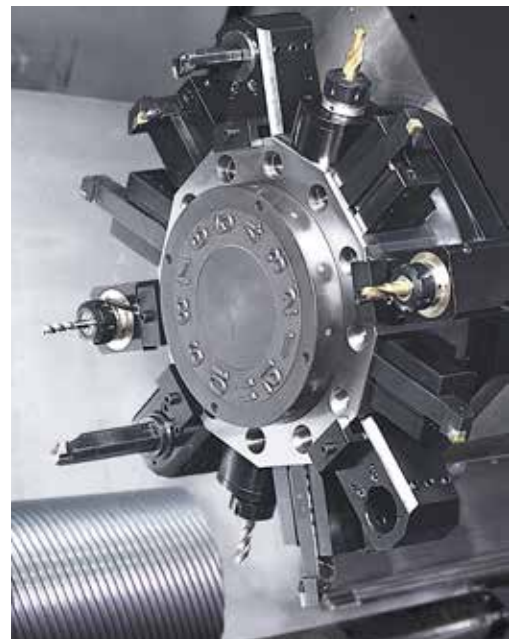


ANGULAR MILLING HEAD



### 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.



# 04 USER CONVENIENCE

Various Devices for User Friendly

## BAR FEEDER SYSTEM

### Bar Feeder

Bar feeder system enables automation which leads to efficiency improvement.

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



#### Parts Catcher

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



#### Auto Door

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



#### Parts Conveyor

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



#### Auto Shutter

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

## HIGH PRECISION SYSTEM



### Automatic Q-Setter

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



### Linear Scale

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



### Work Probe

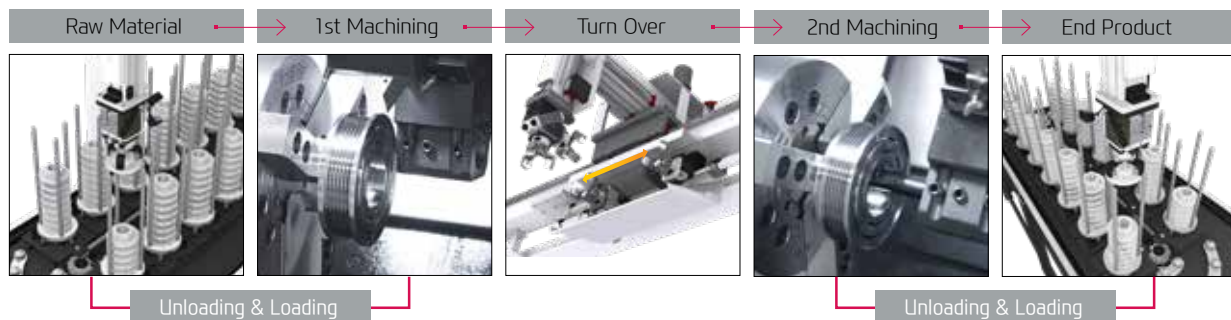
Workpiece coordinate values can be set automatically using the optional spindle probe.

Optional

## GANTRY LOADER SYSTEM

### Gantry Loader Machining Process

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



## COOLANT UNIT & ECO SYSTEM



Standard Coolant (Nozzle)

Chuck Coolant (Upper Chuck)

Chuck Air Blow (Upper Chuck)

Air Gun



MQL : Minimal Quantity Lubrication

Oil Skimmer

Mist Collector

Grease Lubrication Device

# 05 HYUNDAI WIA FANUC – SMART PLUS

The Compatible All-round Control



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

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





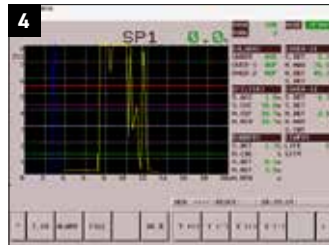
# SMART SOFTWARE



## Dialogue Program (Smart Guide-i)

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

## Convenience Function S/W



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

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

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

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

## Machining Support S/W



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

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

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

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

# SPECIFICATIONS

## Standard & Optional

| Spindle   |                               | L280    | L280L   | L280LM  |
|---|-------------------------------|---------|---------|---------|
| Main Spindle                                      | 10"                           | ●       | ●       | ●       |
| Hollow Chuck 3 Jaw                                | 12"                           | ○       | ○       | ○       |
| Main Spindle                                      | 10"                           | ☆       | ☆       | ☆       |
| Solid Chuck 3 Jaw                                 | 12"                           | ☆       | ☆       | ☆       |
| 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                         |                               | ○       | ○       | ○       |
| <b>Turret</b>                                     |                               |         |         |         |
| Tool Holder                                       |                               | ●       | ●       | ●       |
| 10 station Turret                                 |                               | ●       | ●       | -       |
| 12 station Turret                                 |                               | ○       | ☆       | ●       |
| Mill Turret                                       | VDI                           | -       | -       | ●       |
| Straight Milling Head (Axial)                     | Collet Type,2ea               | -       | -       | ●       |
| Angular Milling Head (Radial)                     | Collet Type,2ea               | -       | -       | ●       |
| Straight Milling Head (Axial)                     | Adapter Type                  | -       | -       | -       |
| Angular Milling Head (Radial)                     | Adapter Type                  | -       | -       | -       |
| Boring Sleeve                                     |                               | ●       | ●       | ●       |
| Drill Socket                                      |                               | ●       | ●       | ●       |
| U-Drill Holder                                    |                               | ○       | ○       | ○       |
| U-Drill Holder Sleeve                             |                               | ○       | ○       | ○       |
| O.D Extension Holder                              | For Out-Dia                   | ☆       | ☆       | -       |
| Angle Head  |                               | -       | -       | ☆       |
| <b>Tail Stock &amp; Steady Rest</b>               |                               |         |         |         |
| Quill Type Tail Stock                             | MT#5                          | ●       | ●       | ●       |
| Built in Tail Stock                               | MT#4                          | ○       | ○       | -       |
| Programmable Tail Stock                           |                               | ○       | ○       | ○       |
| Manual Type Steady Rest                           |                               | ☆       | ☆       | ☆       |
| Manual Type Hyd. Steady Rest                      |                               | ○       | ○       | ○       |
| Standard Live Center                              |                               | ●       | ●       | ●       |
| 2 Steps Tail Stock Pressure System                |                               | ☆       | ☆       | ☆       |
| Quill Forward/Reverse Confirmation Device         |                               | ○(CE:●) | ○(CE:●) | ○(CE:●) |
| Tail Stock Foot Switch                            |                               | ●       | ●       | ●       |
| <b>Coolant &amp; Air Blow</b>                     |                               |         |         |         |
| Standard Coolant (Nozzle)                         |                               | ●       | ●       | ●       |
| Chuck Coolant (Upper Chuck)                       |                               | ○       | ○       | ○       |
| Gun Coolant                                       |                               | ○       | ○       | ○       |
| Through Spindle Coolant (Only for Special Chuck)  |                               | ☆       | ☆       | ☆       |
| Chuck Air Blow (Upper Chuck)                      |                               | ○       | ○       | ○       |
| Tail Stock Air Blow (Upper Tail Stock)            |                               | ○       | ○       | ○       |
| Turret Air Blow                                   |                               | ☆       | ☆       | ☆       |
| Air Gun   |                               | ○       | ○       | ○       |
| Through Spindle Air Blow (Only for Special Chuck) |                               | ○       | ○       | ○       |
| High Pressure Coolant                             | 0.4Bar (5.8psi)               | ●       | ●       | ●       |
|   | 1.5Bar (21.7psi)              | ○       | ○       | ○       |
|   | 14.5Bar (210.2psi)            | ○       | ○       | ○       |
|   | 20Bar (290psi)                | ○       | ○       | ○       |
| Power Coolant System (For Automation)             |                               | ☆       | ☆       | ☆       |
| Coolant Chiller                                   |                               | ☆       | ☆       | ☆       |
| <b>Chip Disposal</b>                              |                               |         |         |         |
| Coolant Tank                                      | 180ℓ (47.6 gal)               | ●       | -       | -       |
|   | 200ℓ (52.8 gal)               | -       | ●       | ●       |
| Chip Conveyor (Hinge/Scraper)                     | Front (Right)                 | ○       | ○       | ○       |
|   | Front (Rear)                  | ○       | ☆       | ☆       |
| 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                    | ☆       | ☆       | ☆       |

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

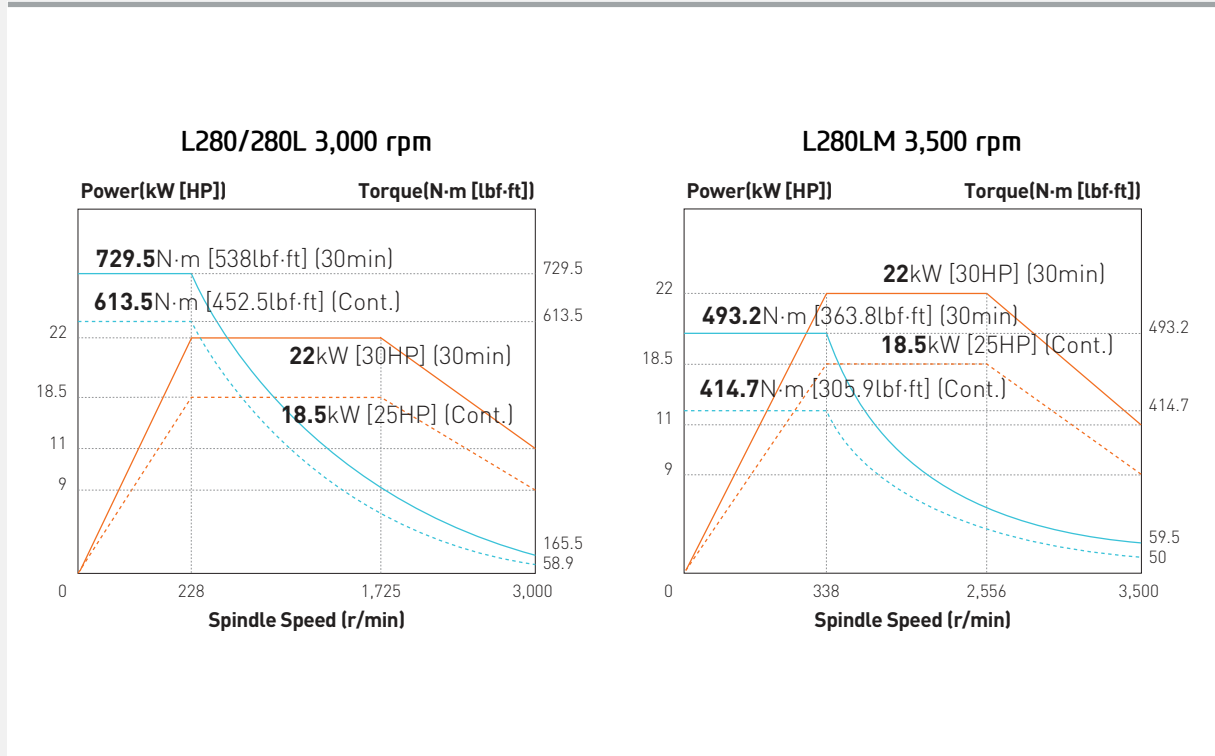
| Safety Device   |                                     | L280         | L280L        | L280LM       |
|---|-------------------------------------|--------------|--------------|--------------|
| Total Splash Guard                                      |                                     | ●            | ●            | ●            |
| Back Spin Torque Limiter (BST)                          |                                     | ●            | ●            | ●            |
| Chuck Hydraulic Pressure Maintenance Interlock          |                                     | ☆            | ☆            | ☆            |
| <b>Electric Device</b>                                  |                                     |              |              |              |
| Call Light  | 1Color : ●                          | ●            | ●            | ●            |
| Call Light & Buzzer                                     | 3Color : ●●●B                       | ○            | ○            | ○            |
| Electric Cabinet Light                                  |                                     | ○            | ○            | ○            |
| Remote MPG  |                                     | ○            | ○            | ○            |
| Work Counter  | Digital                             | ○            | ○            | ○            |
| Total Counter   | Digital                             | ○            | ○            | ○            |
| Tool Counter  | Digital                             | ○            | ○            | ○            |
| Multi Tool Counter                                      | Digital                             | ○            | ○            | ○            |
| Electric Circuit Breaker                                |                                     | ○            | ○            | ○            |
| AVR (Auto Voltage Regulator)                            |                                     | ☆            | ☆            | ☆            |
| Transformer   | 30KVA                               | ○            | ○            | ○            |
| Auto Power Off  |                                     | ○            | ○            | ○            |
| <b>Measurement</b>                                      |                                     |              |              |              |
| Q-Setter  |                                     | ●            | ●            | ●            |
| Automatic Q-Setter                                      |                                     | ○            | ○            | ○            |
| Work Close Confirmation Device (Only for Special Chuck) | TACO                                | ○            | ○            | ○            |
|   | SMC                                 | ○            | ○            | ○            |
| Work Setter (REANISHAW/MARPOSS)                         |                                     | ○            | ○            | ☆            |
| Linear Scale  | X axis                              | -            | -            | -            |
|   | Z axis                              | ☆            | ☆            | ☆            |
| Coolant Level Sensor (Only for Chip Conveyor)           |                                     | ☆            | ☆            | ☆            |
| <b>Environment</b>                                      |                                     |              |              |              |
| Air Conditioner   | FANUC<br>HYUNDAI-ITROL              | ○            | ○            | ○            |
| Oil Mist Collector                                      |                                     | ☆            | ☆            | ☆            |
| Oil Skimmer (Only for Chip Conveyor)                    |                                     | ○            | ○            | ○            |
| MLQ (Minimal Quantity Lubrication)                      |                                     | ☆            | ☆            | ☆            |
| <b>Fixture &amp; Automation</b>                         |                                     |              |              |              |
| Auto Door   |                                     | ○            | ○            | ○            |
| Auto Shutter (Only for Automatic System)                |                                     | ☆            | ☆            | ☆            |
| Sub Operation Pannel                                    |                                     | ☆            | ☆            | ☆            |
| Bar Feeder Interface                                    |                                     | ○            | ○            | ○            |
| Bar Feeder (FEDEK)                                      |                                     | ☆            | ☆            | ☆            |
| workpusher (Spring type)                                |                                     | ○            | ○            | ○            |
| Extra M-Code 4ea  |                                     | ○            | ○            | ○            |
| Automation Interface                                    |                                     | ☆            | ☆            | ☆            |
| I/O Extension (IN & OUT)                                | 16 Contact                          | ○            | ○            | ○            |
|   | 32 Contact                          | ○            | ○            | ○            |
| Parts Catcher   | MAIN SP.                            | ○            | ○            | ○            |
| Turret Work Pusher (For Automation)                     |                                     | ☆            | ☆            | ☆            |
| Parts Conveyor  |                                     | ☆            | ☆            | ☆            |
| <b>Hyd. Device</b>                                      |                                     |              |              |              |
| Standard Hyd. Cylinder                                  | Hollow                              | ●            | ●            | ●            |
| Standard Hyd. Unit                                      | 35bar (507.6 psi)/<br>20ℓ (5.3 gal) | ●            | ●            | ●            |
| <b>S/W</b>  |                                     |              |              |              |
| DNC software (HW-eDNC)                                  |                                     | ○            | ○            | ○            |
| Machine Monitoring System (HW-MMS Cloud/Edge/Remote)    |                                     | ○            | ○            | ○            |
| Machine Monitoring System & Analysis (HW-MMS Edge Plus) |                                     | ☆            | ☆            | ☆            |
| Automation CAM program (HW-ACAM)                        |                                     | ○            | ○            | -            |
| Conversational program (HW-DPRO)                        |                                     | ○            | ○            | ○            |
| SmartGuide-i : FANUC                                    |                                     | ●            | ●            | ●            |
| Thermal Displacement Compensation (HW-TDC)              |                                     | ○            | ○            | ○            |
| Tool Monitoring (HW-TM) : FANUC                         |                                     | ○            | ○            | ○            |
| Machine Guidance (HW-MCG) : FANUC                       |                                     | ●            | ●            | ●            |
| Energy Saving System (HW-ESS) : FANUC                   |                                     | ●            | ●            | ●            |
| Premium Tool Operation : FANUC                          |                                     | ● (F32i : -) | ● (F32i : -) | ● (F32i : -) |
| Manual Viewer : FANUC                                   |                                     | ● (F32i : -) | ● (F32i : -) | ● (F32i : -) |
| Scheduling : FANUC                                      |                                     | ● (F32i : -) | ● (F32i : -) | ● (F32i : -) |
| Operation Memo : FANUC                                  |                                     | ● (F32i : -) | ● (F32i : -) | ● (F32i : -) |
| <b>ETC</b>  |                                     |              |              |              |
| Tool Box  |                                     | ●            | ●            | ●            |
| Customized Color  | Need Munsel No.                     | ☆            | ☆            | ☆            |
| CAD & CAM   |                                     | ☆            | ☆            | ☆            |

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

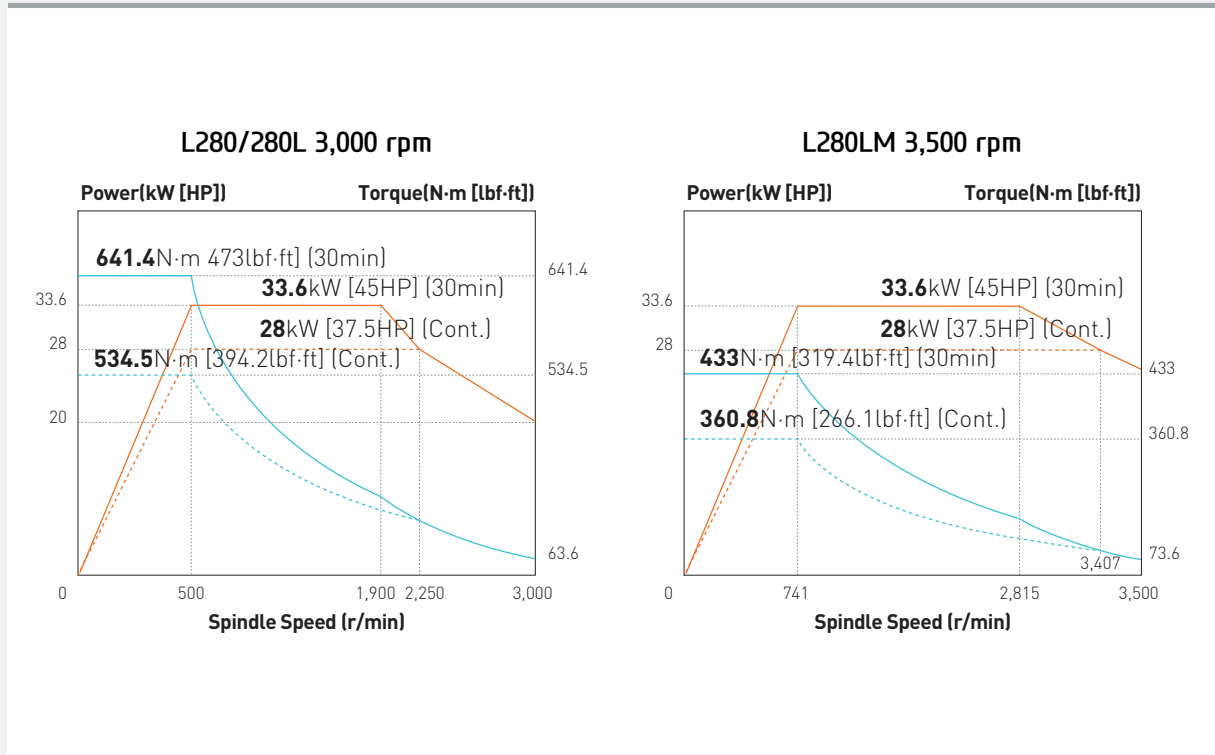
Specifications are subject to change without notice for improvement.

# SPECIFICATIONS

Spindle Output/Torque Diagram (HYUNDAI WIA FANUC i Series)



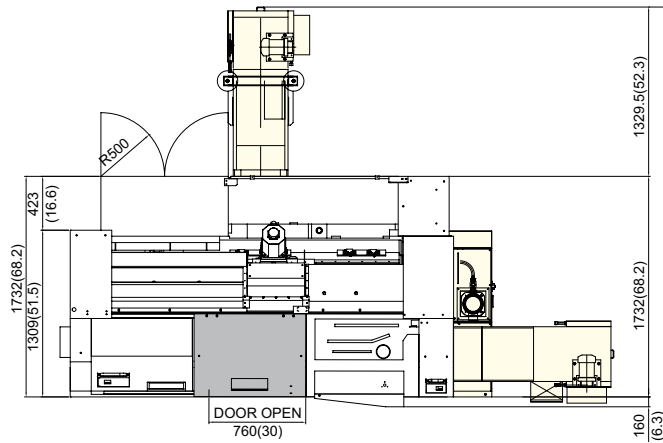
Spindle Output/Torque Diagram (HYUNDAI iTROL)



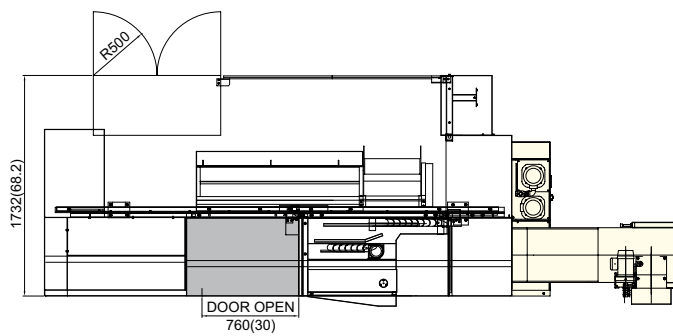
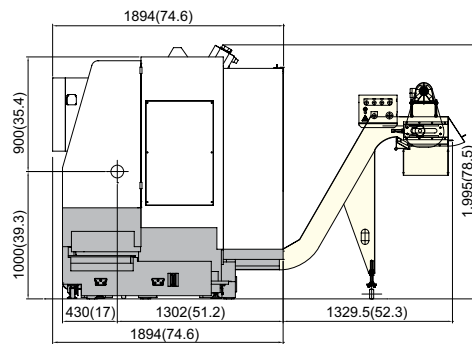
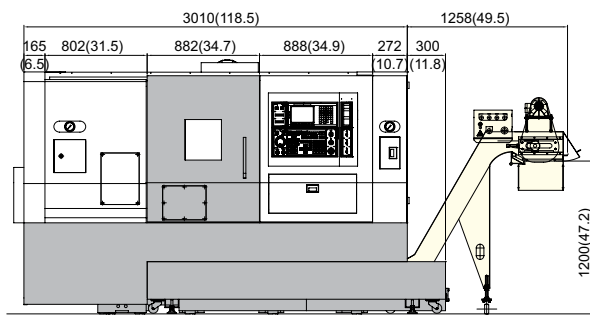
# SPECIFICATIONS

## External Dimensions

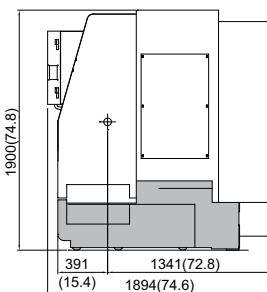
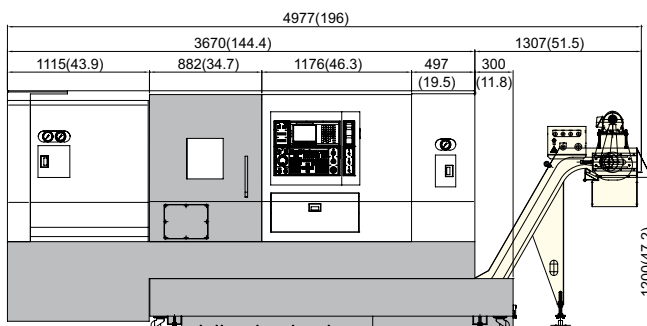
unit : mm(in)



L280



L280L/LM



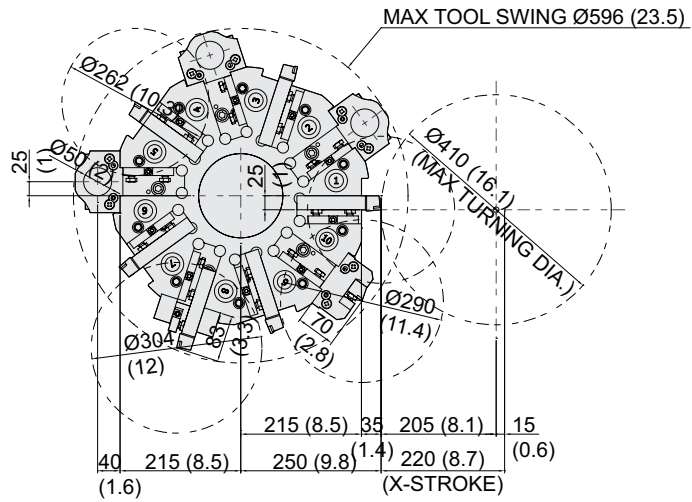


# SPECIFICATIONS

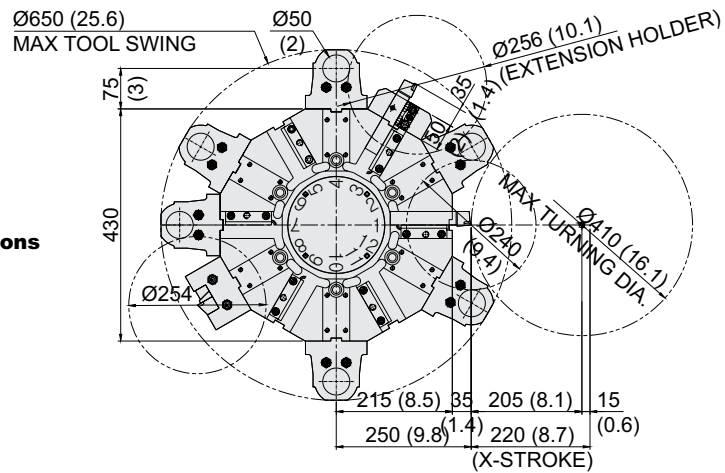
## Interference

unit : mm(in)

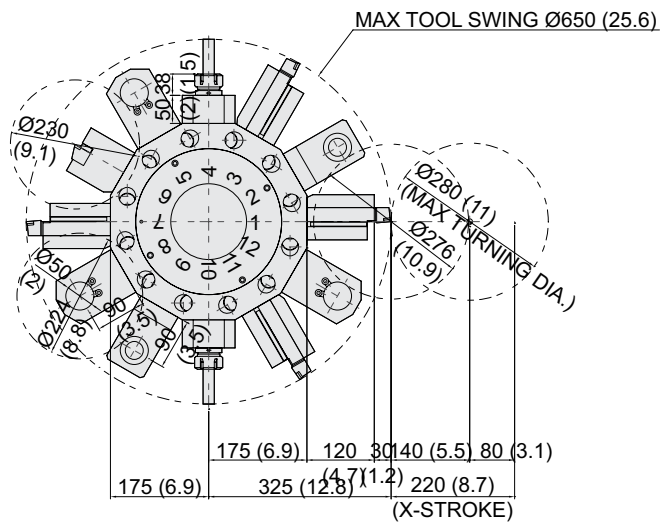
**L280/L  
10 Stations**



**L280/L  
12 Stations**



**L280LM  
12 Stations**

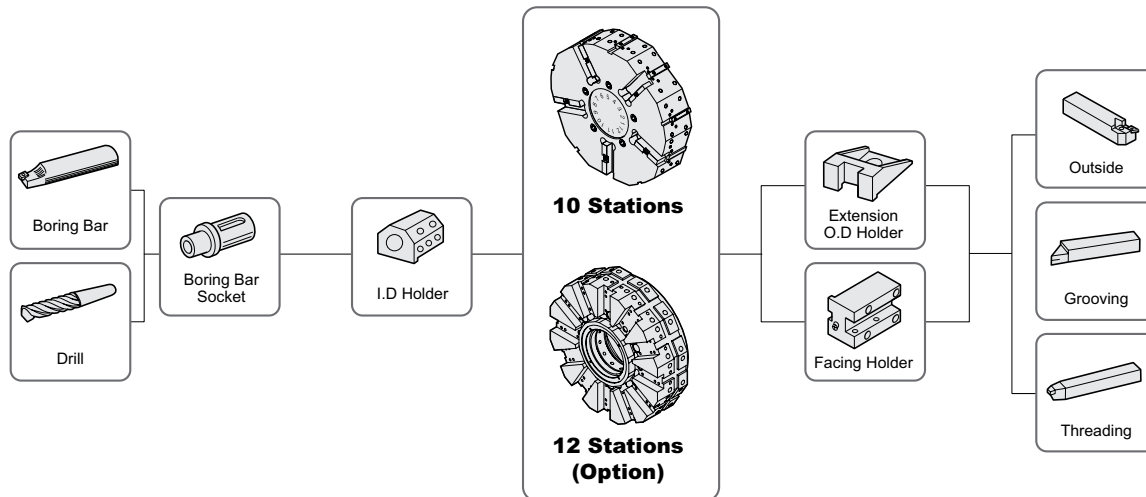


# SPECIFICATIONS

## Tooling System

unit : mm(in)

L280/L



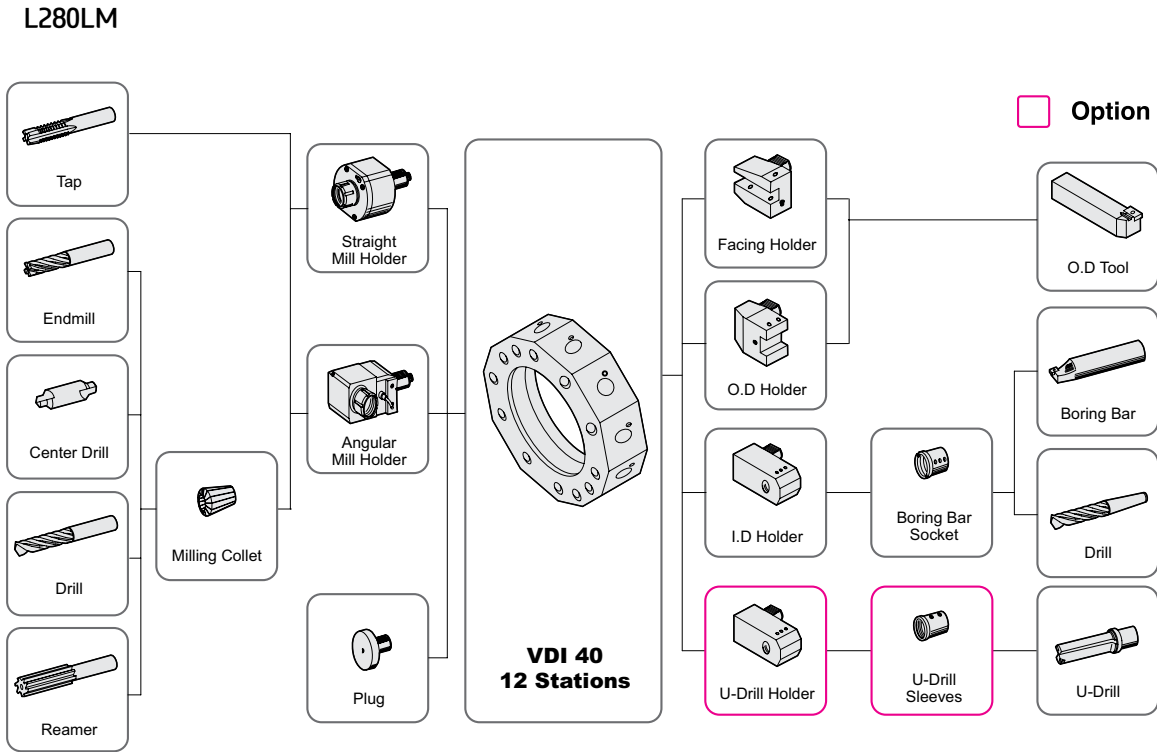
## Tooling Parts Detail

| ITEM           |                      |               | L280/L     |                   |            |                   |   |
|----------------|----------------------|---------------|------------|-------------------|------------|-------------------|---|
|                |                      |               | mm 단위      |                   | inch 단위    |                   |   |
|                |                      |               | 10 Station | 12 Station (Opt.) | 10 Station | 12 Station (Opt.) |   |
| Turning Holder | Extension O.D Holder | Right/Left    | 1          | 1                 | 1          | 1                 |   |
|                | Facing Holder        |               | 1          | 1                 | 1          | 1                 |   |
| Boring Holder  | I.D Holder           | Single        | 3          | 5                 | 3          | 5                 |   |
| Driven Holder  | Straight Mill Holder | Standard      | -          | -                 | -          | -                 |   |
|                | Angular Mill Holder  | Standard      | -          | -                 | -          | -                 |   |
| Socket         | Boring               | Ø16 (Ø5/8")   | -          | -                 | -          | -                 |   |
|                |                      | Ø20 (Ø3/4")   | 1          | 1                 | 1          | 1                 |   |
|                |                      | Ø25 (Ø1")     | -          | -                 | -          | -                 |   |
|                |                      | Ø32 (Ø1 1/4") | 1          | 1                 | 1          | 1                 |   |
|                |                      | Ø40 (Ø1 1/2") | -          | -                 | -          | -                 |   |
|                |                      | Ø45 (Ø1 3/4") | -          | -                 | -          | -                 |   |
|                | Drill                | MT 2          |            | 1                 | 1          | 1                 | 1 |
|                |                      | MT 3          |            | 1                 | 1          | 1                 | 1 |
|                |                      | MT 4          |            | 1                 | 1          | 1                 | 1 |
|                | ER Collet            |               | -          | -                 | -          | -                 |   |

# SPECIFICATIONS

## Tooling System

unit : mm(in)



## Tooling Parts Detail

| ITEM           | L280LM               |               |           |       |
|----------------|----------------------|---------------|-----------|-------|
|                |                      | mm Unit       | inch Unit |       |
| Turning Holder | O.D Holder           | Left          | 4         | 4     |
|                | Facing Holder        |               | 1         | 1     |
| Boring Holder  | I.D Holder           | Single        | 3         | 3     |
| Driven Holder  | Straight Mill Holder | Standard      | 2         | 2     |
|                | Angular Mill Holder  | Standard      | 2         | 2     |
| Socket         | Boring               | Ø16 (Ø5/8")   | 1         | -     |
|                |                      | Ø20 (Ø3/4")   | 1         | 1     |
|                |                      | Ø25 (Ø1")     | 1         | 1     |
|                |                      | Ø32 (Ø1 1/4") | 1         | 1     |
|                |                      | Ø40 (Ø1 1/2") | 1         | 1     |
|                |                      | Ø45 (Ø1 3/4") | -         | 1     |
|                | Drill                | MT 1 x MT 2   | 1         | 1     |
|                |                      | MT 2          | 1         | 1     |
|                |                      | MT 3          | 1         | 1     |
|                | ER Collet            |               | 1 Set     | 1 Set |

Specifications are subject to change without notice for improvement.

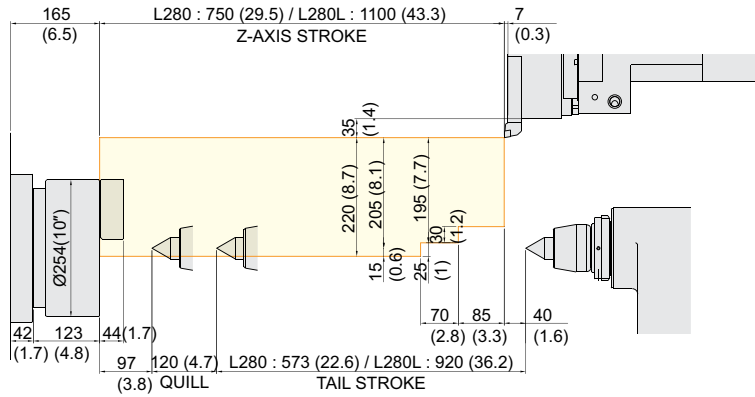
# SPECIFICATIONS

## Tooling Travel Range

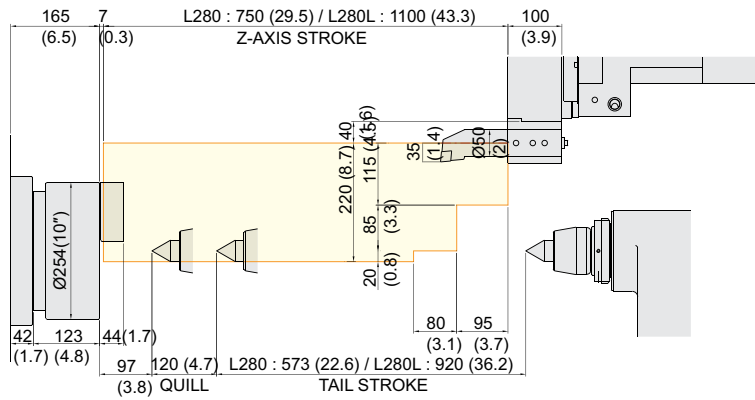
unit : mm(in)

### L280/L

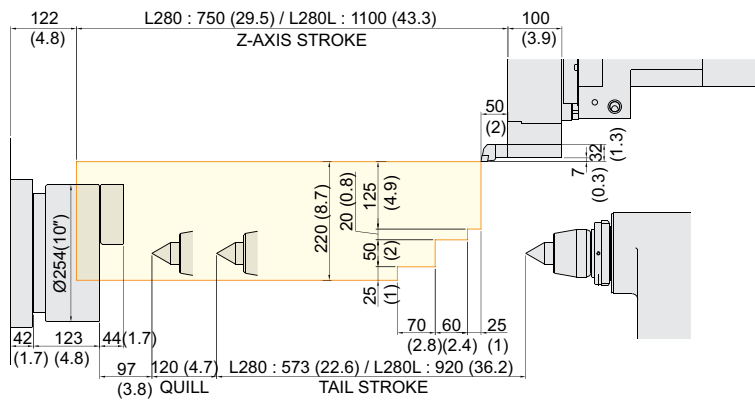
#### OD



#### BORING HOLDER



#### FACING HOLDER





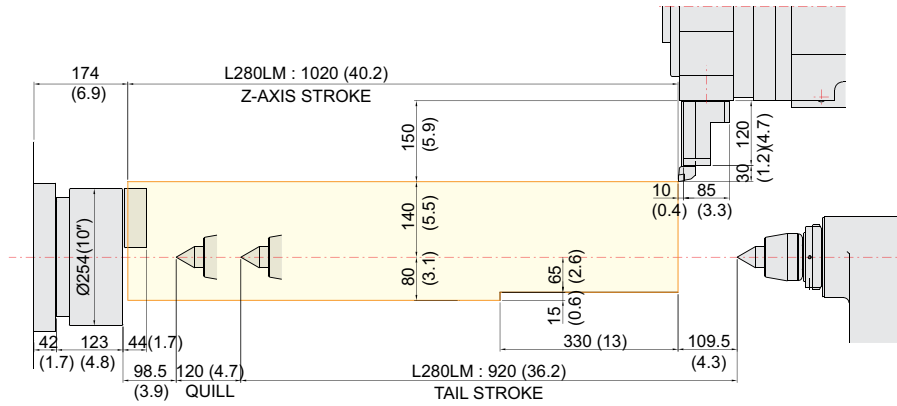
# SPECIFICATIONS

## Tooling Travel Range

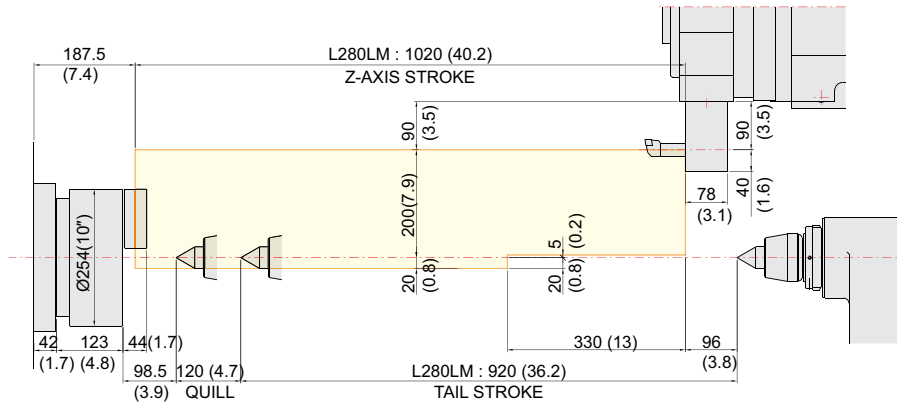
unit : mm(in)

### L280LM

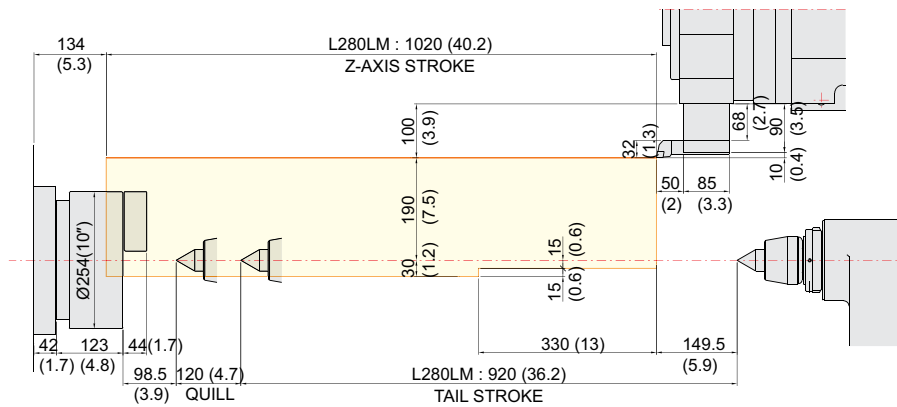
#### OD



#### BORING HOLDER



#### FACING HOLDER



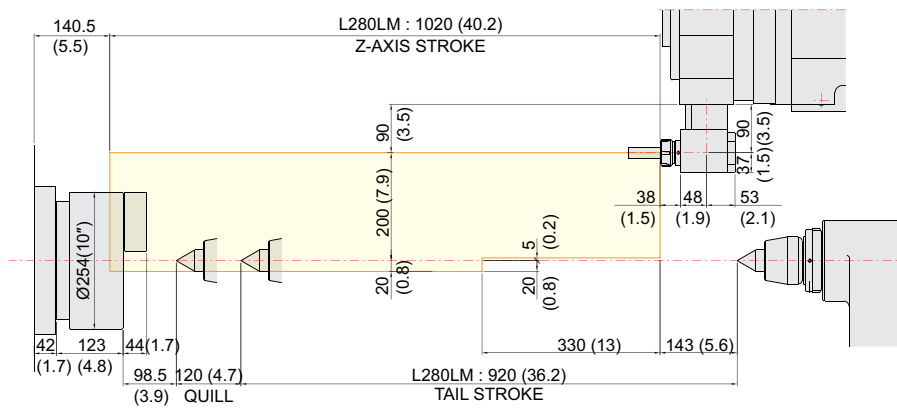
# SPECIFICATIONS

Tooling Travel Range

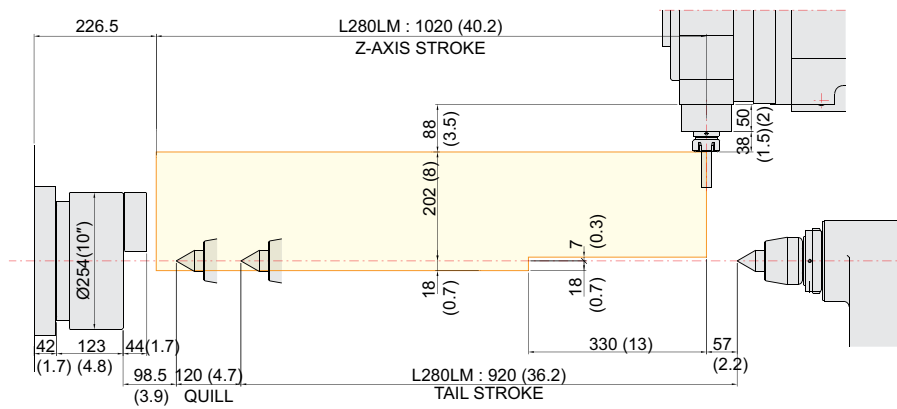
unit : mm(in)

L280LM

## ANGULAR MILL HOLDER



## STRAIGHT MILL HOLDER



# SPECIFICATIONS

## Specifications

[ ] : Option

| ITEM          |                           | L280        | L280L   | L280LM                     |  |
|---------------|---------------------------|-------------|---|----------------------------|--|
| CAPACITY      | Swing Over the Bed        | mm(in)      | Ø590 (23.2")  |                            |  |
|               | Swing Over the Carriage   | mm(in)      | Ø375 (14.8")  |                            |  |
|               | Max. Turning Dia.         | mm(in)      | Ø410 (16.1")  |                            |  |
|               | Max. Turning Length       | mm(in)      | 720 (28.3")   | 1,070 (42.1")              | 1,000 (39.4")  |
|               | Bar Capacity              | mm(in)      | Ø76 (3")  |                            |  |
| SPINDLE       | Chuck Size                | inch        | 10"   |                            |  |
|               | Spindle Bore              | mm(in)      | Ø95 (3.7")  |                            |  |
|               | Spindle Speed (rpm)       | r/min       | 3,000 [3,000]   |                            | 3,500 [3,500]  |
|               | Motor (Max/Cont.)         | kW(HP)      | 22/18.5 (30/25) [33.6/28 (45/37.5)]                                   |                            | 22/18.5 (30/25)<br>[33.6/28 (45/37.5)]                 |
|               | Torque (Max/Cont.)        | N·m(lbf·ft) | 729.5/613.5 (538/452.5)<br>[641.4/534.5 (473/394.2)]                  |                            | 493.2/414.7 (363.8/305.9)<br>[433/360.8 (319.4/266.1)] |
|               | Spindle Type              | -           | BELT  |                            |  |
|               | Spindle Nose              | -           | A2-8  |                            |  |
|               | C-axis Indexing           | deg         | -   |                            | 0.001°   |
| FEED          | Travel (X/Z/B)            | mm(in)      | 220/750 (8.7"/29.5")  | 220/1,100 (8.7"/43.3")     | 220/1,020 (8.7"/40.2")                                 |
|               | Rapid Traverse Rate (X/Z) | m/min(ipm)  | 25/30 (984/1,181)   |                            |  |
|               | Slide Type                | -           | LM GUIDE  |                            |  |
| TURRET        | No. of Tools              | EA          | 10  |                            | 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 (7.4/5)  |
|               | 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                      | -           | -   |                            | VDI40  |
| TAIL STOCK    | Taper                     | -           | MT#5  |                            |  |
|               | Quill Dia.                | mm(in)      | Ø100 (3.9")   |                            |  |
|               | Quill Travel              | mm(in)      | 120 (4.7")  |                            |  |
|               | Travel                    | mm(in)      | 570 (22.4")   | 920 (36.2")                |  |
| TANK CAPACITY | Coolant Tank              | ℓ (gal)     | 180 (47.6)  | 200 (52.8)                 |  |
|               | Lubricating Tank          | ℓ (gal)     | 1.8 (0.5)   |                            |  |
| POWER SUPPLY  | Electric Power Supply     | kVA         | 24  |                            | 27   |
|               | Thickness of Power Cable  | Sq          | Over 25   |                            |  |
|               | Voltage                   | V/Hz        | 220/60 (200/50*)  |                            |  |
| MACHINE       | Floor Space (L×W)         | mm(in)      | 3,090×1,894 (121.7"×74.6")  | 3,670×1,894 (144.5"×74.6") |  |
|               | Height                    | mm(in)      | 1,900 (74.8")   |                            |  |
|               | Weight                    | kg(lb)      | 6,100 (13,448)  | 8,000 (17,637)             | 8,100 (17,857)   |
| PC            | Controller                | -           | HYUNDAI WIA FANUC i Series - Smart Plus [FANUC 32i-B] [HYUNDAI-ITROL] |                            |  |

\*) 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

## HYUNDAI WIA FANUC i Series – Smart Plus

[ ] : Option

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

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

Figures in inch are converted from metric values.

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



# CONTROLLER

## FANUC 32i-B

[ ] : Option

| Controlled axis / Display / Accuracy Compensation |  |
|---|--|
| Control axes                                      | 2 axes (X, Z) / 3 axes (X, Z, C) / 4 axes (X, Z, Y, C)<br>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)<br>C, A axes : 0.001 deg  |
| Least input increment                             | X, Z, Y, B axes : 0.001 mm (0.0001 inch)<br>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<br>(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<br>2nd reference : G30<br>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<br>Jog : 0~2,000 mm/min (79 ipm)<br>Manual handle : x1, x10, x100 pulses<br>Reference position return |
| Cutting Feed command                              | Direct input F code  |
| Feedrate override                                 | 0 ~ 200% (10% Unit)  |
| Rapid traverse override                           | F1%, F25%, 50%, F100%  |
| Override cancel                                   |  |
| Feed per minute                                   | G98  |
| Feed per revolution                               | G99  |
| Look-ahead block                                  | 1 block  |
| Program input                                     |  |
| Tape Code   | EIA / ISO  |
| Optional block skip                               | 1 ea   |
| Program stop / end                                | M00, M01 / M02, M30  |
| Maximum command unit                              | ± 999,999,999 mm (± 99,999,999 inch)   |
| Plane selection                                   | X-Y, G17 / Z-X, G18 / Y-Z, G19   |
| Workpiece coordinate system                       | G52, G53, 6 pairs (G54 ~ G59)  |
| Manual absolute                                   | Fixed ON   |
| Programmable data input                           | G10  |
| Sub program call                                  | 10 folds nested  |
| Custom macro                                      | #100 ~ #149, #500 ~ #549   |
| G code system                                     | A  |
| Programmable mirror image                         | G51.1, G50.1   |
| G code preventing buffering                       | G4.1   |
| Multiple repetitive cycles I, II                  |  |

| Program input                               |   |
|---|---|
| Canned cycle for turning                    |   |
| Manual Guide i                              | Conversational auto program   |
| Auxiliary function / Spindle speed function |   |
| Auxiliary function                          | M 4 digit   |
| Level-up M Code                             | High speed / Multi / Bypass M code                                      |
| Spindle speed function                      | S 4 digit, Binary output  |
| Spindle override                            | 0% ~ 150% (10% Unit)  |
| Multi position spindle orientation          | M19   |
| Rigid tapping                               |   |
| Constant surface speed control              | G96, G97  |
| Tool function / Tool compensation           |   |
| Tool function                               | T 2 digit + Offset 2 digit  |
| Tool life management                        |   |
| Tool offset pairs                           | 32 pairs  |
| Tool nose radius compensation               | G40, G41, G42   |
| Geometry / Wear compensation                |   |
| Direct input of offset measured B           |   |
| Editing function                            |   |
| Part program storage size                   | 640m (256KB)  |
| No. of registerable programs                | 500 ea  |
| Program protect                             |   |
| Background editing                          |   |
| Extended part program editing               | Copy, move and change of NC program                                     |
| Memory card program edit                    |   |
| Data input / output & Interface             |   |
| I/O interface                               | RS 232C serial port, CF card, USB memory<br>Embedded Ethernet interface |
| Screen hard copy                            |   |
| External message                            |   |
| External key input                          |   |
| External workpiece number search            |   |
| Automatic data backup                       |   |
| Setting, display and diagnosis              |   |
| Self-diagnosis function                     |   |
| History display & Operation                 | Alarm & Operator message & Operation                                    |
| Run hour / Parts count display              |   |
| Maintenance information                     |   |
| Actual cutting feedrate display             |   |
| Display of spindle speed / T code           |   |
| Graphic display                             |   |
| Operating monitor screen                    | Spindle / Servo load etc.   |
| Power consumption monitoring                | Spindle & Servo   |
| Spindle / Servo setting screen              |   |
| Multi language display                      | Support 20 languages  |
| Display language switching                  | Selection of 5 optional Languages                                       |
| LCD Screen Saver                            | Screen saver  |
| Unexpected disturbance torque               | BST (Back spin torque limit)  |
| Function for machine type                   |   |
| Cs contour control (C & A axes)             | Mill, MS, Y, SY, LF-Mill, TTMS, TTSY                                    |
| Polar coordinate interpolation              | Mill, MS, Y, SY, LF-Mill, TTMS, TTSY                                    |
| Cylindrical interpolation                   | Mill, MS, Y, SY, LF-Mill, TTMS, TTSY                                    |
| Canned cycle for drilling                   | Mill, MS, Y, SY, LF-Mill, TTMS, TTSY                                    |
| Spindle orientation expansion               | MS, SY TTS, TTMS, TTSY  |
| Spindle synchronous control                 | MS, SY TTS, TTMS, TTSY  |
| Torque control                              | MS, SY TTS, TTMS, TTSY  |
| Y axis offset                               | Y, SY, TTSY   |
| Arbitrary angular control                   | Y, SY, TTSY   |
| Composite / Superimposed control            | MS, SY TTS, TTMS, TTSY  |
| Balance cutting                             | MS, SY TTS, TTMS, TTSY  |
| Option                                      |   |
| Additional optional block skip              | 9 ea  |
| Fast ethernet                               | Needed option board   |
| Data server                                 | Needed option board   |
| Protection of data at 8 levels              |   |
| Tool offset pairs                           | 64 pairs / 99 pairs / 200 pairs   |
| Part program storage size                   | 1280 m (512KB) / 2560m (1MB)  |
| Polygon turning (2 Spindles)                | Mill, MS, Y, SY, LF-Mill, TTMS, TTSY                                    |
| Helical interpolation                       |   |
| Dynamic graphic display                     |   |
| Direct drawing dimension program            | Including Chamfering / Corner R   |

Figures in inch are converted from metric values.

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

# CONTROLLER

## HYUNDAI-iTROL (SIEMENS 828D)

[ ] : Option ☆ Needed technical consultation

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

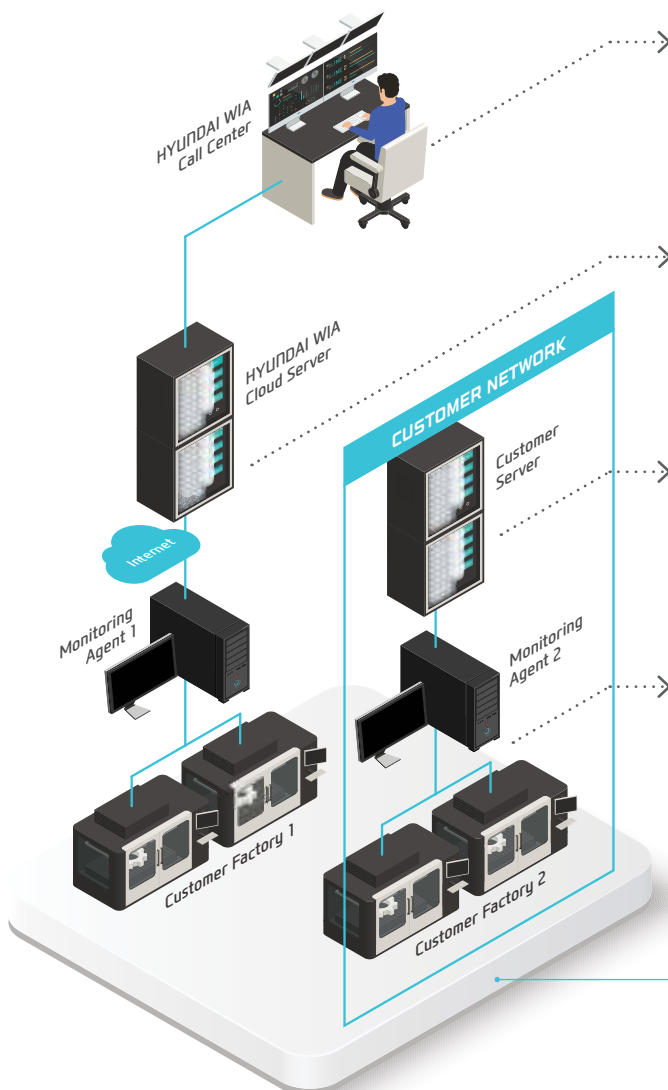
| Auxiliary function / Spindle speed function |   |
|---|---|
| Auxiliary function                          | M Code 4 digit  |
| Spindle speed function                      | S Code 5 digit  |
| Spindle override                            | 0% ~ 150% (10% Unit)  |
| Spindle orientation                         | SPOS  |
| Rigid tapping                               |   |
| Automatic mode interchange                  | Spindle / Axis mode   |
| Constant surface speed control              | G96, G97  |
| Spindle speed limitation                    | LIMS  |
| Tool function / Tool compensation           |   |
| Tool function                               | Tool number & Tool name   |
|   | Tool : T + Offset : D   |
| Tool life management                        | 128 ea : Std.   |
|   | 256 ea : Mill   |
|   | 768 ea : Y, MS, SY  |
| Cutting Edges in tool list                  | 256 ea : Std.   |
|   | 512 ea : Mill   |
| Tool nose radius compensation               | 1,536 ea : Y, MS, SY  |
|   | ISO (G40, G41, G42)   |
| Geometry / Wear compensation                |   |
| Measurement of tool length                  |   |
| Tool management function                    |   |
| Editing function                            |   |
| Part program storage size                   | 3MB - Std.  |
|   | 5MB - Mill  |
|   | 10MB - Y, MS, SY  |
| No. of registerable programs                | 750 ea  |
| External Storage devices                    | Local network, Server, USB, Flash drive   |
| Background editing                          |   |
| Extended part program editing               | Copy, move and change of NC program   |
| Memory card program edit                    |   |
| Data input / output & Interface             |   |
| I/O interface                               | CF card interface (ONLY 10.4")  |
|   | USB memory interface  |
|   | Embedded Ethernet memory interface  |
| Screenshot                                  |   |
| Setting, display and diagnosis              |   |
| Self-diagnosis function                     |   |
| History display & Operation                 | Alarm & Operator message & Operation  |
| Run hour / Parts count display              |   |
| Maintenance information                     |   |
| Actual cutting feedrate display             |   |
| Display of spindle speed / T code           |   |
| Graphic display                             |   |
| Operating monitor screen                    | Spindle / Servo load etc.   |
|   | Support 9 languages   |
| Multi language display                      | Chinese (Simplified/Traditional), English, French, German, Italian, Korean, Portuguese, Spanish |
|   | [☆ Support 22 languages : Inquiry need]   |
|   |   |
|   |   |
| LCD Screen Saver                            | Screen saver & Motion sensing   |
| Function for machine type                   |   |
| Cs contour control (C & A axes)             | Mill, MS, Y, SY model   |
| Polar coordinate interpolation              | Mill, MS, Y, SY model   |
| Cylindrical interpolation                   | Mill, MS, Y, SY model   |
| Canned cycle for drilling                   | Mill, MS, Y, SY model   |
| [Polygon turning (CP-Basic)]                | Mill, MS, Y, SY model   |
| [Hobbing / Skybing (CP-Comfort)]            | Mill, MS, Y, SY model   |
| Spindle synchronous control                 | MS, SY model  |
| Servo tailstock function                    | MS, SY model  |
| Option                                      |   |
| Additional optional block skip              | 10  |
| Contour handwheel                           |   |
| 3D simulation                               |   |
| Real time simulation                        |   |
| Shop Turn                                   | Machining step programming for turning  |

# HW-MMS

HYUNDAI WIA Machine Monitoring System



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



### HW-MMS Remote

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



### HW-MMS Cloud

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



### HW-MMS Edge

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



### HW-MMS Edge Plus

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

HYUNDAI WIA  
Smart Factory Solution



L280  
Movie



**You Tube** HYUNDAI WIA MT

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

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