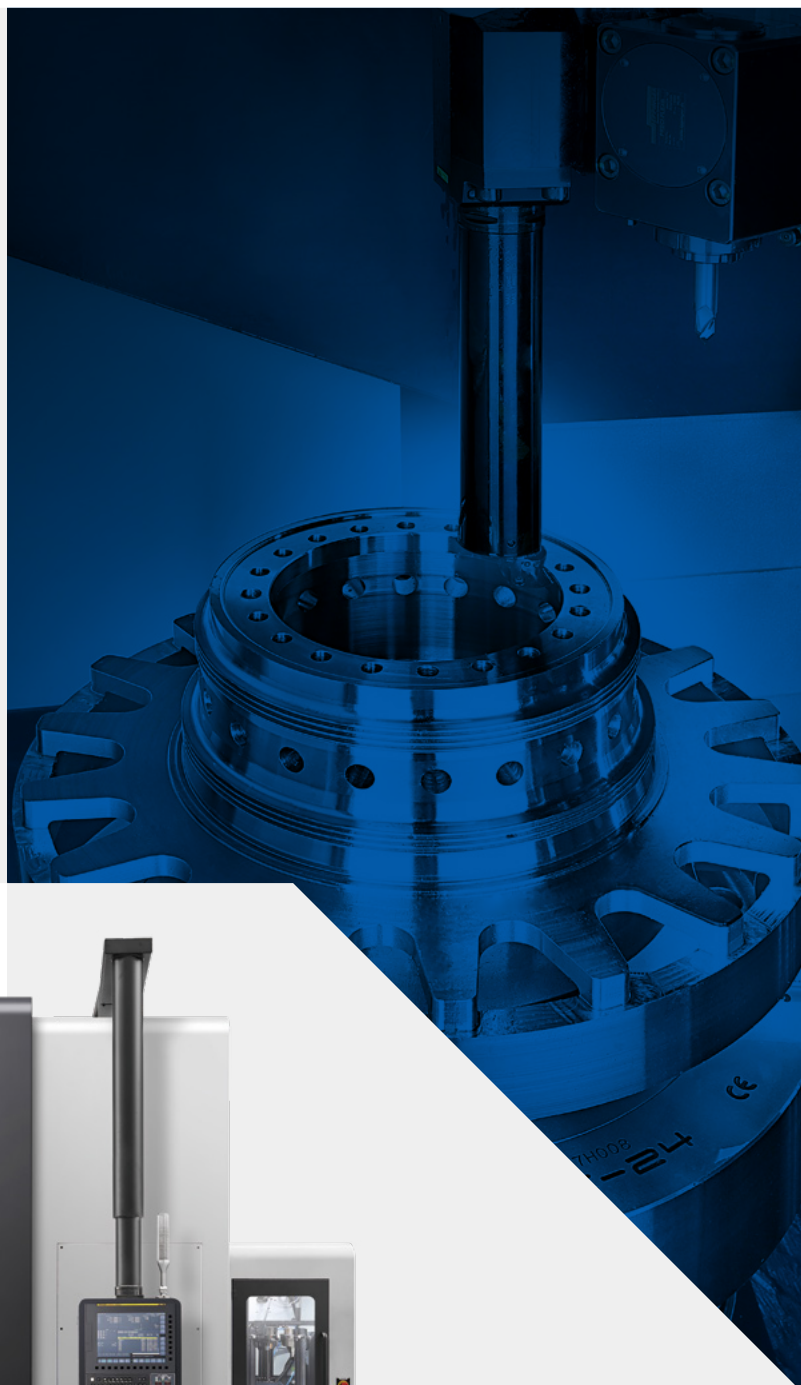


HIGH PRODUCTIVITY VERTICAL TURNING CENTER

# PUMA V8300 · PV 9300

**PUMA** V8300L/R/ML/MR

**PV** 9300L/R/ML/MR



# PUMA V8300·PV 9300

The new PUMA V8300/PV 9300 Series comprises a range of 15"~32" chuck size vertical turning centers developed by DN Solutions using the latest technologies. The column-integrated box guideway and reinforced bed frame machines have a stronger and more rigid structure that is suitable for heavy-duty turning. The Series represents the largest turning capacity of its class further enhancing productivity and profitability.

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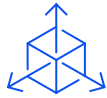


### ENHANCED MACHINING CAPACITY



- The largest turning capacity in its class is achieved with max. 32" m chuck size and 930 mm (36.6 inch) of max. turning diameter.

### HIGHEST POWER AND MACHINING PERFORMANCE IN ITS CLASS

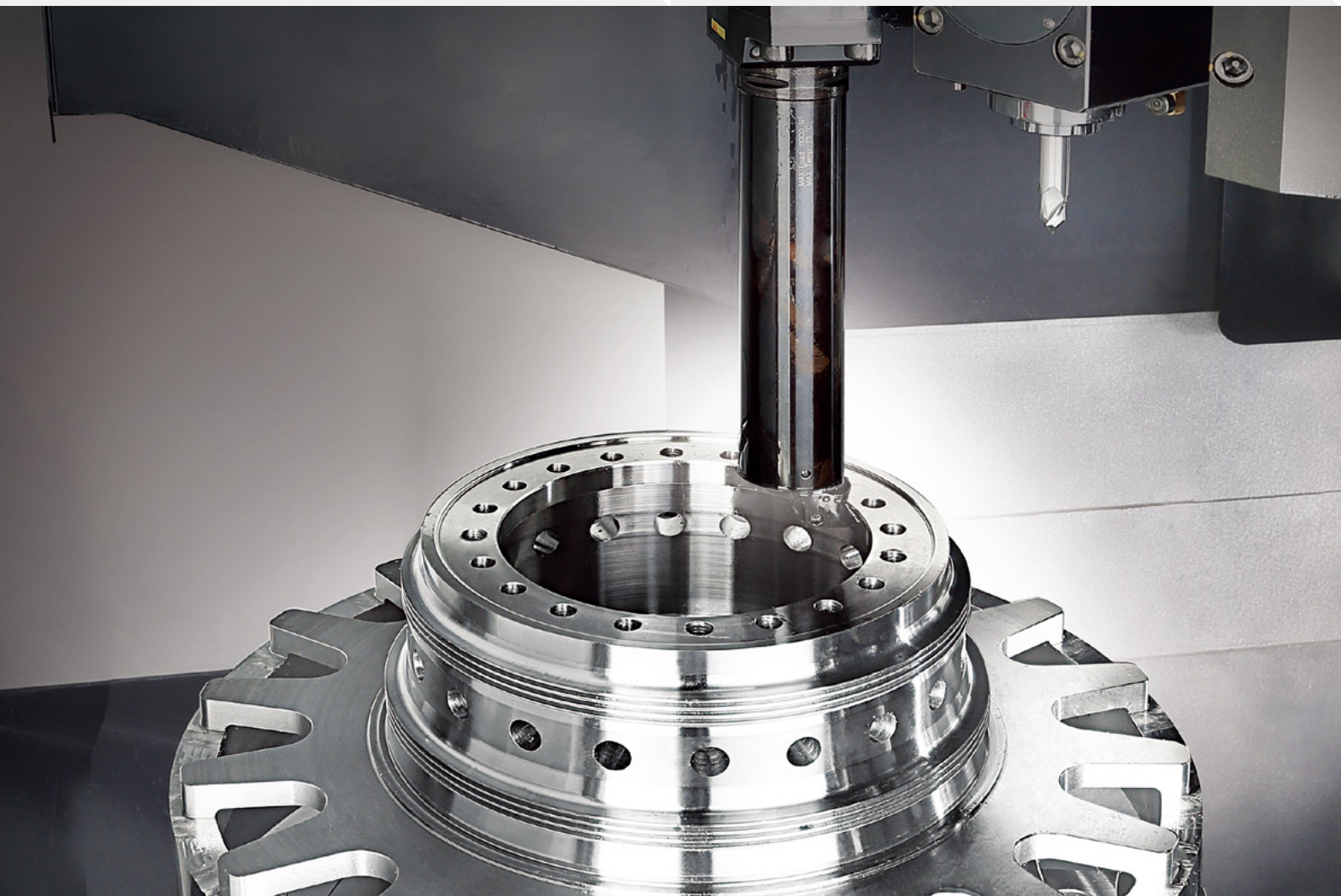


- High power spindle for powerful cutting performance
  - Max. power 45kW, torque 4444N · m (PV 9300)
  - Max. power 45kW, torque 3153N · m (PUMA V8300) **OPTION**
- Increase the number of tools with ATC option can improve the flexibility and efficiency of machining performance
- Fast and stable servo driven turret
- Robust BMT milling holder on turret and best-in-class high power rotary tool motor carry out high productivity in milling <M type model>

### IMPROVED OPERATIONAL EFFICIENCY, INCLUDES IMPROVED CHIP DISPOSAL AND OPERATION PANEL



- Highly steep bed structure for easy chip disposal
- Intuitive and user-friendly DN Solutions FANUC i PLUS CNC
- Pendant type operation panel with easy movement of locating and height adjustment according to operator's workflow





# BASIC STRUCTURE

The integral box guideway bed design delivers vibration-free performance and ensures heavy duty and high precision cutting over long periods of operation.

The machine frame and structure have been redesigned to accommodate the enhanced specifications. The rapid traverse is increased to 20 m/min (787.4 ipm) for higher productivity.

## Travel distance

**PUMA V8300**

X-axis **495(-80~415)** mm  
(19.5(-3.1~16.3) inch)

Z-axis **780** mm (30.7 inch)

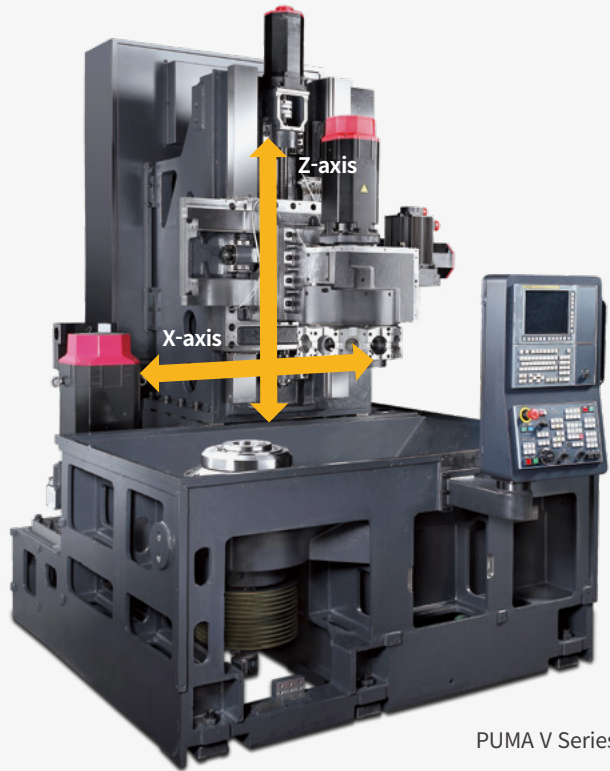
**PV 9300**

X-axis **485(-20~465)** mm  
(19.1(-0.8~18.3) inch)

Z-axis **890** mm (35.0 inch)

## Rapid traverse rate

X/Z-axis **20** m/min (787.4 ipm)



PUMA V Series

## MACHINING AREA\*

Wider machining area for larger/more diverse workpieces.

### Wider machining area

The turning center now offers larger turning diameter and swing of workpiece.

### Max. turning diameter

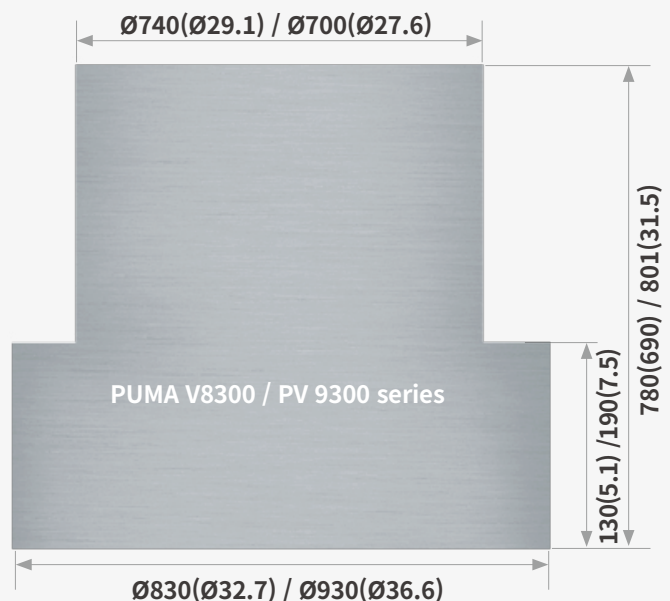
**PUMA V8300 / PV 9300**

**Ø830/Ø930** mm  
(Ø32.7/Ø36.6 inch)

### Max. turning height

**PUMA V8300 / PV 9300**

**780(690\*\*)/801** mm  
(30.7(27.2)/31.5 inch)



### Chuck size

**PUMA V8300**

**15** {18/21/24 **OPTION**} inch

**PV 9300**

**24** {32 **OPTION**} inch

\* When selecting options such as tool setter, it is necessary to check the machining area with DN engineers.

\*\* PUMA V8300 M

# SPINDLE

Higher reliability and rigidity with improved base and spindle motor assembly.

## Stronger spindle

The highly rigid gearbox structure provides the highest power / torque in its class for heavy duty cutting and optimum performance. A variety of spindle specifications are available to suit customers' diverse requirements.

### Max. rotating speed

PUMA V8300 / PV 9300

**2000/1800** r/min

### Max. power (S6 40% / Cont.)

PV 9300

**45** kW (60.3 Hp)

### Max. torque

PV 9300

**4444** N·m (3279.7 ft-lbs)



| Description                                    |             | Unit         | PUMA V8300                                        | PUMA V8300 M                        | PV 9300/M                        |
|------------------------------------------------|-------------|--------------|---------------------------------------------------|-------------------------------------|----------------------------------|
| Standard spindle (Gear box)                    | Power       | kW (Hp)      | 37/30(49.6/40.2) (S6 40%/S1 Cont.)                |                                     | 45/37 (60.3/49.6) (S3 60%/cont.) |
|                                                | Max. torque | N·m (ft-lbs) | 2592(1912.9)                                      |                                     | 4444(3279.7)                     |
| Option 1 (Gear box)                            | Power       | kW (Hp)      | 45/37(60.3/49.6) (S6 40%/S1 Cont.)                |                                     |                                  |
|                                                | Max. torque | N·m (ft-lbs) | 3153(23286.1)                                     |                                     |                                  |
| Option 2*                                      | Power       | kW (Hp)      | 30/22 (40.2/29.5) (S2 30min., S3/S6 60%/S1 Cont.) | 30/22 (40.2/29.5) (S6 60%/S1 Cont.) |                                  |
|                                                | Max. torque | N·m (ft-lbs) | 1611(1188.9)                                      |                                     |                                  |
| SIEMENS                                        | Power       | kW (Hp)      | 42/32/28 (56.3/42.9/37.5)                         |                                     |                                  |
|                                                | Max. torque | N·m (ft-lbs) | 3376 (2491.5)                                     |                                     |                                  |
| Spindle nose                                   |             | ASA          | A2-11                                             |                                     | A2-15                            |
| C-axis minimum rotation command angle (M type) |             | deg          | 0.001                                             |                                     |                                  |

\* If XC Machining is required, select Belt Direct Type. (Available only with Option 2 specifications for PUMA V8300)

## TURRET

The new servo turret facilitates faster indexing and accurate positioning.

### Fast and accurate turret

The new servo motor turret increases indexing speed and accuracy. The M model has the BMT75P(P8300), BMT85P(P9300) turret that provides excellent milling performance and reduced thermal error due to its low heat generation design.

### No. of tool positions

**12** {8\*/10\* OPTION} st

\* PUMA V8300

### Turret indexing time

**0.25** sec.

### Rotary tool type

PUMA V8300

PV 9300

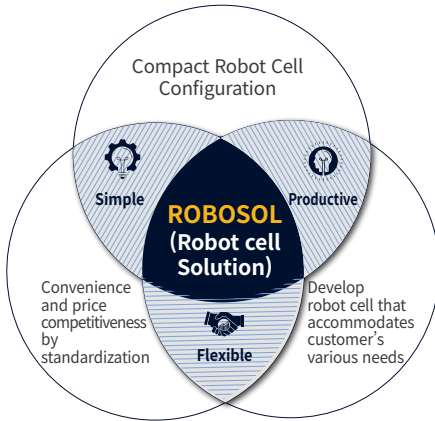
**BMT75P BMT85P**

| 2-axis Turret | Milling 3-axis turret                                                                                                          |
|---------------|--------------------------------------------------------------------------------------------------------------------------------|
|               | <b>Max. rotary tool speed</b><br><b>4000</b> {8000 <span style="background-color: orange; color: white;">OPTION</span> } r/min |
|               | <b>Rotary tool max. power</b><br><b>PUMA V8300</b><br><b>18.5</b> kW / <b>118</b> N.m<br>(24.8 Hp/87.1 ft-lbs)                 |
|               | <b>PV 9300</b><br><b>23</b> kW / <b>146</b> N.m<br>(30.8 Hp/107.7 ft-lbs)                                                      |
|               |                                                                                                                                |

# AUTOMATION SOLUTION

## ROBOSOL

By Standardizing Robot interface with our Vertical Turning Centers, DN SOLUTIONS provides high quality automation solution with potential to grow.



### Robot Cell Interface Standardization

Guaranteed quality by standardized robot interface with vertical turning center

### Provision of Customized Cells

Simple cell configuration and various modular option units for automation

### Provide User Convenience

Convenient setup and accessibility

### Minimized loading/unloading time

37.9% cycle time reduction by machine-robot optimization and interface improvement



\* Three types of ROBOSOL layout configuration



**Type 1 :**  
A layout where two machines are consecutively arranged adjacent to two sides of the robot



**Type 2 :**  
A layout where two machines are facing each other with the robot in between



**Type 3 :**  
A layout where three machines are arranged around three sides of the robot

## CHIP DISPOSAL

Improved chip disposal system increase the convenience of operation and maintenance for chip disposal even when applying various automation application.

### Improved bed structure for easier chip disposal

A greater inclined slope results in improved chip removal from the working area, and a wider chip exit is able to handle higher chip volumes.



## AUTOMATIC TOOL CHANGER(ATC) OPTION

Increasing the number of tools with ATC option can improve the flexibility and efficiency of machine operation or automation, especially it is advantageous to avoid interference with adjacent tools during long boring machining and minimize downtime for tool change when changing workpieces



| Description       |                                    | Unit      | PUMA V8300 | PV 9300   |          |
|-------------------|------------------------------------|-----------|------------|-----------|----------|
|                   |                                    |           |            | Type 1    | Type 2   |
| Magazine<br>& ATC | Tool shank                         | -         | CAPTO C6   |           | CAPTO C8 |
|                   | Tool storage capacity              | ea        | 12         |           | 8        |
|                   | Max. tool diameter                 | mm (inch) | 90 (3.5)   |           |          |
|                   | Max. tool length                   | mm (inch) | 375(14.8)  | 410(16.1) |          |
|                   | Max. tool mass                     | kg        | 10(22.0)   |           | 15(33.1) |
|                   | Tool search time(1 port)           | sec       | 0.5        |           |          |
|                   | No. of CAPTO tool holder on turret | ea        | 1~12       |           |          |

\*Please contact DN Solutions for detailed ATC specifications.

# STANDARD | OPTIONAL SPECIFICATIONS

Diverse optional features are available for customer-specific work applications.

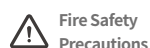
| Description                | Features                                                        | PUMA V8300 series | PV 9300 series |
|----------------------------|-----------------------------------------------------------------|-------------------|----------------|
| Chuck                      | 380 mm (15 inch)                                                | ●                 | -              |
|                            | 450 mm (18 inch)                                                | ○                 | -              |
|                            | 530 mm (21 inch)                                                | ○                 | -              |
|                            | 610 mm (24 inch)                                                | ○                 | ●              |
|                            | 800mm (32 inch)                                                 | -                 | ○              |
|                            | NONE                                                            | ○                 | ○              |
| Turret                     | 8 st                                                            | ○                 | -              |
|                            | 10 st                                                           | ○                 | -              |
|                            | 12 st                                                           | ●                 | ●              |
|                            | 9 st + 1 Straddle tool                                          | ○                 | -              |
| Coolant pump direction     | Side                                                            | ○                 | ○              |
|                            | Rear                                                            | ●                 | ●              |
| Coolant pump               | 1.5 bar                                                         | ●                 | -              |
|                            | 4.5 bar                                                         | ○                 | ●              |
|                            | 7 bar                                                           | ○                 | ○              |
|                            | 10 bar                                                          | ○                 | ○              |
|                            | 14.5 bar                                                        | ○                 | ○              |
|                            | 20 bar                                                          | ○                 | ○              |
|                            | 70 bar                                                          | -                 | ○              |
| Coolant options            | High coolant interface                                          | ○                 | ○              |
|                            | Oil Skimmer(Belt type)                                          | ○                 | ○              |
|                            | Water soluble Coolant Chiller**                                 | ○                 | ○              |
|                            | Coolant pressure switch                                         | ○                 | ○              |
|                            | Coolant level switch : Sensing level - Low                      | ○                 | ○              |
| Chucking option            | Dual pressure chucking                                          | ○                 | ○              |
|                            | Chuck clamp conrmation                                          | ●                 | ●              |
| Work location confirmation | Air limit sensor preperation_Festo                              | ○                 | ○              |
|                            | Air limit sensor preperation_TACO                               | ○                 | ○              |
| Workpiece measurement      | Removable tool setter                                           | ○                 | ○              |
|                            | Auto tool setter(Electric)                                      | ○                 | ○              |
|                            | In-machine workpiece measuring system(Renishaw)                 | ○                 | ○              |
| Jaw                        | Soft jaw                                                        | ●                 | ●              |
|                            | Hardend & Ground hard jaws                                      | ○                 | ○              |
| Side chip conveyor         | Hinged belt                                                     | ○                 | ○              |
|                            | Magnetic scrapper                                               | ○                 | ○              |
| Rear chip conveyor         | Hinged belt                                                     | ○                 | ○              |
|                            | Magnetic scrapper                                               | ○                 | ○              |
| Chip processing options    | Chip bucket                                                     | ○                 | ○              |
|                            | Air blower                                                      | ○                 | ○              |
|                            | Chuck Coolant                                                   | ○                 | ○              |
|                            | Bed flushing Coolant                                            | ○                 | ●              |
|                            | Air Gun                                                         | ○                 | ○              |
|                            | Coolant gun                                                     | ○                 | ○              |
|                            | Mist collector_0.75kW (1.0Hp) (Option 1)                        | ○                 | ○              |
|                            | Mist collector_0.75kW (1.0Hp) (Option 2)                        | ○                 | ○              |
|                            | Auto door with safety edge                                      | ○                 | ○              |
|                            | Automatic side door                                             | ○                 | ○              |
| Automatic configuration    | Work & Tool counter                                             | ●                 | ○              |
|                            | OP panel position check (Pendant arm position check)            | ○                 | ○              |
|                            | Automatic Tool Changer                                          | ○                 | ○              |
|                            | PMC I/O MODULE TYPE                                             | ○                 | ○              |
| Robot Interface            | PROFIBUS-DP TYPE                                                | ○                 | ○              |
|                            | Tool load mononitoring system                                   | ●                 | ●              |
| Optional devices           | Signal tower                                                    | ○                 | ○              |
|                            | Additional MPG                                                  | ○                 | ○              |
|                            | Straddle tool preparation (PUMA V8300L/R, PUMA V8300-2SP only ) | ○                 | X              |
|                            | Linear scale (X-axis)                                           | ○                 | ○              |
|                            | Linear scale (Z-axis)                                           | -                 | ○              |
|                            | Auto power off                                                  | ○                 | ○              |
|                            | Quick change tooling(CAPTO)                                     | ○                 | ○              |
|                            | MAINTENANCE TOOL KIT(L-WRENCH AND SPANNER SET)                  | ○                 | ○              |
| OP Panel type              | Pendant arm                                                     | ●                 | ●              |
|                            | Base mount                                                      | ○                 | ○              |
| Customized Special Option  | Coolant Tank_High Capacity_500L                                 | ○                 | -              |
|                            | Rotary Type Window Wiper_Eletrical                              | ○                 | -              |
|                            | Chip Coveyor_Drum Filter Type                                   | ○                 | ○              |
|                            | Raised Column_200Mm                                             | ○                 | ○              |
|                            | Chuck Type_4 Jaw_T-Slot                                         | ○                 | ○              |
|                            | Rotary Cylinder_For Air Limit Sensing                           | ○                 | ○              |
|                            | Raised Level Plate_110 mm                                       | ○                 | ○              |
|                            | Raised Level Plate_160 mm                                       | ○                 | ○              |
|                            | Raised Level Plate_200 mm                                       | ○                 | ○              |
|                            | Additional Hydraulic A/B Line                                   | ○                 | ○              |
|                            | ACCUMULATOR FOR HYDRAULIC POWER UNIT                            | ○                 | ○              |
|                            | AIR BLOWER THROUGH TURRET_WITH COOLANT                          | ○                 | ○              |
|                            | GRAPHITE PACKAGE                                                | ○                 | ○              |

\* When using a semi-synthetic type or synthetic type, contact our sales representative or service center in advance.

\*\* Technical consultation is mandatory for the chilling of non-water soluble coolant

\* Please contact your DN Solutions representative for detailed machine information.

● Standard ○ Optional X N/A



There is a high risk of fire when using non-water-soluble cutting fluids, processing flammable materials, neglecting the controlled and careful use of coolants and modifying the machine without the consent of the manufacturer. Always check the SAFETY GUIDELINES carefully before using the machine.



# PERIPHERAL EQUIPMENT

## Chip conveyor OPTION



Long

Short



Needle

Sludge

### Hinged belt type\*

Most common type of chip conveyor. Appropriate for steel materials generating chips over 30mm (1.2inch).

### Magnetic scrapper type

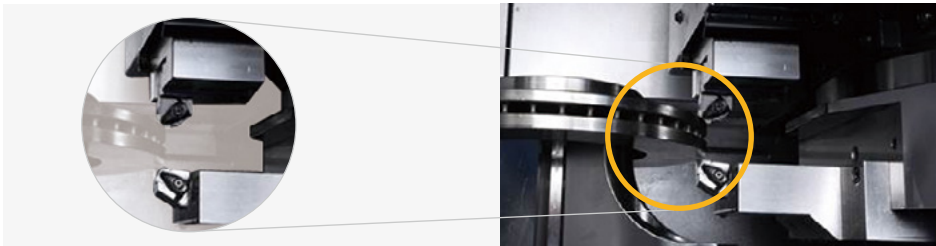
Chip conveyor with a magnet. Appropriate for machining cast iron and the generation of fine chips.

| Chip conveyor type | Material    | Carbon steel |       |        | Cast iron |        | Aluminium |       |        |
|--------------------|-------------|--------------|-------|--------|-----------|--------|-----------|-------|--------|
|                    |             | Long         | Short | Needle | Short     | Sludge | Long      | Short | Needle |
| Hinged belt type*  |             | ○            | △     | X      | △         | X      | ○         | △     | X      |
| Scrapper type      | Normal      | X            | ○     | △      | ○         | △      | X         | △     | X      |
|                    | Magnetic    | X            | ○     | ○      | ○         | ○      | -         | -     | -      |
| Drum filter type** | Hinged type | ○            | △     | X      | △         | X      | ○         | △     | X      |
|                    | Scrapper    | X            | ○     | △      | ○         | △      | X         | ○     | △      |

○ Suitable △ Possible X N/A

## Servo straddle tool OPTION

Simultaneous dual side cutting for higher productivity.  
(Only for PUMA V8300L/R only)



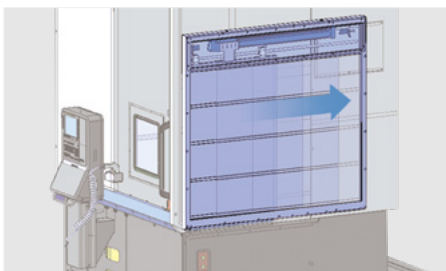
## Quick change CAPTO OPTION

The quick change tool system simplifies tool change operations. It is recommended for users who need to a) change tools frequently or b) reduce set-up times.



## Auto side door OPTION

Automatic side door enables the machine to become automated.



## Detachable tool setter OPTION

The tool setter facilitates the setting of cutting tools, and can be used to detect worn tools.



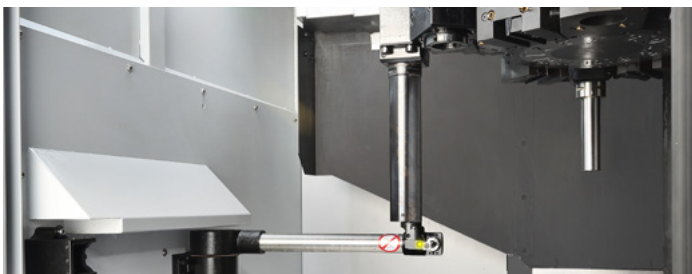
## Axis-tool number display OPTION

Axis-tool 'Number Display' is located inside the machine and it displays real time information to the operator.



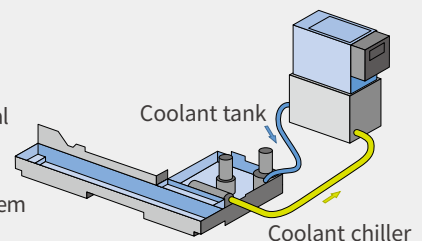
## Auto Tool Setter OPTION

Tool measurement for initial setting and worn tool length compensation can proceed without manual work or machine stop.



## Coolant chiller (recommended) OPTION

A coolant chiller is recommended to help prevent temperature rises and to reduce thermal deformation when using a waterinsoluble coolant or high-pressure coolant system (i.e., power over 8 1.5kW).





# FANUC i PLUS

DN Solutions FANUC i Plus maximizes customer productivity and convenience.

## 15" Screen + New OP

DN Solutions FANUC i Plus' operation panel enhances operating convenience by incorporating common-design buttons and layout. It features a Qwerty keyboard for fast and easy data input and operation.

## FANUC i PLUS

- 15-inch color display
- Intuitive and user-friendly design

## USB and PCMCIA card QWERTY keyboard

- EZ-Guide i standard
- Ergonomic operator panel
- 2MB Memory
- Hot keys



## iHMI touchscreen OPTION

iHMI provides an intuitive interface that uses a touchscreen for quick and easy operation.

## Range of applications

Providing various applications related to planning, machining, improvement and utility, for customer convenience.



## NUMERIC CONTROL SPECIFICATIONS

**FANUC**

| Division                    | Item                                                       | Specifications                                                | 2-axis                    | M                         |
|-----------------------------|------------------------------------------------------------|---------------------------------------------------------------|---------------------------|---------------------------|
|                             |                                                            |                                                               | DN Solutions FANUC i Plus | DN Solutions FANUC i Plus |
| Controlled axis             | Controlled axes                                            |                                                               | 2 (X,Z)                   | 3 (X,Z,C)                 |
|                             | Simultaneously controlled axes                             |                                                               | 2 axes                    | 3 axes                    |
| Data input/output           | Fast data server                                           |                                                               | ○                         | ○                         |
|                             | Memory card input/output                                   |                                                               | ●                         | ●                         |
|                             | USB memory input/output                                    |                                                               | ●                         | ●                         |
|                             | Larger capacity memory_2GB                                 | Note *2) Available Option only with 15" Touch LCD (iHMI Only) | ○ *2)                     | ○ *2)                     |
| Interface function          | Embedded Ethernet                                          |                                                               | ●                         | ●                         |
|                             | Fast Ethernet                                              |                                                               | ○                         | ○                         |
|                             | Enhanced Embedded Ethernet function                        |                                                               | ●                         | ●                         |
| Operation                   | DNC operation                                              | Included in RS232C interface.                                 | ●                         | ●                         |
|                             | DNC operation with memory card                             |                                                               | ●                         | ●                         |
| Program input               | Workpiece coordinate system                                | G52 - G59                                                     | ●                         | ●                         |
| Feed function               | AI contour control I                                       | G5.1 Q_, 40 Blocks                                            | ●                         | ●                         |
|                             | AI contour control II                                      | G5.1 Q_, 200 Blocks                                           | ○                         | ○                         |
| Operation Guidance Function | EZ Guidei (Conversational Programming Solution)            |                                                               | ●                         | ●                         |
|                             | iHMI with Machining Cycle                                  | Note *1) Only with 15" Touch LCD standard                     | ○ *1)                     | ○ *1)                     |
|                             | Multi path function                                        | Supporting 2 or 3 path machine                                | ●                         | ●                         |
|                             | EZ WORK                                                    |                                                               | ●                         | ●                         |
| Setting and display         | CNC screen dual display function                           |                                                               | ●                         | ●                         |
| Network                     | FANUC MTConnect                                            |                                                               |                           | ✳                         |
|                             | FANUC OPC UA                                               |                                                               | ✳                         | ✳                         |
| Others                      | Display unit                                               | 15" color LCD                                                 | ●                         | ●                         |
|                             |                                                            | 15" color LCD with Touch Panel                                | ○                         | ○                         |
|                             | Part program storage size & Number of registrable programs | 5120M(2MB)_1000 programs                                      | ●                         | ●                         |

# CONVENIENT OPERATION

## Siemens S828D

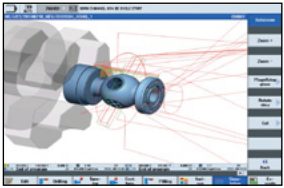
### 15. inch display + New OP

Siemens 828D' operation panel enhances operating convenience by incorporating common-design buttons and layout. It features a Qwerty keyboard for fast and easy data input and operation.

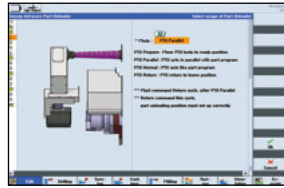
- 15.6 inch display
- USB (standard)
- QWERTY keyboard



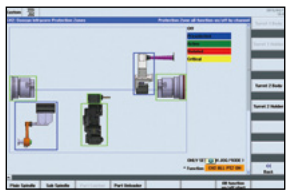
### Convenient conversational functionality



**Cutting and operation support function**  
This function shows a cutting and tool path simulation in real-time.



Shop-turn mode  
[various]  
↓  
[attachments]



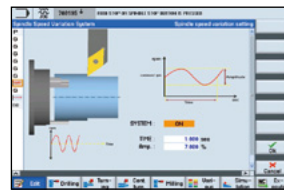
[Custom]  
↓  
[Protection zones]

**Operation safety function**  
Protection Zone Synchronized Actions checks the interference between the turret and the spindle to prevent collisions caused by operator error.



[offset]  
↓  
[operating parameter]  
↓  
[TC service]

**Maintenance and service convenience function**  
Maintenance and service of major equipment and peripheral devices, including the timer and parts counter settings can be easily undertaken.



[various]  
↓  
[attachment]  
↓  
[DSSV]

**Machining accuracy improvement**  
The NC controls spindle speed at an optimal level for precision threading and turning, making it possible to automatically improve surface roughness.



Before applying the function  
After applying the function

## NUMERIC CONTROL SPECIFICATIONS

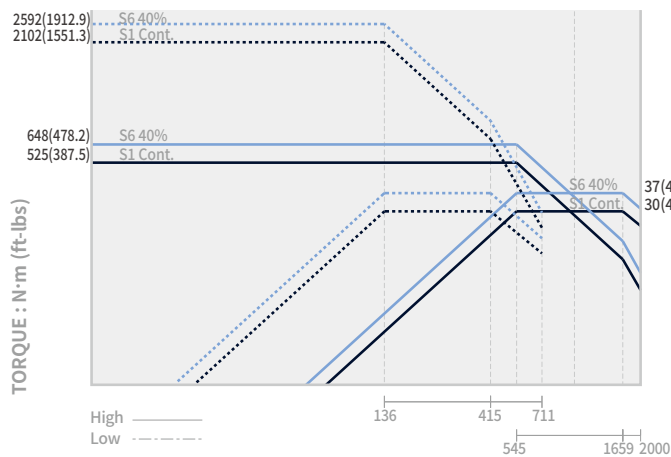
# SIEMENS

| Division                       | Item                                              | Specifications                                                                                          | 2-Axis | M       |
|--------------------------------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------|---------|
|                                |                                                   |                                                                                                         | S828D  | S828D   |
| Controlled axis                | Controlled axes                                   |                                                                                                         | X,Z,SP | X,Z,C,R |
|                                | Simultaneously controlled axes                    |                                                                                                         | 4 axes | 4 axes  |
| Data input/output              | Memory card input/output                          |                                                                                                         | X      | X       |
|                                | USB memory input/output                           |                                                                                                         | ●      | ●       |
| Interface function             | Ethernet                                          | (X130)                                                                                                  | ○      | ○       |
| Operation                      | On network drive                                  | (without EES option, Excall)                                                                            | ●      | ●       |
|                                | On USB storage medium, e.g. memory stick          | (without EES option, Excall)                                                                            | ●      | ●       |
| Program input                  | Workpiece coordinate system                       | G54 - G59, G507 - G599                                                                                  | ●      | ●       |
|                                | Advanced surface                                  |                                                                                                         | X      | X       |
| Feed function                  | Top surface                                       |                                                                                                         | X      | X       |
|                                | Look ahead number of block                        |                                                                                                         | 1      | 1       |
| Programming & Editing function | 3D simulation, finished part                      |                                                                                                         | ●      | ●       |
|                                | Simultaneous recording                            |                                                                                                         | ●      | ●       |
|                                | DXF Reader for PC integrated in SINUMERIK Operate |                                                                                                         | ○      | ○       |
| Operation Guidance Function    | Shopturn                                          |                                                                                                         | ●      | ●       |
|                                | EZ Operation package                              |                                                                                                         | ●      | ●       |
| Setting and display            | Operation via a VNC viewer                        |                                                                                                         | ●      | ●       |
|                                | MTCConnect                                        |                                                                                                         | ✱      | ✱       |
| Network                        | OPCUA                                             |                                                                                                         | ○      | ○       |
|                                | Display unit                                      | 15.6" color display with touch screen                                                                   | ●      | ●       |
| Others                         | Part program storage size                         | CNC user memory 5MB                                                                                     | ●      | ●       |
|                                |                                                   | CNC user memory 100 MB                                                                                  | ○      | ○       |
|                                |                                                   | CNC user memory 6GB                                                                                     | X      | X       |
|                                |                                                   | CNC user memory 40GB (with PCU or IPC)                                                                  | X      | X       |
|                                |                                                   | CNC user memory without limit (Execution from external storage devices) (EES / Using by USB or Network) | ○      | ○       |
|                                |                                                   | HMI user memory for CNC part program 6GB                                                                | X      | X       |
|                                |                                                   |                                                                                                         |        |         |

# POWER | TORQUE

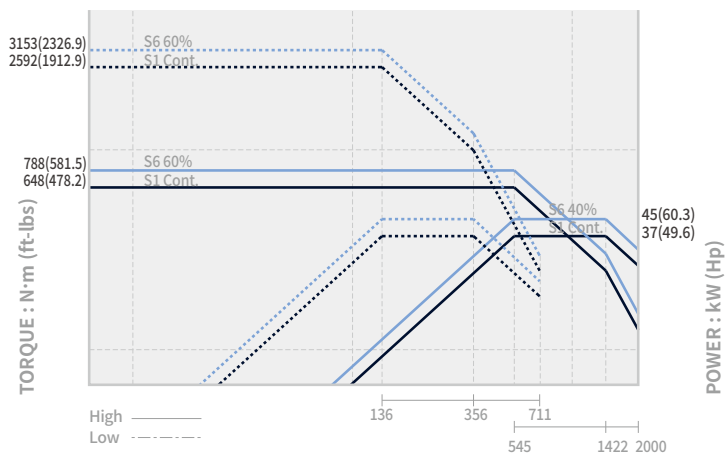
FANUC

## PUMA V8300 / M, Gear box



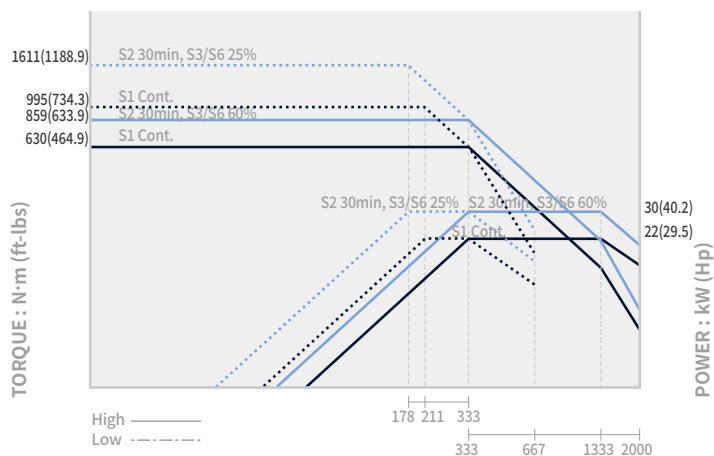
SPINDLE SPEED : r/min

## PUMA V8300 / M, Gear box OPTION



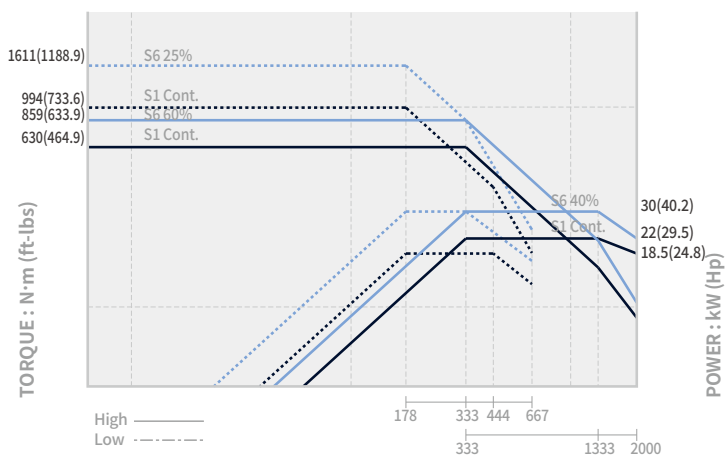
SPINDLE SPEED : r/min

## PUMA V8300 OPTION



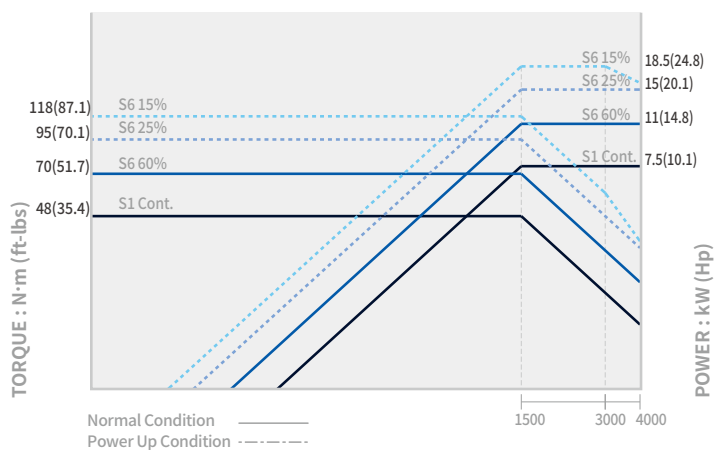
SPINDLE SPEED : r/min

## PUMA V8300 M OPTION



SPINDLE SPEED : r/min

## Rotary Tool



SPINDLE SPEED : r/min



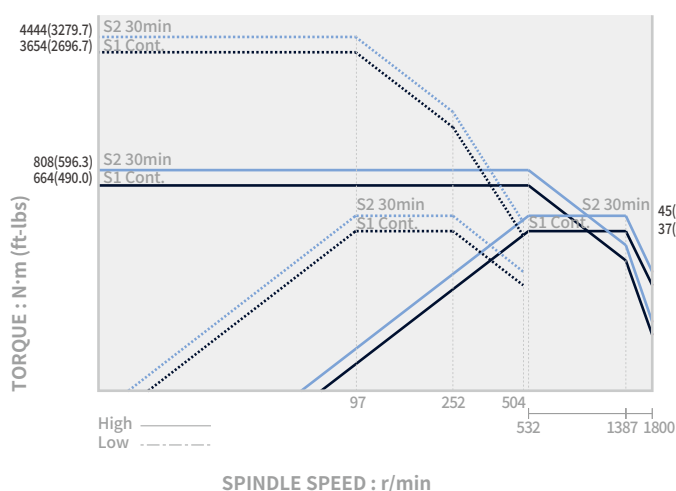
# POWER | TORQUE

## FANUC\_PV 9300M

Max. spindle speed **1800** r/min

Max. power **45/37** kW  
(60.3/49.6 Hp)

Max. torque **4444** N·m  
(3279.7 ft-lbs)

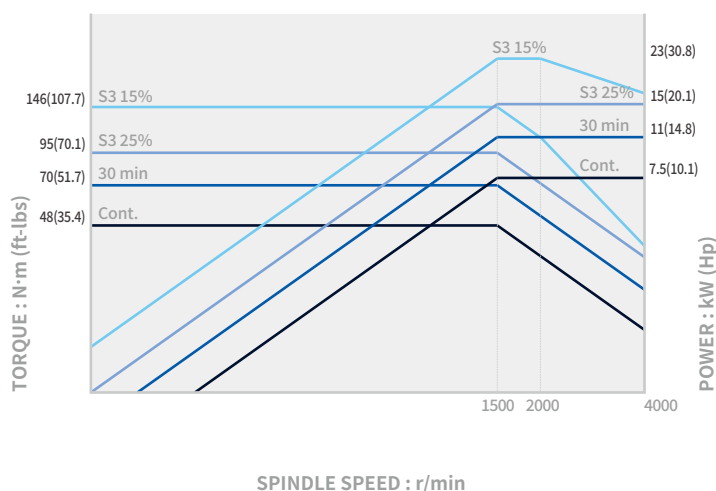


## FANUC\_Rotary Tool\_PV 9300M

Max speed of live tool **4000** r/min

Max power of live tool **23** kW  
(30.8 Hp)

Max. torque **146** N·m  
(107.7 ft-lbs)

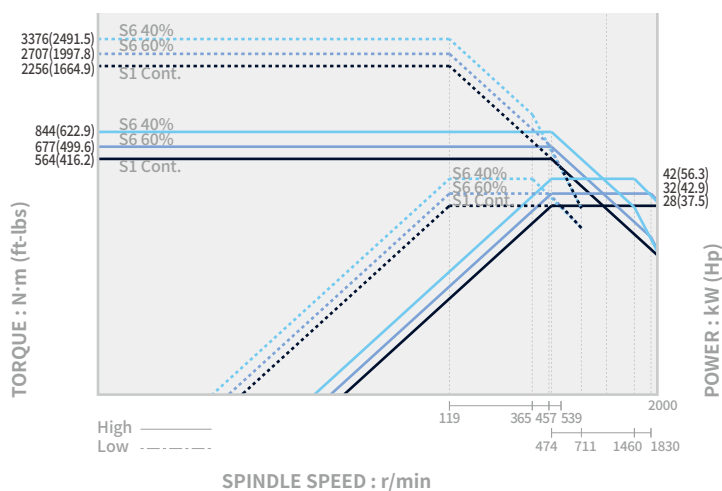


## SIEMENS\_PUMA V8300 / M

Max. spindle speed **2000** r/min

Max. power **43/32/28** kW  
(56.3/42.9/37.5 Hp)

Max. torque **3376** N·m  
(2491.9 ft-lbs)

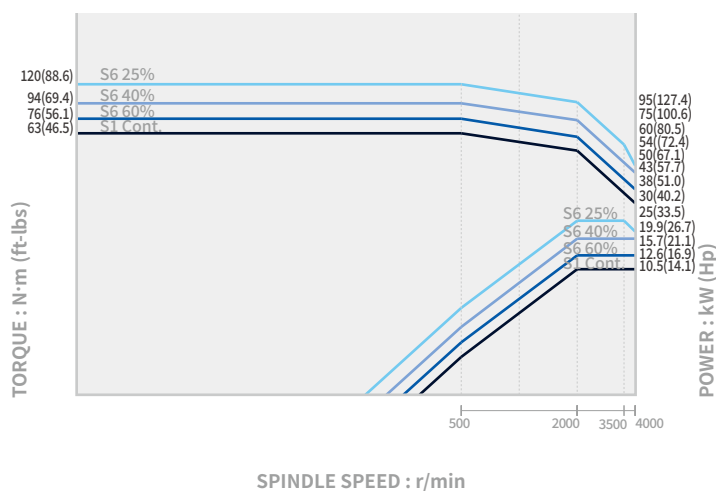


## SIEMENS\_Rotary Tool\_PUMA V8300M

Max speed of live tool **4000** r/min

Max power of live tool **19.9** kW  
(26.7 Hp)

Max. torque **120** N·m  
(88.6 ft-lbs)



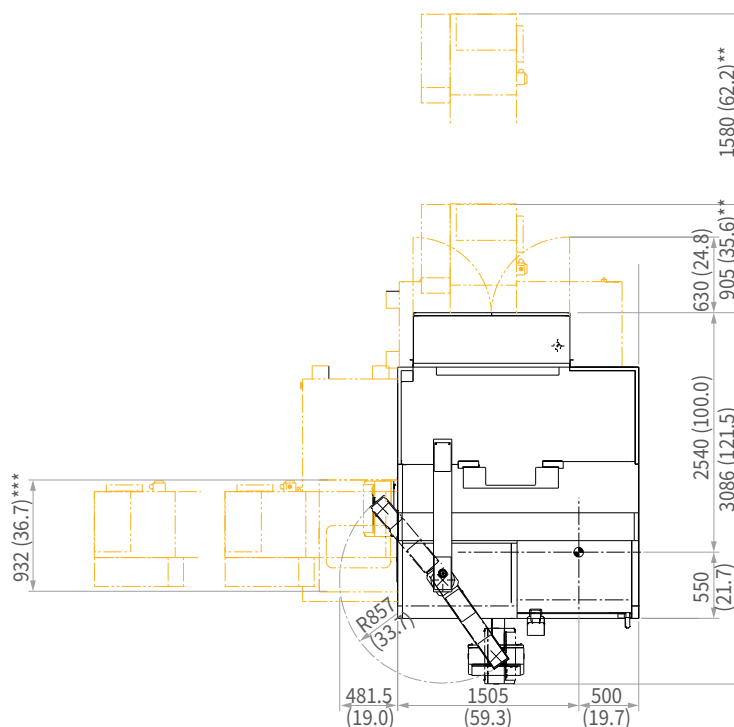


# EXTERNAL DIMENSIONS

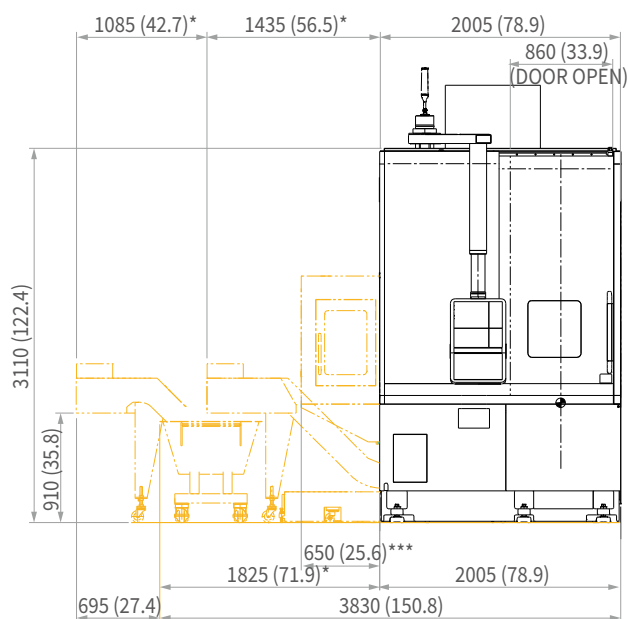
PUMA V8300/M (L type)

Unit : mm (inch)

TOP



FRONT



\* Area for side chip conveyor

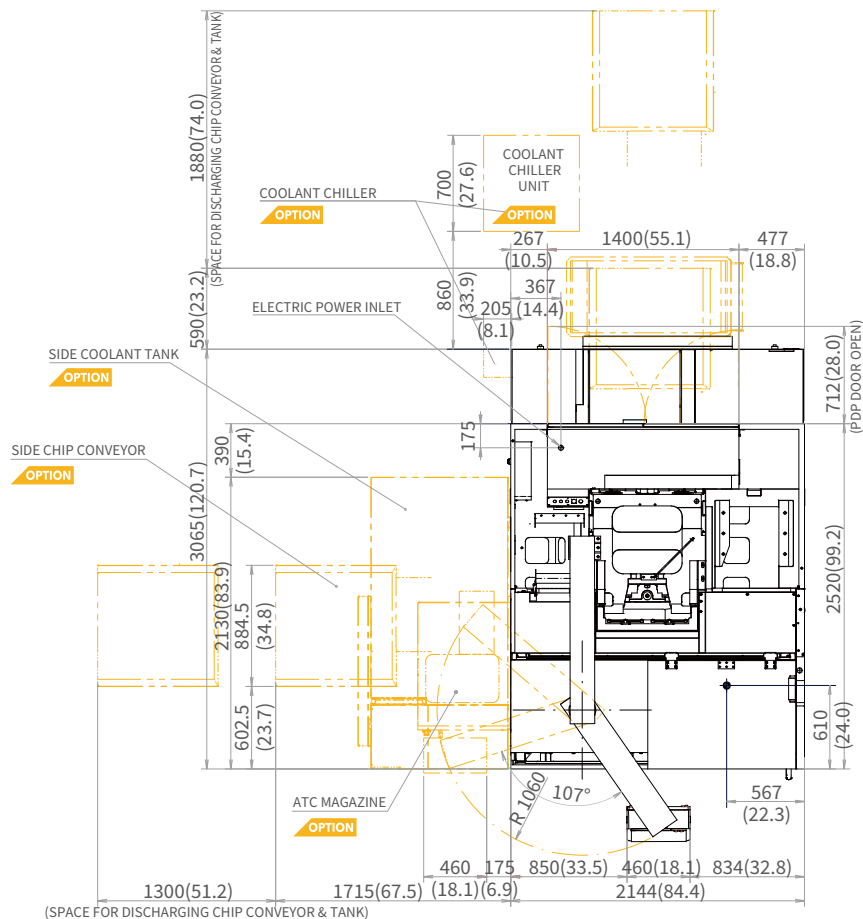
\*\* Area for rear chip conveyor

\*\*\* Area for Auto Tool Changer

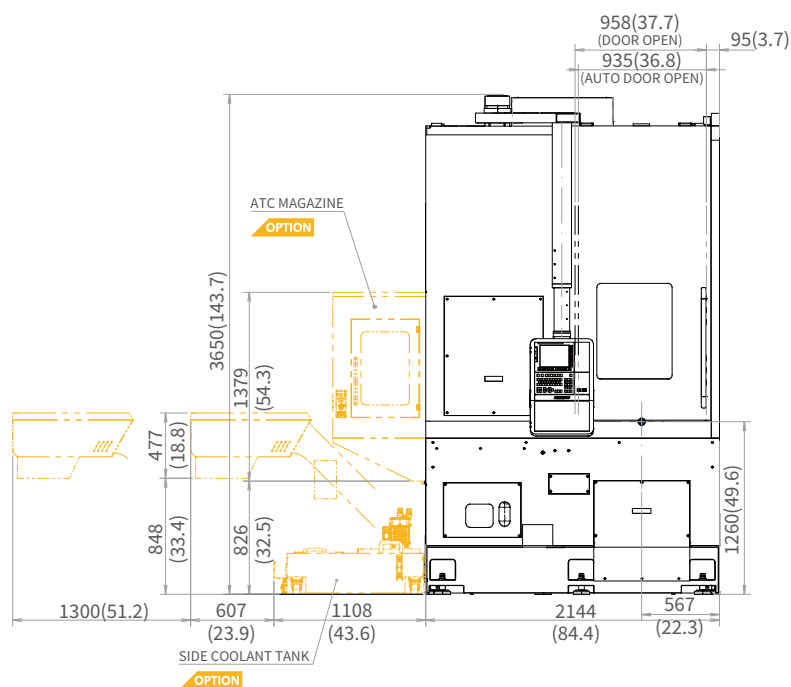
**PV 9300/M\_L type**

Unit : mm (inch)

TOP



FRONT



\* Some peripheral equipment can be placed in other areas.

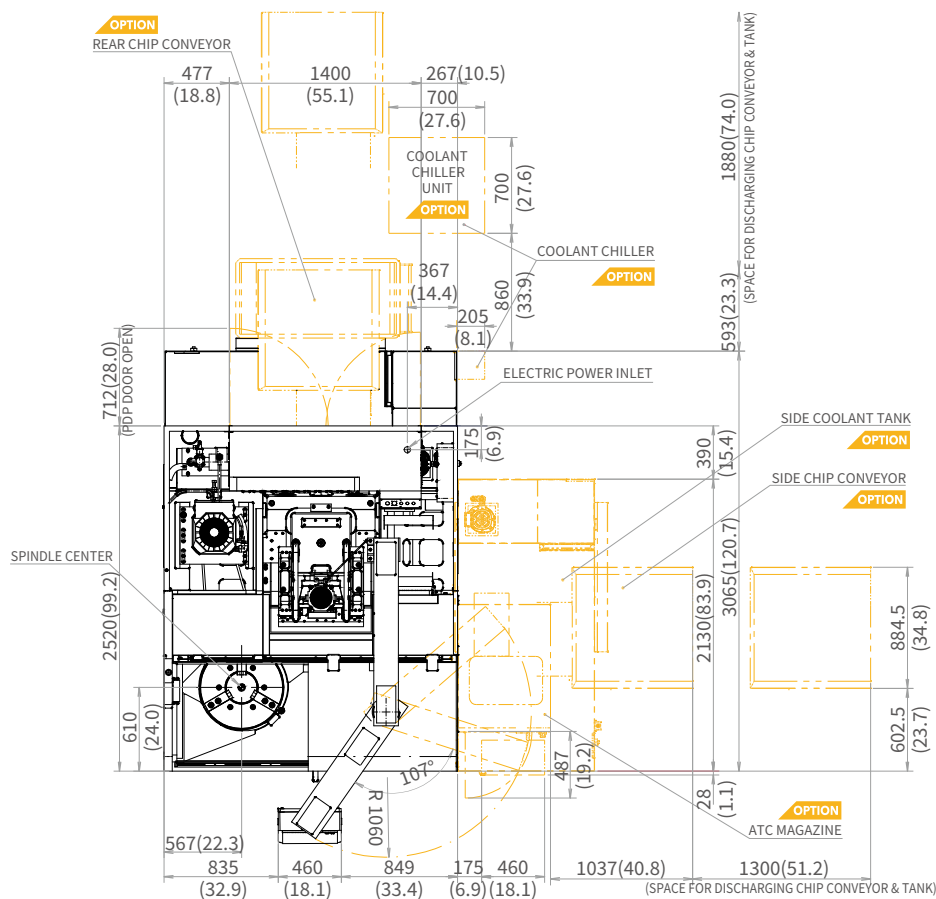


# EXTERNAL DIMENSIONS

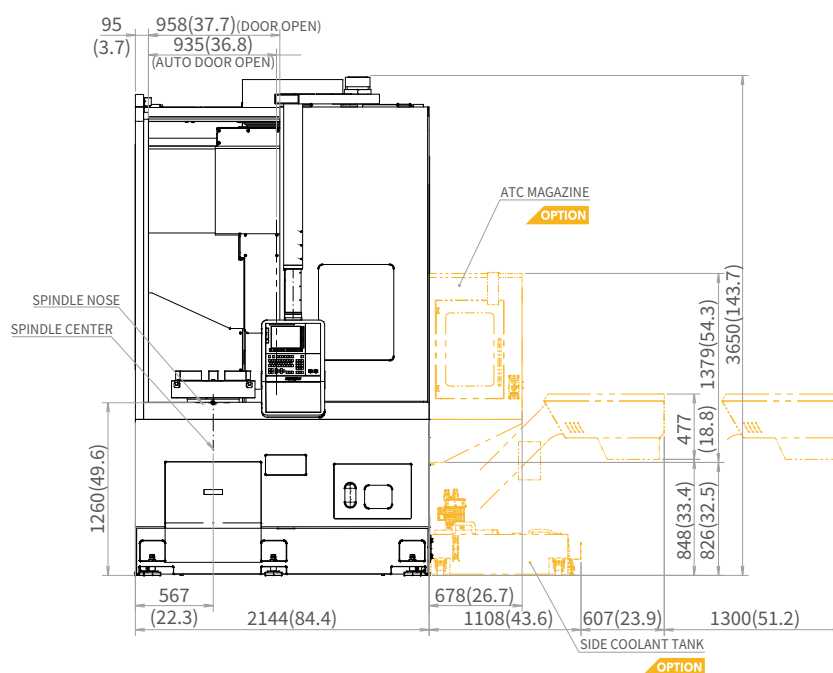
PV 9300/M\_R type

Unit : mm (inch)

TOP



FRONT



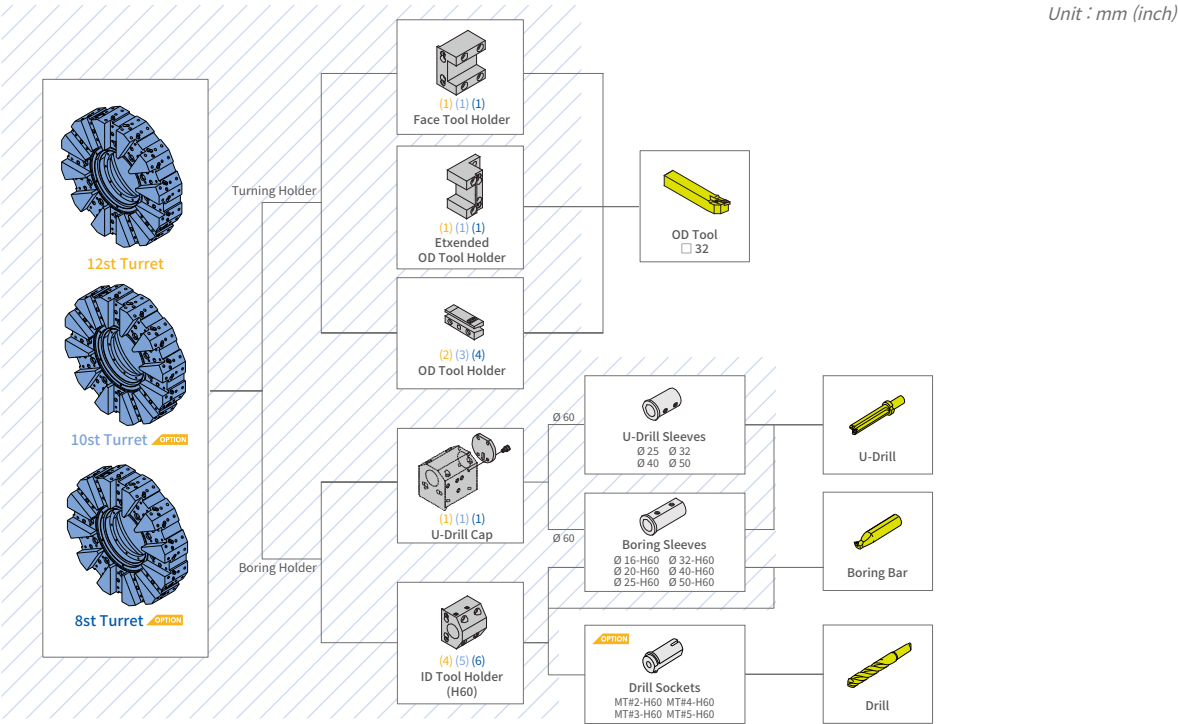
TOOLING SYSTEM

PUMA V8300

Standard

- ( ) 12 ST
- ( ) 10 ST
- ( ) 8 ST

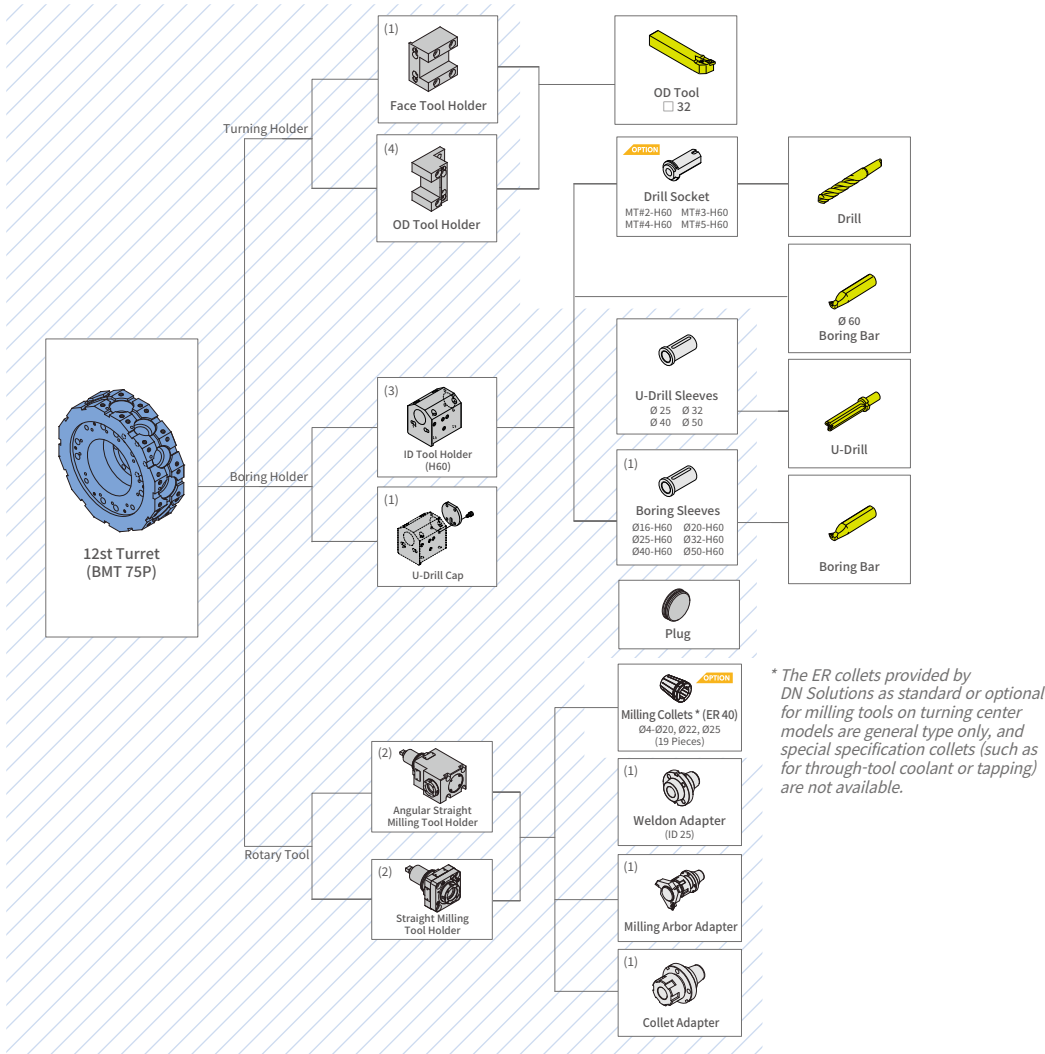
\* ( ) Supply quantity



PUMA V8300 M

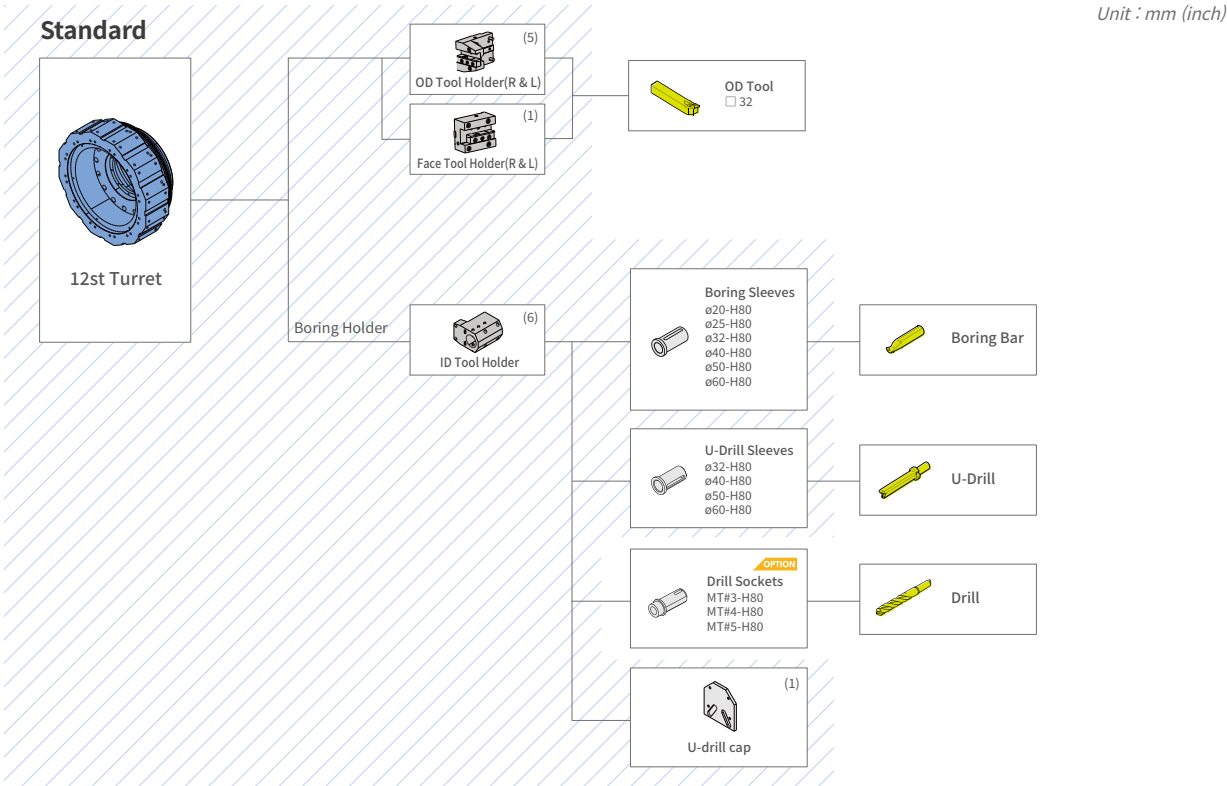
Standard

\* ( ) Supply quantity

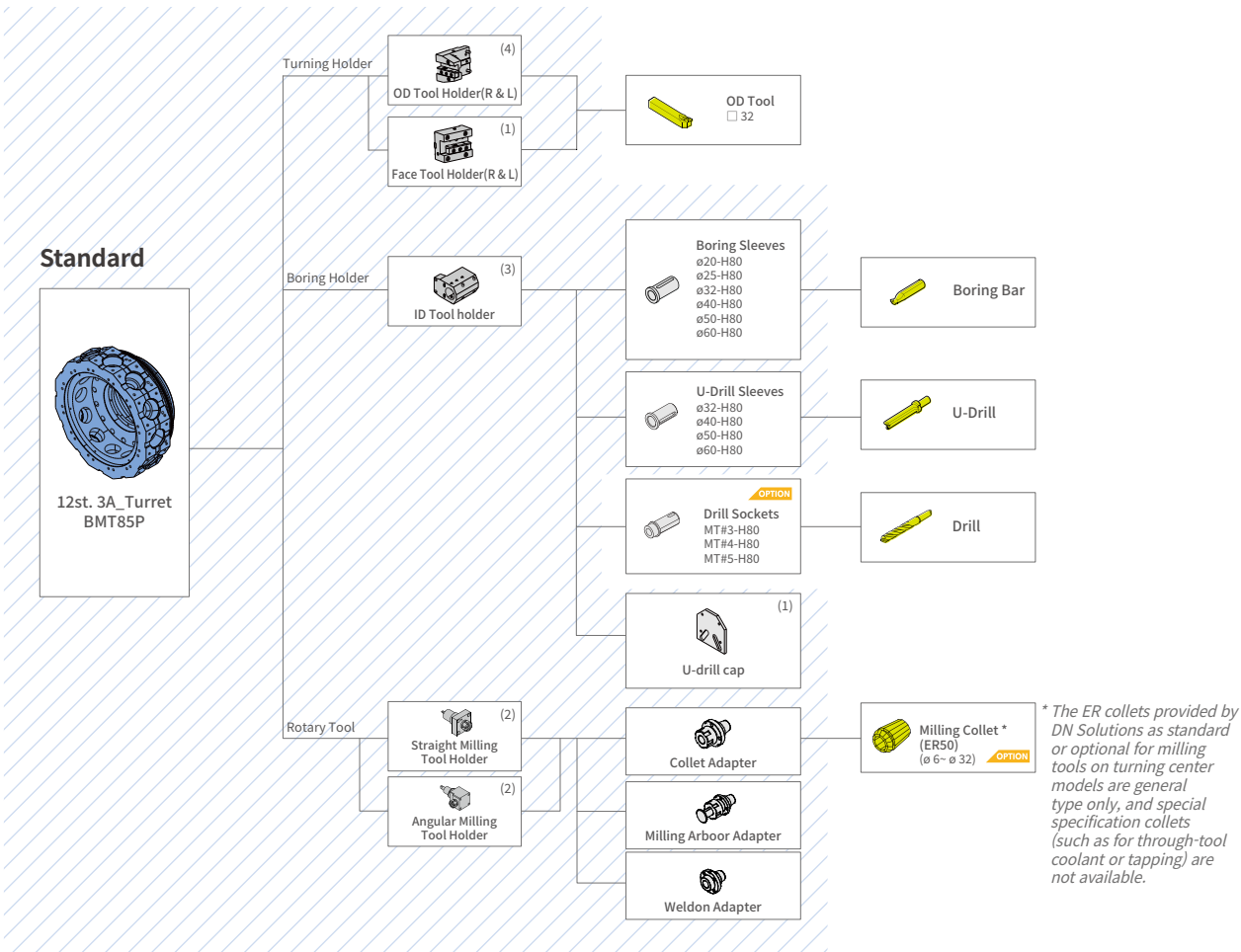


# TOOLING SYSTEM

PV 9300



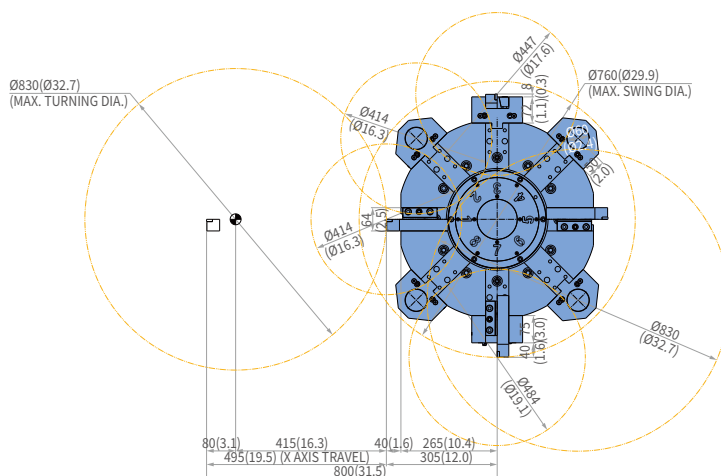
PV 9300 M



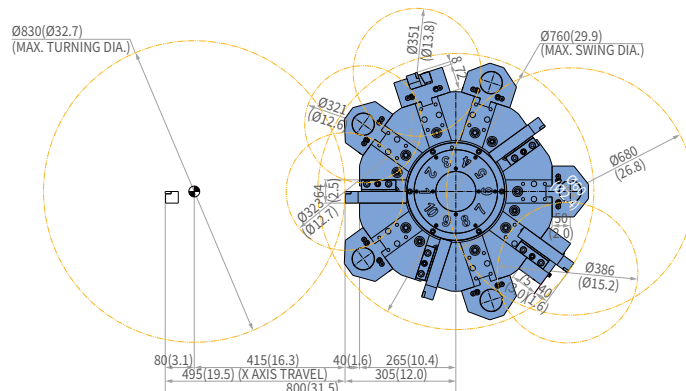
# TOOL INTERFACE

## PUMA V8300 (2-axis, 8st)

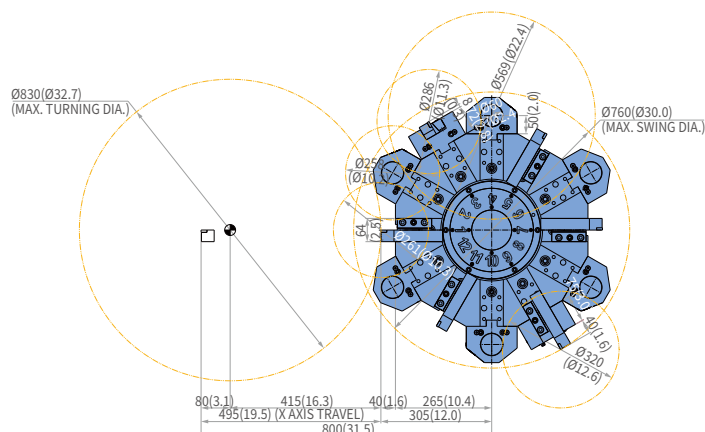
Unit : mm (inch)



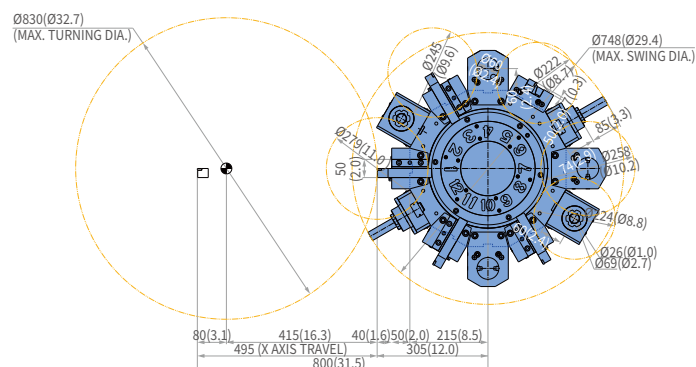
## PUMA V8300 (2-axis, 10st)



## PUMA V8300 (2-axis, 12st)



## PUMA V8300 M (3-axis, 12st)

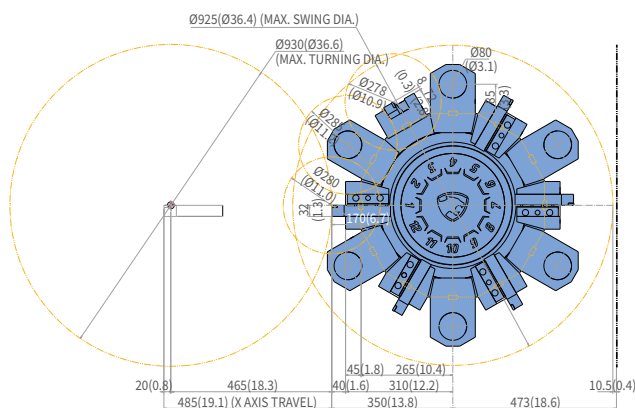




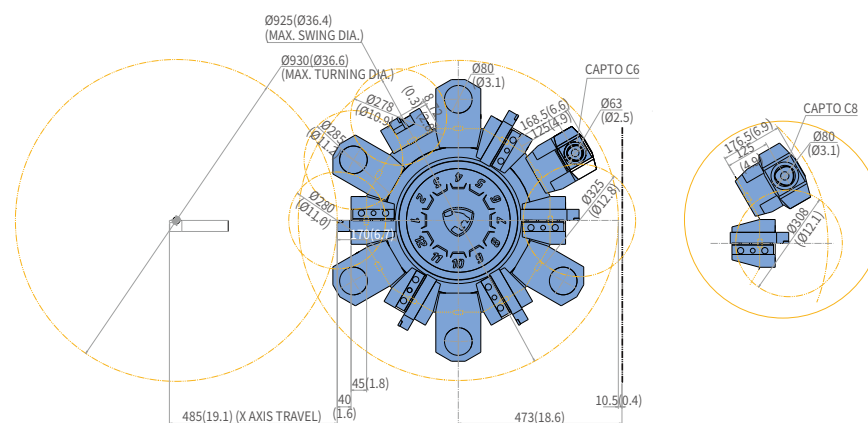
# TOOL INTERFACE

## PV 9300 (2-axis, 12st)

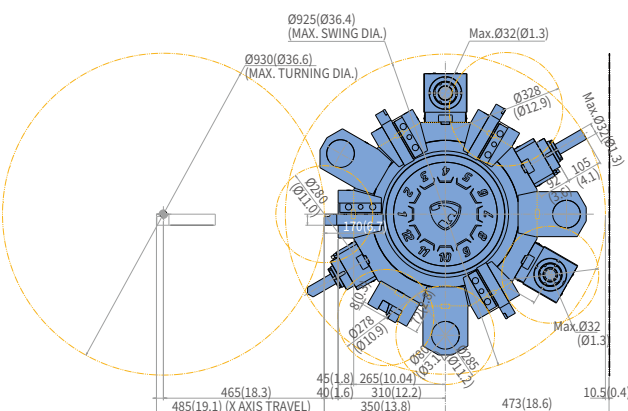
Unit : mm (inch)



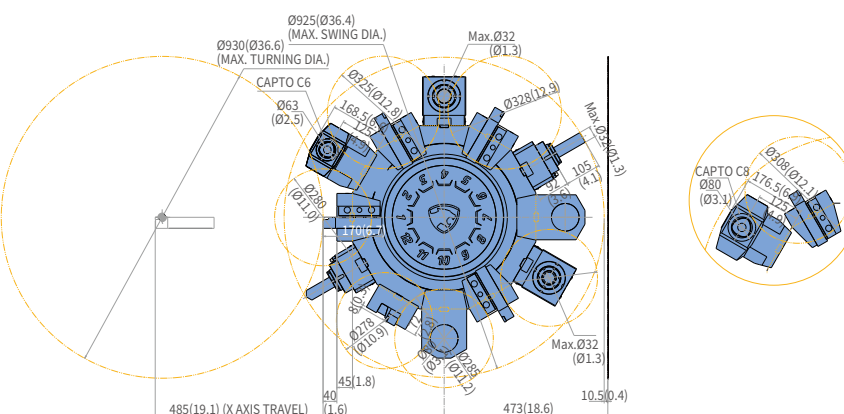
## PV 9300 (2-axis, ATC\_CAPTO C6, C8)



## PV 9300 M (3-axis, 12st)



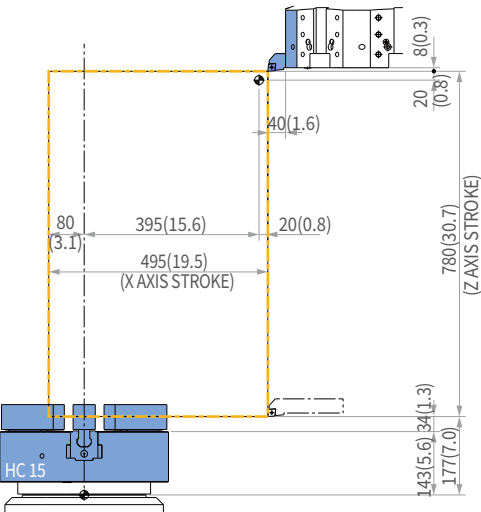
## PV 9300 M (3-axis, ATC\_CAPTO C6, C8)



# WORKING RANGE

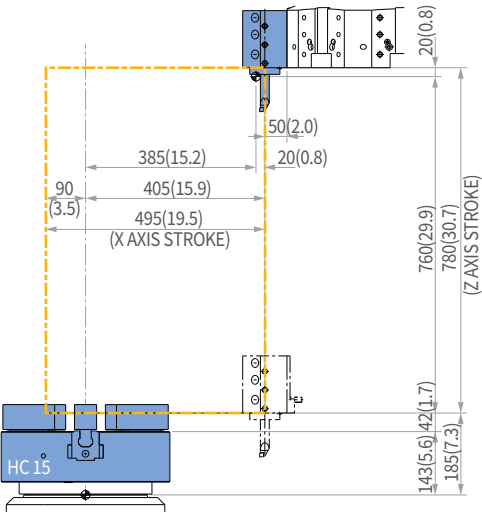
PUMA V8300

OD HOLDER

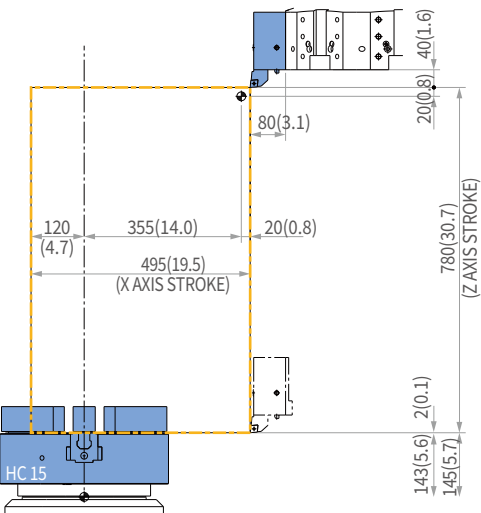


ID HOLDER

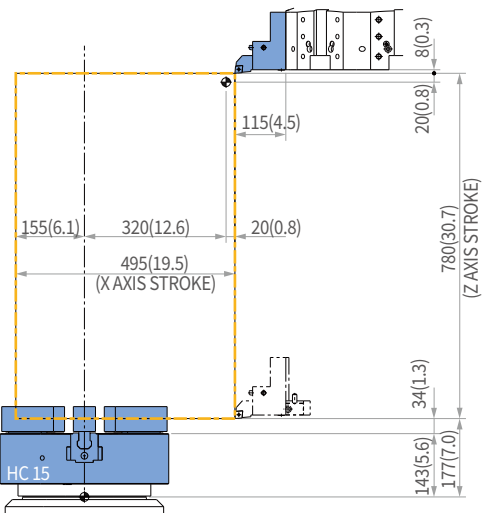
Unit : mm (inch)



FACE TOOL HOLDER



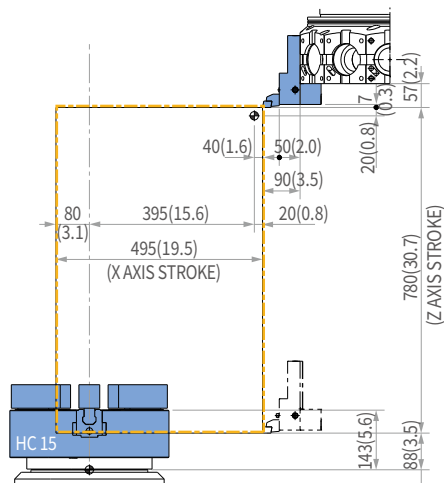
EXTENDED OD HOLDER



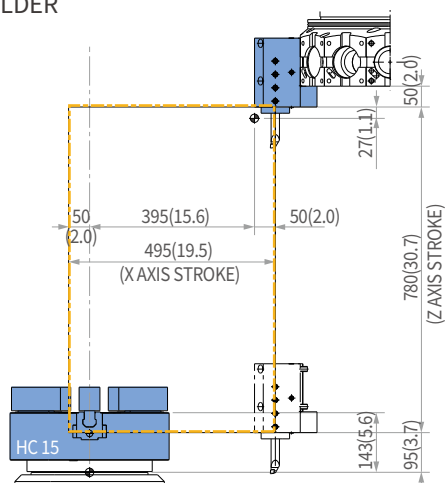
# WORKING RANGE

## PUMA V8300 M

OD HOLDER

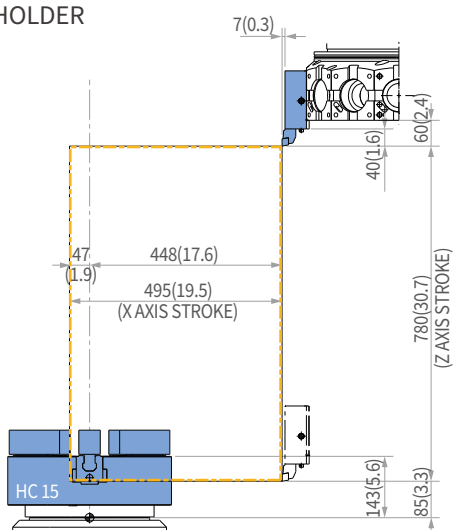


ID HOLDER

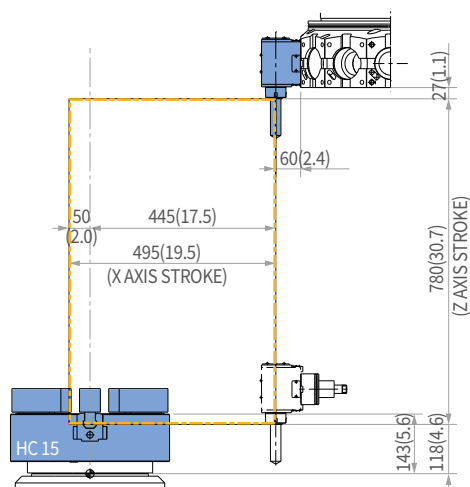


Unit : mm (inch)

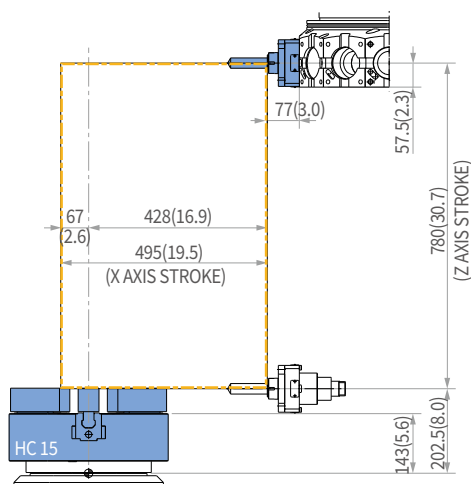
FACE TOOL HOLDER



ANGULAR MILLING HOLDER



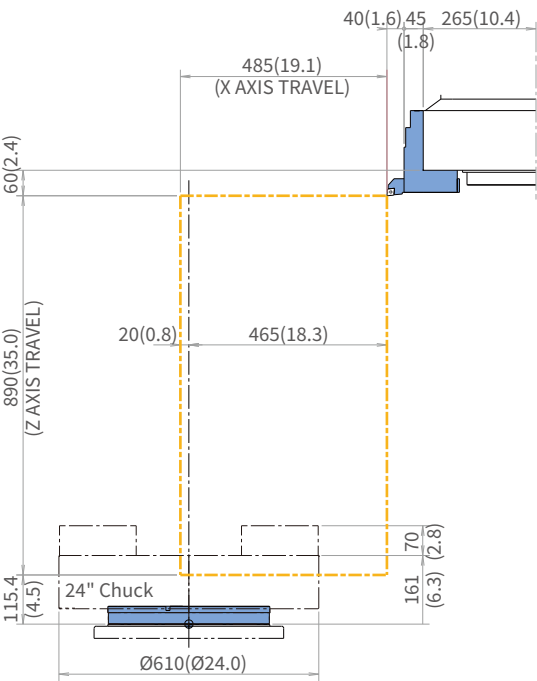
STRAIGHT MILLING HOLDER



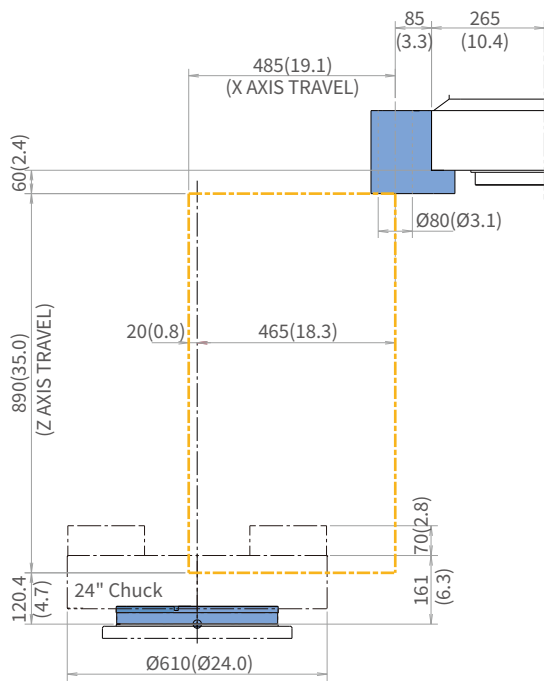
# WORKING RANGE

PV 9300

OD HOLDER

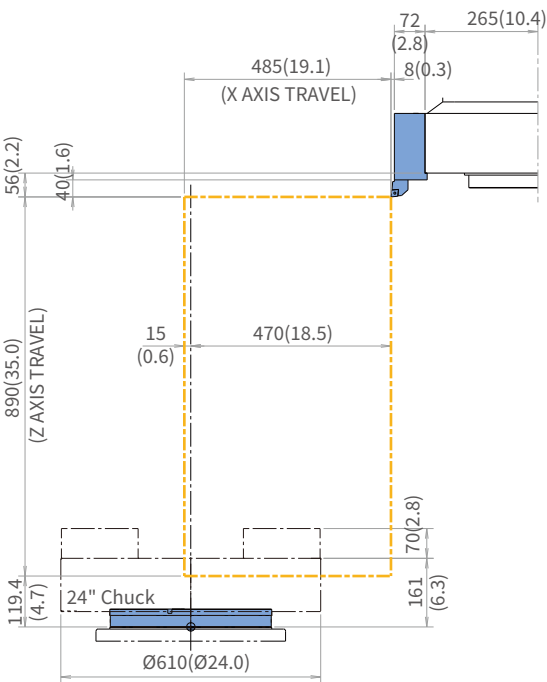


ID HOLDER



Unit : mm (inch)

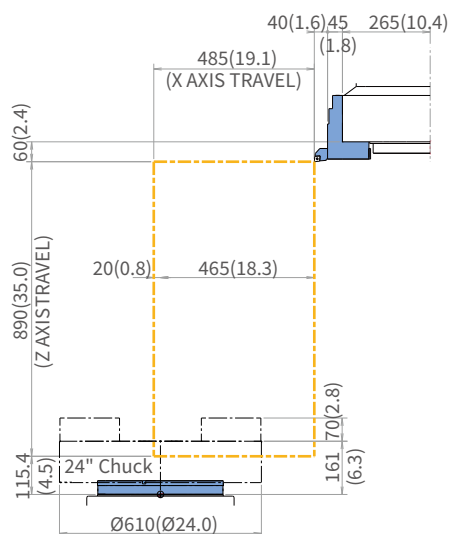
FACE TOOL HOLDER



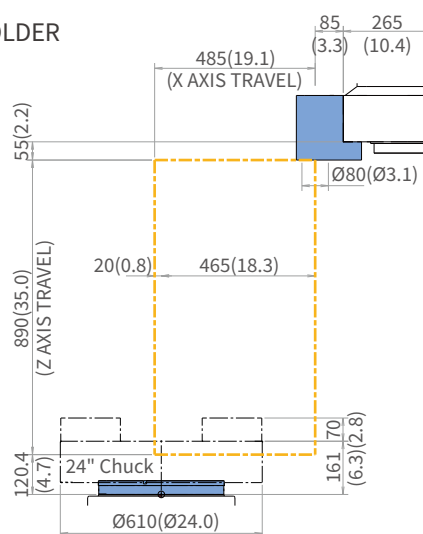
# WORKING RANGE

PV 9300 M

OD HOLDER

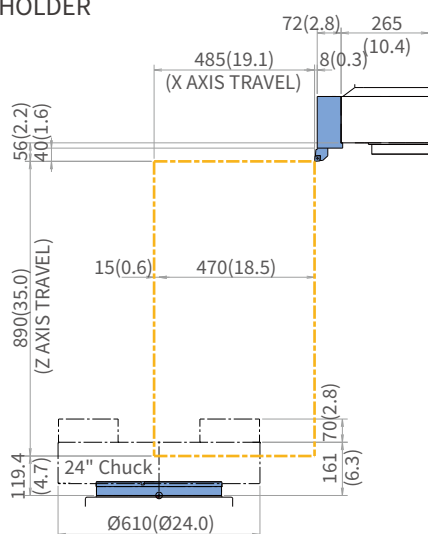


ID HOLDER

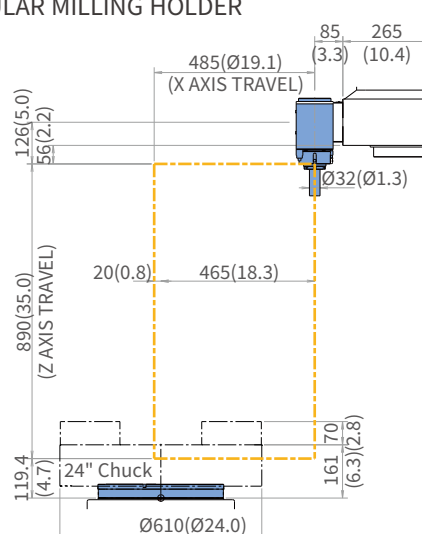


Unit : mm (inch)

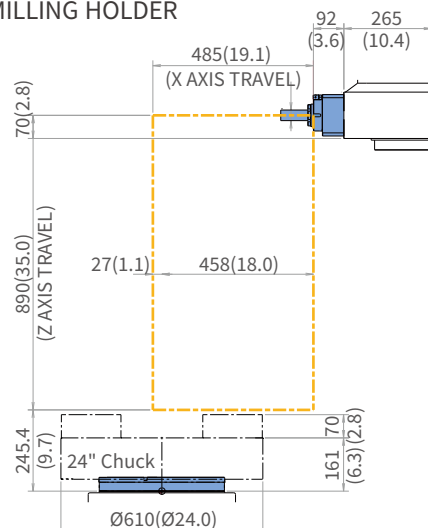
FACE TOOL HOLDER



ANGULAR MILLING HOLDER



STRAIGHT MILLING HOLDER





# MACHINE SPECIFICATIONS

## PUMA V8300 series

| Description           |                                                                             |        | Unit         | PUMA V8300<br>L/R                                                                          | PUMA V8300 M<br>/ML/MR                       |
|-----------------------|-----------------------------------------------------------------------------|--------|--------------|--------------------------------------------------------------------------------------------|----------------------------------------------|
| Capacity              | Swing over bed                                                              |        | mm (inch)    | 920 (36.2)                                                                                 |                                              |
|                       | Swing over saddle                                                           |        | mm (inch)    | 740 (29.1)                                                                                 |                                              |
|                       | Max. workpiece swing                                                        |        | mm (inch)    | 850 (33.5)                                                                                 |                                              |
|                       | Recommended turning diameter                                                |        | mm (inch)    | 380 (15.0)                                                                                 |                                              |
|                       | Max. turning diameter                                                       |        | mm (inch)    | 830 (32.7)                                                                                 |                                              |
|                       | Max. turning length                                                         |        | mm (inch)    | 2 Axis : 780 (30.7) / 3 Axis : 690 (27.2)                                                  |                                              |
|                       | Chuck size                                                                  |        | inch         | 15 {18 / 21 / 24}*<br>}                                                                    |                                              |
| Travel                | Travel distance                                                             | X-axis | mm (inch)    | 495 (-80~415) (19.5(-3.1~16.3))                                                            |                                              |
|                       |                                                                             | Z-axis | mm (inch)    | 780 (30.7)                                                                                 |                                              |
| Feedrate              | Rapid<br>traverse                                                           | X-axis | m/min(ipm)   | 20 (787.4)                                                                                 |                                              |
|                       |                                                                             | Z-axis | m/min(ipm)   | 20 (787.4)                                                                                 |                                              |
| Spindle               | Spindle speed                                                               |        | r/min        | 2000                                                                                       |                                              |
|                       | Spindle motor power (FANUC)<br>(S6 40% / cont.)                             |        | kW (Hp)      | 37/30<br>{45/37, 30/22 (S2 30min., S3/S6 60%/Cont.)}<br>(49.6/40.2 {60.3/49.6, 40.2/29.5}) |                                              |
|                       | Spindle motor power (SIEMENS)<br>(S6 40%/S6 60%/S1 Cont.)                   |        | kW (Hp)      | 42/32/28 (56.3/45.6/37.5)                                                                  |                                              |
|                       | Spindle motor torque (FANUC)                                                |        | N·m (ft-lbs) | 2592 {3153, 1611} (1912.9 {2326.9, 1188.9})                                                |                                              |
|                       | Spindle motor torque (SIEMENS)                                              |        | N·m (ft-lbs) | 3376 (2491.5)                                                                              |                                              |
|                       | Spindel nose                                                                |        | ASA          | A2-11                                                                                      |                                              |
|                       | Spindle bearing diameter                                                    |        | mm (inch)    | 160 (6.3)                                                                                  |                                              |
|                       | C-axis min.indexing angle                                                   |        | deg          | -                                                                                          | 0.001                                        |
| Turret                | No.of tool stations                                                         |        | ea           | 8 / 10 / 12                                                                                |                                              |
|                       | OD tool size                                                                |        | mm (inch)    | 32 x 32<br>(1.3 x 1.3)                                                                     | 25 x 25<br>(1.0 x 1.0)                       |
|                       | Turret indexing time(1st swivel)                                            |        | sec          | 0.25                                                                                       |                                              |
|                       | Max.rotary tool speed                                                       |        | r/min        | -                                                                                          | 4000 {8000}                                  |
|                       | Rotary tool motor power (FANUC)<br>(15% / cont)                             |        | kW (Hp)      | -                                                                                          | 18.5 / 7.5<br>(24.8/10.1)                    |
|                       | Rotary tool motor power (SIEMENS)<br>(S6 25% / S6 40%/S6 60% /<br>S1 Cont.) |        | kW (Hp)      | -                                                                                          | 19.9/15.7/12.6/10.5<br>(26.7/21.1/16.9/14.1) |
| Power source          | Power consumption                                                           |        | kVA          | 43.16                                                                                      |                                              |
| Machine<br>dimensions | Length x Width                                                              |        | mm (inch)    | 2005 x 2715 (78.9 x 106.9)                                                                 |                                              |
|                       | Height                                                                      |        | mm (inch)    | 3636 (143.1)                                                                               |                                              |
|                       | Weight                                                                      |        | kg (lb)      | 9400<br>(20723.1)                                                                          | 9500<br>(20943.6)                            |
| Control               | CNC system                                                                  |        |              | DN Solutions Fanuc i Plus                                                                  |                                              |

# MACHINE SPECIFICATIONS

## PV 9300 series

| Description        |                                                  |        | Unit         | PV 9300<br>L/R                | PV 9300M<br>/ML/MR                    |
|--------------------|--------------------------------------------------|--------|--------------|-------------------------------|---------------------------------------|
| Capacity           | Swing over bed                                   |        | mm (inch)    | 1000 (39.4)                   |                                       |
|                    | Swing over saddle                                |        | mm (inch)    | 700 (27.6)                    |                                       |
|                    | Recom. turning diameter                          |        | mm (inch)    | 610 (24.0)                    |                                       |
|                    | Max. turning diameter                            |        | mm (inch)    | 930 (36.6)                    |                                       |
|                    | Max. turning height                              |        | mm (inch)    | 801 (31.5)                    |                                       |
|                    | Chuck size                                       |        | inch         | 24 {32}                       |                                       |
| Travel             | Travel distance                                  | X-axis | mm (inch)    | 485 (19.1)                    |                                       |
|                    |                                                  | Z-axis | mm (inch)    | 890 (35.0)                    |                                       |
|                    | Rapid traverse Rate                              | X-axis | m/min(ipm)   | 20 (787.4)                    |                                       |
|                    |                                                  | Z-axis | m/min(ipm)   | 20 (787.4)                    |                                       |
| Spindle            | Max. spindle speed                               |        | r/min        | 1800                          |                                       |
|                    | Motor power(S3 60%/cont.)                        |        | kW (Hp)      | 45/37 (60.3/49.6)             |                                       |
|                    | Max. spindle torque                              |        | N·m (ft-lbs) | 4444 (3279.7)                 |                                       |
|                    | Spindle nose                                     |        | ASA          | A2-15                         |                                       |
|                    | Spindle bearing diameter                         |        | mm (inch)    | 200 (7.9)                     |                                       |
|                    | Min. spindle Indexing angle(C-axis)              |        | deg          | -                             | 0.001                                 |
| Turret             | No.of tool stations                              |        | ea           | 12                            |                                       |
|                    | OD tool size                                     |        | mm (inch)    | 32 (1.3)                      |                                       |
|                    | Turret indexing time(1st swivel)                 |        | s            | 0.25                          |                                       |
|                    | Max.rotary tool speed                            |        | r/min        | -                             | 4000                                  |
|                    | Rotary tool motor power<br>(S3 15%/25%/60%/cont) |        | kW (Hp)      | -                             | 23/15/11/7.5<br>(30.8/20.1/14.8/10.1) |
| Power source       | Power consumption                                |        | kVA          | 66.94                         |                                       |
| Machine dimensions | Length x Width                                   |        | mm (inch)    | 2144 x 3065<br>(84.4 x 120.7) | 2144 x 3065<br>(84.4 x 120.7)         |
|                    | Height                                           |        | mm (inch)    | 3650 (143.7)                  |                                       |
|                    | Weight                                           |        | kg (lb)      | 11400 (25132.3)               | 11500 (25352.8)                       |
| Control            | CNC system                                       |        |              | DN Solutions-FANUC i Plus     |                                       |

# RESPONDING TO CUSTOMERS **ANYTIME, ANYWHERE**

## DN SOLUTIONS GLOBAL NETWORK

**66** COUNTRIES | **140** + SALES NETWORKS | **3** FACTORIES | **6** REGIONAL HQS



## CUSTOMER SUPPORT AND SERVICES

### WE'RE THERE FOR YOU WHENEVER YOU NEED US.

We help our customers operate at maximum efficiency by providing them with a range of tried, tested and trusted services - from pre-sales consultancy to post-sales support.



#### FIELD SERVICES

- On-site service
- Machine installation and testing
- Scheduled preventive maintenance
- Machine repair service



#### PARTS SUPPLY

- Supplying a wide range of original DN Solutions spare parts
- Parts repair service



#### TRAINING

- Programming, machine setup and operation
- Electrical and mechanical maintenance
- Applications engineering



#### TECHNICAL SUPPORT

- Supports machining methods and technology
- Responds to technical queries
- Provides technical consultancy

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