

DOOSAN



PUMA V8300 series

High Productivity 15"
Vertical Turning Center

PUMA V8300 series

PUMA V8300

PUMA V8300M

PUMA V8300-2SP

PUMA V8300M-2SP

**MACHINE
GREATNESS™**



Basic Information

Basic Structure
Cutting
Performance

Detailed
Information

Options
Applications
Diagrams
Specifications

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PUMA V8300-2SP

PUMA V8300 series

The new PUMA V8300 Series is a 15" size vertical turning center developed by Doosan with up-to-the-minute technologies. The column-integrated box guide and reinforced bed frame provides a stronger structure suitable for heavier-duty turning. The largest capacity of the class further enhances productivity and profitability.

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PUMA V8300M



PUMA V8300M (ATC) 

Further Enhanced Turning Capacity

The largest turning capacity in its class is achieved with 24" max. chuck size and 830 mm (32.7 inch) of max. turning diameter.

Highest Power and Machining Performance in its Class.

The spindle motor provides 45 kW (60.3 Hp) and 2592 N.m (1912.9 ft lbs) of power and torque respectively, offering the best performance in its class. A variety of spindle specifications are available to suit customers' diverse requirements.

Improved Operational Efficiency, Including Chip Disposal and Operation Panel.

The bed structure has been redesigned to facilitate the efficient disposal of high volumes of chips. In addition, the height of the operation panel can be adjusted for optimum convenience. Fixed type pendants are also available to suit customers' requirements.

Basic Structure

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

Basic Structure

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

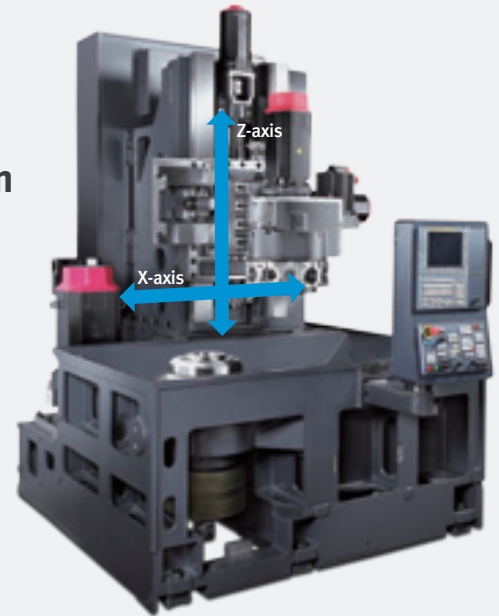
Travel distance

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

Z-axis : 780 mm
(30.7 inch)

Rapid traverse rate

X/Z-axis : 20 m/min
(787.4 inch)



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

Ø 830 mm (Ø32.7 inch)

Max. turning height

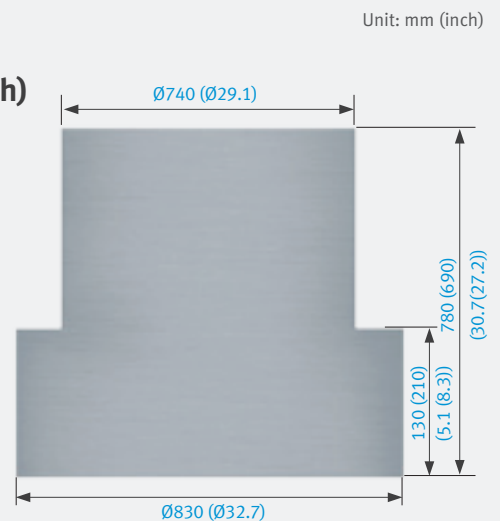
780(690) mm
(30.7(27.2) inch)

Max. workpiece swing

850 mm (33.5 inch)

Chuck size

15 inch
{18 / 21 / 24} option



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

2000 r/min

Max. power (S6 40% / Cont.)

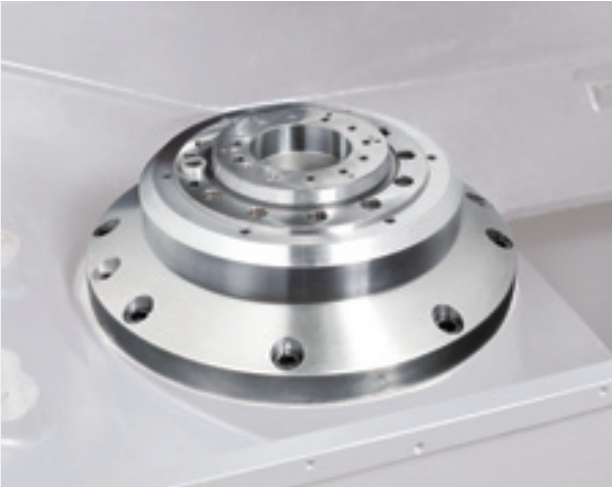
45/37 kW option 1

(60.3/49.6 Hp)

Max. torque (SIEMENS)

3376 N·m SIEMENS

(2491.5 ft-lbs)



Diversified spindle specifications

Description		Unit	PUMA V8300	PUMA V8300M
Standard spindle (Gear box)	Power	kW (Hp)	37/30 (49.6/40.2) (S6 40%/S1 Cont.)	
	Max. torque	N·m (ft-lbs)	2592 (1912.9)	
Option 1 (Gear box)	Power	kW (Hp)	45/37 (60.3/49.6) (S6 40%/S1 Cont.)	
	Max. torque	N·m (ft-lbs)	3153 (2326.9)	
Option 2	Power	kW (Hp)	37/30/22 (49.6/40.2/29.5) (S6 25%/S6 60%/S1 Cont.)	30/22(40.2/29.5) (S6 60% / S1 Cont.)
	Max. torque	N·m (ft-lbs)	1659 (1224.3)	1611 (1188.9)
SIEMENS	Power (S6 40%/cont.)	kW (Hp)	42/34/28 (56.3/45.6/37.5)	
	Max. torque	N·m (ft-lbs)	3376 (2491.5)	
Spindle nose		ASA	A2-11	
C-axis minimum rotation command angle (M type)		deg	0.001	

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 uses BMT75P turret to provide excellent milling performance and reduced thermal error due to low heat generation design.

No. of Tool Positions

12st

Turret Indexing Time

0.25 sec.

Rotary tool Max. speed

4000 r/min

Rotary tool max. power(S6 15%/ Cont.)

18.5/7.5 kW

(24.8/10.1 inch)

2-axis Turret



3-axis BMT75P Turret



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Automatic tool changer option

Capto tool of ATC provide the higher productivity at difficult to cut material



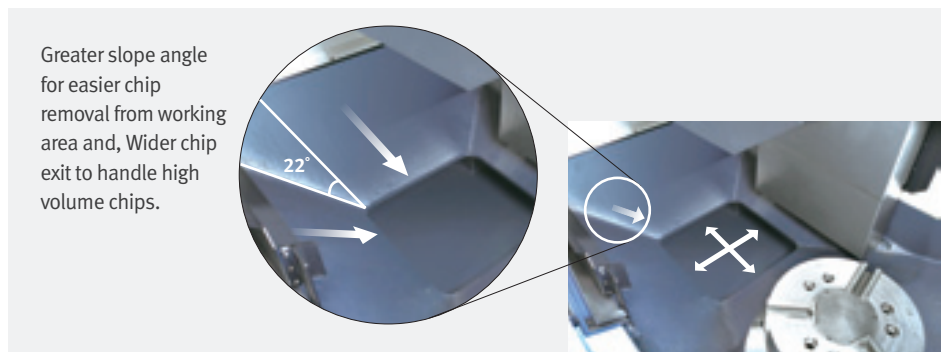
Description		Unit	Specifications
MAGAZINE & ATC	TOOL SHANK	-	CAPTO C6
	TOOL STORAGE CAPACITY	ea	12
	MAX. TOOL DIAMETER	mm (inch)	90 (3.5)
	MAX. TOOL LENGTH	mm (inch)	375 (14.8)
	MAX. TOOL MASS	kg (lb)	10 (22.0)
	Tool Search Time (1 PORT)	sec	0.5
	NO. OF CAPTO Tool Holder ON TURRET	ea	1~12

*Please contact DOOSAN to select detailed ATC specifications

Chip Disposal

The improved chip disposal system offers improved maintainability for either manual operation or automated system.

Improved Bed Structure for Easier Chip Disposal



Turning Capacity

The 8300 Series offers the scope to cut large diameter workpieces and complete milling, drilling and tapping operations in a single setup.



O.D turning (Dia. Ø 446 mm (Ø17.6 inch))	
Cutting speed (m/min (ipm))	210 (8267.7)
Feed (mm/rev (ipr))	0.55 (0.0)
Spindle speed (r/min)	965
Cutting depth (mm (inch))	4.5 (0.2)
I.D turning (Rough)	
Cutting speed (m/min (ipm))	280 (11023.6)
Feed (mm/rev (ipr))	0.3 (0.0)
Cutting depth (mm (inch))	3.0 (0.1)
Tool length (length/dia)	3.5D
I.D turning (End)	
Cutting speed (m/min (ipm))	200 (7874.0)
Feed (mm/rev (ipr))	0.1 (0.0)
Cutting depth (mm (inch))	0.4 (0.0)
Tool length (length/dia)	4.0D

* The above data is based on the test machining results for SM45C material in accordance with Doosan's own standard, and is subject to change without prior notice.

37/30 kW (49.6/40.2 Hp) spindle motor



Standard/Option Specifications

Various optional features are available to suit customers' diverse applications.

● Standard ○ Optional ✕ Not applicable

NO.	Description	Features	PUMA V8300 series
1	Chuck	380 mm (15 inch)	●
2		450 mm (18 inch)	○
3		530 mm (21 inch)	○
4		610 mm (24 inch)	○
5		Chuck Adapter Only_15,18,21,24 inch	○
6		None	○
7	Turret	8 st	○
8		10 st	○
9		12 st	●
10		9 st + 1 Straddle tool	○
11	Coolant pump direction	Straddle tool	○
12		Rear side	●
13	Coolant pump	0.4 KW_0.15 MPA_40 L/MIN	●
14		1.1 KW_0.45 MPA_30 L/MIN	○
15		1.8 KW_0.7 MPA_30 L/MIN	○
16		2.5 KW_1.0 MPA_30 L/MIN	○
17		4.0 KW_1.45 MPA_30 L/MIN	○
18		4.0 KW_2.0 MPA_20 L/MIN	○
19	Coolant options	High coolant interface	○
20		Oil Skimmer(Belt type)	○
21		Coolant chiller(circulation type)	○
22		Coolant pressure switch	○
23		Coolant level switch : Sensing level - Low	○
24	Chucking option	Dual pressure chucking	○
25		Chuck clamp confirmation	●
26	Work location	Air limit sensor preparation_Festo	○
27	confirmation	Air limit sensor preparation_TACO	○
28	Workpiece measurement	RLP40_Renishaw	○
29	Jaw	Soft jaw	○
30		Hardend & Ground hard jaws	○
31	Side chip conveyor	Hinged belt	○
32		Magnetic scrapper	○
33	Rear chip conveyor	Hinged belt	○
34		Magnetic scrapper	○
35	Chip processing options	Chip bucket	○
36		Air blower	○
37		Flushing Coolant	○
38		Air Gun	○
39		Coolant gun	○
40		Mist collector_1.5kW (2.0Hp) (L750)	○
41		Mist collector_2.2kW (3.0Hp) (L1250)	○
42	Automatic configuration	Auto door with safety edge	○
43		Automatic side door	○
44		Work & Tool counter	○
45		OP panel position check (Pendant arm position check)	○
46		Automatic Tool Changer	○
47	Robot Interface	PMC I/O MODULE TYPE	○
48		PROFIBUS-DP TYPE	○
49	Optional devices	Tool load monitoring system	●
50		Signal tower	○
51		Additional MPG	○
52		Straddle tool preparation	○
53		Removable tool setter	○
54		Linear scale (X-axis)	○
55		Auto power off	○
56		Gravity axis drop prevention	○
57		Quick change tooling(CAPTO)	○
58	OP Panel type	Pendant arm	●
59		Base mount	○
60	Customized Special Option	Quick Change Tooling_Capto C6	○
61		Coolant Tank_High Capacity_500L	○
62		Rotary Type Window Wiper_Electrical	○
63		Chip Conveyor_Drum Filter Type	○
64		Raised Column_200Mm	○
65		Chuck Type_4 Jaw_T-Slot	○
66		Rotary Cylinder_For Air Limit Sensing	○
67		Raised Level Plate_110 Mm	○
68		Raised Level Plate_160 Mm	○
69		Raised Level Plate_200 Mm	○
70		Additional Hydraulic A/B Line	○

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Customer Support Service

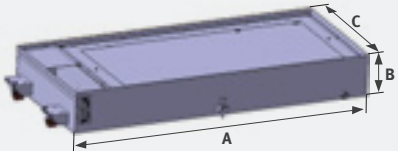
Chip Conveyor option



Material		Carbon steel			Cast iron		Aluminium		
		Long	Short	Needle	Short	Sludge	Long	Short	Needle
Chip conveyor type									
Hinged belt type		○	△	X	△	X	○	△	X
Scraper type	Normal	X	○	△	○	△	X	△	X
	Magnetic	X	○	○	○	○	—	—	—
Drum filter type	Hinged type	○	△	X	△	X	○	△	X
	Scraper	X	○	△	○	△	X	○	△

○ : Suitable, △ : Possible, X : Not suitable

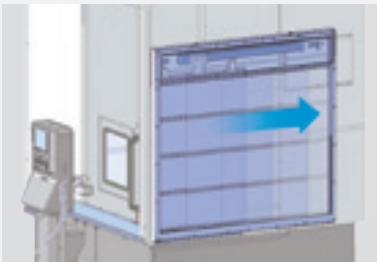
Coolant Tank



Coolant tank	Unit	A	B	C
300 L (79.3 gallon)	mm (inch)	1850 (72.8)	250 (9.8)	800 (31.5)

Auto Side Door option

Automatic side door is available for easy layout of line automation.



Detachable Tool setter option

The tool setter facilitates the setting of machining tools, and can be used to compensate for worn tools accurately.



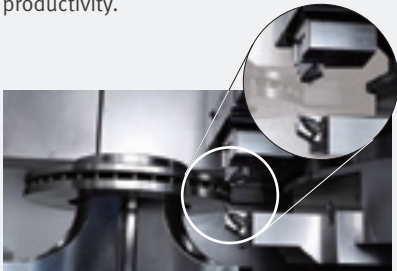
Quick change CAPTO option

The Quick Change Tool system simplifies tool change operation. Recommended for users who need to change tools frequently or reduce the set-up time.



Servo straddle tool option

Simultaneous dual side cutting for higher productivity.



Information Display option

Easy recognize the current selected axis and tool number, so that, operator's mistake is prevent.



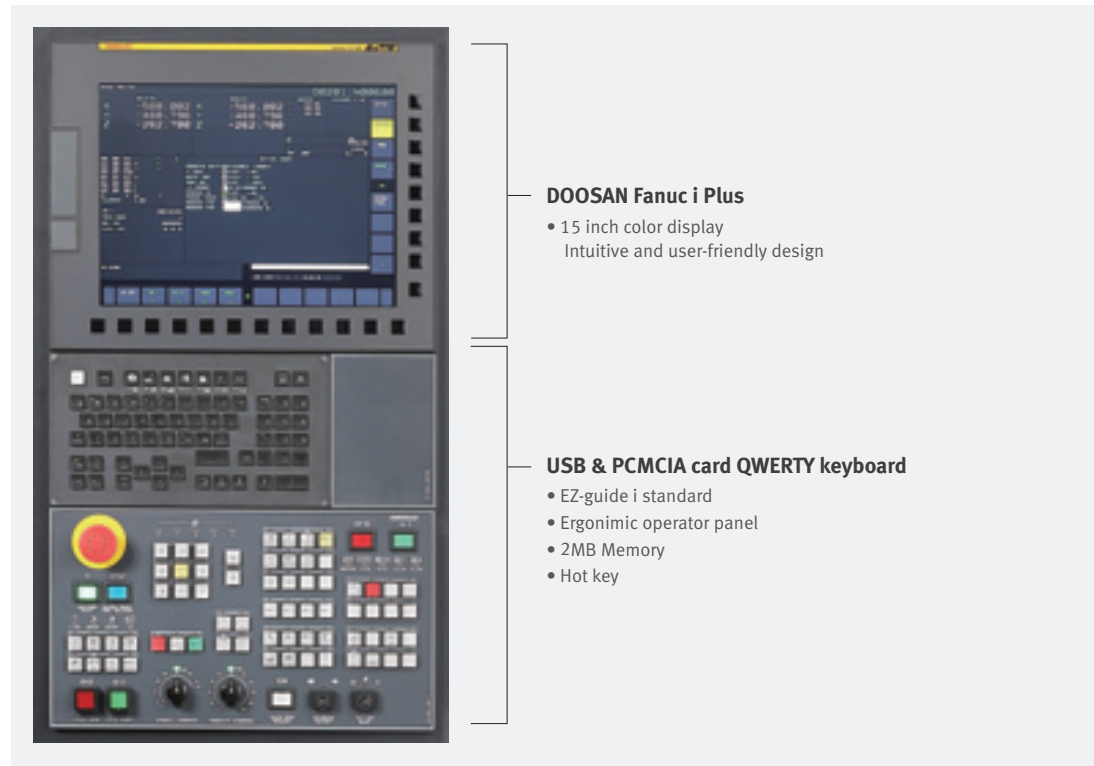


DOOSAN Fanuc i Plus

DOOSAN Fanuc i Plus is optimized for maximizing customer productivity and convenience.

15 inch screen + New OP

DOOSAN Fanuc i Plus' operation panel enhances operating convenience by incorporating common-design buttons and layout, and features the Qwerty keyboard for fast and easy operation.



iHMI Touch screen option

iHMI provides an intuitive interface that utilizes a touch screen for quick and easy operation and provides a variety of applications that can help machine operation.



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SIEMENS S828D

SIEMENS CNC optimized for DOOSAN machine tools maximizes users' productivity.

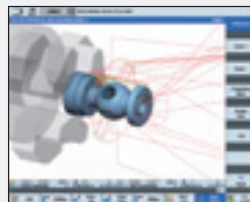
15.6 inch screen + New OP

The newly-designed operation panel enhances operating convenience by incorporating common-design buttons and layout, and features the Qwerty keyboard for fast and easy operation.



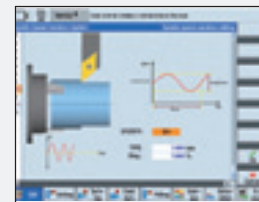
Conversational Convenient function

The machining monitoring function developed on the basis of the Shop Turn – an interactive machining support function of SIEMENS – provides users with cutting, servicing and maintenance screens for easy and convenient machine operation.



Cutting and operation support function

This function shows a cutting and tool path simulation of a cutting program on a real-time basis.



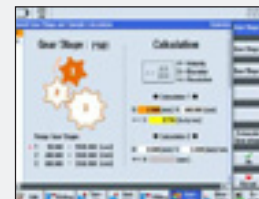
Machining accuracy improvement

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



Maintenance and service convenience function

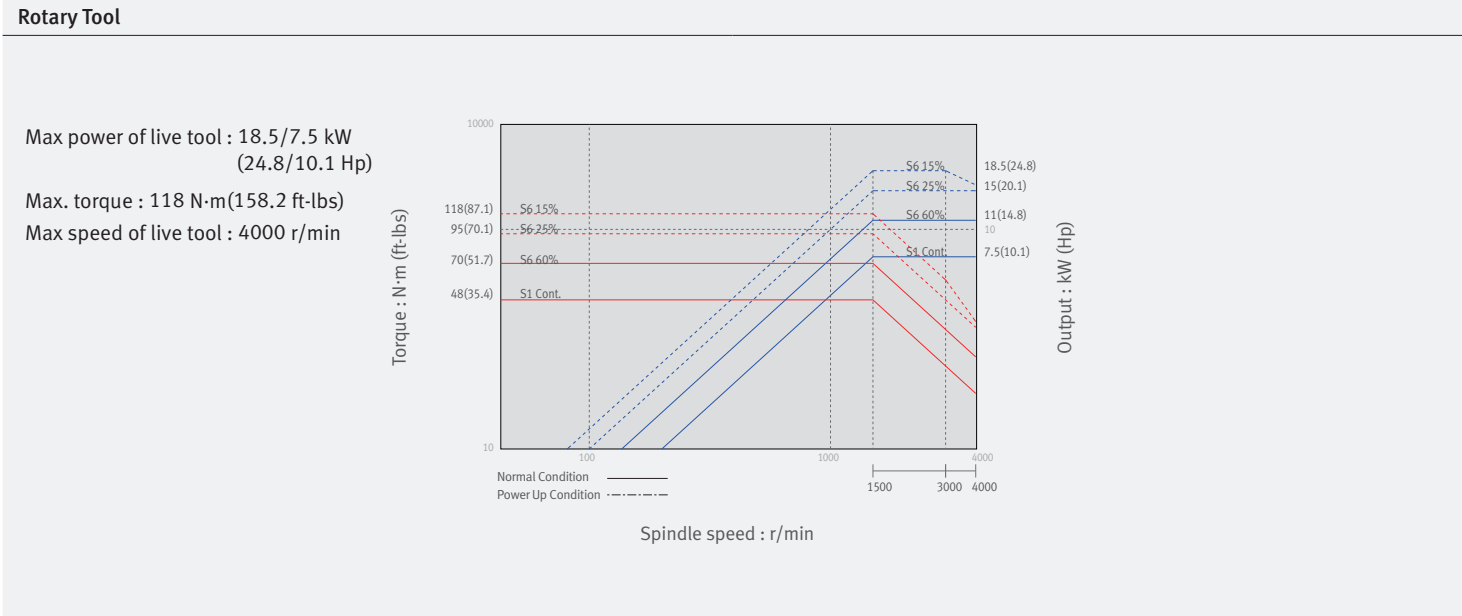
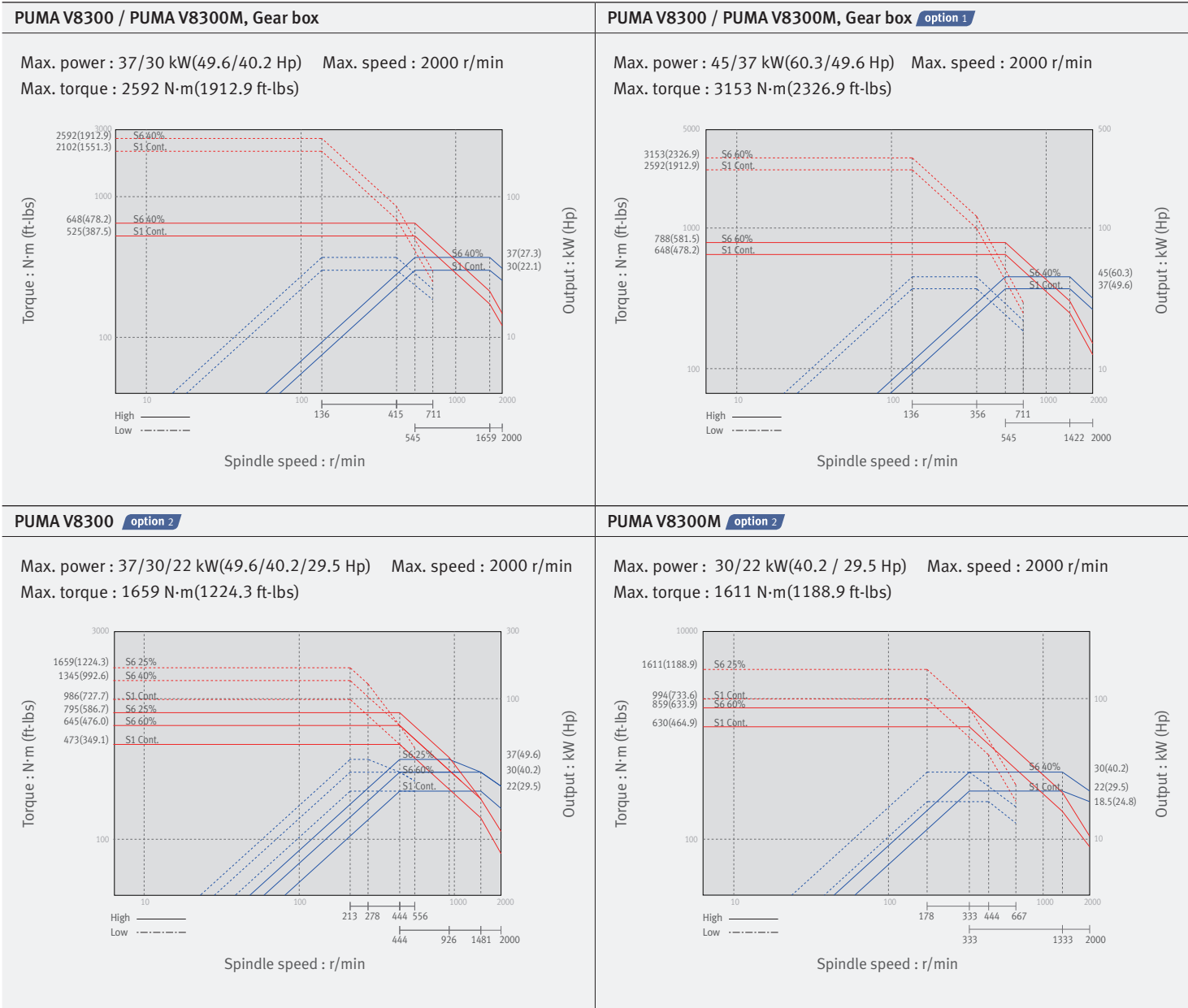
Maintenance and service of major units and peripheral devices, timer setting and parts counter setting can be easily carried out on a convenient screen.



Gear shifting convenience function

Dialogue interactive screen for gear switching.

Spindle Power – Torque Diagram (FANUC)



Spindle Power – Torque Diagram (SIEMENS)

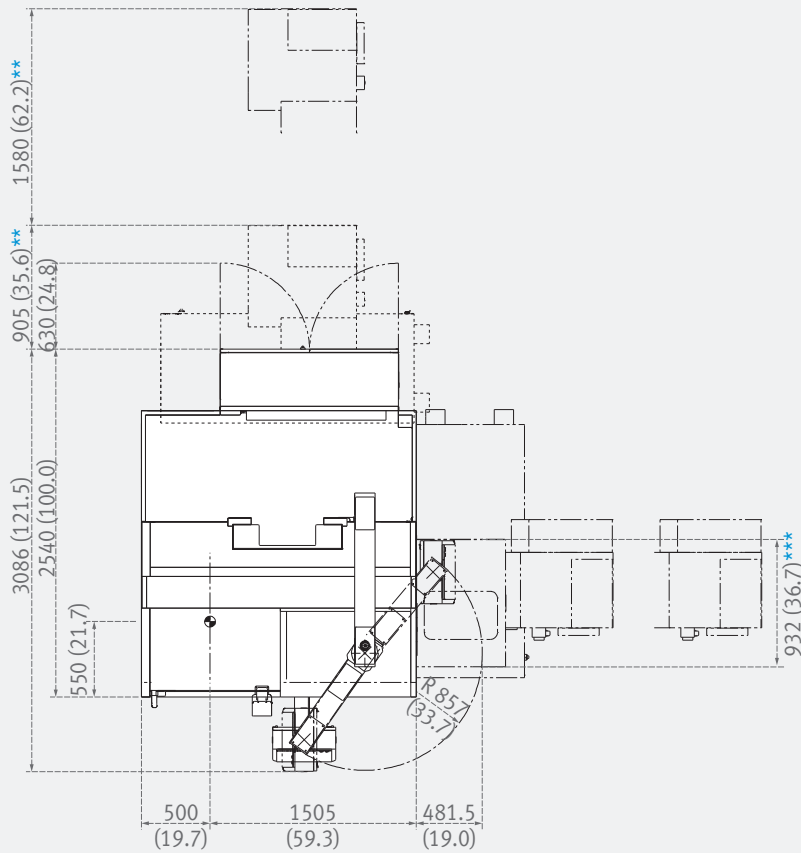


External Dimensions

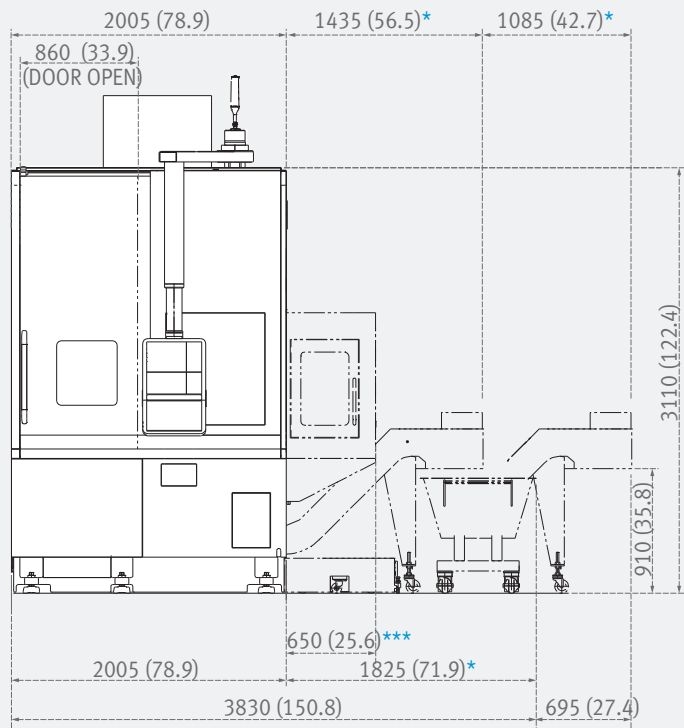
PUMA V8300/M (R type)

Unit: mm (inch)

Top View



Front View



- * Area for side chip conveyor
- ** Area for rear chip conveyor
- *** Area for Auto Tool Changer

* Some peripheral equipment can be placed in other places

External Dimensions

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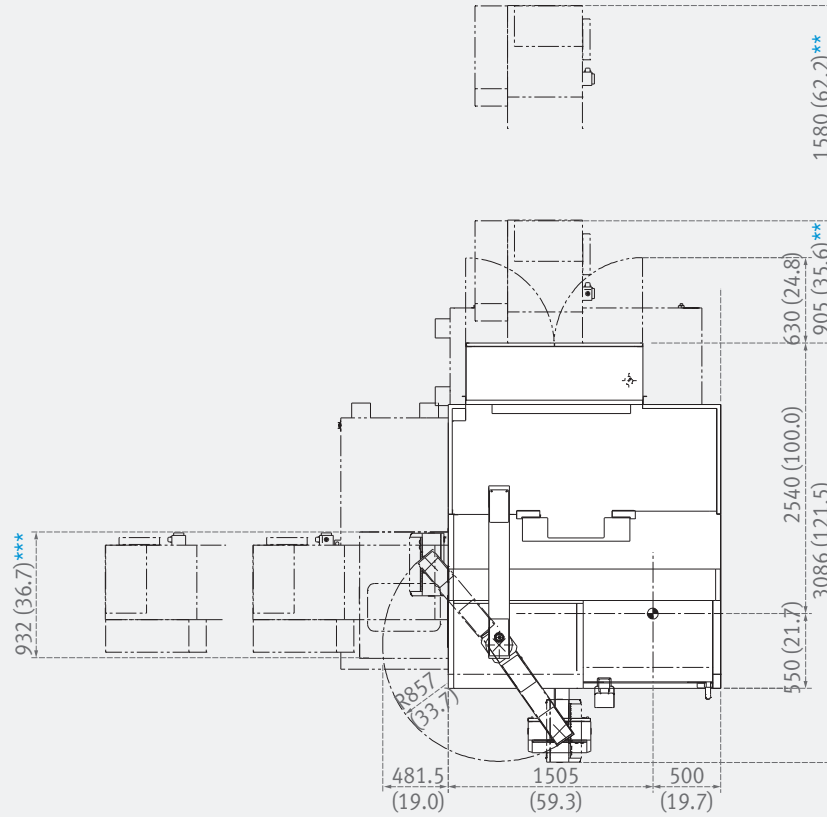
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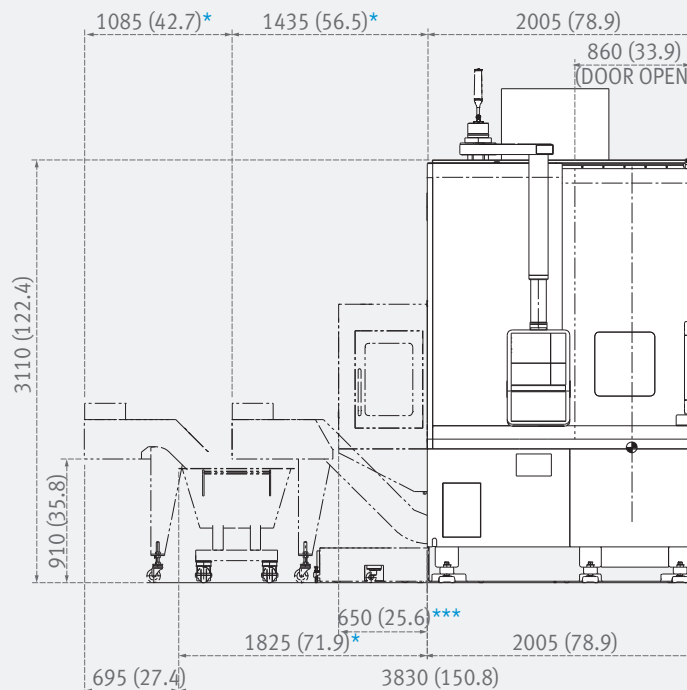
PUMA V8300/M (L type)

Unit: mm (inch)

Top View



Front View



* Area for side chip conveyor

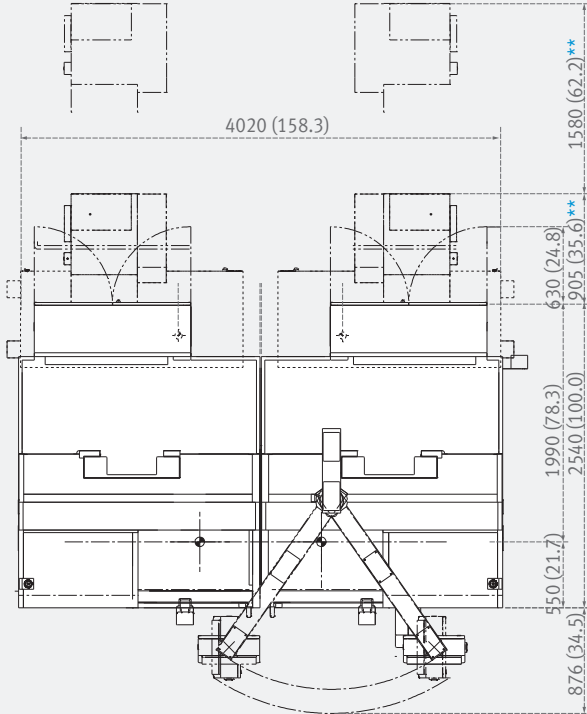
** Area for rear chip conveyor

*** Area for Auto Tool Changer

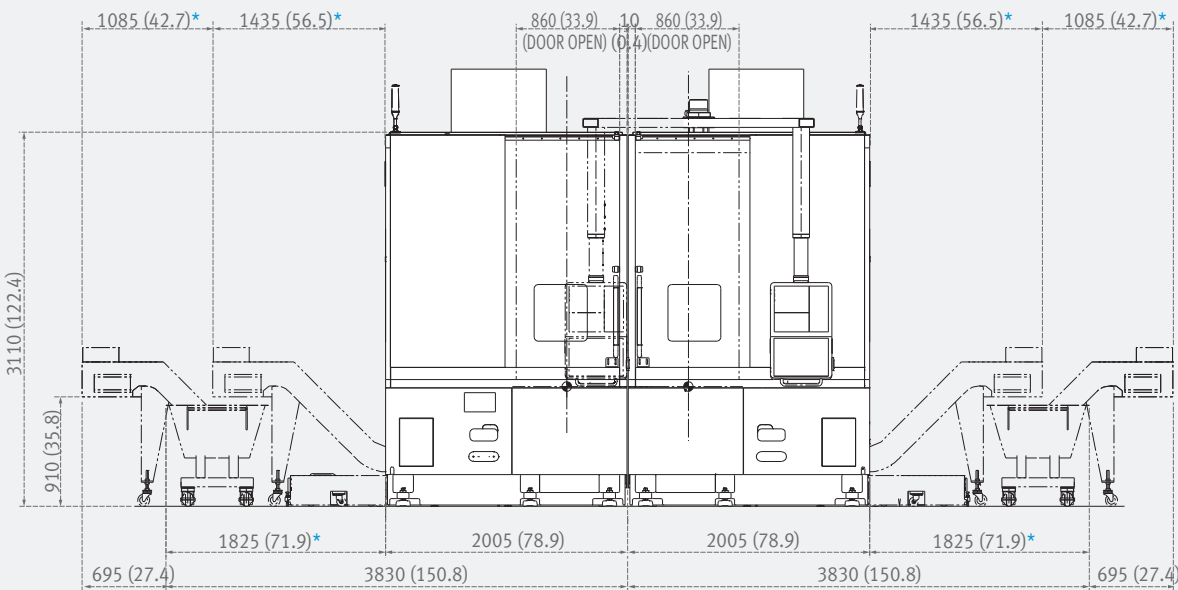
PUMA V8300/M-2SP

Unit: mm (inch)

Top View



Front View



* Area for side chip conveyor

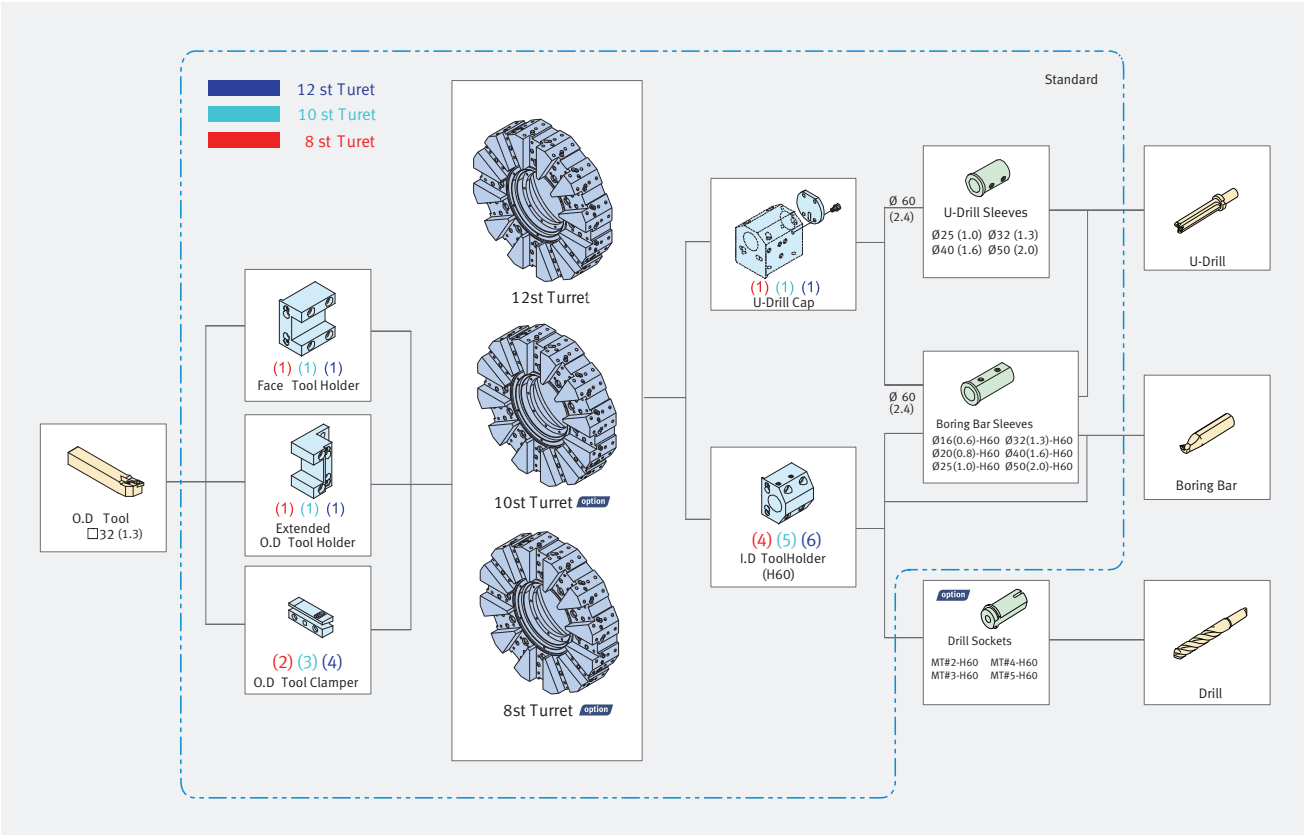
★★ Area for rear chip conveyor

* Some peripheral equipment can be placed in other places

Tooling System

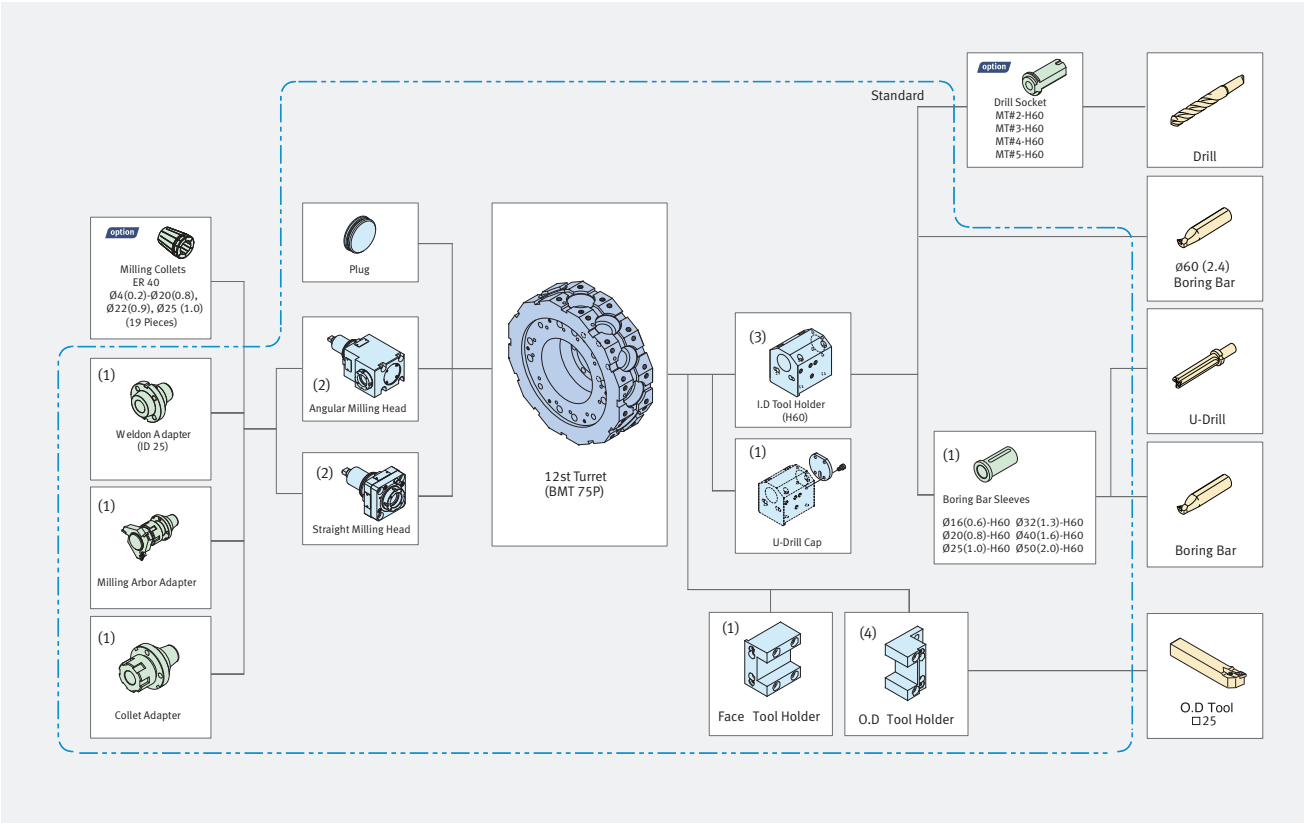
PUMA V8300

Unit: mm (inch)



PUMA V8300M

Unit: mm (inch)



PUMA V8300 (2-axis, 8st)

Technical drawing of the 1000 Series 3-Axis Vertical Lathe, showing a top view of the machine bed with various dimensions in millimeters (mm) and inches (in).

Dimensions:

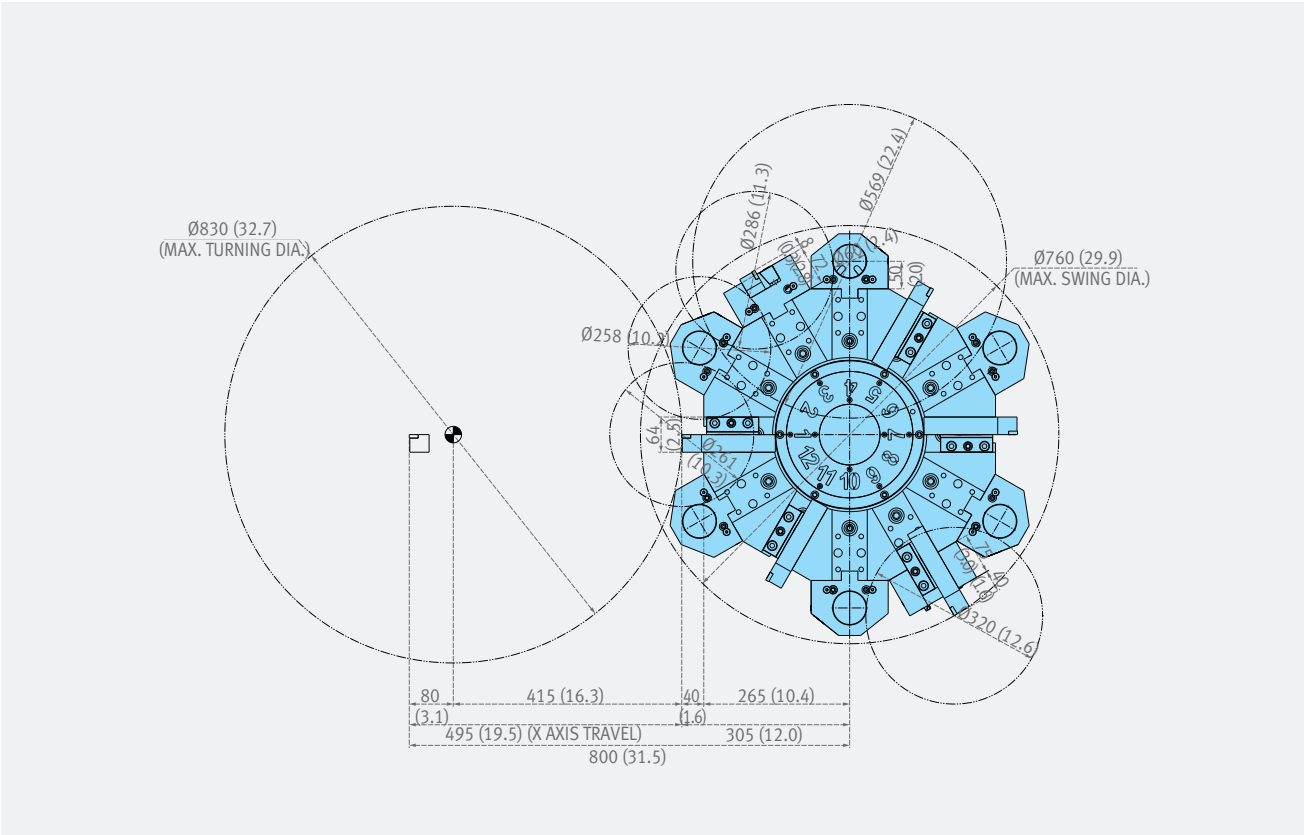
- Ø830 (32.7)** (MAX. TURNING DIA.)
- Ø760 (29.9)** (MAX. SWING DIA.)
- Ø414 (16.3)**
- Ø447 (17.6)**
- Ø484 (19.1)**
- Ø314 (12.0)**
- Ø175 (6.9)**
- Ø125 (5.0)**
- Ø100 (3.9)**
- Ø75 (3.0)**
- Ø50 (2.0)**
- Ø40 (1.6)**
- Ø30 (1.2)**
- Ø20 (0.8)**
- Ø15 (0.6)**
- Ø10 (0.4)**
- Ø5 (0.2)**
- Ø2.5 (0.1)**
- Ø1.25 (0.05)**
- Ø0.625 (0.025)**
- Ø0.3125 (0.0125)**
- Ø0.15625 (0.00625)**
- Ø0.078125 (0.003125)**
- Ø0.0390625 (0.0015625)**
- Ø0.01953125 (0.00078125)**
- Ø0.009765625 (0.000390625)**
- Ø0.0048828125 (0.0001953125)**
- Ø0.00244140625 (0.00009765625)**
- Ø0.001220703125 (0.000048828125)**
- Ø0.0006103515625 (0.0000244140625)**
- Ø0.00030517578125 (0.00001220703125)**
- Ø0.000152587890625 (0.000006103515625)**
- Ø0.0000762939453125 (0.0000030517578125)**
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- Ø0.000019073486328125 (0.000000762939453125)**
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- Ø0.00000000001818989403545856475830078125 (0.00000000000072759576141834259033203125)**
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- Ø0.00000000000000055511**

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Tool Interference Diagram

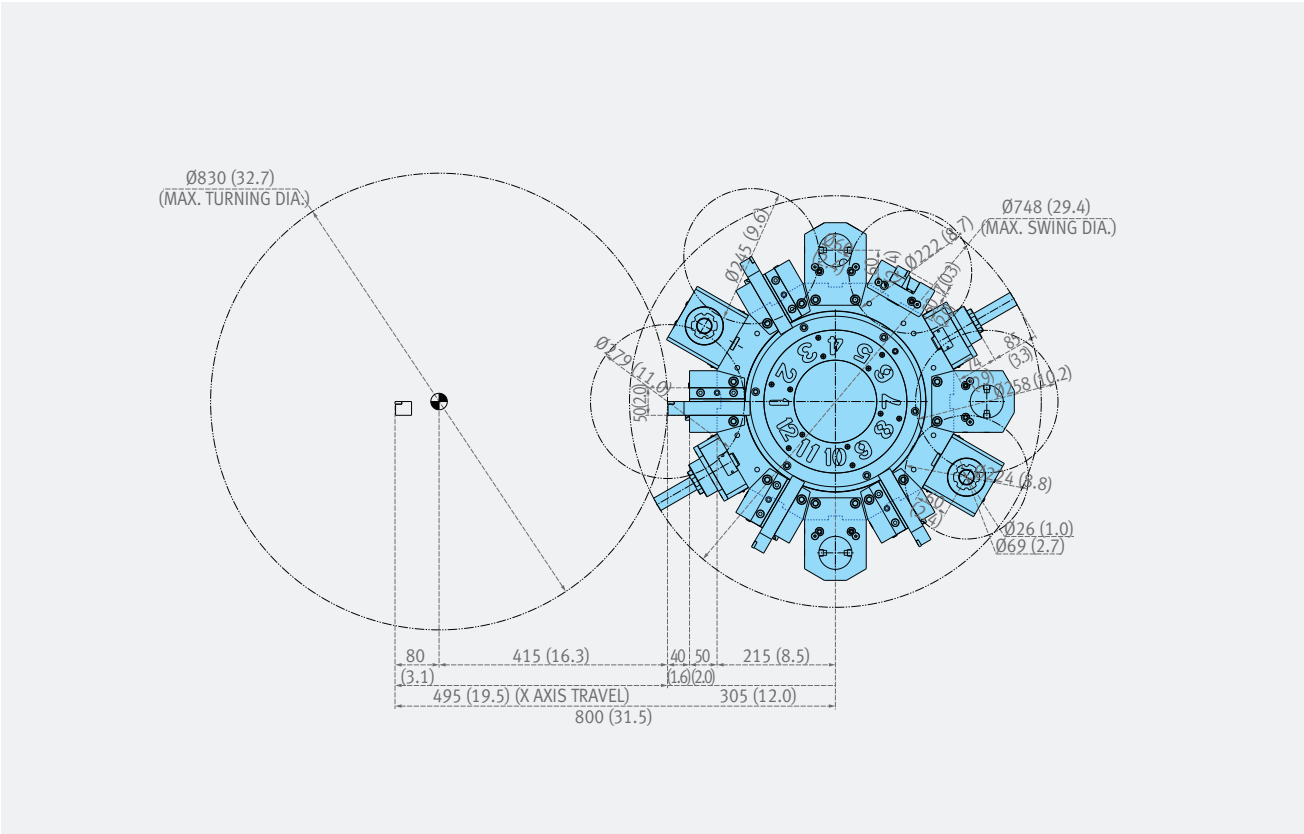
PUMA V8300 (2-axis,12st)

Unit: mm (inch)



PUMA V8300M (3-axis,12st)

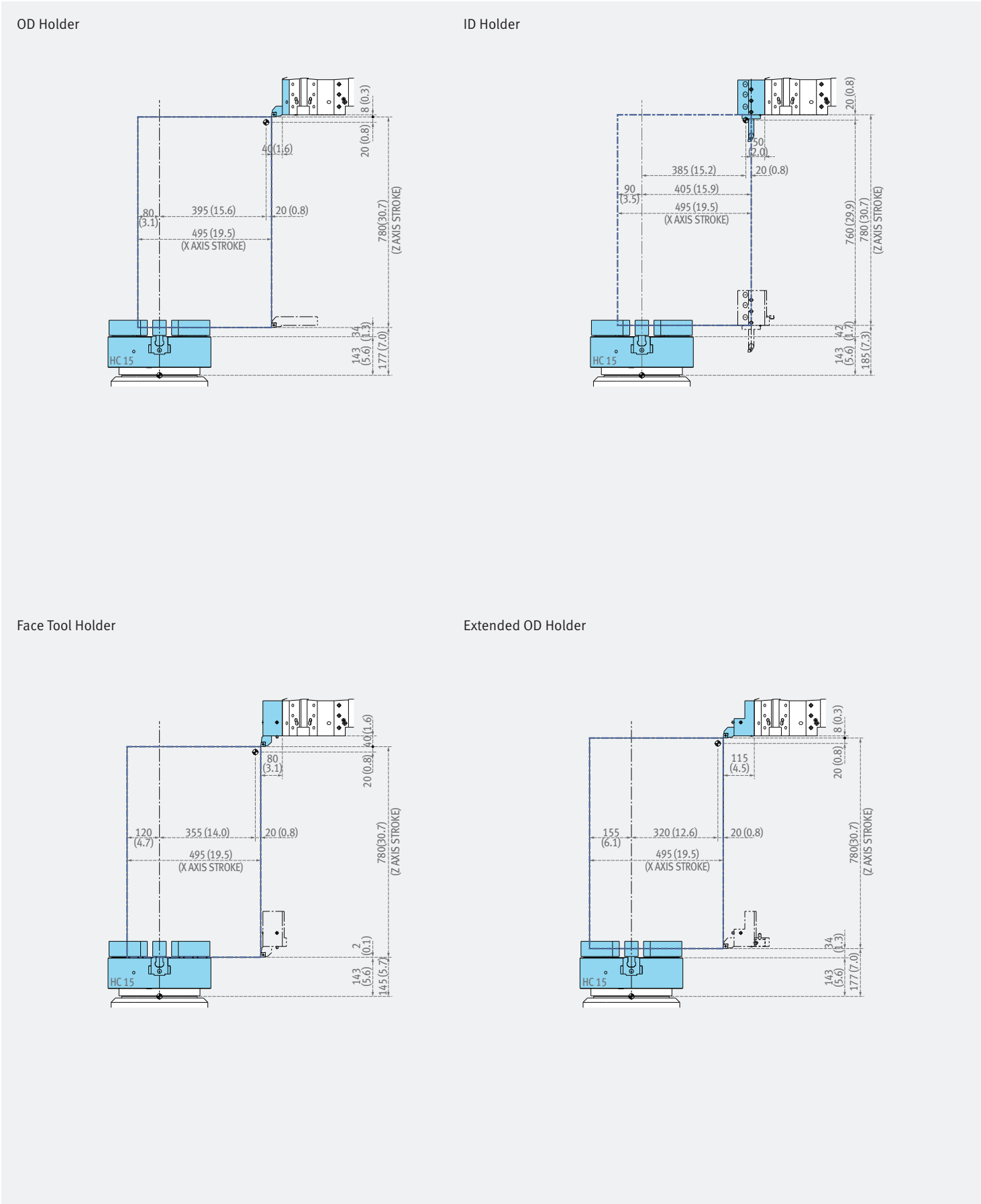
Unit: mm (inch)



Working Range

PUMA V8300

Unit: mm (inch)

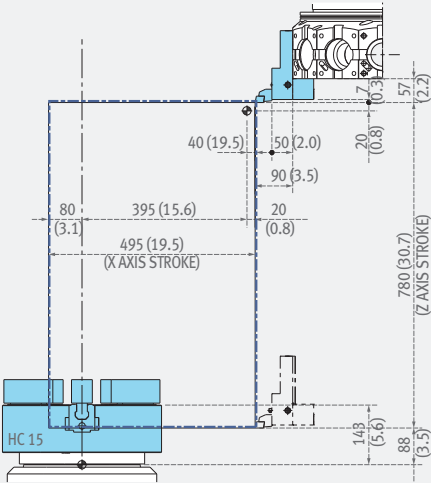


Working Range

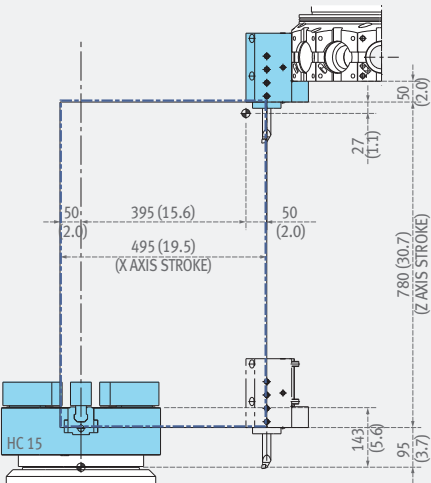
PUMA V8300M

Unit: mm (inch)

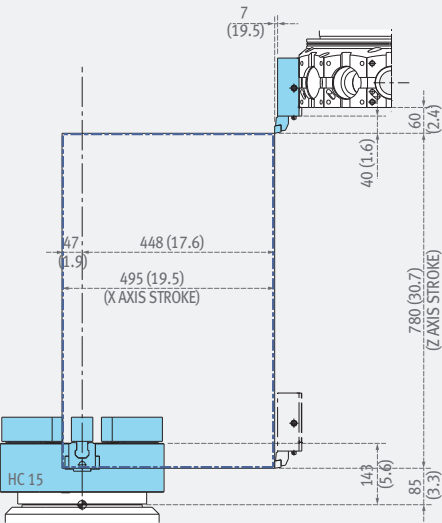
OD Holder



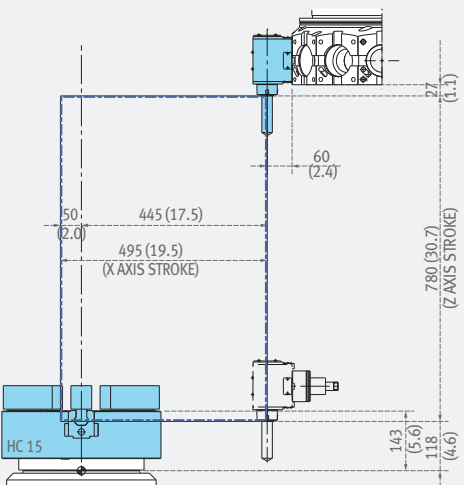
ID Holder



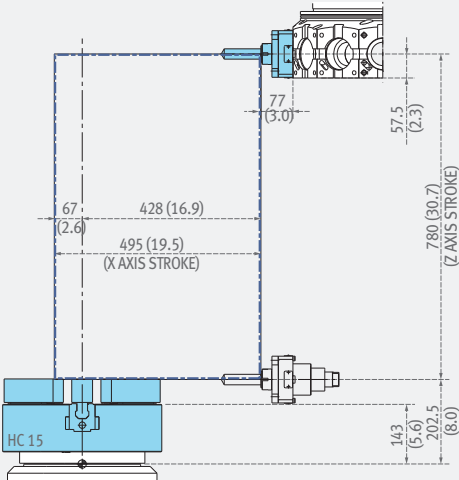
Face Tool Holder



Angular Milling Holder



Straight Milling Holder



Machine Specifications



Description		Unit	PUMA V8300	PUMA V8300M	PUMA V8300-2SP	PUMA V8300M-2SP
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}*			
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 traverse	X-axis	m/min	20 (787.4)		
		Z-axis	m/min	20 (787.4)		
Spindle	Spindle speed		r/min	2000		
	Spindle motor power (FANUC) (S6 40% / cont.)		kW (Hp)	37/30 {45/37, 37 /30/22 (S6 25%/ S6 60%/Cont.)} (49.6/40.2 {60.3/ 49.6, 49.6/40.2/ 29.5})	37/30 {45/37, 30/22} (49.6/40.2 {60.3/ 49.6, 40.2/29.5})	37/30 {45/37, 37 /30/22 (S6 25%/ S6 60%/Cont.)} (49.6/40.2 {60.3/ 49.6, 49.6/40.2/ 29.5})
	Spindle motor power (SIEMENS) (S6 40%/S6 60%/S1 Cont.)		kW (Hp)	42/34/28 (56.3/45.6/37.5)		-
	Spindle motor torque (FANUC)		N·m (ft·lbs)	2592 {3153, 1659} (1912.9 {2326.9, 1224.3})	2592 {3153/1611} (1912.9 {2326.9, 1188.9})	2592 {3153, 1659} (1912.9 {2326.9, 1224.3})
	Spindle motor torque (SIEMENS)		N·m (ft·lbs)	3376 (2491.5)		-
	Spindle nose		ASA	A2-11		
	Spindle bearing diameter		mm (inch)	160 (6.3)		
	C-axis min.indexing angle		deg	-	0.001	-
						0.001
Turret	No.of tool stations		ea	8 / 10 / 12		
	OD tool size		mm (inch)	32 x 32 (1.3 x 1.3)	25 x 25 (1.0 x 1.0)	32 x 32 (1.3 x 1.3)
	Turret indexing time(1st swivel)		sec	0.25		
	Max.rotary tool speed		r/min	-	4000	-
	Rotary tool motor power (FANUC) (15% / cont)		kW (Hp)	-	18.5 / 7.5 (24.8/10.1)	-
	Rotary tool motor power (SIEMENS) (S6 25% / S6 40%/S6 60% / S1 Cont.)		kW (Hp)	-	19.9/15.7/12.6/10.5 (26.7/21.1/16.9/14.1)	-
Power source	Power consumption		kVA	55.6	63.1	110.7
Machine dimensions	Length x Width		mm (inch)	2005 x 2715 (78.9 x 106.9)		4020 x 2715 (158.3 x 106.9)
	Height		mm (inch)	3636 (143.1)		
	Weight		kg (lb)	9400 (20723.1)	9500 (20943.6)	18800 (41446.3)
Control	CNC system			DOOSAN Fanuc i Plus		Fanuc 31i

*{ } : option

CNC Specifications

● Standard ○ Optional X Not applicable

Basic Information

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NO.	Division		PUMA V8300	PUMA V8300-2SP	PUMA V8300M	PUMA V8300M-2SP	
			DOOSAN Fanuc i Plus	Fanuc 31i	DOOSAN Fanuc i Plus	Fanuc 31i	
1	Controlled axis	Controlled axes	2(X, Z)	4 (X, Z + X, Z)	3(X, Z, C)	6 (X1, Z1, C1 + X2, Z2, C2)	
2		Cs contouring control	X	X	●	●	
3		Stored limit check before move	●	○	●	○	
4		Unexpected disturbance torque detection function	●	●	●	●	
5	Operation	DNC operation with memory card	●	●	●	●	
6		Tool retract and recover	○	○	○	○	
7		Reference position shift	●	●	●	●	
8		Handle interruption	○	○	○	○	
9		Manual handle retrace	○	○	○	○	
10		Active block cancel	○	○	○	○	
11	Interpolation functions	Nano interpolation	●	●	●	●	
12		Circular interpolation	●	●	●	●	
13		Polar coordinate interpolation	X	X	●	●	
14		Cylindrical interpolation	X	X	●	●	
15		Helical interpolation	X	X	○	○	
16		Thread cutting, synchronous cutting	●	●	●	●	
17		Multi threading	●	●	●	●	
18		Thread cutting retract	●	●	●	●	
19		Polygon machining with two spindles	X	X	●	○	
20	Feed function	AI contour control I	○	○	○	○	
21		AI contour control II	○	○	○	○	
22	Program input	Automatic coordinate system setting	●	●	●	●	
23		Workpiece coordinate system preset	●	○	●	○	
24		Addition of workpiece coordinate system	48 pairs	X	○	X	○
25		Chamfering/Corner R	●	○	●	○	
26		Addition of custom macro common variables	#100 - #199, #500 - #999	●	○	●	○
27		Interruption type custom macro	●	○	●	○	
28		Multiple repetitive cycles II	Pocket profile	●	●	●	●
29		Canned cycle for drilling	●	●	●	●	
30		Automatic corner override	X	○	X	○	
31		Pattern data input	●	○	●	○	
32	Operation Guidance Function	EZ Guidei (Conversational Programming Solution)	● ¹⁾	●	● ²⁾	●	
33		iHMI with Machining Cycle (Conversational Programming Solution)	○ ¹⁾	X	○ ²⁾	X	
34		Easy Operation package	●	●	●	●	

NO.	Division			PUMA V8300	PUMA V8300-2SP	PUMA V8300M	PUMA V8300M-2SP
			DOOSAN Fanuc i Plus	Fanuc 31i	DOOSAN Fanuc i Plus	Fanuc 31i	
35	Auxiliary/ Spindle speed function	Rigid tap		●	●	●	●
36		Arbitrary speed threading		○	○	○	○
37	Tool function/Tool compensation	Tool offset pairs	64-pairs	X	●	X	●
38			99-pairs	X	○	X	○
39			128-pairs	●	X	●	X
40			200-pairs	○	○	○	○
41			400-pairs	X	○	X	○
42			499-pairs	X	○	X	○
43			999-pairs	X	○	X	○
44			Tool life management		●	●	●
45	Editing operation	Part program storage size & Number of registerable programsprograms	640M(256KB)_500 programs	X	●	X	●
46			1280M(512KB)_1000 programs	X	○	X	○
47			2560M(1MB)_1000 programs	X	○	X	○
48			5120M(2MB)_1000 programs	●	○	●	○
49			1280M(512KB)_400 programs	X	X	X	X
48			5120M(2MB)_800 programs	○	X	○	X
49		Playback		●	○	●	○
50		Setting & Display	Machine alarm diagnosis	●	X	●	X
51			CNC screen display	●	●	●	●
52			CNC screen dual display function	●	●	●	●
53	Data input/ output	Fast data server		○	○	○	○
54		External data input		●	○	●	○
55		USB memory input/output		●	●	●	●
56		Automatic data backup		●	●	●	●
57	Interface function	Embedded Ethernet		●	●	●	●
58		Fast Ethernet		○	○	○	○
59	Robot Interface	Robot interface with PMC I/O module		○	○	○	○
60		Robot interface with PROFIBUS-DP		○	○	○	○
61		Robot interface with PROFIBUS-DP		○	○	○	○
62	Others	Tool Load Monitoring function	DMT	●	●	●	●
63		Display unit	15" color LCD	●	●	●	●
64			15" color LCD with Touch Panel	○	○	○	○
65		Tool Load Monitoring function	DMT	●	●	●	●

1) Only with 15" LCD standard

2) Only with 15" Touch LCD standard

CNC Specifications

● Standard ○ Optional X Not applicable

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SIEMENS

No.	ITEM		Spec.	S828D
1	Axes control	Controlled axes	2 axis	X, Z, SP
2		R: Milling spindle	M-type	X, Z, C, R
3		Simultaneously controlled axes	Positioning(G00)/Linear interpolation(G01) : 3 axes Circular interpolation(G02, G03) : 2 axes	●
4		Backlash compensation		●
5		Leadscrew error compensation		●
6		Measuring system error compensation		●
7		Feedforward control	velocity-dependent	●
8		Follow up mode		●
9		Programmable acceleration		●
10		Emergency stop / overtravel		●
11		Least command increment	0.001mm (0.0001 inch)	●
12		Least input increment	0.001mm (0.0001 inch)	●
13		Maximum commandable value	±99999.999mm (±3937 inch)	●
14		Machine lock (PRT)		●
15		Absolute encoder		●
16	Interpolation & Feed function	Dry run		●
17		Feedrate/Rapid override	0 - 120 %	●
18		Reference point return	G75 FP=1	●
19		2nd reference point return	G75 FP=2	●
20		3rd / 4th reference return	G75 FP=3, 4	●
21		Linear interpolation	Max. 4	●
22		Circular interpolation	G02, G03	●
23		Inverse time feedrate	G93	●
24		Helical interpolation		●
25		Universal interpolator NURBS		●
26		Spline interpolation (A, B and C splines)		○
27		Dwell	G04	●
28		Separate path feed for corners and chamfers		●
29		Reposition		●
30		Acceleration with Jerklimitation		●
31		Positioning	G00	●
32		Cartesian point-to-point (PTP) travel		●
33		TRANSMIT/cylinder surface transformation	Not available for 2-axis type	●
34		Inclined axis	If machine attached inclind Y axis	●
35		Inclined axis TRAANG after TRANSMIT/ TRACYL	If machine attached inclind Y axis	●
36		Couplings	CP-Basic(If machine attached milling spindle)	●
37			CP-Comfort	○
38	Spindle & M code function	Spindle speed, digital setpoint		●
39		Spindle speed, max. programmable value range	106 ... 0.0001 (display: ± 999999999.9999)	●
40		Spindle override	50 - 120 %	●
41		Automatic gear state selection		●
42		Oriented spindle stop		●
43		Spindle speed limitation min./max.		●
44		Constant cutting rate		●
45		Spindle control via PLC (Positioning, oscillation)		●
46		Changeover to axis mode		●
47		Tapping with compensating chuck/rigid tapping		●
48		Retraction for rigid tapping		●
49	Tool function	Tool radius compensations in plane		
50		● With approach and retract strategies		●
51		● With transition circle/ellipse on outer edges		●
52		Number of tools/cutting edges in tool list	PPU.4 for S828D SW261 (2 axis/M-type)	256/512
53			PPU.4 for S828D SW281 (S/MS/Y/SY-type)	768/1536
54		Tool length compensation		●
55		Operation with tool management		●
56		Tool list		●
57		Tool offset selection via T and D numbers		●
58		Replacement tools for tool management	Include tool load monitoring option	○
59		Monitoring of tool life and workpiece count		●
60		Manual measurement of tool offset		●
61		Magazine list		●
62		Loading and unloading of tools		●
63	Programming & Editing function	Number of subroutine passes <= 9999		●
64		Number of levels for skip blocks 1		●
65		Number of levels for skip blocks 8		○
66		Polar coordinates		●
67		1/2/3-point contours		●
68		Dimensions metric/inch, changeover manually or via program		●

SIEMENS

● Standard ○ Optional X Not applicable

No.	ITEM	Spec.	S828D
69	Program functions		
70	• Dynamic preprocessing memory FIFO		●
71	• Look ahead number of blocks	In 840D, If machine attached milling spindle	1
72	• Frame concept		●
73	• Inclined-surface machining with swivel cycle		●
74	• Axis/spindle replacement		●
75	• Geometry axes, switchable online in the CNC program		●
76	• Program preprocessing		●
77	Online ISO dialect interpreter		●
78	Program/workpiece management		
73	• Parts programs on NCU, max. number		750
74	• Workpieces on NCU, max. number		250
75	• On USB storage medium (e.g. disk drive, USB stick)		●
76	• On network drive		○
77	Settable offsets, max. number	G54, G55, G56 ...	100
78	Program editor		
79	• Programming support for cycles program(Program Guide)		●
80	• CNC editor with editing functions: Marking, copying, deleting		●
81	• Programming graphics/free contour input (contour calculator)		●
82	• Support for parameter input Animated Elements		●
83	• ShopTurn/ShopMill Machining step programming		●
84	Technology cycles for drilling/milling		●
85	Pocket milling free contour and islands stock removal cycle		●
86	Residual material detection		●
87	Access protection for cycles		●
88	Programming support can be extended,e.g. customer cycles		●
89	2D simulation		●
90	3D simulation, finished part		●
91	Simultaneous recording		●
92	JOG		
93	• Handwheel selection		●
94	• Switchover: inch/metric		●
95	• Manual measurement of zero/work offset		●
96	• Manual measurement of tool offset		●
97	• Automatic tool/workpiece measurement		●
98	• Reference point approach, automatic/via CNC program		●
99	Automatic		
100	• Execution from USB or CF card interface on operator panel front		●
101	• Execution from HMI memory on NCU CF card	In 840D, If machine attached milling spindle	X
102	• Execution from network drive		○
103	Operating software languages		
104	• Ch _S,Ch _T, En, Fr, Gr, It, Kr, Pt, Sp		●
105	• Additional languages, use of language extensions		●
106	Working area limitation		●
107	Limit switch monitoring		●
108	Software and hardware limit switches		●
109	Position monitoring		●
110	Standstill (zero-speed) monitoring		●
111	Clamping monitoring		●
112	2D/3D protection zones		●
113	Contour monitoring		●
114	Axis limitation from the PLC		●
115	Alarms and messages		●
116	Action log can be activated for diagnostic purposes		●
117	PLC status		●
118	Remote Control System (RCS) remote diagnostics		
119	• RCS Host remote diagnostics function		○
120	• RCS Commander (viewer function)	RCS Commander for PC/PG on CD-ROM	●
121	Integrated service planner for the monitoring of service intervals		●
122	Measuring, Measuring stage 1 Two probes (switching) with/without deletion of distance-to-go	Measurement prove & receiver is needed	●
123	Measuring cycles for drilling/milling and turning • Calibrating workpiece probes • Workpiece measurement • Tool measuring	Measurement prove & receiver is needed (included in MDynamics 3-axis & 5-axis) In 840D, If machine attached milling spindle	○
124	Easy Extend		●
125	Contour handwheel		●
126	Integrate screens in SINUMERIK Operate with SINUMERIK Integrate Run MyScreens		●
127	Cross-mode actions (ASUPs and synchronized actions in all operating modes)		○

Responding to Customers

Anytime, Anywhere

Doosan Machine Tools' Global Network, Responding to Customer's Needs nearby, Anytime, Anywhere

Doosan machine tools provides a system-based professional support service before and after the machine tool sale by responding quickly and efficiently to customers' demands.

By supplying spare parts, product training, field service and technical support, we can provide top class support to our customers around the world.



Global Sales and Service Support Network

Corporations	Dealer Networks	Technical Centers	Service Post	Factories
4	167	Technical Center: Sales Support, Service Support, Parts Support 51	200	3

Doosan Machine Tools Customer Support Service

We help customers to achieve success by providing a variety of professional services from pre-sales consultancy to post-sales support.



Supplying Parts

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



Field Services

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



Technical Support

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



Training

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



Major Spec

PUMA V8300 series



Description		Unit	PUMA V8300	PUMA V8300M
Capacity	Max. turning dia.	mm (inch)	Ø830 (Ø32.7)	
	Max. turning length	mm (inch)	780 (30.7)	690 (27.2)
	Chuck size	inch	15 {18 / 21 / 24}* ¹	
Travel	X / Z axis travel distance	mm (inch)	495 (415+80) / 780 (19.5 (16.3+3.1) / 30.7)	
	X / Z axis rapid travel speed	m/min	20 / 20	
Spindle	Max. spindle speed	r/min	2000	
	Spindle motor power (FANUC) (S6 40% / cont.)	kW (Hp)	37/30 (49.6/40.2) {45/37 (60.3/49.6), 37/30/22 (49.6/40.2/29.5)}	37/30 (49.6/40.2) {45/37 (60.3/49.6), 30/22 (40.2/29.5)}
	Spindle bearing inner dia.	mm (inch)	Ø160 (Ø6.3)	

*{ } Option

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* The specifications and information above-mentioned may be changed without prior notice.

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**Fire Safety
Precautions**

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

ver. EN 200831 SU