



DOOSAN'S LARGE HORIZONTAL TURNING CENTER WITH  
2-AXIS TO Y-AXIS MACHINING CAPABILITY

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# PUMA

**600II • 700II • 800II**



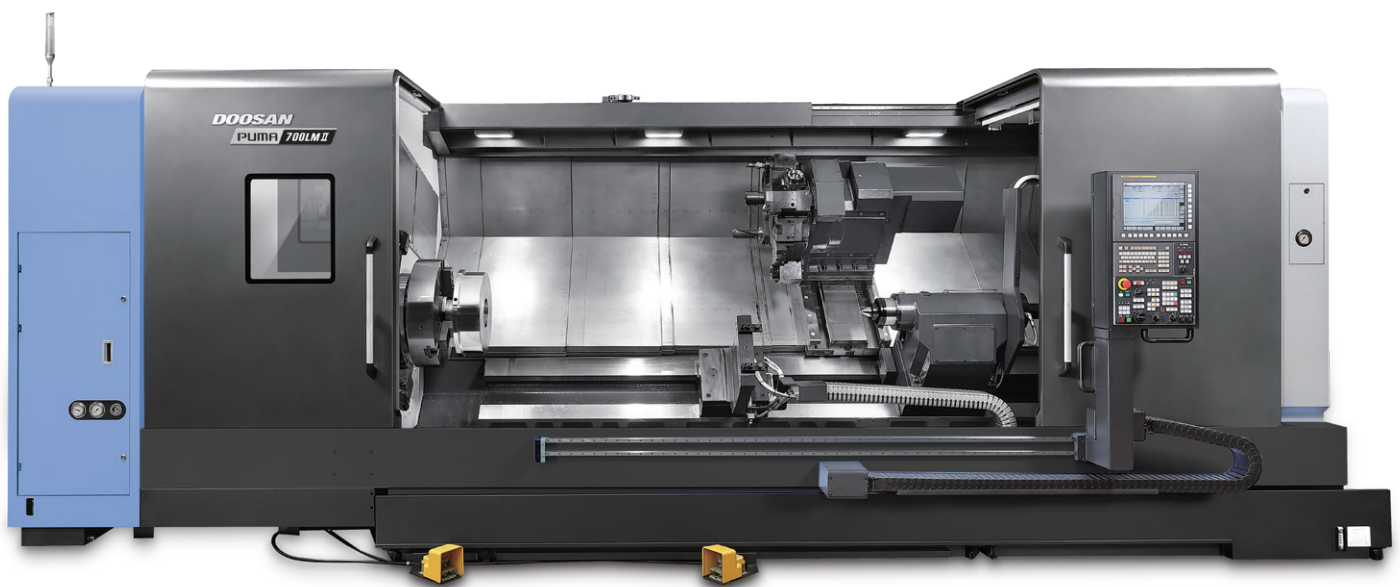
**Doosan Machine Tools**

# PUMA 600/700/800II SERIES

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PUMA 600/700/800 II series is a large horizontal turning center ideally designed for machining pipes and flanges used in oil and gas industry, hydraulic parts used in construction equipment, and also complex parts used in aircraft and ship building industry. Its maximum turning diameter and length are  $\text{\O}900\text{mm}$  and 5050mm, respectively, which is the highest in its class. The slant bed design allows easy chip disposal.





### SINGLE SETUP FOR MACHINING LARGE COMPLEX PARTS

- Maximum productivity can be achieved with the 200mm ( $\pm 100$ mm) orthogonal Y axis structure, which allows users to machine variety of large and complex part.

### BOASTING THE LARGEST MACHINING AREA AND TOP PERFORMANCE IN ITS CLASS

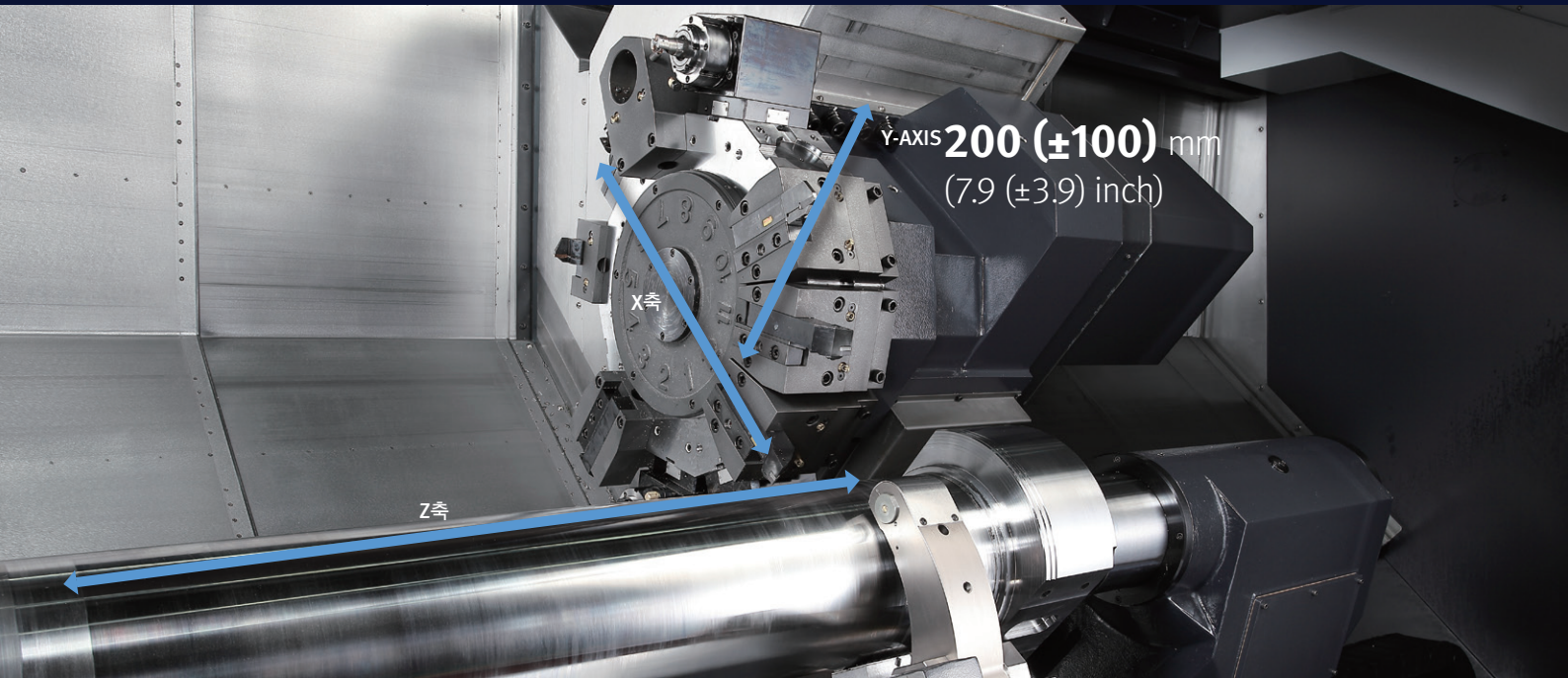
- With 5m maximum turning length,  $\varnothing 900$ mm maximum turning diameter, and 11,004N·m of Torque, machine is ideal for heavy-duty cutting of large parts used in different industries.
- CAPTO type ATC(Auto Tool Changer) enable to increase the number of tooling and reduce setting time, and it is advantageous for machining hard-to-cut materials(Titanium, Inconel) or automation system. **OPTION**

### MACHINING SOLUTION FOR WIDE RANGE OF PIPES

- $\varnothing 375$  mm maximum spindle through hole diameter makes it ideal for turning large diameter pipes.
- Wide range of solution to improve threading performance and reduce failure ratio.

# BASIC STRUCTURE

Machine capability ranges from 2-axis to Y axis, which allows single setup to maximize productivity of machining large diameter parts.



Series	Chuck* Size (inch)	1600 mm (63 inch)_Std.			3200 mm (126 inch)_L			5050 mm (199 inch)_XL		
		2-axis	M	Y	2-axis	M	Y	2-axis	M	Y
PUMA 600 II	18	○	○	-	○	○	○	○	○	○
PUMA 700 II	24	○	○	-	○	○	○	○	○	○
PUMA 800 II	32	○	○	-	○	○	○	○	○	○
PUMA 800B II	Order made	○	-	-	○	-	-	-	-	-

\* Chuck and chuck cylinder are optional features.

## SPINDLE

The gearbox design allows PUMA 600/700/800 II series spindle to have unparalleled power and torque, which boosts productivity with extreme heavy-duty cutting capability.

**Max. spindle speed**

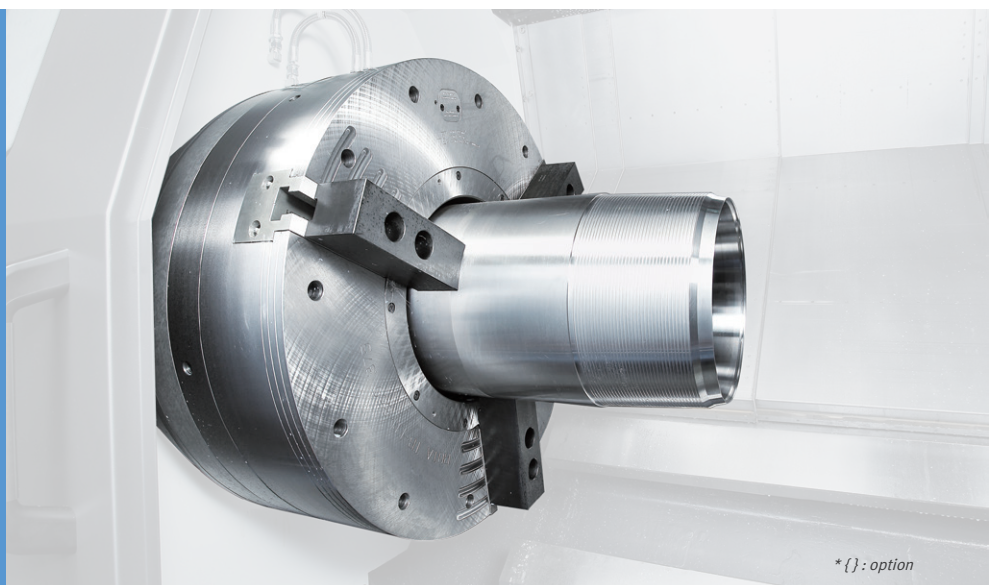
**750** r/min

**Max. spindle power**

**55**{**75** OPTION} kW  
73.8 {100.1} Hp

**Max. spindle torque**

**8076** {**11013** } N·m  
5960.1 {8127.6} ft-lbs

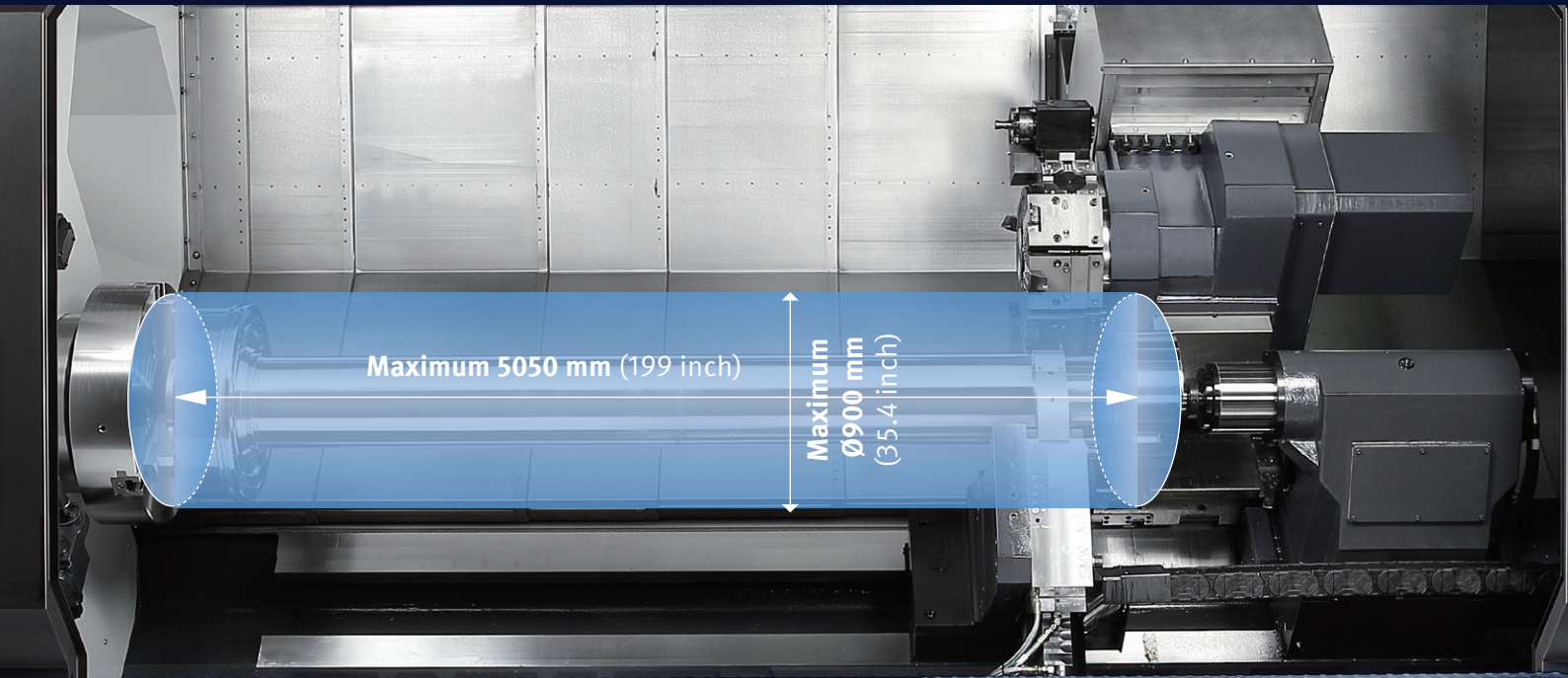


\* {} : option

Series	Max. spindle speed (r/min)	Max. spindle power (kW (Hp))	Max. spindle torque (N·m (ft-lbs))
PUMA 600 II	1800	55 {75} (73.8 {100.6})	6622 {9030} (4887.0 {6664.1})
PUMA 700 II	1500		8076 {11013} (5960.1 {8127.6})
PUMA 800 II	750		
PUMA 800B II	500		

# MACHINING AREA

The largest work envelop in its class with maximum turning diameter of Ø900 mm and maximum turning length of 5 m.



Unit : mm (inch)

## Max. turning diameter

**Ø 900** mm  
35.4 inch

## Max. turning length

**5050** mm  
199 inch

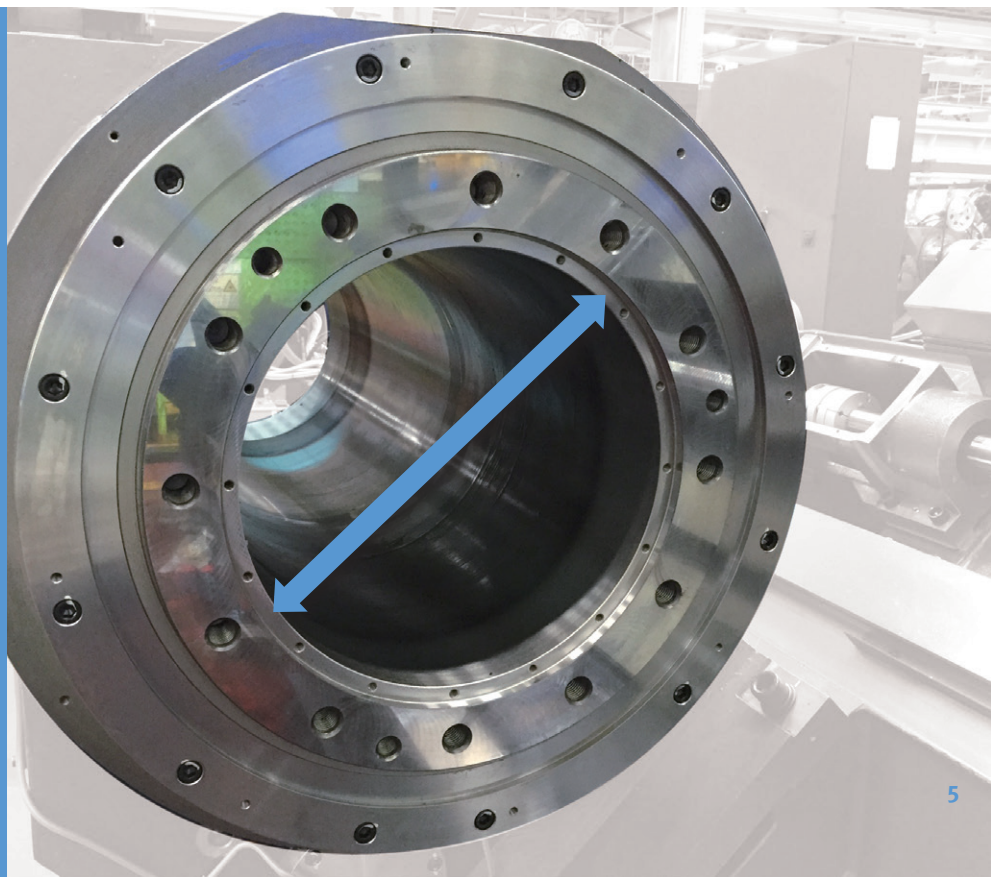
	Series	Max. turning diameter	Max. turning length
2-axis	PUMA 600 /700/800/800B II	900 (35.4)	1600 (63)
	PUMA 600L/700L/800L/800LB II		3200 (126)
	PUMA 600XL/700XL/800XL II		5050 (199)
M	PUMA 600M/700M/800M II	750 (29.5)	1600 (63)
	PUMA 600LM/700LM/800LM II		3200 (126)
	PUMA 600XLM/700XLM/800XLM II		5050 (199)
Y	PUMA 600LY/700LY/800LY II	750 (29.5)	3250 (128)
	PUMA 600XLY/700XLY/800XLY II		5050 (199)

Machine available in various spindle through hole sizes to provide adequate machining solutions for different size pipes.

## Max. spindle through hole diameter

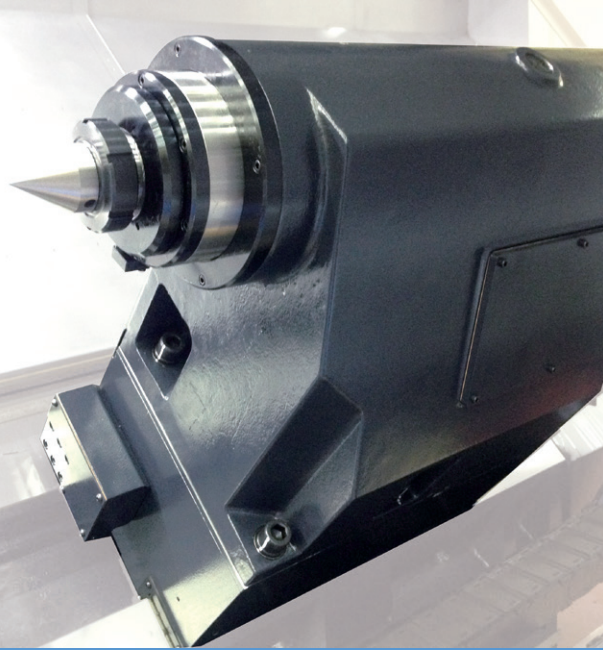
**Ø375** mm  
14.8 inch

Series	Max. spindle through hole diameter (mm (inch))
PUMA 600 II	152 (6.0)
PUMA 700 II	181 (7.1)
PUMA 800 II	320 (12.6)
PUMA 800B II	375 (14.8)



# TAILSTOCK

Standard programmable tailstock gives you the ability to easily adjust position of the tailstock for different work pieces to minimize setup time.



*Unit : mm (inch)*

Series	Quill diameter	Quill travel
PUMA 600/M/L/LM II	160 (6.3)	150 (5.9)
PUMA 700/M/L/LM II		
PUMA 800/M/L/LM II		
PUMA 600LY/XL/XLM/XLY II	180 (7.1)	150 (5.9)
PUMA 700LY/XL/XLM/XLY II		
PUMA 800LY/XL/XLM/XLY II		
PUMA 800B/LB II	160 (6.3)	150 (5.9)

## Tailstock travel

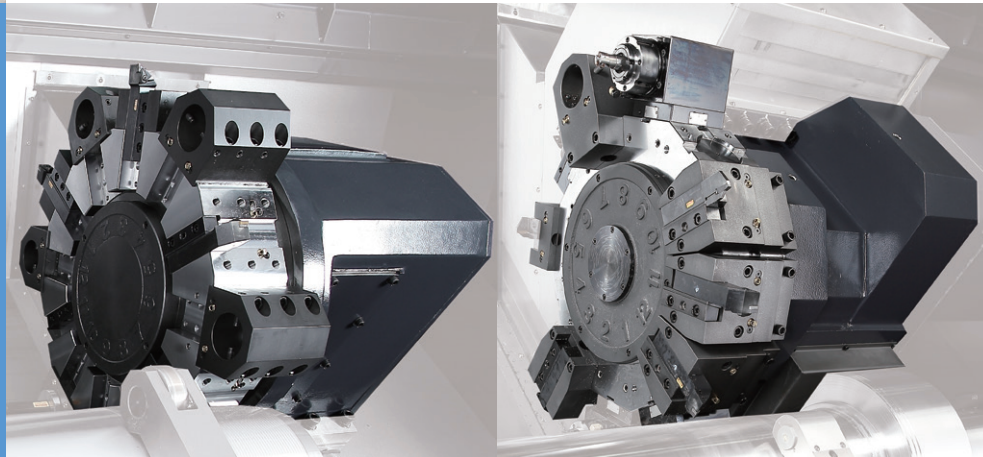
**1550** mm  
61 inch

**3135** mm\* (L)  
123 inch

**4885** mm (XL)  
192 inch

# TURRET

Doosan's unique BMT85P design turret is used on M and Y-Axis models to boost heavy-duty cutting performance.



**2-axis model**

**No. of tool stations**

**12** ea

**M/Y Model**

**BMT85P**

**No. of tool stations**

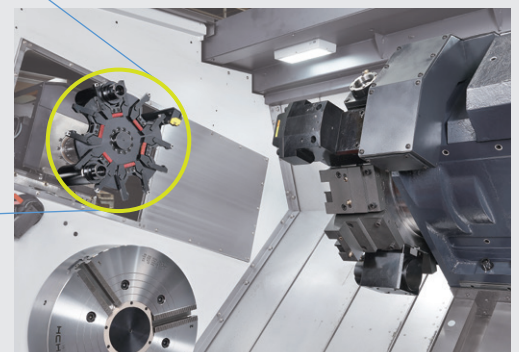
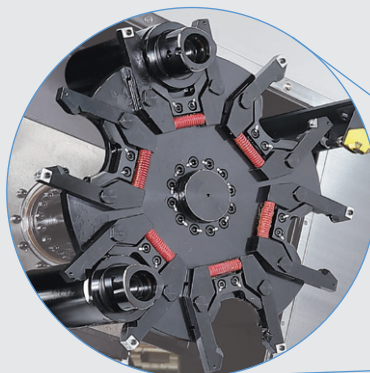
**12** ea

# AUTOMATIC TOOL CHANGER

OPTION

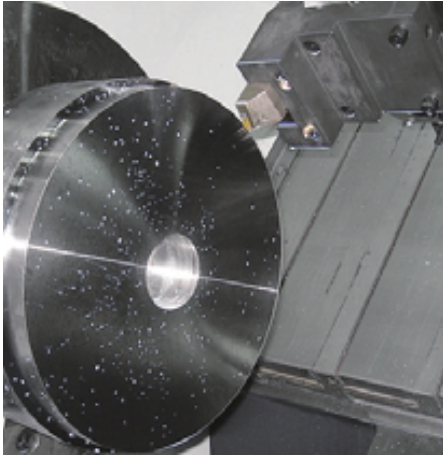
Capto tool of ATC provide the higher productivity at difficult to cut material

Description	Spec.	
<b>MAGAZINE &amp; ATC</b>	Tool shank	CAPTO C8
	Tool storage capa.	6 ea
	Max. tool diameter	Ø80 mm
	Max. tool length	320mm (400mm*) (12.6 (15.7inch*))
	Max. tool weight	10 kg (22.0lb)
	Magazine motor	Servo

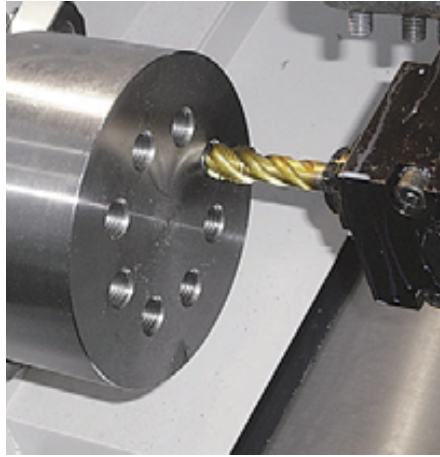


# CUTTING PERFORMANCE

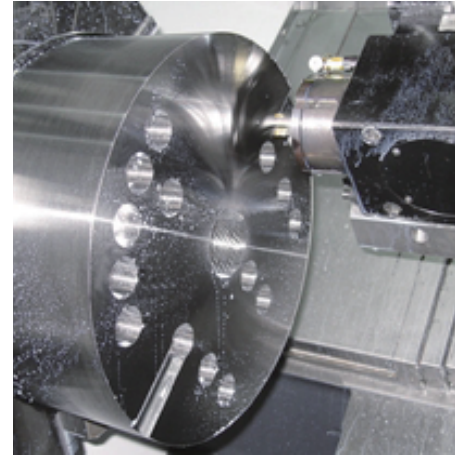
PUMA 600/ 700/800 II series can perform excellent heavy-duty machining in many different ways such as ID/OD turning, end milling, tapping, and U-drilling, to maximize productivity.



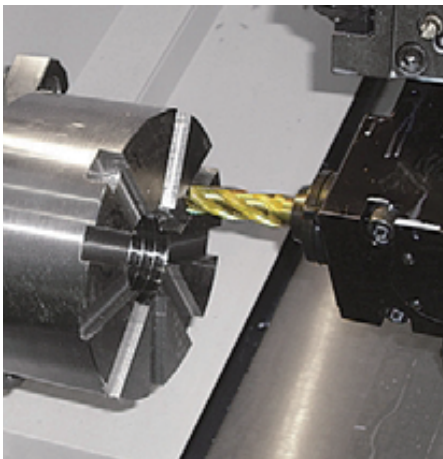
O.D turning (Material diameter Ø 380 mm)	
Speed	230 m/min (9055.1 ipm)
Feed	0.6 mm/rev (0.0 ipr)
Depth of cut	10 mm (0.4 inch)
Chip Removal rate	1418 cm <sup>3</sup> /min (86.5 inch <sup>3</sup> /min)



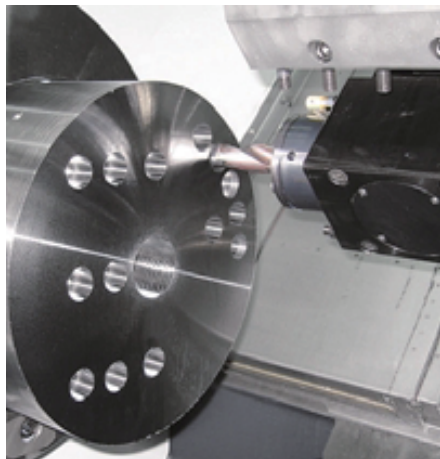
Tapping	
Cutting Tool	M33 x P3.5
Cutting speed	15 m/min (590.6 ipm)
Feed	3.5 mm/rev (0.1 ipr)



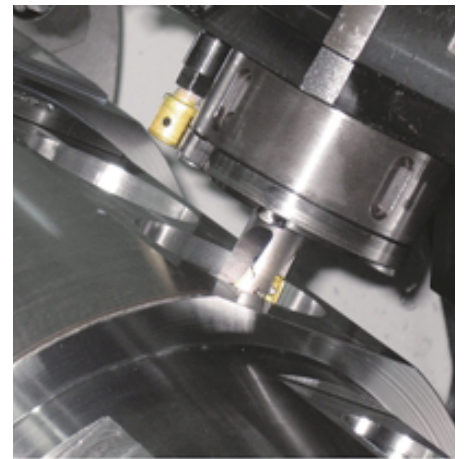
U-Drill (3-axis)	
Cutting Tool	Ø 30 mm (1.2 inch)
Spindle Load	2000 m/min (7874.0 ipm)
Feed	0.12 mm/rev (0.0 ipr)
Chip Removal rate	171 cm <sup>3</sup> /min (10.4 inch <sup>3</sup> /min)



End mill ( Low Speed )	
Cutting Tool	Ø 32 mm (1.3 inch)
Spindle Load	30 m/min (1181.1 ipm)
Feed	90 mm/min (3.5 ipm)
Chip Removal rate	105 cm <sup>3</sup> /min (6.4 inch <sup>3</sup> /min)



End mill ( High Speed )	
Cutting Tool	Ø 25 mm (1.0 inch)
Spindle Load	220 m/min (8661.4 ipm)
Feed	1000 mm/min (39.4 ipm)
Chip Removal rate	175 cm <sup>3</sup> /min (10.7 inch <sup>3</sup> /min)



Helical End Milling	
Cutting Tool	Ø 25 mm (1.0 inch)
Spindle Load	240 m/min (9448.8 ipm)
Feed	800 mm/min (31.5 ipm)
Chip Removal rate	100 cm <sup>3</sup> /min (6.1 inch <sup>3</sup> /min)

\* The results, indicated in this catalogue are provides as example. They may not be obtained due to differences in cutting conditions and environmental conditions during measurement.

# STANDARD & OPTIONAL SPECIFICATIONS

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

Description	Features	PUMA 600 II series		PUMA 700 II series		PUMA 800 II series				
		2-axis / M	Y	2-axis / M	Y	2-axis / M	Y	Big bore (B/LB)		
Chuck	None	●	●	●	●	●	●	●		
	18 inch	○	○	X	X	X	X	X		
	21 inch	○	○	X	X	X	X	X		
	24 inch	X	X	○	○	X	X	X		
	32 inch	X	X	X	X	○	○	X		
	32INCH (OUT DIAMETER Ø800)	○	○	○	○	X	X	X		
	40INCH (OUT DIAMETER Ø1000)	X	X	○ (XL/XLM)	○	○ (XL/XLM)	○	X		
Jaw	Soft Jaws	○	○	○	○	○	○	○		
	Hardened & ground hard jaws	○	○	○	○	○	○	○		
Chucking option	Single pressure chucking	●	●	●	●	●	●	●		
	Dual pressure chucking	○	○	○	○	○	○	○		
	Chuck clamp confirmation	●	●	●	●	●	●	●		
Steady rest	MANUAL STEADY REST	Ø35 ~ Ø330 mm (Ø1.4 ~ Ø13.0 inch)	○	○	○	○	○	○		
		Ø300 ~ Ø450 mm (Ø11.8 ~ Ø17.7 inch)	○	○	○	○	○	○		
		Ø300 ~ Ø590 mm (Ø11.8 ~ Ø23.2 inch)	(std./M/L/LM)	(LY)	(std./M/L/LM)	(LY)	(std./M/L/LM)	(LY)	(B)	
		Ø380 ~ Ø720 mm (Ø15.0 ~ Ø28.3 inch)	(std./M/L/LM)	(LY)	(std./M/L/LM)	(LY)	(std./M/L/LM)	(LY)	(B)	
		Ø420 ~ Ø570 mm (Ø16.5 ~ Ø22.4 inch)	(XL/XLM)	(XLY)	(XL/XLM)	(XLY)	(XL/XLM)	(XLY)	(LB)	
		Ø570 ~ Ø720 mm (Ø22.4 ~ Ø28.3 inch)	(XL/XLM)	(XLY)	(XL/XLM)	(XLY)	(XL/XLM)	(XLY)	(LB)	
	Hydraulic	SLU-4 (Ø30 ~ Ø245 mm) (Ø1.4 ~ Ø9.6 inch)	○	○	○	○	○	○	○	
		SLU-5 (Ø45 ~ Ø310 mm) (Ø1.8 ~ Ø12.2 inch)	○	○	○	○	○	○	○	
		SLU-5.1 (Ø85 ~ Ø350 mm) (Ø3.3 ~ Ø13.8 inch)	○	○	○	○	○	○	○	
		K-5 (Ø80 ~ Ø390 mm) (Ø3.1 ~ Ø15.4 inch)	○	○	○	○	○	○	○	
		SLU-4 (Ø30 ~ Ø245 mm) (Ø1.4 ~ Ø9.6 inch)	○	○	○	○	○	○	○	
		SLU-5 (Ø45 ~ Ø310 mm) (Ø1.8 ~ Ø12.2 inch)	○	○	○	○	○	○	○	
		SLU-5.1 (Ø85 ~ Ø350 mm) (Ø3.3 ~ Ø13.8 inch)	○	○	○	○	○	○	○	
		K-5 (Ø80 ~ Ø390 mm) (Ø3.1 ~ Ø15.4 inch)	○	○	○	○	○	○	○	
		K-5.1 (Ø100 ~ Ø410 mm) (Ø3.9 ~ Ø16.1 inch)	○	○	○	○	○	○	○	
		RX-6 (Ø100 ~ Ø520 mm) (Ø3.9 ~ Ø20.5 inch)	○	○	○	○	○	○	○	
		AX-7E (Ø45 ~ Ø320 mm) (Ø1.8 ~ Ø12.6 inch)	○	○	○	○	○	○	○	
	PROGRAMMABLE STEADY REST	AX-8E (Ø85 ~ Ø360 mm) (Ø3.3 ~ Ø14.2 inch)	○	○	○	○	○	○	○	
		AX-8.5I (Ø100 ~ Ø430 mm) (Ø3.9 ~ Ø16.9 inch)	○	○	○	○	○	○	○	
		AX-9I (Ø100 ~ Ø510 mm) (Ø3.9 ~ Ø20.1 inch)	○	○	○	○	○	○	○	
		Single	○	○	○	○	○	○	○	
		Twin	○	○	○	○	○	○	○	
		Double	○	○	○	○	○	○	○	
		Tailstock	Programmable type	●	●	●	●	●	●	●
			Live center	●	●	●	●	●	●	●
	Built-in dead center		○	○	○	○	○	○	○	
	Coolant pump (60/50Hz)	4.5/3.0 bar	●	●	●	●	●	●	●	
7/5, 10/7, 14.5/10, 28/19.5, 70/70 bar		○	○	○	○	○	○	○		
Coolant options	Coolant level switch : Sensing level - Low	○	○	○	○	○	○	○		
	Oil skimmer	○	○	○	○	○	○	○		
	Coolant chiller	○	○	○	○	○	○	○		
	Coolant pressure switch	○	○	○	○	○	○	○		
	Coolant gun	○	○	○	○	○	○	○		
Chip disposal	Chip conveyor (Right side)	○	○	○	○	○	○	○		
	Chip bucket	○	○	○	○	○	○	○		
	Air blower for chuck	○	○	○	○	○	○	○		
	Mist collector interface (Duct only)	○	○	○	○	○	○	○		
Measurement & Automation	Integrated mist collector	○	○	○	○	○	○	○		
	Tool setter	Manual	○	○	○	○	○	○		
	Automatic	○	○	○	○	X	X	X		
Others	Auto door	○	○	○	○	X	X	X		
	Automatic tool changer	○	○	○	○	○	○	○		
	Doosan Tool load monitoring system	●	●	●	●	●	●	●		
	Signal tower	○	○	○	○	○	○	○		
	Air gun	○	○	○	○	○	○	○		
	Automatic power off	○	○	○	○	○	○	○		
	Air unit for air chuck	Single	X	X	X	X	X	X		
	Twin	X	X	X	X	○	○	○		
Quick change tooling (CAPTO)	○	○	○	○	○	○	○			
Auto Tool Changer (ATC)	△	△	△	△	X	X	X			
TOOL ID	○	○	○	○	X	X	X			
Sketch-turn S/W	○	○	○	○	○	○	○			
Standard Accessories	FOUNDATION BOLT FOR ANCHORING	(L/LM/XL/XLM)	(LY/XLY)	(L/LM/XL/XLM)	(LY/XLY)	(L/LM/XL/XLM)	(LY/XLY)	(LB)		

Please contact your Doosan Machine Tools representative for detailed machine information.

● Standard ○ Optional X N/A

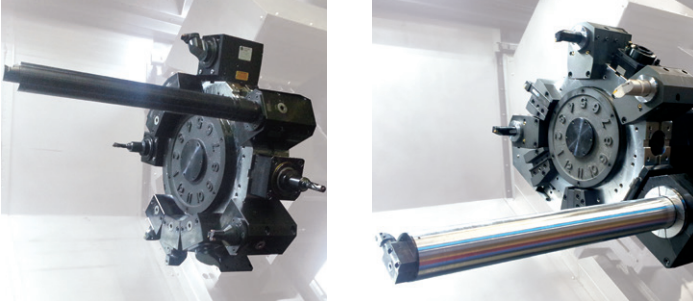


There is a high risk of fire when using non-water-soluble cutting fluids, processing flammable materials, neglecting the controlled and careful use of coolants and modifying the machine without the consent of the manufacturer. Always check the SAFETY GUIDELINES carefully before using the machine.



# PERIPHERAL EQUIPMENT

## Long boring bar OPTION



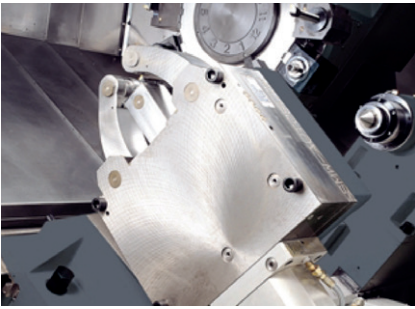
The long boring bar option allows you to easily machine deep holes to minimize cycle time. Please consult with Doosan specialist for details.

## Twin chucking OPTION

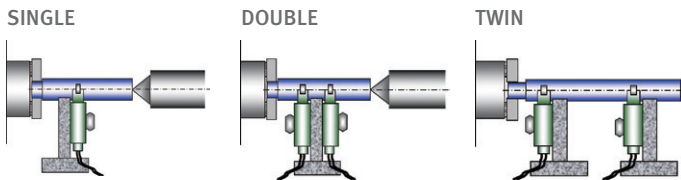


For more stable pipe threading process, twin chucking option(manual or pneumatic) is available. Please consult with Doosan specialist for details.

## Steady rest OPTION



For turning a part with extensive length, various types of hydraulic steady rests(Single, Double or Twin type) are available.



## 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.

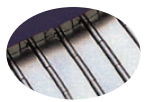
## Coolant tank



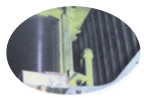
**Standard bed : 470L**  
**L : 570L (LY: 600L)**  
**XL: 770L**

Doosan's ergonomic roller coolant tank design, allows users to easily replace and refill coolant. Roller on the coolant tank allows users to simply take out and put it back in the machine like a drawer unit.

## Chip conveyor (Right side) OPTION



Hinged belt



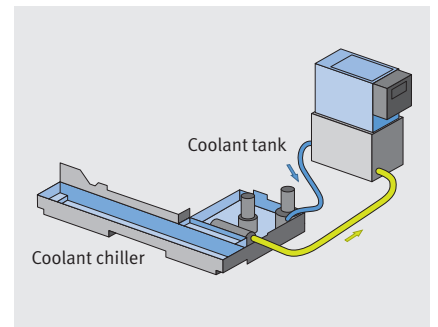
Magnetic scraper



Chip conveyor type	Material	Description
Hinged belt	Steel	Hinged belt chip conveyor, which is most commonly used for steel work(for cleaning chips longer than 30mm), is available as an option.
Magnetic scraper	Cast Iron	Magnetic scraper type chip conveyor, which is ideal for diecasting work(for cleaning small chips), is available as an option.

## Coolant chiller (recommended) OPTION

Coolant chiller is highly recommended to prevent temperature rise and minimize thermal deformation, when using a water-insoluble coolant or high-pressure coolant system of which the power is over 1.5 kw.



## Tool ID system OPTION

Tool ID is the available option, when the customer selects the ATC option. The small chip that is inserted into the capto tool could memorize the tool data like Tool No., Tool offset, Tool life. The customer could read and write the tool data via RFID(Radio Frequency Identification). Through this function, the customer could check the changing time of tool and reduce the human error of setting the tool offset.

# DOOSAN FANUC i PLUS

Doosan Fanuc i Plus maximizes customer productivity and convenience.

## 15" Screen + New OP

Doosan 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.

### Doosan 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.

### SKETCH-TURN OPTION

#### DOOSAN Conversational programming software for PC

- Easy to learn for beginners
- Time savings in programming
- Reduce processing cycle time



## NUMERIC CONTROL SPECIFICATIONS

FANUC

Division	Item	Specifications	2-Axis	M	Y	2-Axis	M	Y
			Doosan Fanuc i (F0i-F Plus)	Doosan Fanuc i (F0i-F Plus)	Doosan Fanuc i (F0i-F Plus)	Fanuc 32i (F32i-B)	Fanuc 32i (F32i-B)	Fanuc 32i (F32i-B)
Controlled axis	Controlled axes		2(X,Z)	3(X,Z,C)	4(X,Z,C,Y)	2(X,Z)	3(X,Z,C)	4(X,Z,C,Y)
	Simultaneously controlled axes		2 axes	3 axes	4 axes	2 axes	3 axes	4 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)	○ *2)	X	X	X
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)	○ *1)	X	X	X
	EZ Operation package		●	●	●	●	●	●
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	○	○	○	X	X	X
	Part program storage size & Number of registerable programs	640M(256KB)_500 programs	X	X	X	●	●	●
	5120M(2MB)_1000 programs	●	●	●	○	○	○	

Network: FANUC MTConnect and FANUC OPC UA available.

● Standard ○ Optional X N/A ✳ Available

# CONVENIENT OPERATION

## SIEMENS S828D

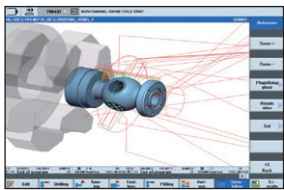
### 15.inch display + New OP

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.

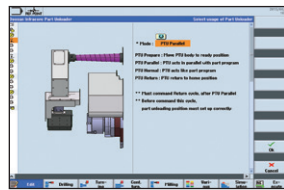
- 15.6 inch display
- USB (standard)
- QWERTY keyboard



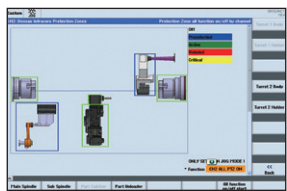
### Convenient conversational functionality



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



Shop-turn mode  
[various]  
[attachments]



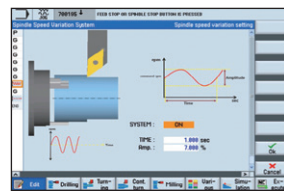
**Operation safety function**  
Protection Zone Synchronized Actions checks the interference between the turret and the spindle to prevent collisions caused by operator error.

[Custom]  
↓  
[Protection zones]



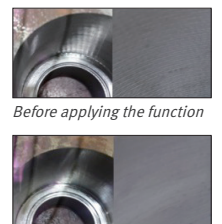
**Maintenance and service convenience function**  
Maintenance and service of major equipment and peripheral devices, including the timer and parts counter settings can be easily undertaken.

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



**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.

[various]  
↓  
[attachment]  
↓  
[DSSV]



Before applying the function  
After applying the function

# NUMERIC CONTROL SPECIFICATIONS

# SIEMENS

Division	Item	Specifications	2-Axis S828D	M S828D	S S828D	MS S828D	Y S828D	SY S828D
Controlled axis	Controlled axes		X,Z,SP	X,Z,C,R	X,Z,C,C2,B	X,Z,C,R,C2,B	X,Z,C,R,Y	X,Z,C,R,C2,Y,B
	Simultaneously controlled axes		4 axes	4 axes	4 axes	4 axes	4 axes	4 axes
Data input/output	Memory card input/output		X	X	X	X	X	X
	USB memory input/output		●	●	●	●	●	●
Interface function	Ethernet (X130)		○	○	○	○	○	○
	On network drive (without EES option, Extcall)		○	○	○	○	○	○
Operation	On USB storage medium, e.g. memory stick (without EES option, Extcall)		●	●	●	●	●	●
	Workpiece coordinate system	G54 - G59, G507 - G599	●	●	●	●	●	●
Feed function	Advanced surface		X	X	X	X	X	X
	Top surface		X	X	X	X	X	X
	Look ahead number of block		1	1	1	1	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		●	●	●	●	●	●
	Network		●	●	●	●	●	●
Others	Display unit	15.6" color display with touch screen	●	●	●	●	●	●
		CNC user memory 10 MB	●	●	●	●	●	
		CNC user memory 100 MB	○	○	○	○	○	
		CNC user memory 6GB	X	X	X	X	X	
		CNC user memory 40GB (with PCU or IPC)	X	X	X	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	X	X	X	

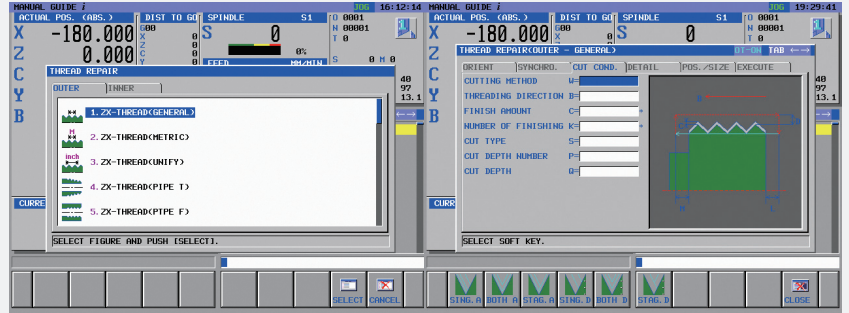
# STABLE THREADING PERFORMANCE

All PUMA 600/ 700/ 800 II series (2-Axis\* to Y-Axis) are capable of threading work.

\* In order to re-machine threads or perform arbitrary speed threading on a 2-Axis machine, additional optional devices have to be selected.

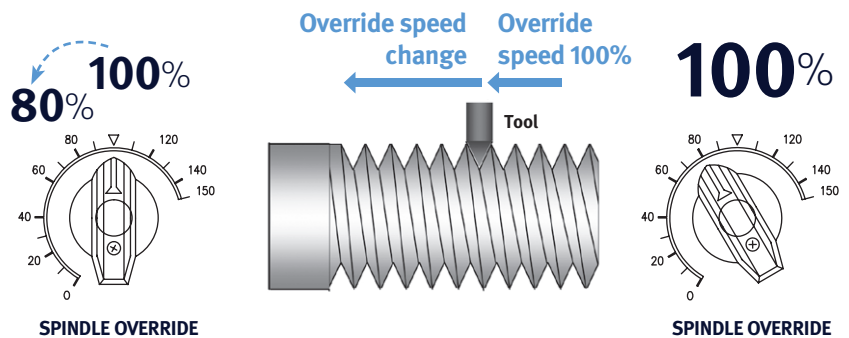
## Threading repair function

This function allows users to repair thread even when original program is not available and this is a standard Fanuc NC function.



## Arbitrary speed threading OPTION

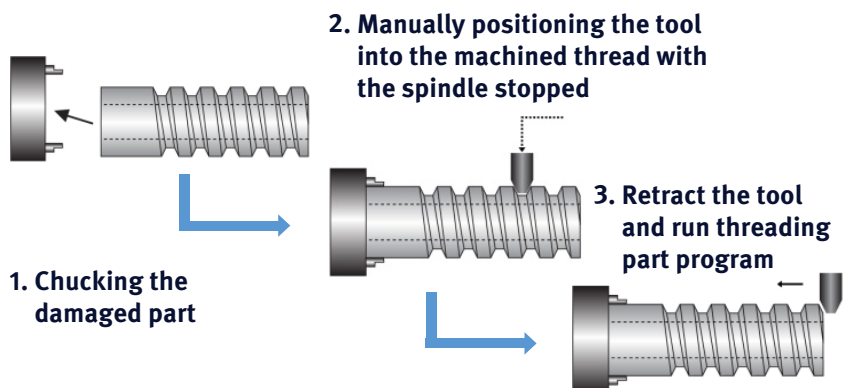
This function allows users to control spindle speed in order to set it at an ideal machining condition to keep the best thread quality.



## Re-machining function OPTION

This function allows users to re-machine damaged threads by using the existing program.

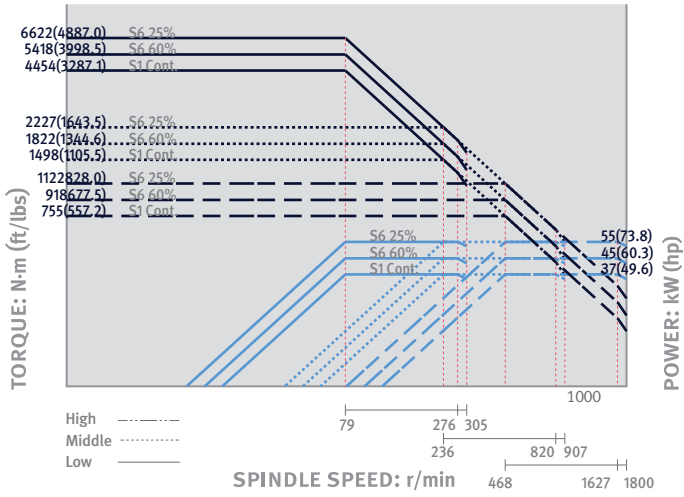
\* Available when selecting "Arbitrary speed threading" option



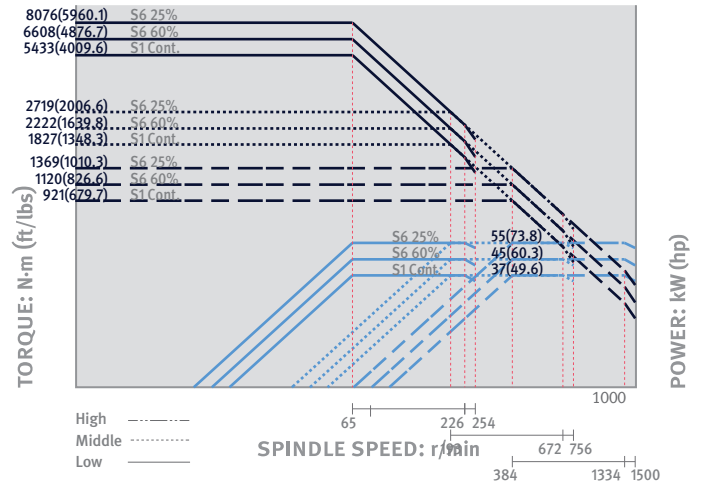
# POWER & TORQUE

FANUC

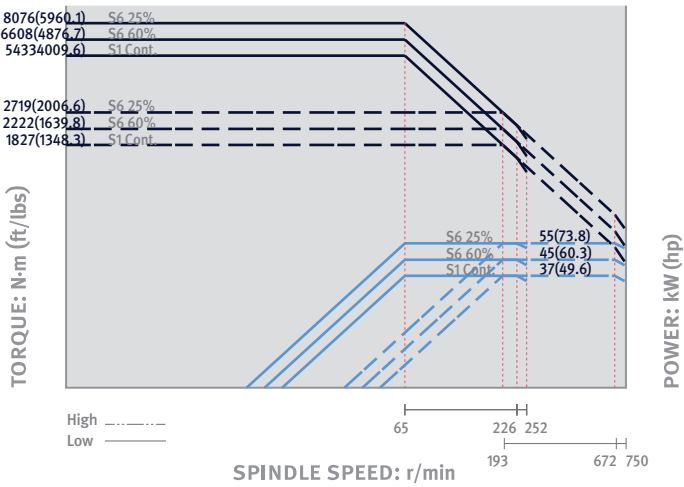
## PUMA 600 II series



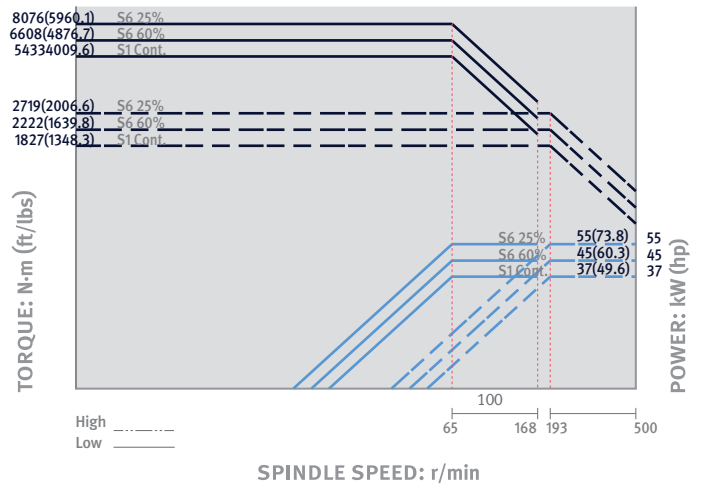
## PUMA 700 II series



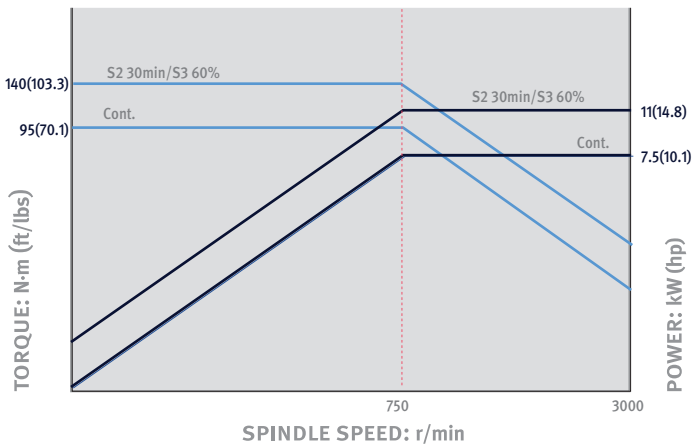
## PUMA 800 II series



## PUMA 800B/LB II series



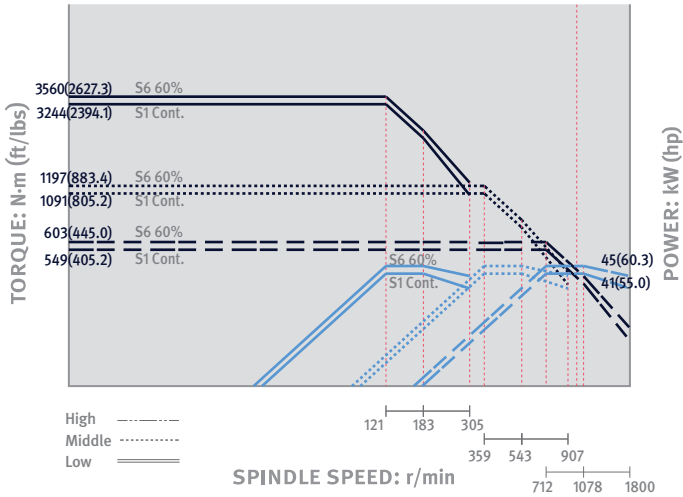
## Rotary tool



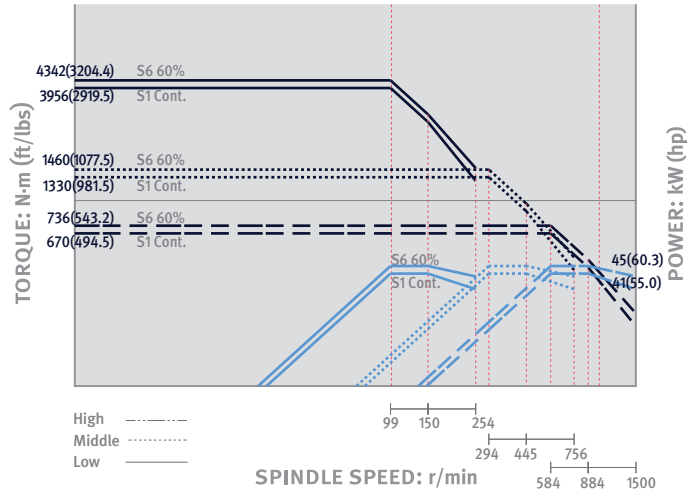
# POWER & TORQUE

SIEMENS

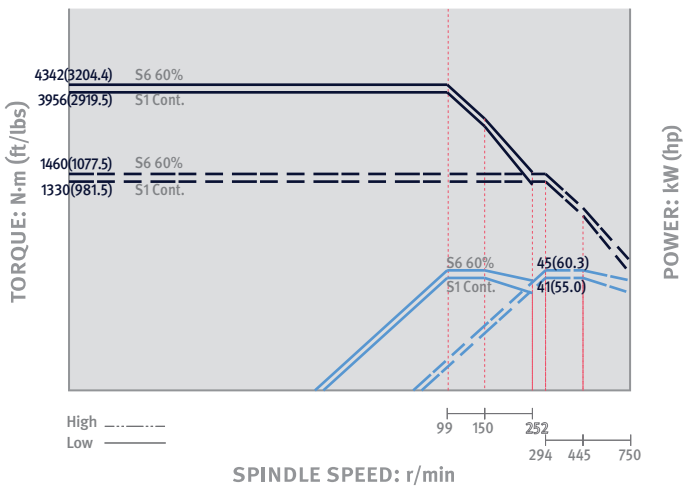
## PUMA 600 II series



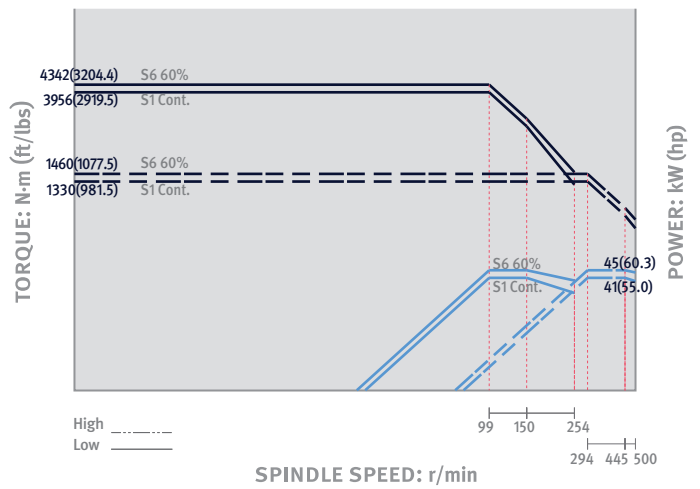
## PUMA 700 II series



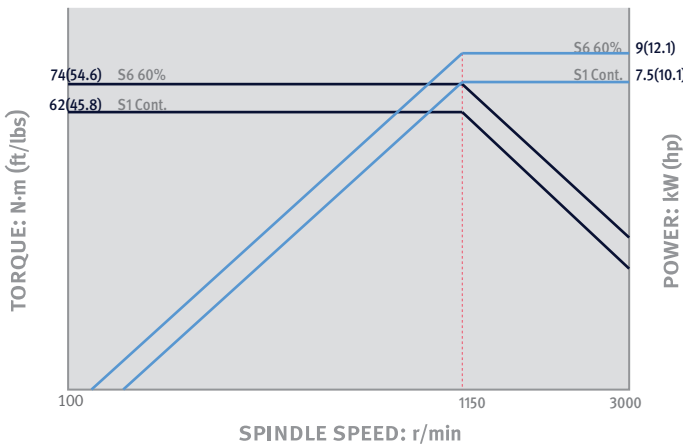
## PUMA 800 II series



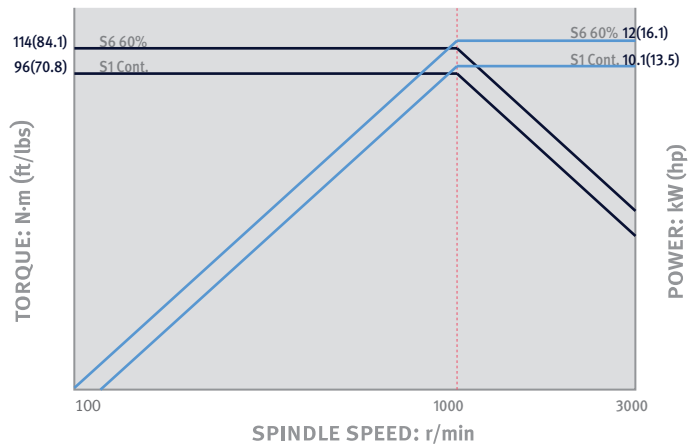
## PUMA 800B/LB II series



## Rotary tool \_ M/LM/XLM



## Rotary tool \_ LY/XLY

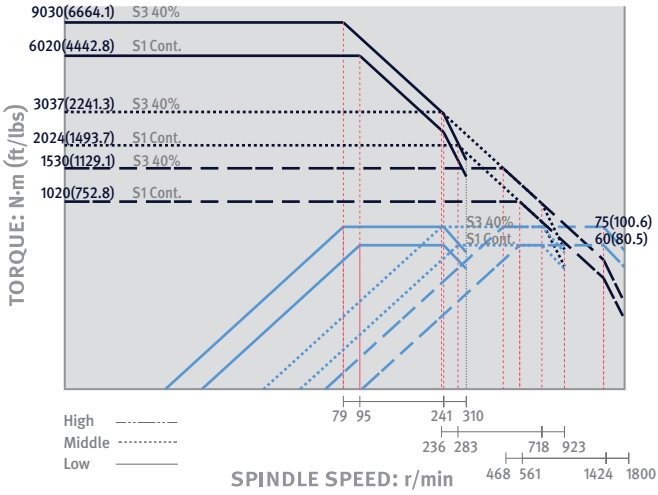


# POWER & TORQUE

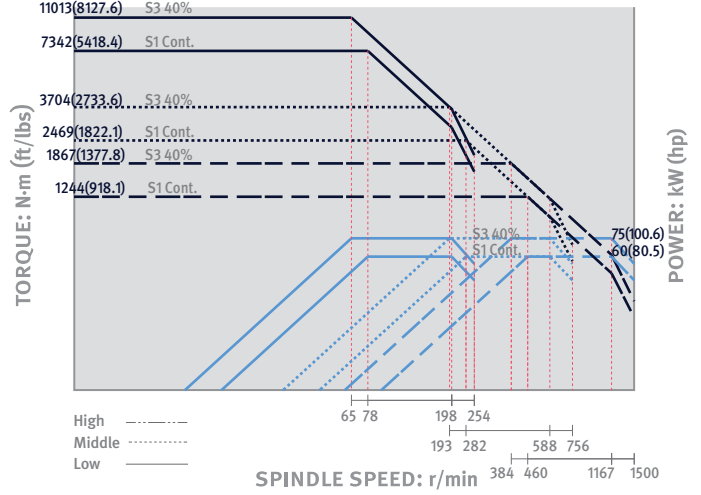
FANUC **OPTION**

단위: mm

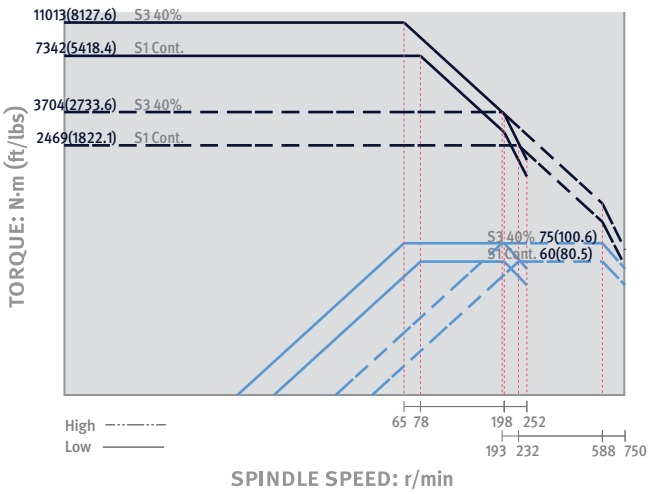
## PUMA 600 II series



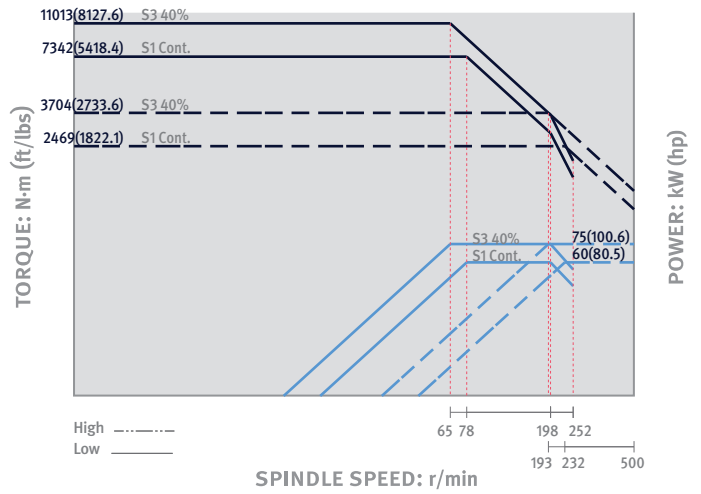
## PUMA 700 II series



## PUMA 800 II series



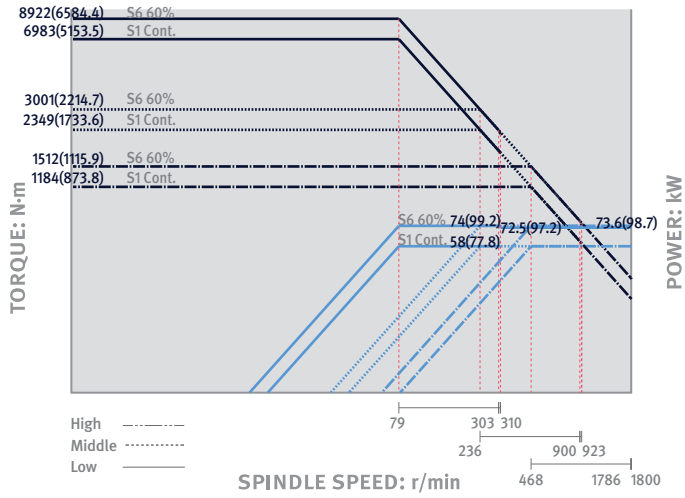
## PUMA 800B/LB II series



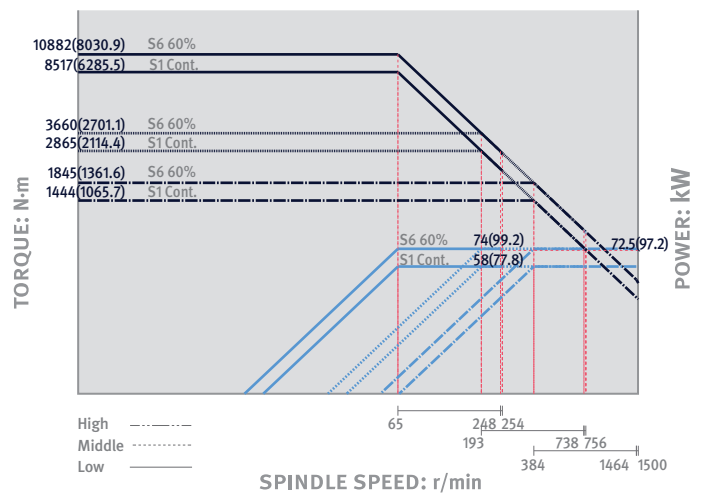
# POWER & TORQUE

SIEMENS OPTION

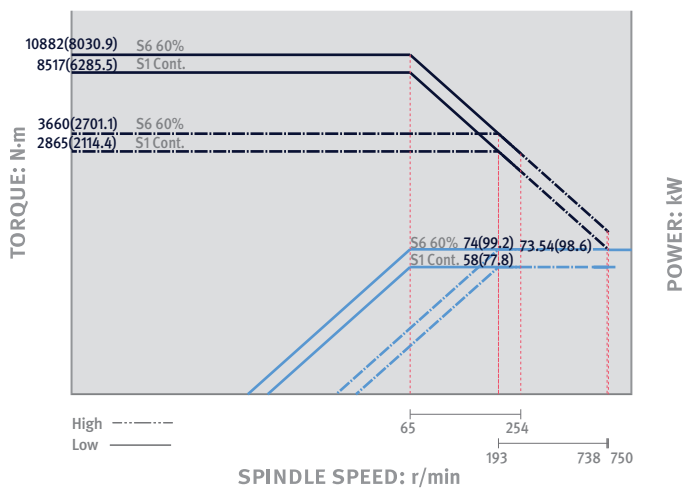
## PUMA 600 II series



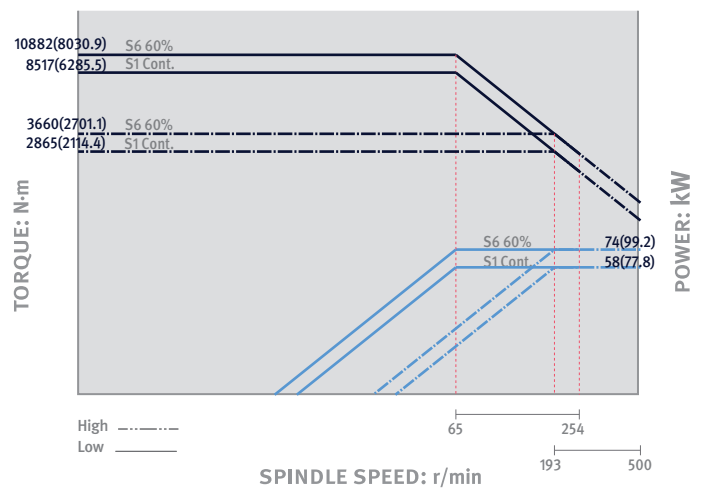
## PUMA 700 II series



## PUMA 800 II series



## PUMA 800B/LB II series



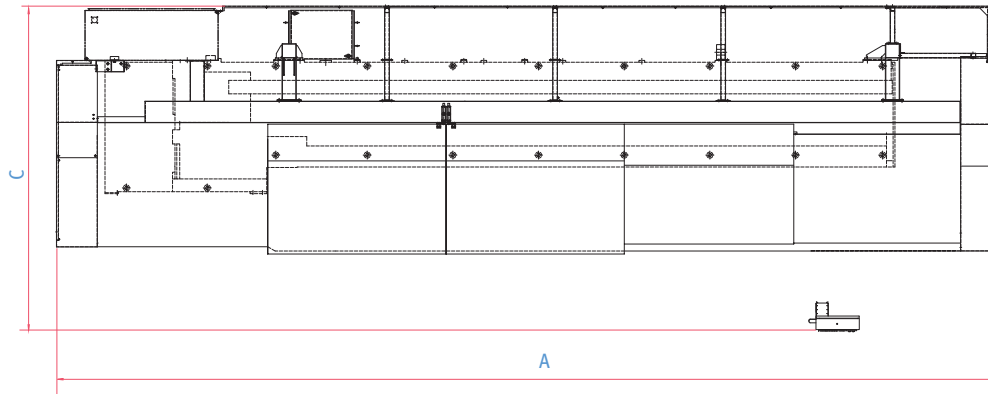


# EXTERNAL DIMENSIONS

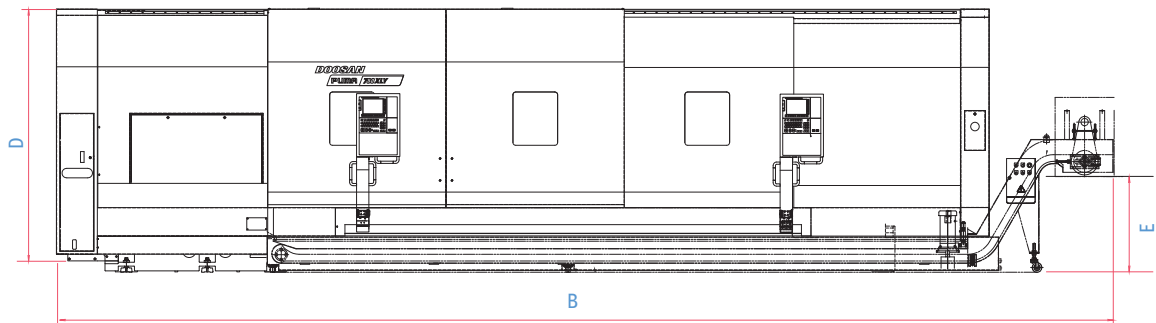
**PUMA** 600/700/800 II series

Unit : mm (inch)

TOP



FRONT



Model	A (Length)	B* (Length with chip conveyor)	C (Width)	D (Height)	E (지면부터 칩 배출구까지 높이)
PUMA 600/700/800 II [M]	5756 (226.6)	6911 (272.1)	3160 (124.4)	2800 (110.2)	1020 (40.2)
PUMA 600L/700L/800L II [M]	7354 (289.5)	8510 (335.0)	2713.5 (106.8)	2590 (102.0)	1020 (40.2)
PUMA 600LY/700LY/800LY II	7443 (293.0)	8592 (338.3)	3031 (119.3)	2855 (112.4)	1005 (39.6)
PUMA 600XL/700XL/800XL II [M]	9904 (389.9)	11010 (433.5)	2955 (116.3)	2855 (112.4)	1020 (40.2)
PUMA 600XLY/700XLY/800XLY II	9904 (389.9)	11112 (437.5)	2955 (116.3)	2855 (112.4)	1005 (39.6)
PUMA 800B II	5756 (226.6)	6911 (272.1)	3160 (124.4)	2800 (110.2)	1020 (40.2)
PUMA 800LB II	7354 (289.5)	8510 (335.0)	2713.5 (106.8)	2590 (102.0)	1020 (40.2)

\* 500mm of a space is required to the right of the machine in order to install and remove chip conveyor.

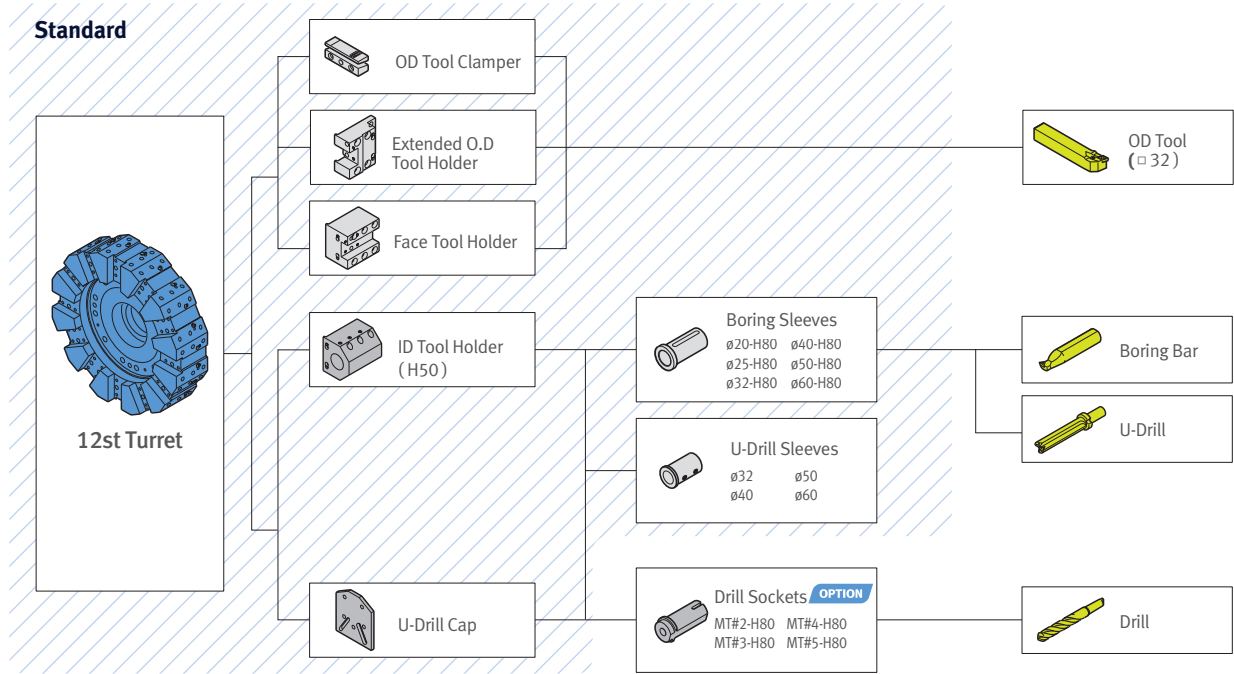
\* Machine foundation : Anchoring is recommended to maintain accuracy over a long period of time. The anchor bolts and other related parts of foundation work are supplied as standard items. Please consult with Doosan and sales technicians regarding ground and operating conditions.

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

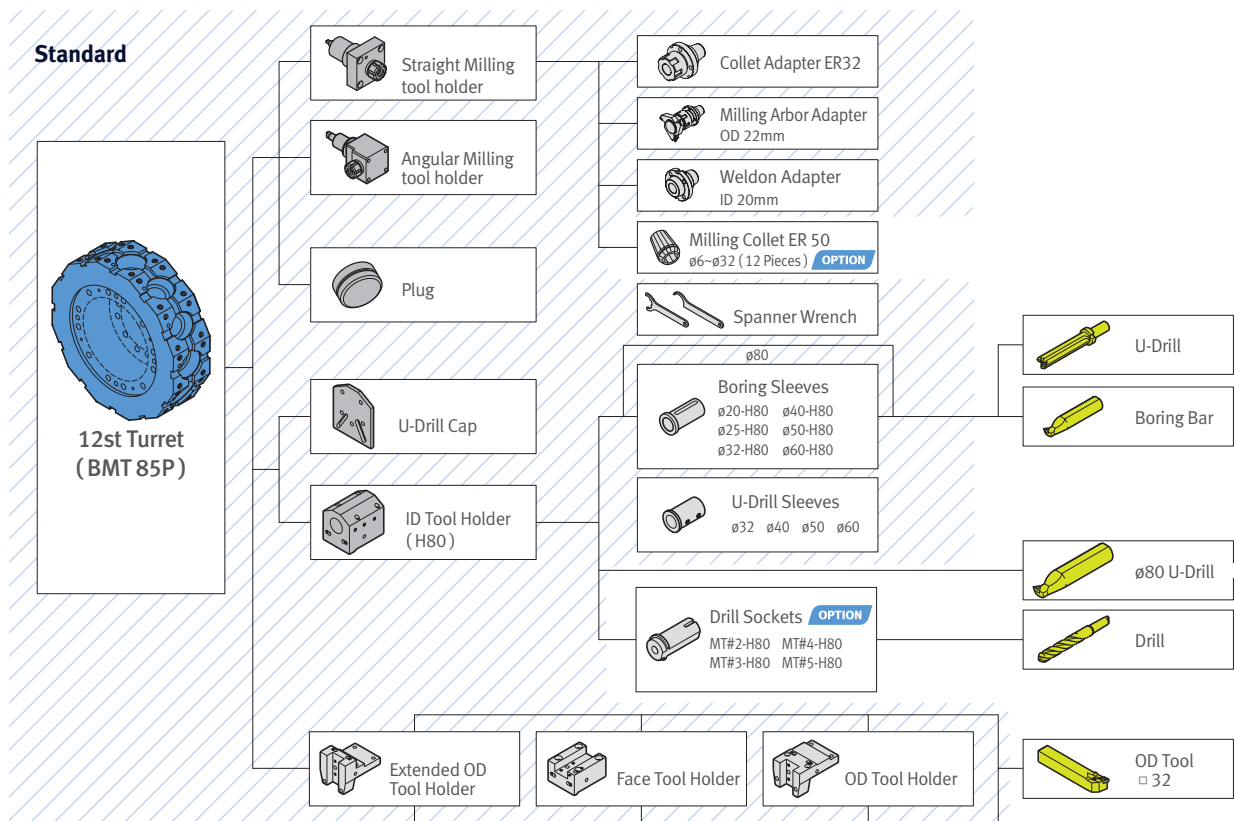
# TOOLING SYSTEM

Unit : mm (inch)

## PUMA 600/700/800II [L/XL], PUMA 800B/LBII



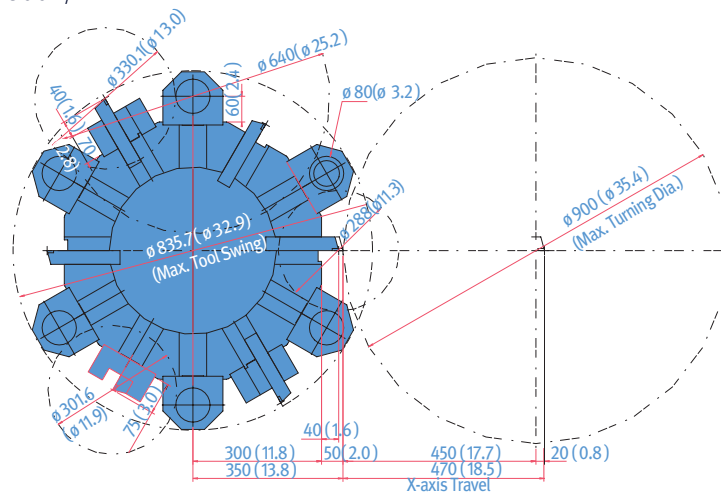
## PUMA 600M/700M/800MII [LM/LY/XLM/XLY]



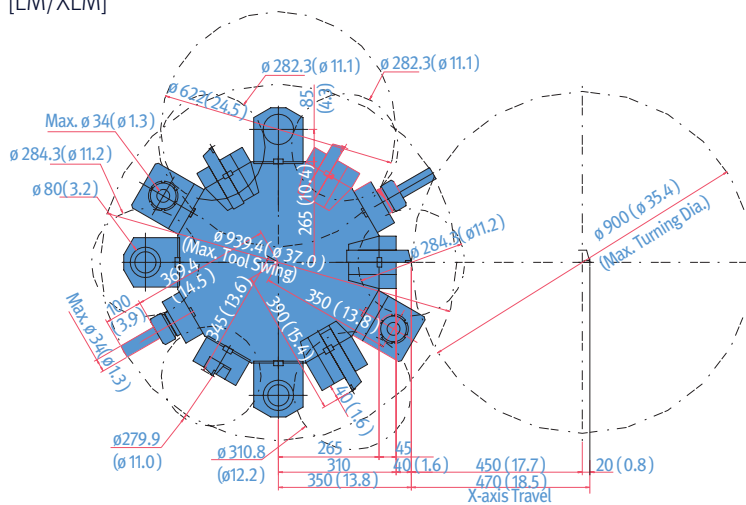
# TOOL INTERFACE

Unit : mm (inch)

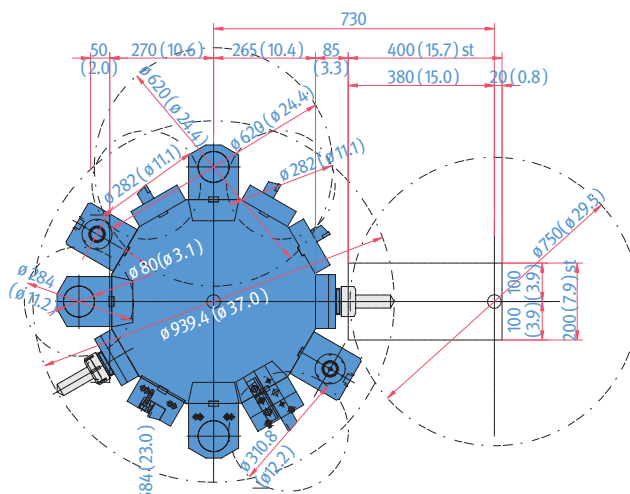
## PUMA 600/700/800II[L/XL], PUMA 800B/LBII



## PUMA 600M/700M/800MII [LM/XLM]



## PUMA 600M/700M/800MII [XLY]

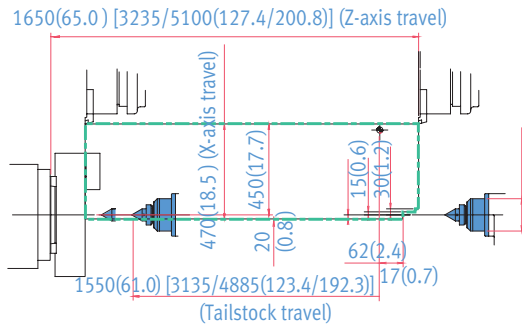


# WORKING RANGE

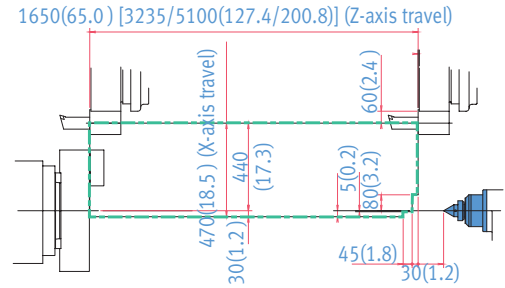
## PUMA 600/700/800 II [L/XL], PUMA 800B II [LB]

Unit : mm (inch)

### OD TOOL HOLDER

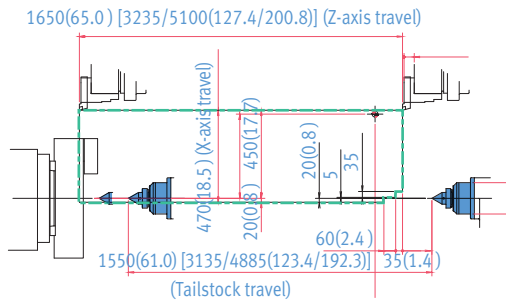


### ID TOOL HOLDER

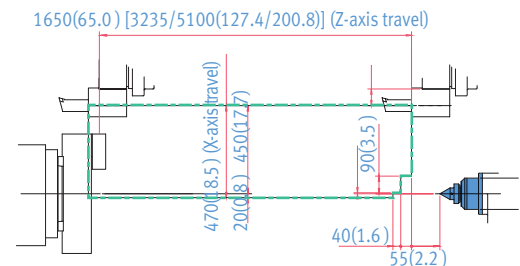


## PUMA 600/700/800 II [LM/XLM]

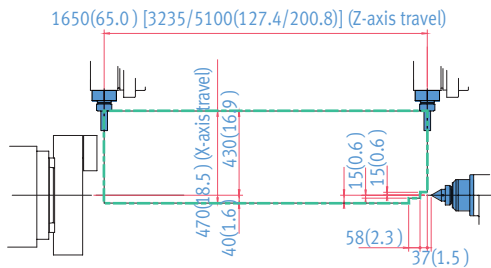
### OD TOOL HOLDER



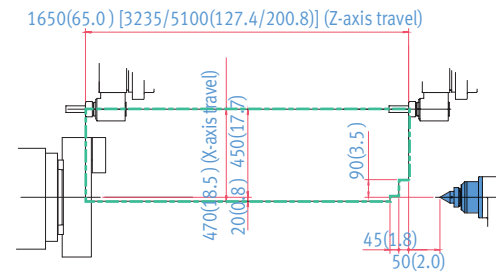
### ID TOOL HOLDER



### STRAIGHT MILLING TOOL HOLDER

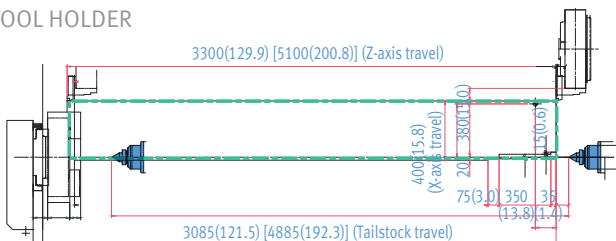


### ANGULAR MILLING TOOL HOLDER

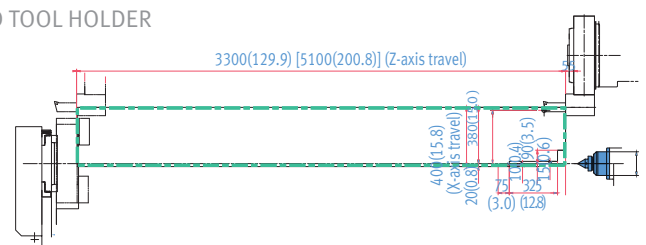


## PUMA 600/700/800 II [XLY]

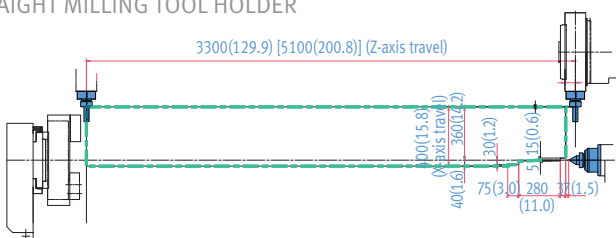
### OD TOOL HOLDER



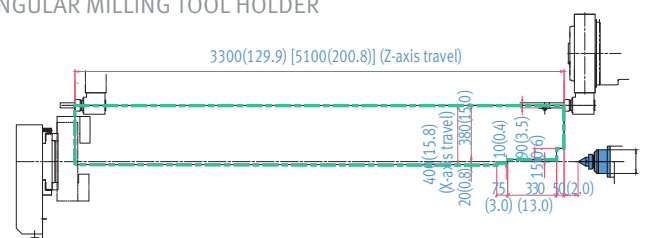
### ID TOOL HOLDER



### STRAIGHT MILLING TOOL HOLDER



### ANGULAR MILLING TOOL HOLDER



# MACHINE SPECIFICATIONS

**PUMA** 600/700/800 IIseries

Description		Unit	PUMA 600 II[L/XL]	PUMA 600M II[LM/XLM]	PUMA 600LY II[XLY]	
Capacity	Swing over bed	mm(inch)	1030(40.6) [1000(39.4)/1140(44.9)]		1140(44.9)	
	Swing over saddle	mm(inch)	800(31.5) [800(31.5)/1000(39.4)]		1000(39.4)	
	Recom. turning diameter	mm(inch)	600(23.6)		700(27.6)	
	Max. turning diameter	mm(inch)	900(35.4)		750(29.5)	
	Max. turning length	mm(inch)	1600(63) [3200(126)/5050(199)]		3250(128) [5050(199)]	
	Chuck size	inch	18			
	Bar working diameter	mm(inch)	117(4.6)			
Travels	Travel distance	X-axis	mm(inch)	470(18.5)		
		Y-axis	mm(inch)	-		
		Z-axis	mm(inch)	1650(65) [3235(127)/5100(201)]		
Feedrates	Rapid traverse rate	X-axis	m/min(ipm)	12(472.4)		
		Y-axis	m/min(ipm)	-		
		Z-axis	m/min(ipm)	16(630.0) [10(393.7)/10(393.7)]		
Main Spindle	Max. spindle speed		r/min	1800		
	Main spindle motor power	FANUC (S6 25% / S6 60% / S1 Cont.)	kW(Hp)	55/45/37(73.8/60.3/49.6) {75/60(100.1/80.5) (S3 60% / S1 Cont.)}*		
		SIEMENS (S6 60% / S1 Cont.)		45/41 {74/58}* (60.3/55.0 {99.2/77.8}) (S6 60% / S1 Cont.)		
	Max. spindle torque	FANUC	N-m(lbf-ft)	6622 {9030}* (4887.0{6664.1})		
		SIEMENS		3560 {8922}* (2627.3 {6584.4})		
	Spindle nose		ASA	A2-15		
	Spindle bearing diameter (Front)		mm(inch)	200(7.9)		
	Spindle through hole diameter		mm(inch)	152(6.0)		
Min. spindle indexing angle (C-axis)		deg	-	0.001		
Turret	No. of tool stations		ea	12		
	OD tool size		mm(inch)	32 x 32 (1.3 x 1.3)		
	Max. boring bar size		mm(inch)	80 (3.1)		
	Turret indexing time (1 station swivel)		s	0.25		
	Max. rotary tool speed		r/min	-	3000	
	Rotary tool motor power	FANUC (30min)	kW(hp)	-	11(14.8)	
		SIEMENS (S6 60%)	-	-	9(12.1)	12(16.1)
Tailstock	Tailstock travel		mm(inch)	1550(61) [3135(123)/4885(192)]		
	Quill diameter		mm(inch)	160(6.3) [160(6.3)/180(7.1)]		
	Quill travel		mm(inch)	150(5.9)		
	Quill bore taper		MT	#6 {#6(Dead)}*		
Power Source	Electric power supply (rated capacity)		kVA	64.44	68.60	
Machine Dimensions	Length		mm(inch)	5756 (226.6) [7354(289.5) /9904(389.9)]		
	Width		mm(inch)	3160 (124.4) [2713(106.8) /2955(116.3)]		
	Height		mm(inch)	2800 (110.2) [2590 (102.0) /2855 (112.4)]		
	Weight		kg(lb)	16500 (36375.7) [22000 (48501.0)/26000 (57319.3)]		
Control	NC system		-	DOOSAN Fanuc i Plus / SIEMENS S828D		

# MACHINE SPECIFICATIONS

**PUMA** 600/700/800 IIseries

Description		Unit	PUMA 700 II [L/XL]	PUMA 700M II [LM/XLM]	PUMA 700LY II [XLY]	PUMA 800 II [L/XL]	PUMA 800M II [LM/XLM]	PUMA 800LY II [XLY]	PUMA 800B II [LB]	
Capacity	Swing over bed	mm (inch)	1030(40.6) [1000(39.4)/1140(44.9)]		1140(44.9)	1030(40.6) [1000(39.4)/1140(44.9)]		1140(44.9)	1030(40.6) [1000(39.4)]	
	Swing over saddle	mm (inch)	800(31.5) [800(31.5)/1000(39.4)]		1000(39.4)	800(31.5) [800(31.5)/1000(39.4)]		1000(39.4)	800(31.5)	
	Recom. turning diameter	mm (inch)	700(27.6)			800(31.5)		700(27.6)	800(31.5)	
	Max. turning diameter	mm (inch)	900(35.4)		750(29.5)	900(35.4)		750(29.5)	900(35.4)	
	Max. turning length	mm (inch)	1600(63) [3200(126)/5050(199)]		3250(128) [5050(199)]	1600(63) [3200(126)/5050(199)]		3250(128) [5050(199)]	1600(63) [3200(126)]	
	Chuck size	inch	24			32			Order made	
	Bar working diameter	mm (inch)	164(6.5)			Depending on chuck spec.				
Travels	Travel distance	X-axis	mm (inch)	470(18.5)		400(15.7)	470(18.5)		400(15.7)	470(18.5)
		Y-axis	mm (inch)	-		200 (7.9)	-		200 (7.9)	-
		Z-axis	mm (inch)	1650(65) [3235(127)/5100(201)]		3300(130) [5100(201)]	1650(65) [3235(127)/5100(201)]		3300(130) [5100(201)]	1650(65) [3235(127)]
Feedrates	Rapid traverse rate	X-axis	m/min (ipm)	12(472.4)			12(472.4)			
		Y-axis	m/min (ipm)	-		6(236.2)	-		6(236.2)	-
		Z-axis	m/min (ipm)	16(630.0) [10(393.7)/10(393.7)]		10(393.7)	16(630.0) [10(393.7)/10(393.7)]		10(393.7)	16(630.0) [10(393.7)]
Main Spindle	Max. spindle speed	r/min	1500			750			500	
	Main spindle motor power	FANUC (S6 25% / S6 60% / S1 Cont.)	kW (Hp)	55/45/37(73.8/60.3/49.6) {75/60(100.1/80.5) (S3 60% / S1 Cont.)}*		55/45/37(73.8/60.3/49.6) 75/60(100.1/80.5) (S3 60% / S1 Cont.)}*				
		SIEMENS (S6 60% / S1 Cont.)		45/41 {74/58}* (60.3/55.0 {99.2/77.8})		45/41{74/58}* (60.3/55.0 {99.2/77.8}) (S6 60% / S1 Cont.)				
	Max. spindle torque	FANUC	N-m (lbf-ft)	8076(5960.1) {11013(8127.6)}*		8076(5960.1) {11013(8127.6)}*				
		SIEMENS		4342 {10882}* (3204.4 {8030.9})		4342 {10882}* (3204.4 {8030.9})				
	Spindle nose	ASA	A1-15			A1-20			ISO 702-4 NO.20	
	Spindle bearing diameter (Front)	mm (inch)	240(9.4)			400(15.7)			440(17.3)	
	Spindle through hole diameter	mm (inch)	181(7.1)			320(12.6)			375(14.8)	
	Min. spindle indexing angle (C-axis)	deg	-	0.001		-	0.001 {1}		0.001	-
Turret	No. of tool stations	ea	12			12				
	OD tool size	mm (inch)	32 x 32 (1.3 x 1.3)			32 x 32 (1.3 x 1.3)				
	Max. boring bar size	mm (inch)	80 (3.1)			80 (3.1)				
	Turret indexing time (1 station swivel)	s	0.25			0.25				
	Max. rotary tool speed	r/min	-	3000		-	3000		-	
	Rotary tool motor power	FANUC (30min)	kW (hp)	-	11(14.8)		-	11(14.8)		-
SIEMENS (S6 60%)		-	-	9(12.1)		-	9(12.1)		-	
Tailstock	Tailstock travel	mm (inch)	1550(61) [3135(123)/4885(192)]		3085(121) [4885(192)]	1550(61) [3135(123)/4885(192)]		3085(121) [4885(192)]	1550(61) [3135(123)]	
	Quill diameter	mm (inch)	160(6.3) [160(6.3)/180(7.1)]		180(7.1)	160(6.3) [160(6.3)/180(7.1)]		180(7.1)	160(6.3)	
	Quill travel	mm (inch)	150(5.9)		150(5.9)	150(5.9)			150(5.9)	
	Quill bore taper	MT	#6 {#6(Dead)}*			#6 {#6(Dead)}*				
Power Source	Electric power supply (rated capacity)	kVA	64.44	68.60	69.90	64.44	68.60	69.90	64.44	
Machine Dimensions	Length	mm (inch)	5756 (226.6) [7354/9904 (289.5/389.9)]		7443(293.0) [9904(389.9)]	5756 (226.6) [7354/9904 (289.5/389.9)]		7443(293.0) [9904(389.9)]	5756 (226.6) [7354 (289.5)]	
	Width	mm (inch)	3160 (124.4) [2713(106.8) /2955(116.3)]		3031 (119.3) [2955 (116.3)]	3160 (124.4) [2713(106.8)/2955(116.3)]		3031 (119.3) [2955 (116.3)]	3160 (124.4) [2713(106.8)]	
	Height	mm (inch)	2800 (110.2) [2590 (102.0) /2855 (112.4)]		2855 (112.4)	2800 (110.2) [2590 (102.0) /2855 (112.4)]		2855 (112.4)	2800 (110.2) [2590 (102.0)]	
	Weight	kg(lb)	16500 (36375.7) [22000(48501.0)/ 26000 (57319.3)]		23000(50706) [26000(57320)]	16500(36375.7)[22000(48501.0)/ 26000 (57319.3)]		23000 (50705.6) [26000 (57319.3)]	16500 (36375.7) [22000 (48501.0)]	
Control	NC system	-	DOOSAN Fanuc i Plus / SIEMENS S828D							

\* { } : option

# RESPONDING TO CUSTOMERS ANYTIME, ANYWHERE

## Doosan Machine Tools' Global Network

Doosan Machine Tools provides systems-based professional support services, before and after the machine tool sale, by responding quickly and efficiently to customers. By supplying spare parts, product training, field service and technical support, we provide the expert care, attention and assistance our customers expect from a market leader.

Global sales and service support network		<b>51</b>	<b>Technical centers</b> Technical center, Sales support, Service support, Parts support
<b>4</b>	Corporations	<b>200</b>	<b>Service posts</b>
<b>167</b>	Dealer networks	<b>3</b>	<b>Factories</b>



## 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 Doosan 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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