DOOSAN

PUMA 2100 / 2600Y Ⅱ series

High Performance Yaxis Horizontal Turning Center

PUMA 2100 / 2600Y Ⅱ series

PUMA 2100Y / SY / LY / LSY Ⅱ
PUMA 2600Y / SY / LY / LSY Ⅱ
PUMA 2600YB / SYB Ⅱ
PUMA 2600LYB / LSYB Ⅱ

MACHINE GREATNESS™

Basic Information

Basic Structure

Detailed Information

Options
Applications
Diagrams
Specifications

Customer Support Service

PUMA 2100Y Ⅱ

PUMA 2100 / 2600 Y Ⅱ series

PUMA 2100 / 2600 Y Ⅱ series has been developed its powerful and precise machining performance with its full line up of high level 8" to 12" size with Y axis and sub spindle.

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PUMA 2600SY Ⅱ

High rigidity and precision

Upgraded structural rigidity achieved prevent vibration and secure dynamic rigidity, so ensure powerful and precise machining.

High performance Y axis complex machining

Have maximum machining performance based on high power and torque performance in their same range model. Y-axis control perform a variety of complex shape machining.

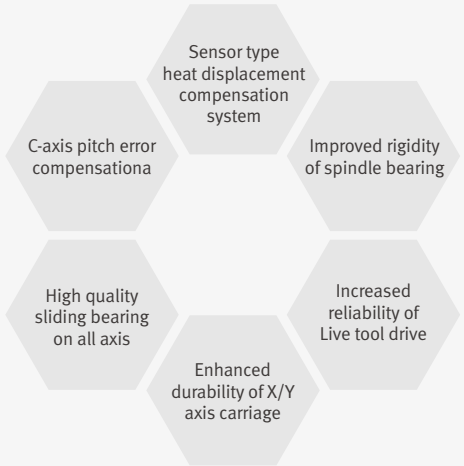
Improved User Convenience

EOP, hot keys and various convenience functions are provided for operating functions and peripheral devices. Set up function, Screen for monitoring and management functions supports to maximize operational efficiency and user convenience.

High performance Y axis complex machining

Box guideways are applied to all axes to prevent vibration and secure dynamic rigidity, so ensure powerful and precise machining.
Y-axis control perform a variety of complex shape machining easily with high accuracy.

Improved precision thanks to high rigidity design



Compare to previous model

Continuous machining accuracy

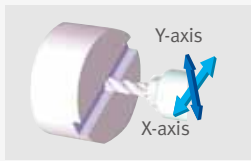
40 % Improved

Higher C-axis accuracy

PUMA 2100 / 2600Y Ⅱ / SY Ⅱ

105(±52.5)mm

(4.1 (±2.1) inch)



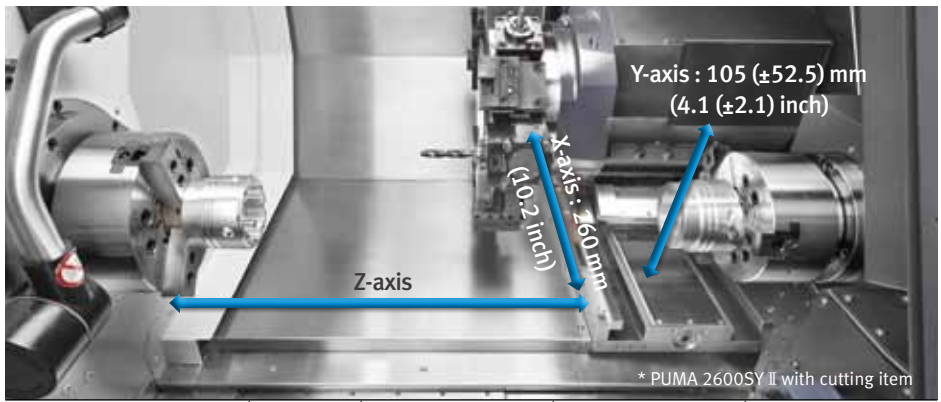
Groove finish cutting using the Y-axis

Multi-face cutting

Milling in an eccentric position

Y & X axes circular interpolation

* The results may not be obtained due to differences in cutting conditions and environmental conditions during measurement



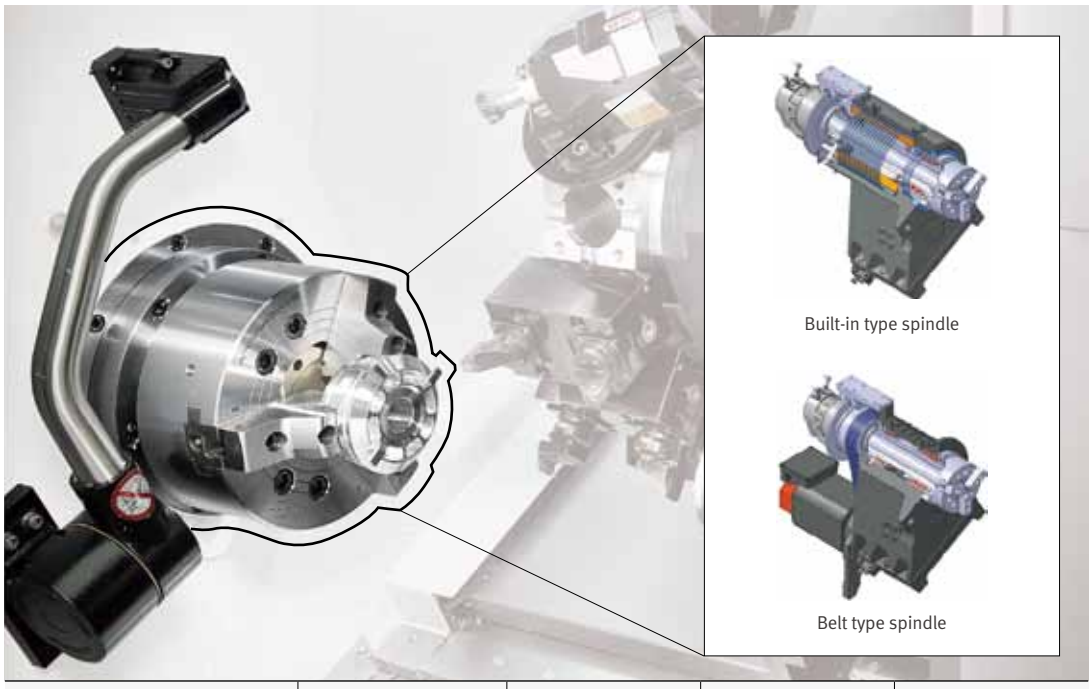
Model	Unit	Max. Turning diameter	Max. Turning length	Travel distance (Z-axis)
PUMA 2100Y Ⅱ / SY Ⅱ	mm (inch)	406 (16.0)	520 (20.5)	590 (23.2)
PUMA 2100LY Ⅱ / LSY Ⅱ	mm (inch)		760 (29.9)	830 (32.7)
PUMA 2600Y Ⅱ / SY Ⅱ	mm (inch)	376 (14.8)	760 (29.9)	830 (32.7)
PUMA 2600LY Ⅱ / LSY Ⅱ	mm (inch)		1280 (50.4)	1350 (53.1)
PUMA 2600YB Ⅱ / SYB Ⅱ	mm (inch)		725 (28.5)	830 (32.7)
PUMA 2600LYB Ⅱ / LSYB Ⅱ	mm (inch)		1245 (49.0)	1350 (53.1)

Spindle

The high power/ torque motor support high precision and heavy-duty cutting for improving productivity.

Durable spindle for stable heavy cutting performance

Enhanced durable spindle by redesigned spindle bearing ensures high rigidity spindle structure.



Model	Driven type	Max. speed r/ min	Max. power kW (Hp)	Max. torque N·m (ft-lbs)
PUMA 2100Y Ⅱ / SY Ⅱ series	Built-in type	5000	22 (29.5)	358 (264.2)
PUMA 2600Y Ⅱ / SY Ⅱ series	Built-in type	4000	22 (29.5)	599 (442.1)
PUMA 2600YB Ⅱ / SYB Ⅱ series	Belt type	2800	22 (29.5)	1123 (828.8)

Sub spindle

Sub spindle function allows rear side cutting in a single setup.

Model	Driven type	Max. speed r/min	Max. power kW (Hp)	Max. torque N·m (ft-lbs)
PUMA 2100SY Ⅱ / LSY Ⅱ PUMA 2600SY Ⅱ / LSY Ⅱ PUMA 2600SYB Ⅱ / LSYB Ⅱ	Built-in type	6000	15 (20.1)	135 (99.6)
	Belt type *	4500	7.5 (10.1)	85 (62.7)

* PUMA 2600SYB Ⅱ / LSYB Ⅱ

Turret

Turret rotation is controlled by servo motor for fast and reliable tool selection. Doosan's unique BMT turret design is used on M and Y specification models to boost heavy duty milling performance.

Servo driven BMT turret with high tool clamping force

The BMT turret developed using DOOSAN's unique technology minimizes thermal error by using an air / oil cooling system. The direct turret clamping system improves accuracy and rigidity.

No. of tool stations
12st

Position index
24index option

BMT55P
PUMA 2100Y Ⅱ / SY Ⅱ series

BMT65P
PUMA 2100Y Ⅱ / SY Ⅱ series option
PUMA 2600Y Ⅱ / SY Ⅱ series
PUMA 2600YB Ⅱ / SYB Ⅱ series

No. of tool stations
16st option

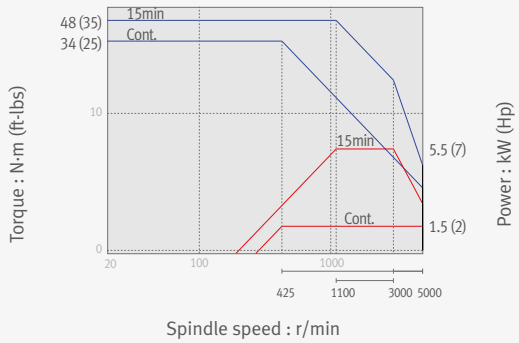
BMT55P
PUMA 2100Y Ⅱ / SY Ⅱ series
PUMA 2600Y Ⅱ / SY Ⅱ series
PUMA 2600YB Ⅱ / SYB Ⅱ series

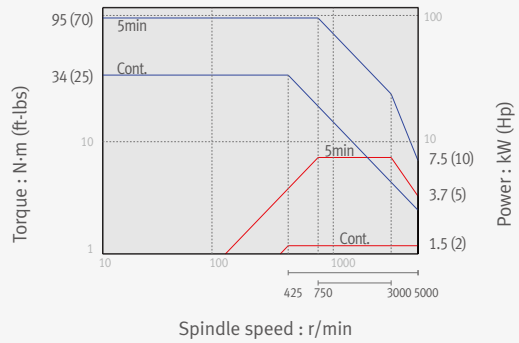
No. of tool stations
20st option

BMT45P
PUMA 2100Y Ⅱ / SY Ⅱ series
PUMA 2600Y Ⅱ / SY Ⅱ series
PUMA 2600YB Ⅱ / SYB Ⅱ series

Rotary tool power-torque diagram

PUMA 2100Y Ⅱ /SY Ⅱ series	PUMA 2600Y Ⅱ /SY Ⅱ series
Max. power : 5.5 kW (7.4 Hp) Max. speed : 5000 r/min	Max. power : 7.5 kW (10.1 Hp) Max. speed : 5000 r/min





Tailstock

High rigidity hydraulic tailstock is rigidly clamped to the bed slide way to provide stable support for long workpieces.

Tailstock type

- Manual
- Programmable
- Servo driven

Tailstock type

Tailstock type		PUMA 2100Y Ⅱ /LY Ⅱ	PUMA 2600Y Ⅱ /LY Ⅱ PUMA 2600YB Ⅱ /LYB Ⅱ
Manual	Live center MT4	Standard	Not available
	Built-in center MT3	Option	
	Live center MT5	Not available	Standard
	Built-in center MT4		Option
Programmable	Live center MT4	Option	Not available
	Built-in center MT3		
	Live center MT5	Not available	Option
	Built-in center MT4		
Servo driven	Live center MT4	Option	Not available
	Built-in center MT3		
	Live center MT5	Not available	Option
	Built-in center MT4		

Tailstock EZ function

In programmable tail stock, the Z-axis position of tail stock is recorded automatically as the clamped position of tail stock.

Standard / Optional Specifications

Various options are available to satisfy the customers' requirements.

● Standard ○ Optional △: Pre-discussion is required X Not applicable

NO.	Description	PUMA 2100 / 2600Y Ⅱ series	PUMA 2100 / 2600SY Ⅱ series
1	Special chucks	△	△
2	Soft jaws	●	●
3	Dual pressure chucking	○	○
4	Hydraulic chuck pressure switch	○	○
5	Chuck clamp confirmation	○	○
6	Tail stock center : Live center	●	X
7	Tail stock center : Dead center	○	X
8	Tail stock : Manual	●	X
9	Tail stock : Programmable	○	X
10	Tail stock : Servo driven	○	X
11	Automatic quill advance & retract	○	X
12	Rotary tool holder	●	●
13	Tool setter : Manual	○	○
14	Tool setter : Automatic_electric	○	○
15	Axis-tool number display	●	●
16	Structure thermal compensation	●	●
17	Auto workpiece measurement	○	○
18	Linear scale (X-axis)	○	○
19	Linear scale (Z-axis)	○	○
20	Linear scale (Y-axis)	○	○
21	Feedback system : Absolute position encoder	●	●
22	Bar feeder interface	○	○
23	Bar puller	△	△
24	Workpiece ejector	X	○
25	Parts catcher with box	○	○
26	Parts catcher with conveyor	○	○
27	Workpiece cut off confirmation	X	○
28	Automatic front door : with safety device	○	○
29	Chip conveyor type : Right side	○	○
30	Chip conveyor type : Rear side *1	○	○
31	Chip bucket	○	○
32	TSC for main / left spindle	○	○
33	Oil skimmer	○	○
34	Coolant level switch : Sensing level - Low	○	○
35	Coolant chiller	○	○
36	Oil mist collector	○	○
37	Coolant blower	○	○
38	Air blower	○	○
39	Air gun	○	○
40	Signal tower (yellow, red, green)	○	○
41	Gantry loader	△	△
42	V-stand for shaft workpiece	○	X
43	Quick change tooling(CAPTO)	○	○
44	Sketch-turn S/W	○	○

*1 : PUMA 2100/L, PUMA 2600

Steady rest

○ Optional X Not applicable

Steady Rest		PUMA 2100		PUMA 2600	
		Std.	L	Std.	L
Type	Hydraulic	○	○	○	○
	Programmable	○	○	○	○
Size	SLU-1	○	○	○	○
	SLU-2	○	○	○	○
	SLU-B3.1	○	○	○	○

High pressure coolant

Model		PUMA 2100 / 2600	
		60Hz	50Hz
Standard	1.5 bar	0.4 kW x 0.15 MPa x 40 L/min	0.4 kW x 0.15 MPa x 40 L/min
option	4.5 bar	1.1kW x 0.45MPa x 30L/min	1.1 kW x 0.30 MPa x 30 L/min
	7 bar	1.8 kW x 0.7 MPa x 30 L/min	1.8 kW x 0.5 MPa x 30 L/min
	10 bar*	2.5 kW x 1.0 MPa x 30 L/min	2.5 kW x 0.7 MPa x 30 L/min
	14.5 bar*	4.0 kW x 1.45 MPa x 30 L/min	4.0 kW x 1.0 MPa x 30 L/min
Special option	28 bar*	4.0 kW x 2.8 MPa x 20 L/min	4.0 KW X 1.95Mpa X 20 L/min
	70 bar*	5.5 kW x 7.0 MPa x 30 L/min	5.5 kW x 7.0 MPa x 26 L/min

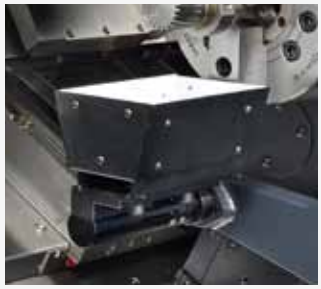
* Recommend using coolant chiller

Peripheral equipments

Collet chuck option

The collet chuck is ideal for loading workpiece of small diameter and light weight.

Part catcher option



The part catcher automatically accepts parts completed of machining, and ejects them out of the system.

Tool setter option 13~14

The tool setter facilitates setting of tools, and fast and precise length compensation of abraded tool.

Oil skimmer option 33

The oil skimmer keeps coolant and lubricant isolated from each other for extending lifecycle of coolant.

Mist collector option 36

The mist collector absorbs airborne oil vapor and fine dusts in the system to improveworking environment.

Easy-to-clean Coolant Tank

The coolant tank can be isolated without removing the chip conveyor, significantly enhancing the operator's convenience.

Signal tower option 40

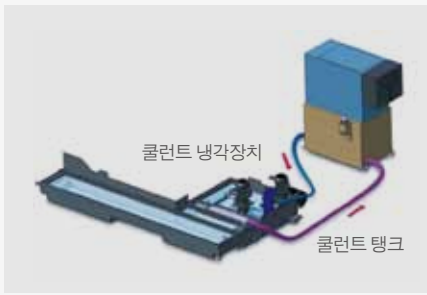
Device to show present statuses of the machine.

Coolant Blower option 37

Axis-tool number display

Axis and tool number display in machine ensures the selected axis just before turning MPG during handle mode and to make it easier to see the number of the tool at working position

Coolant chiller option 35



Detachable coolant chiller is recommended to keep thermal error minimal and get higher machining precision.

Quick change CAPTO option 43

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

Chip Conveyor option

Long

Short

Needle

Sludge

Hinged belt type*
Most typical type of chip conveyor. Appropriate for steel materials generating chips of length of 30 mm or more.

Drum filter type**
Chip conveyor with magnet equipped:Appropriate for cast iron workpieces generating 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
Drum filter type**	Hinged type	○	△	X	△	X	○	△	X
	Scrapper	X	○	△	○	△	X	○	△

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

DOOSAN FANUC i

CNC optimized for DOOSAN's machine tools maximizes productivity.

User-Friendly Operation Panel

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.

10.4-inch display
- Vertical soft key

- USB & PCMCIA card (standard)
- QWERTY keyboard
- Ez-guide i (standard)
- Ergonomically designed operation panel for greater user convenience
- Hot key

SKETCH-TURN option

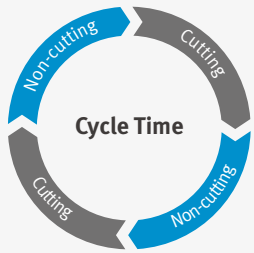
DOOSAN Conversational programming software for PC

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

Improved Productivity

Cycle time, mechanism operating speed, acceleration and deceleration are optimized and non-cutting times during cutting operation are analyzed and minimized to enhance productivity.

Non-cutting time reduced by
10%



EZ-Guide i

Using the DOOSAN EZ-Guide i, users can create a cutting program for any desired shape, including patterns, by entering the appropriate figures only.

Exemplary Programming

Cutting shape

EZ-Guide i Screen

Enter the dimensions of the desired shape.

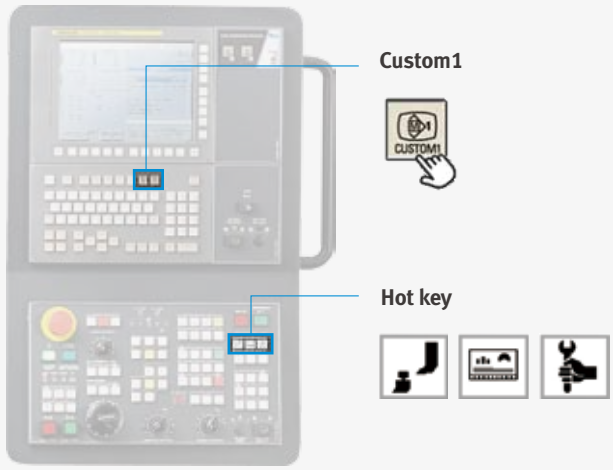
Automatic creation of cutting program

```
O7000 (SAMPLE PROGRAM) ;
...
M3 S1500 ;
G0 X50. Y125. ;
G0 Z30. ;
G1040 T0.5 J3. H0.2 K0.5 ··· ;
G1020 H120. V50. U37. W68. ··· ;
G0 Z80. ;
M5 ;
```

A cutting program is automatically created with the entered values.

Easy Operation Package

Doosan Easy Operation Package (EOP) supports the user with tool, help desk, operation, functionalities to maximize operational efficiency and user convenience.



Select menu screen

Convenient set up for peripheral equipment

Helps tool setter guide, work setting, tailstock setting, and other measurement and parameter control to reduce setting-up time and facilitates operation.

Screen for monitoring the machine and operating conditions

The screen provides a complete view of machine operation. information on the feed system position, offset, feedrate and spindle speed, tool life and count in an easy-to-view screen.

Management Convenience Screen

Helps to prepare tools and provides for visual information on alarms to reduce maintenance time.

SIEMENS 828D

SIEMENS CNC has been adopted and optimized for DOOSAN's machine tools to maximize users' productivity.

10.4 inch screen

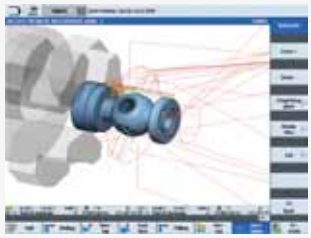
10.4 inch display

- Qwerty keyboard
- USB / CF-card (std.)
- shop turn (std.)

Conversational Convenient function

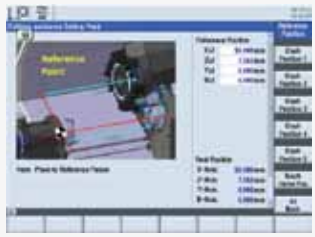
The machining monitoring function developed on the basis of the Shop Turn – an interactive machining support function of SIEMENS – provides users with cutting, servicing and maintenance screens for easy and convenient machine operation.

Cutting and operation support function



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

Operation safety function



Spindle and Turret's interference could be checked before crash. So that it Protect operator's mistake.

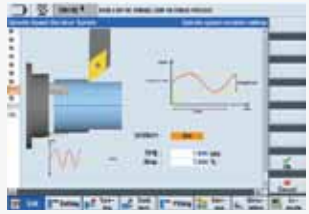
[offset] → [operating parameter] → [attachment setting] → [Collision avoidance]

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.

[offset] → [operating parameter] → [TC service]

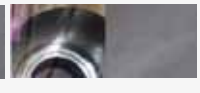
Machining accuracy improvement



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

[various] → [attachment] → [DSSV]

Before applying the function



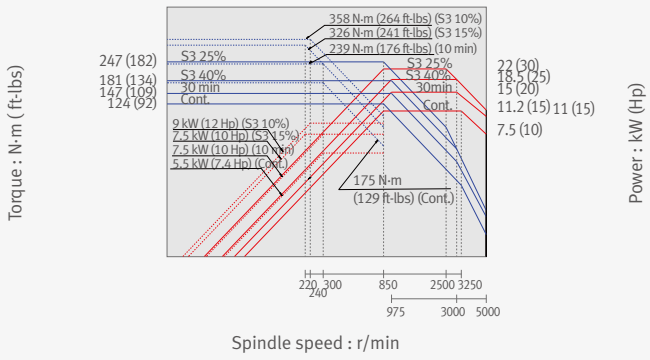
After applying the function

Power-Torque Diagram (FANUC)

Main Spindle

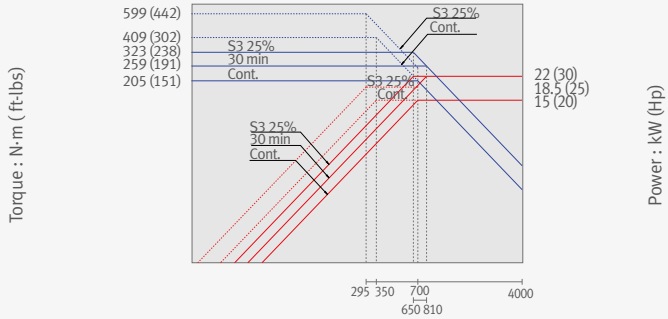
[Built-in Type] PUMA 2100Y Ⅱ /SY Ⅱ series

- Spindle speed : 5000 r/min
- Spindle motor power : 22 kW (29.5 Hp)
- Max. spindle motor torque : 358 N·m (264.2 ft-lbs)



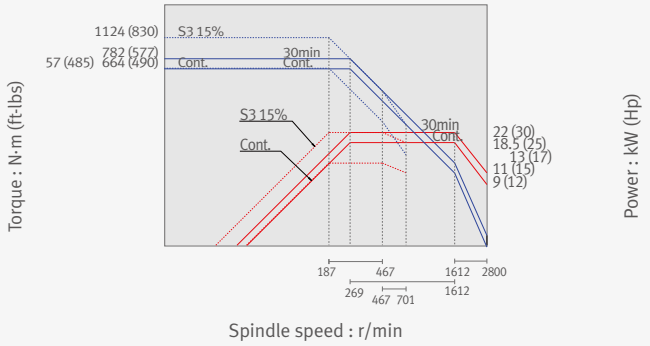
[Built-in Type] PUMA 2600Y Ⅱ /SY Ⅱ series

- Spindle speed : 4000 r/min
- Spindle motor power : 22 kW (29.5 Hp)
- Max. spindle motor torque : 599 N·m (442.1 ft-lbs)



[Belt Type] PUMA 2600YB Ⅱ /SYB Ⅱ series

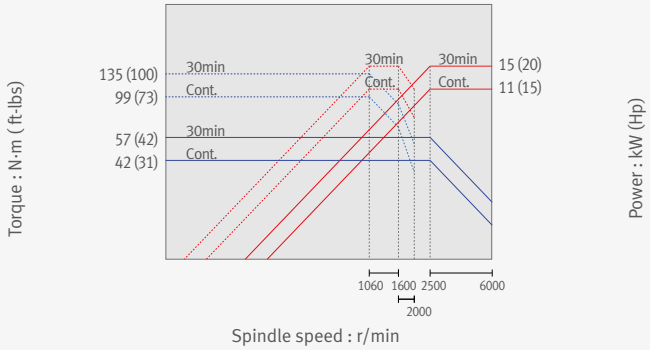
- Spindle speed : 2800 r/min
- Spindle motor power : 22 kW (29.5 Hp)
- Max. spindle motor torque : 1124 N·m (829.5 ft-lbs)



Sub-Spindle

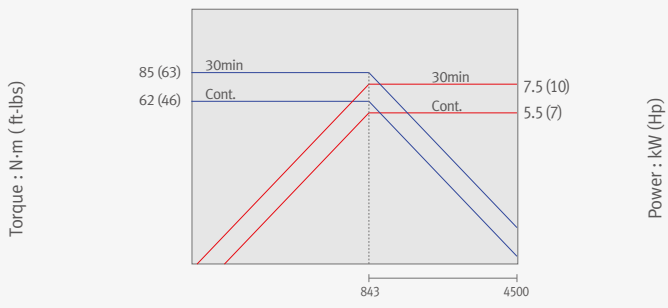
[Built-in Type] PUMA 2100SY Ⅱ /LSY Ⅱ , PUMA 2600SY Ⅱ /LSY Ⅱ

- Spindle speed : 6000 r/min
- Spindle motor power : 15 kW (20.1 Hp)
- Max. spindle motor torque : 135 N·m (99.6 ft-lbs)



[Belt Type] PUMA 2600SYB Ⅱ /LSYB Ⅱ

- Spindle speed : 4500 r/min
- Spindle motor power : 7.5 kW (10.1 Hp)
- Max. spindle motor torque : 85 N·m (62.7 ft-lbs)

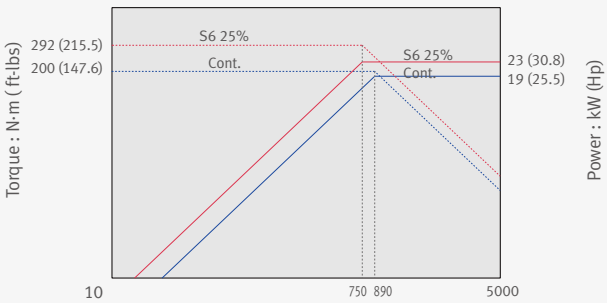


Power-Torque Diagram (SIEMENS)

Main Spindle

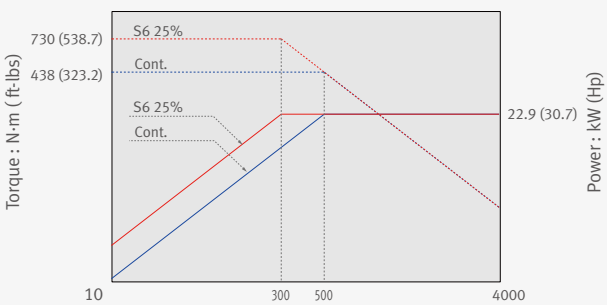
[Built-in Type] PUMA 2100Y Ⅱ / SY Ⅱ series

- Spindle speed : 5000 r/min
- Spindle motor power : 23/19 kW (30.8/25.5 Hp)
- Max. spindle motor torque : 292 N·m (215.5 ft-lbs)



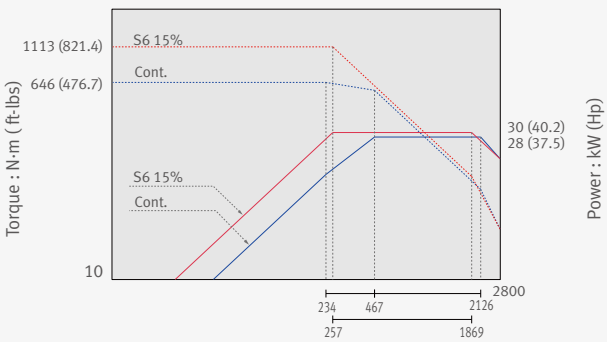
[Built-in Type] PUMA 2600Y Ⅱ / SY Ⅱ series

- Spindle speed : 4000 r/min
- Spindle motor power : 22.9 kW (30.7 Hp)
- Max. spindle motor torque : 730 N·m (538.7 ft-lbs)



[Belt Type] PUMA 2600YB Ⅱ / SYB Ⅱ series

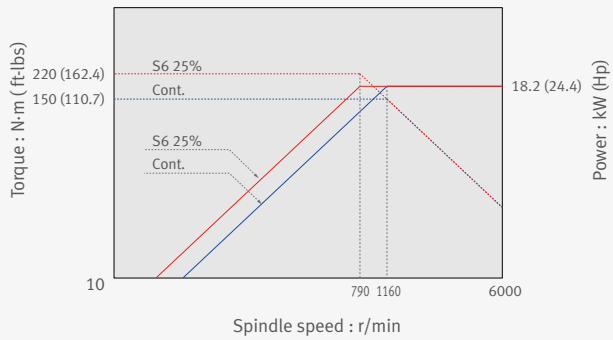
- Spindle speed : 2800 r/min
- Spindle motor power : 30/28 kW (40.2/37.5 Hp)
- Max. spindle motor torque : 1113 N·m (821.4 ft-lbs)



Sub-Spindle

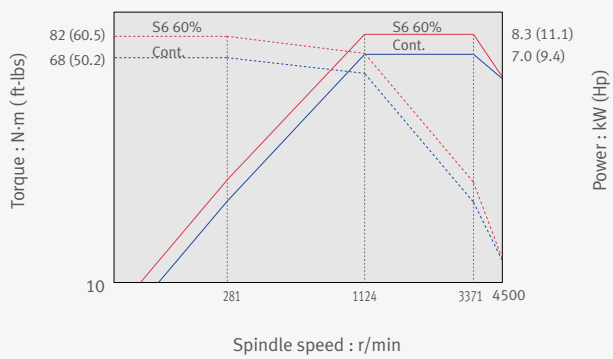
[Built-in Type] PUMA 2100SY Ⅱ / LSY Ⅱ , PUMA 2600SY Ⅱ /LSY Ⅱ

- Spindle speed : 6000 r/min
- Spindle motor power : 18.2 kW (24.4 Hp)
- Max. spindle motor torque : 220 N·m (162.4 ft-lbs)



[Belt Type] PUMA 2600SYB Ⅱ / LSYB Ⅱ

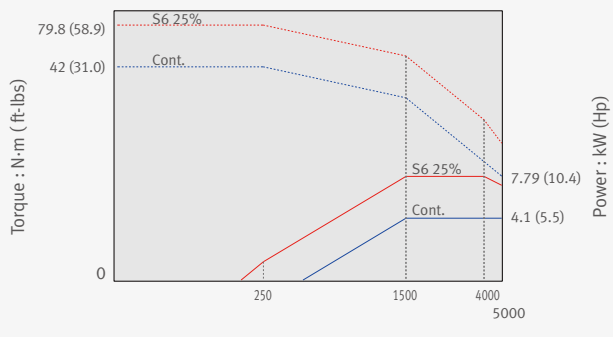
- Spindle speed :4500 r/min
- Spindle motor power : 8.3/7 kW (11.1/9.4 Hp)
- Max. spindle motor torque : 82 N·m (60.5 ft-lbs)



Rotary tool

PUMA 2100 / 2600Y Ⅱ series, PUMA 2600YB Ⅱ series

- Spindle speed : 5000 r/min
- Spindle motor power : 7.79/4.1 kW (10.4/5.5 Hp)
- Max. spindle motor torque : 79.8 N·m (58.9 ft-lbs)

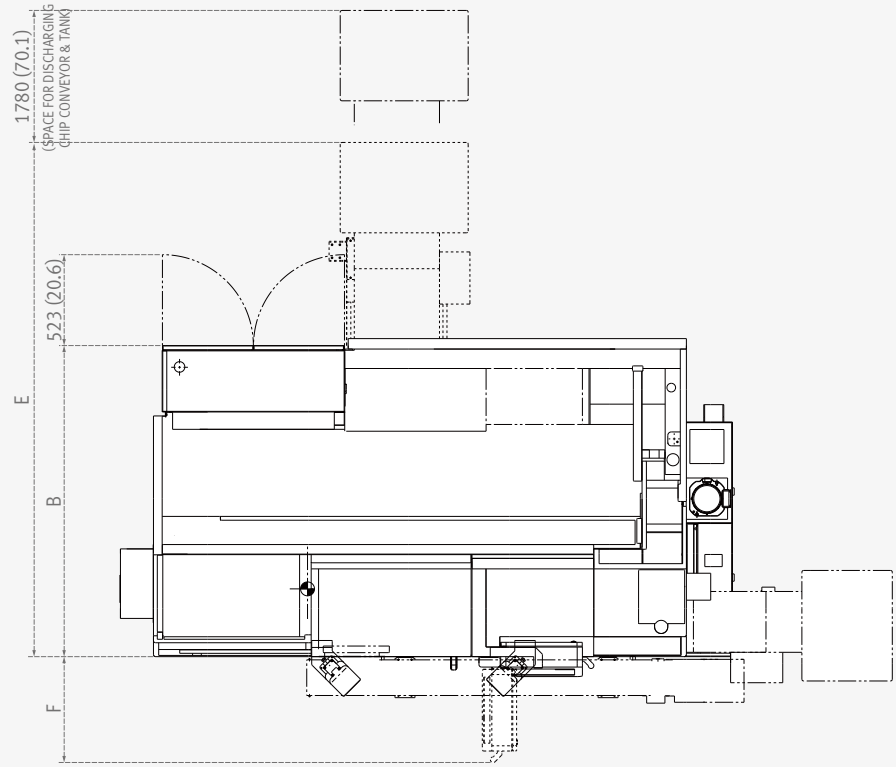


External Dimensions

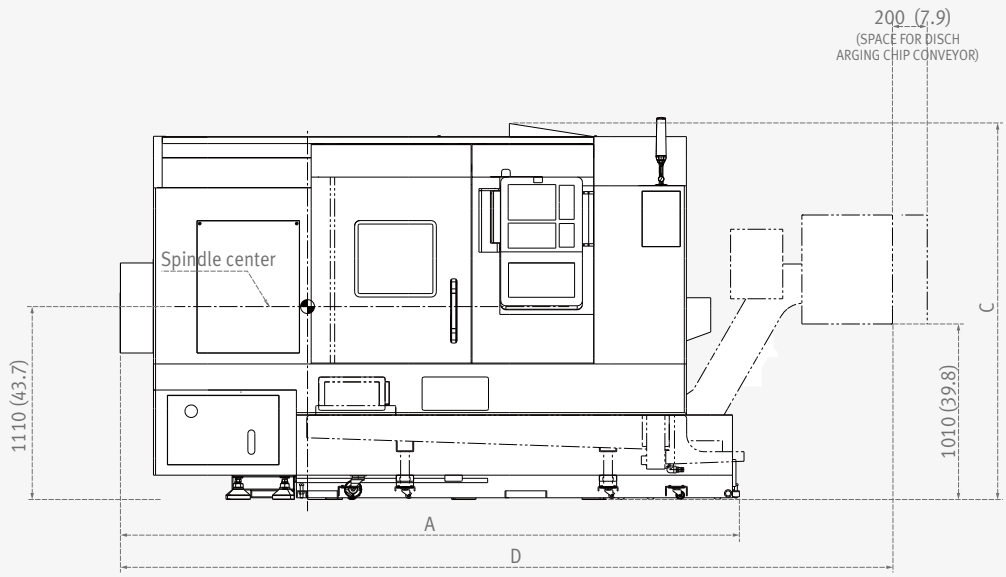
PUMA 2100 / 2600 Y Ⅱ series

Unit: mm (inch)

Top view



Front view



Model	A (Length)	B (Width)	C (Height)	D (Length with side chip conveyor)	E (Width with rear chip conveyor)	F
PUMA 2100Y Ⅱ / SY Ⅱ	3190 (125.6)	1945 (76.6)	2163 (85.2)	4070 (160.2)	3074 (121.0)	490 (19.3)
PUMA 2100LY Ⅱ / LSY Ⅱ	3410 (134.3)	1945 (76.6)	2163 (85.2)	4290 (168.9)	3074 (121.0)	490 (19.3)
PUMA 2600Y Ⅱ / SY Ⅱ	3560 (140.2)	1945 (76.6)	2163 (85.2)	4440 (174.8)	3074 (121.0)	490 (19.3)
PUMA 2600LY Ⅱ / LSY Ⅱ	4435 (174.6)	2049 (80.7)	2163 (85.2)	5490 (216.1)	-	545 (21.5)
PUMA 2600YB Ⅱ / SYB Ⅱ	3873 (152.5)	1945 (76.6)	2163 (85.2)	4753 (187.1)	3074 (121.0)	490 (19.3)
PUMA 2600LYB Ⅱ / LSYB Ⅱ	4438 (174.7)	2049 (80.7)	2163 (85.2)	5492(216.2)	-	545 (21.5)

* Some peripheral equipment can be placed in other places

Machine Specifications

Description			Unit	PUMA 2100Y Ⅱ / LY Ⅱ
Capacity	Swing over bed		mm (inch)	780 (30.7)
	Swing over front door		mm (inch)	680 (26.8)
	Swing over saddle*		mm (inch)	630 (24.8)
	Recom. Turning diameter		mm (inch)	210 (8.3)
	Max. turning diameter		mm (inch)	406 (16.0)
	Max. turning length		mm (inch)	520 / 760 (20.5 / 29.9)
	Bar working diameter		mm (inch)	65 (2.6)
Travels	Travel distance	X-axis	mm (inch)	260 (10.2)
		Z-axis	mm (inch)	590 / 830 (23.2 / 32.7)
		Y-axis	mm (inch)	105 (±52.5) (4.1 (±2.1))
		B-axis	mm (inch)	-
Feedrates	Rapid traverse	X-axis	m/min (ipm)	30 (1181.1)
		Z-axis	m/min (ipm)	30 (1181.1)
		Y-axis	m/min (ipm)	10 (393.7)
		B-axis	m/min (ipm)	-
Spindle	Spindle speed (Belt Type)		r/min	-
	Spindle speed (Built-in Type)		r/min	5000
	Spindle nose			ASA A2-6
	Spindle bearing diameter (Front)		mm (inch)	120 (4.7)
	Spindle through hole diameter		mm (inch)	76 (3.0)
	Min. spindle indexing angle (C-axis)		deg	0.001
Turret	No. of tool stations		st	12 {24 / 16 / 20}*
	OD tool size		mm (inch)	25 {20 / 25 / 20} (1.0 {0.75 / 1.0 / 0.75})*
	Boring bar diameter		mm (inch)	40 {32 / 40 / 32}* (1.6 {1.3 / 1.6 / 1.3)
	Indexing time (1st swivel time)		s	0.15
	Rotary tool spindle speed		r/min	5000
Tail stock	Quill diameter		mm (inch)	80 (3.1)
	Quill bore taper (Live)			MT#4 {MT#3-Dead}*
	Tailstock travel		mm (inch)	590 / 830 (23.2 / 32.7)
Sub-spindle	Spindle speed		r/min	-
	Spindle nose			-
	Spindle bearing diameter (Front)		mm (inch)	-
	Spindle through hole diameter		mm (inch)	-
	Min. spindle indexing angle (C-axis)		deg	-
Motors	Main spindle motor		kW (Hp)	22 / 11 (29.5 / 14.8)
	Sub spindle motor		kW (Hp)	-
	Rotary tool spindle motor		kW (Hp)	5.5 (7.4)
	Coolant pump motor		kW (Hp)	0.4 (0.5)
Power source	Electric power supply (Rated capacity)		kVA	41.32
Machine size	Machine height		mm (inch)	2163 (85.2)
	Machine dimension	length	mm (inch)	3190 / 3410 (125.6 / 134.3)
		width	mm (inch)	1945 (76.6)
	Machine weight		kg (lb)	5550 / 6050 (12235.5 / 13337.8)
Control	CNC System		-	

PUMA 2100SY Ⅱ / LSY Ⅱ	PUMA 2600Y Ⅱ / LY Ⅱ	PUMA 2600SY Ⅱ / LSY Ⅱ	PUMA 2600YB Ⅱ / LYB Ⅱ	PUMA 2600SYB Ⅱ / LSYB Ⅱ
780 (30.7)	780 (30.7)	780 (30.7)	780 (30.7)	780 (30.7)
680 (26.8)	680 (26.8)	680 (26.8)	680 (26.8)	680 (26.8)
630 (24.8)	630 (24.8)	630 (24.8)	630 (24.8)	630 (24.8)
210 (8.3)	255 (10.0)	255 (10.0)	315 (12.4)	315 (12.4)
406 (16.0)	376 (14.8)	376 (14.8)	376 (14.8)	376 (14.8)
520 / 760 (20.5 / 29.9)	760 / 1280 (29.9 / 50.4)	760 / 1280 (29.9 / 50.4)	725 / 1245 (28.5 / 49.0)	725 / 1245 (28.5 / 49.0)
65 (2.6)	81 {76} (3.2 {3.0})	81 {76} (3.2 {3.0})	102 (4.0)	102 (4.0)
260 (10.2)	260 (10.2)	260 (10.2)	260 (10.2)	260 (10.2)
590 / 830 (23.2 / 32.7)	830 / 1350 (32.7 / 53.1)	830 / 1350 (32.7 / 53.1)	830 / 1350 (32.7 / 53.1)	830 / 1350 (32.7 / 53.1)
105 (±52.5) (4.1 (±2.1))	105 (±52.5) (4.1 (±2.1))	105 (±52.5) (4.1 (±2.1))	105 (±52.5) (4.1 (±2.1))	105 (±52.5) (4.1 (±2.1))
590 / 830 (23.2 / 32.7)	-	830 / 1350 (32.7 / 53.1)	-	830 / 1350 (32.7 / 53.1)
30 (1181.1)	30 (1181.1)	30 (1181.1)	30 (1181.1)	30 (1181.1)
30 (1181.1)	30 (1181.1)	30 (1181.1)	30 (1181.1)	30 (1181.1)
10 (393.7)	10 (393.7)	10 (393.7)	10 (393.7)	10 (393.7)
30 (1181.1)	-	30 (1181.1)	-	30 (1181.1)
-	-	-	2800	2800
5000	4000	4000	-	-
ASA A2-6	ASA A2-8	ASA A2-8	ASA A2-11	ASA A2-11
120 (4.7)	140 (5.5)	140 (5.5)	160 (6.3)	160 (6.3)
76 (3.0)	91 (3.6)	91 (3.6)	115 (4.5)	115 (4.5)
0.001	0.001	0.001	0.001	0.001
12 {24 / 16 / 20}*	12 {24 / 16 / 20}*	12 {24 / 16 / 20}*	12 {24 / 16 / 20}*	12 {24 / 16 / 20}*
25 {20 / 25 / 20} (1.0 {0.75 / 1.0 / 0.75})*	25 {20 / 25 / 20} (1.0 {0.75 / 1.0 / 0.75})*	25 {20 / 25 / 20} (1.0 {0.75 / 1.0 / 0.75})*	25 {20 / 25 / 20} (1.0 {0.75 / 1.0 / 0.75})*	25 {20 / 25 / 20} (1.0 {0.75 / 1.0 / 0.75})*
40 {32 / 40 / 32}* (1.6 {1.3 / 1.6 / 1.3})	50 {40 / 40 /32}* (2.0 {1.6 / 1.6 /1.3})	50 {40 / 40 /32}* (2.0 {1.6 / 1.6 /1.3})	50 {40 / 40 /32}* (2.0 {1.6 / 1.6 /1.3})	50 {40 / 40 /32}* (2.0 {1.6 / 1.6 /1.3})
0.15	0.15	0.15	0.15	0.15
5000	5000	5000	5000	5000
-	100 (3.9)	-	100 (3.9)	-
-	MT#5 {MT#4-Dead}*	-	MT#5 {MT#4-Dead}*	-
-	830 / 1350 (32.7 / 60.2)	-	830 / 1350 (32.7 / 60.2)	-
6000	-	6000	-	4500
ASA A2-5	-	ASA A2-5	-	ASA A2-5
90	-	90 (3.5)	-	90 (3.5)
62	-	62 (2.4)	-	62 (2.4)
0.001	-	0.001	-	0.001
22 / 11 (29.5 / 14.8)	22 / 15 (29.5 / 20.1)	22 / 15 (29.5 / 20.1)	22 / 18.5 (29.5 / 24.8)	22 / 18.5 (29.5 / 24.8)
15 / 11 (20.1 / 14.8)	-	15 / 11 (20.1 / 14.8)	-	7.5 / 5.5 (11 / 7)
5.5 (7.4)	7.5 (10.1)	7.5 (10.1)	7.5 (10.1)	7.5 (10.1)
0.4 (0.5)	0.4 (0.5)	0.4 (0.5)	0.4 (0.5)	0.4 (0.5)
41.32	46.4	46.4	46.40	54.55
2163 (85.2)	2163 (85.2)	2163 (85.2)	2163 (85.2)	2163 (85.2)
3190 / 3410 (125.6 / 134.3)	3560 / 4435 (140.2 / 174.6)	3560 / 4435 (140.2 / 174.6)	3873 / 4438 (152.5 / 174.7)	3873 / 4438 (152.5 / 174.7)
1945 (76.6)	1945 / 2049 (76.6 / 80.7)	1945 / 2049 (76.6 / 80.7)	1945 / 2049 (76.6 / 80.7)	1945 / 2049 (76.6 / 80.7)
6000 / 6500 (13227.5 / 14329.8)	6100 / 7400 (13448.0 / 16314.0)	6550 / 7850 (14440.1 / 17306.0)	6200 / 7500 (13668.5 / 16534.4)	6650 / 7950 (14660.5 / 17526.5)
DOOSAN FANUC i / SIEMENS 828D				

*{ } : Option

* Please contact to specification for SIEMENS 828D.

CNC Unit Specifications

FANUC

● Standard ○ Optional X Not applicable

NO.	Division	Item	Spec.	DOOSAN FANUC i		FANUC 31i option	
				Y	SY	Y	SY
1	Controlled axis	Controlled axes		X, Z, C, Y	X, Z, C1, Y, C2, B	X, Z, C, Y	X, Z, C1, Y, C2, B
2		Cs contouring control		●	●	●	●
3		Synchronous / Composite control (C1 & C2 Synchro Control)		X	●	X	●
4		Torque control		●	●	●	●
5		HRV2 control		●	●	●	●
6		Inch / metric conversion		●	●	●	●
7		Stored limit check before move		●	●	○	○
8		Chamfering on / off		●	●	●	●
9		Unexpected disturbance torque detection function		●	●	●	●
10		Position switch		●	●	●	●
11	Operation	DNC operation	Included in RS232C interface.	●	●	●	●
12		DNC operation with memory card		●	●	●	●
13		Tool retract and recover		○	○	○	○
14		Dry run		●	●	●	●
15		Single block		●	●	●	●
16		Handle interruption		○	○	○	○
17		Incremental feed	x1, x10, x100	●	●	●	●
18		Manual handle retrace		○	○	○	○
19		Active block cancel		○	○	○	○
20	Interpolation functions	Nano interpolation		●	●	●	●
21		Linear interpolation		●	●	●	●
22		Circular interpolation		●	●	●	●
23		Polar coordinate interpolation		●	●	●	●
24		Cylindrical interpolation		●	●	●	●
25		Helical interpolation		●	●	●	●
26		Thread cutting, synchronous cutting		●	●	●	●
27		Multi threading		●	●	●	●
28		Thread cutting retract		●	●	●	●
29		Continuous threading		●	●	●	●
30		Variable lead thread cutting		●	●	○	○
31		Circular thread cutting		○	○	○	○
32		Polygon machining with two spindles		●	●	○	○
33		High-speed skip	Input signal is 8 points.	○	○	○	○
34		2nd reference position return	G30	●	●	●	●
35		3rd / 4th reference position return		●	●	○	○
36	Feed function	Override cancel		●	●	●	●
37		AI contour control I		●	●	●	●
38		AI contour control II		○	○	○	○
39		Rapid traverse block overlap		●	●	●	●
40	Program input	Optional block skip	9 pieces	●	●	●	●
41		Absolute / incremental programming	Combined use in the same block	●	●	●	●
42		Diameter / Radius programming		●	●	●	●
43		Automatic coordinate system setting		●	●	●	●
44		Workpiece coordinate system	G52 - G59	●	●	●	●
45		Workpiece coordinate system preset		●	●	○	○
46		Addition of workpiece coordinate system	48 pairs	X	X	○	○
47		Direct drawing dimension programming		●	●	●	●

● Standard ○ Optional X Not applicable

NO.	Division	Item	Spec.	DOOSAN FANUC i		FANUC 31i option	
				Y	SY	Y	SY
48	Program input	G code system	A	●	●	●	●
49		G code system	B / C	●	●	●	●
50		Chamfering / Corner R		●	●	○	○
51		Custom macro		●	●	●	●
52		Addition of custom macro common variables	#100 - #199, #500 - #999	●	●	○	○
53		Interruption type custom macro		●	●	○	○
54		Canned cycle		●	●	●	●
55		Multiple repetitive cycles	G70~G76	●	●	●	●
56		Multiple repetitive cycles II	Pocket profile	●	●	●	●
57		Canned cycle for drilling		●	●	●	●
58		Automatic corner override		X	X	○	○
59		Coordinate system shift		●	●	●	●
60		Direct input of coordinate system shift		●	●	●	●
61		Pattern data input		●	●	○	○
62	Operation Guidance Function	EZ Guidei (Conversational Programming Solution)		●	●	●	●
63		EZ Operation package		●	●	●	●
64	Auxiliary / Spindle speed function	Constant surface speed control		●	●	●	●
65		Spindle override	0 - 150%	●	●	●	●
66		Spindle orientation		●	●	●	●
67		Spindle synchronous control		X	●	X	●
68		Rigid tap		●	●	●	●
69		Arbitrary speed threading		○	○	○	○
70	Tool function / Tool compensation	Tool offset pairs	32-pairs	X	X	●	●
71			64-pairs	X	X	○	○
72			99-pairs	X	X	○	○
73			128-pairs	●	●	X	X
74			200-pairs	○	○	○	○
75			400-pairs	X	X	○	○
76		Tool offset		●	●	●	●
77		Tool radius/Tool nose radius compensation		●	●	●	●
78		Tool geometry / wear compensation		●	●	●	●
79		Automatic tool offset	G36/G37	●	●	●	●
80		Direct input of offset value measured B		●	●	●	●
81		Tool life management		●	●	●	●
82	Accuracy compensation function	Backlash compensation for each rapid traverse and cutting feed		●	●	●	●
83		Stored pitch error compensation		○	○	○	○
84	Editing operation	Part program storage size & Number of registerable programs	400 programs_512KB	●	X	X	X
85			800 programs_1MB	X	●	X	X
86			400 programs_2MB	○	X	X	X
87			800 programs_2MB	X	○	X	X
88			500 programs _ 256KB	X	X	●	●
89			1000 programs_512KB, 1MB, 2MB, 4MB, 8MB	X	X	○	○
90			2000 programs_1MB	X	X	○	○
91			4000 programs_2MB, 4MB, 8MB	X	X	○	○
92		Program protect		●	●	●	●
93		Password function		●	●	●	●
94		Playback		●	●	○	○
95	Data input / output	Fast data server		○	○	○	○
96		External data input		●	●	○	○
97		Memory card input / output		●	●	●	●
98		USB memory input / output		●	●	●	●
99		Automatic data backup		●	●	●	●
100	Interface function	Embedded Ethernet		●	●	●	●
101		Fast Ethernet		○	○	○	○
102	Others	Display unit	10.4" color LCD	●	●	●	●
103		Robot interface	with PMC I / O module	○	○	○	○
104			with PROFIBUS-DP	○	○	○	○

CNC Unit Specifications

SIEMENS

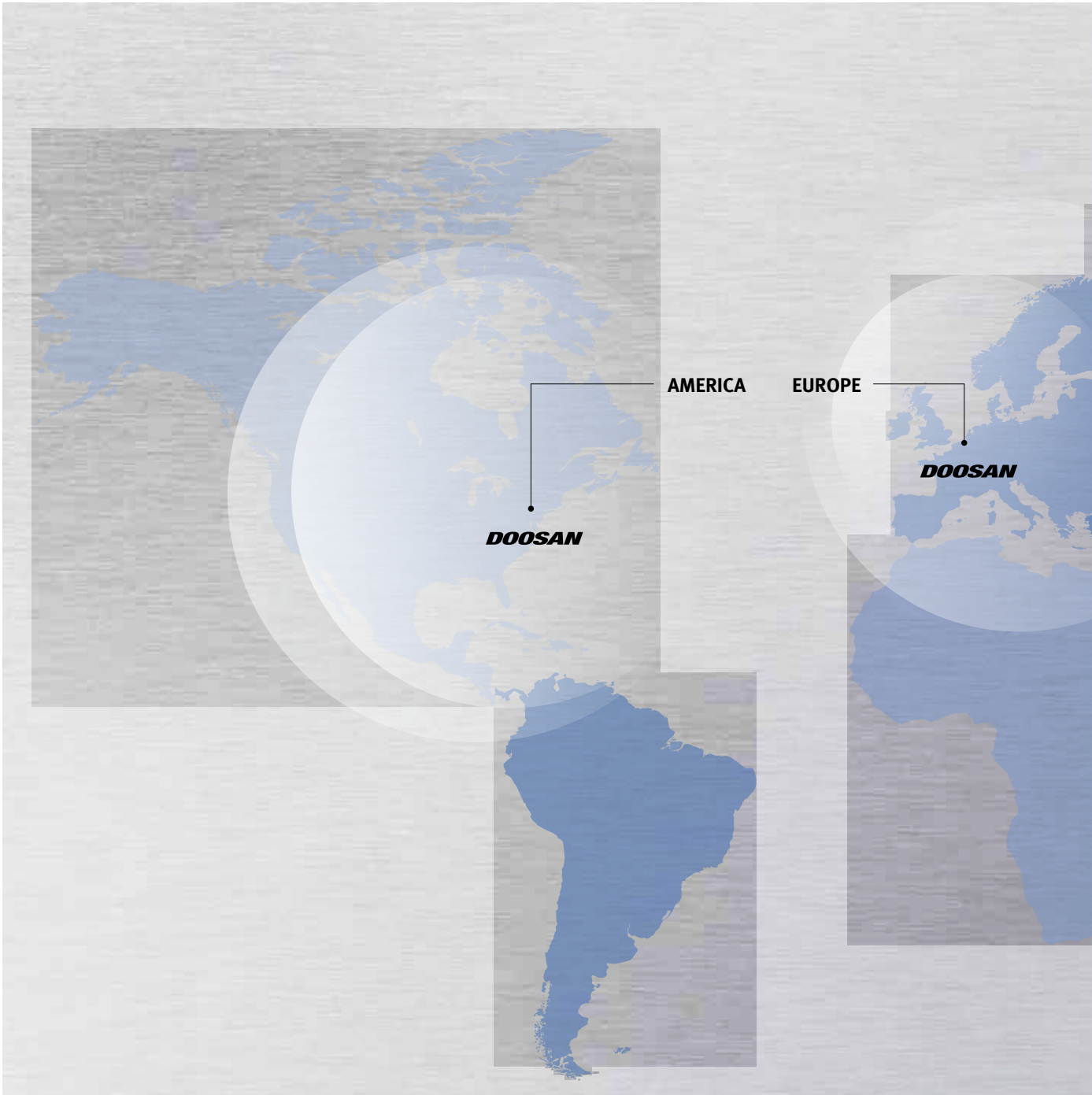
● Standard ○ Optional X Not applicable

NO.	Division	Item	Spec.	S828D
1	Control axes	Controlled axes R: Milling spindle	Y-type	X, Z, C, R, Y
2			SY-type	X, Z, C, R, C2, Y, B
3			Additional B-axis	○
4		Simultaneously controlled axes	Positioning (G00)/Linear interpolation (G01) : 3 axes Circular interpolation (G02, G03) : 2 axes	●
5			Positioning (G00)/Linear interpolation (G01) : 4 axes Circular interpolation (G02, G03) : 2 axes	○
6		Backlash compensation		●
7		Leadscrew error compensation		●
8		Measuring system error compensation		●
9		Feedforward control	velocity-dependent	●
10		Follow up mode		●
11		Programmable acceleration		●
12		Emergency stop / overtravel		●
13		Least command increment	0.001mm (0.0001 inch)	●
14		Least input increment	0.001mm (0.0001 inch)	●
15		Maximum commandable value	±99999.999mm (±3937 inch)	●
16		Machine lock (PRT)		●
17		Absolute encoder		●
18	Interpolation & Feed function	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	Spindle function	Spindle override	50 - 120 %	●
33		Spindle speed limitation min./max.		●
34		Constant cutting rate		●
35		Spindle control via PLC (Positioning, oscillation)		●
36		Changeover to axis mode		●
37		Tapping with compensating chuck/rigid tapping		●
38		Retraction for rigid tapping		●
39	Tool function	**Tool radius compensations in plane**		
40		• With approach and retract strategies		●
41		• With transition circle/ellipse on outer edges		●
42		Number of tools/cutting edges in tool list		256/512
43		Tool length compensation (공구길이보정)		●
44		Operation with tool management		●
45		Tool list		●
46		Replacement tools for tool management	Include tool load monitoring option	○
47		Monitoring of tool life and workpiece count		●
48		Manual measurement of tool offset		●
49		Loading and unloading of tools		●
50	Programming & Editing function	Number of subroutine passes <= 9999		●
51		Number of levels for skip blocks 1		●
52		Number of levels for skip blocks 8		○
53		Polar coordinates		●
54		1/2/3-point contours		●
55		Dimensions metric/inch, changeover manually or via program		●
56		**Program functions**		
57		• Dynamic preprocessing memory FIFO		●
58		• Look Ahead, IPO blocks, buffered		1
59		• Frame concept		●
60		• Inclined-surface machining with swivel cycle		●
61		• Axis/spindle replacement		●
62		• Geometry axes, switchable online in the CNC program		●
63		• Program preprocessing		●
64		Online ISO dialect interpreter		●
65		**Program/workpiece management**		
66		• Parts programs on NCU, max. number		300
67		• Workpieces on NCU, max. number		100
68		• On additional plug-in CF card		●
69		• On USB storage medium (e.g. disk drive, USB stick)		●
70		• On network drive		○
71		• Templates for workpieces, programs and INI files		●
72		• Job lists		●

● Standard ○ Optional X Not applicable

NO.	Division	Item	Spec.	S828D
73	Programming & Editing function	Basic frames, max. number		1
74		Settable offsets, max. number	G54, G55, G56 ...	100
75		Zero/work offsets, programmable (frames)		●
76		Scratching, determining zero/work offset		●
77		Zero/work offsets, external (PLC)		●
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	Operation, setting & Display, etc	**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 network drive		○
102		• DRF offset		○
103		**Repos (repositioning on the contour)**		
104		• With operator command/semi-automatically		●
105		• Program-controlled		●
106		**Preset**		
107		• Set actual value		●
108		10.4" color display		●
109		15.0" color display		○
110		**Operating software languages**		
111		• Ch_S,Ch_T, En, Fr, Gr, It, Kr, Pt, Sp		●
112		• Additional languages, use of language extensions		●
113		Working area limitation		●
114		Limit switch monitoring		●
115		Software and hardware limit switches		●
116		Position monitoring		●
117		Standstill (zero-speed) monitoring		●
118		Clamping monitoring		●
119		2D/3D protection zones		●
120		Contour monitoring		●
121		Axis limitation from the PLC		●
122		Alarms and messages		●
123		Action log can be activated for diagnostic purposes		●
124		PLC status		●
125		**Remote Control System (RCS) remote diagnostics**		
126		• RCS Host remote diagnostics function		○
127		• RCS Commander (viewer function)	RCS Commander for PC/PG on CD-ROM	●
128		Integrated service planner for the monitoring of service intervals		●
129		Mmeasuring, Logging of measurement results in Automatic mode	Measurement prove & receiver is needed	○
130		Mmeasuring, Measuring stage 1 Two probes (switching) with/without deletion of distance-to-go	Measurement prove & receiver is needed	○
131		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)	○
132		Easy Extend		●
133		Contour handwheel		●
134		Integrate screens in SINUMERIK Operate with SINUMERIK Integrate Run MyScreens		●
135		Cross-mode actions (ASUPs and synchronized actions in all operating modes)		○

Responding to Customers Anytime, Anywhere



Global Sales and Service Support Network

Corporations	Dealer Networks	Technical Centers	Service Post	Factories
4	164	51	198	3

Technical Center: Sales Support, Service Support, Parts Support

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.

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 Specifications

PUMA 2100 / 2600Y Ⅱ series

Description	Unit	PUMA 2100Y Ⅱ / LY Ⅱ	PUMA 2100SY Ⅱ / LSY Ⅱ	PUMA 2600Y Ⅱ / LY Ⅱ	PUMA 2600SY Ⅱ / LSY Ⅱ	PUMA 2600YB Ⅱ / LYB Ⅱ	PUMA 2600SYB Ⅱ / LSYB Ⅱ
Max. turning diameter	mm (inch)	406 (16.0)		376 (14.8)			
Max. turning length	mm (inch)	520 / 760 (20.5 / 29.9)		760 / 1280 (29.9 / 50.4)		725 / 1245 (28.5 / 49.0)	
Chuck size	inch	8		10		12	
Bar working diameter	mm (inch)	65 (2.6)		81 (3.2)		102 (4.0)	
Max. Spindle speed	r/min	5000		4000		2800	

Doosan Machine Tools

www.doosanmachinetools.com
www.instagram.com/doosan_machinetools
www.facebook.com/doosanmachinetools
www.youtube.com/c/DoosanMachineToolsCorporation

Head Office
22F T Tower, 30, Sowol-ro 2-gil, Jung-gu,
Seoul, Korea, 04637
Tel +82-2-6972-0370 / 0350
Fax +82-2-6972-0400

Doosan Machine Tools America
19A Chapin Rd., Pine Brook, NJ 07058, U.S.A.
Tel +1-973-618-2500
Fax +1-973-618-2501

Doosan Machine Tools Europe
Emdener Strasse 24, D-41540 Dormagen,
Germany
Tel +49-2133-5067-100
Fax +49-2133-5067-111

Doosan Machine Tools India
No.82, Jakkuar Village, Yelahanka Hobil,
Bangalore-560064
Tel + 91-80-2205-6900
E-mail india@doosanmt.com

Doosan Machine Tools China
Room 101,201,301, Building 39 Xinzhuan
Highway No.258 Songjiang District,China
Shanghai(201612)
Tel +86 21-5445-1155
Fax +86 21-6405-1472

* For more details, please contact Doosan Machine Tools.
* The specifications and information above-mentioned may be changed without prior notice.
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Fire Safety Precautions | There is a high risk or 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.

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