

HIGH PERFORMANCE VERTICAL TURNING CENTER

PUMA VT 1100

PUMA VT 1100/M



PUMA VT 1100

The vertical turning center is designed for long term accuracy, heavy duty cutting and to minimize floor space. Its powerful spindle drives, meehanite casting and integral box guide way provide unsurpassed rigidity.

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**FURTHER ENHANCED
TURNING CAPACITY**



The turning capacity achieved 32" of max. chuck size and 1100 mm of max. turning diameter.

HIGH RELIABILITY



In order to assure heavy duty machining and optimized chip flow, the machine base body is designed and streamlined.

USER FRIENDLY DESIGN



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

Robust bed construction

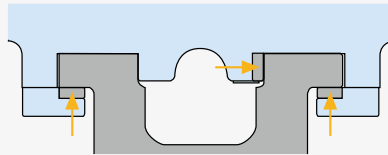
In order to assure heavy duty machining and optimized chip flow, the machine base body is designed and streamlined.

Its small foot print help you systemizing your manufacturing plan plot in your factory.



Robustcolumn construction

The wide hardened and ground box ways reduce vibration promoting better tool life and surface finishes. The box ways are turcite coated which allows for 787 ipm rapid traverse rates. The Balanced Counter Weight located inside the column, neutralizes the gravity effect on the Vertical slide. It will also conserve electricity and prevent Turret Drop while in Emergency stop or Power failure. All axis Slides are Induction Hardened and Ground Hrc 55 Hardness. Long-term Accuracies are very basic requirements on our products.



3Gibs Support on each for longterm and easy to maintain accuracy



MACHINING AREA

Wider machining area for larger / more diverse workpieces.

Max. turning diameter

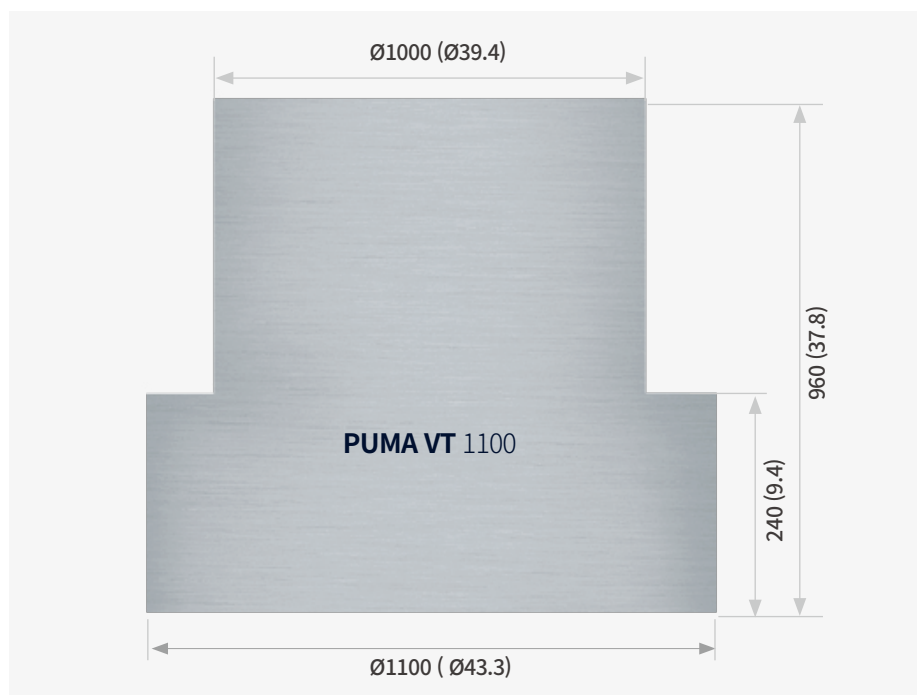
Ø1100 mm (Ø43.3 inch)

Max. turning height

960 mm (37.8 inch)

Chuck size

32 {40} inch



SPINDLE

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

High performance 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. spindle speed

850 r/min

Max. power (S6 25%/S1 Cont.)

65/45 kW (87.2/60.3 Hp)

Max. torque

7552 N·m (5573.4 ft-lbs)



Description		Unit	VT 1100
Spindle	Speed	r/min	850
	Power	kW (Hp)	65 / 55 / 45 (80.5 / 73.8 / 60.3) (S6 25% / S6 40% / S1 Cont.)
	Max. torque	N·m (ft-lbs)	7552 (5573.4)
C-axis minimum rotation command angle (M type)		deg	0.001

* Please contact your DN Solutions manager to inquire about the possibility of XC Machining.

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 BMT85P turret to provide excellent milling performance and reduced thermal error due to low heat generation design.

Rotary tool max. power (S3 60%/Cont.)

PUMA VT 1100M

11/7.5 kW (14.8/10.1 Hp)

No. of tool positions

12 st

3-axis BMT85P Turret

* The above image has Quick change tooling option for ATC.

Rotary tool max. speed

3000 r/min



STANDARD | OPTIONAL SPECIFICATIONS

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

Description	Features	PUMA VT1100
Chuck	610 mm (24 inch)	X
	800 mm (32 inch)	●
	1000 mm (40 inch)	○
	None	○
Jaw	Soft jaw	●
	Hard jaw (Hardened & Ground Hard Jaws)	○
Chucking option	Dual pressure chucking	○
	Chuck clamp confirmation	○
	Hydraulic chuck & actuating cylinder ¹	○
Coolant pump	4.5 bar	●
	7/10/14.5/70 bar	○
Coolant option	High coolant interface	○
	Oil Skimmer(Belt type)	○
	Water soluble Coolant Chiller**	○
	Coolant pressure switch	○
Chip conveyor	Side chip conveyor(Right)_Hinged type	○
	Side chip conveyor(Left)_Magnetic scraper	○
	Rear chip conveyor_Hinged type	○
	Rear chip conveyor_Magnetic scraper	○
Chip processing options	Chip bucket	○
	Coolant flushing	○
	Air gun	○
	Coolant gun	○
Automatic configuration	Auto door with safety edge	○
	Automatic side door	○
	Work & Tool counter	○
	ATC(Automatic tool changer)	○
Robot Interface	PMC I/O MODULE TYPE	○
	PROFIBUS-DP TYPE	○
Customized Special Option	Coolant level switch_sensing level_Low	○
	Quick change tooling (CAPTO)	○
	Mist Collector_0.75kW	○
	Accumulator For Hydraulic Power Unit	○
	Air Blower Through Turret_With Coolant	○
	Raised Column_200 mm	○
	Auto work measurement	○
	Spindle gear box cooling system	○
Rotary type window wiper(Eletrical)	○	

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


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

*1 : In case of chuck specification change, it may be necessary to replace the chuck cylinder.

*2 : 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.

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

● Standard ○ Optional X N/A

 **Fire Safety Precautions** | 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.

AUTOMATIC TOOL CHANGER OPTION

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



PUMA VT11000/M

Max. spindle speed
850 r/min
 Max. motor (30 min)
60 kW (80.5 Hp)



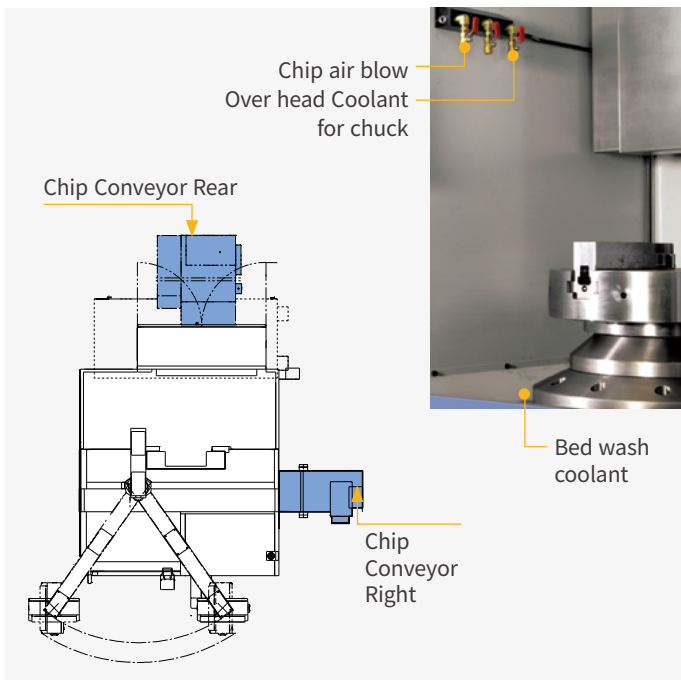
Description		Unit	Specifications
MAGAZINE & ATC	Tool shank	-	CAPTO C8
	Tool storage capacity	ea	12
	Max. tool diameter	mm (inch)	110 (4.3)
	Max. tool length	mm (inch)	450 (17.7)
	Max. tool mass	kg (lb)	15 (33.1)
	Tool Search Time (1 PORT)	sec	0.8
	No. of CAPTO Tool Holder on turret	ea	1~12

**Please contact DN Solutions to select detailed ATC specifications*

CHIP DISPOSAL

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

Bed structure for easier chip disposal



Accessories



Gear box
 PUMA VT1100 (Standard)



Auto door
 Pneumatic cylinder



Manual tool setter
 Removable type, Renishaw



Quick change tooling (CAPTO)

DN SOLUTIONS FANUC i PLUS

DN Solutions Fanuc i Plus maximizes customer productivity and convenience.

15" Screen + New OP

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

DN Solutions Fanuc i Plus

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

USB and PCMCIA card QWERTY keyboard

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



iHMI touchscreen OPTION

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

Range of applications

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



NUMERIC CONTROL SPECIFICATIONS

FANUC

Division	Item	Specifications	PUMA VT1100	PUMA VT1100M
			DN Solutions Fanuc i Plus	DN Solutions Fanuc i Plus
Controlled axis	Controlled paths		1 Path	1 Path
	Controlled axes		2 (X,Z)	3 (X,Z,C)
	Simultaneously controlled axes		2 axes	3 axes
Data input/output	Fast data server		○	○
	Memory card input/output		●	●
	USB memory input/output		●	●
	Larger capacity memory_2GB	Note *2) Available Option only with 15" Touch LCD (iHMI Only)	○ *2)	○ *2)
Interface function	Embedded Ethernet		●	●
	Fast Ethernet		○	○
	Enhanced Embedded Ethernet function		●	●
Operation	DNC operation	Included in RS232C interface.	●	●
	DNC operation with memory card		●	●
Program input	Workpiece coordinate system	G52 - G59	●	●
Feed function	AI contour control I	G5.1 Q_, 40 Blocks	●	●
	AI contour control II	G5.1 Q_, 200 Blocks	○	○
Operation Guidance Function	EZ Guidei (Conversational Programming Solution)		●	●
	iHMI with Machining Cycle	Note *1) Only with 15" Touch LCD standard	○ *1)	○ *1)
	Multi path function	Supporting 2 or 3 path machine	●	●
	EZ WORK		●	●
Setting and display	CNC screen dual display function		●	●
Network	FANUC MTConnect		*	*
	FANUC OPC UA		*	*
Others	Display unit	15" color LCD	●	●
		15" color LCD with Touch Panel	○	○
	Part program storage size & Number of registerable programs	5120M(2MB)_1000 programs	●	●

CONVENIENT OPERATION

Siemens S828D

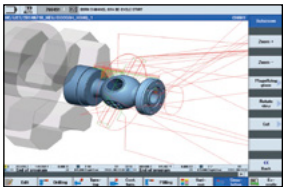


15.6 inch display + New OP

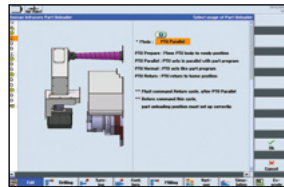
Siemens 828D' operation panel enhances operating convenience by incorporating common-design buttons and layout. It features a Qwerty keyboard for fast and easy data input and operation.

- 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]

The automation elements (parts catcher, parts unloader etc.), can be easily controlled via interactive screens.



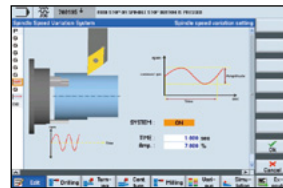
[Custom]
↓
[Protection zones]

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



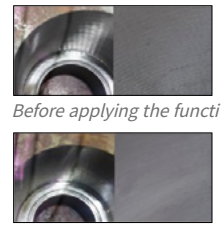
[offset]
↓
[operating parameter]
↓
[TC service]

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



[various]
↓
[attachment]
↓
[DSSV]

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



Before applying the functi
After applying the function

NUMERIC CONTROL SPECIFICATIONS

SIEMENS

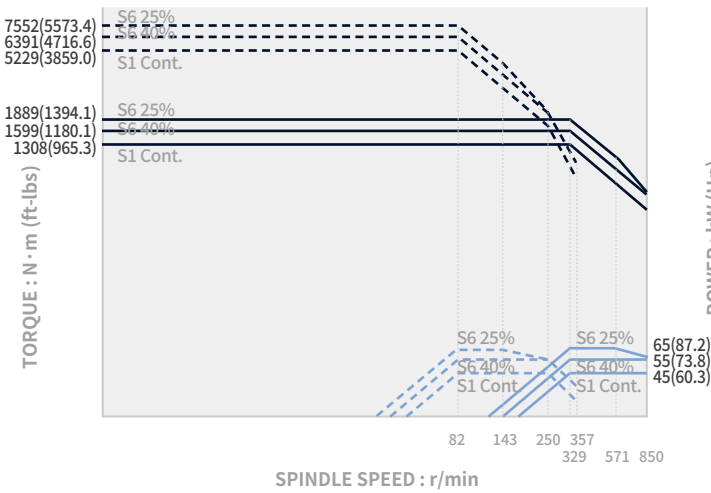
Division	Item	Specifications	2-Axis	M
			S828D	S828D
Controlled axis	Controlled axes		X,Z,SP	X,Z,C,R
	Simultaneously controlled axes		4 axes	4 axes
Data input/output	Memory card input/output		X	X
	USB memory input/output		●	●
Interface function	Ethernet	(X130)	○	○
	On network drive	(without EES option, Extcall)	●	●
Operation	On USB storage medium, e.g. memory stick	(without EES option, Extcall)	●	●
Program input	Workpiece coordinate system	G54 - G59, G507 - G599	●	●
	Advanced surface		X	X
Feed function	Top surface		X	X
	Look ahead number of block		1	1
	3D simulation, finished part		●	●
Programming & Editing function	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 5MB	●	●
		CNC user memory 100 MB	○	○
		CNC user memory 6GB	X	X
		CNC user memory 40GB (with PCU or IPC)	X	X
		CNC user memory without limit (Execution from external storage devices) (EES / Using by USB or Network)	○	○
		HMI user memory for CNC part program 6GB	X	X

POWER | TORQUE

FANUC PUMA VT1100/M

Max. spindle speed Max. spindle power
850 r/min **65** kW (87.2 Hp)

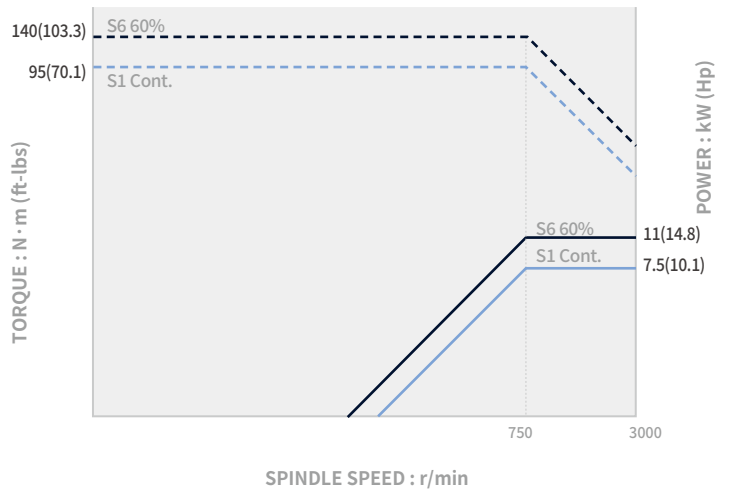
Max. Spindle torque
7552 N·m (5573.4 ft-lbs)



FANUC Rotary tool_PUMA VT1100M OPTION

Max. spindle speed Max. spindle power
3000 r/min **11** kW (14.8 Hp)

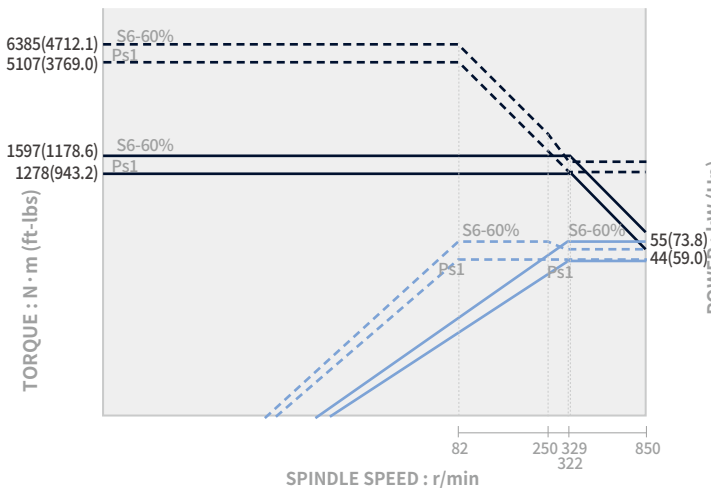
Max. Spindle torque
140 N·m (103.3 ft-lbs)



SIEMENS PUMA VT1100/M

Max. spindle speed Max. spindle power
850 r/min **55** kW (73.8 Hp)

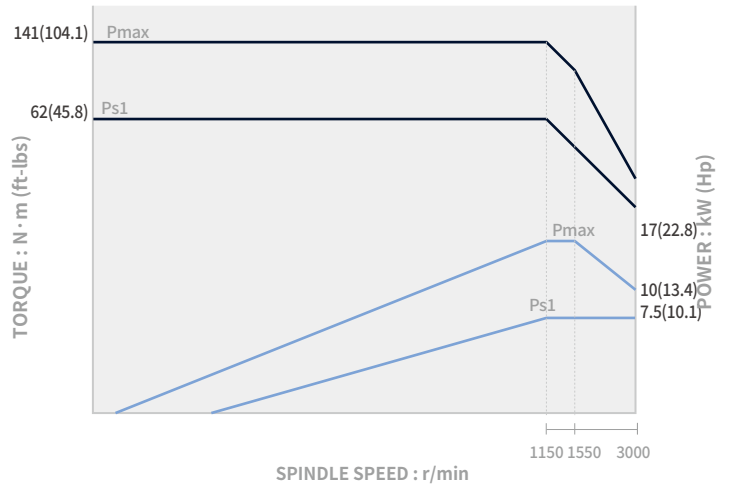
Max. Spindle torque
6385 N·m (4712.1 ft-lbs)



SIEMENS Rotary tool_PUMA VT1100M OPTION

Max. spindle speed Max. spindle power
3000 r/min **17** kW (22.8 Hp)

Max. Spindle torque
141 N·m (104.1 ft-lbs)

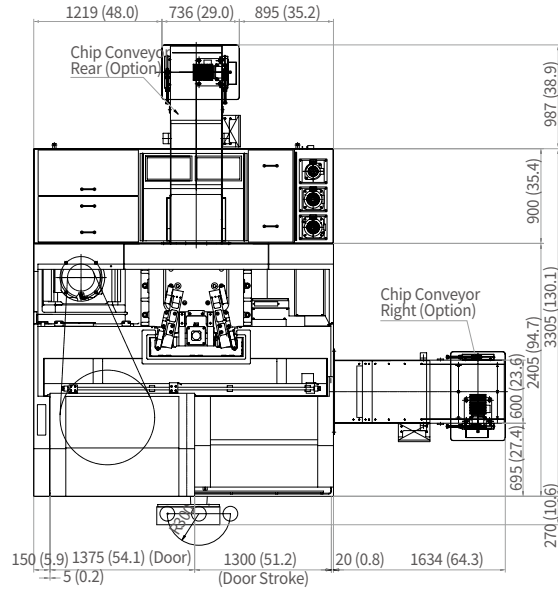


EXTERNAL DIMENSIONS

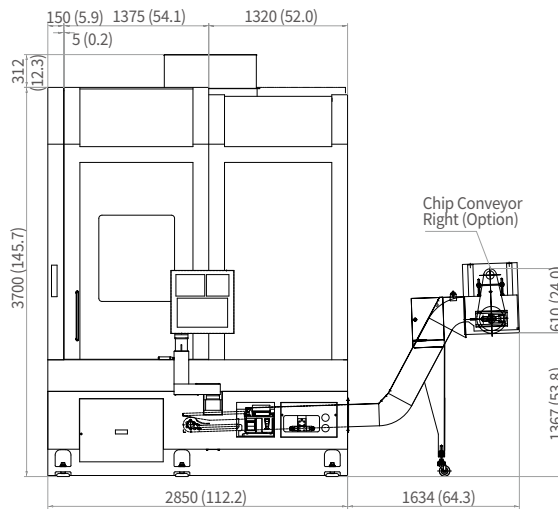
PUMA VT1100/1100M

Unit : mm (inch)

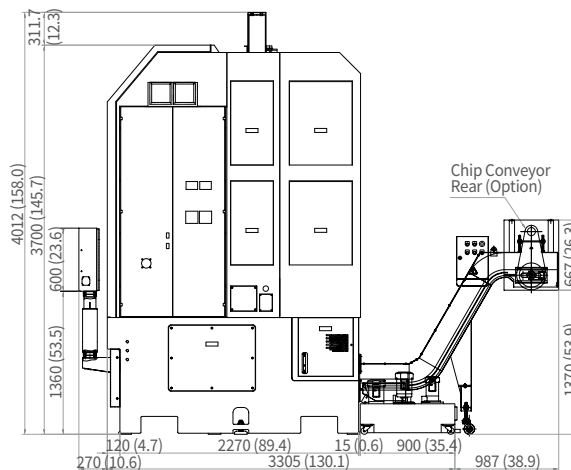
TOP



FRONT



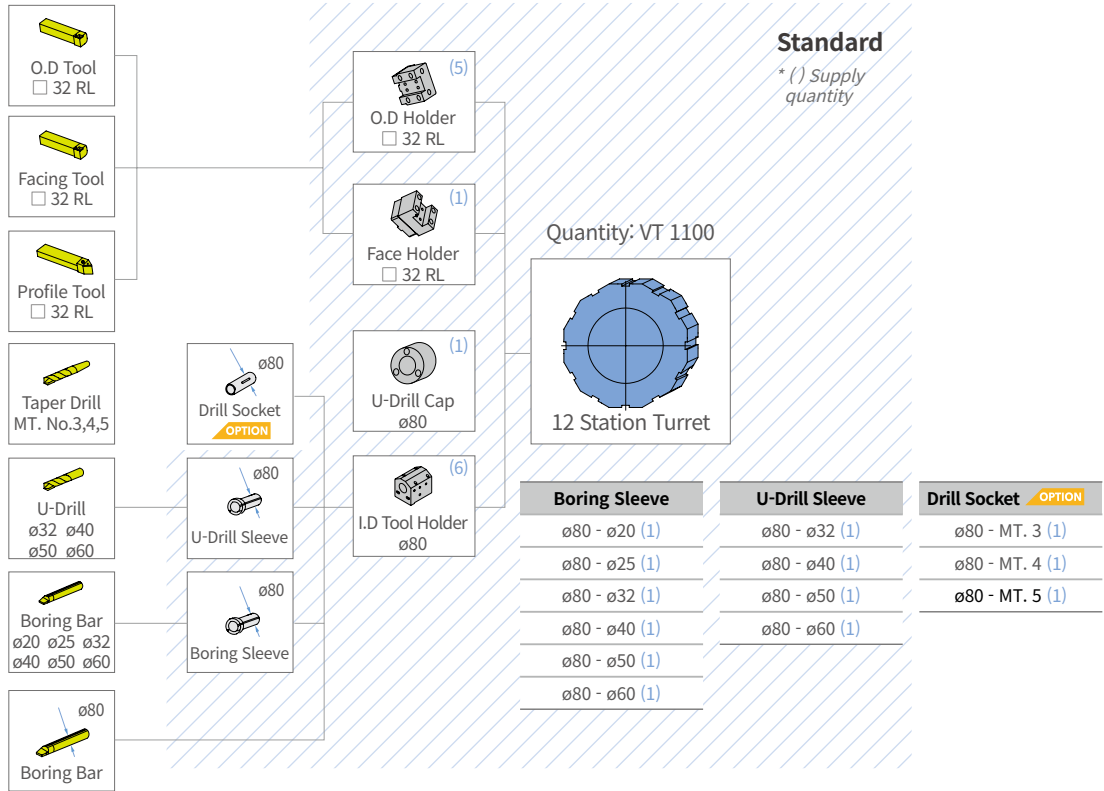
SIDE



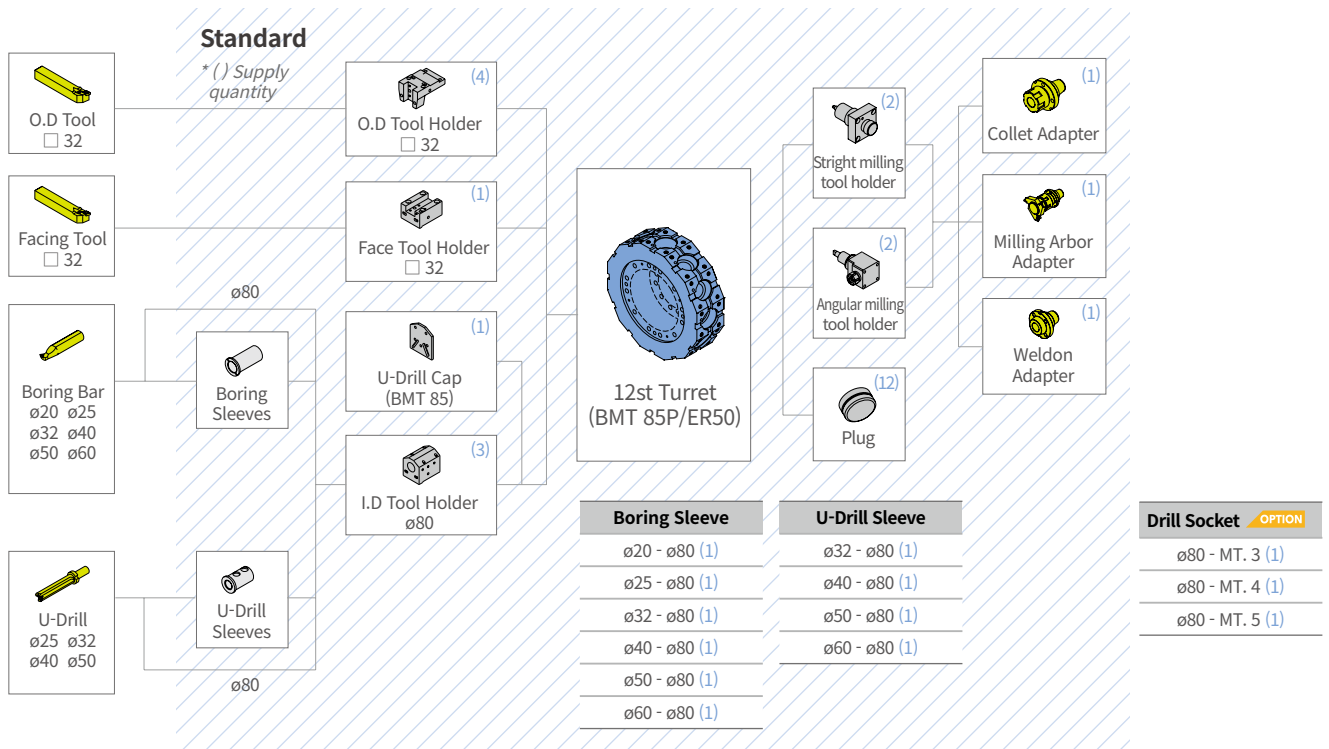
TOOLING SYSTEM

PUMA VT1100

Unit : mm (inch)



PUMA VT1100M

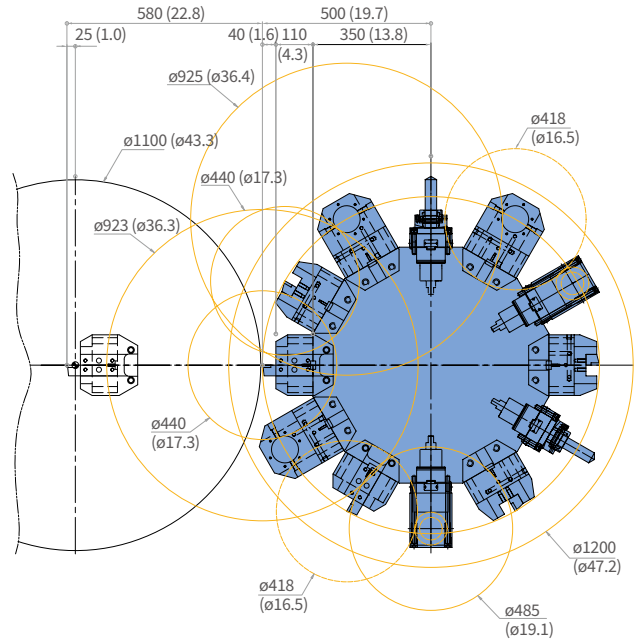
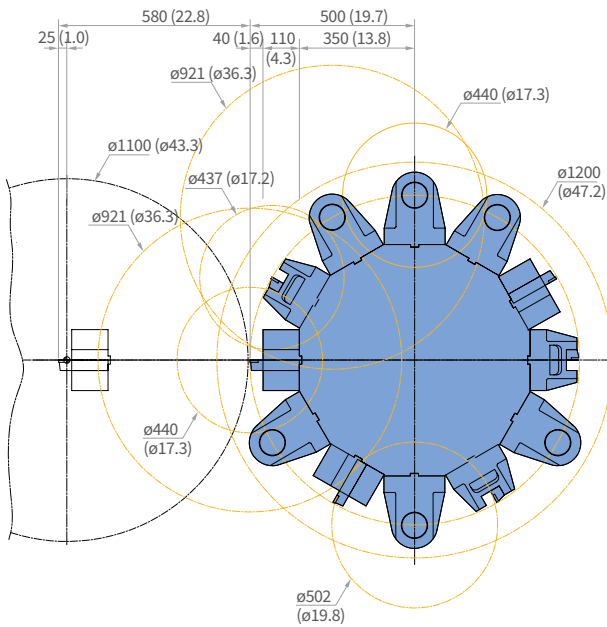


TOOL INTERFACE

PUMA VT1100

PUMA VT1100M

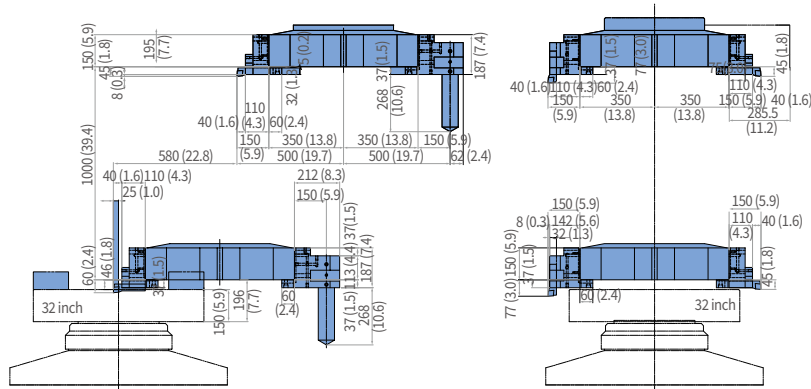
Unit : mm (inch)



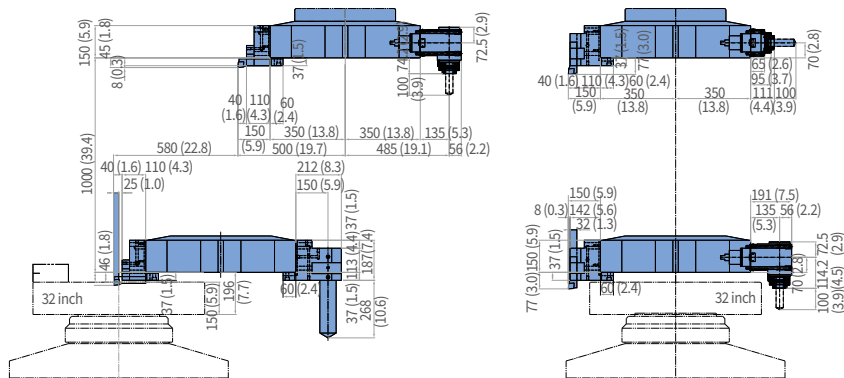
WORKING RANGE

PUMA VT1100

Unit : mm (inch)



PUMA VT1100M



MACHINE SPECIFICATIONS

PUMA VT series

Description		Unit	PUMA VT1100	PUMA VT1100M	
Capacity	Swing over bed	mm (inch)	1270 (50.0)		
	Swing over saddle	mm (inch)	1000 (39.4)		
	Recom. turning diameter	mm (inch)	800 (31.5)		
	Max. turning diameter	mm (inch)	1100 (43.3)		
	Max. turning height	mm (inch)	960 (37.8)		
	Chuck size	mm (inch)	800 (31.5)		
Travels	X-axis	mm (inch)	580 (22.8)		
	Z-axis	mm (inch)	1000 (39.4)		
Feedrates	Rapid traverse rate	X-axis	m/min	20	
		Z-axis	m/min	20	
Main Spindle	Spindle speed		r/min	850	
	Spindle nose		ASA	ISO 702-4-No15	
	Spindle bearing diameter (Front)		mm (inch)	200 (7.9)	
	Spindle through hole		mm (inch)	100 (3.9)	
	Main spindle indexing angle (C-axis)		deg	-	360 (in 0.001)
Turret	No. of tool stations		st	12	
	OD tool size		mm (inch)	32 (1.3)	
	Max. boring bar size		mm (inch)	ø80 (ø3.1)	
	Turret Indexing time (1 station swivel)		s	2.2	
Motor	Main spindle motor (FANUC)		kW (Hp)	65 / 55 / 45 (87.2 / 73.8 / 60.3) (S6 25% / S6 40% / S1 Cont.)	
	Main spindle motor (SIEMENS) (S6-60% / S1 Cont.)		kW (Hp)	55 / 44 (73.8 / 59.0)	
	Servo motor (FANUC)	X/Z axis	kW (Hp)	4.0 / 7.0 (5.4 / 9.4)	
	Servo motor motor(SIEMENS)	X/Z axis	kW (Hp)	4.0 / 9.0 (5.4 / 12.1)	
	Rotary tool spindle motor (FANUC)		kW (Hp)	-	11 (14.8)
	Rotary tool spindle motor (SIEMENS) (S6 25% / S1 Cont.)		kW (Hp)	7.0 / 7.5 (9.4 / 10.1)	
Power source	Electric power supply (FANUC) (rated capacity)		kVA	77.94	
Machine Size	Height		mm (inch)	4012 (158.0)	
	Length		mm (inch)	2830 (110.4)	
	Width		mm (inch)	3305 (130.1)	
	Weight		kg (lb)	22000 (48501.0)	22550 (49713.5)
Controller		Standard	Fanuc 32i		
		Option	DN Solutions Fanuc i Plus		
			SIEMENS 828D		

RESPONDING TO CUSTOMERS **ANYTIME, ANYWHERE**

DN SOLUTIONS GLOBAL NETWORK

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



CUSTOMER SUPPORT AND SERVICES

WE'RE THERE FOR YOU WHENEVER YOU NEED US.

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



FIELD SERVICES

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



PARTS SUPPLY

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



TRAINING

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



TECHNICAL SUPPORT

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

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