



2-SPINDLE VERTICAL MACHINING CENTER
FOR HIGH PRODUCTIVITY

DMP

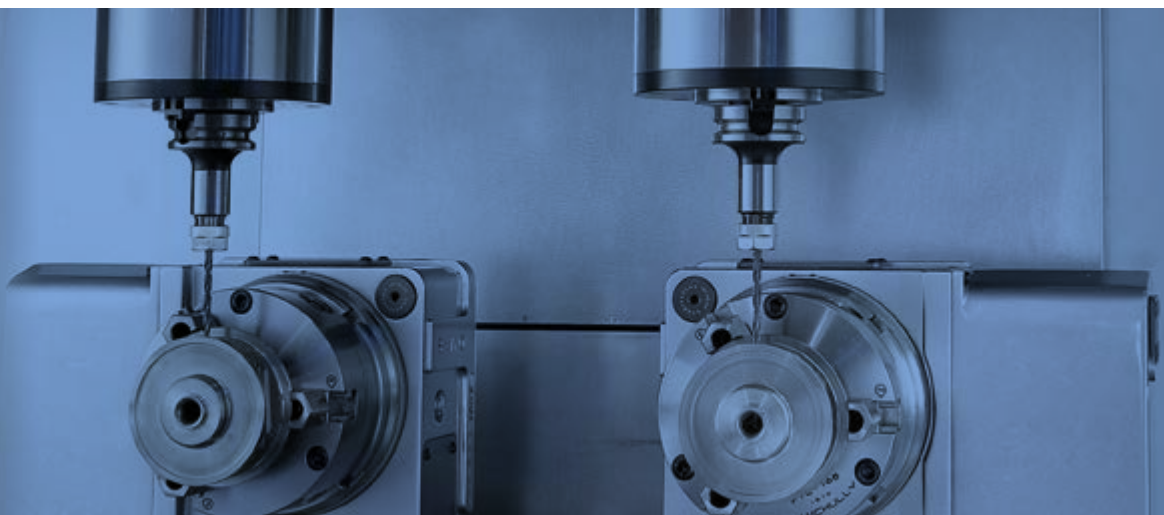
500-2SP • 570/50-2SP



DN SOLUTIONS

DMP-2SP SERIES

Designed as a highly stable, rigid structure, the DMP-2SP is suitable for mass production in small variety items. In addition, W-axis for DMP 500-2SP, Z2 axis for DMP 570/50-2SP been adopted as a standard feature to adjust tool length both spindle easily.





CONVENIENT W AXIS STRUCTURE

- W-axis for DMP 500-2SP, Z2 axis for DMP 570/50-2SP can reduce tool setting time easily.

REDUCED INVESTMENT AND MAINTENANCE COSTS

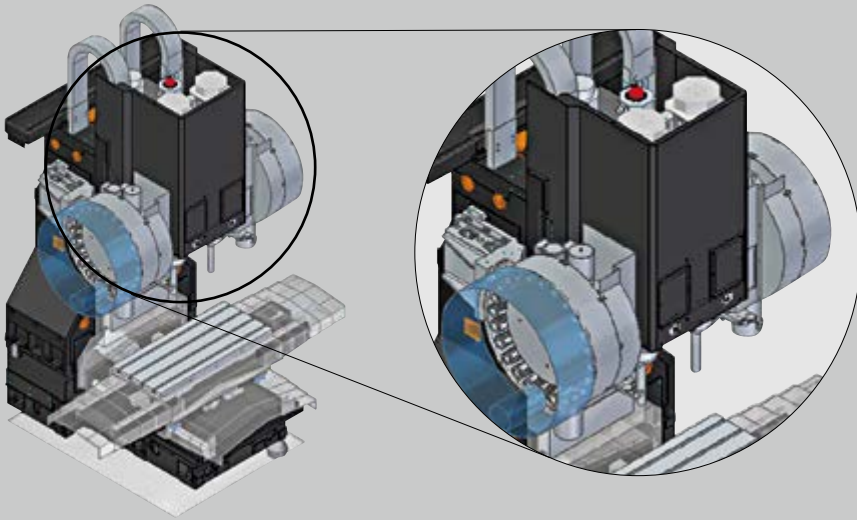
- The customer can reduce the base machine cost compared to two conventional VMC's. Additionally, for ancillary items such as spindle probe, mist collector etc, only one is required, thereby reducing the total investment cost.

HIGH PRODUCTIVITY AND SMALL FOOTPRINT

- The DMP-2SP production rate is faster than conventional VMC's, and also floorspace is greatly reduced.

BASIC STRUCTURE

Designed as a stable, highly rigid structure, the DMP-2SP series is suitable for mass production of small variety parts.



Axis system

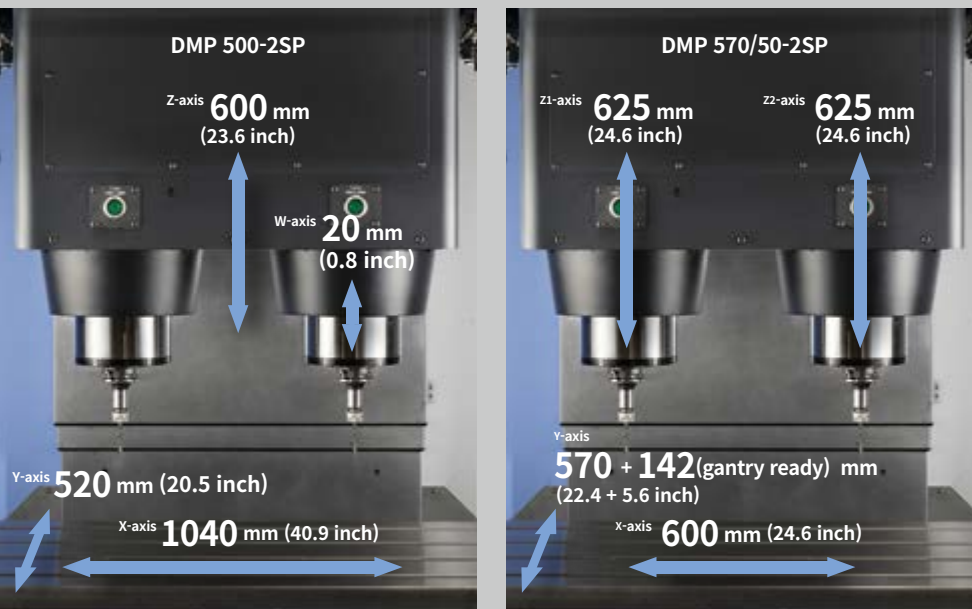
Roller-type linear guideways have been adopted to provide both high rigidity and rapid axis travel. All linear axes use grease lubrication to reduce running cost and enhance the operator environment.

Travel distance (DMP 500-2SP)

X-axis **1040** mm 40.9 inch
Y-axis **520** mm 20.5 inch
Z-axis **600** mm 20.5 inch
W-axis **20** mm 0.8 inch

Travel distance (DMP 570/50-2SP)

X-axis **600** mm 20.5 inch
Y-axis **570+142** mm
22.4+5.6 inch
(gantry ready)
Z1-axis **625** mm 24.6 inch
Z2-axis **625** mm 24.6 inch



TABLE

Optimized table size and load capacity to allow fixing of various fixtures, rotary tables etc.

Table size (A x B)

DMP 500-2SP
1200 x 520 mm
47.2 x 20.5 inch

DMP 570/50-2SP
1500 x 570 mm
59.1 x 22.4 inch

Table loading capacity

DMP 500-2SP
800 kg 1763.7 lb

DMP 570/50-2SP
1100 kg 2425.0 lb



SPINDLE

Direct-coupled type spindles have been adopted as a standard feature to further reduce vibration and noise while enhancing productivity, work environment and machining accuracy.



The distance between spindles

DMP 500-2SP

400 mm / 440 mm option
15.7 inch / 17.3 inch option

DMP 570/50-2SP

500 mm 19.7 inch

Productivity



* The Chip-to-Chip time has been tested in accordance with DN Solutions's strict testing conditions, but may vary depending on the user's operating conditions.

Max. spindle speed

DMP 500-2SP

1200 r/min

8000 r/min option

DMP 570/50-2SP

8000 r/min

Max. spindle power

DMP 500-2SP

18.5/11 kW 24.8/14.8 Hp

15/11 kW 20.1/14.8 Hp option

DMP 570/50-2SP

15/11 kW 20.1/14.8 Hp

Max. spindle torque

DMP 500-2SP

117.8 N.m 86.9 lbf-ft

286 N.m 211.1 lbf-ft option

DMP 570/50-2SP

286 N.m 211.1 lbf-ft



TOOL CHANGE SYSTEM

To optimize productivity, 2 separate tool change systems are adopted as a standard feature for simultaneous tool change. The highly reliable tool magazines can accommodate up to 40 tools each.

DMP 500-2SP

Max. tool diameter (Cont.)

Ø 90 mm 3.5 inch

Max. tool weight

8 kg 17.6 lb

Max. tool length

300 mm 11.8 inch

Tool to Tool time

1.7 S

Tool storage capacity

2-24 ea

2-30 ea option

2-40 ea option

DMP 570/50-2SP

Max. tool diameter (Cont.)

Ø 90 mm 3.5 inch

Max. tool weight

15 kg 33.1 lb

Max. tool length

350 mm 13.8 inch

Tool to Tool time

2.5 S

Tool storage capacity

2-24 ea

STANDARD | OPTIONAL SPECIFICATIONS


A range of options is available to suit individual requirements.

Description	Features	DMP 500-2SP	DMP 570/50-2SP	
Spindle	12000 r/min	●	○	
	8000 r/min	○	●	
	The distance between spindles	400 mm (15.7 inch)	●	X
		440 mm (17.3 inch)	○	X
		500 mm (19.7 inch)	X	X
Oil cooler	12000 r/min	●	X	
	8000 r/min	●	●	
Magazine	Tool storage capacity	2-24 ea	●	
		2-30 ea	○	
		2-40 ea	○	
Tool shank type	ISO #40	BIG PLUS BT40	●	
		BIG PLUS CAT40 / DIN40	○	
	ISO #50	BIG PLUS BT50	X	
		BIG PLUS CAT50 / DIN50	X	
Raised Column	150 mm (5.9 inch)	○	○	
	250 mm (9.8 inch)	○	○	
Coolant	FLOOD	0.45 MPa (1.1 kW)	●	
	TSC	None	●	
		2 MPa (1.5kW)	○	
		2 MPa (4.0 kW)	○	
		7 MPa (5.5 kW)	○	
	SHOWER	0.1 MPa (1.1 kW)	○	
Chip disposal	Chip pan	●	●	
	Chip conveyor	Hinged type (Left / Right / Rear)	○	
		Magnetic scraper type (Left / Right / Rear)	○	
	Chip bucket (300L)	○		
	Air blower	○		
	Air gun	○		
	Coolant gun	○		
Mist collector	○			
Precision machining option	Spindle thermal compensation	●	●	
	Linear scale	○		
	AICC I (40 block)	○		
	AICC II (200 block)	●	●	
Measurement & Automation	Automatic tool measurement	TS27R	○	
		OTS	○	
	Automatic tool breakage detection	○		
	Automatic workpiece measurement	OMP60	○	
	Automatic front door with safety device	○		
Others	LED Work light	●	●	
	3 color signal tower	●	●	
	4th axis auxiliary device interface	○		
	Tool load monitoring	○		
	EZ Guide i	●	●	
	Automatic power off	○		
Customized special option	Coolant level switch : Sensing level - Low / High	○	○	
	EZ Guide i (Conversational Programming Solution)	●*1)	●*1)	
	iHMI with Machining Cycle	○*2)	○*2)	
	Tool load monitoring function (DN Solutions)	○	○	
	Adaptive feed control (DN Solutions)	○	○	
	Ez work	X	X	

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

● Standard ○ Optional X N/A

Note *1) Only with 15" LCD standard Note *2) Only with 15" Touch LCD standard

 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.

PERIPHERAL EQUIPMENT

TSC option

The through-spindle coolant (TSC) system delivers higher machining efficiency



Raised column option

When the distance between the table top and the spindle nose needs to be extended, for example, accommodate a fixture or rotary axis on the table, solid one-piece raised column can be used to extend the distance.

Height
150 mm 5.9 inch
250 mm 9.8 inch

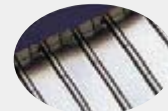


Oil Cooler

An oil cooler correlated to room temperature can be equipped for a long-term operation at high speed. Cooling oil circulates around the spindle bearings to prevent thermal error of the spindle and maintain machining accuracy.



Chip conveyor option



Hinged belt

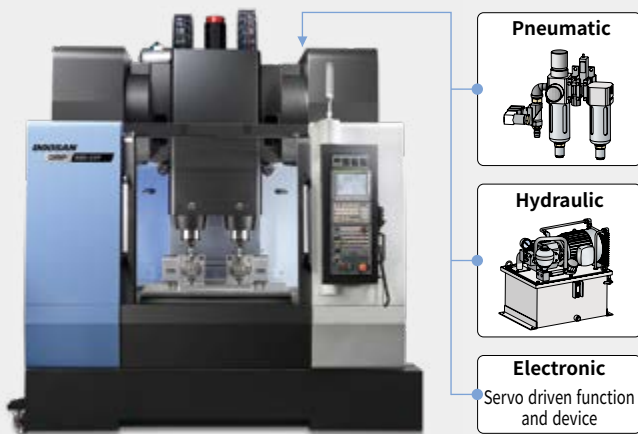


Magnetic scraper

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(1.2inch)], is available as an option.
Magnetic scraper	Cast Iron	Magnetic scraper type chip conveyor, which is ideal for die-casting work [for cleaning small chips], is available as an option.

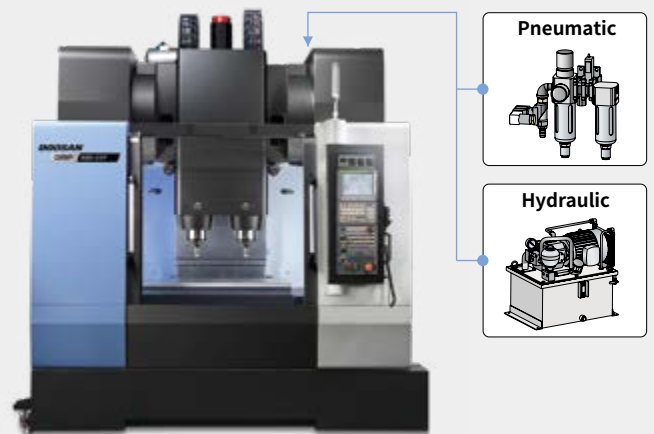
4th axis auxiliary device interface option

Users who wish to set up a rotary axis on the table to increase application flexibility are encouraged to contact DN Solutions in advance.



Hydraulic / Pneumatic fixture line option

The user can prepare pipelines for hydraulic/pneumatic fixtures whose detailed specifications should be determined by discussion with DN Solutions.



DN SOLUTIONS FANUC i PLUS

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

15 inch screen + new operation panel

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

DN Solutions Fanuc i Plus

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

USB & PCMCIA card

QWERTY keyboard

- EZ-guide i standard
- Ergonomic operator panel
- 2MB Memory
- Hot key



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

Item	Specifications	DN Solutions Fanuc i (0i PLUS)	
		DMP500/2SP DMP570/50-2SP	
Controlled axis	Controlled axes	3 (X,Y,Z,W)	
	Simultaneously controlled axes	4 axes	
Data input/output	Additional controlled Axis	Add 1 Axis (5th Axis)	
	Fast data server	○	
	Memory card input/output	●	
	USB memory input/output	●	
Interface function	Large capacity memory(2GB)*2	Available Option only with 15" Touch LCD (iHMI Only) *2)	
	Embedded Ethernet	○	
	Fast Ethernet	●	
Operation	Enhanced Embedded Ethernet function	○	
	DNC operation	Included in RS232C interface.	
	DNC operation with memory card	●	
Program input	Workpiece coordinate system	G52 - G59	
	Addition of workpiece coordinate system	G54.1 P1 X 48 (48 pairs)	
	Tool number command	●	
	Tilted working plane indexing command	T4 digits	
Feed function	AI contour control I	G68.2 TWP	
	AI contour control II	G5.1 Q_, 40 Blocks	
	AI contour control II	G5.1 Q_, 200 Blocks	
	AI contour control II	G5.1 Q_, 600 Blocks	
	AI contour control II	G5.1 Q_, 1000 Blocks *1)	
Operation guidance function	High smooth TCP	X	
	EZ Guidei (Conversational Programming Solution)	●	
	iHMI with Machining Cycle	Only with 15" Touch LCD standard *2)	
Setting and display	EZ Operation package	X	
	CNC screen dual display function	●	
Network	FANUC MTConnect	●	
	FANUC OPC UA	⊕	
Others	Display unit	10.4" color LCD	X
		15" color LCD	X
	Part program storage size & Number of registerable programs	15" color LCD with Touch Panel	●
		640M(256KB)_500 programs	X
		1280M(512KB)_1000 programs	X
		2560M(1MB)_1000 programs	X
		5120M(2MB)_1000 programs	●
		10240M(4MB)_1000 programs	X
		20480M(8MB)_1000 programs	X
		2560M(1MB)_2000 programs	X
		5120M(2MB)_4000 programs	X
		10240M(4MB)_4000 programs	X
		20480M(8MB)_4000 programs	X

*1) The number of look-ahead blocks may be changed or limited depending on the peripheral device or the configuration of the internal NC system.

*2) Available Option only with Fanuc i plus iHMI

● Standard ○ Optional X N/A ⊕ Available
Network: FANUC MT Connect and FANUC OPC UA available.

EZ WORK

The software developed by DN Solutions provides a range of different functions designed for fast, efficient and convenient operation.

Ez work

The Ez work delivers speed and efficiency. This menu-driven innovation not only helps customers reduce setup times, but also simplifies common tasks and procedures, reducing the potential for errors. Ez work reduces operating time, protects machinery, enhances quality and speeds up maintenance interventions.

User convenience

User convenience has been significantly enhanced with a new operation panel.



Work Offset Setting

Function to configure various work offset settings



Tool management

This function provides information on the tools in the tool magazine pots.



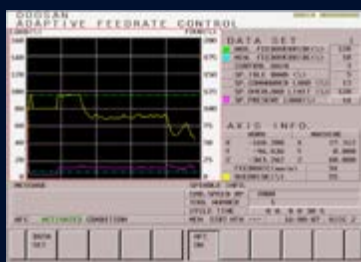
ATC recovery

In the event of an error during ATC (automatic tool changer) operations, on-screen instructions deliver easy-to-understand and prompt solutions.



Thermal compensation function

A thermal error compensation function is provided as a standard feature to ensure stable and reliable cutting performance by reducing the effects of thermal growth and drift.



Adaptive Feed Control(AFC)

option

If tool overload is detected during operation, the feed rate is controlled to prevent the tool from being damaged.



Tool load monitoring option

During cutting operations, abnormal loads caused by wear and tear of the tool are detected and an alarm is triggered to prevent further damage from occurring.



MPG handle

PCMCIA Card

The PCMCIA card enables uploading and downloading of the NC program, NC parameters, tool information, and ladder programs, and also supports DNC operation.

USB Port

The USB memory stick enables uploading and downloading of the NC program, NC parameters, tool information and ladder programs. (DNC operation is not supported.)

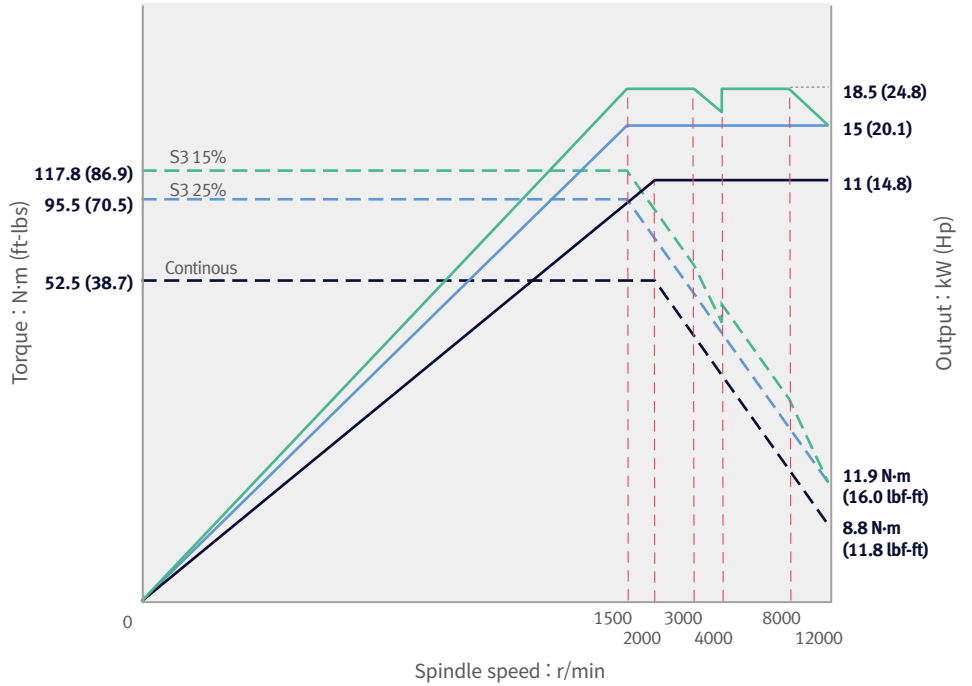


POWER | TORQUE

12000 r/min

Spindle motor power: **18.5 kW**
24.8 Hp

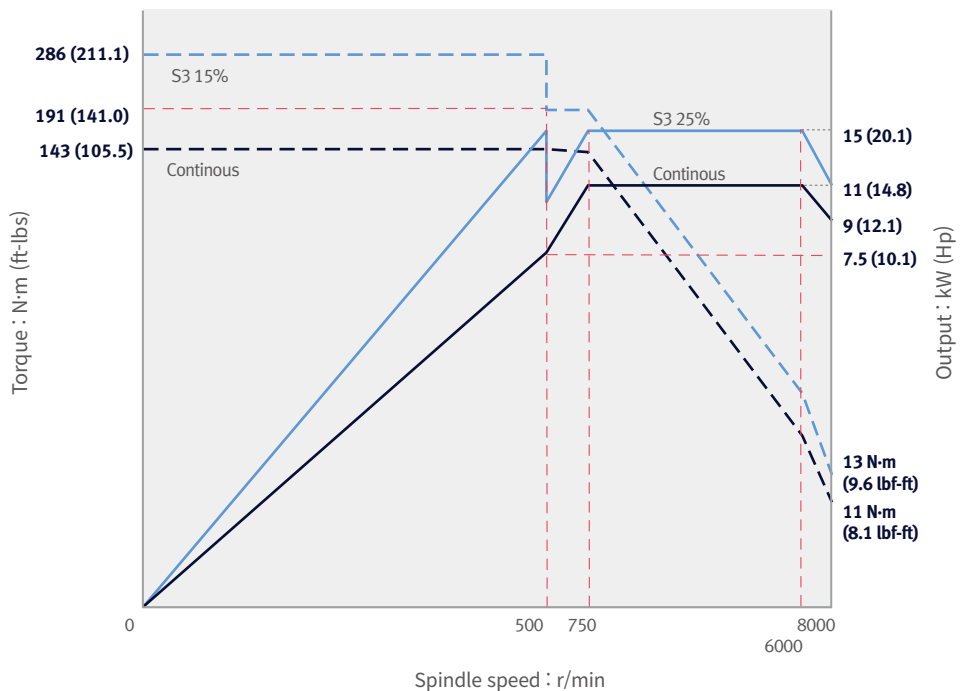
Max. spindle torque: **117.8 N·m**
86.9 lbf-ft



8000 r/min DMP 570/50-2SP (standard) DMP 500-2SP option

Spindle motor power: **15 kW**
20.1 Hp

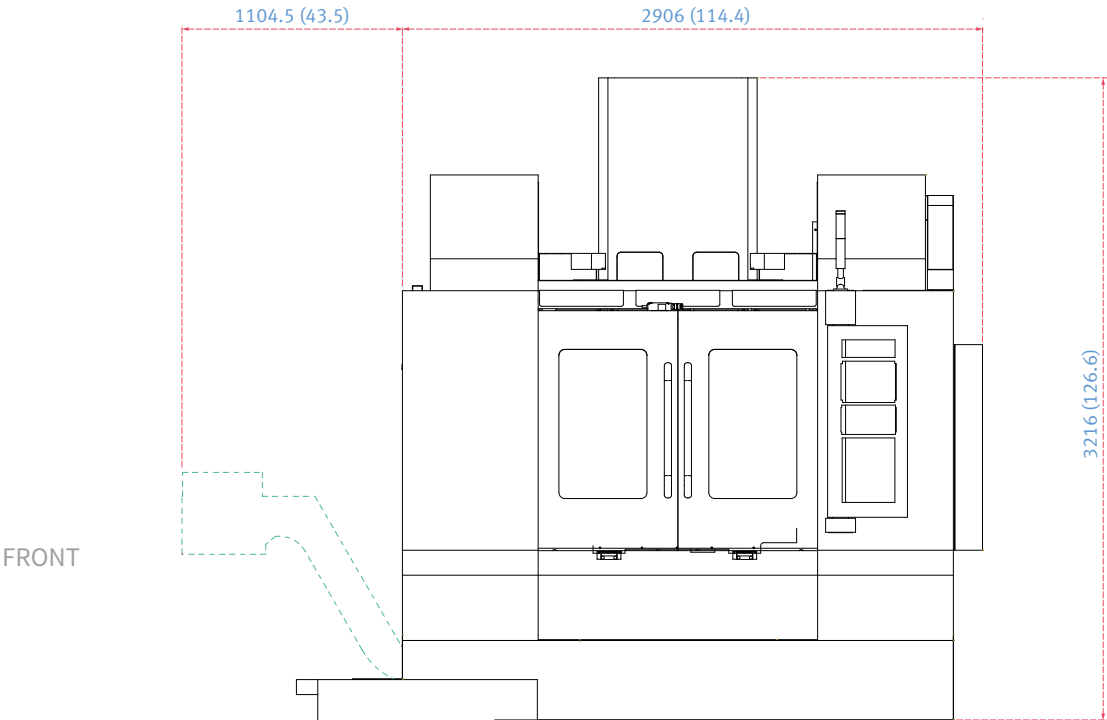
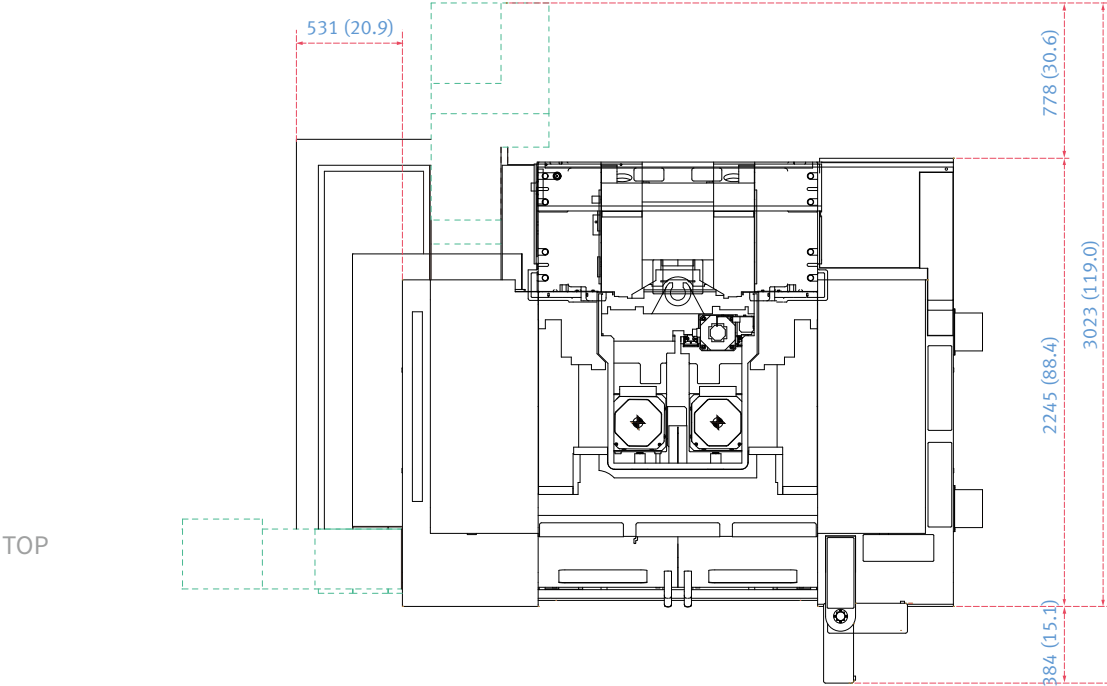
Max. spindle torque: **286 N·m**
211.1 lbf-ft



DIMENSIONS

DMP 500-2SP

Units : mm (inch)

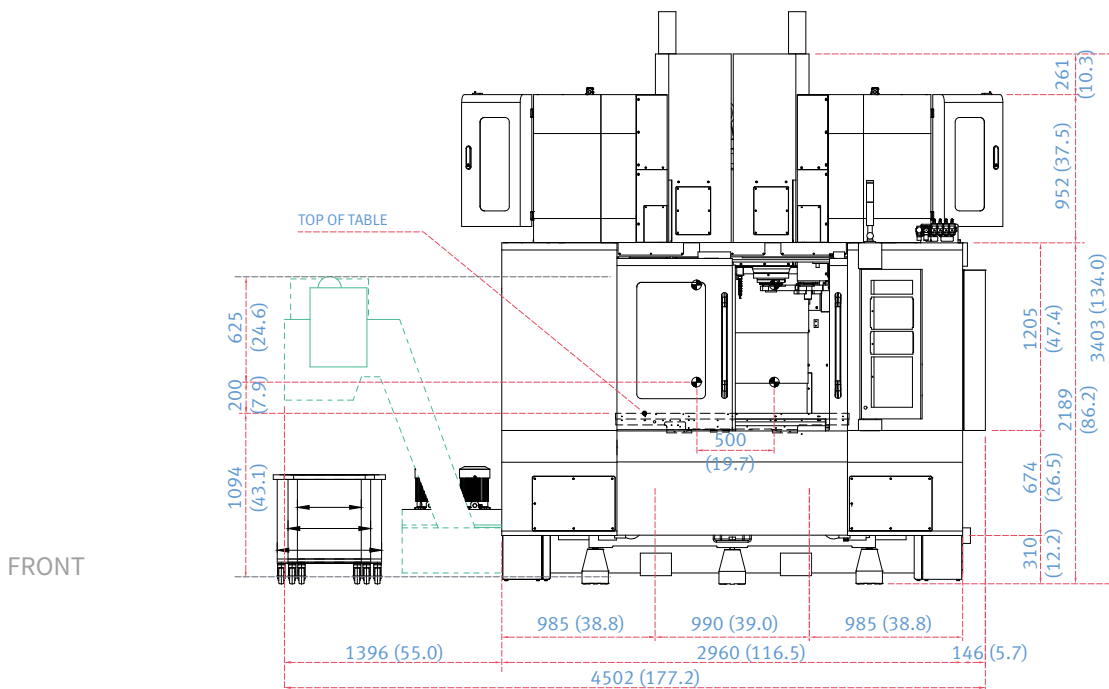
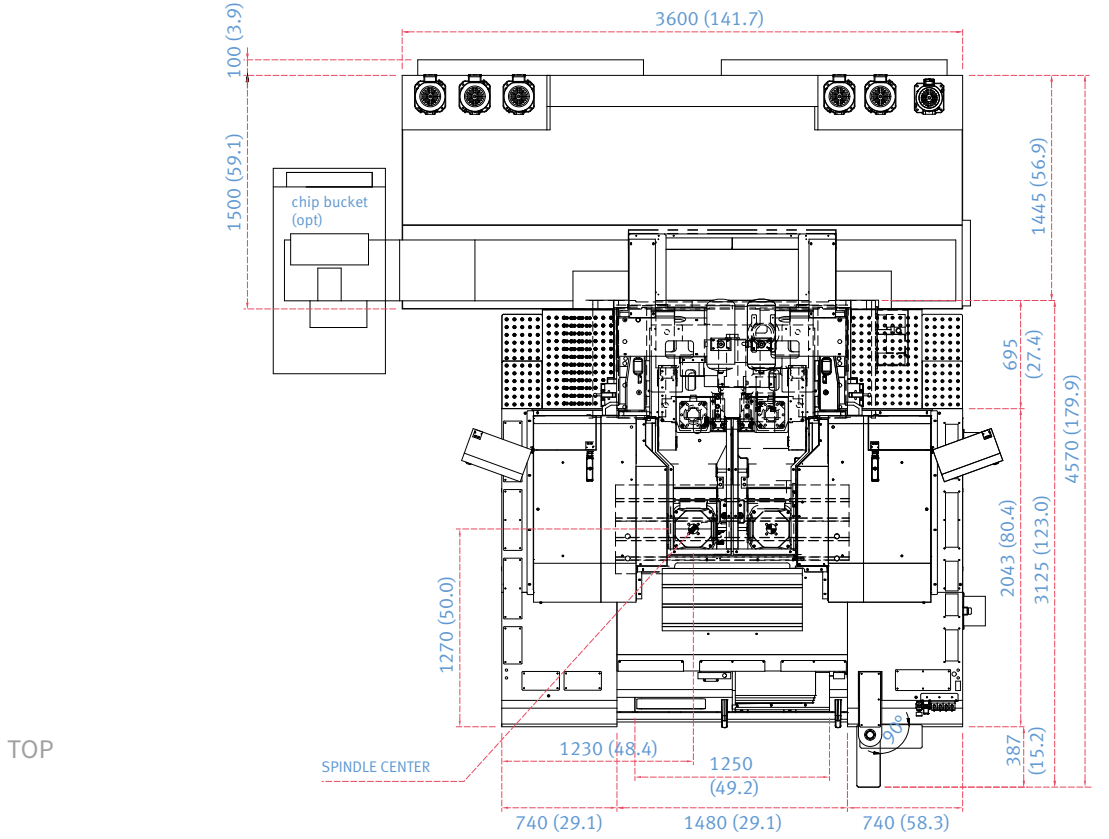


* Some peripheral equipment can be placed in other places

DIMENSIONS

DMP 570/50-2SP

Units : mm (inch)



MACHINE SPECIFICATIONS

Description		Unit	DMP 500-2SP	DMP 570/50-2SP	
Travels	Travel distance	X axis	mm (inch)	1040 (40.9)	600 (23.6)
		Y axis	mm (inch)	520 (20.5)	570 + 142(gantry ready) (22.4 + 5.6)
		Z axis	mm (inch)	600 (23.6)	Z1 : 625 (24.6) Z2 : 625 (24.6)
		W axis	mm (inch)	20 (0.8)	-
	Distance from spindle nose to table top		mm (inch)	150 ~ 750 (5.9 ~ 29.5)	200 ~ 825 (7.9 ~ 32.5)
	Distance between spindles		mm (inch)	400 (15.7)	500 (19.7)
Table	Table size		mm (inch)	1200 x 520 (47.2 x 20.5)	1500 x 570 (59.1 x 22.4)
	Table loading capacity		kg (lb)	800 (1763.7)	1100 (2425.0)
	Table type		mm (inch)	T-SLOT (4-125 (4.9) x 18 (0.7) H7)	T-SLOT (4-125 (4.9) x 18 (0.7) H8)
Spindle	Max. spindle speed		r/min	12000 {8000}*	8000
	Taper		-	ISO #40	ISO #50
	Max. Spindle power (S3 15%/Cont.)		kW (Hp)	18.5/11 {15/11}* (24.8/14.8 {20.1/14.8})	15/11 (20.1/14.8)
	Max. spindle torque (S3 15%)		N · m (lbf-ft)	117.8 {286}* (86.9 {211.1})	286 (211.1)
Feedrate	Rapid traverse rate	X axis	m/min (ipm)	40 (1574.8)	40 (1574.8)
		Y axis	m/min (ipm)	40 (1574.8)	40 (1574.8)
		Z axis	m/min (ipm)	36 (1417.3)	36 (1417.3)
Automatic Tool Changer	Type of tool shank	Tool shank	-	BT 40 {CAT40/DIN40}*	BT 50 {CAT50/DIN50}*
		Pull stud	-	PS806	P50T-1 45deg
	Tool storage capa.		ea	2-24 {2-30, 2-40}*	2-24
	Max. tool diameter	Continous	mm (inch)	90 {80, 75}* (3.5 {3.1, 3.0})	125 (4.9)
		Without Adjacent Tools	mm (inch)	150 (5.9)	220 (8.7)
	Max. tool length		mm (inch)	300 (11.8)	350 (13.8)
	Max. tool weight		kg (lb)	8 (17.6)	15 (33.1)
	Tool selection			MEMORY RANDOM	MEMORY RANDOM
	Tool change time (Tool-to-tool)		sec	1.7	2.5
	Tool change time (Chip-to-chip)		sec	3.5	5.5
Power source	Electric power supply(rated capacity)		kVA	60.0	60.0
	Compressed air supply		Mpa	0.54	0.54
Tank capacity	Coolant tank capacity		L (gal)	300 (79.3)	300 (79.3)
Machine Dimensions	Height		mm (inch)	3510 (138.2)	3680 (144.9)
	Length		mm (inch)	2400 (94.5)	2400 (94.5)
	Width		mm (inch)	2760 (108.7)	3200 (126.0)
	Weight		kg (lb)	8500 (18739.0)	13000 (28659.7)
Control	CNC system		-	DN Solutions Fanuc i Plus	DN Solutions Fanuc i Plus

*{ } :option

RESPONDING TO CUSTOMERS ANYTIME, ANYWHERE

DN Solutions Global Network

DN Solutions 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		51	Technical centers Technical center, Sales support, Service support, Parts support
4	Corporations	200	Service posts
156	Dealer networks	3	Factories



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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* For more details, please contact DN Solutions.

* Specifications and information contained within this catalogue may be changed without prior notice.