



DOUBLE COLUMN MACHINING CENTER FOR GENERAL PART

# BM

1530 · 2035 · 2740



**DN** SOLUTIONS

**Basic information**

Basic Structure  
Cutting  
Performance

**Detailed Information**

Options  
Diagrams  
Specifications

**Customer Support Service**



# BM 1530 / 2035 / 2740

The BM General series are double-column type machining center designed to process general part. High torque spindle and new improved design delivers greater efficiency, there by raising customers' productivity and creating maximum added value.

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#### Equipped with a high-speed, high-rigidity spindle as a standard feature

- Equipped with a dual contact and built-in type spindle as a standard feature for high rigidity and minimum vibration.

#### Stabilize structure for higher level of precision

- Apply double column structure & 3 LM guide way for high precision.

#### Easy operation for improving convenience to use NC system

- Easy operation for user's convenient machine operation.
- The EZ Work functions for the user-friendliness has improved the convenience of customers.



## Basic Structure

Double-column structure for stable precision level.

### Basic information

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### Customer Support Service

Travel distance (X x Y axis)

BM 1530

**3000 x 1550 mm**  
(118.1 x 61.0 inch)

BM 2035

**3500 x 2050 mm**  
(137.8 x 80.7 inch)

BM 2740

**4000 x 2700 mm**  
(157.5 x 106.3 inch)

BM 1530 & BM 2035 & BM 2740

Z axis **800 mm**  
(31.5 inch)



## Spindle

A high-speed, high- and vibration rigidity built-in spindle is provided as a standard feature to enhance the productivity of machining large works.

Taper

**ISO #50**

Max. spindle speed

BM 1530 & BM 2035

**8000 r/min**

BM 2740

**10000 r/min**

Max. spindle motor power

BM 1530 & BM 2035 & BM 2740

**30 kW (40.2 ft-lbs)**

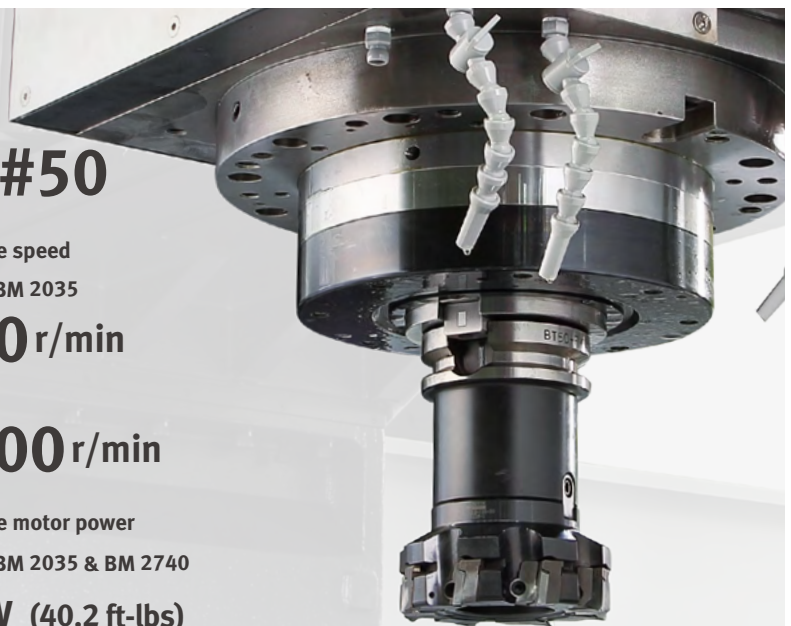
Max. spindle motor torque

BM 1530 & BM 2035

**600 N·m (442.8 ft-lbs)**

BM 2740

**420 N·m (310.0 ft-lbs)**

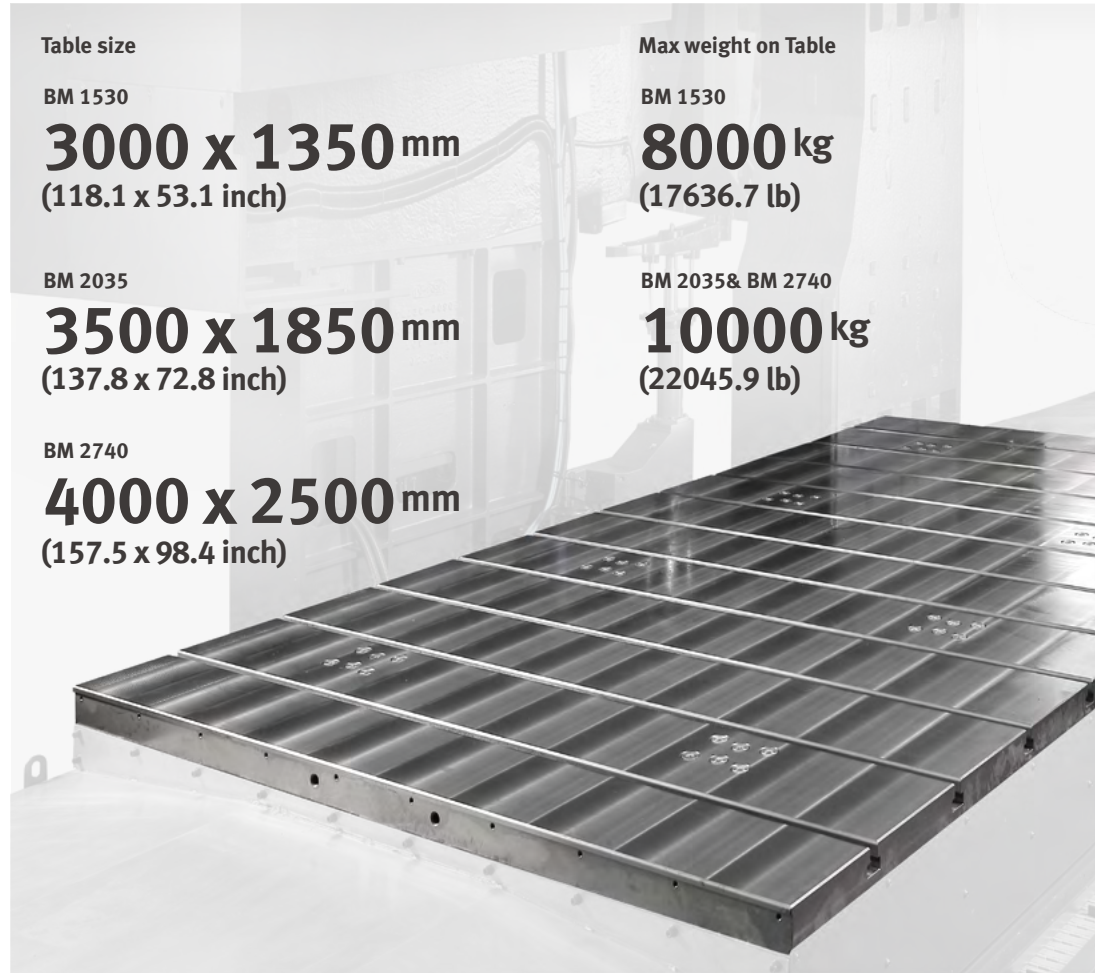




## Table

Proper table size for large works.

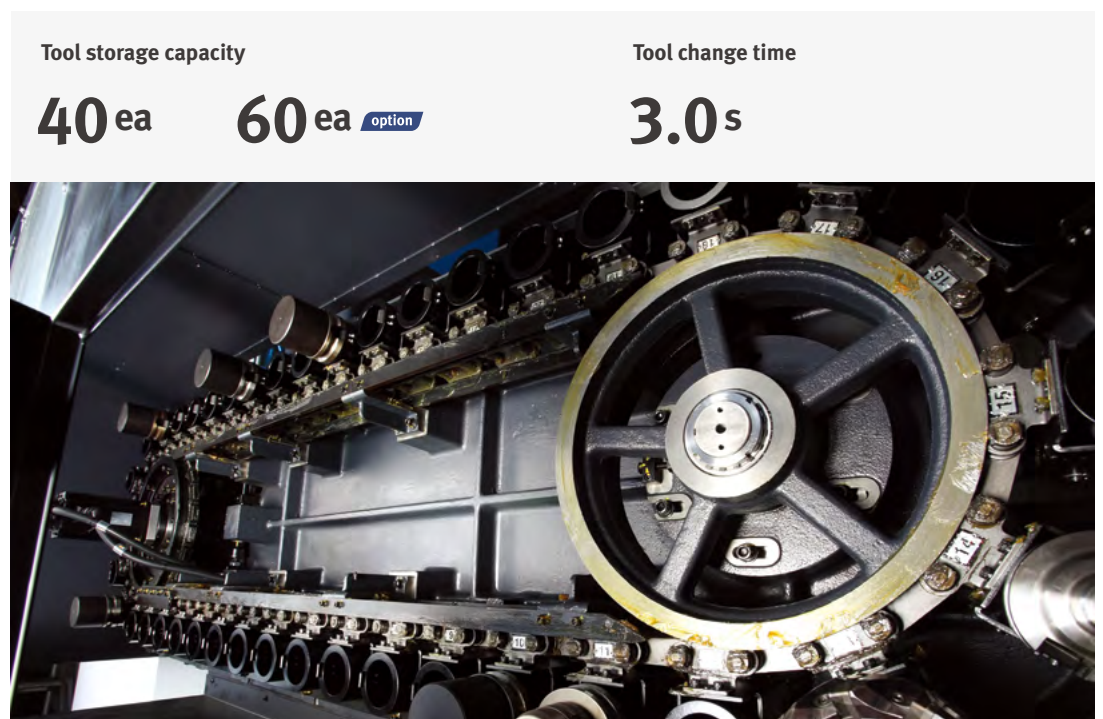
<b>Table size</b>	<b>Max weight on Table</b>
BM 1530 <b>3000 x 1350 mm</b> (118.1 x 53.1 inch)	BM 1530 <b>8000 kg</b> (17636.7 lb)
BM 2035 <b>3500 x 1850 mm</b> (137.8 x 72.8 inch)	BM 2035& BM 2740 <b>10000 kg</b> (22045.9 lb)
BM 2740 <b>4000 x 2500 mm</b> (157.5 x 98.4 inch)	




## Tool change system

Higher productivity can be achieved with the CAM-type tool changer that supports faster tool changing.

<b>Tool storage capacity</b>	<b>Tool change time</b>
<b>40 ea</b> <b>60 ea</b> <small>option</small>	<b>3.0 s</b>



## Foundation

### Basic information

Basic Structure  
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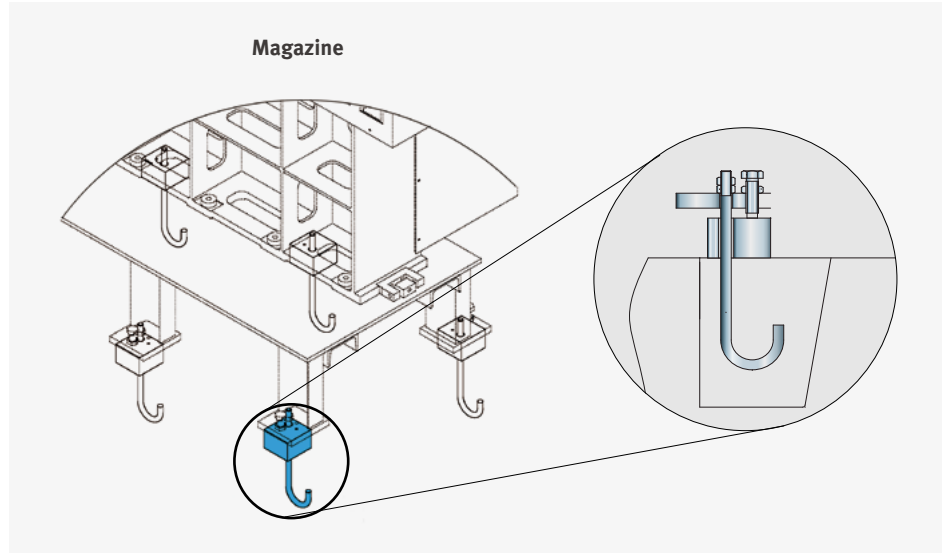
Options  
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### Customer Support Service

Anchoring is recommended to ensure machining accuracy over a long time.

### Machine Foundation\*

We provide the anchor bolts for magazine as a standard feature and the anchor bolts for machine as an option related parts for foundation work are supplied as standard items. Since machining accuracy is highly dependent on the machine's foundation, anchoring is recommended to maintain accuracy over a long period of time.



\* Please consult with DN Solutions sales technicians regarding ground and operating conditions.

## Cutting Performance

High cutting performance with high speed built-in spindle.

### Machining Performance (BM 2740)

<b>Face mill (ø125mm)</b> Carbon steel (SM45C)			
Machining rate (cm <sup>3</sup> /min (inch <sup>3</sup> /min))	Spindle speed (r/min)	Feedrate (mm/min (ipm))	
595 (36.3)	500	850 (33.5)	
<b>Face mill (ø125mm)</b> Gray casting (GC25)			
Machining rate (cm <sup>3</sup> /min (inch <sup>3</sup> /min))	Spindle speed (r/min)	Feedrate (mm/min (ipm))	
960 (58.6)	500	1200 (47.2)	
<b>Tap</b> Carbon steel (SM45C)			
Tool	Spindle speed (r/min)	Feedrate (mm/min (ipm))	
M42 x P4.5	180	810 (31.9)	



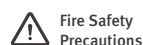
## Standard / Optional Specifications

Various options are available to satisfy the customers' requirements.

● Standard ○ Optional X Not applicable

NO.	Description	Features	BM 1530	BM 2035	BM 2740		
1	Spindle	8000 r/min	30/25 kW (40.2/33.5 Hp), 600 N·m (442.8 ft-lbs)	●	●	X	
2		10000 r/min	30/25 kW (40.2/33.5 Hp), 420 N·m (310.0 ft-lbs)	X	X	●	
3	Magazine	Tool storage capacity	40 ea	●	●	●	
4			60 ea	○	○	○	
5	Tool shank type	BIG PLUS BT50		●	●	●	
6		BIG PLUS CAT50		○	○	○	
7		BIG PLUS DIN50		○	○	○	
8	Raising Block	200 mm (7.9 inch)		○	○	○	
9		300 mm (11.8 inch)		○	○	○	
9	Coolant	FLOOD	0.45 MPa (1.1 kW)	●	●	●	
10			0.69 MPa (1.8 kW)	○	○	○	
11		TSC	None		●	●	●
12			2 MPa (1.5kW)		○	○	○
13			2.0 MPa (4 kW)		○	○	○
14		Coolant level switch : Sensing level - Low **		○	○	○	
15	Chip disposal	Chip conveyor	Chip pan	●	●	●	
16			Hinged type	○	○	○	
17		Chip bucket	Forklift type		○	○	○
18			Rotating type		○	○	○
19		Air blower		○	○	○	
20		Air gun		○	○	○	
21	Coolant gun		●	●	●		
22	Precision machining option	Linear scale	X / Y / Z axis	○	○	○	
23		AICC I (30 block)		●	●	●	
24		AICC II (200 block)		○	○	○	
25	Measurement & Automation	Automatic tool measurement	TS27R_RENISHAW	○	○	○	
26			OTS_RENISHAW	○	○	○	
28		Automatic tool breakage detection		Needle	○	○	○
29		Automatic workpiece measurement		OMP60_RENISHAW	○	○	○
30	Others	LED Work light		●	●	●	
31		3 Color signal tower		●	●	●	
32		Tool load monitoring		●	●	●	
33		EZ Guide i		○	○	○	
34		Automatic power off		○	○	○	
35	Lubrication	Grease		○	○	○	
36	Attachment	Manual angle head		○	○	○	

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



**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.

## Optional Devices

Various solutions are available for better machining performance and higher-quality.

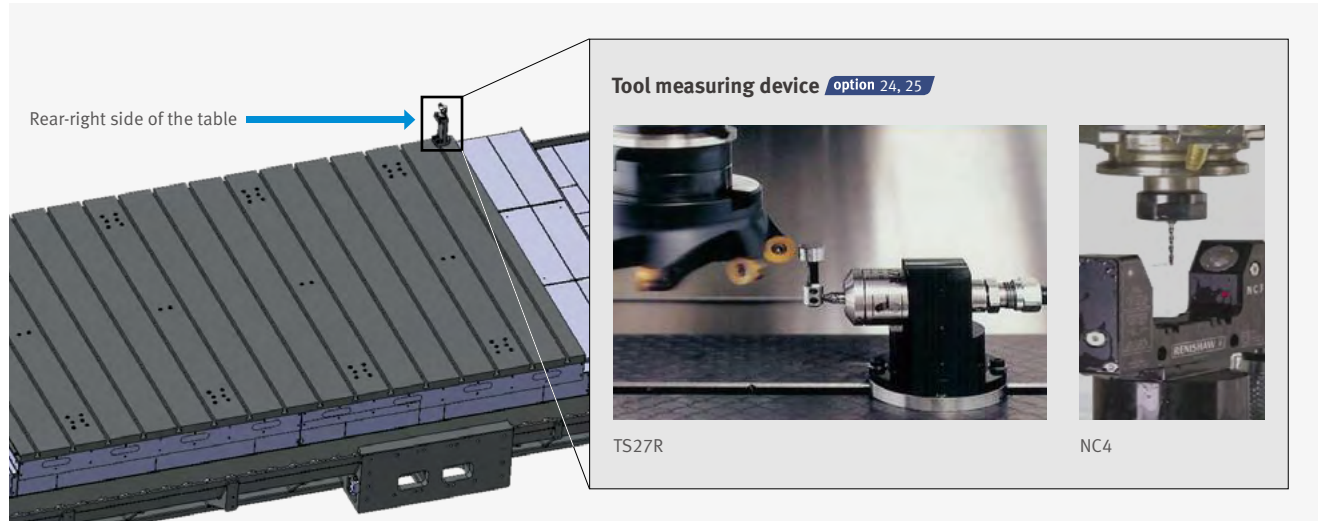
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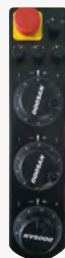
### Customer Support Service



### MPG MPG suitable for large works



Manual handle Portable MPG



Manual handle Portable 3 MPG  
*option*



Manual handle MPG with LCD  
*option*



Manual operation panel *option*  
HMOP  
(Handy Machine Operator's Panel)

### 3-Stage Signal Tower



**Warning lamp**

Reports abnormal operational conditions of the machine

**Work completion indicator**

Indicates that the work has been completed

**In-progress lamp**

Indicates that the work is being carried out

### Linear scale *option 21*



### Power saving function

This function saves electricity when the machine is not in use.

### Swing arm MAC (Manual Attachment Change)



## FANUC 31i/32i PLUS

FANUC 31i/32i PLUS maximizes customer productivity and convenience.

### 15" Touch screen + New OP

DN Solutions FANUC 31iB/B5 Plus' operation panel enhances operating convenience by incorporating commondesign buttons and layout. It features a Qwerty keyboard for fast and easy data input and operation.




**Fanuc 31i/32i Plus**

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

**USB & PCMCIA card QWERTY keyboard**

- EZ-Guide i standard
- Ergonomic operator panel
- 4MB Memory
- Hot keys
- Enhance AICC BLOCK
- Touch pen provided as standard



**iHMI touchscreen**


- 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.

## EZ work


Tool load monitoring, Setup guide, Status monitoring, Operation and Recovery guide can provide more convenience and efficiency increasing for user operation.




**Thermal Compensation**  
A function to maintain high-precision machining quality by analyzing and correcting the amount of thermal displacement of a structure through a temperature sensor




**M/G-Code List**  
Functional description of M code and G code




**Tool Management**  
Function to manage tool information [Tool information / Tool No. / Tool condition (normal, large diameter, worn / damaged, used for the rst time, manual) / Tool name]




**Operation Rate**  
Machine operation history management function by date based on load



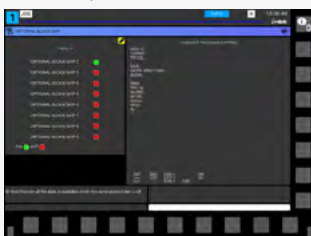
**Spindle Warm Up**  
A function that assists spindle warm-up for spindle life when the spindle has not been used for a certain period of time



**Adaptive Feed Control**  
Function to control feedrate so that the cutting can be carried out at a constant load



**ATC Recovery**  
Function to view detailed info with recommended actions and to perform step-by-step operation manually (when an alarm is triggered during an ATC operation)



**Addition of Optional Block Skip**  
In addition to the OPTIONAL BLOCK SKIP of the operation panel, the function to skip a specific block selected in the machining program

Basic information

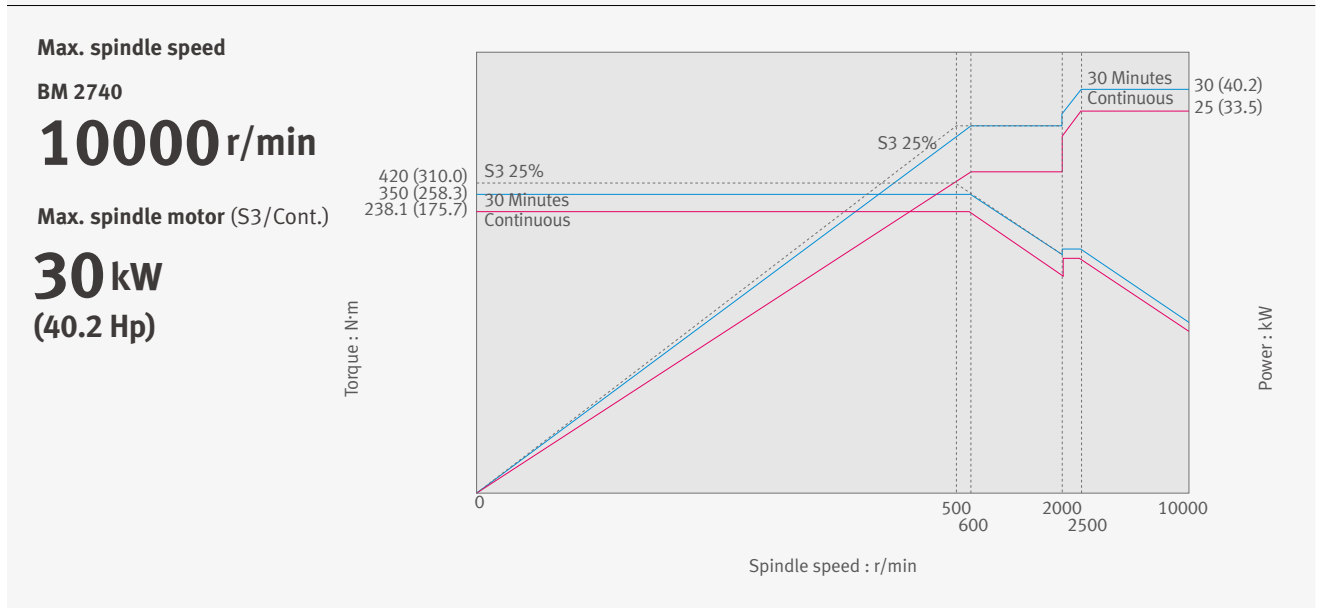
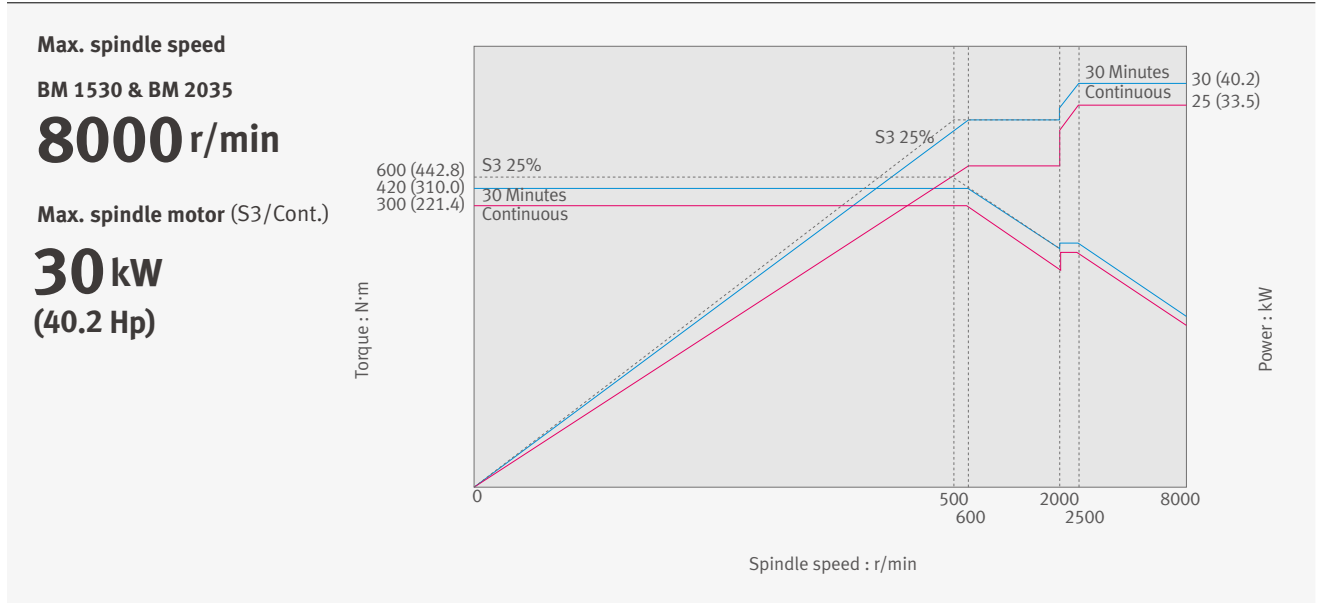
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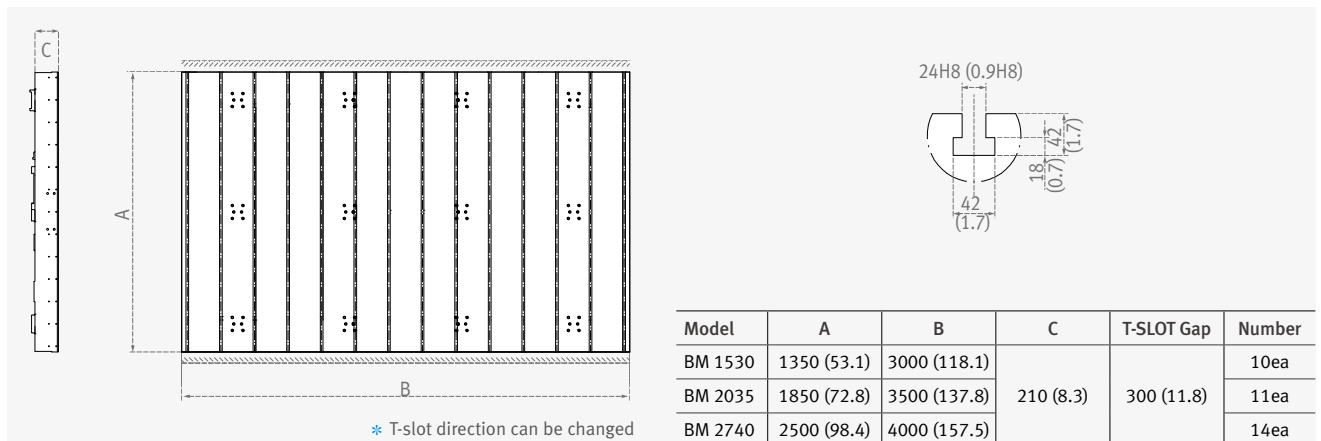
Customer Support Service

Spindle Power – Torque Diagram



Table

Unit : mm (inch)

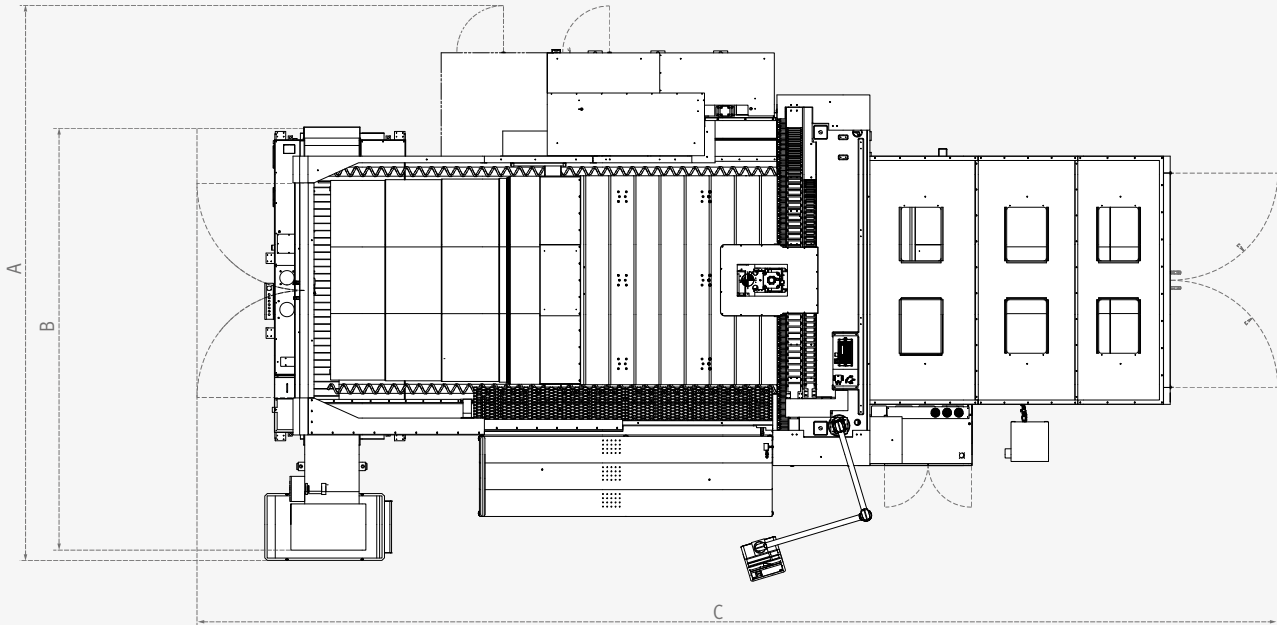


## External Dimensions

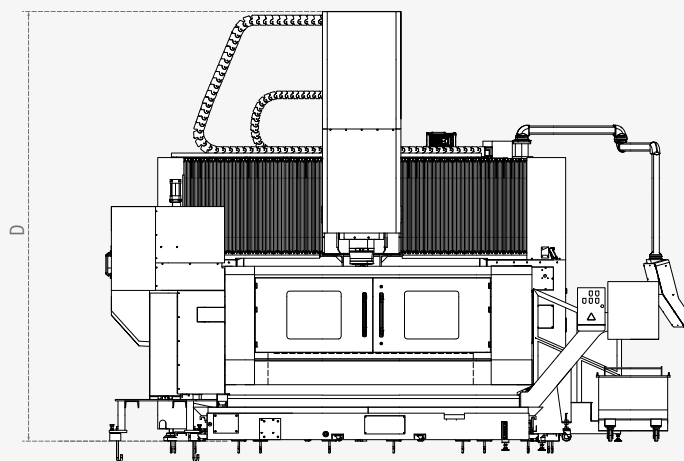
### BM 1530 / 2035 / 2740

Unit: mm (inch)

Top View



Front View



\* Please comply with our company's installation guideline, such as ground condition and anchoring, in order to achieve the maximum precision and performance of the machine.

Model	A	B	C	D
BM 1530	5543 (218.2)	4282 (168.6)	10944 (430.9)	4770 (187.8)
BM 2035	5943 (234.0)	4682 (184.3)	11963 (471.0)	4770 (187.8)
BM 2740	6636 (261.3)	5042 (198.5)	13459 (529.9)	4436 (174.6)

\* Some peripheral equipment can be placed in other places

\*\* Providing anchoring bolts. Foundation work must be done.

## Machine Specifications

## Basic information

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**BM 1530 /  
2035 /2740**

Description		Unit	BM 1530	BM 2035	BM 2740	
Travels	Travel distance	X axis	mm (inch)	3000 (118.1)	3500 (137.8)	4000 (157.5)
		Y axis	mm (inch)	1550 (61.0)	2050 (80.7)	2700 (106.3)
		Z axis	mm (inch)	800 (31.5)		
	Distance from spindle nose to table top	mm (inch)	200~1000 (7.9~39.4)		150~950 (5.9~37.4)	
Table	Distance between columns	mm (inch)	1700 (66.9)	2200 (86.6)	2700 (106.3)	
	Table size	mm (inch)	3000 x 1350 (118.1 x 53.1)	3500 x 1850 (137.8 x 72.8)	4000 x 2500 (157.5 x 98.4)	
	Table loading capacity	kg (lb)	8000 (17636.7)	10000 (22045.9)		
	Table type	mm (inch)	T-SLOT (10-300 x 24H8 (10-11.8 x 0.9H8))	T-SLOT (11-300 x 24H8 (11-11.8 x 0.9H8))	T-SLOT (14-300 x 24H8 (14-11.8 x 0.9H8))	
Spindle	Max. Spindle speed	r/min	8000		10000	
	Taper	-	ISO #50			
	Spindle power (S3/Cont.)	kW (Hp)	30 / 25 (40.2 / 33.5)			
	Max. spindle torque	N·m (ft·lbs)	600 (442.8)	420 (310)		
Feedrates	Rapid traverse	X axis	m/min (ipm)	16 (629.9)		
		Y axis	m/min (ipm)	16 (629.9)	24 (944.9)	
		Z axis	m/min (ipm)	16 (629.9)	24 (944.9)	
ATC	Tool storage capacity	ea	40 {60}*			
	Max. tool diameter	Continuous	mm (inch)	125 (4.9)		
		Without Adjacent Tools	mm (inch)	220 (8.7)		
	Max. tool length	mm (inch)	400 (15.7)			
	Max. tool weight	kg (lb)	20 (44.1)			
	Max. tool moment	N·m (ft·lbs)	12.74 (9.4)			
	Tool selection		MEMORY RANDOM			
	Tool change time (Tool-to-tool)	s	3			
Power source	Electric power supply	kVA	64			
	Compressed air supply	Mpa (psi)	0.54 (78.3)			
Tank capacity	Coolant tank capacity	L (gal)	490 (129.5)	585 (154.6)	660 (174.4)	
Machine Dimensions	Height	mm (inch)	4770 (187.8)		4436 (174.6)	
	Length	mm (inch)	4450 (175.2)	4960 (195.3)	5535 (217.9)	
	Width	mm (inch)	8690 (342.1)	9540 (375.6)	10825 (426.2)	
	Weight	kg (lb)	29000 (63933.1)	35500 (78262.9)	45000 (99206.6)	
Control	CNC system	-	Fanuc 32i			

# CNC Specifications

● Standard ○ Optional X N/A



Division	Item	Specifications	BM series
			F32iB Plus
Controlled axis	Controlled axes		3 (X,Y,Z)
	Simultaneously controlled axes		3 axes
	Additional controlled Axis	Add 1 Axis (5th Axis)	●
Data input/output	Fast data server		○
	Memory card input/output		●
	USB memory input/output		●
	Large capacity memory(2GB)*2	Available Option only with 15" Touch LCD (iHMI Only) *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	●
	Addition of workpiece coordinate system	G54.1 P1 X 48 (48 pairs)	●
	Tool number command		T4 digits
	Tilted working plane indexing command	G68.2 TWP	X
Feed function	AI contour control I	G5.1 Q, 40 Blocks	X
	AI contour control II	G5.1 Q, 200 Blocks	X
	AI contour control II	G5.1 Q, 600 Blocks	●
	AI contour control II	G5.1 Q, 1000 Blocks *1)	X
	High smooth TCP		X
Operation Guidance Function	EZ Guidei (Conversational Programming Solution)		○
	iHMI with Machining Cycle	Only with 15" Touch LCD standard *2)	●
	EZ Operation package		●
Setting and display	CNC screen dual display function		●
Network	FANUC MTConnect		*
	FANUC OPC UA		*
Others	Display unit	15" color LCD	X
		15" color LCD with Touch Panel	●
	Part program storage size & Number of registerable programs	640M(256KB)_500 programs	X
		1280M(512KB)_1000 programs	X
		2560M(1MB)_1000 programs	X
		5120M(2MB)_1000 programs	X
		10240M(4MB)_1000 programs	●
		20480M(8MB)_1000 programs	○
		2560M(1MB)_2000 programs	○
		5120M(2MB)_4000 programs	○
10240M(4MB)_4000 programs	○		
20480M(8MB)_4000 programs	○		

# Responding to Customers Anytime, Anywhere

## DN Solutions' Global Network, Responding to Customer's Needs nearby, Anytime, Anywhere

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

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



### Global Sales and Service Support Network

Corporations	Dealer Networks	Technical Centers Technical Center: Sales Support, Service Support, Parts Support	Service Post	Factories
4	155	51	200	3

# DN Solutions 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 DN Solutions 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





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