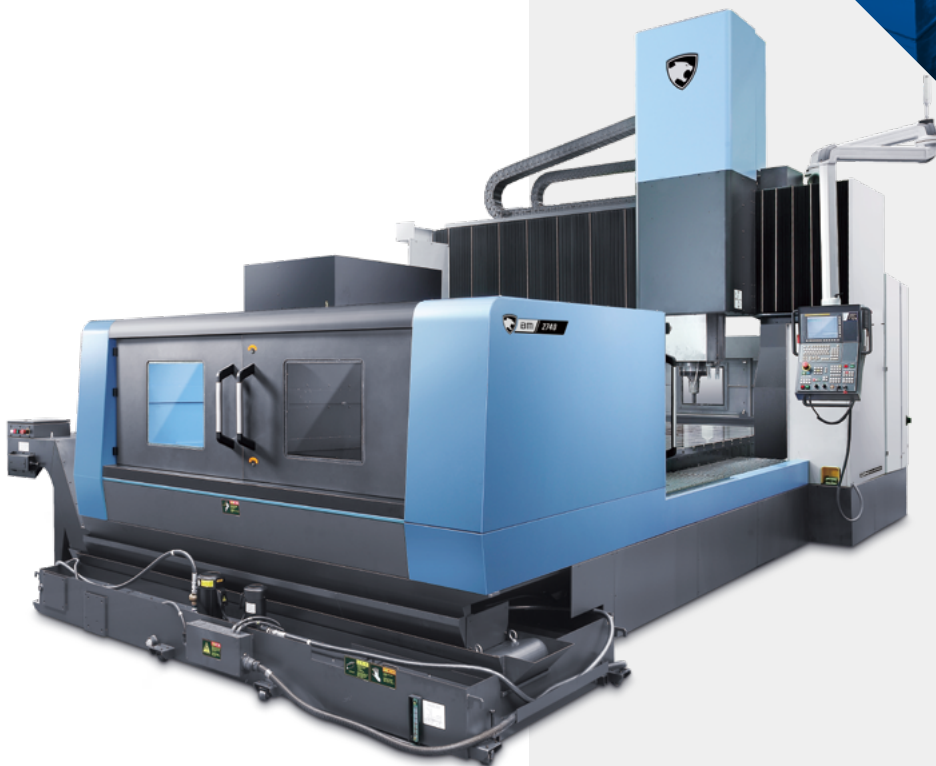
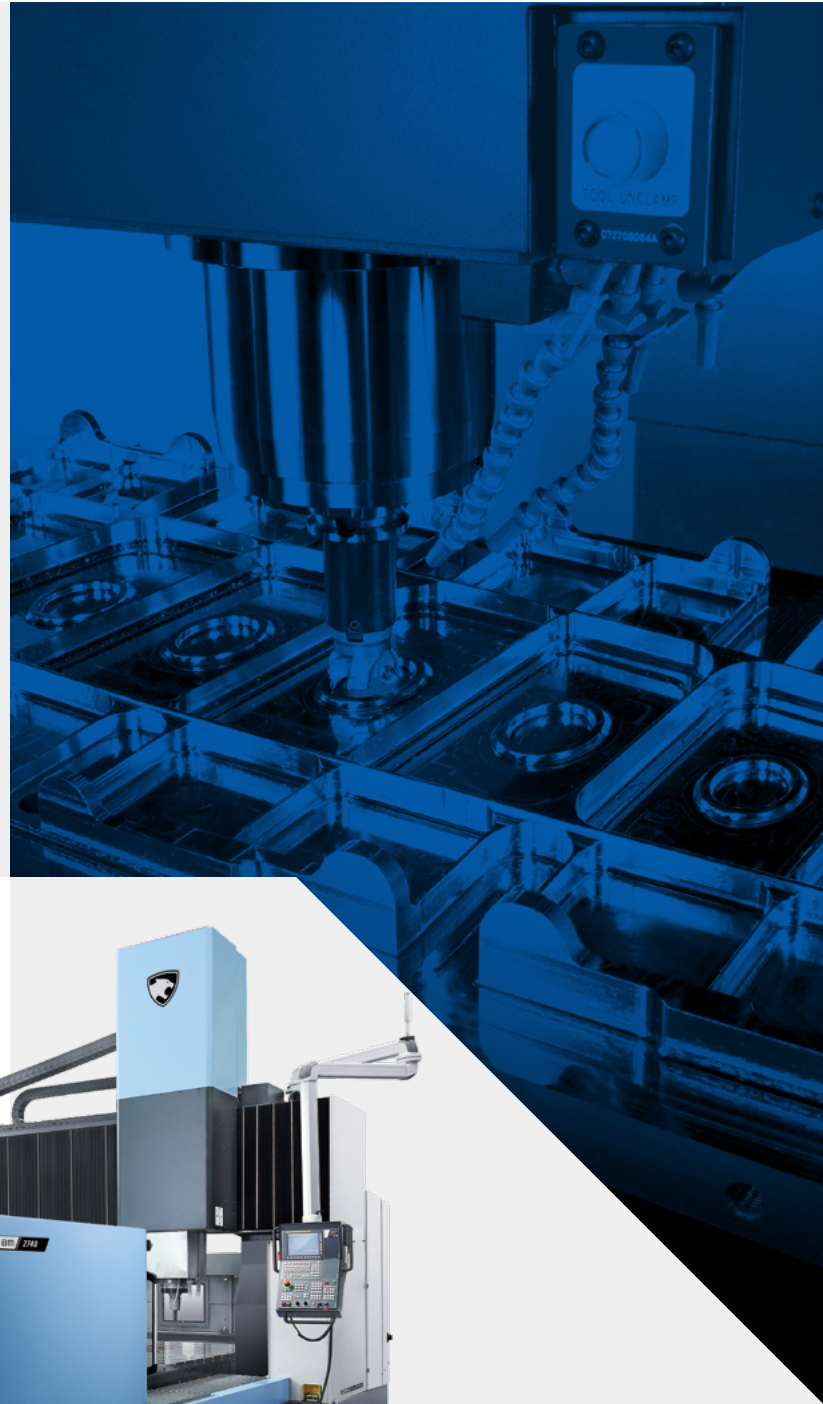


DOUBLE COLUMN MACHINING CENTER FOR GENERAL PART

BM 2740



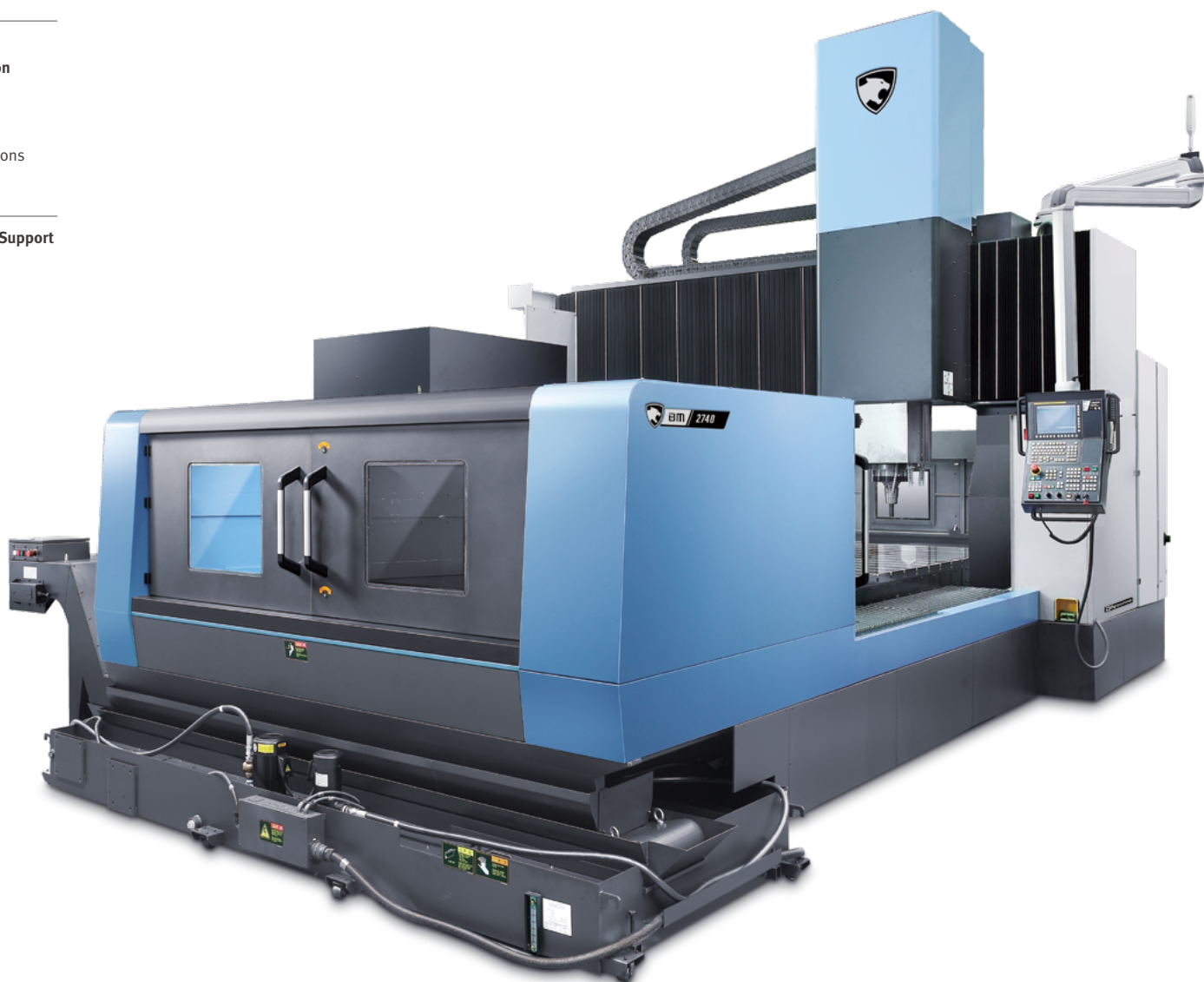
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BM 2740

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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14 Customer Support Service

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.



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Double-column structure for stable precision level.

Travel distance (X x Y axis)

4000 x 2700 mm
(157.5 x 106.3 inch)

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

10000 r/min

Max. spindle motor power

30 kW (40.2 ft-lbs)

Max. spindle motor torque

420 N·m (310.0 ft-lbs)





Table

Proper table size for large works.



Table size

4000 x 2500 mm
(157.5 x 98.4 inch)

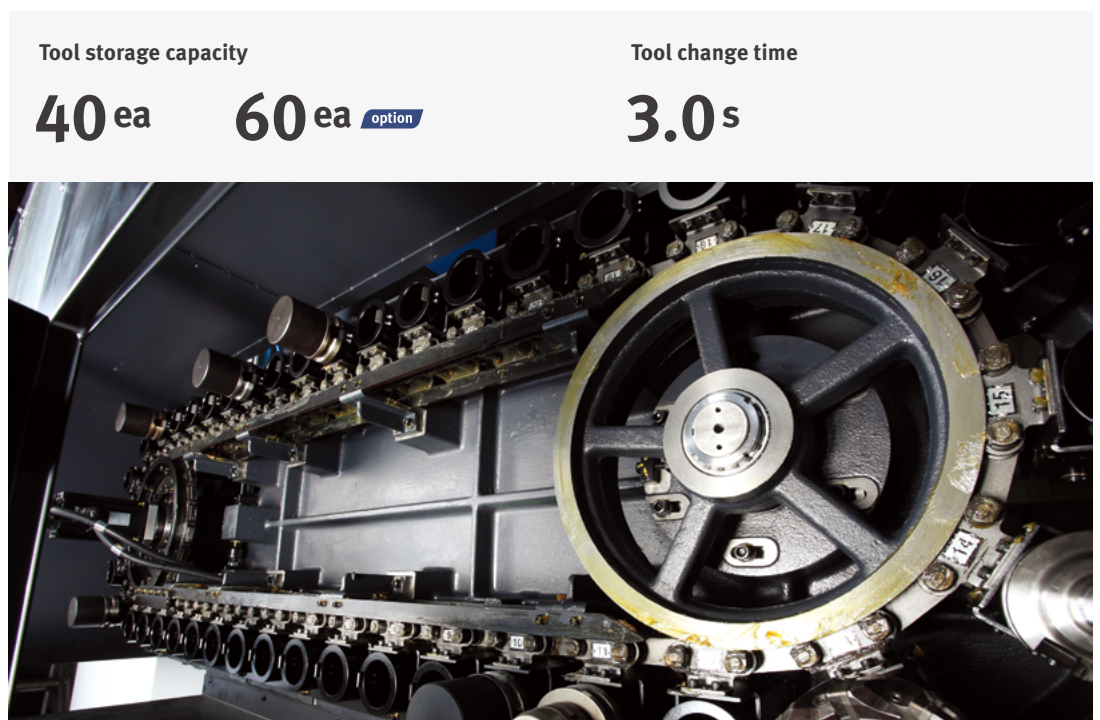
Max weight on Table

10000 kg
(22045.9 lb)



Tool change system

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



Tool storage capacity

40 ea **60 ea** option

Tool change time

3.0 s

Foundation

Basic information

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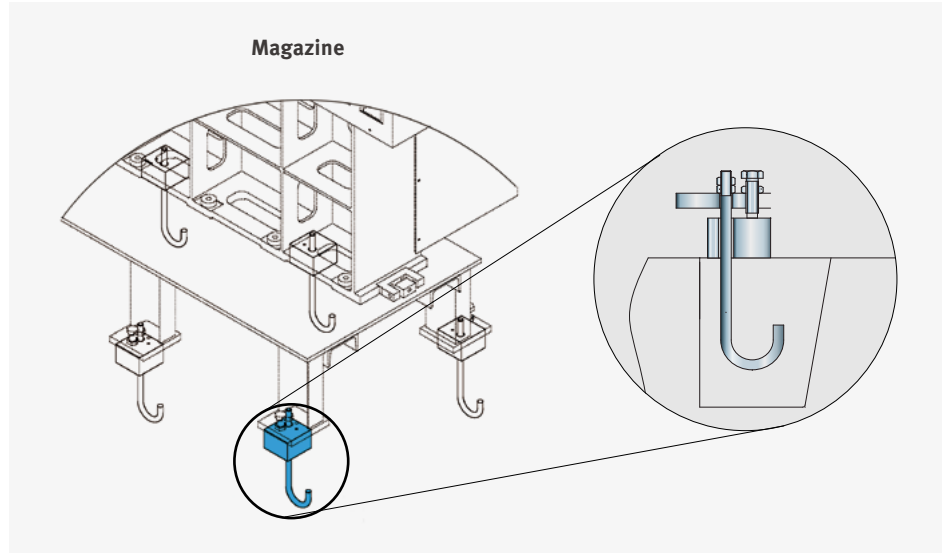
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Anchoring is recommended to ensure machining accuracy over a long time.

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 Solutionssales technicians regarding ground and operating conditions.

Cutting Performance

High cutting performance with high speed built-in spindle.

Machining Performance

Face mill (ø125mm) Carbon steel (SM45C)			
Machining rate (cm ³ /min (inch ³ /min))	Spindle speed (r/min)	Feedrate (mm/min (ipm))	
595 (36.3)	500	850 (33.5)	
Face mill (ø125mm) Gray casting (GC25)			
Machining rate (cm ³ /min (inch ³ /min))	Spindle speed (r/min)	Feedrate (mm/min (ipm))	
960 (58.6)	500	1200 (47.2)	
Tap 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

NO.	Description	Features		BM 2740
2	Spindle	10000 r/min	30/25 kW (40.2/33.5 Hp), 420 N·m (310.0 ft-lbs)	●
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		○
9	Raising Block	300 mm (11.8 inch)		○
9	Coolant	FLOOD	0.45 MPa	●
10			0.69 MPa	○
11		TSC	None	●
12			2.0MPa_20L/min	○
13			2.0MPa_30L/min	○
			7.0MPa_20L/min	○
14		Water soluble Coolant Chiller **		○
15		Coolant level switch : Sensing level - Low ***		○
16	Chip disposal	Chip conveyor	Chip pan	●
17			Hinged type	○
18		Chip bucket	Forklift type	○
19			Rotating type	○
20		Air blower		○
21		Air gun		○
22		Coolant gun		●
23	Precision machining option	Linear scale	X / Y / Z axis	○
24		AICC I (30 block)		●
25		AICC II (200 block)		○
26	Measurement & Automation	Automatic tool measurement	TS27R_RENISHAW	○
28			OTS_RENISHAW	○
29		Automatic tool breakage detection	Needle	○
30		Automatic workpiece measurement	OMP60_RENISHAW	○
31	Others	LED Work light		●
32		3 Color signal tower		●
33		Tool load monitoring		●
34		EZ Guide i		○
35		Automatic power off		○
36	Lubrication	Grease		○
37	Attachment	Manual angle head		○

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

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

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



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.

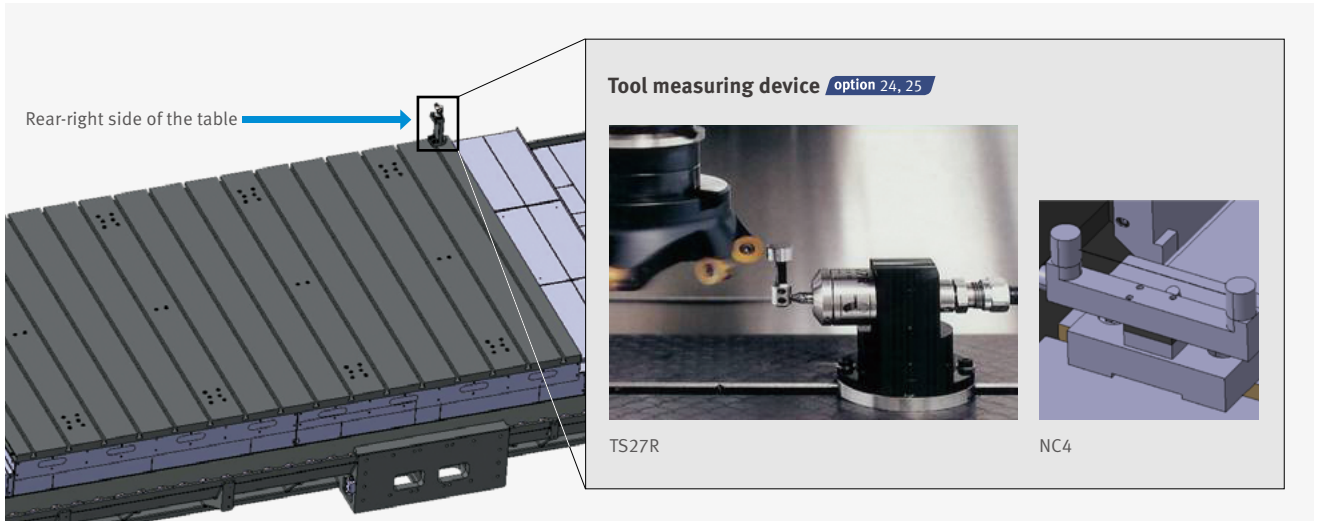
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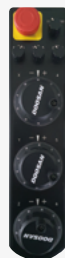
Customer Support Service



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 32iB PLUS

FANUC 32iB PLUS maximizes customer productivity and convenience.

15" Touch screen + New OP

DN Solutions Fanuc 32i 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 32iB 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



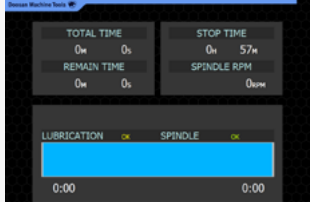
Tool Management

Function to manage tool information [Tool information / Tool No. / Tool condition (normal, large diameter, worn / damaged, used for the 1st 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



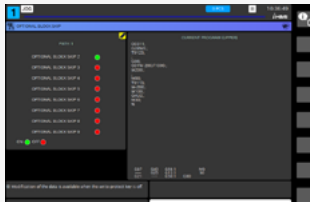
Adaptive Feed Control

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



Siemens SINUMERIK ONE

Even Faster & Easier processing +21.5" screen

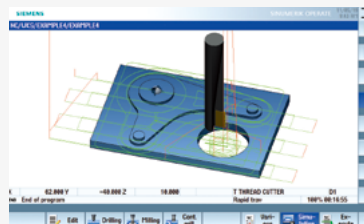
All programming, set-up, actual machining and verification process are getting easier and faster. Especially, intuitive conversational programming guidance with 3D UI(user interface) on 21.5" large touch screen is helpful for unskilled engineers.



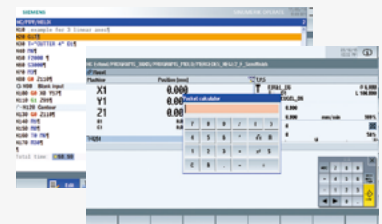
- 21.5 inch touch screen
- 50% improvement in processing speed (compared to S840D)
- Graphic programming
- PLC-based flexible automation/peripheral device expandability



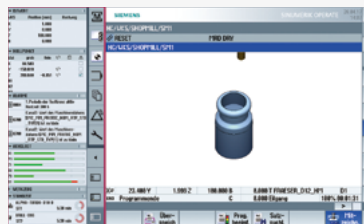
EZ work



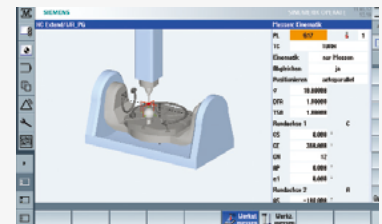
Simulation and machining contour monitoring



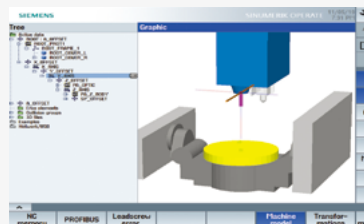
Smart function



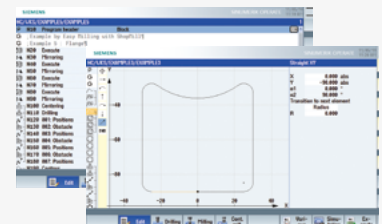
Side screen widget



5-axis kinematic measuring Shop mill part programming cycles



3D collision avoidance and collision avoidance ECO




Shop mill part programming

Heidenhain TNC7

Visualized, intuitive task support, customized UI

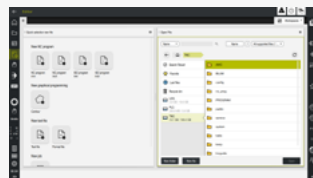
The TNC7 makes machining even easier, for everything from programming to program validation and from machine setup to actual machining. You intuitively operate highly complex applications directly on the touchscreen with various integrated solutions for standard tasks.



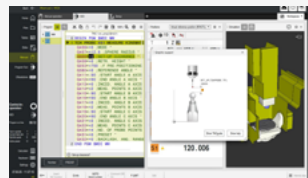
TNC7 NEW

- 24 inch touch screen
- 189GB Program memory
- Look-ahead 5000 blocks
- Touch Probe Cycles
Graphical Programming

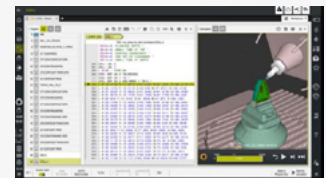
EZ work



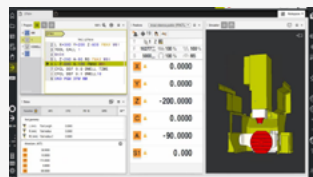
Data are controlled in the folder structure; convenient communication via USB devices



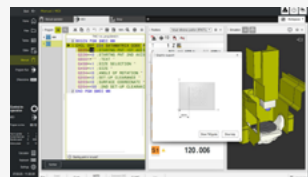
KinematicOpt & KinematicComp (Touch probe cycle for automatic measurement) option



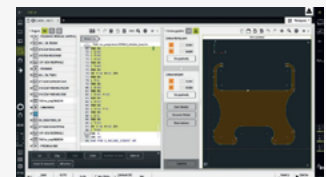
Graphic simulation



Collision protection system option



Various built-in pattern cycles
Graphic simulation for a wider scope of application (Software standard)



Highly practical programming and setup based on touch operation



Enhanced collision protection function DCMv2 option



Improved maintenance environment

Power-Torque Diagram / Table

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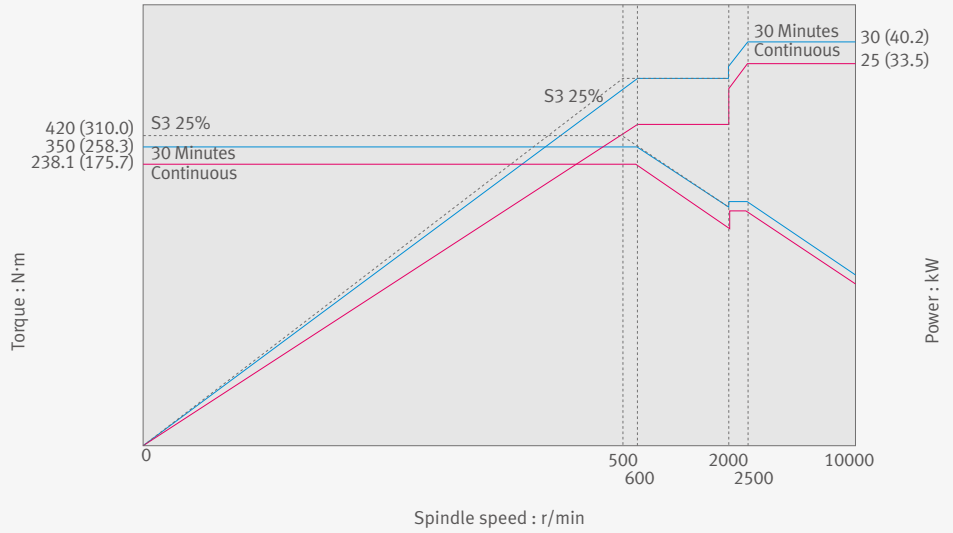
Spindle Power – Torque Diagram

Max. spindle speed

10000 r/min

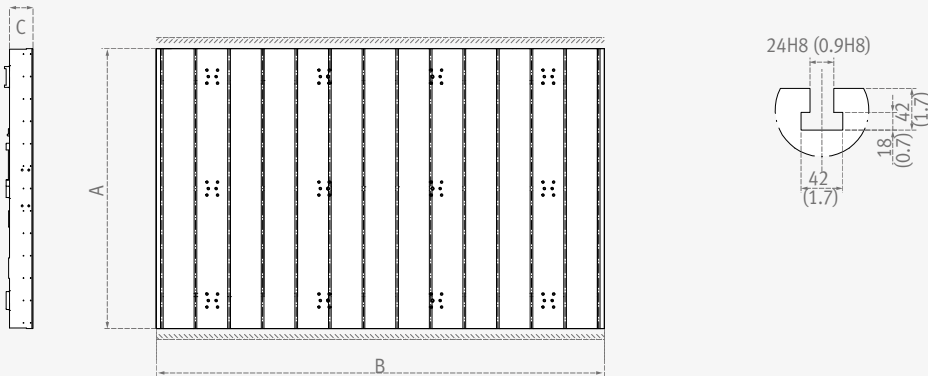
Max. spindle motor (S3/Cont.)

30 kW
(40.2 Hp)



Table

Unit: mm (inch)



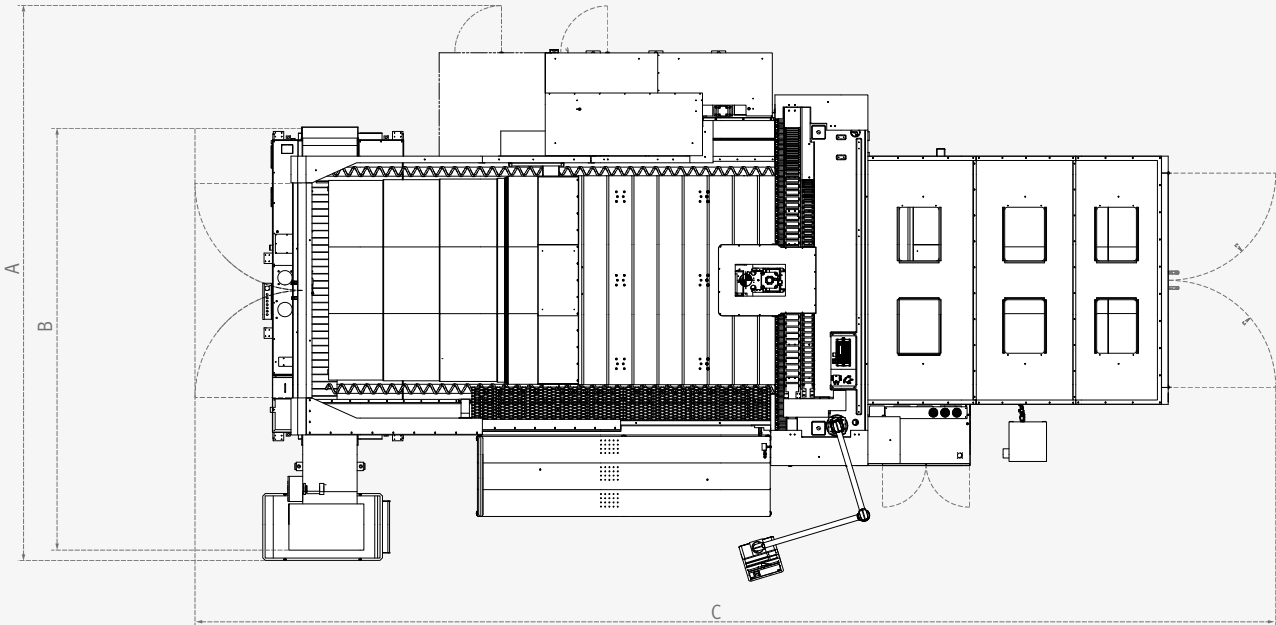
* T-slot direction can be changed

Model	A	B	C	T-SLOT Gap	Number
BM 2740	2500 (98.4)	4000 (157.5)	210(8.3)	300(11.8)	14ea

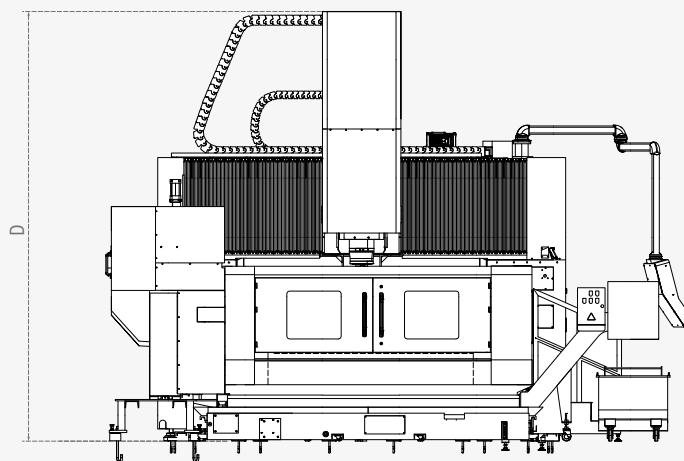
External Dimensions

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 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.

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Description		Unit	BM 2740	
Travels	Travel distance	X axis	mm (inch)	4000 (157.5)
		Y axis	mm (inch)	2700 (106.3)
		Z axis	mm (inch)	800 (31.5)
	Distance from spindle nose to table top		mm (inch)	150~950 (5.9~37.4)
Table	Distance between columns		mm (inch)	2700 (106.3)
	Table size		mm (inch)	4000 x 2500 (157.5 x 98.4)
	Table loading capacity		kg (lb)	10000 (22045.9)
	Table type		mm (inch)	T-SLOT (14-300 x 24H8 (14-11.8 x 0.9H8))
Spindle	Max. Spindle speed		r/min	10000
	Taper		-	ISO #50
	Spindle power (S3/Cont.)		kW (Hp)	30 / 25 (40.2 / 33.5)
	Max. spindle torque		N·m (ft·lbs)	420 (310)
Feedrates	Rapid traverse	X axis	m/min (ipm)	16 (629.9)
		Y axis	m/min (ipm)	24 (944.9)
		Z axis	m/min (ipm)	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)	22(16.23)
	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)	840(222)
Machine Dimensions	Height		mm (inch)	4436 (174.6)
	Length		mm (inch)	5535 (217.9)
	Width		mm (inch)	10825 (426.2)
	Weight		kg (lb)	45000 (99206.6)
Control	CNC system		-	Fanuc 32i-B Plus

CNC Specifications

● Standard ○ Optional

FANUC

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	
Feed function	AI contour control II	G5.1 Q_, 600 Blocks	●	
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 with Touch Panel	●	
	Part program storage size & Number of registerable programs	10240M(4MB)_1000 programs		●
		20480M(8MB)_1000 programs		○
		2560M(1MB)_2000 programs		○
		5120M(2MB)_4000 programs		○
		10240M(4MB)_4000 programs		○
20480M(8MB)_4000 programs		○		



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