

MULTI-PURPOSE DOUBLE COLUMN MACHINING CENTER

DBM series

DBM 2030/2040

DBM 2540/2550

DBM 3050/3060/3080



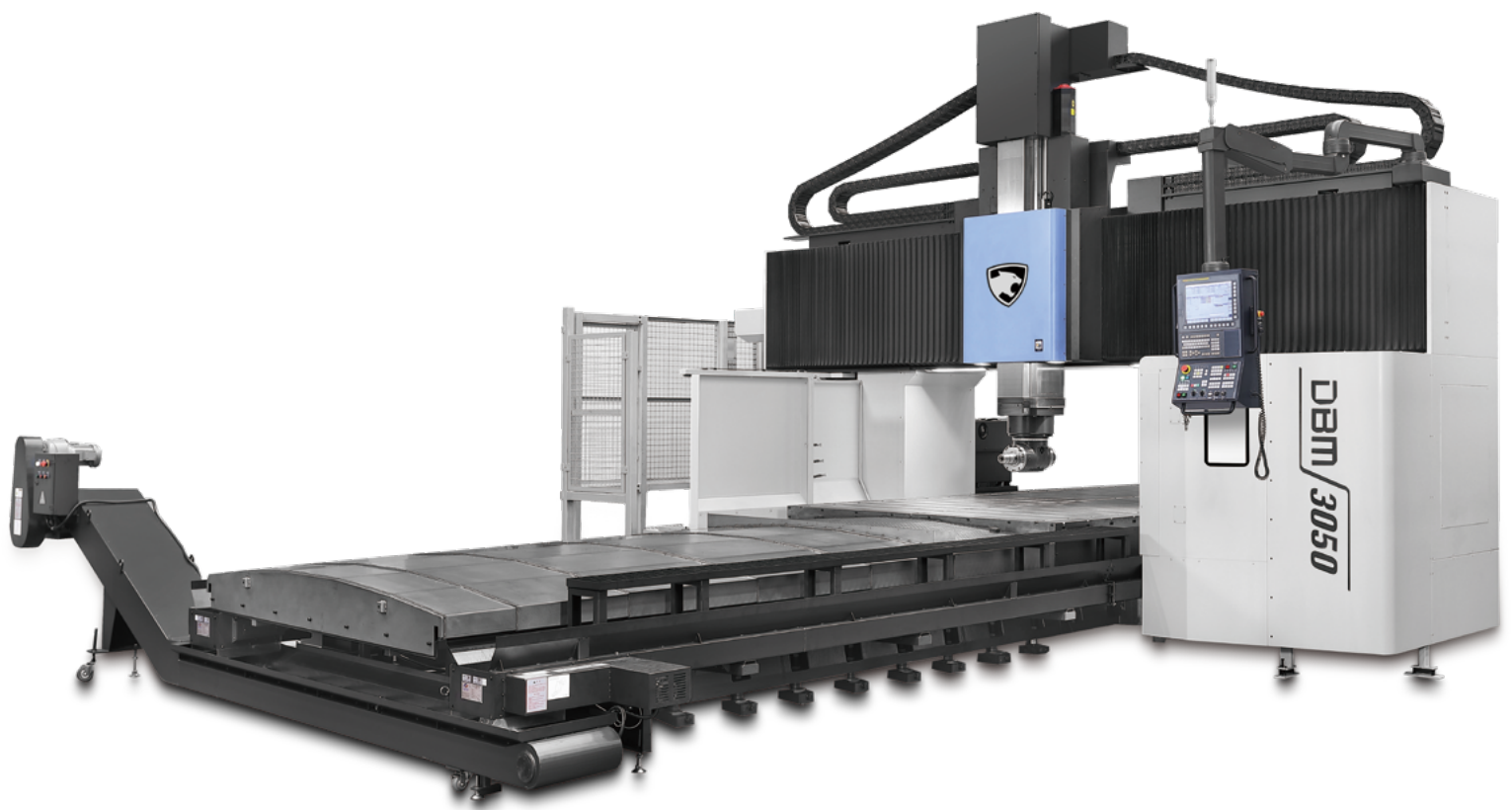
DBM SERIES

2030/2040 · 2540/2550 · 3050/3060/3080

DBM machines are large, multi-purpose double column machining centers designed for applications that include the heavy-duty machining of large parts and high precision dies and molds. With the highest technical specifications in its class, the DBM series provides customers with an extensive range of machining capabilities and functions to help them improve their productivity and performance.



A diverse range of auto-change head attachments enables the machining of a variety of complex shapes and features.



BROAD RANGE OF MACHINING CAPABILITIES

A variety of different ram spindle specifications and a wide range of auto-change attachments enable the machines to undertake different machining applications such as die and mold machining to heavy-duty cutting.

HIGH-PRECISION, HIGH-SPEED MOLD MACHINING

High-speed rapids and cutting feed rates, high-load table capacities, high-precision/high-speed head attachments, linear scales, and X/Y/Z axis ballscrew shaft cooling enable the high-speed machining of high-precision molds and precision components.

CONVENIENT MACHINING FUNCTIONS

The DBM series provides customers with a support system for 5-face machining of large and heavy workpieces including -: easy pattern cycles, work load counter control, automatic feed control, and process monitoring.

BASIC STRUCTURE

Designed for the high-precision, heavy-duty machining of large workpieces.

X x Y x Z axes travel

X-axis **3250 / 4250 /
5250 / 6250 /
8250** mm

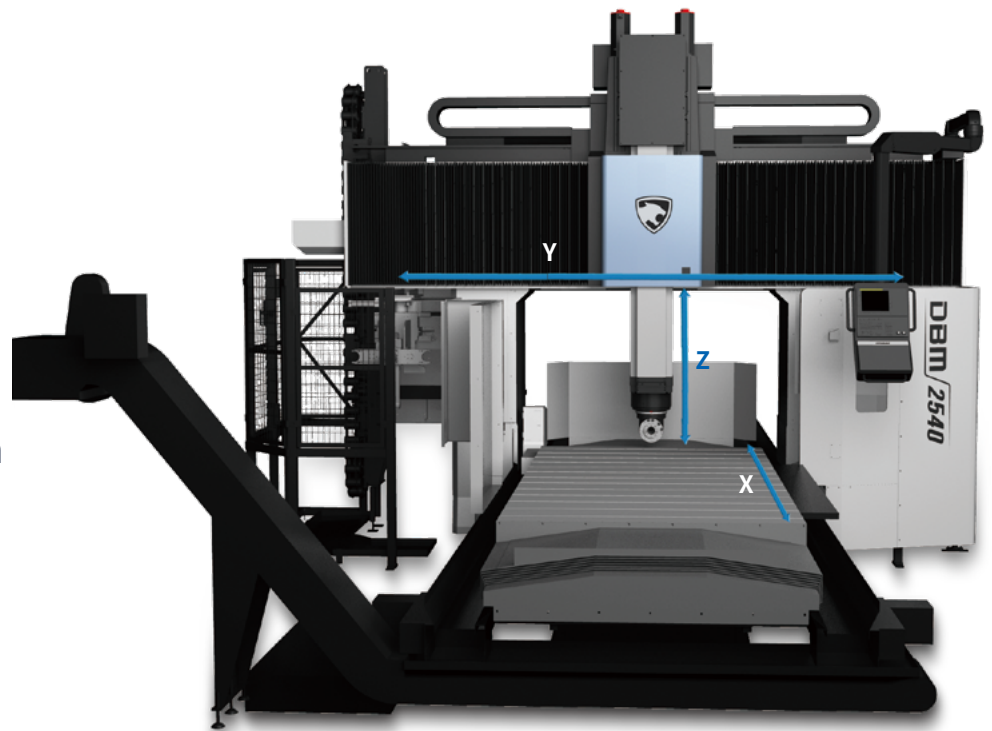
128.0 / 167.3 /
206.7 / 246.1 /
324.8 inch

Y-axis **2500 / 3000 /
3500** mm

98.4/118.1/137.8 inch

Z-axis **800** mm
31.5 inch

1100 mm option
43.3 inch



Rapid traverse

DBM 2030/2040

X/Y-axis **24** m/min
944.9 ipm

Z-axis **15** m/min
590.6 ipm

DBM 2540 / 2550 / 3050 / 3060 / 3080

X/Y-axis **20** m/min
787.4 ipm

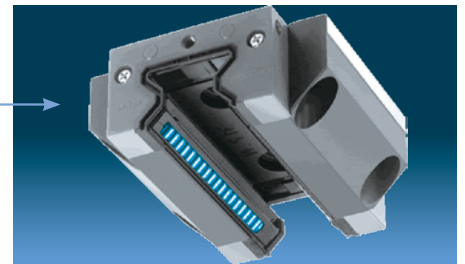
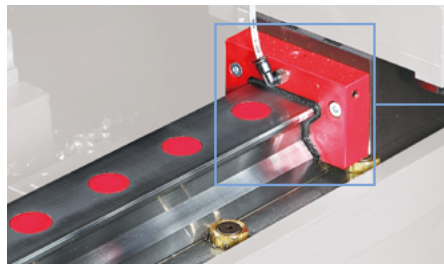
Z-axis **15** m/min
590.6 ipm

Cutting feedrate

X/Y/Z-axis **10000** mm/min
393.7 ipm

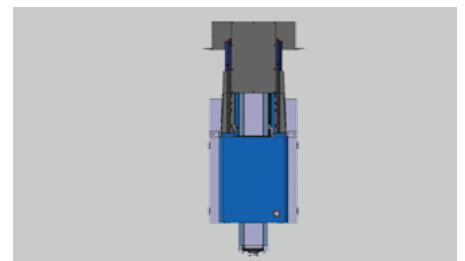
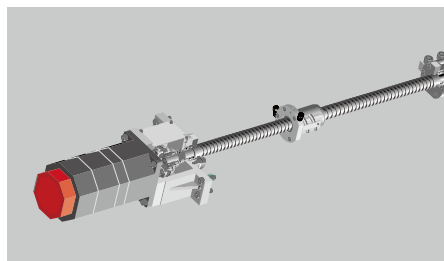
Feed axis construction

Equipped with roller LM guideways for increased rigidity, and a cooling system supplied as standard to minimize thermal displacement of X/Y/Z axes.



Stable and fast guideways

High-rigidity and high-precision roller-type LM guideways



Cooling of ballscrew housing and dual Z-axis ballscrew

- Cooling minimizes thermal displacement on machine axes

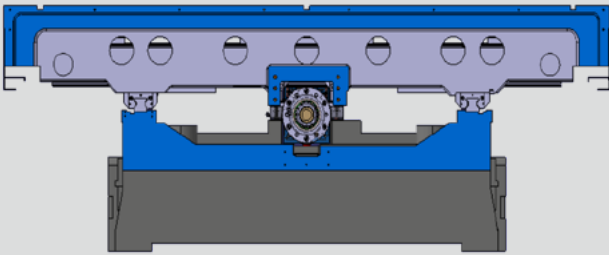
- High-speed, high-accuracy control with Z-axis dual ballscrew

HIGH-RIGIDITY, HIGH-PRECISION STRUCTURE

Designed for the long-term high-precision and heavy-duty machining of large workpieces.

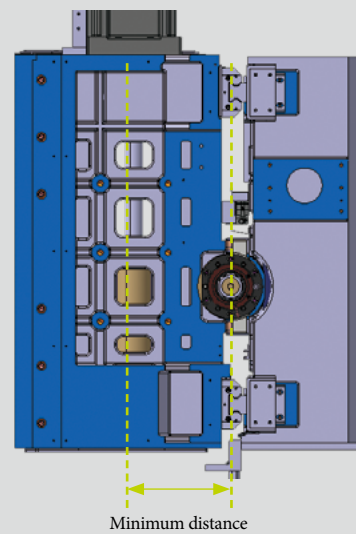
Bed and column structure

- The structure of the DBM series minimizes the effects of vibration on workpieces when being machined. The machines' symmetrical design and rigid construction and the incorporation of effective thermal compensation systems reduces displacement during machining operations.
- The bed has a M-type cast structure - excellent for vibration absorption and for ensuring high precision machining.
- The table optimizes the spacing of support points so that it can support the weight of the workpiece well.



Cross-beam structure

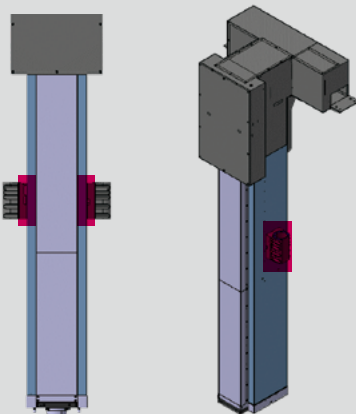
- The cross beam guideway has a L-shaped design for increased rigidity which ensures greater accuracy Y-axis travel(ram and saddle).



Thermal compensation as standard

- Thermal compensation

Cooling of the Z-axis nut is provided as standard to prevent thermal impact on the ram spindle

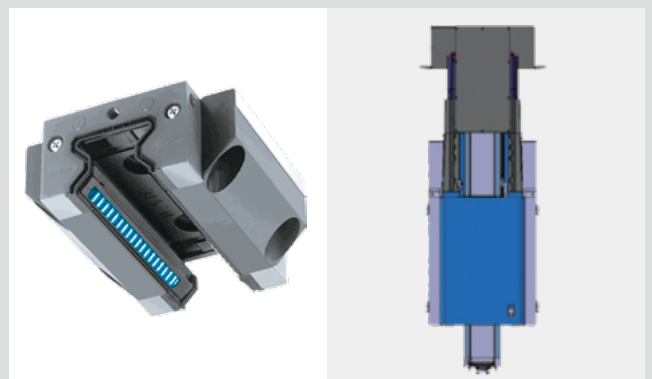


High Rigidity Precision Travel System

The roller guideways applied to the X, Y, and W axes maintain high rigidity and excellent feed precision

The double ball screw applied to the Z-axis improves the straightness of the Z-axis and provides high-speed, high-precision control.

Cooling function applied to ball screw support bearing as standard to minimize thermal displacement of shaft system



SPINDLE INFORMATION

The highly-rigid, square-type box guideway ram has a cross section of 380 x 380mm (14.96 x 14.96 inch), which is the biggest in its class. This helps optimize the heavy-duty machining of both vertical and horizontal applications.

Max. spindle speed

6000 r/min

8000 r/min option

Max. power

55/37 kW

73.8/49.6 hp

Max. torque

1009 N·m

744.6 ft-lbs

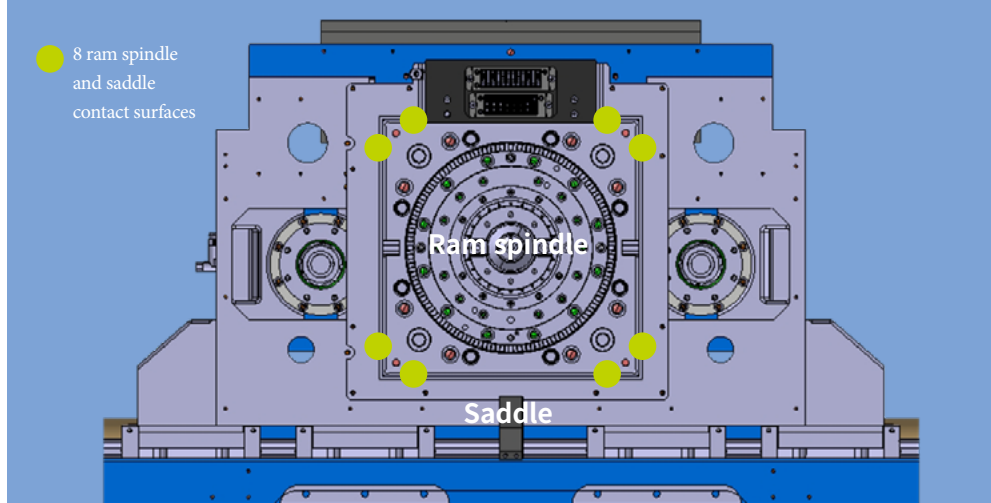
Ram size

380 x 380 mm

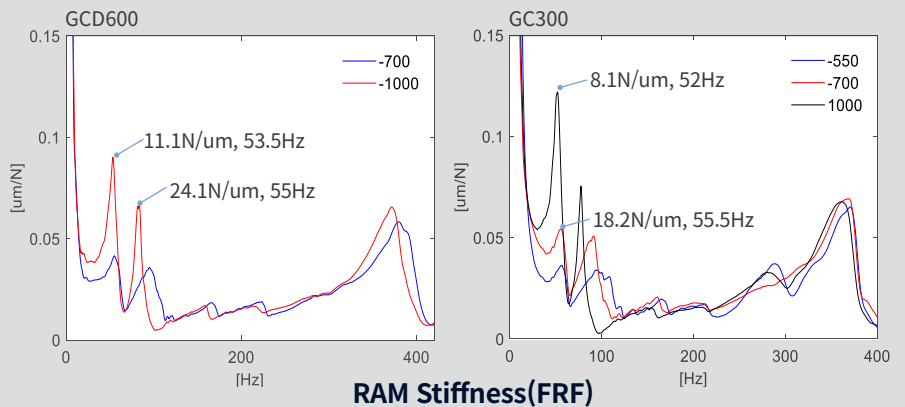
15.0 inch X 15.0 inch

Tool taper

ISO#50



The ram using ductile casting has improved dynamic stiffness by 30% and loop stiffness by 40%.

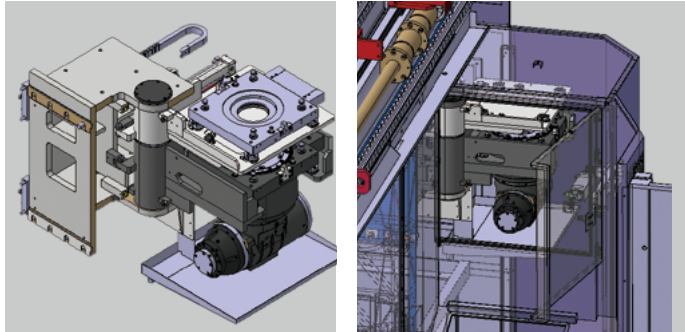


AUTOMATIC HEAD ATTACHMENT CHANGER (AAC)

Automatic head attachment changer (AAC)

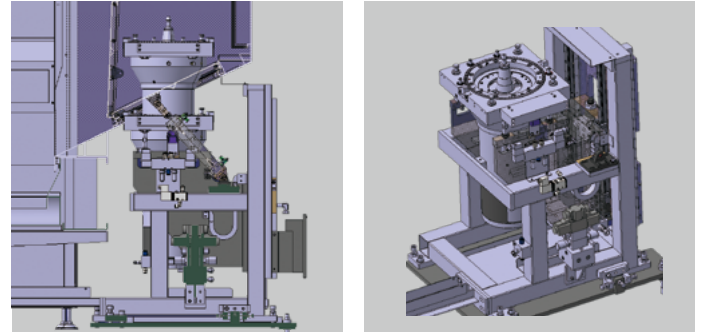
Swing AAC-2 stations option

Two types of head attachment - dummy cover and right angle are supplied as standard to minimize the time required to change a head attachment.



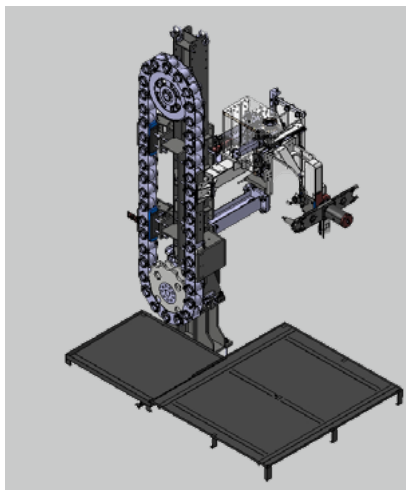
Up-down AAC-1 stations option

Extension-head attachment available.

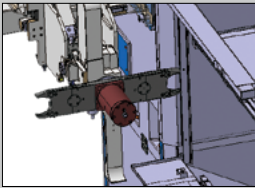


Automatic tool changer

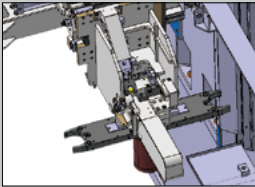
One arm performs the tool changes for both the horizontal and vertical spindle. The next tool to be used, regardless of the spindle location, is brought to the standby position during cutting operations. With its servo motor, to reduce non-cutting time, this is a most reliable and productive ATC and magazine.




Horizontal type




Vertical type





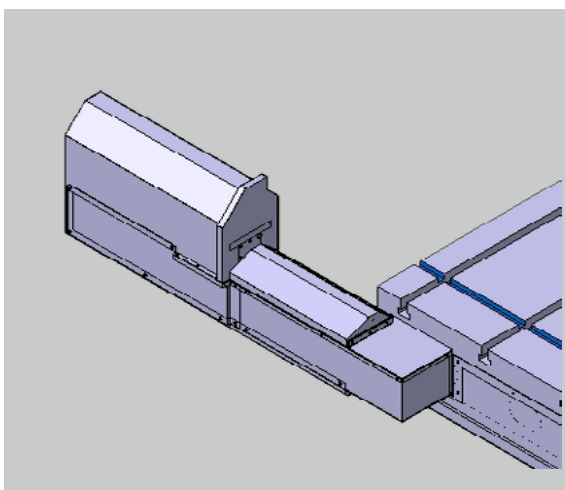
Horizontal ATC operation with a 90° head attach mounted.

※Picture-Vertical ATC in operation

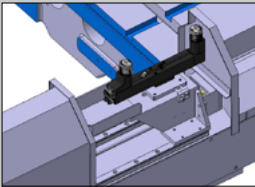


Max. No. of tools	40 [<small>option</small> 60, 90, 120] EA
Max. tool diameter	130 [near pot empty: 250] mm (5.1 [near pot empty: 9.8] inch)
Max. tool length	400mm (15.7 inch)
Max. tool weight	30 kg (66.1 lb)
Tool selection type	Fixed address
Tool changing time (T-T)	5.5 s

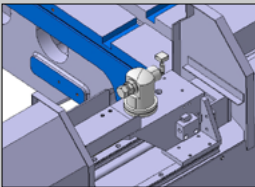
Automatic tool measurement option




NC4



TS27R



Tool length can be measured in the vertical and horizontal direction. The length of tool set up in the spindle is measured automatically, and a specific tool's offset data is entered automatically.



VARIOUS AUTO-CHANGE HEAD ATTACHMENTS

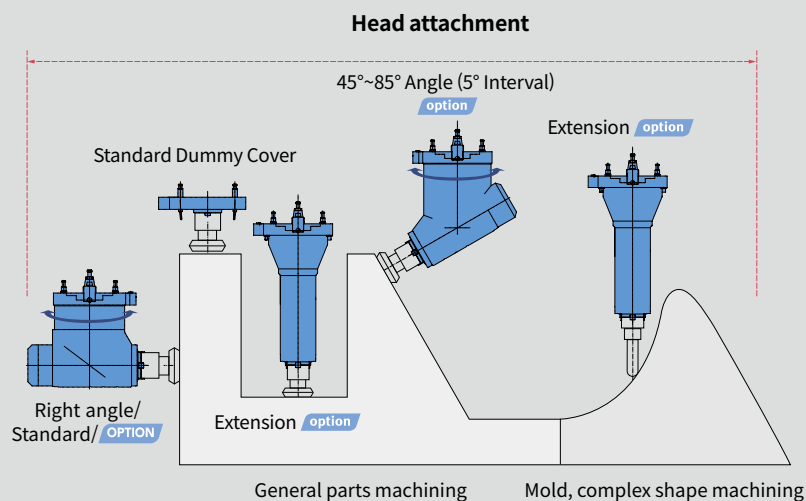
Different auto-change head attachments enable the machining of a range of complex shapes and features, and the use of different machining processes - i.e. simultaneous 5-axis machining of mold tools through to angled head machining of parts/ contours (1 degree indexing), and 5-face machining.



Diverse head attachments for a wide range of machining applications

A range of equipment and utilities are available to ensure, and maintain, high performance machining even when the head attachment is changed.

Provides numerous utilities to ensure the same performance provided by the original ram spindle even after changing a Head Attachment.



Features	Standard dummy cover	Extension <small>option</small>	Right angle (Standard/ <small>OPTION</small>)
Spindle air curtain	Standard	Standard	—
Flood coolant / Air blow	Standard	Standard	Standard
Head attachment tool unclamp	Standard	Standard	Standard
Head attachment spindle air purge	Standard	Standard	Standard
TSC (Through Spindle Coolant 2.0 or 3.0 Mpa)	<small>option</small>	<small>option</small>	<small>option</small>
TSA (Through spindle air)	<small>OPTION</small>	<small>OPTION</small>	<small>OPTION</small>

※ Utilities and equipment will differ according to the head attachment selected.

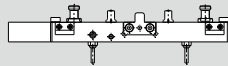
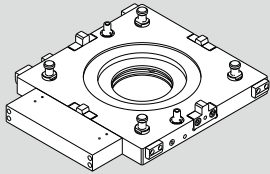
※ 45-85 degree angle attachment (5 degree interval) or special head attachment is being considered, please contact DN Solutions for detailed specifications

VARIOUS AUTO-CHANGE HEAD ATTACHMENTS

DBM Series · 2030/2040 · 2540/2550 · 3050/3060/3080

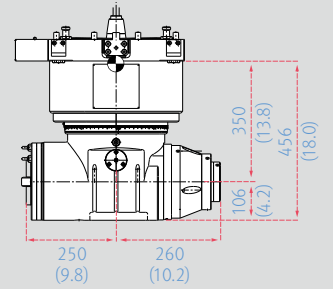
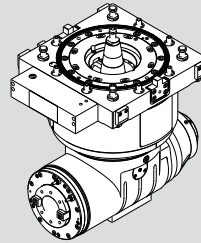
F frame head attachment

Unit: mm (inch)



Standard dummy cover

*TSC option applies up to 3.0 Mpa



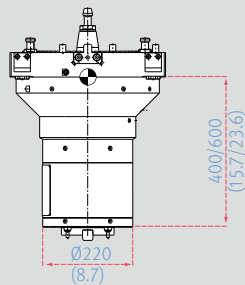
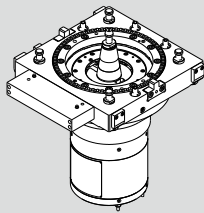
Right angle option

• 3000/4000 r/min, 5/1° indexing

* TSC option applies up to 3.0 Mpa

High speed right angle option

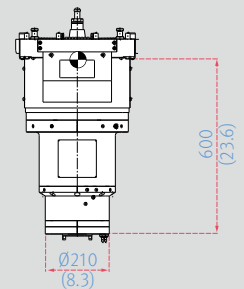
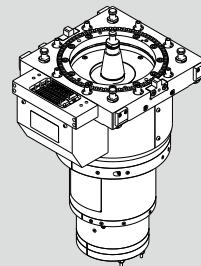
• 6000 r/min, min. 5/1° indexing



Extension option

• 6000 r/min

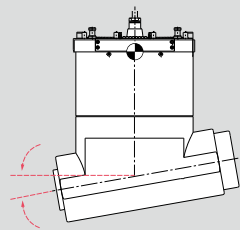
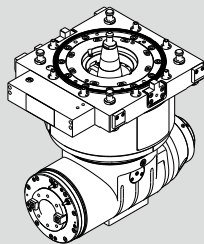
*TSC option applies up to 3.0 Mpa



Motor spindle extension option

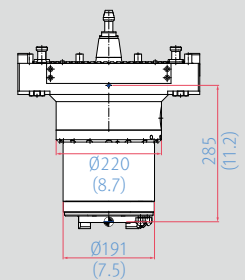
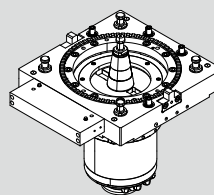
• 6000~12000 r/min, 23.9 N·m (17.64 ft-lbs)

*TSC option applies up to 3.0 Mpa



10° / 15° / 40° Angle option

*TSC option applies up to 3.0 Mpa



Small extension OPTION

• MAX 8000 r/min

*TSC option applies up to 3.0 Mpa

※ If the TSC pressure of more than 3.0 Mpa is being considered, please contact DN solutions for detailed specifications.

HIGH-PRECISION MOLD MACHINING

High-speed, high-precision contouring control

- AICC 1000 block + Machining condition selection function

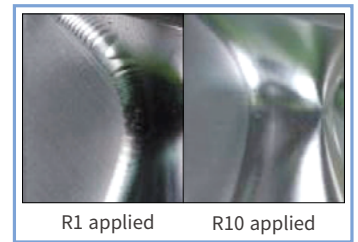


Verification sample VASE

Cutting condition selection function

Cutting condition	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	
Quality	Normal									Excellent	
Tool life	Long	←————→								Normal	
Application	High-speed roughing							High-precision finishing			

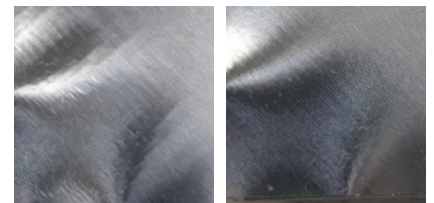
- Use the R code in the program to change the cutting conditions by up to 10 steps: improved productivity (high-speed roughing, high-precision finishing).
- Various servo-related NC parameters such as acceleration and deceleration, time constants and maximum cutting feed rates can be set automatically.



R1 applied R10 applied

Smooth tolerance control 기능

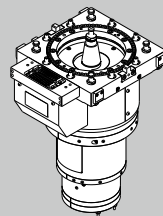
- Excellent surface, improved machining quality
- Reducing the need for post-processing
- Increased productivity and tool life



OFF ON

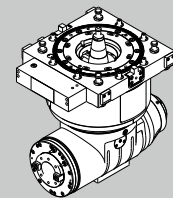
High-precision, high-speed head attachments and universal heads designed for mold machining

Optimized mold machining can be achieved by selecting various head attachments and ram spindles designed, specifically, for the high-speed machining of molds, mold inserts etc.



Motor Spindle Extension option

6000~12000 r/min,
23.9 N·m (17.64 ft-lbs)



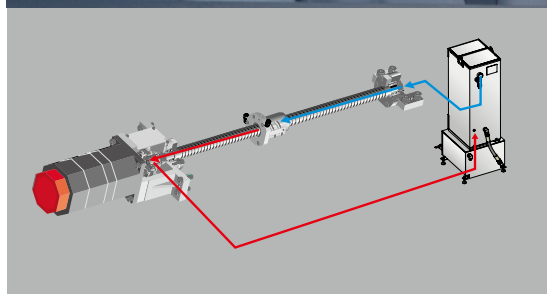
High-speed Right Angle option

6000 r/min, 15 kW (20.1Hp),
409 N·m (301.8 ft-lbs)



X/Y/Z-axis linear scale feedback system option

The linear scale feedback system provides high positioning accuracy in the X, Y, Z, and W axes.



X/Y/Z-axis ballscrew shaft cooling option

The heat generated in the ballscrew is removed by a high-efficiency cooler to minimize any thermal deformation.

For fast removal of frictional heat, a hollow ballscrew shaft, allowing cooled oil to flow through it, is used.

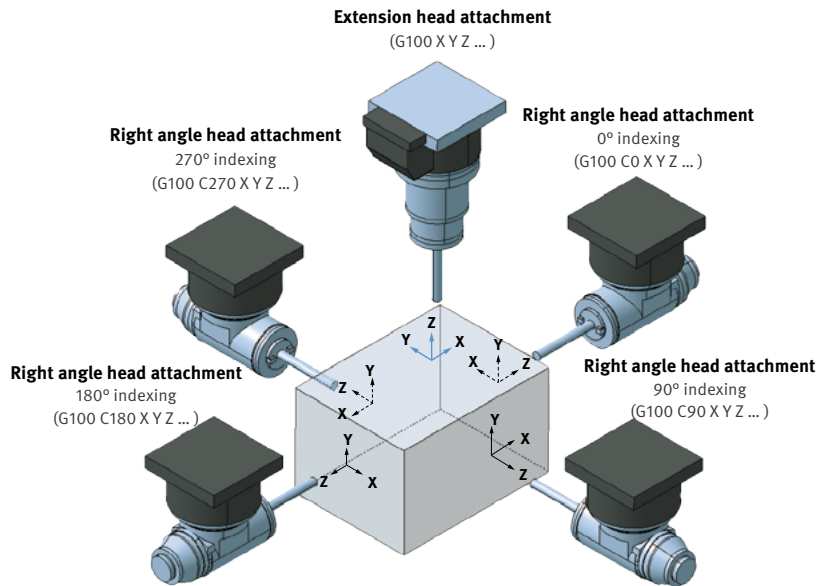
5-FACE MACHINING SUPPORT SYSTEM

5-face machining support system

Support functions for 5-face machining:

- 3-dimensional work-coordinate conversion system
- Tool end point shift within work coordinate system
- AAC control and head attachment position control by M-Code
- ATC applicability for various head attachments.

※ These functions are provided as standard when the 5-face machining head attachment is supplied.



• AUTOMATIC HEAD ATTACHMENT OFFSET MEASUREMENT (option)

90 DEGREE ANGLE HEAD DATA INPUT

1. Please input data based on MACHINE COORDINATES.
2. Compensation offset signs are decided by MACHINE MOVING DIRECTION for make error to 0.

C AXIS: 00 DEGREE	DATA INPUT	C AXIS: 180 DEGREE	DATA INPUT
X DIRECTION OFFSET	0.000	X DIRECTION OFFSET	0.000
Y DIRECTION OFFSET	0.000	Y DIRECTION OFFSET	0.000
Z DIRECTION OFFSET	0.000	Z DIRECTION OFFSET	0.000

C AXIS: 90 DEGREE	DATA INPUT	C AXIS: 270 DEGREE	DATA INPUT
X DIRECTION OFFSET	0.000	X DIRECTION OFFSET	0.000
Y DIRECTION OFFSET	0.000	Y DIRECTION OFFSET	0.000
Z DIRECTION OFFSET	0.000	Z DIRECTION OFFSET	0.000

OFFSET DATA		DATA
B POT OFFSET		0.000
HEAD BODY OFFSET		0.000

BHT **** 10:54:17

M	STATUS SCREEN	EXT. ATT	90D ANGLE ATT	HIGH SPEED EXT.	INDEX IN	DETAIL SET	CHECK OFF	#input	DATA NOT USE
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DN Solutions CONVERSATION MACHINING

HOLE

1. DRILL
2. PECK DRILL
3. TAP
4. COUNT BORING
5. FINE BORING

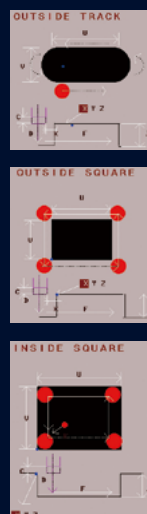
MILLING

6. POCKET
7. FACE SQUARE
8. FACE CIRCLE
9. INSIDE ROUND SQUARE
10. OUTSIDE ROUND SQUARE
11. OUTSIDE ROUND TRACK
12. INSIDE ROUND TRACK

NUM > JOG **** 10:40:55

SELECT RETURN

Example) Milling pattern



Example) Hole pattern

00000 CONVERSATION MACHINING

ITEMS	VALUE	DRILL
DRILL PROGRAM #	00000	
DRILL POSITION #	00000	
DRILL DEPTH	00000	
DRILL FEED	00000	
DRILL SPEED	00000	

0000019

00000 CONVERSATION MACHINING

HOLE PATTERN CYCLE

Easy pattern cycle

Programming time can be dramatically reduced by creating programs and inputting the major parameters of the cutting pattern cycle. The function is embedded in the CNC for ease of use. Up to 22 complex pattern cycles, including 5 basic patterns, are available.

STANDARD | OPTIONAL SPECIFICATIONS

A range of options is available to suit individual requirements.

● Standard ○ Optional X N/A

Division	Description	DBM series
High-quality machining	AICCI+MACHINING CONDITION SELECTION	●
	DATA SERVER (1GB/2GB/4GB)	○
	HIGH SPEED PROCESSING 1000 BLOCK	●
Tool management		○
Tool shank	BT50	●
	CAT50	○
	DIN50	○
Tool magazine	40 tools	●
	60 tools	○
	90 tools	○
	120 tools	○
Work load counter control		●
Electric leakage breaker		○
Electric line filter		○
Ram spindle	6000 r/min (Built-in) 55/37 kW (FANUC)	●
	8000 r/min (Built-in) 55/37 kW (FANUC)	○
	Spindle Cooling device	●
	Bearing Housing Cooling	●
	Spindle thermal compensation	●
Linear scale feedback system	X / Y / Z-axis	○
Lift-up chip conveyor	HINGED PLATE	○
	MAGNETIC SCRAPER	○
Hydraulic power unit		●
Bellows cover for axis	Y-axis	●
Sliding covers for axes	X-axis	●
Easy pattern cycle		●
Automatic tool length measurement	TS27R_RENISHAW	○
	NC4_RENISHAW	○
	MASTER TOOL	○
Automatic workpiece measurement	RMP60	○
	RMP600	○
	CALIBRATION BLOCK	○
Automatic attachment changer (AAC)	LINEAR TYPE (2-ST) Swing AAC-2 Stations	○
	Up-Down AAC-1 Stations	○
Automatic head attachment offset support	G100	●
Automatic head attachment offset measurement	G120	○
Auto power on		○
Auto power off		●
Tool load monitoring		●
Coolant tank	1000L (264.2 gallon)	●
Periodical checking function		●
Main operation panel (pendent type)	POLE TYPE	●
Chip & coolant protective cover	CHIP COVER	●
	SEMI GUARD	○
Coolant	FLOOD	●
	Coolant gun	○
	Flushing	○
	Coolant level switch : Sensing level - High/Low	●
Test bar	BT50/CAT50/DIN50	○

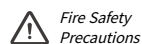
Division	Description	DBM series	
Table T-slot	24H ₈	●	
	28H ₈	○	
Chip bucket	Rotary type (380L) (100.4 gallon)	○	
	Lift type (380L) (100.4 gallon)	○	
High column	None	○	
	+300mm (11.8 inch)	●	
AIR	AIR BLOWER	●	
	AIR PURGE	●	
	AIR CURTAIN	●	
	AIR GUN	○	
AIR DRYER	○		
CS control BZ sensor		●	
Display unit	15" COLOR LCD	●	
Head attachment	DUMMY HEAD	●	
	EXTENSION HEAD (L285/6(8)K R/MIN)	○	
	EXTENSION HEAD (L400/6K R/MIN)	○	
	EXTENSION HEAD (L600/6K R/MIN)	○	
	Motor Spindle Extension Head (L600/12K R/MIN)	○	
	RIGHT ANGLE HEAD (L350/3K R/MIN)	○	
	RIGHT ANGLE HEAD (L350/4K R/MIN)	○	
RIGHT ANGLE HEAD (L350/6K R/MIN)	○		
Right angle head attachment indexing angle	5°	○	
	1°	○	
MPG	PORTABLE TYPE 1-MPG	●	
	MPG WITH LCD DISPLAY	○	
	PORTABLE TYPE 3-MPG	○	
	HMOP(Handy Machine Operator's Panel)	○	
NC controller	FANUC 31i-B PLUS	●	
Oil skimmer	BELT TYPE	○	
Pull stud	MAS 403 P50T-1 (45°)	●	
	MAS 403 P50T-2 (60°)	○	
TSC	NONE	●	
	2.0 Mpa	○	
	3.0 Mpa	○	
Water soluble Coolant Chiller***		○	
TSA (Through Spindle Air)	0.5 Mpa	○	
2-side chip conveyor (in machine to tank)	HINGED PLATE	●	
5-face machining support system		●	
Rotary table	PACKAGE #1 : ONLY WIRING	○	
	PACKAGE #2 : HYD. & CONTROL READY	○	
	PACKAGE #3 : FULL OPT.	○	
Accessories	Electric cabinet light	○	
	Electric cabinet air conditioner	○	
	Work light (LED: 4ea)	●	
	Operator call lamp	●	
	Components for installation	leveling blocks and anchoring bolts	●
		Installation tool kit	●
	Components for maintenance	Maintenance tool kit	○
Installation type		Under ground FL-960 Install (Table top_FL0)	●
	Ground FL0 Install (Table top_FL-960)	○	

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

*Please contact to DN Solutions for SIEMENS, HEIDENHAIN NC.

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

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



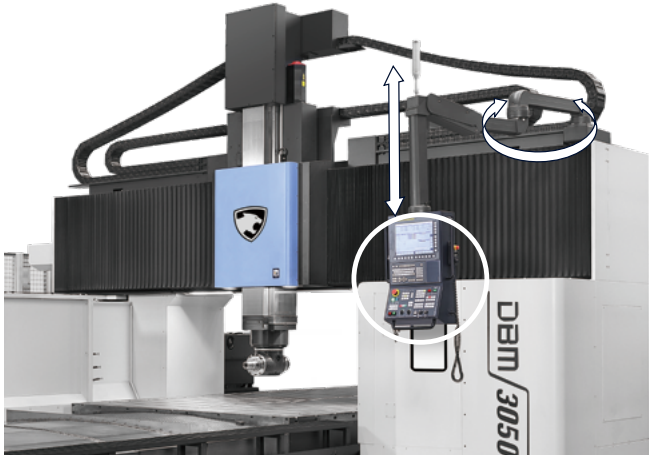
Fire Safety Precautions

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

Improved operator convenience

Left-right-up-down and pull-type pendant arm operation panel.



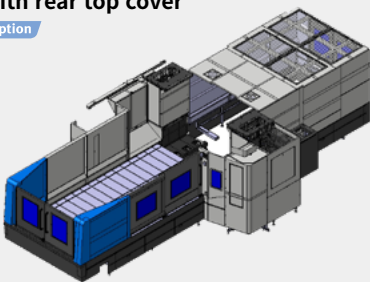
- The pulse handle and manual handle (portable MPG) etc., enable easy job setups can be supplied as a standard feature or as an option.

MANUAL HANDLE	MANUAL HANDLE <small>option</small>
 <p>Portable type 1 MPG</p>	 <p>Portable type 3 MPG</p>
MANUAL HANDLE <small>option</small>	MANUAL OPERATION PANEL <small>option</small>
 <p>MPG with LCD display</p>	 <p>HMOP (Handy Machine Operator's Panel)</p>

Semi-guard

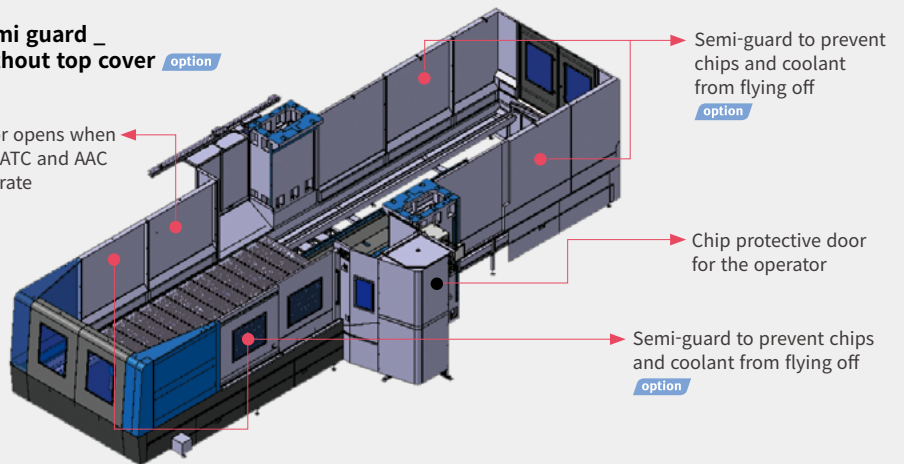
The semi-guard covers the entire cutting area to prevent chips and coolant from flying off during machining operations.

Semi guard option with rear top cover



Semi guard option without top cover

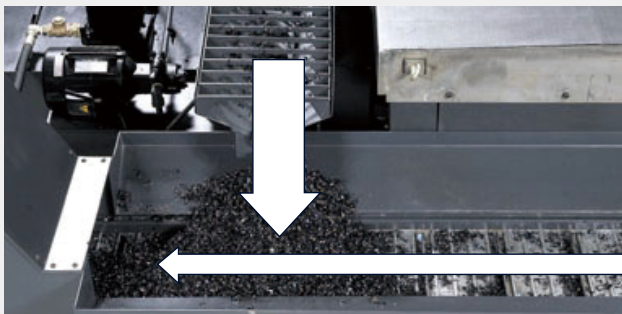
Door opens when the ATC and AAC operate



**To maintain the operator's safety and to block coolant splash from the working area, please purchase the optional splash guard. Another measure of protection should be provided if you are not using the splash guard.*

Chip conveyor

Optional chip conveyors are available to evacuate discharged chips and to prevent chips and coolant from falling on the floor.



Lift-up chip conveyor option

- ※ The hinged-plate chip conveyor and the magnetic scraper chip conveyor are available as options.
- ※ The discharge direction can be selected - forward or backward. However, the DBM 2030 only has a forward discharge direction.

Chip bucket option

Forklift type

The bottom of the chip bucket has a space into which forks can be inserted to allow forklift transportation.

Rotation type

The chip bucket is fitted with a rotating joint that allows it to be tilted and emptied quickly.



FANUC 31i-B PLUS

Fanuc 31i Plus maximizes customer productivity and convenience.

15" Touch screen + New OP

DN Solutions Fanuc 31iB/B5 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.

Fanuc 31i-B Plus

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

USB and 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.

NUMERIC CONTROL SPECIFICATIONS

FANUC

Division	Item	Specifications	F31i-B Plus
			DBM series
Controlled axis	Controlled axes		3 (X,Y,Z)
	Simultaneously controlled axes		3 axis
	Additional controlled axis	Add 1 Axis (5th Axis)	○
Data input/output	data server		○
	Memory card input/output		●
	USB memory input/output		●
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_, 1000 Blocks *1)	●
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	●
		10240M(4MB)_1000 programs	●
		20480M(8MB)_1000 programs	○
		2560M(1MB)_2000 programs	○
		5120M(2MB)_4000 programs	○
		10240M(4MB)_4000 programs	○
	20480M(8MB)_4000 programs	○	

*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.

CONVENIENT MACHINING

Work load counter control

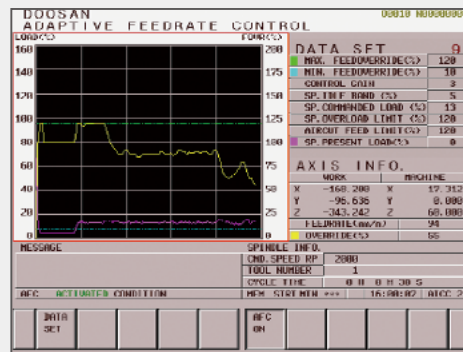
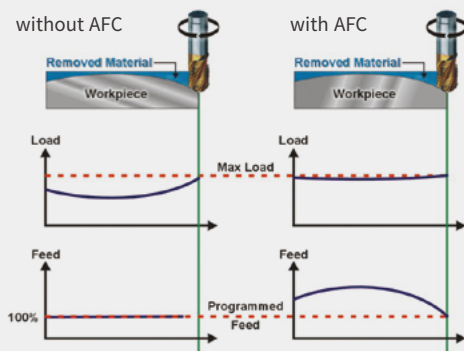
By selecting the appropriate M-Code according to the weight of the workpiece, the machine automatically decides the most effective and efficient moving pattern of the table.



M-Code	Weight of work piece	DBM2540	DBM2550
M380	5 tons(11023.0 lb) or less	●	●
M381	10 tons(22045.9 lb) or less	●	●
M382	15 tons(33068.9 lb) or less	●	●
M383	20 tons(44091.8 lb) or less	●	●

Adaptive feedrate control(AFC)

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



Process monitoring function and manual operation screen

In-process monitoring minimizes the risk of damage to the workpiece during cutting operations.

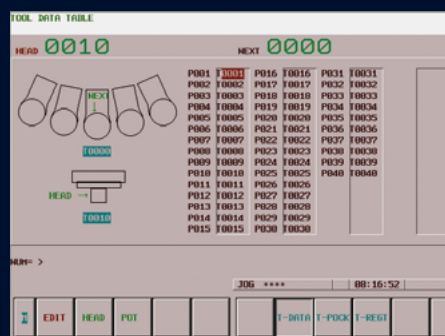
Tool load monitoring

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.



Tool management option

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



ATC manual operation screen



POWER | TORQUE

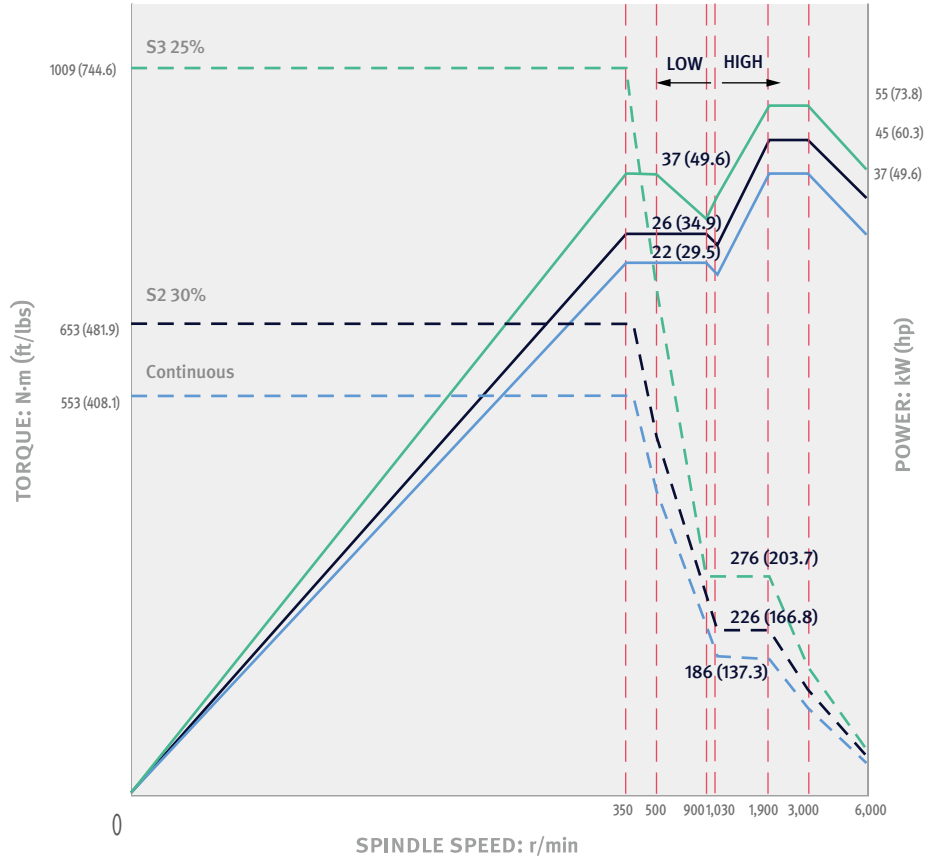
FANUC

6000 r/min

SPEED: **6000** r/min

POWER: **55/37** kW
73.8/49.6 hp

TORQUE: **1009** N·m
744.6 ft-lbs

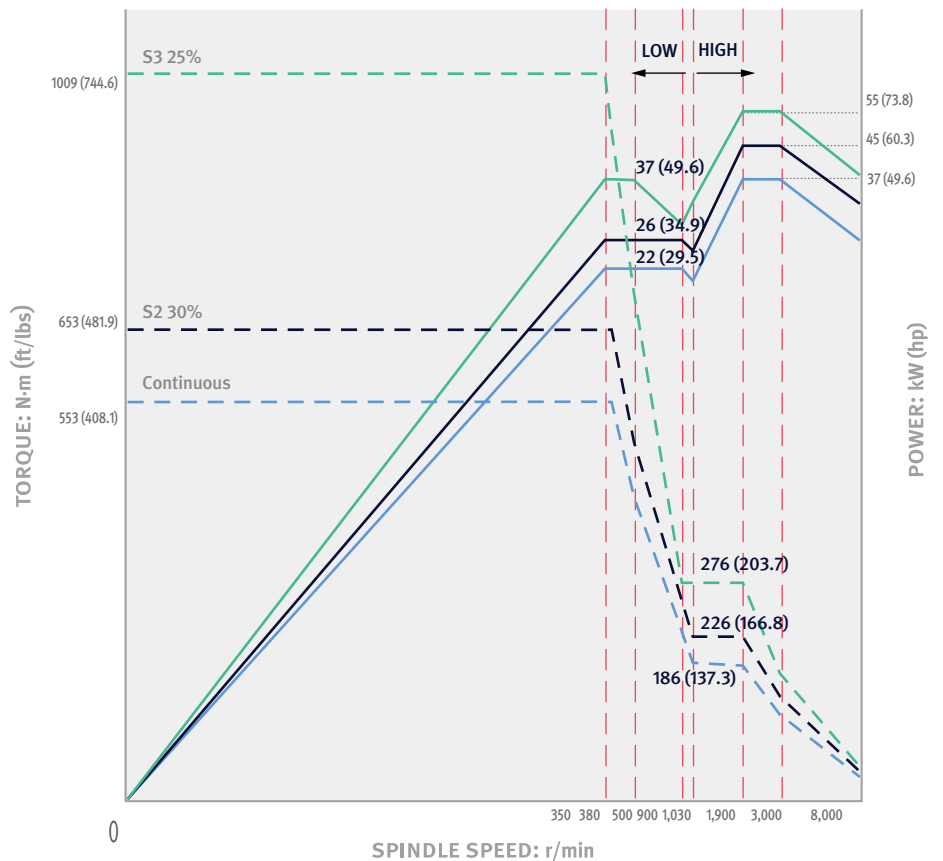


8000 r/min option

SPEED: **8000** r/min

POWER: **55/37** kW
73.8/49.6 hp

TORQUE: **1009** N·m
744.6 ft-lbs

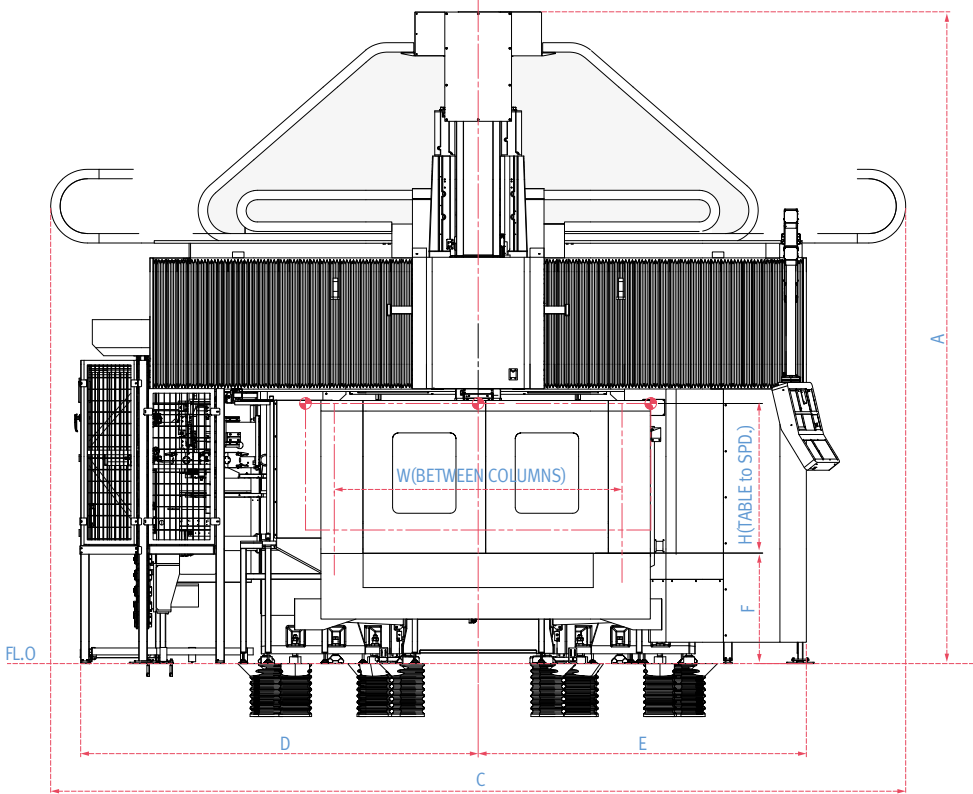


DIMENSIONS

Units : mm (inch)

TOP

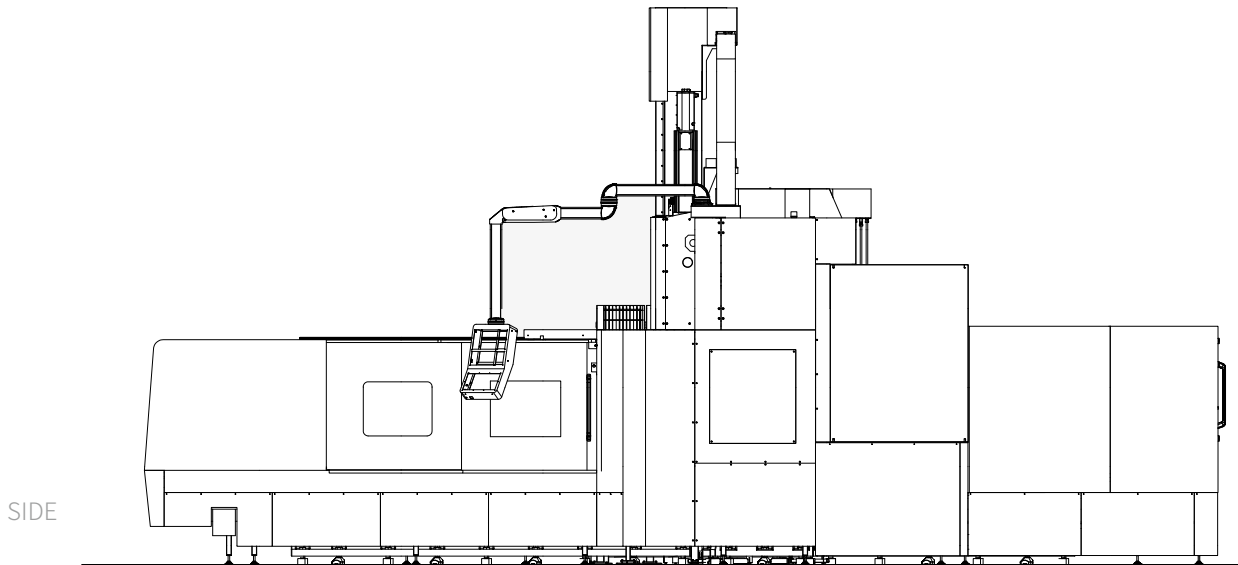
FRONT



* Some peripheral equipment can be placed in other areas.

DIMENSIONS

Units : mm (inch)



Model		A	B	C	D	E	F	H	W
DBM 2030	Z axis 800 mm STD	5100 (200.8)	9700 (381.9)	6930 (272.8)	3570 (140.6)	2602 (102.4)	960 (37.8)	1000 (39.4)	2000 (78.7)
	Z axis 1100 mm <small>option</small> (+300 RAISING & Z-axis extend)	5700 (224.4)	9700 (381.9)	6930 (272.8)	3570 (140.6)	2602 (102.4)	960 (37.8)	1300 (51.2)	2000 (78.7)
DBM 2040	Z axis 800 mm STD	5100 (200.8)	11850 (466.5)	6930 (272.8)	3570 (140.6)	2602 (102.4)	960 (37.8)	1000 (39.4)	2000 (78.7)
	Z axis 1100 mm <small>option</small> (+300 RAISING & Z-axis extend)	5700 (224.4)	11850 (466.5)	6930 (272.8)	3570 (140.6)	2602 (102.4)	960 (37.8)	1300 (51.2)	2000 (78.7)
DBM 2540	Z axis 800 mm STD	5100 (200.8)	11700 (460.6)	7430 (292.5)	3760 (148.0)	2852 (112.3)	960 (37.8)	1000 (39.4)	2500 (98.4)
	Z axis 1100 mm <small>option</small> (+300 RAISING & Z-axis extend)	5700 (224.4)	11700 (460.6)	7430 (292.5)	3760 (148.0)	2852 (112.3)	960 (37.8)	1300 (51.2)	2500 (98.4)
DBM 2550	Z axis 800 mm STD	5100 (200.8)	13600 (535.4)	7430 (292.5)	3760 (148.0)	2852 (112.3)	960 (37.8)	1000 (39.4)	2500 (98.4)
	Z axis 1100 mm <small>option</small> (+300 RAISING & Z-axis extend)	5700 (224.4)	13600 (535.4)	7430 (292.5)	3760 (148.0)	2852 (112.3)	960 (37.8)	1300 (51.2)	2500 (98.4)
DBM 3050	Z axis 800 mm STD	5100 (200.8)	13600 (535.4)	8600 (338.6)	4010 (157.9)	3102 (122.1)	960 (37.8)	1000 (39.4)	3000 (118.1)
	Z axis 1100 mm <small>option</small> (+300 RAISING & Z-axis extend)	5700 (224.4)	13600 (535.4)	8600 (338.6)	4010 (157.9)	3102 (122.1)	960 (37.8)	1300 (51.2)	3000 (118.1)
DBM 3060	Z axis 800 mm STD	5100 (200.8)	15900 (626.0)	8600 (338.6)	4010 (157.9)	3102 (122.1)	960 (37.8)	1000 (39.4)	3000 (118.1)
	Z axis 1100 mm <small>option</small> (+300 RAISING & Z-axis extend)	5700 (224.4)	15900 (626.0)	8600 (338.6)	4010 (157.9)	3102 (122.1)	960 (37.8)	1300 (51.2)	3000 (118.1)
DBM 3080	Z axis 800 mm STD	5100 (200.8)	20100 (791.3)	8600 (338.6)	4010 (157.9)	3102 (122.1)	960 (37.8)	1000 (39.4)	3000 (118.1)
	Z axis 1100 mm <small>option</small> (+300 RAISING & Z-axis extend)	5700 (224.4)	20100 (791.3)	8600 (338.6)	4010 (157.9)	3102 (122.1)	960 (37.8)	1300 (51.2)	3000 (118.1)

※ The dimensions above are the standard type for each model.

Installation precautions

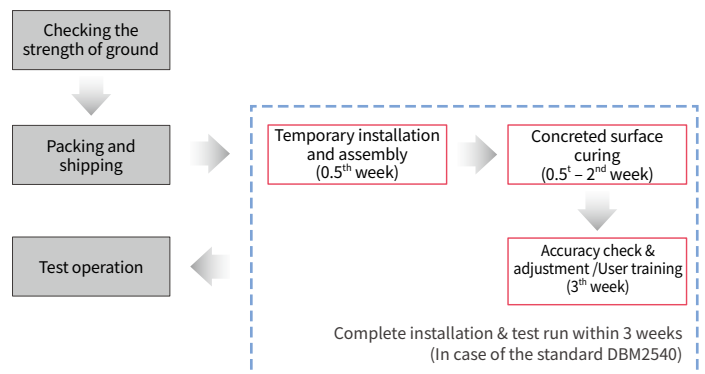
1. Test for bearing capacity of soil should be taken more than four areas. (In particular, places for bed and column where the loads are concentrated must be tested.)
2. Basically, the bearing capacity of soil should exceed the values determined by DN Solutions. (Test for bearing capacity of soil should follow DN Solutions's standards.)
3. Our engineering team may be available even during the foundation work at customer's request.
4. 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.

Installation & test run

On-site installation and commissioning will be conducted according to a '5-week' schedule. [Excluding the concreted surface curing period (3rd week)]

※ The installation plan may vary according to the size of the machine, optional devices, and the conditions and environment of the site.

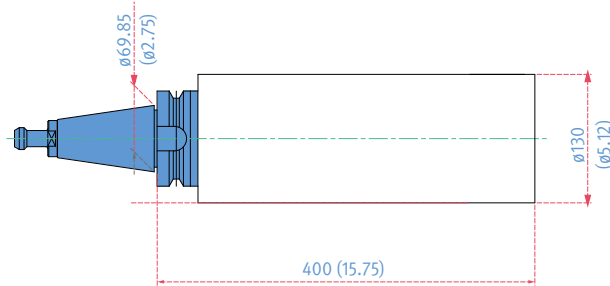
* Some peripheral equipment can be placed in other areas.



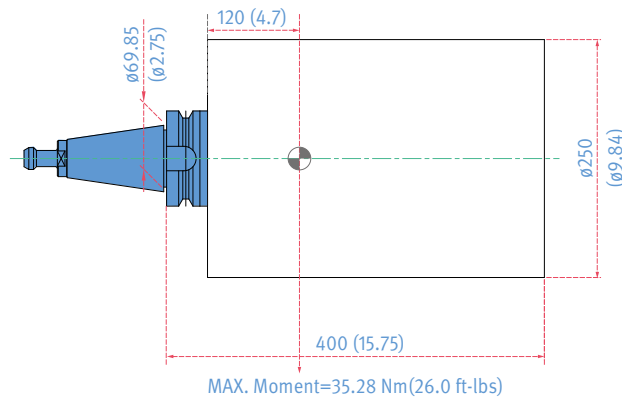
TOOL DIMENSIONS

Units : mm (inch)

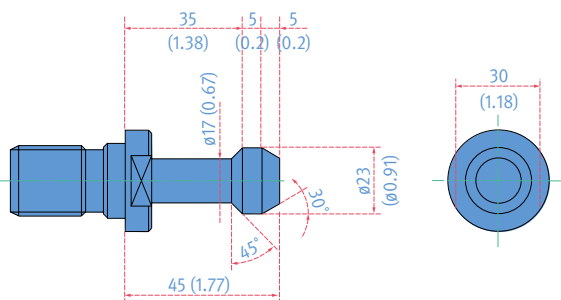
With an adjacent tool



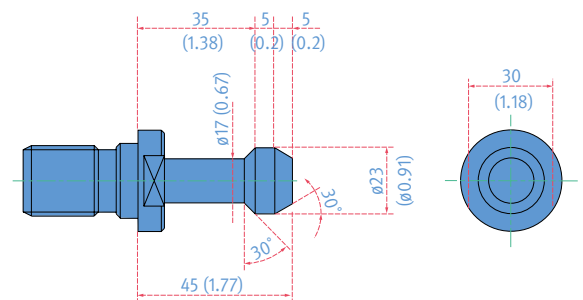
Without adjacent tools



Pull Stud : MAS 403 P50T-I (45°)



Pull Stud : MAS403 P50T-II (60°) option



Maximum tool weight

- Standard: 30 kg × 120 mm
- The center of gravity must be within 120 mm from the gauge line.

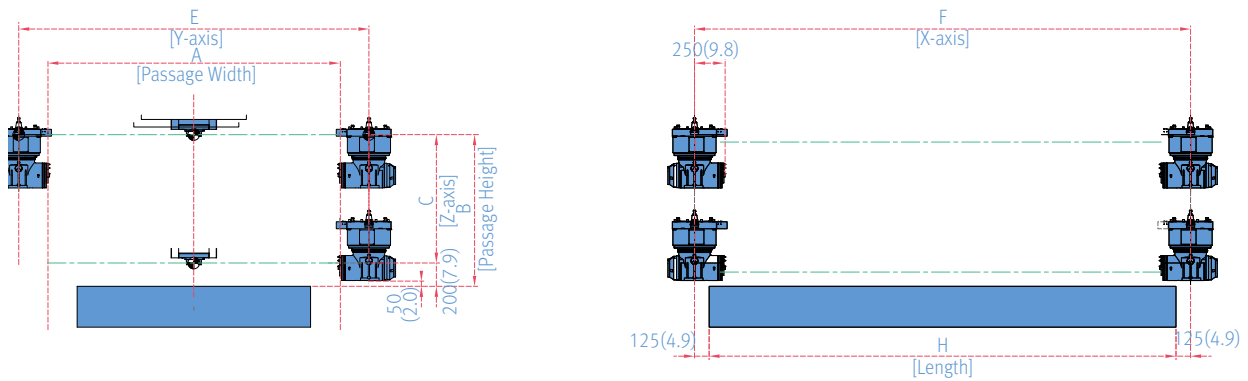
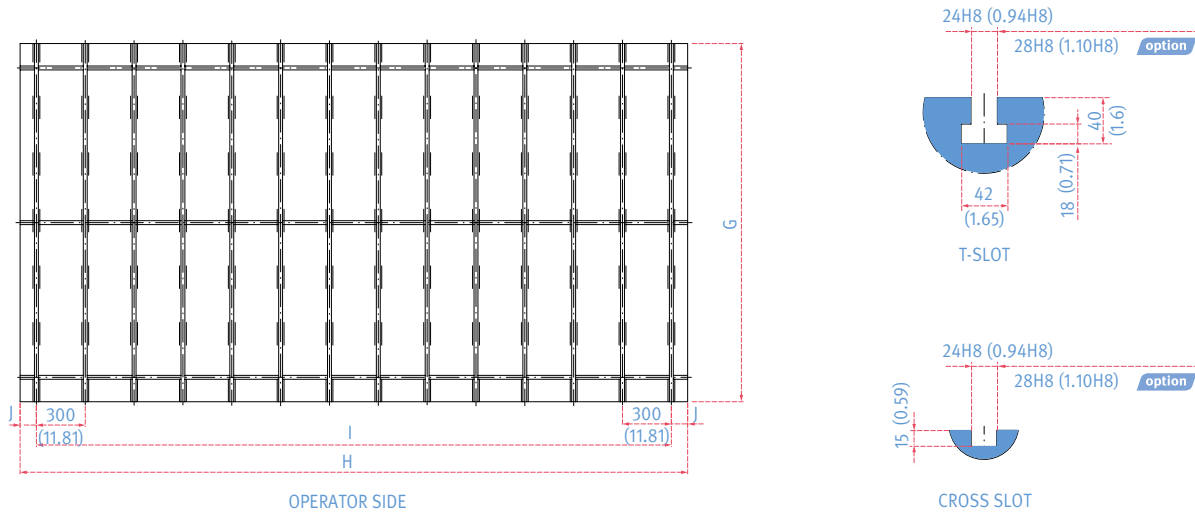
Various tooling applications

- Any type of tooling is applicable.
- Please contact our engineering team if necessary



WORK AREA AND TABLE DIMENSIONS

Units : mm (inch)



Model	Table type	A	B	C	E	F	G	H	I	J
DBM 2030	15 X 30	2000 (78.7)	1000 {1300} (39.4 {51.2})	800 {1100} (31.5 {43.3})	2500 (98.4)	3250 (128.0)	1500 (59.1)	3000 (118.1)	2700 (106.3)	150 (5.9)
DBM 2040	15 X 40	2000 (78.7)			2500 (98.4)	4250 (167.3)	1500 (59.1)	4000 (157.5)	3600 (141.7)	200 (7.9)
DBM 2540	20 X 40	2500 (98.4)			3000 (118.1)	4250 (167.3)	2000 (78.7)	4000 (157.5)	3600 (141.7)	200 (7.9)
DBM 2550	20 X 50	2500 (98.4)			3000 (118.1)	5250 (167.3)	2000 (78.7)	5000 (196.9)	4800 (189.0)	100 (3.9)
DBM 3050	25 X 50	3000 (118.1)			3500 (137.8)	5250 (167.3)	2500 (98.4)	5000 (196.9)	4800 (189.0)	100 (3.9)
DBM 3060	25 X 60	3000 (118.1)			3500 (137.8)	6250 (246.1)	2500 (98.4)	6000 (236.2)	5700 (224.4)	150 (5.9)
DBM 3080	25 X 80	3000 (118.1)			3500 (137.8)	8250 (324.8)	2500 (98.4)	8000 (315.0)	7800 (307.1)	100 (3.9)

{ } : optional

MACHINE SPECIFICATIONS

DBM Series · 2030/2040 · 2540/2550 · 3050/3060/3080

Item		Unit	DBM 2030	DBM 2040	DBM 2540	DBM 2550	DBM 3050	DBM 3060	DBM 3080
Travel	X-axis	mm (inch)	3250 (128.0)	4250 (167.3)	4250 (167.3)	5250 (206.7)	5250 (206.7)	6250 (246.1)	8250 (324.8)
	Y-axis [ATC&AAC]	mm (inch)	2500 [+700] (98.4 [+27.6])		3000 [+700] (118.1 [+27.6])		3500 [+700] (137.8 [+27.6])		
	Z-axis	mm (inch)	800 {1100} (31.5 {43.3})						
	Effective width between columns	mm (inch)	2000 (78.7)		2500 (98.4)		3000 (118.1)		
	Table to spindle nose	mm (inch)	1000 {1300} (39.4 {51.2})						
Feedrate	Rapid traverse (X, Y, Z)	m/min (ipm)	24/24/15 (944.9/944.9/590.6)			20/20/15 (787.4/787.4/590.6)			
	Max. cutting feedrate (X, Y, Z)	mm/min (ipm)	10000/10000/10000 (393.7 / 393.7 / 393.7)						
Table	Table size (Width x Length)	mm (inch)	1500x3000 (59.1x118.1)	1500x4000 (59.1x157.5)	2000x4000 (78.7x157.5)	2000x5000 (78.7x196.9)	2500x5000 (98.4x196.9)	2500x6000 (98.4x236.2)	2500x8000 (98.4x315.0)
	Load capacity	kg (lb)	15000 (33068.9)	17000 (37478.0)	20000 (44091.8)	25000 (55114.8)	28000 (61728.5)	32000 (70546.9)	35000 (77160.7)
	T-slot	mm (inch)	24H ₈ (28H ₈) (0.94H ₈ (1.1H ₈))						
Spindle	Ram size	mm (inch)	380 x 380 (15.0 x 15.0)						
	Max. spindle speed	r/min	6000 {8000}						
	Tool taper	-	ISO#50						
	Spindle drive moto (S3 25%/Cont.)	kW (Hp)	55/37 (73.8/49.6)						
	Max. spindle torque	N·m (lbf-ft)	1009 (744.6)						
ATC	Tool type	Tool shank	- BT 50 {CAT 50, DIN 50}						
		Pull stud	- MAS403 (MODIFIED CAT, DIN 69872 #50)						
	Tool storage capacity	ea	40 {60, 90, 120}						
	Max. tool diameter [continuous]	mm (inch)	130 [250] (5.1 [9.8])						
	Max. tool length	mm (inch)	400 (15.7)						
	Max. tool weight	kg (lb)	30 (66.1)						
	Max. tool moment	N·m (ft-lbs)	35.28 (26)						
	Tool selection type		Fixed address						
AAC	Type		{2 STATION + 1 STATION}						
Machine size	Machine height	mm (inch)	5100 {5700} (200.8 {224.4})						
	Floor space	mm (inch)	7950 x 11900 (313.0 x 468.5)	7950 x 13600 (313.0 x 535.4)	8200 x 13600 (322.8 x 535.4)	8200 x 15600 (322.8 x 614.2)	8900 x 16200 (350.4 x 637.8)	8900 x 18200 (350.4 x 716.5)	8900 x 22600 (305.4 x 889.8)
	Machine weight	kg (lb)	33000 (72751.5)	37000 (81569.8)	42000 (92592.8)	46000 (101411.1)	50000 (110229.5)	55000 (121252.5)	70000 (154323.6)

{ } : optional *12K Extension Head Attachment TSC not available

The DN Solutions promise, MACHINE GREATNESS, has two important meanings. The first is simple: DN Solutions makes great machines. The second is a challenge to our end-users. With a product line that is this comprehensive, accurate and reliable, we equip our customers to machine greatness. The big question: **Why should you choose DN Solutions over other options?**

Here's why...



**MACHINE
GREATNESS™**



WHAT YOU MAKE AND HOW YOU MAKE IT MATTERS—SO MAKE IT
GREAT WITH DN SOLUTIONS.

UNBEATABLE MACHINES

You won't find a more comprehensive range or a better combination of value, performance and reliability anywhere else.

ROBUST PRODUCT LINE

We offer an impressive range of machine models and hundreds of configurations. Whatever your machining needs and requirements, there's a DN Solutions for you.

READILY AVAILABLE - ANYWHERE IN THE WORLD

Machining centres (including 5-axis machines), lathes, multi-tasking turning centres and mill-turn machines, and horizontal borers with best-in-class specifications are all available...ready to install.

EXPERT SERVICE

Our dedicated, experienced and knowledgeable team is totally committed to improving your productivity, growth and success.

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

**Head Office**

19F, 10, Tongil-ro, Jung-gu, Seoul,
Republic of Korea, 04527

Tel: +82-2-6972-0370
Fax: +82-2-6972-0400

DN Solutions America

360 E State PKWY,
Schaumburg, IL. 60173,
United states

Tel: +1-315-265-7500

DN Solutions Europe

Emdener Strasse 24, D-41540
Dormagen, Germany

Tel: +49-2133-5067-100
Fax: +49-2133-5067-111

DN Solutions India

No.82, Jakkur Village
Yelahanka Hobli,
Bangalore-560064

Tel: +91-80-2205-6900
E-mail: india@dncompany.com

DN Solutions 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

DN Solutions Vietnam

M.O.R.E building 2F, 40A-40B Ut
Tich Street, 04 Ward 04,
District Tan Binh District,
Ho Chi Minh City, Vietnam

Tel: +84 28-7304-0163

DN Solutions Mexico

Avenida Parque Bicentenario
#100 Nave M65L3-6,
Fraccionamiento San Isidro
Business Park,
Santa Rosa Jauregui,
Querétaro, México

E-mail: efrain.figueroa@dncompany.com

Sales inquiry

sales@dncompany.com