HORIZONTAL BORING MACHINE

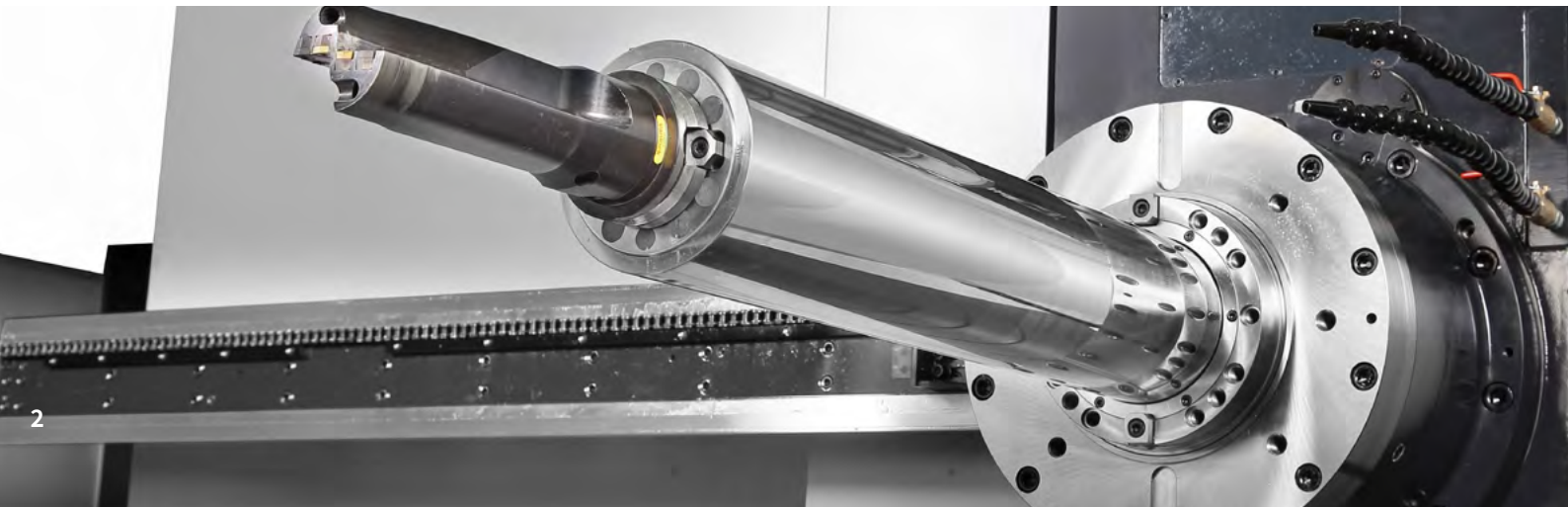
DBC

110S · 110II · 130S/SL · 160/L

DN SOLUTIONS

DBC SERIES

The DBC series, ranging from compact to super-size models, satisfies customers' requirements with advanced technical prowess. A product line-up has been established for processing from middle to largest size parts including die / mold parts. We are improving productivity and creating values for our customers on the basis of our design improvements including enhanced operating convenience and efficiency.



DIVERSIFIED LINE-UP FOR FASTER RESPONSE TO CUSTOMERS' REQUIREMENTS

The DBC Series offers a wide line-up from compact to large models, from heavy-duty type to high-speed mold processing type.

ENHANCED PERFORMANCE THROUGH HIGH-RIGIDITY & HIGH-PRECISION STRUCTURE

A high-rigidity and high-precision structure has been adopted to improve heavy-duty machining performance.

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- B-axis rotary table equipped with high-precision encoder as a standard
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INCREASED CONVENIENCE AND PRODUCTIVITY

The DBC series offers various options and customized control functions for maximum user convenience.

- Automatic tool changer (ATC)
- Automatic pallet changer (APC)
- Various head attachments
- EZ WORK function

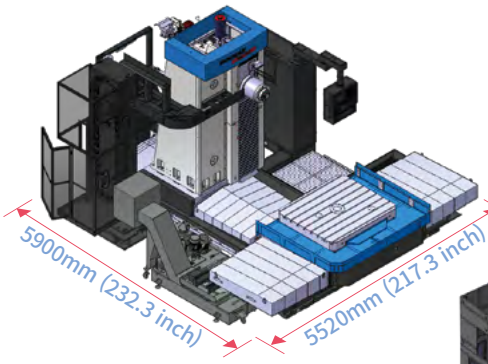
DIVERSE LINE-UP

The DBC series provides a wide line-up of models covering compact, multi-functional, heavy loads and large workpieces.

Compact type_DBC S series

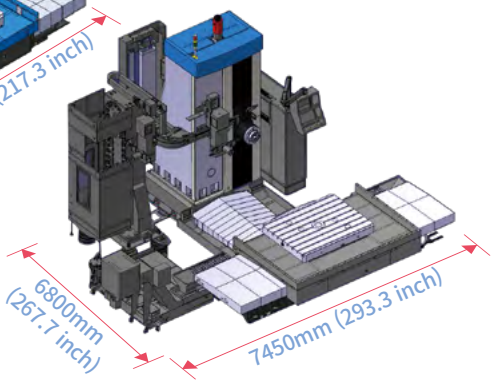
DBC 110S / 130S / 130SL

- Designed in compact size for small-medium size works
- Compact structure minimizes machine footprint



DBC 110S / 130S

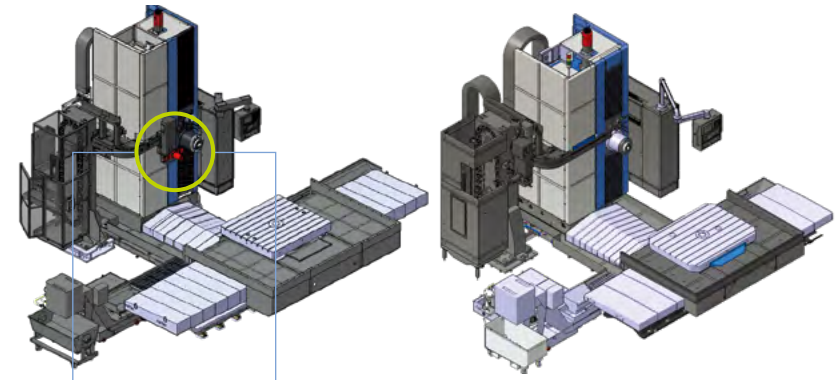
DBC 130SL



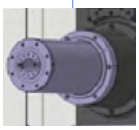
Multi-purpose (Standard)_ DBCII series

DBC 110 II / 130 II / 250 II

- A best-selling, standard model with a sales record of more than 1,000 units for the last decade – continuously upgraded with long-term design know-how and production technology.
- Shortest delivery time by modular system design.



DBC 130 II
(Heavy Duty)



DBC 250 II
(High Speed)

Spindle speed

4000 r/min

Large workpieces

DBC 130L II / 160 / 160L / 250L II

- Suitable for machining large workpieces

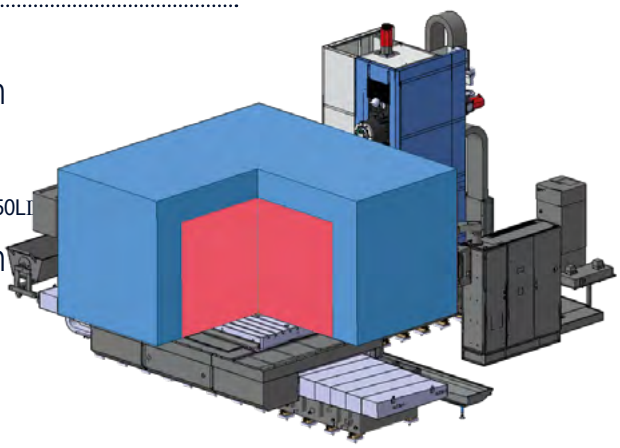
X/Y/Z axes travel distance

4000/2500/2000 mm
157.5 / 98.4 / 78.7 inch

Max. workpiece diameter
(without splash guard)

DBC 130II/250II
Ø3900 mm
153.5 inch

DBC 130LII/160/160L/250LII
Ø4800 mm
189.0 inch



SPINDLE

Nose-type head structure allows easy access to the work piece and minimal protrusion of boring spindle enables stable cutting operation.

Stable cutting performance of highly-rigid spindle

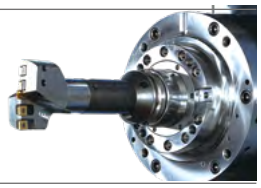
Supported by highly-rigid bearings, the spindle is designed to bear very high axial working load. In addition, the spindles of the DBC Series have further reinforced rigidity providing improved cutting performance when the W-axis is in protruding position.

DBC S series

DBC S series DBC 110S / DBC 130S / DBC 130SL

Offer high-speed, high-power spindles to different boring sizes for higher productivity.

Model	Spindle Speed (r/min)	Boring spindle diameter mm (inch)	Quill diameter mm (inch)
DBC 110S	3000	110 (4.3)	-
DBC 130S DBC 130SL	2500	130 (5.1)	-



DBC II series

DBC 110II_ High-speed, high-performance spindle

Model	Spindle Speed (r/min)	Boring spindle diameter mm (inch)	Quill diameter mm (inch)
DBC 110II	4000	DBC 130 II / L II _ 중절삭 가공을 위한 고출력·고토크 스핀들	

DBC 130II / LII_ High-power, high-torque spindle for heavy-duty machining

Model	Spindle Speed (r/min)	Boring spindle diameter mm (inch)	Quill diameter mm (inch)
DBC 130II / LII	4000	DBC 160 / L _ 강력절삭을 위한 고출력 스핀들 110 (4.3)	-

DBC 160 / L_ High-power spindle for powerful cutting

Model	Spindle Speed (r/min)	Boring spindle diameter mm (inch)	Quill diameter mm (inch)
DBC 160 / L	4000	110 (4.3)	-

DBC 250II / LII_ High-speed, high-precision built-in Quill spindle

- Powerful Quill (Ø250mm) feed system (W-axis travel distance: 500 mm)
- Greased-type lubrication for the spindle bearings
- Stable thermal error of the spindle over a long-term operation

Model	Spindle Speed (r/min)	Boring spindle diameter mm (inch)	Quill diameter mm (inch)
DBC250II / LII	4000	110 (4.3)	-

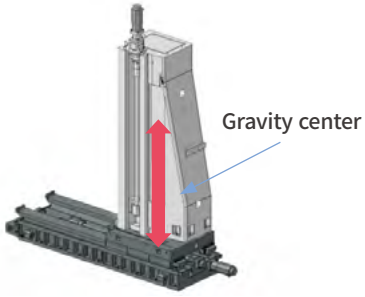
*{} : Option * Note1) Please contact us if you wish to high power spindle. (45 / 37 kW) (60.3 / 49.6 Hp)*

HIGHLY-RIGID STRUCTURE

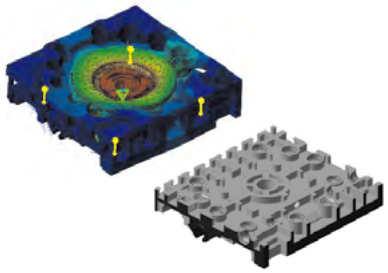
For heavier workpieces and higher processing quality, the design has been improved with a cast structure offering excellent stiffness. The machine performance has been further upgraded by structural analysis of theinner rib structure.

Highly rigid design of major units

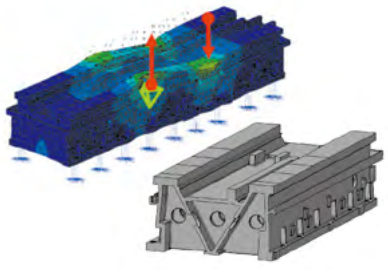
Rigidity is enhanced by optimal design of the machine structure. The highest accuracy can be achieved by minimizing deformation caused by heavy load.



Low gravity center design to minimizevibration and column moving structure suitable for heavy load



Deformation caused by heavy workpiece minimized with optimal design of table and table base

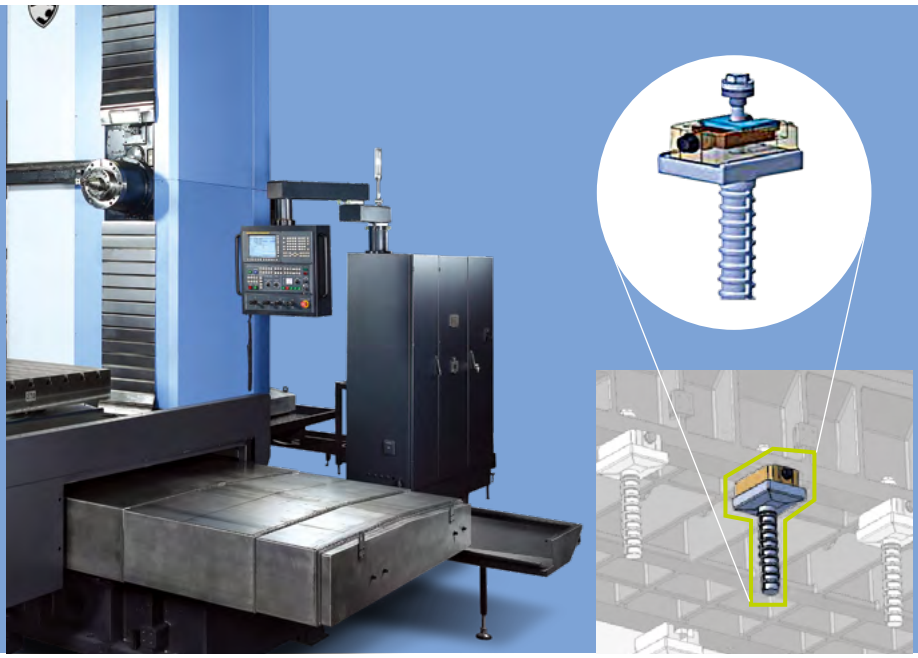


Deformation and vibration minimized by M-type ribs inside the bed.

Stable machine structure

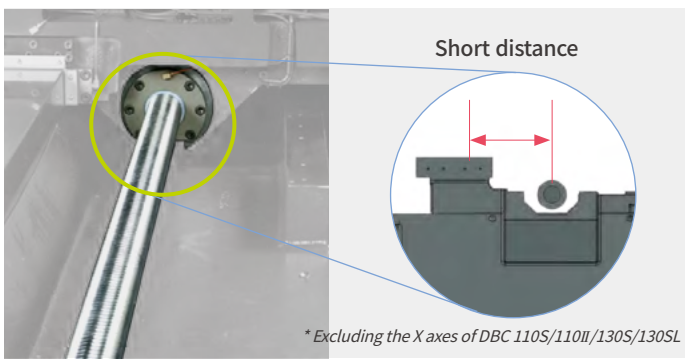
A highly-rigid, stable machine structure has been realized by optimizing the design of the column and the bed. Excellent wear resistance and accuracy for machining quality have been achieved by precision grinding after heat treatment.

A leveling block is provided to strengthen anchoring force to the foundation, as well as enabling fast and easy installation.



Narrow guide system

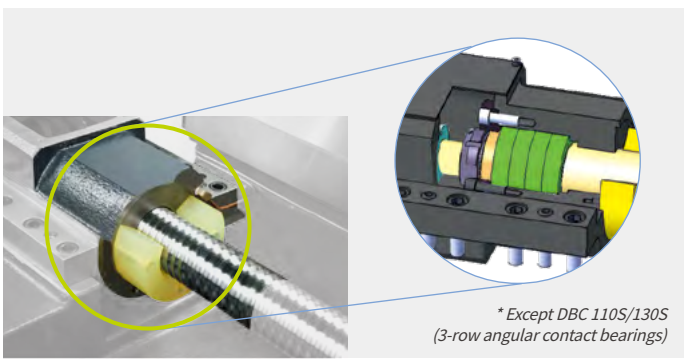
Designed with narrow guide system to minimize axis torque and ensure smooth motion.



** Excluding the X axes of DBC 110S/110II/130S/130SL*

4-row angular ball bearings & Ball screw

Both ends of the shafts are supported by 4-row angular contact bearings. Low-noise, highly-precise ball screws are employed for axis travel.



** Except DBC 110S/130S (3-row angular contact bearings)*

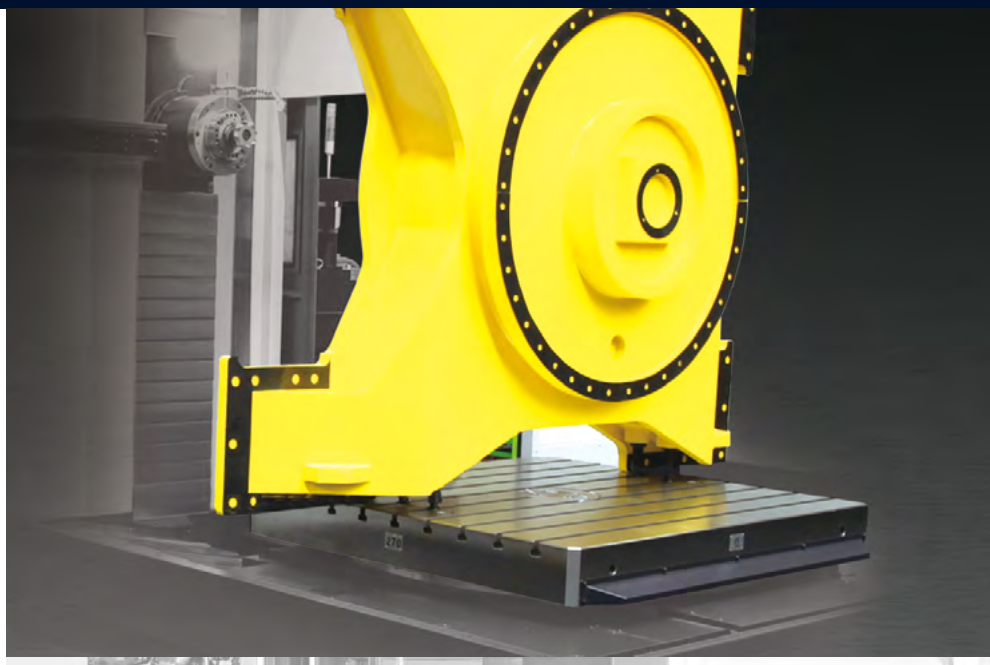
HIGH LOAD | HIGH ACCURACY

Upgraded with stable travel performance in heavy-duty machining by reducing servo load and increasing axial thrust.

Rotary table

A high-precision, separate type encoder is installed at the table center as a standard to realize precise rotation of the B-axis.

** Patented*

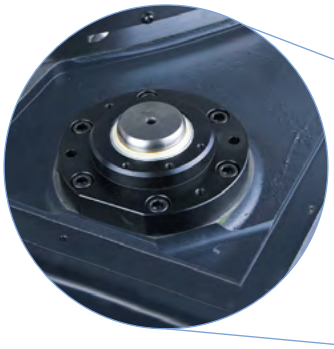


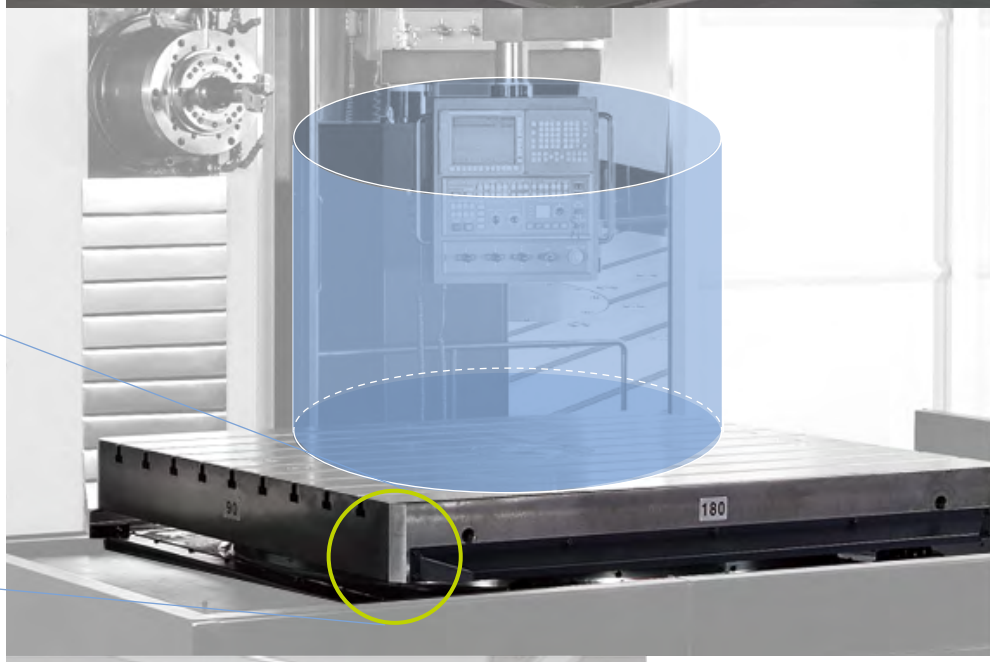
Max. work load

DBC 160

25 ton

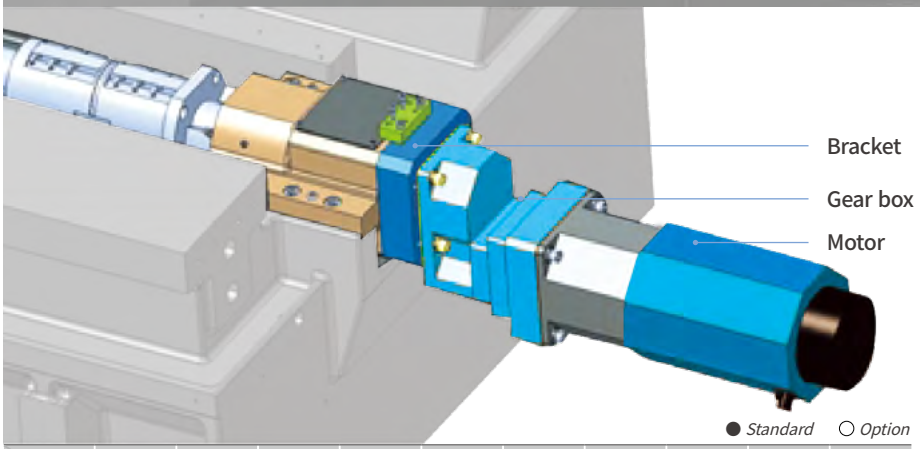
Locating pin for positioning by 90° steps





Gear reducer for axis shafts (X / Z)

- Servo load is reduced to secure stable feeding characteristics for heavy workpieces (X-axis).
- Axial thrust is increased to improve cutting capacity (Z-axis).



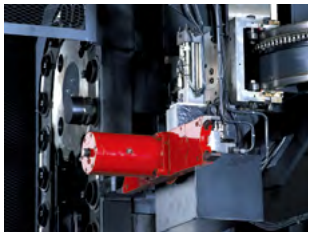
● *Standard* ○ *Option*

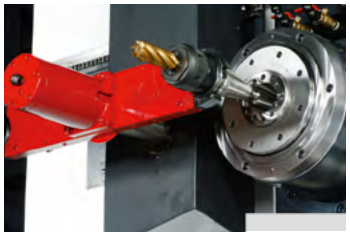
Model / Axis	DBC 110S	DBC 130S	DBC 130SL	DBC 110II	DBC 130II	DBC 130LII	DBC 160	DBC 160L	DBC 250II	DBC 250LII
X-axis	○	○	○	○	○	●	●	●	○	●
Z-axis	○	○	○	○	○	●	●	●	○	●

AUTO TOOL CHANGER (ATC)

The adoption of a servo-motor for tool magazine and carriage drive greatly reduces hydraulic system load of the entire machine. Machine has been improved by simplifying the structure to minimize the causes of failure.

Servo-driven auto tool changer



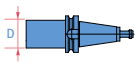
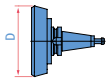
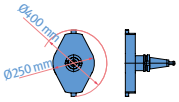


Auto tool changer (ATC)

Servo tool magazine

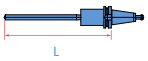
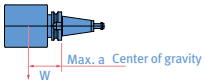
Servo carriage

Applicable tool specification

	Specification	Shape
Max. tool dia.	Normal tools: D = ø130 mm	
	Facing tools:D = ø250 mm (Neighboring pots must be empty)	
	Boring tools:D = ø400 mm (15.7 inch) D = ø600 mm (23.6 inch) OPTION (Neighboring pots must be empty)	

Max. allowable moment: 34 N·m (25.1 ft-lbs)

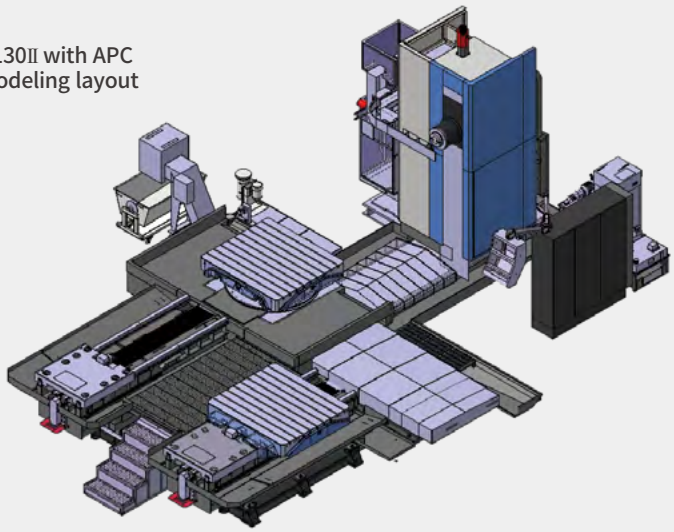
** Please contact us if you wish to extend the boring tool diameter (D=ø600).*

	Specification	Shape
Max. tool length	L = 600 mm	
Max. tool weight	W = 30 kg	
Tool storage capacity	40 {60 / 90} tools OPTION	

AUTOMATIC PALLET CHANGER (APC) OPTION

While the machine tool is cutting a workpiece, the workpiece to be processed next is set up on the standby pallet which can replace the current pallet automatically at the end of cutting to raise productivity.

DBC 130II with APC
3D modeling layout



Detailed specification of APC

Details	Unit	Specification
No. of pallets	ea	2
APC type	-	Parallel shuttle (in Z-axis direction)
Pallet size (W x L) & work load	mm (inch) & ton	• 1600 x 1800 & 10 (23.6 x 63.0 & 10) • 1800 x 2000 & 8 (70.9 x 78.7 & 8)

Note 1) The above specification is for reference to understand the APC option of DBC 130 II.
Note 2) Please contact us for further details of the specifications. The specifications are subject to change without prior notice for performance improvement

STANDARD | OPTIONAL SPECIFICATIONS

DBC S series

Description	Features	DBC 110S	DBC 130S	DBC 130SL
SPINDLE MOTOR POWER	26 / 22 KW (34.9 /29.5 Hp) (30WORKPIECE SETTING DEVICE)	●	X	X
	30 / 22 KW (40.2 /29.5 Hp) (15WORKPIECE SETTING DEVICE) (AMP UP)	○	X	X
	45 / 37 KW (60.3 /49.6 Hp) (30WORKPIECE SETTING DEVICE)	X	X	X
	37 / 30 KW(49.6 /40.2 Hp) (30WORKPIECE SETTING DEVICE)	X	●	●
ATC	40 TOOLS	●	●	●
	60 / 90 TOOLS	○	○	○
WORKPIECE SETTING DEVICE	CENTER BUSH	X	X	X
	EDGE LOCATOR	○	○	○
TABLE SIZE	1400 X 1600 mm(55.1X63.0 inch)	●	●	X
	1400 X 1800 mm(55.1X70.9 inch)	X	X	●
	1600 X 1800 mm(63.0X70.9 inch)	X	X	X
	1800 X 2000 mm(70.9X78.7 inch)	X	X	X
	2000 X 2200 mm(78.7X86.6 inch)	X	X	X
	1800 X 2000 mm(70.9X78.7 inch)_20 ton	X	X	X
	2000 X 2200 mm(78.7X86.6 inch)_19 ton	X	X	X
	1600 X 3000 mm(63.0X118.1 inch)_20 ton	X	X	X
APC (1)		○	○	○
LINEAR SCALE (X / Y / Z)	ABSOLUTE	○	○	○
RAISED COLUMN (1)		○	○	○
SPLASH GUARD	SPLASH GUARD W/O TOP	○	○	○
	AUTO DOOR SEMI GUARD (1) (2)	○	○	○
COOLANT TANK		○	○	○
LIFT UP CHIP CONVEYOR		○	○	○
Flood Coolant		○	○	○
TSC	1.5 KW_2.0 MPA_CYCLONE FILTER	○	○	○
	3.0 KW_3.0 MPA_CYCLONE FILTER	○	○	○
	7.5 KW_7.0 MPA_CYCLONE FILTER	○	○	○
OIL SKIMMER	BELT TYPE	○	○	○
	DISK TYPE	○	○	○
COOLANT GUN		○	○	○
Coolant level switch : Sensing level - Low**		○	○	○
AIR GUN		○	○	○
AIR BLOWER		○	○	○
6-AXIS OPTION (1)	1 AXIS_WIRE AND PIPING_HYD	○	○	○
AUTO WORKPIECE MEASURING DEVICE	OMP60_RENISHAW	○	○	○
	RMP60_RENISHAW	○	○	○
MASTER TOOL FOR AUTO TOOL MEASUREMENT	CALIBRATION BLOCK	○	○	○
AUTO TOOL MEASURING DEVICE	TS27R_RENISHAW	○	○	○
ANGULAR FIXTURE	SIZE 450 X 600 X 400	○	○	○
	SIZE 500 X 1000 X 550	○	○	○
	SIZE 750 X 1250 X 750	○	○	○
	SIZE 1000 X 2000 X 1000	○	○	○
ATTACHMENT	90° ANGLE HEAD_L365 / L420 / L650 / L660	○	○	○
	FACE PLATE_Ø650	○	○	○
	INDEXABLE ANGLE HEAD_90° INDEX	○	○	○
	MANUAL UNIVERSAL HEAD_1000	○	○	○
	SPINDLE SUPPORT_310 MM	X	○	○
	SPINDLE SUPPORT_200 MM	○	X	X
	COGSDILL READY	○	○	○
ATTACHMENT SPEED LIMIT CONTROL		○	○	○
ATTACHMENT SPEED LIMIT CONTROL		○	○	○
SPINDLE THERMAL COMPENSATION SYSTEM		○	○	○
TEST BAR	BT50	○	○	○
Y-AXIS ADDITIONAL BRAKE SYSTEM (1)		○	○	○
MDI / DISPLAY unit	15" COLOR LCD, KEYBOARD FOR DATA INPUT, SOFT-KEYS	●	●	●
	15" color LCD with Touch Panel	X	○	○
GRAVITY SHAFT FALL PREVENTION SYSTEM (AT POWER FAILURE)		○	○	○
TRANSFORMER		○	○	○
POWER PANEL AIR CONDITIONER		○	○	○
POWER PANEL LIGHT		○	○	○
POWER PANEL LINE FILTER		○	○	○
AUTO NC POWER OFF		○	○	○
AUTO NC POWER ON		○	○	○
MACHINE WARMING UP		○	○	○
DN Solutions TOOL MANAGEMENT PACKAGE		○	○	○
DN Solutions TOOL LOAD MONITORING		○	○	○
MPG	1 MPG_PORTABLE_W/ENABLE TYPE	●	●	●
	3 MPG_PORTABLE_W/ENABLE TYPE	○	○	○
ALARM GUIDANCE		○	○	○
COUNTER FUNCTION	WORK/TOTAL/DAILY	○	○	○
NC		○	○	○
DSQ1 (200Block)		○	○	○
DSQ1 (400BLOCK)		○	○	○
DSQ2 (DSQ1+Data Server 1GB)		32iB	0iMF / 31iB	0iMF / 31iB
DSQ3 (DSQ2 + 600Block)		●	○ / ●	○ / ●
DSQ4 (DSQ3 + 1000Block)		○	○ / ○	○ / ○
DSQ2 (DSQ1+Data Server 1GB)		○	○ / ○	○ / ○
DSQ3 (DSQ2 + 600Block)		X	X / ○	X / ○
DSQ4 (DSQ3 + 1000Block)		X	X / ○	X / ○

** Please contact DN Solutions to select detailed steady rest specifications * Note 1) Please contact us for further details*
** Note 2) This specification applies to APC option. * Note 3) 30 min/continuous For DBC 250(L) ** Special Quotation.*

● *Standard* ● *Optional* X *Not applicable*

⚠ 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.

STANDARD | OPTIONAL SPECIFICATIONS

DBC Ⅱ series

Description	Features	DBC 110Ⅱ	DBC 130Ⅱ	DBC 130LⅡ	DBC 160	DBC 160L	DBC250Ⅱ	DBC 250LⅡ
SPINDLE MOTOR POWER	26 / 22 KW(34.9 /29.5 Hp) (30min/continuous)	●	●	●	X	X	X	X
	30 / 22 KW(34.9 /29.5 Hp) (15min/continuous) (AMP UP)	○	○	○	X	X	●(3)	●(3)
	45 / 37 KW(34.9 /29.5 Hp) (30min/continuous)	○	○	○	●	●	X	X
	37 / 30 KW(34.9 /29.5 Hp) (30min/continuous)	X	X	X	X	X	X	X
ATC	40 TOOLS	●	●	●	●	●	●	●
	60 / 90 TOOLS	○	○	○	○	○	○	○
WORKPIECE SETTING DEVICE	CENTER BUSH	X	○	○	○	○	○	○
	EDGE LOCATOR	○	○	○	○	○	○	○
TABLE SIZE	1400 X 1600 mm (55.1X63.0 inch)	X	X	X	X	X	X	X
	1400 X 1800 mm (55.1X70.9 inch)	●	X	X	X	X	X	X
	1600 X 1800 mm (63.0X70.9 inch)	X	●	●	X	X	●	●
	1800 X 2000 mm (70.9X78.7 inch)	X	○	○	X	X	○	○
	2000 X 2200 mm (78.7X86.6 inch)	X	○	○	X	X	○	○
	1800 X 2000 mm (70.9X78.7 inch)_20 ton	X	X	○	X	X	X	X
	2000 X 2200 mm (78.7X86.6 inch)_19 ton	X	X	○	X	X	X	X
	2000 X 2200 mm (78.7X86.6 inch)_20 ton	X	X	X	●	●	X	X
	2000 X 2200 mm (78.7X86.6 inch)_25 ton	X	X	X	○	X	X	X
APC(1)		○	○	○	○	○	○	○
LINEAR SCALE (X, Y, Z-AXIS)	ABSOLUTE	○	○	○	●	●	●	●
RAISED COLUMN(1)		○	○	○	○	○	○	○
SPLASH GUARD	SPLASH GUARD W/O TOP	○	○	○	○	○	○	○
	AUTO DOOR SEMI GUARD(1)(2)	○	○	○	○	○	○	○
COOLANT TANK		○	○	○	○	○	○	○
LIFT-UP CHIP CONVEYOR		○	○	○	○	○	○	○
Flood Coolant		○	○	○	○	○	○	○
TSC	1.5 KW_2.0 MPA_CYCLONE FILTER	○	○	○	○	○	○	○
	3.0 KW_3.0 MPA_CYCLONE FILTER	○	○	○	○	○	○	○
	7.5 KW_7.0 MPA_CYCLONE FILTER	○	○	○	○	○	○	○
OIL SKIMMER	BELT TYPE	○	○	○	○	○	○	○
	DISK TYPE	○	○	○	○	○	○	○
COOLANT GUN		○	○	○	○	○	○	○
Coolant level switch : Sensing level - Low**		○	○	○	○	○	○	○
AIR GUN		○	○	○	○	○	○	○
AIR BLOWER		●	○	○	○	○	●	●
6-AXIS OPTION(1)	1 AXIS_WIRE AND PIPING_HYD	○	○	○	○	○	○	○
AUTO WORK MEASURING DEVICE	OMP60_RENISHAW	○	○	○	○	○	○	○
	RMP60_RENISHAW	○	○	○	○	○	○	○
MASTER TOOL FOR AUTO TOOL MEASUREMENT	CALIBRATION BLOCK	○	○	○	○	○	○	○
AUTO TOOL MEASURING DEVICE	TS27R_RENISHAW	○	○	○	○	○	○	○
ANGULAR FIXTURE	SIZE 450 X 600 X 400	○	○	○	○	○	○	○
	SIZE 500 X 1000 X 550	○	○	○	○	○	○	○
	SIZE 750 X 1250 X 750	○	○	○	○	○	○	○
	SIZE 1000 X 2000 X 1000	○	○	○	○	○	○	○
ATTACHMENT	90° ANGLE HEAD_L365 / L420 / L650 / L660	○	○	○	○	○	X	X
	FACE PLATE_Ø650	○	○	○	○	○	X	X
	INDEXABLE ANGLE HEAD_90° INDEX	○	○	○	○	○	X	X
	MANUAL UNIVERSAL HEAD_1000	○	○	○	○	○	X	X
	SPINDLE SUPPORT_370 MM	X	X	X	○	○	X	X
	SPINDLE SUPPORT_310 MM	X	○	○	X	X	X	X
	SPINDLE SUPPORT_200 MM	○	X	X	X	X	X	X
	COGSDILL READY	○	○	○	○	○	X	X
ATTACHMENT SPEED LIMIT CONTROL		○	○	○	○	○	X	X
SAFETY FENCE AND INTERLOCK SWITCH		○	○	○	○	○	○	○
SPINDLE THERMAL COMPENSATION SYSTEM		○	○	○	○	○	X	X
TEST BAR	BT50	○	○	○	○	○	○	○
Y-AXIS ADDITIONAL BRAKE SYSTEM(1)		○	○	○	○	○	○	○
MDI / DISPLAY UNIT	15" Color LCD, Keyboard for data input, soft-keys	●	●	●	●	●	●	●
GRAVITY SHAFT FALL PREVENTION SYSTEM (AT POWER FAILURE)		○	○	○	○	○	○	○
TRANSFORMER		○	○	○	●	●	○	○
POWER PANEL AIR CONDITIONERPOWER PANEL AIR CONDITIONER		○	○	○	○	○	○	○
POWER PANEL LIGHT		○	○	○	○	○	○	○
POWER PANEL LINE FILTER		○	○	○	○	○	○	○
AUTO NC POWER OFF		○	○	○	○	○	○	○
AUTO NC POWER ON		○	○	○	○	○	○	○
MACHINE WARMING UP		○	○	○	○	○	○	○
DN Solutions TOOL MANAGEMENT PACKAGE		○	○	○	○	○	○	○
DN Solutions TOOL LOAD MONITORING		○	○	○	○	○	○	○
MPG	1 MPG_PORTABLE_W/ENABLE TYPE	●	●	●	●	●	●	●
	3 MPG_PORTABLE_W/ENABLE TYPE	○	○	○	○	○	○	○
ALARM GUIDANCE		○	○	○	○	○	○	○
COUNTER FUNCTION	WORK/TOTAL/DAILY	○	○	○	○	○	○	○
NC		○	○	○	○	○	○	○
DSQ1 (200Block)		○	○	○	○	○	○	○
DSQ2 (DSQ1+Data Server 1GB)		○	○	○	○	○	○	○
DSQ3 (DSQ2 + 600Block)		31iB	31iB	31iB	31iB	31iB	31iB	
DSQ4 (DSQ3 + 1000Block)		○	○	○	○	○	○	
DSQ2 (DSQ1+Data Server 1GB)		○	○	○	○	○	○	
DSQ3 (DSQ2 + 600Block)		○	○	○	○	○	○	
DSQ4 (DSQ3 + 1000Block)		○	○	○	○	○	○	

** Please contact DN Solutions to select detailed steady rest specifications * Note 1) Please contact us for further details*
** Note 2) This specification applies to APC option. * Note 3) 30 min/continuous For DBC 250(L) ** Special Quotation.*

● *Standard* ● *Optional* X *Not applicable*

⚠ 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.

CHIP DISPOSAL SYSTEM

Proper chip disposal is very important for productivity and environment protection. The DBC series provides various chip disposal systems designed to improve productivity and the working environment.

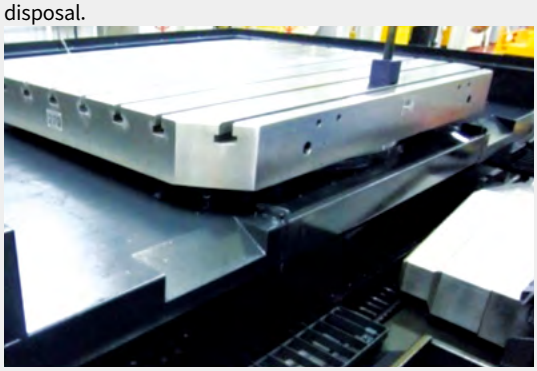
Easy chip removal structure

The DBC series confines chips and coolant to the chip pan to make the chip disposal using the chip conveyer easier.

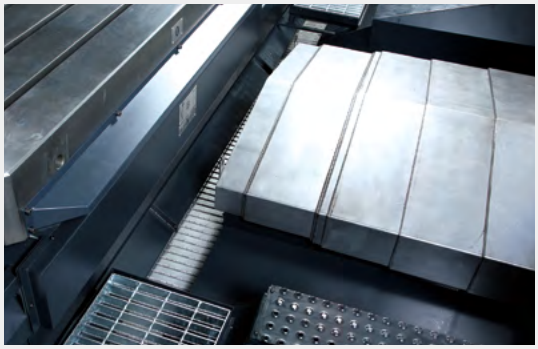
Coolant gu OPTION

Chip pan

Slope-type chip pan is used for smooth coolant drain and chip disposal.



Built-in, hinge-type belt chip conveyor



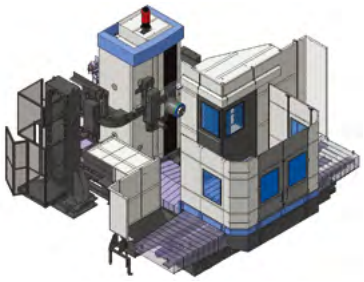
Lift-up chip convey OPTION

CHIP DISPOSAL SYSTEM

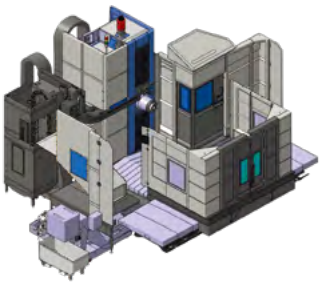
Coolant splash guard OPTION

Semi-splash guard

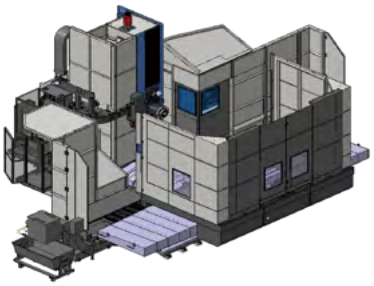
DBC 110S / 130S / 130SL



DBC 110II

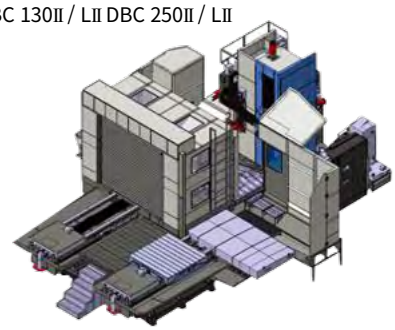


DBC 130 / 130L / 160 / 250II / 250LII

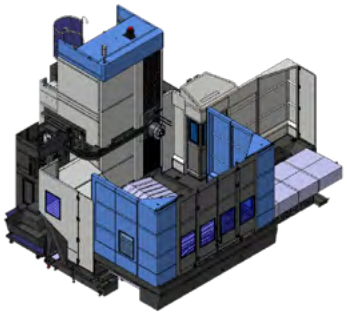


Auto door semi-splash guard (for APC option)

DBC 130II / LII DBC 250II / LII

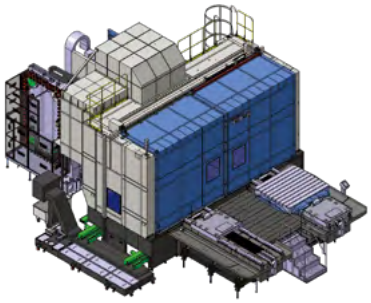


DBC 160



Full -splash guard

DBC 130II

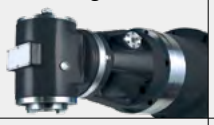


Special option OPTION

Special option can be available. please ask to sales person for detail.

1) Further discussion need when use high speed angle head.
2) Additional discussion is required when ATC need while spindle support is attached.
(Note) The head attachments (1 ~ 11) are not applicable for DBC 250 (L) II model.

1. Angle head (manual indexing)
(L=365mm(14.4 inch), 500r/min)
(L=420mm(16.5 inch), 1500r/min[1])



2.Long type angle head
(manual indexing)
(L=660mm(26.0 inch), 500r/min)
(L=650mm(25.6 inch), 1500r/min)[1]

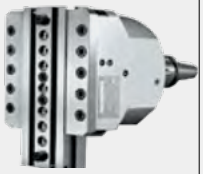
3.Universal head
(manual indexing)

4. Face plate
(manual indexing)
(Ø650mm (25.6 inch))

5. Indexable angle head
(90° auto indexing)
Please contact us for further details of specification.

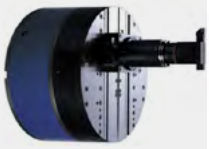
6. Spindle support[2]
- DBC 110S / 110 II : L =200mm (7.9 inch)
- DBC 130S / SL : L = 310mm (12.2 inch)
- DBC 130 / L : L= 310mm (12.2 inch)
- DBC 160 / L : L=370mm (14.6 inch)

7. Facing head
(Cogsdill, ITS, Dandrea)
- with U-axis preparation
- manual tool change
- manual installation



8. Facing head TA-Center (Dandrea)
- with U-axis preparation
- ATC change

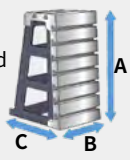
9. Facing head U-Tronic
(Dandrea)
- with U-axis preparation
- manual tool change
- manual installation



10. Extension tool head
High rigidity for heavy cutting, protect spindle when taper got damage

11. AAC (Auto Attachment Change)
Auto attachment change for facing head

12. Angle plate (4 types)
- Please contact us for customized specifications.
- Please contact us for further information.



Unit : mm (inch)

A	450(17.7)	500(19.7)	750(29.5)	1000(39.4)
B	600(23.6)	1000 39.4)	1250(49.2)	2000(78.7)
C	400(15.7)	550(21.7)	750(29.5)	1000(39.4)

EASY AND CONVENIENT OPERATION

Operating system for enhanced user convenience

DN Solutions's new operation panel

With differentiated hotkey, the DBC Series enables fast access to frequently used functions.

Improved user convenience with ergonomic design

The tilting operation panel ensures enhanced operating convenience.

Conventional type

Improved type

Productivity improved by adoption of operator panel design optimized for the operation of large machines

- Mono lever jog switches are provided at the bottom of the main operation panel for easy traverse on the long axis of large machines (standard).
- Pulse handle for the operator's convenience and portable MPG for easy workpiece setting are provided as standard features.

Portable MPG

ATC OP panel

3 Portable MPG

OPTION

MPG with LD display

OPTION

Manual operation panel

OPTION

HMOP (Handy Machine Operator's Panel)

Mono lever jog switch

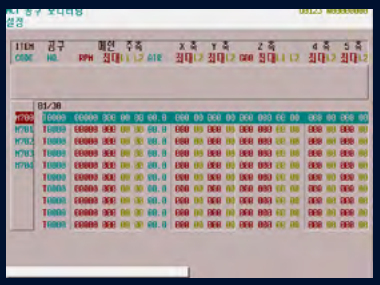
EZ WORK

The software developed by DN Solutions's own technology provides numerous functions designed for convenient operation.

Variable work load control ®

When the operator enters the M-code for the weight of the workpiece, the system automatically determines the table feed pattern to perform cutting.

Work load control	DBC 110S	DBC 130S / SL	DBC 110 II	DBC 130 II	DBC 130L II	DBC 160	DBC 160L	DBC 250 / L II
5tons or less	●	●	●	●	●	●	●	●
10tons or less	●	●	●	●	●	●	●	●
15tons or less				●	●	●	●	●
20tons or less					○	●	●	
25tons or less						●		

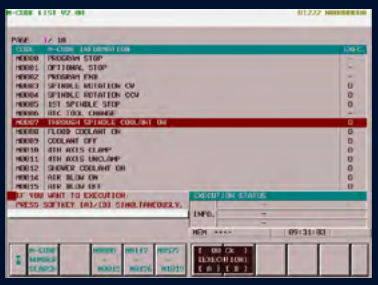


Tool load monitoring

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.

Thermal compensation

Improve the machining precision through temperature sensor detection and deflection compensation of the structure in real-time.

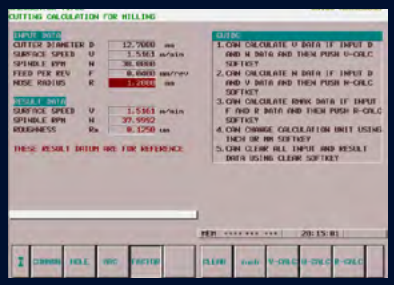


M/G-code list

M 코드 및 G 코드의 번호 및 설명을 제공하는 화면입니다.

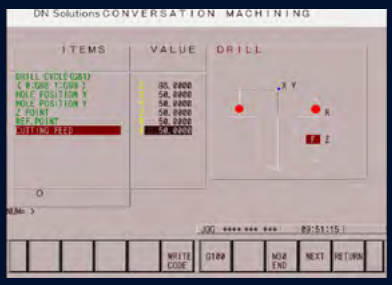
Tool management

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



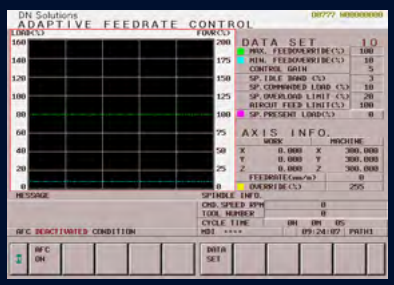
Calculator

산술, Hole, 원호, 가공 조건 등 다양한 계산을 제공하는 기능입니다.



Pattern cycle

자주 사용되는 가공 프로그램을 자동으로 생성해 주는 기능입니다.

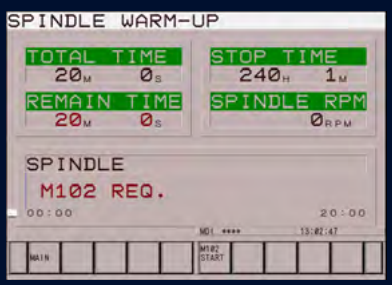


Adaptive Feed Control

Function to control feedrate so that the cutting can be carried out at a constant load (To adapt to the spindle load set up with constant load feedrate control function)

IKC (구 DCP-I)

회전축의 회전에 관계없이 공작물과 공구 끝 단의 위치가 일정하도록 보정하는 기능입니다.



Spindle Warm Up

일정 시간 이상 스핀들을 사용하지 않았을 경우 윤활의 안정화 및 스핀들 수명을 위해 주축 회전을 실시하는 기능입니다.

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 common-design 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 and PCMCIA card QWERTY keyboard

- EZ-Guide i standard
- Ergonimic 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	DBC F31iB Plus
Controlled axis	Controlled axes		4 (X,Y,Z,B)
	Simultaneously controlled axes		4 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	○
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	X
	AI contour control II	G5.1 Q_, 1000 Blocks *1)	●
	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	○

● *Standard* ○ *Optional* X *N/A* ✪ *Available*

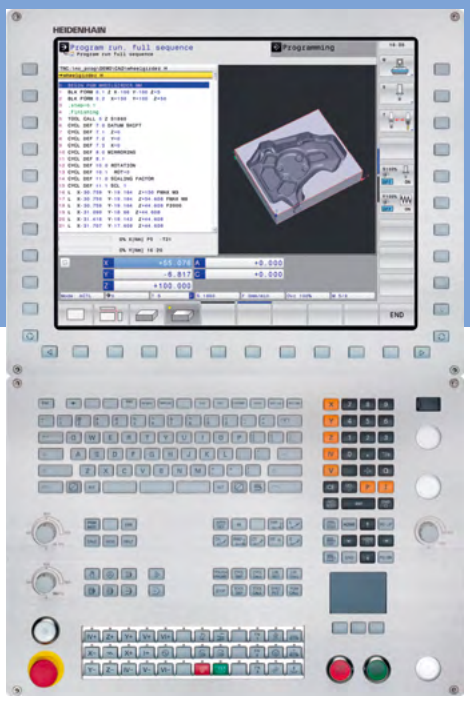
CONVENIENT OPERATION

Heidenhain TNC640

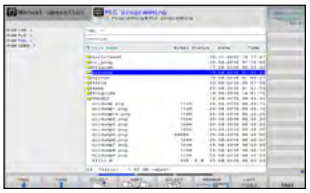
Superior hardware specifications

The TNC 640 features optimized motion control, short block processing times and special control strategies. Together with its uniform digital design and its integrated digital drive control (including inverters), it enables you to achieve high machining speeds and the best possible contour accuracy.

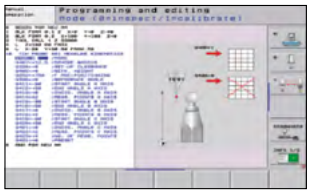
- 15.6" display
- 21GB Storage memory
- 1024 look ahead blocks
- High user convenience with folder structure data management



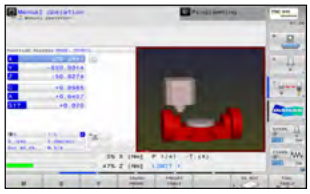
Conversational convenient function



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



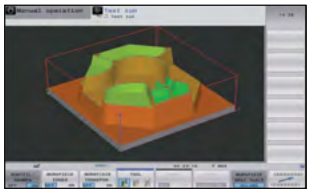
KinematicOpt & KinematicComp option
(Touch probe cycle for automatic measurement)



Collision protection system option

Adaptive feed control option

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



Graphic simulation

NUMERIC CONTROL SPECIFICATIONS

HEIDENHAIN

Description	Item	Specifications	DBC TNC640
Controlled axis	Controlled axes		3 (X,Y,Z)
	Simultaneously controlled axes		4 axes
Data input/output	USB memory input/output		●
Interface function	Embedded Ethernet		●
Feed function	Look-ahead	5000 Blocks	●
Axis Compensation	KinematicsOpt	Automatic measurement and optimization of machine kinematics	○
Collision monitoring	Dynamic collision monitoring (DCM)		X
Network	MTConnect		✪
Others	Display unit	15.1 inch TFT color flat panel	●
		15.1 inch TFT color with Touch Panel	○
		19 inch TFT color flat panel	○
		19 inch TFT color with Touch Panel	○
	Part program storage size & Number of registerable programs	21GB	●
		1.8GB	X

● *Standard* ○ *Optional* X *Not applicable* ✪ *Available*

CONVENIENT OPERATION

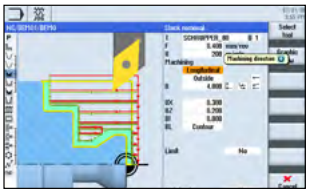
SIEMENS 840D

15.6" screen + new operation panel

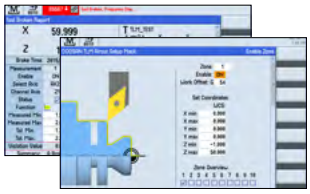
The newly-designed operation panel improves the customer convenience by incorporating and using common-design buttons and layouts, and includes the familiar QWERTY keyboard for fast and easy operation.

- 15.6" display
- 10MB high capacity user memory
- USB & ethernet (standard)
- QWERTY keyboard (standard)
- High-speed calculation and simulation can be fulfilled by improved processor functionality

Convenient conversational functionality

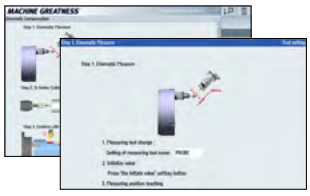


Shopmill / Shopturn



Tool load monitoring

Measuring cycle



Intelligent kinematic compensation function

Temperature compensation function

Collision avoidance function

NUMERIC CONTROL SPECIFICATIONS

SIEMENS

Description	Item	Specifications	DBC S840Dsl
Controlled axis	Controlled axes	-	4 axes
	Simultaneously controlled axes	-	3 axes
Data input/output	Memory card input/output	(Local drive)	●
	USB memory input/output		●
Interface function	Ethernet	(X130)	●
Operation	On network drive	(without EES option, Extcall)	●
	On USB storage medium, e.g. memory stick	(without EES option, Extcall)	●
Program input	Workpiece coordinate system	G54 - G57	●
	Addition of workpiece coordinate system	G505 - G599	●
Interpolation & Feed function	Advanced surface		●
	Top surface		○
	Look ahead number of block	S/W version 4.8	1000
Programming & Editing function	3D simulation, finished part		●
	Simultaneous recording		●
	Measure kinematics		X
	DXF Reader for PC integrated in SINUMERIK Operate		○
Operation Guidance Function	ShopMill		●
	EZ Work		●
Setting and display	Operation via a VNC viewer		●
Network	MTConnect		Available
	OPCUA		○
Etc. function	15.6" color display with touch screen		●
	19" color display without touch screen		○
	21.5" color display with touch screen		○
	CNC user memory	10 MB	●
	Expansion by increments	2 ~ 12 MB	○
	Collision avoidance		○
	Collision avoidance ECO (machine, working area)		●

● *Standard* ○ *Optional* X *Not applicable* ✪ *Available*

POWER | TORQUE

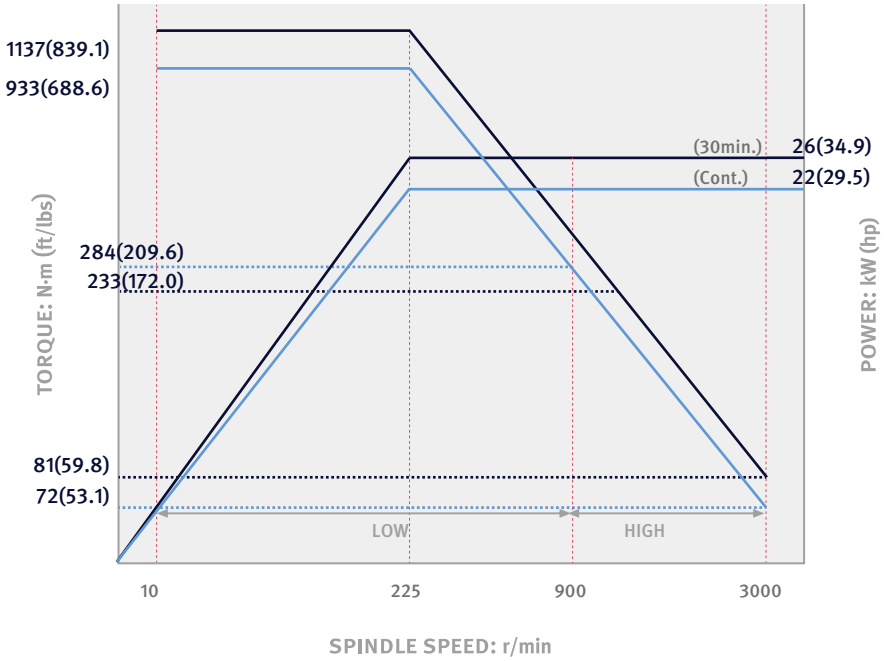
DBC S series

DBC 110S

Max. spindle speed : **3000** r/min

Max. power : **26/22** kW
34.9/29.5 Hp

Max Torque : **1137** N·m
839.1 ft-lbs

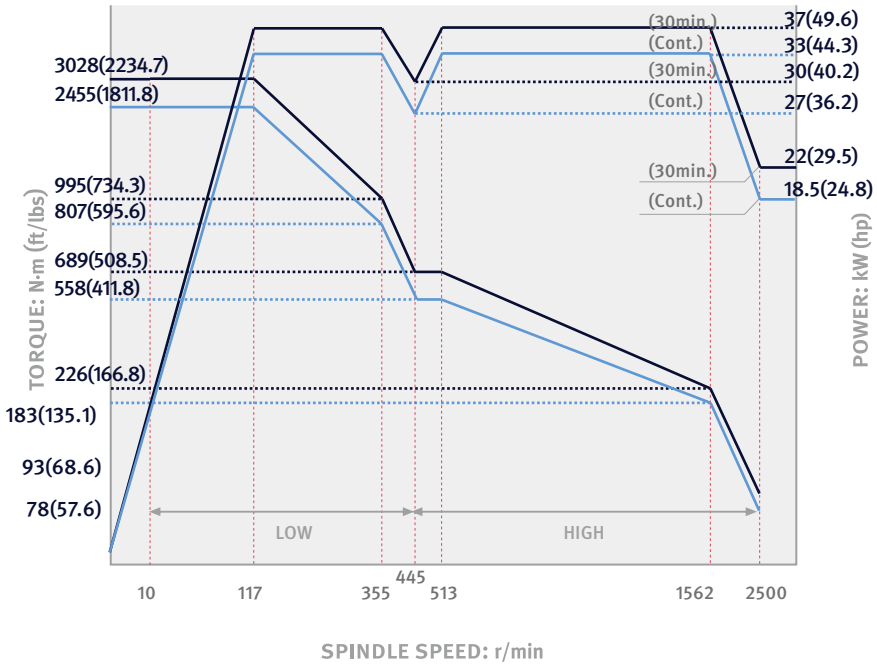


DBC 130S /SL

Max. spindle speed : **2500** r/min

Max. power : **37/30** kW
49.6/40.2 Hp

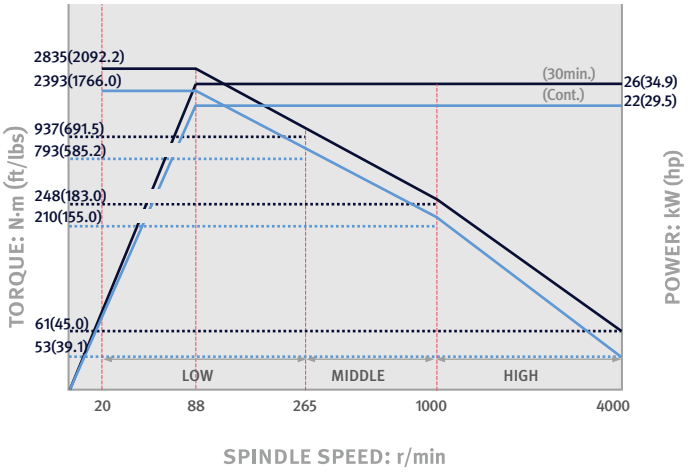
Max Torque : **3028** N·m
2234.7 ft-lbs



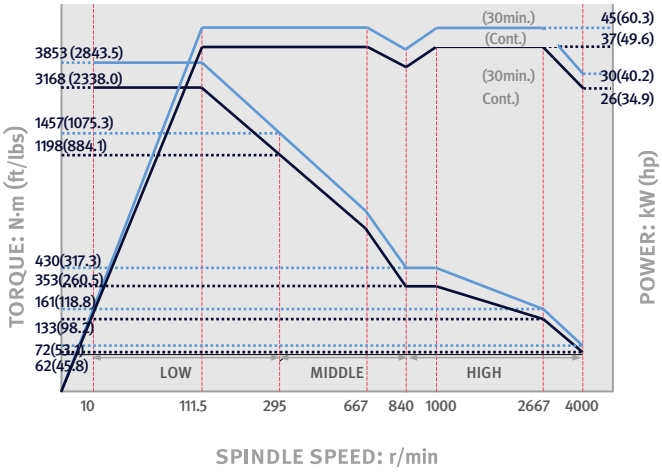
POWER | TORQUE

DBC Ⅱ series

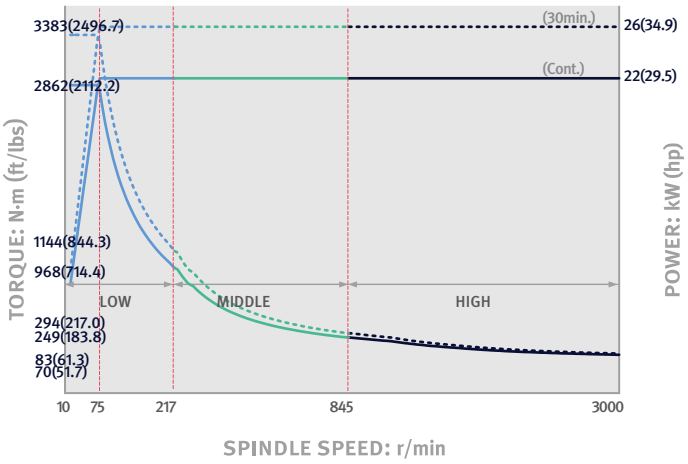
DBC 110Ⅱ



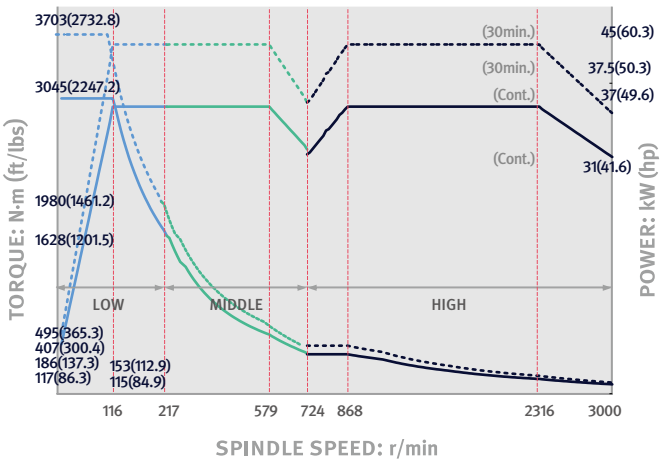
DBC 110Ⅱ



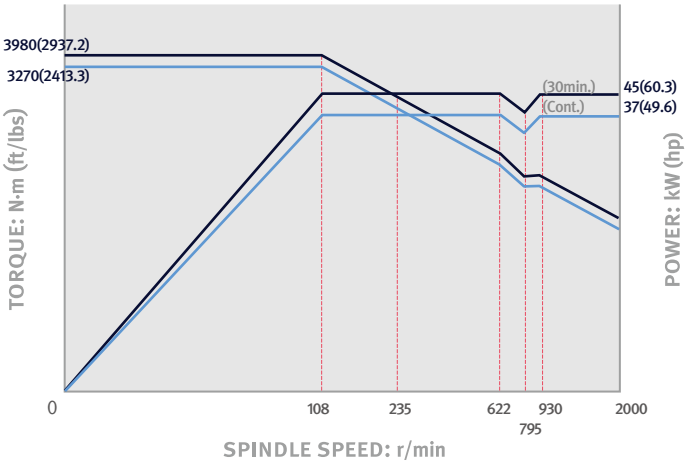
DBC 130Ⅱ / 130LⅡ



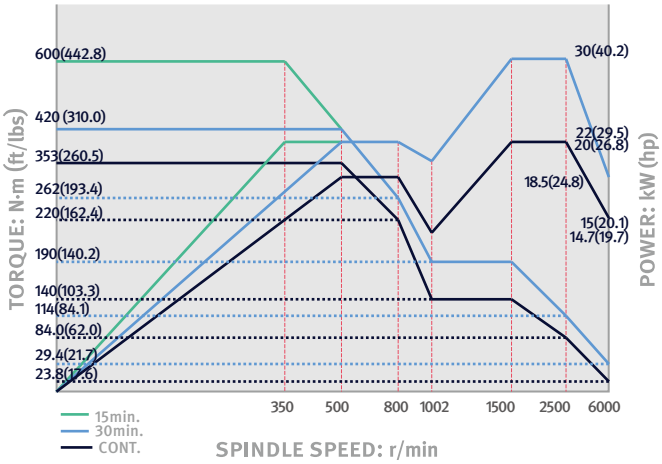
DBC 130Ⅱ / 130LⅡ



DBC 160 / L



DBC 250 / 250 LⅡ

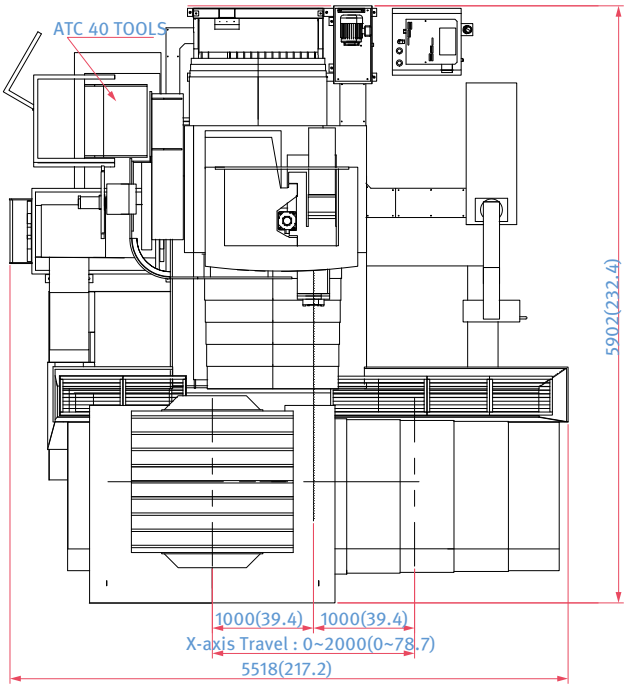


EXTERNAL DIMENSIONS

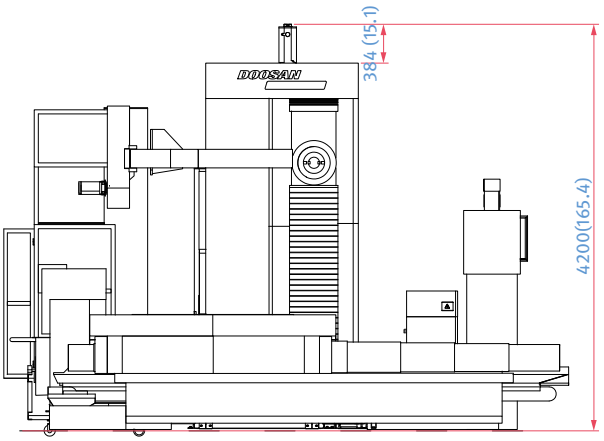
DBC 110S

Unit: mm(inch)

TOP



FRONT



SIDE

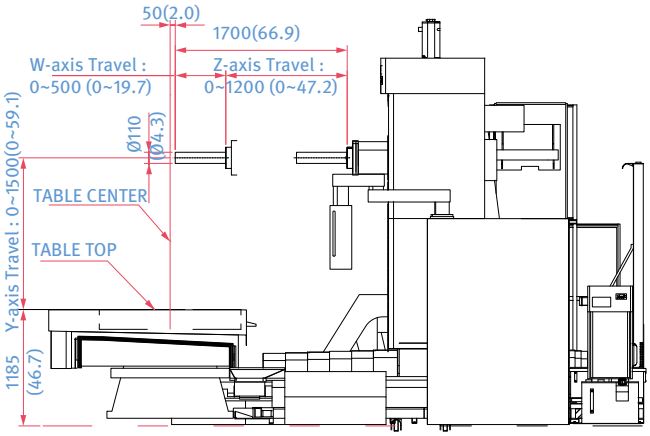
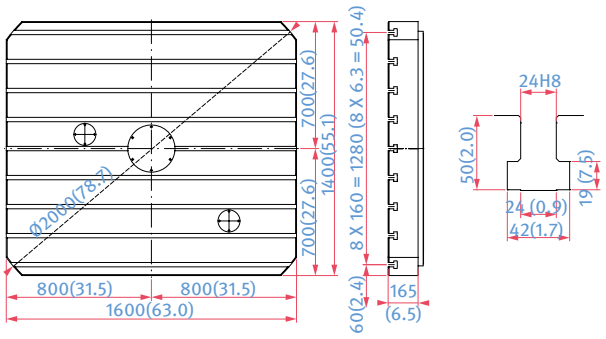


TABLE 1400 X 1600



** 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.*

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

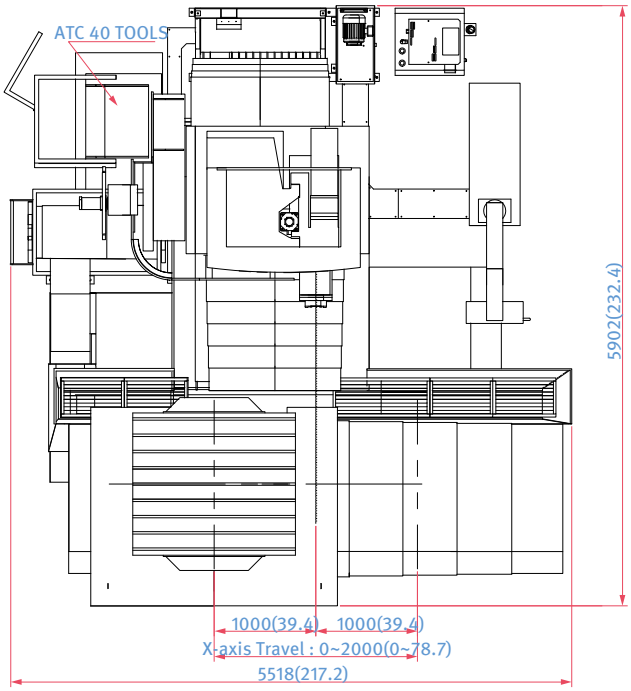
** Some peripheral equipment can be placed in other places.*

EXTERNAL DIMENSIONS

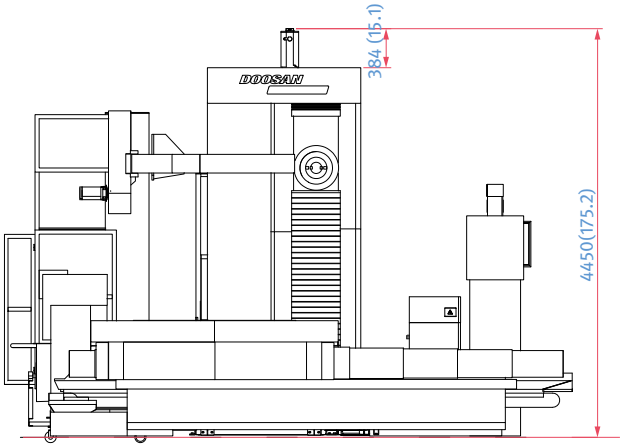
DBC 130S

Unit: mm(inch)

TOP



FRONT



SIDE

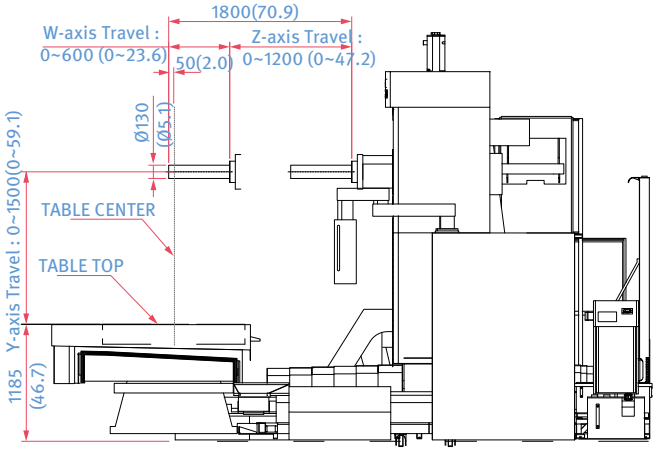
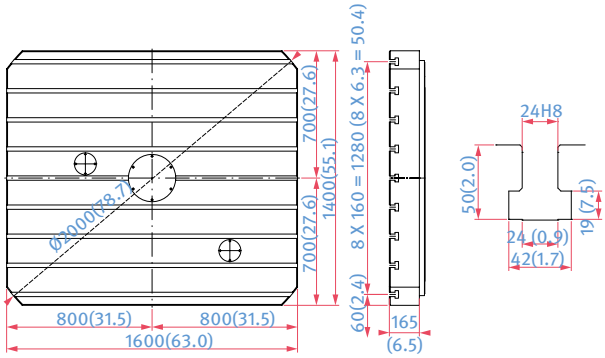


TABLE 1400 X 1600 (55.1 X 63.0)



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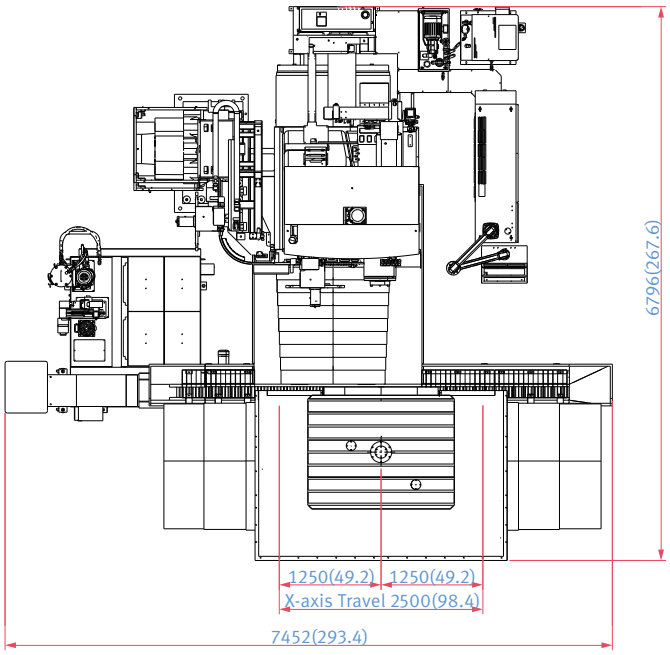
** Some peripheral equipment can be placed in other places.*

EXTERNAL DIMENSIONS

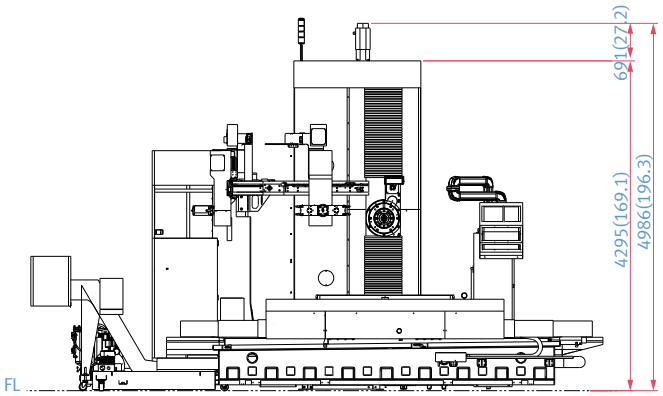
DBC 130SL

Unit: mm(inch)

TOP



FRONT



SIDE

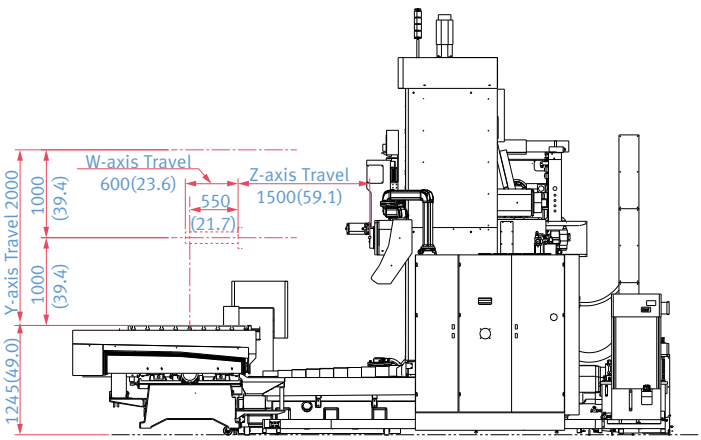
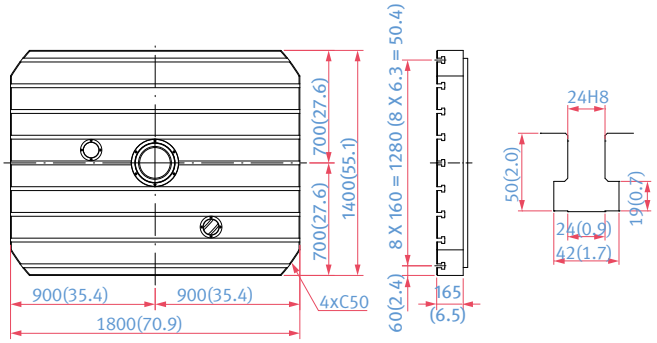


TABLE 1400 X 1600 1400 X 1600 (55.1 X 63.0)



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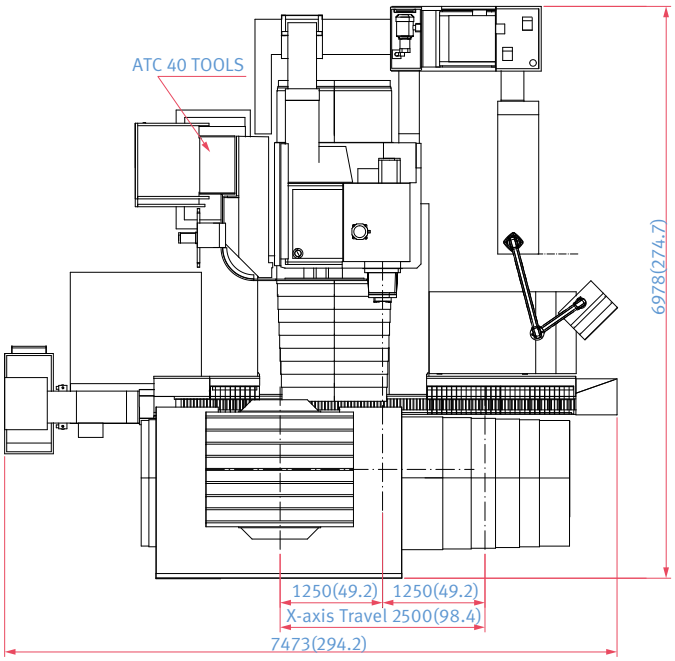
EXTERNAL DIMENSIONS

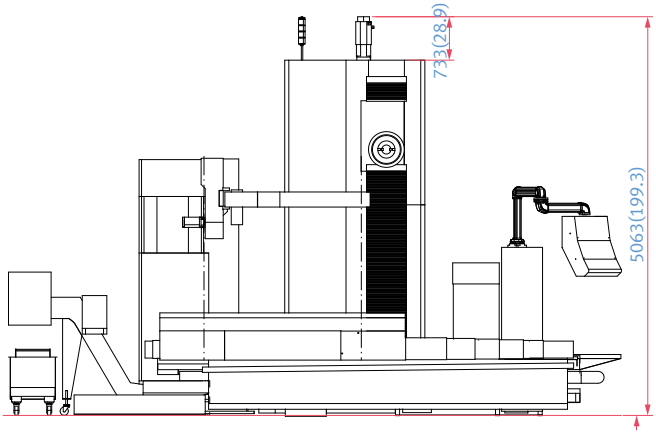
DBC 110Ⅱ

Unit: mm(inch)

TOP



FRONT



SIDE

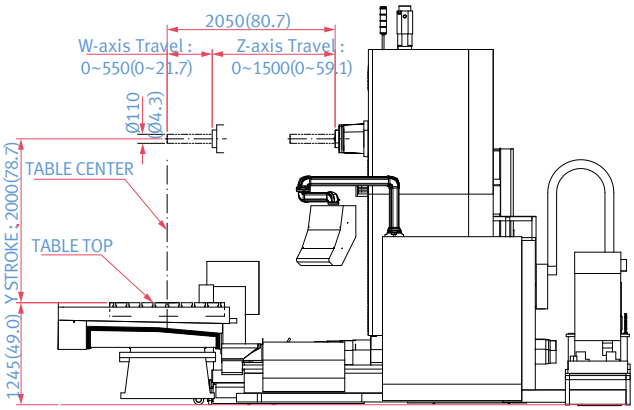
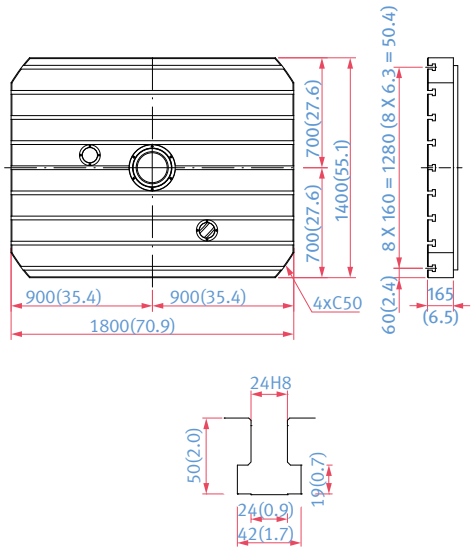


TABLE 1400 X 1800 (55.1 X 70.9)



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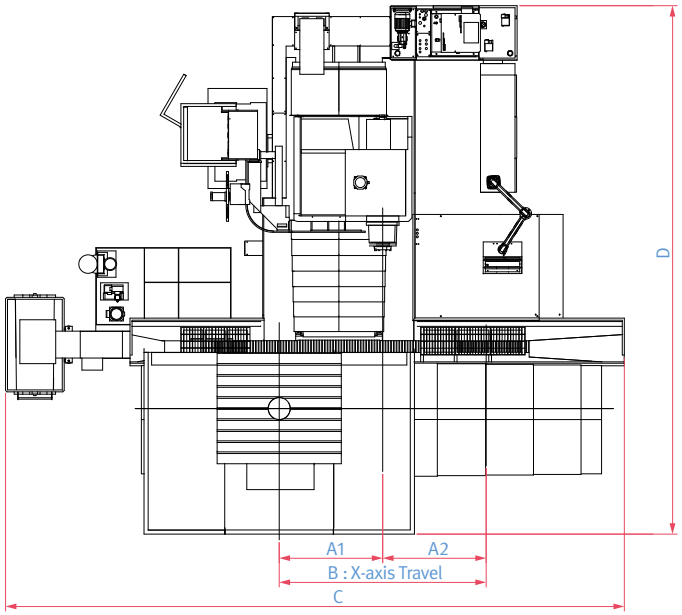
EXTERNAL DIMENSIONS

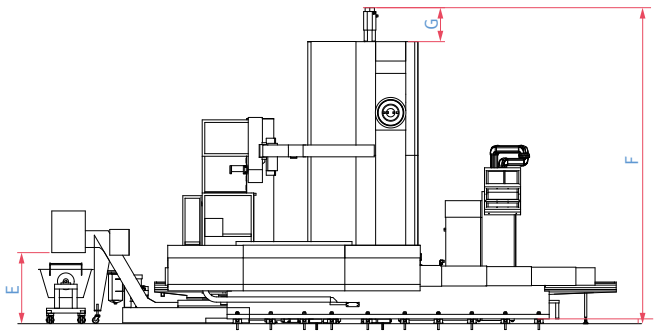
DBC 130Ⅱ / 130LⅡ / 250Ⅱ / 250LⅡ

Unit: mm(inch)

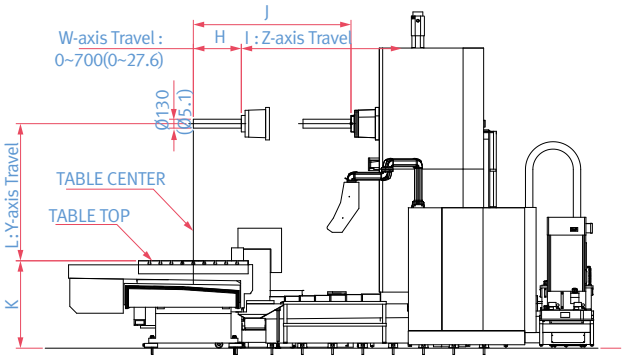
TOP



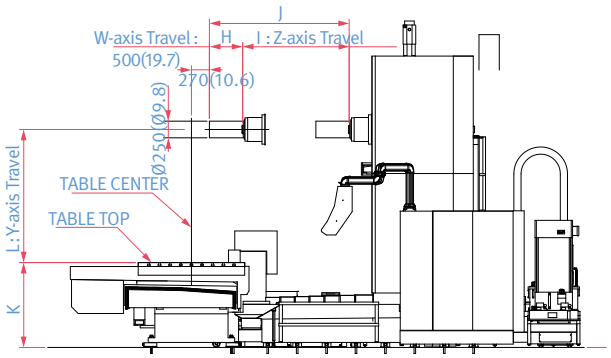
FRONT



SIDE(DBC 130Ⅱ / 130LⅡ)



SIDE(DBC 250Ⅱ / 250LⅡ)



Model	A1 / A2	B	C	D	E	F	G	H	I	J	K	L
DBC 130Ⅱ	1500 (59.1)	0-3000 (0-118.1)	8970 (353.1)	7660 (301.6)	1103 (43.4)	5070 (199.6)	690 (27.2)	0-700 (0-27.6)	0-1600 (0-63.0)	2300 (90.6)	1275 (50.2)	0-2000 (0-78.7)
DBC 130LⅡ	2000 (78.7)	0-4000 (0-157.5)	9970 (392.5)	8085 (318.3)	1103 (43.4)	5570 (219.3)	690 (27.2)	0-700 (0-27.6)	0-2000 (0-78.7)	2700 (106.3)	1275 (50.2)	0-2500 (0-98.4)
DBC 250Ⅱ	1500 (59.1)	0-3000 (0-118.1)	8970 (353.1)	7660 (301.6)	1103 (43.4)	5070 (199.6)	690 (27.2)	0-500 (0-19.7)	0-1600 (0-63.0)	2100 (82.7)	1275 (50.2)	0-2000 (0-78.7)
DBC 250LⅡ	2000 (78.7)	0-4000 (0-157.5)	9970 (392.5)	8085 (318.3)	1103 (43.4)	5570 (219.3)	690 (27.2)	0-500 (0-19.7)	0-2000 (0-78.7)	2500 (98.4)	1275 (50.2)	0-2500 (0-98.4)

** 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.*

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

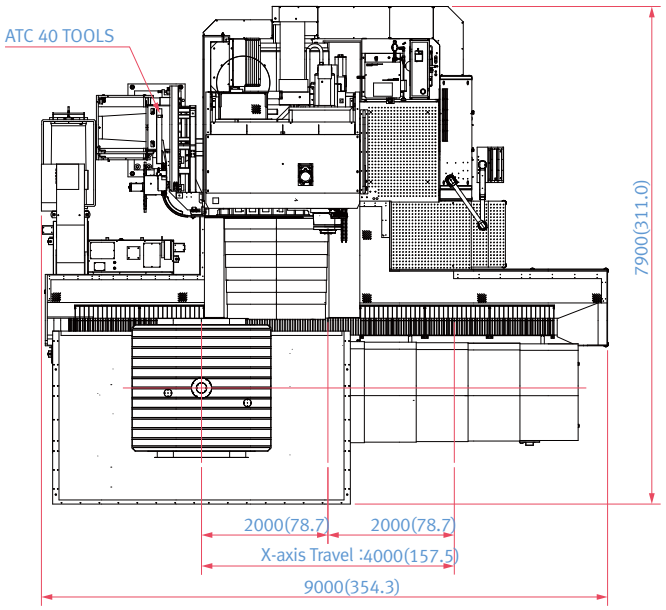
** Some peripheral equipment can be placed in other places.*

EXTERNAL DIMENSIONS

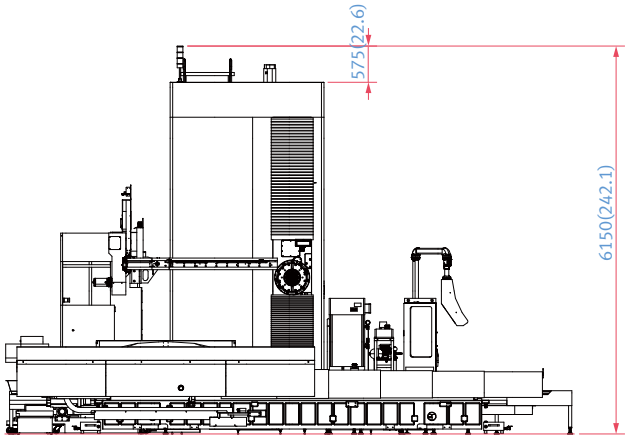
DBC 160

Unit: mm(inch)

TOP



FRONT



SIDE

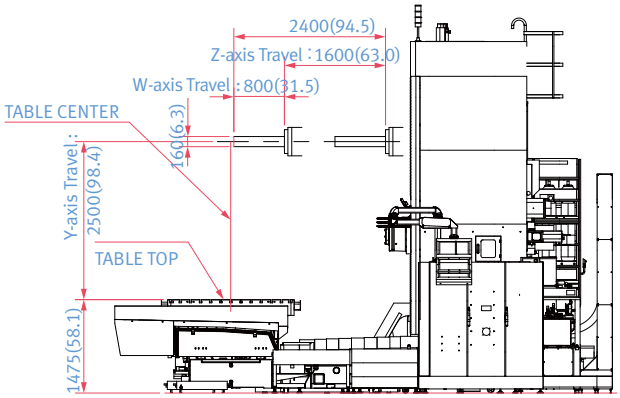
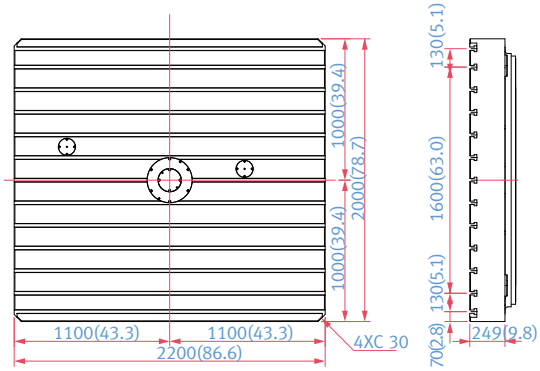
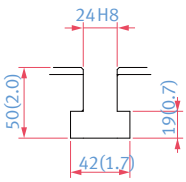


TABLE 2000 X 2200





Model	A1 / A2	B	C	D	E	F	G	H	I	J	K	L
DBC 160	2000 (78.7)	0-4000 (0-157.5)	8958 (352.7)	7872 (309.9)	1103 (43.4)	6140 (241.7)	575 (22.6)	0-800 (0-31.5)	0-1600 (0-63.0)	2400 (94.5)	1475 (58.1)	2500 (98.4)

** 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.*

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

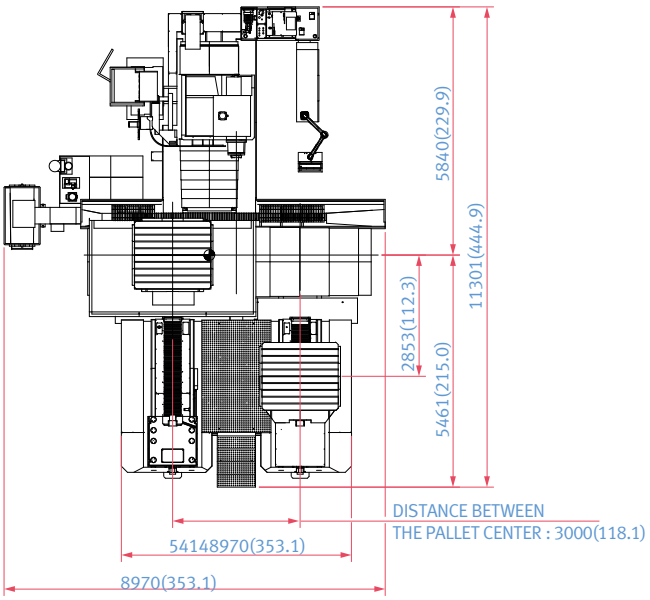
** Some peripheral equipment can be placed in other places.*

EXTERNAL DIMENSIONS

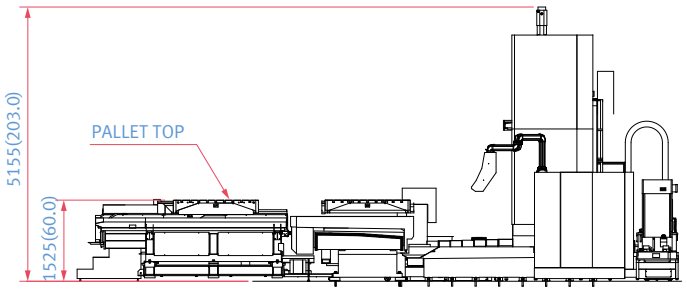
DBC 130II with APC OPTION

Unit: mm(inch)

TOP



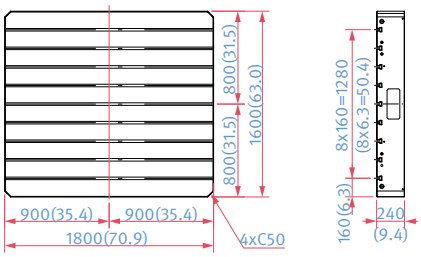
FRONT



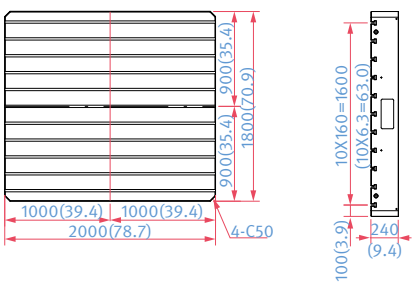
** Please comply with our company's installation guideline, such as ground condition and anchoring, in order to achieve the maximum precision and performance of the machine.*
*** Providing anchoring bolts. Foundation work must be done.*

APC Pallet

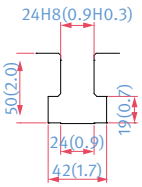
1600 x 1800 (63.0 x 70.9) OPTION
APC loading capacity : 10 tons



1800 x 2000 (70.9 x 78.7) OPTION
APC loading capacity : 8 tons

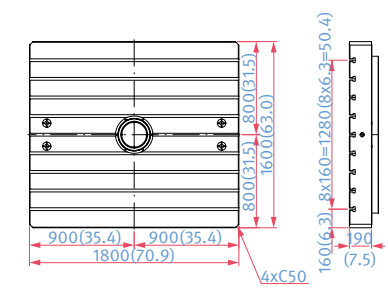


T-Slot

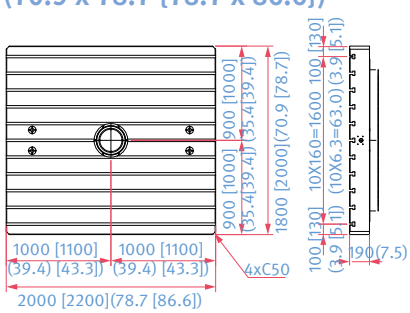


APC Pallet

1600 x 1800 (63.0 x 70.9)



1800 x 2000 {2000 x 2200} OPTION
(70.9 x 78.7 {78.7 x 86.6})



** Some peripheral equipment can be placed in other places.*

MACHINE SPECIFICATIONS

DBC S series

Description			Unit	DBC 110S	DBC 130S	DBC 130SL
Travels	Travel distance	X-axis	mm (inch)	2000 (78.7)		2500 (98.4)
		Y-axis	mm (inch)	1500 (59.1)		2000 (78.7)
		Z-axis	mm (inch)	1200 (47.2)		1500 (59.1)
		W-axis	mm (inch)	500 (19.7)	600 (23.6)	
	Distance from spindle nose to table top		mm (inch)	0 ~ 1500 (0~59.1)		0~2000 (0~78.7)
	Distance from spindle nose to table center		mm (inch)	550 ~ 1750 (21.7~2.9)		
Feedrate	Rapid traverse	X, Y, Zaxes	m/min	12		
		W-axis	m/min	6		
	Cutting feedrate	X, Y, Zaxes	mm/min	1 ~ 6000		
Table	Table size		mm (inch)	1400 x 1600 (55.1x63.0)		1400 x 1800 (55.1x70.9)
	Swing diameter	Without semi-S/G	mm (inch)	ø2550 (100.4)		ø3400 (133.9)
		With semi-S/G	mm (inch)	ø2100 (82.7)		ø2250 (88.6)
	Load capacity	1400 x 1600 mm	kg (lb)	7000 (15432.1)	8000 {10000} (17636.7 {22045.9})	-
		1400 x 1800 mm	kg (lb)	-	-	10000 (22045.9)
		1600 x 3000 mm	kg (lb)	-	-	-
		1600 x 1800 mm	kg (lb)	-	-	-
		1800 x 2000 mm	kg (lb)	-	-	-
		2000 x 2200 mm	kg (lb)	-	-	-
Spindle	Max. spindle speed		r/min	3000	2500	
	Boring spindle diameter		mm (inch)	110 (4.3)	130 (5.1)	
	Quill diameter		mm (inch)	-	-	-
Motor	Spindle motor (30 min/cont.) {AMP UP: 15 min/cont.}		kW (Hp)	26/22 (34.9/29.5) {30/22 (40.2/29.5)}*	37/30 (49.6/40.2)	
ATC OPTION	Tool storage capacity		ea	40 / 60 / 90		
	Tool shank			MAS403 BT50		
	Max. tool diameter		mm (inch)	ø130 / 250 / 400 / 600(1) (5.1 / 9.8 / 15.7 / 23.6)		
	Max. tool length		mm (inch)	600 (23.6)		
	Max. tool weight		kg (lb)	30 (66.1)		
	Max. tool moment		N·m (ft-lbs)	34.3 (25.3)		
	Method of tool selection			Fixed address		
Power source	Electric power supply (rated capacity)		kVA	70		
Machine dimensions	Height		mm (inch)	4200 (165.4)	4440 (174.8)	4990 (196.5)
	Length x Width		mm (inch)	5540 x 5930 (218.1 x 233.5)		7700 x 6850 (303.1 x 269.7)
	Weight		kg (lb)	29000 (63933.1)	30000 (66137.7)	36000 (79365.2)
CNC system				Fanuc 32i	DN Solutions Fanuc i Plus	

*{ } : Option

(1) For Ø250 and Ø400 mm tools, neighboring pots must be empty. For Ø600 mm tools, neighboring two pots must be empty.

MACHINE SPECIFICATIONS

DBC Ⅱ series

Description			Unit	DBC 110Ⅱ	DBC 130Ⅱ	DBC 130LⅡ	DBC 160	DBC 160L	DBC 250Ⅱ	DBC 250LⅡ
Travels	Travel distance	X-axis	mm (inch)	2500 (98.4)	3000 (118.1)	4000(157.5)	4000 (157.5)	5000*(196.9)	3000 (118.1)	4000 (157.5)
		Y-axis	mm (inch)	2000 (78.7)		2500 (98.4)	2500 (98.4)	3000* (118.1)	2000 (78.7)	2500 (98.4)
		Z-axis	mm (inch)	1500 (59.1)	1600 (63.0)	2000 (78.7)	1600 (63.0)	2000 (78.7)	1600 (63.0)	2000 (78.7)
		W-axis	mm (inch)	550 (21.7)	700 (27.6)		800 (31.5)	800 (31.5)	500 (19.7)	500 (19.7)
	Distance from spindle nose to table top		mm (inch)	0 ~ 2000 (0~78.7)		0 ~ 2500 (0~98.4)	0 ~ 2500 (0~98.4)	0 ~ 3000 (0~118.1)	0 ~ 2000 (0~78.7)	0 ~ 2500 (0~98.4)
	Distance from spindle nose to table center		mm (inch)	550 ~ 1750 (21.7 ~ 68.9)	700 ~ 2300 (27.6 ~ 90.6)	700 ~ 2700 (27.6 ~ 106.3)	850 ~ 2450 (33.5 ~ 96.5)	850 ~ 2850 (33.5 ~ 112.2)	770 ~ 2370 (30.3 ~ 93.3)	770 ~2770 (30.3 ~ 109.1)
Feedrate	Rapid traverse	X, Y, Z axes	m/min	12	10	10 / 8 / 10 {7 / 8 / 10}*	10 / 10 / 10 {7 / 10 / 10}(1)	7.5 / 10 / 10	10	10 / 8 / 10
		W-axis	m/min	6(0.2)					10	
	Cutting feedrate	X, Y, Z axes	mm/min	1 ~ 6000	1 ~ 4000					
Table	Table size		mm (inch)	1400 x 1800 (55.1 x 70.9)	1600 x 1800 (63.0 x 70.9) {1800 x 2000 (70.9 x 78.7), 2000 x 2200 (78.7 x 86.6)}*		2000 x 2200 (78.7 x 86.6)	2000 × 2200 (78.7 x 86.6)	1600 x 1800 (63.0 x 70.9) {1800 x 2000 (70.9 x 78.7), 2000 x 2200 (78.7 x 86.6)}*	
	Swing diameter	Without semi-S/G	mm (inch)	ø3400 (133.9)	ø3900 (153.5)	ø4800 (189.0)	ø4800 (189.0)	ø4800 (189.0)	ø3900 (153.5)	ø4800 (189.0)
		With semi-S/G	mm (inch)	ø2250 (88.6)	ø3400 (133.9)	ø3400 (133.9)	ø3400 (133.9)	ø3400 (133.9)	ø3400 (133.9)	ø3400 (133.9)
	Load capacity	1400 x 1600 mm (55.1 x 63.0 inch)	kg (lb)	-	-	-	-	-	-	-
		1400 x 1800 mm (55.1 x 70.9 inch)	kg (lb)	10000 (22045.9)	-	-	-	-	-	-
		1600 x 1800 mm (63.0 x 70.9 inch)	kg (lb)	-	15000 (3306.9)			-	15000 (3306.9)	
		1800 x 2000 mm (70.9 x 78.7 inch)	kg (lb)	-	{13000 (28659.7)}*	{13000 (28659.7), 20000 (44091.8)}*		-	{13000 (28659.7)}*	
		2000 x 2200 mm (78.7 x 86.6 inch)	kg (lb)	-	{12000 (26455.1)}*	{12000 (26455.1), 19000}*	20000 {25000} (44091.8 {55114.8}*)	20000 (44091.8)	{12000 (26455.1)}*	
Spindle	Max. spindle speed		r/min	4000	3000		2000	2000	6000	
	Boring spindle diameter		mm (inch)	110 (4.3)	130 (5.1)		160 (6.3)	160 (6.3)	-	-
	Quill diameter		mm (inch)	-			-	-	250 (9.8)	
Motor	Spindle motor (30 min/cont.) {AMP UP: 15 min/cont.}		kW (Hp)	26/22 {30/22}*, {45/37}* (34.9/29.5 {40.2/29.5}, {60.3/49.6})			45/37 (60.3/49.6)		30/22 (40.2/29.5)	
ATC OPTION	Tool storage capacity		ea	40 / 60 / 90						
	Tool shank			MAS403 BT50						
	Max. tool diameter		mm	ø130 / 250 / 400 / 600(2) (5.1 / 9.8 / 15.7 / 23.6)						
	Max. tool length		mm (inch)	600 (23.6)						
	Max. tool weight		kg (lb)	30 (66.1)						
	Max. tool moment		N·m (ft-lbs)	34.3 (25.3)						
	Method of tool selection			Fixed address						
Power source	Electric power supply (rated capacity)		kVA	70 {90 kVA with 45kW motor}*			90		70	
Machine dimensions	Height		mm (inch)	5070 (199.6)	5070 (199.6)	5570 (219.3)	6140 (241.7)	6650 (261.8)	5070 (199.6)	5570 (219.3)
	Length x Width		mm (inch)	7630 x 6990 (300.4 x 275.2)	8970 x 7640 (353.1 x 300.8)	9970 x 8040 (392.5 x 316.5)	8960 x 7880 (352.8 x 310.2)	10000 x 8300 (393.7 x 326.8)	8970 x 7640 (353.1 x 300.8)	9970 x 8040 (392.5 x 316.5)
	Weight		kg (lb)	36000 (79365.2)	43000 (94797.4)	48000 {50000}* (105820.3 {110229.5})	49000 (108024.9)	51000 (112434.1)	43000 (94797.4)	48000 (105802.3)
CNC system				F31iB Plus {Heidenhain, Siemens}						

*{ } : Option

(1) For Ø250 and Ø400 mm tools, neighboring pots must be empty. For Ø600 mm tools, neighboring two pots must be empty.

WHY DN SOLUTIONS

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?***

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

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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.

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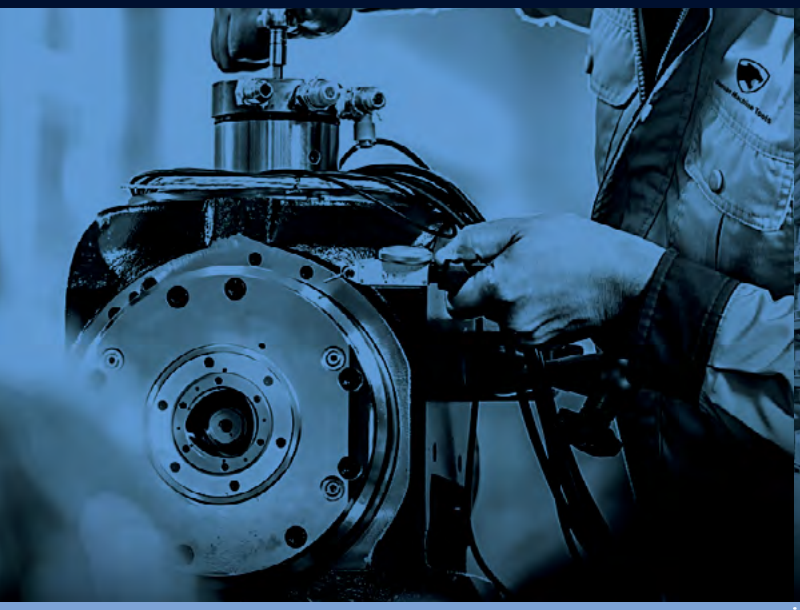
We help our customers operate at maximum efficiency by providing them with a range of tried, tested and trusted services - from pre-sales consultancy to post-sales support.



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- Machine repair service

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- Parts repair service

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- Provides technical consultancy

RESPONDING TO CUSTOMERS
ANYTIME, ANYWHERE

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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.

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