



Optimal Solutions for the Future

DBC series



**Horizontal
Boring Machine**

DBC series

DBC 110S
DBC 130S / SL

DBC 110 II
DBC 130 / L
DBC 250 / L II

ver. EN 160919 SU

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

**Detailed
Information**

Options
Capacity Diagram
Specifications

**Customer Support
Service**



DBC II series DBC S series

Column Moving Type NC Boring Machine Featuring the State-of-the-Art Technologies

The DBC series, ranging from compact to super-size models, satisfies customers' requirements with DOOSAN's 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.



Contents

02 Product Overview

Basic Information

04 Diverse Line-up

08 High-Rigidity & High-Precision Structure

11 User Convenience

Detailed Information

16 Standard / Optional Specifications

18 Diagrams

24 Machine / NC Unit Specifications

30 Customer Support Service

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.

- DBC II series
- DBC S series

Enhanced Performance through High-Rigidity & High-Precision Structure

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

- A high-rigidity and high-precision structure has been adopted to improve heavy-duty machining performance.
- B-axis rotary table equipped with high-precision encoder as a standard
- B-axis rotary table equipped with high-precision encoder as a standard

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
- Doosan Easy Operation package

Product Overview

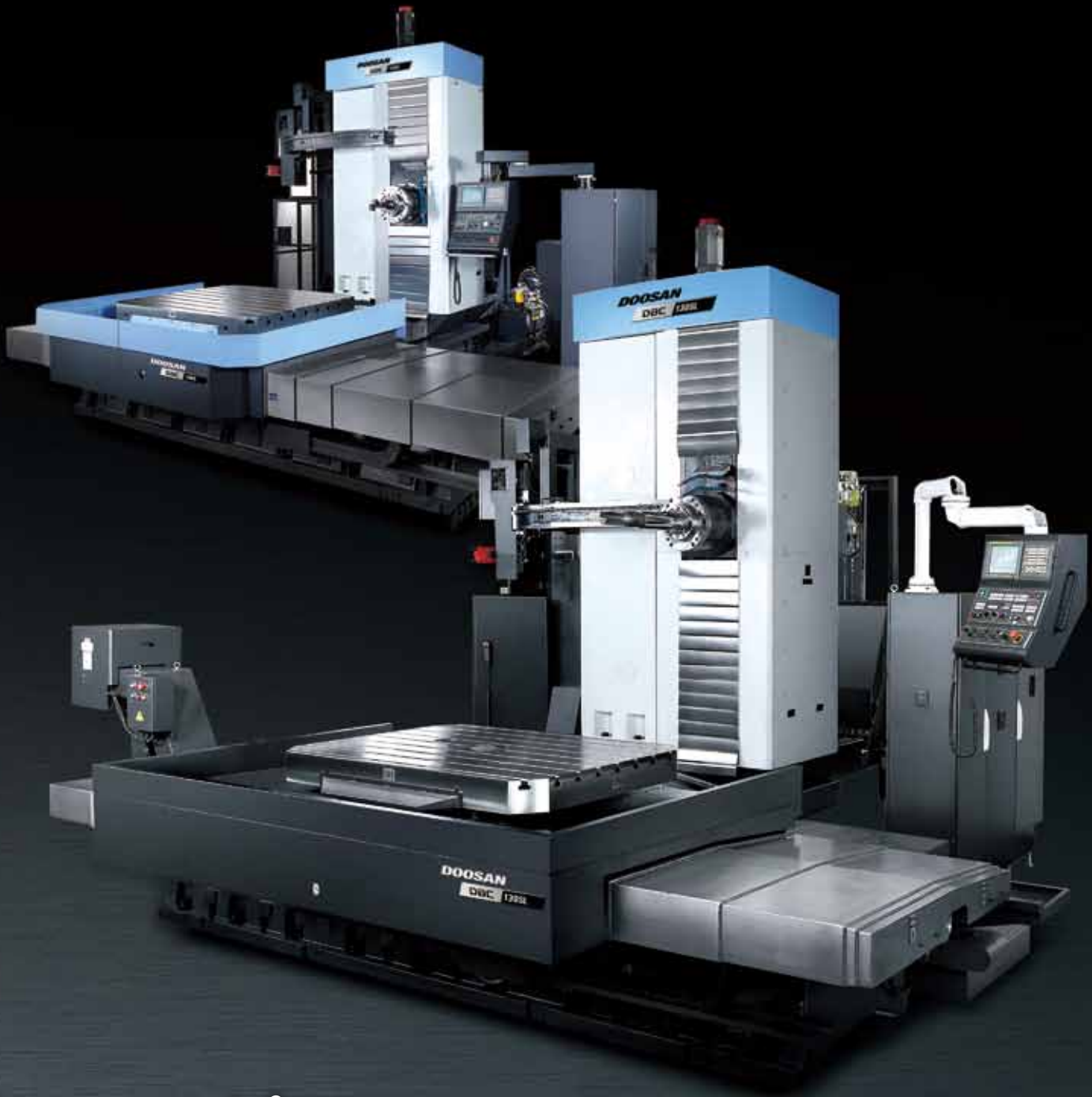
Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

Options
Capacity Diagram
Specifications

Customer Support Service



Diverse Line-up

Complete line-up ranging from compact to super-large types, and from heavy-duty to high-speed machining models is prepared for better and faster response to customer requests.

Optimal Solutions



Diverse Line-up

The DBC series provides various models covering compact, high-productivity, multi-functional, heavy duty and large workpieces.



Spindle

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



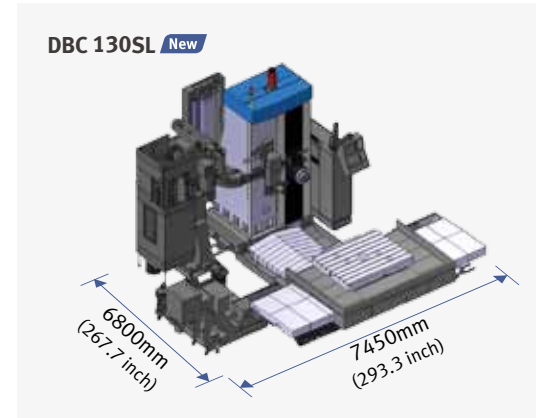
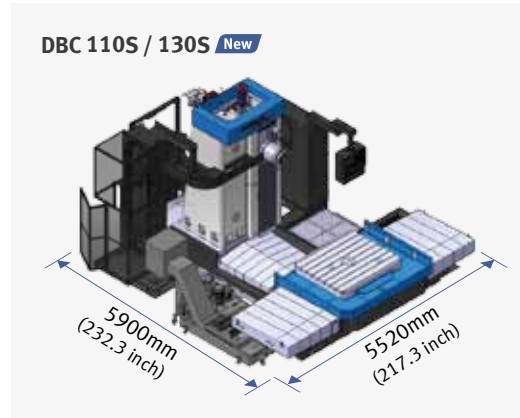
Diverse Line-up

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

DBC S series

Compact type DBC 110S / 130S / 130SL

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



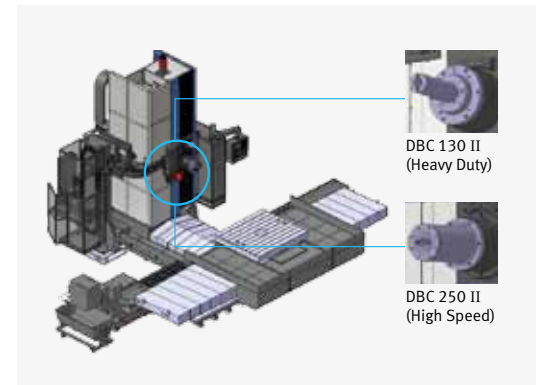
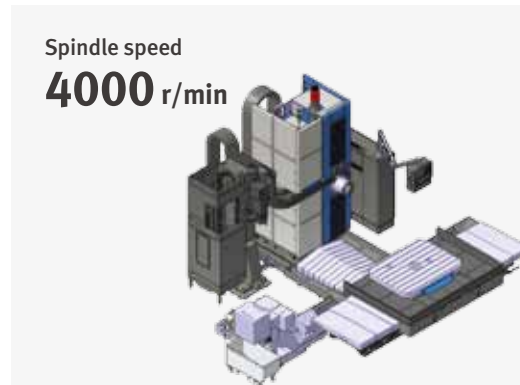
DBC II series

Small / medium-sized, high-productivity DBC 110 II

- High-productivity model featuring high-speed spindle
- Superior for deep cutting – boring operation is possible up to the table center due to W-axis feeding

Multi-purpose (Standard) DBC 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.



Large workpieces DBC 130L II / DBC 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 130 II / 250 II
Ø3900 mm (153.5 inch)
- DBC 130L II / 250L II
Ø4800 mm (189.0 inch)



Spindle

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

Options
Capacity Diagram
Specifications

Customer Support Service

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 110S / DBC 130S / DBC 130SL


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

| Model | Spindle Speed r/min | Spindle motor kW(Hp) | Torque N·m(ft·lbs) | |
|-----------|------------------------|---|----------------------------------|---|
| DBC 110S | 3000 | 26 / 22 (34.9 / 29.5) (30min/cont.) | 1137 {1273}* (839.1 {939.5})* |  |
| | | {30 / 22 (40.2 / 29.5) (15min/cont.)}* | | |
| DBC 130S | 2500 | 37 / 30 (49.6 / 40.2) (30min/cont.) | 3028 (2234.7) | |
| DBC 130SL | | | | |

DBC II series


DBC 110 II

High-speed, high-performance spindle

| Spindle Speed r/min | Spindle motor kW(Hp) | Torque N·m(ft·lbs) | |
|------------------------|--------------------------------------|--|---|
| 4000 | 26 / 22 (34.9 / 29.5) (30min/cont.) | 2835 {3259, 3853}* (2092.2 {2405.1, 2843.5})* |  |
| | {30 / 22 (40.2 / 29.5) (15min/cont.) | | |
| | 45 / 37 (60.3 / 49.6) (30min/cont.)* | | |

DBC 130 / L


High-power, high-torque spindle for heavy-duty machining

| Spindle Speed r/min | Spindle motor kW(Hp) | Torque N·m(ft·lbs) | |
|------------------------|--------------------------------------|--|---|
| 2500 | 26 / 22 (34.9 / 29.5) (30min/cont.) | 3383 {3940, 3703}* (2496.7 {2907.7, 2732.8})* |  |
| | {30 / 22 (40.2 / 29.5) (15min/cont.) | | |
| | 45 / 37 (60.3 / 49.6) (30min/cont.)* | | |

DBC 250 / L II

High-speed, high-precision built-in Quill spindle

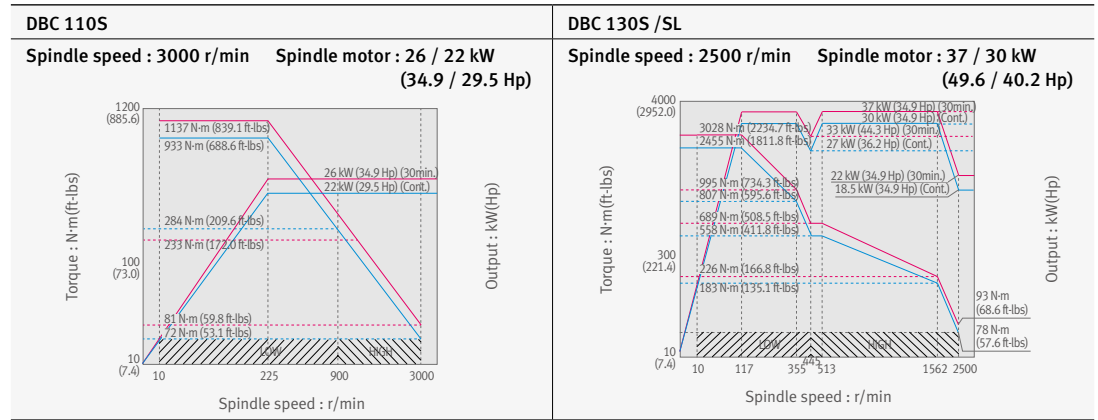
- Powerful Quill (Ø250mm) feed system (W-axis travel distance: 500 mm)
- Greased-type lubrication for the spindle bearings
- Stable thermal error of the spindle over a long-term operation

| Spindle Speed r/min | Spindle motor kW(Hp) | Torque N·m(ft·lbs) | |
|------------------------|--|-----------------------|---|
| 6000 | 30 / 22 (40.2 / 29.5) (30min/cont.) | 600 (442.8) |  |

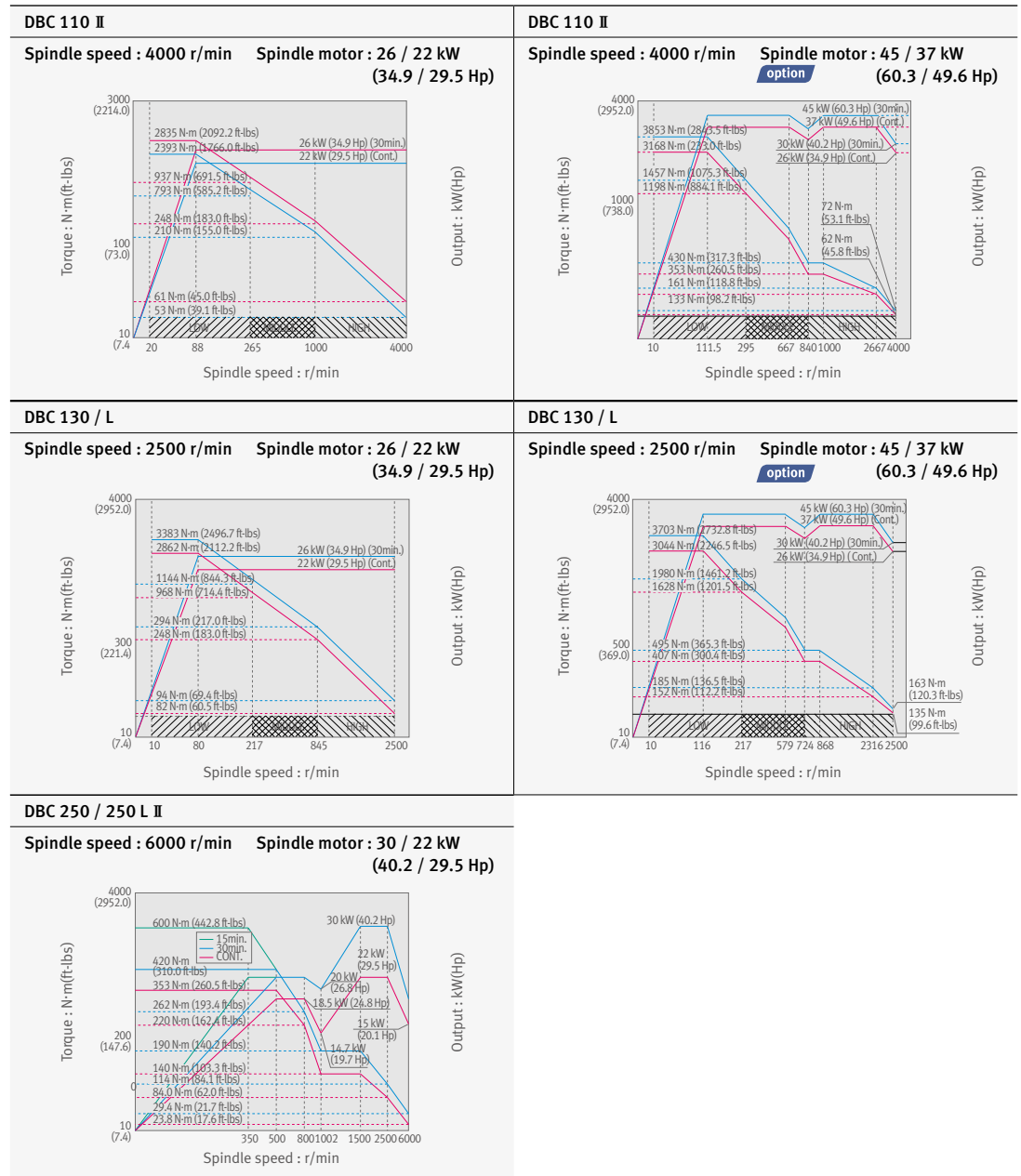
Spindle Power – Torque Diagram

The powerful spindle motor further improves productivity.

DBC series



DBC II series



Product Overview

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

Options
Capacity Diagram
Specifications

Customer Support Service



Enhanced Performance through High Rigid structure

Together with further improved high-rigidity structure and stabilized travel performance achieved through structure analysis, many options are upgraded to enhance user convenience

Optimal Solutions

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 the inner rib structure.

High Accuracy

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

High Productivity and User Convenience

Diversified options are offered to improve productivity, operating environment and operator's convenience.



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 the inner rib structure.

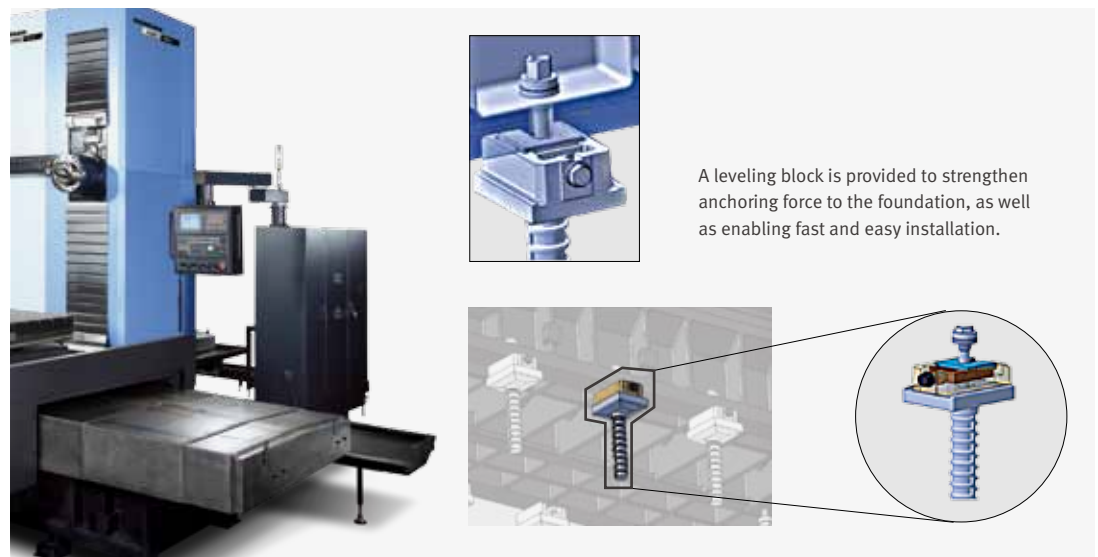
Highly Rigid Design of Major Units

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



Stable Machine Structure

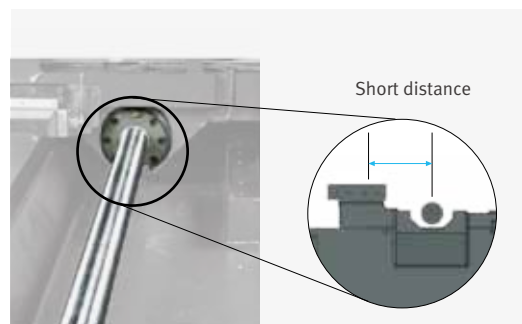
A highly-rigid, stable machine structure has been realized by optimizing the design of the column and the bed. Excellent wear resistance and accuracy for machining quality have been achieved by precision grinding after heat treatment.



* Except DBC110S / 130S / 130SL (leveling bolt type)

Narrow Guide System

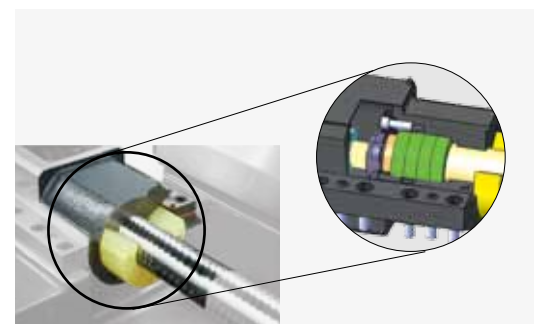
Designed with narrow guide system to minimize axis torque and ensure smooth motion.



* Excluding the X axes of DBC 110S / 110 II / 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 Accuracy

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

Options
Capacity Diagram
Specifications

Customer Support Service

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

Rotary Table * Patented

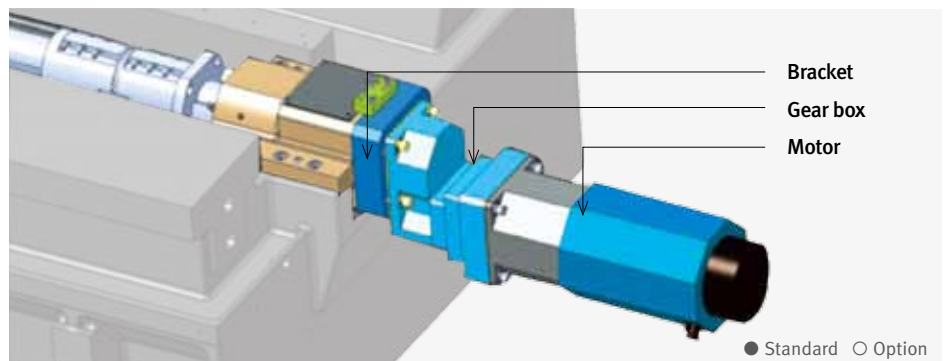
A high-precision, separate type encoder is installed at the table center as a standard to realize precise rotation of the B-axis.



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

| Axis \ Model | DBC 110S | DBC 130S | DBC 130SL | DBC 110 II | DBC 130 II | DBC 130L II | DBC 250 II | DBC 250L II |
|--------------|----------|----------|-----------|------------|------------|-------------|------------|-------------|
| X-axis | ○ | ○ | ○ | ○ | ○ | ● | ○ | ● |
| Z-axis | ○ | ○ | ○ | ○ | ○ | ● | ○ | ● |

ATC 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



Applicable Tool Specification

| | Specification | Shape |
|----------------|---|-------|
| Max. tool dia. | Normal tools: D = ϕ 130 mm (5.1 inch) | |
| | Facing tools: D = ϕ 250 mm (9.8 inch) (Neighboring pots must be empty) | |
| | Boring tools: D = ϕ 400 mm (15.7 inch) D = ϕ 600 mm (23.6 inch) option (Neighboring pots must be empty) | |

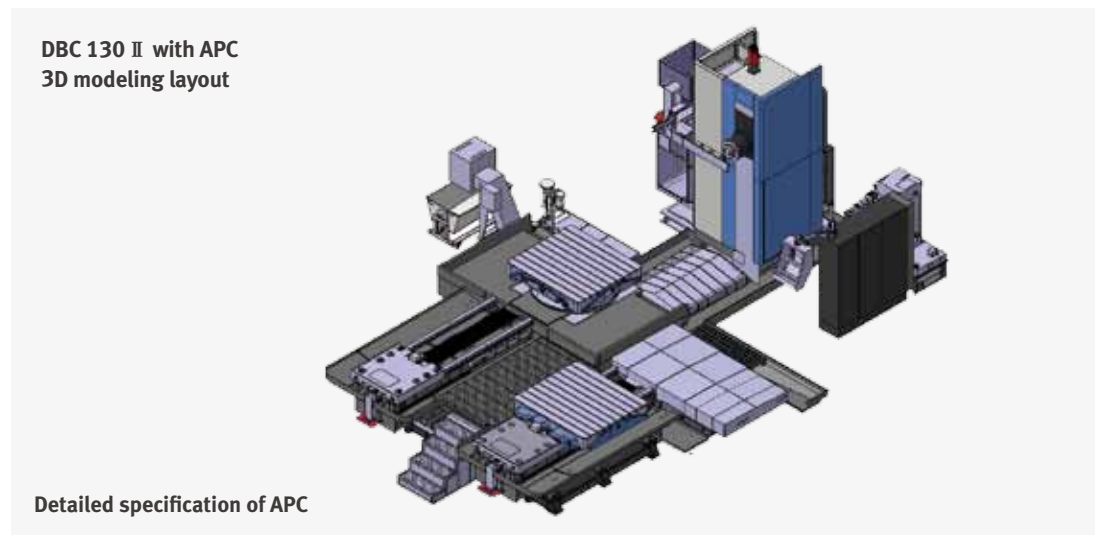
| | Specification | Shape |
|-----------------------|--|-------|
| Max. tool length | L = 600 mm (23.6 inch) | |
| Max. tool weight | W = 25 kg (55.1 lb) W = 30 kg (66.1 lb) option | |
| Tool storage capacity | 40 {60 / 90} tools option | |

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

* Please contact us if you wish to extend the boring tool diameter (D= ϕ 600).

APC 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.



| 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 | <ul style="list-style-type: none"> • 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



Chip Disposal System

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

Options
Capacity Diagram
Specifications

Customer Support Service

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 conveyor easier.



Coolant gun 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 conveyor option



Coolant Splash Guard option

Semi-splash guard

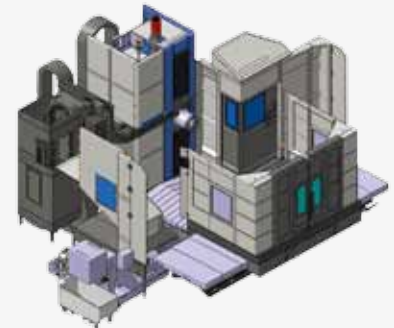
DBC 110S / 130S



DBC 130SL

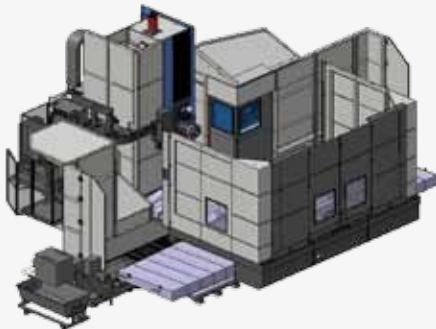


DBC 110 II

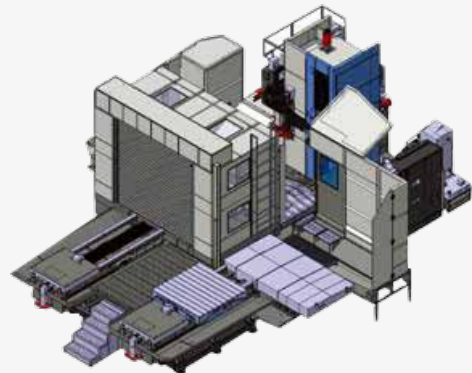


Auto door semi-splash guard (for APC option)

DBC 130 / L
DBC 250 / L II



DBC 130 / L II
DBC 250 / L II



Special Options option

Following special options are available on order:

| | | | | | | | | | | | | | | | | | |
|--|---|---|-------------|-------------|------------|------------|------------|---|------------|-------------|-------------|-------------|---|------------|------------|------------|-------------|
| <p>1. Angle head (manual indexing) (L=365mm (14.4 inch))</p>  | <p>2. Long type angle head (manual indexing) (L=660mm (26.0 inch))</p>  | <p>3. Universal head (manual indexing)</p>  | | | | | | | | | | | | | | | |
| <p>4. Face plate (manual indexing) (Ø650mm (25.6 inch))</p>  | <p>5. Indexable angle head (90° auto indexing) Please contact us for further details of specification.</p>  | <p>6. Spindle support *</p> <ul style="list-style-type: none"> • 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)  | | | | | | | | | | | | | | | |
| <p>7. Facing head (Cogsdill) - Manual installation (For more details, please contact us.)</p>  | <p>8. Angle plate (4 types)</p> <ul style="list-style-type: none"> • Please contact us for customized specifications. • Please contact us for further information. <p style="text-align: right;">Unit : mm (inch)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="text-align: center;">A</td> <td style="text-align: center;">450 (17.7)</td> <td style="text-align: center;">500 (19.7)</td> <td style="text-align: center;">750 (29.5)</td> <td style="text-align: center;">750 (29.5)</td> </tr> <tr> <td style="text-align: center;">B</td> <td style="text-align: center;">600 (23.6)</td> <td style="text-align: center;">1000 (39.4)</td> <td style="text-align: center;">1250 (49.2)</td> <td style="text-align: center;">2000 (78.7)</td> </tr> <tr> <td style="text-align: center;">C</td> <td style="text-align: center;">400 (15.7)</td> <td style="text-align: center;">550 (21.7)</td> <td style="text-align: center;">750 (29.5)</td> <td style="text-align: center;">1000 (39.4)</td> </tr> </tbody> </table>  | | A | 450 (17.7) | 500 (19.7) | 750 (29.5) | 750 (29.5) | 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) |
| A | 450 (17.7) | 500 (19.7) | 750 (29.5) | 750 (29.5) | | | | | | | | | | | | | |
| 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) | | | | | | | | | | | | | |

* Please consult us for employing ATC with spindle support attached.
(Note) The head attachments (1 ~ 7) are not applicable for DBC 250 (L) II model.



Easy and Convenient Operation

Operating system for enhanced user convenience

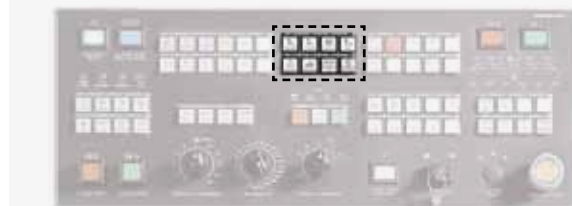
Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

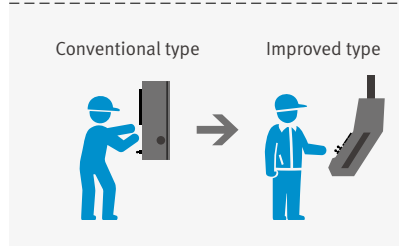
Options
Capacity Diagram
Specifications

Customer Support Service



DOOSAN's new operation panel

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

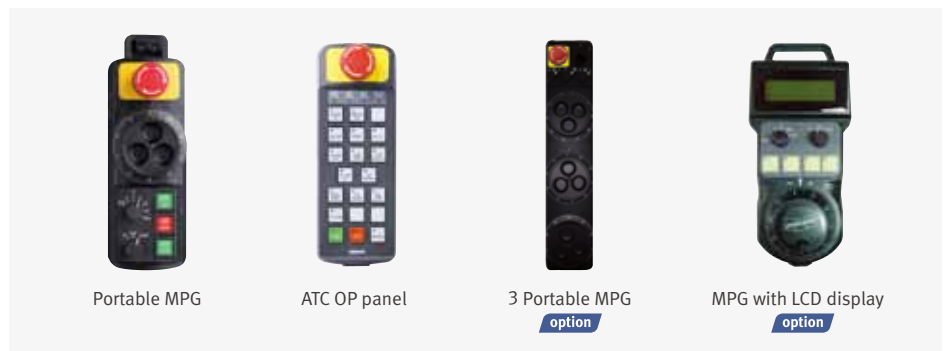


Improved user convenience with ergonomic design

The tilting operation panel ensures enhanced operating convenience.

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.



Mono lever jog switch

Easy Operation Package

Tool Load Monitoring

- Automatically detects tool wear and tear in the case of abnormal workloads using M-code.
- Workpiece-specific machining data can be saved.



Periodic Inspection Function

This function updates the operator with maintenance-related information such as oil refill timing.



Automatic Backlash Compensation

After setting up the workpiece, feed backlash is automatically detected and compensated by the G-code instruction or through the function screen.



Tool Life Management

Tools are protected from abnormal load on the servo shaft, by skipping the tool or generating a freehold alarm.

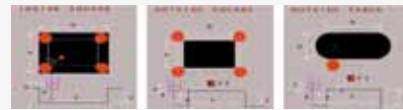


Easy Pattern Cycle

Major processing pattern cycles and programs can be created by simply entering major factors. This function is built in the CNC, thus drastically reducing programming time and enabling easy use on site. A total of 22 patterns including basic 5 patterns are provided.



Drilling pattern



End-mill pattern

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. Standard Option

| M-Code | Work Load Control | DBC 110S | DBC 130S / SL | DBC 110 II | DBC 130 II | DBC 130L II | DBC 250 / L II |
|--------|-------------------|----------|---------------|------------|------------|-------------|----------------|
| M380 | 5tons or less | ● | ● | ● | ● | ● | ● |
| M381 | 10tons or less | ● | ● | ● | ● | ● | ● |
| M382 | 15tons or less | | | | ● | ● | ● |
| M383 | 20tons or less | | | | | ○ | |

Selection Function

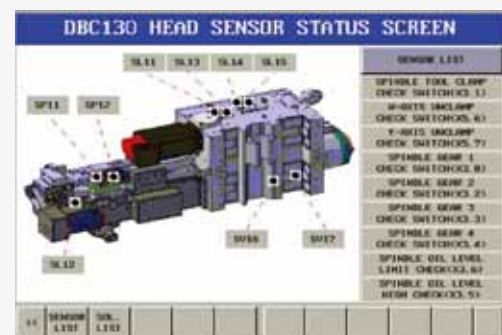
Easy Set-up Guidance Touch Sensor (including OMP60) option

This function enables the simple setting up of workpiece coordinates, using an automatic or semi-automatic measuring probe. When using an auto-measuring probe, place the probe close to the set up surface, select the setup configuration, and press the cycle start button. The system touches the point and sets the workpiece coordinates automatically.



Support Function for Maintenance - Easy Operation Guidance option

Machine faults including problems with the ATC magazine are detected and troubleshooting suggestions are proposed for corrective action. For guidance on easy operation, display windows - including function selection, thermal error setting, program progress display, and operation report display - are provided.



Standard / Optional Specifications

Various options are available to satisfy the customers' requirements.

DBC S series

● Standard ○ Optional X Not applicable

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

Options
Capacity Diagram
Specifications

Customer Support Service

| NO. | Description | Features | DBC 110S | DBC 130S | DBC 130SL |
|-----|---|---|----------|----------|-----------|
| 1 | SPINDLE MOTOR POWER | 26 / 22 KW (34.9 / 29.5 Hp) (30WORKPIECE SETTING DEVICE) | ● | X | X |
| 2 | | 30 / 22 KW (40.2 / 29.5 Hp) (15WORKPIECE SETTING DEVICE) (AMP UP) | ○ | X | X |
| 3 | | 45 / 37 KW (60.3 / 49.6 Hp) (30WORKPIECE SETTING DEVICE) | X | X | X |
| 4 | | 37 / 30 KW (49.6 / 40.2 Hp) (30WORKPIECE SETTING DEVICE) | X | ● | ● |
| 5 | ATC | 40 TOOLS | ○ | ○ | ○ |
| 6 | | 60 / 90 TOOLS | ○ | ○ | ○ |
| 7 | WORKPIECE SETTING DEVICE | CENTER BUSH | X | X | X |
| 8 | | EDGE LOCATOR | ○ | ○ | ○ |
| 9 | TABLE SIZE | 1400 X 1600 mm(55.1X63.0 inch) | ● | ● | X |
| 10 | | 1400 X 1800 mm(55.1X70.9 inch) | X | X | ● |
| 11 | | 1600 X 1800 mm(63.0X70.9 inch) | X | X | X |
| 12 | | 1800 X 2000 mm(70.9X78.7 inch) | X | X | X |
| 13 | | 2000 X 2200 mm(78.7X86.6 inch) | X | X | X |
| 14 | | 1800 X 2000 mm(70.9X78.7 inch)_20 ton | X | X | X |
| 15 | | 2000 X 2200 mm(78.7X86.6 inch)_19 ton | X | X | X |
| 16 | | 1600 X 3000 mm(63.0X118.1 inch)_20 ton | X | X | X |
| 17 | APC ⁽¹⁾ | | ○ | ○ | ○ |
| 18 | LINEAR SCALE (X / Y / Z) | ABSOLUTE | ○ | ○ | ○ |
| 19 | RAISED COLUMN ⁽¹⁾ | | ○ | ○ | ○ |
| 20 | SPLASH GUARD | SPLASH GUARD W/O TOP | ○ | ○ | ○ |
| 21 | | AUTO DOOR SEMI GUARD ^{(1) (2)} | ○ | ○ | ○ |
| 22 | COOLANT TANK | | ○ | ○ | ○ |
| 23 | LIFT UP CHIP CONVEYOR | | ○ | ○ | ○ |
| 24 | Flood Coolant | | ○ | ○ | ○ |
| 25 | TSC | 1.5 KW (2.0 Hp)_ 2.0 MPA_BAG FILTER | ○ | ○ | ○ |
| 26 | | 1.5 KW(2.0 Hp)_ 2.0 MPA_CYCLON FILTER | ○ | ○ | ○ |
| 27 | | 5.5 KW(7.4 Hp)_ 7.0 MPA_DUAL BAG FILTER | ○ | ○ | ○ |
| 28 | OIL SKIMMER | BELT TYPE | ○ | ○ | ○ |
| 29 | | DISK TYPE | ○ | ○ | ○ |
| 30 | COOLANT GUN | | ○ | ○ | ○ |
| 31 | AIR GUN | | ○ | ○ | ○ |
| 32 | AIR BLOWER | | ○ | ○ | ○ |
| 33 | 6-AXIS OPTION ⁽³⁾ | 1 AXIS_WIRE AND PIPING_HYD | ○ | ○ | ○ |
| 34 | AUTO WORKPIECE MEASURING DEVICE | OMP60_RENISHAW | ○ | ○ | ○ |
| 35 | | RMP60_RENISHAW | ○ | ○ | ○ |
| 36 | MASTER TOOL FOR AUTO TOOL MEASUREMENT | CALIBRATION BLOCK | ○ | ○ | ○ |
| 37 | AUTO TOOL MEASURING DEVICE | TS27R_RENISHAW | ○ | ○ | ○ |
| 38 | ANGULAR FIXTURE | SIZE 450 X 600 X 400 | ○ | ○ | ○ |
| 39 | | SIZE 500 X 1000 X 550 | ○ | ○ | ○ |
| 40 | | SIZE 750 X 1250 X 750 | ○ | ○ | ○ |
| 41 | | SIZE 1000 X 2000 X 1000 | ○ | ○ | ○ |
| 42 | ATTACHMENT | 90° ANGLE HEAD_L365 | ○ | ○ | ○ |
| 43 | | 90° ANGLE HEAD_L660 | ○ | ○ | ○ |
| 44 | | FACE PLATE_Ø650 | ○ | ○ | ○ |
| 45 | | INDEXABLE ANGLE HEAD_90° INDEX | ○ | ○ | ○ |
| 46 | | MANUAL UNIVERSAL HEAD_1000 | ○ | ○ | ○ |
| 47 | | SPINDLE SUPPORT_310 MM | X | ○ | ○ |
| 48 | | SPINDLE SUPPORT_200 MM | ○ | X | X |
| 49 | | COGSDILL READY | ○ | ○ | ○ |
| 50 | ATTACHMENT SPEED LIMIT CONTROL | | ○ | ○ | ○ |
| 51 | ATTACHMENT SPEED LIMIT CONTROL | | ○ | ○ | ○ |
| 52 | THERMAL DISPLACEMENT OF SPINDLE | | ○ | ○ | ○ |
| 53 | TEST BAR | BT50 | ○ | ○ | ○ |
| 54 | Y-AXIS ADDITIONAL BRAKE SYSTEM ⁽¹⁾ | | ○ | ○ | ○ |
| 55 | NC SCREEN SIZE | 10.4 INCH(COLOR) | ● | ● | ● |
| 56 | | 15.0 INCH(COLOR) | ○ | ○ | ○ |
| 57 | GRAVITY SHAFT FALL PREVENTION SYSTEM (AT POWER FAILURE) | | ○ | ○ | ○ |
| 58 | TRANSFORMER | | ○ | ○ | ○ |
| 59 | POWER PANEL AIR CONDITIONER | | ○ | ○ | ○ |
| 60 | POWER PANEL LIGHT | | ○ | ○ | ○ |
| 61 | POWER PANEL LINE FILTER | | ○ | ○ | ○ |
| 62 | AUTO NC POWER OFF | | ○ | ○ | ○ |
| 63 | AUTO NC POWER ON | | ○ | ○ | ○ |
| 64 | MACHINE WARMING UP | | ○ | ○ | ○ |
| 65 | DOOSAN TOOL MANAGEMENT PACKAGE | | ○ | ○ | ○ |
| 66 | DOOSAN TOOL LOAD MONITORING | | ○ | ○ | ○ |
| 67 | MPG | 1 MPG_PORTABLE_W/ENABLE TYPE | ● | ● | ● |
| 68 | | 3 MPG_PORTABLE_W/ENABLE TYPE | ○ | ○ | ○ |
| 69 | ALARM GUIDANCE | | ○ | ○ | ○ |
| 70 | EASY SETUP GUIDANCE | | ○ | ○ | ○ |
| 71 | COUNTER FUNCTION | WORK/TOTAL/DAILY | ○ | ○ | ○ |
| | NC | | 32iB | 0iMF | 31iB |
| 72 | DSQ1 (200Block) | | ● | ○ | ● |
| 73 | DSQ1 (400Block) | | ○ | ○ | ○ |
| 74 | DSQ2 (DSQ1+Data Server 1GB) | | ○ | ○ | ○ |
| 75 | DSQ3 (DSQ2 + 600Block) | | X | X | ○ |
| 76 | DSQ4 (DSQ3 + 1000Block) | | X | X | ○ |

* 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)

DBC II series

● Standard ○ Optional X Not applicable

| NO. | Description | Features | DBC 110 II | DBC 130 II | DBC 130L II | DBC 250 II | DBC 250L II |
|-----|---|--|------------|------------|-------------|------------------|------------------|
| 1 | SPINDLE MOTOR POWER | 26 / 22 KW(34.9 / 29.5 Hp) (30min/continuous) | ● | ● | ● | X | X |
| 2 | | 30 / 22 KW(34.9 / 29.5 Hp) (15min/continuous) (AMP UP) | ○ | ○ | ○ | ● ⁽³⁾ | ● ⁽³⁾ |
| 3 | | 45 / 37 KW(34.9 / 29.5 Hp) (30min/continuous) | ○ | ○ | ○ | X | X |
| 4 | | 37 / 30 KW(34.9 / 29.5 Hp) (30min/continuous) | X | X | X | X | X |
| 5 | ATC | 40 TOOLS | ○ | ○ | ○ | ○ | ○ |
| 6 | | 60 / 90 TOOLS | ○ | ○ | ○ | ○ | ○ |
| 7 | WORKPIECE SETTING DEVICE | CENTER BUSH | X | ○ | ○ | ○ | ○ |
| 8 | | EDGE LOCATOR | ○ | ○ | ○ | ○ | ○ |
| 9 | TABLE SIZE | 1400 X 1600 mm (55.1X63.0 inch) | X | X | X | X | X |
| 10 | | 1400 X 1800 mm (55.1X70.9 inch) | ● | X | X | X | X |
| 11 | | 1600 X 1800 mm (63.0X70.9 inch) | X | ● | ● | ● | ● |
| 12 | | 1800 X 2000 mm (70.9X78.7 inch) | X | ○ | ○ | ○ | ○ |
| 13 | | 2000 X 2200 mm (78.7X86.6 inch) | X | ○ | ○ | ○ | ○ |
| 14 | | 1800 X 2000 mm (70.9X78.7 inch)_20 ton | X | X | ○ | X | X |
| 15 | | 2000 X 2200 mm (78.7X86.6 inch)_19 ton | X | X | ○ | X | X |
| 16 | 1600 X 3000 mm (63.0X118.1 inch)_20 ton | X | X | X | X | X | |
| 17 | APC ⁽¹⁾ | | ○ | ○ | ○ | ○ | ○ |
| 18 | LINEAR SCALE (X, Y, Z-AXIS) | ABSOLUTE | ○ | ○ | ○ | ● | ● |
| 19 | RAISED COLUMN ⁽¹⁾ | | ○ | ○ | ○ | ○ | ○ |
| 20 | SPLASH GUARD | SPLASH GUARD W/O TOP | ○ | ○ | ○ | ○ | ○ |
| 21 | | AUTO DOOR SEMI GUARD ^{(1) (2)} | ○ | ○ | ○ | ○ | ○ |
| 22 | COOLANT TANK | | ○ | ○ | ○ | ○ | ○ |
| 23 | LIFT-UP CHIP CONVEYOR | | ○ | ○ | ○ | ○ | ○ |
| 24 | Flood Coolant | | ○ | ○ | ○ | ○ | ○ |
| 25 | TSC | 1.5 KW_2.0 MPA_BAG FILTER | ○ | ○ | ○ | ○ | ○ |
| 26 | | 1.5 KW_2.0 MPA_CYCLON FILTER | ○ | ○ | ○ | ○ | ○ |
| 27 | | 5.5 KW_7.0 MPA_DUAL BAG FILTER | ○ | ○ | ○ | ○ | ○ |
| 28 | OIL SKIMMER | BELT TYPE | ○ | ○ | ○ | ○ | ○ |
| 29 | | DISK TYPE | ○ | ○ | ○ | ○ | ○ |
| 30 | COOLANT GUN | | ○ | ○ | ○ | ○ | ○ |
| 31 | AIR GUN | | ○ | ○ | ○ | ○ | ○ |
| 32 | AIR BLOWER | | ● | ○ | ○ | ● | ● |
| 33 | 6-AXIS OPTION ⁽¹⁾ | 1 AXIS_WIRE AND PIPING_HYD | ○ | ○ | ○ | ○ | ○ |
| 34 | AUTO WORK MEASURING DEVICE | OMP60_RENISHAW | ○ | ○ | ○ | ○ | ○ |
| 35 | | RMP60_RENISHAW | ○ | ○ | ○ | ○ | ○ |
| 36 | MASTER TOOL FOR AUTO TOOL MEASUREMENT | CALIBRATION BLOCK | ○ | ○ | ○ | ○ | ○ |
| 37 | AUTO TOOL MEASURING DEVICE | TS27R_RENISHAW | ○ | ○ | ○ | ○ | ○ |
| 38 | ANGULAR FIXTURE | SIZE 450 X 600 X 400 | ○ | ○ | ○ | ○ | ○ |
| 39 | | SIZE 500 X 1000 X 550 | ○ | ○ | ○ | ○ | ○ |
| 40 | | SIZE 750 X 1250 X 750 | ○ | ○ | ○ | ○ | ○ |
| 41 | | SIZE 1000 X 2000 X 1000 | ○ | ○ | ○ | ○ | ○ |
| 42 | ATTACHMENT | 90° ANGLE HEAD_L365 | ○ | ○ | ○ | X | X |
| 43 | | 90° ANGLE HEAD_L660 | ○ | ○ | ○ | X | X |
| 44 | | FACE PLATE_Ø650 | ○ | ○ | ○ | X | X |
| 45 | | INDEXABLE ANGLE HEAD_90° INDEX | ○ | ○ | ○ | X | X |
| 46 | | MANUAL UNIVERSAL HEAD_1000 | ○ | ○ | ○ | X | X |
| 47 | | SPINDLE SUPPORT_310 MM | X | ○ | ○ | X | X |
| 48 | | SPINDLE SUPPORT_200 MM | ○ | X | X | X | X |
| 49 | COGSDILL READY | ○ | ○ | ○ | X | X | |
| 50 | ATTACHMENT SPEED LIMIT CONTROL | | ○ | ○ | ○ | X | X |
| 51 | SAFETY FENCE AND INTERLOCK SWITCH | | ○ | ○ | ○ | ○ | ○ |
| 52 | CORRECTION OF SPINDLE'S THERMAL DISPLACEMENT | | ○ | ○ | ○ | X | X |
| 53 | TEST BAR | BT50 | ○ | ○ | ○ | ○ | ○ |
| 54 | Y-AXIS ADDITIONAL BRAKE SYSTEM ⁽¹⁾ | | ○ | ○ | ○ | ○ | ○ |
| 55 | NC SCREEN SIZE | 10.4 INCH(COLOR) | ● | ● | ● | ● | ● |
| 56 | | 15.0 INCH(COLOR) | ○ | ○ | ○ | ○ | ○ |
| 57 | GRAVITY SHAFT FALL PREVENTION SYSTEM (AT POWER FAILURE) | | ○ | ○ | ○ | ○ | ○ |
| 58 | TRANSFORMER | | ○ | ○ | ○ | ○ | ○ |
| 59 | POWER PANEL AIR CONDITIONERPOWER PANEL AIR CONDITIONER | | ○ | ○ | ○ | ○ | ○ |
| 60 | POWER PANEL LIGHT | | ○ | ○ | ○ | ○ | ○ |
| 61 | POWER PANEL LINE FILTER | | ○ | ○ | ○ | ○ | ○ |
| 62 | AUTO NC POWER OFF | | ○ | ○ | ○ | ○ | ○ |
| 63 | AUTO NC POWER ON | | ○ | ○ | ○ | ○ | ○ |
| 64 | MACHINE WARMING UP | | ○ | ○ | ○ | ○ | ○ |
| 65 | DOOSAN TOOL MANAGEMENT PACKAGE | | ○ | ○ | ○ | ○ | ○ |
| 66 | DOOSAN TOOL LOAD MONITORING | | ○ | ○ | ○ | ○ | ○ |
| 67 | MPG | 1 MPG_PORTABLE_W/ENABLE TYPE | ● | ● | ● | ● | ● |
| 68 | | 3 MPG_PORTABLE_W/ENABLE TYPE | ○ | ○ | ○ | ○ | ○ |
| 69 | ALARM GUIDANCE | | ○ | ○ | ○ | ○ | ○ |
| 70 | EASY SETUP GUIDANCE | | ○ | ○ | ○ | ○ | ○ |
| 71 | COUNTER FUNCTION | WORK/TOTAL/DAILY | ○ | ○ | ○ | ○ | ○ |
| | NC | | 31iB | 31iB | 31iB | | 31iB |
| 72 | DSQ1 (200Block) | | ● | ● | ● | | ● |
| 73 | DSQ1 (400BLOCK) | | ○ | ○ | ○ | | ○ |
| 74 | DSQ2 (DSQ1+Data Server 1GB) | | ○ | ○ | ○ | | ○ |
| 75 | DSQ3 (DSQ2 + 600Block) | | ○ | ○ | ○ | | ○ |
| 76 | DSQ4 (DSQ3 + 1000Block) | | ○ | ○ | ○ | | ○ |

External Dimensions

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

DBC 110S

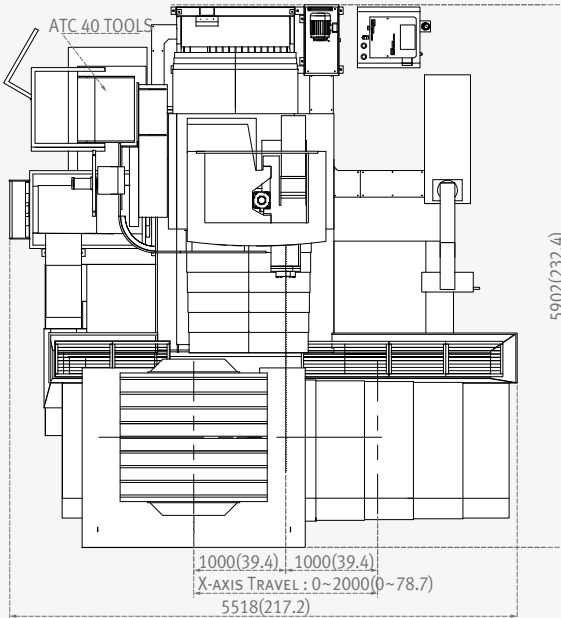
Unit: mm(inch)

Detailed Information

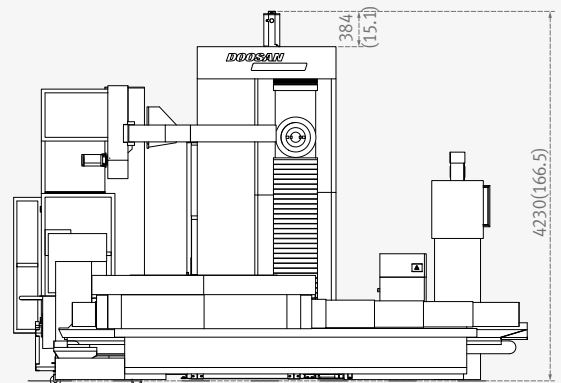
Options
Capacity Diagram
Specifications

Customer Support Service

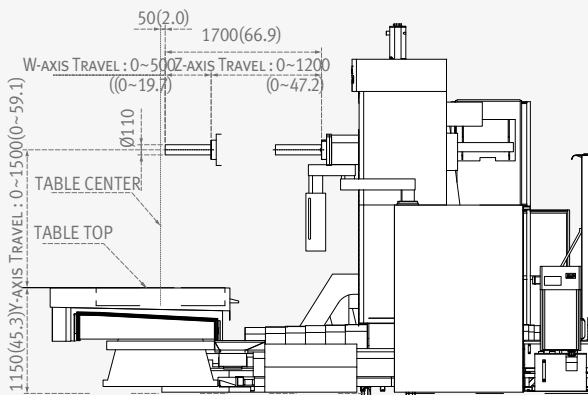
Top View



Front View

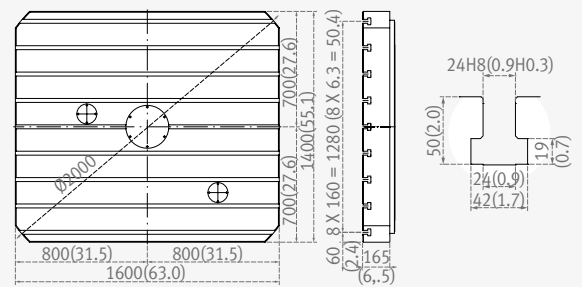


Side View



Table

1400 x 1600 (55.1 x 63.0)

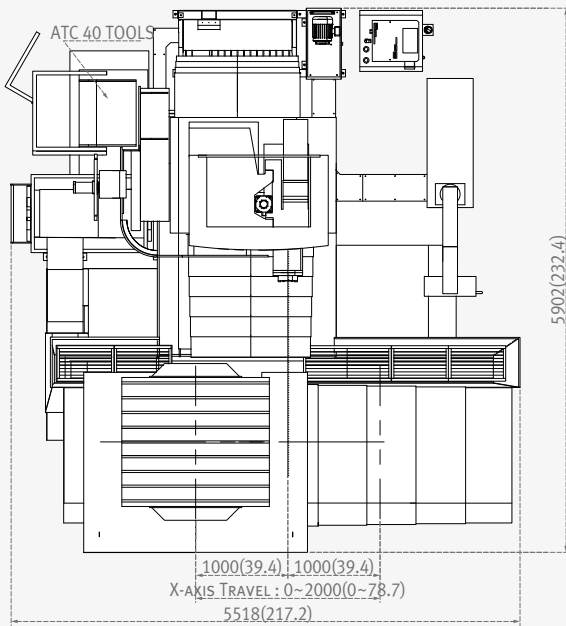


External Dimensions

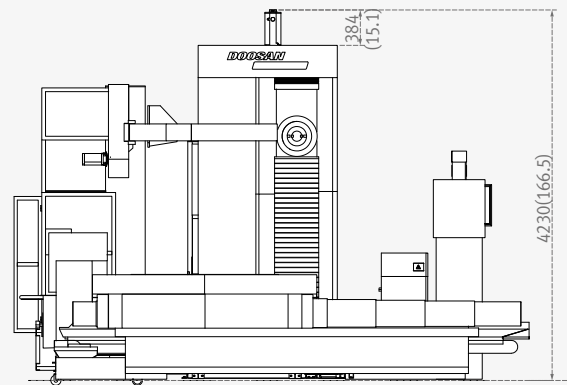
DBC 130S

Unit: mm(inch)

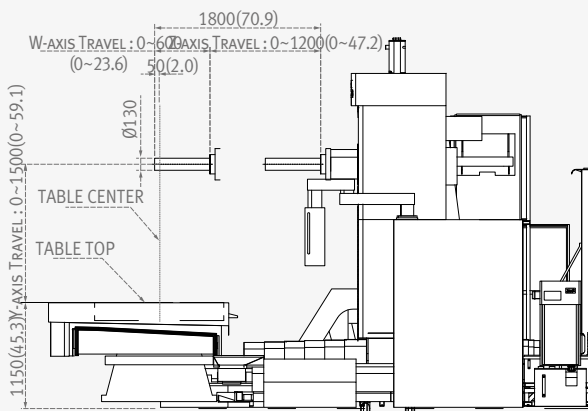
Top View



Front View

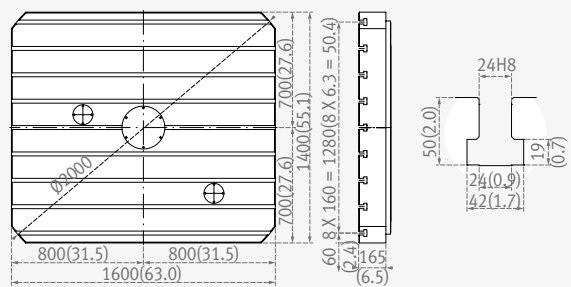


Side View



Table

1400 x 1600 (55.1 x 63.0)



External Dimensions

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

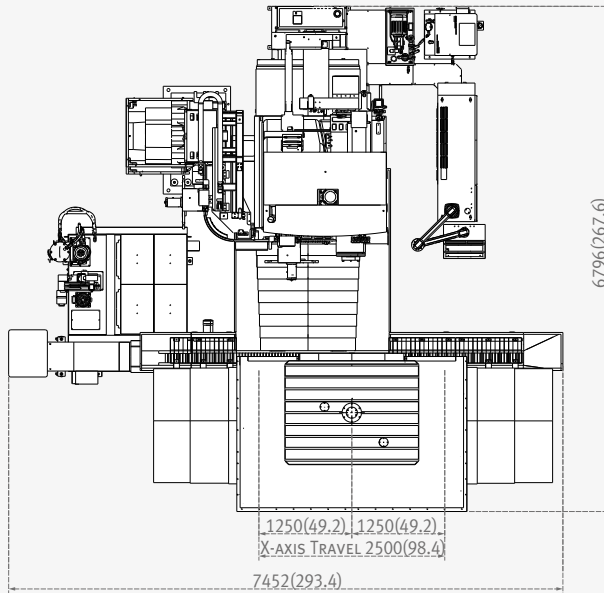
Options
Capacity Diagram
Specifications

Customer Support Service

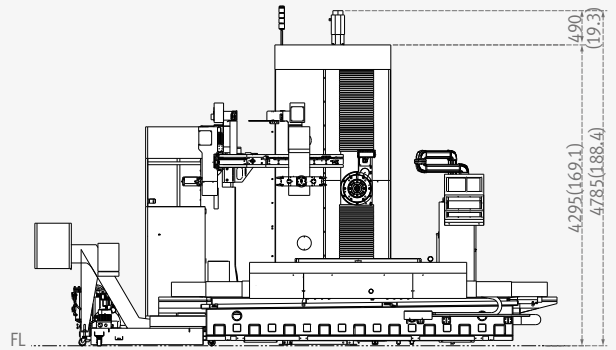
DBC 130 SL

Unit: mm(inch)

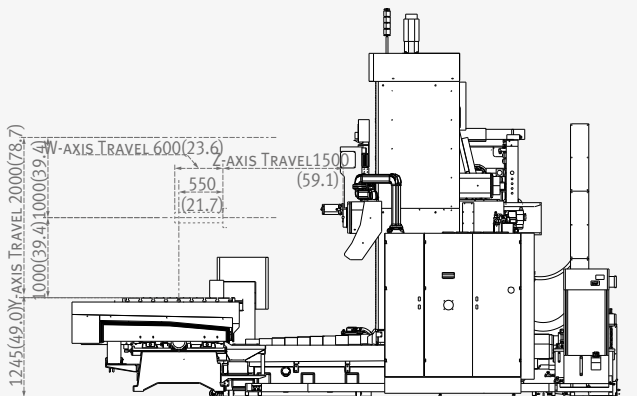
Top View



Front View

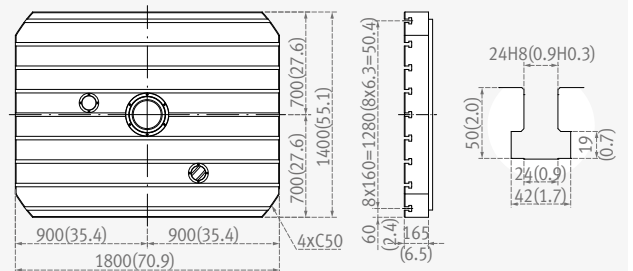


Side View



Table

1400 x 1800 (55.1 x 70.9)

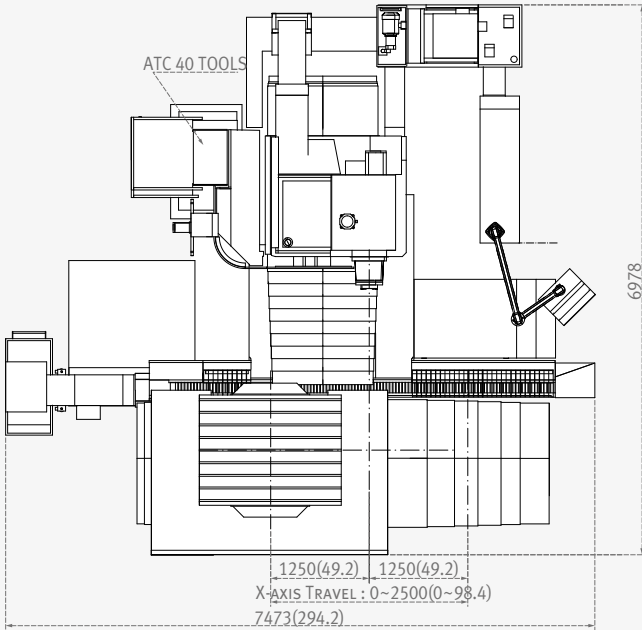


External Dimensions

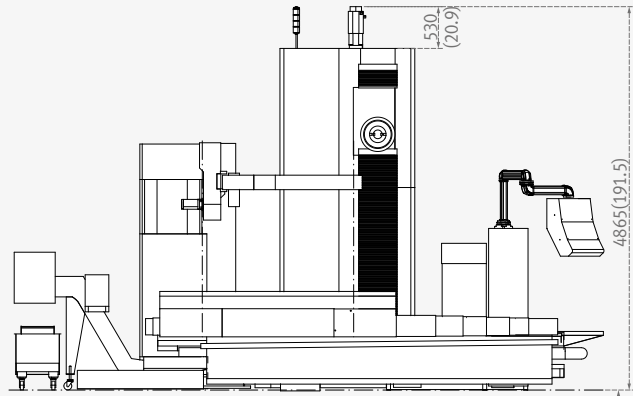
DBC 110 II

Unit: mm(inch)

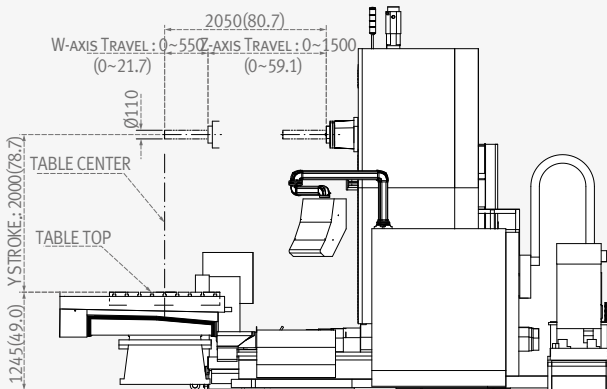
Top View



Front View

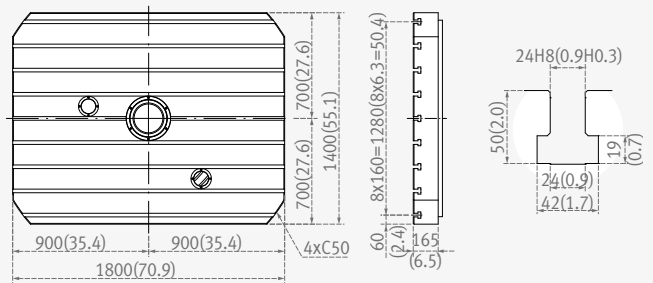


Side View



Table

1400 x 1600 (55.1 x 63.0)



External Dimensions

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

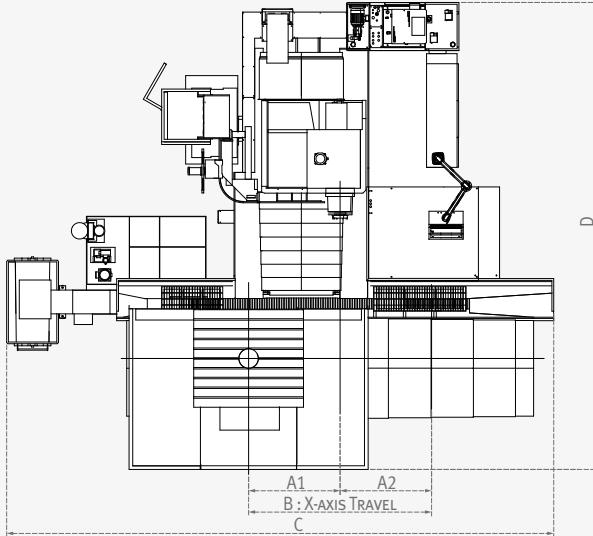
Options
Capacity Diagram
Specifications

Customer Support Service

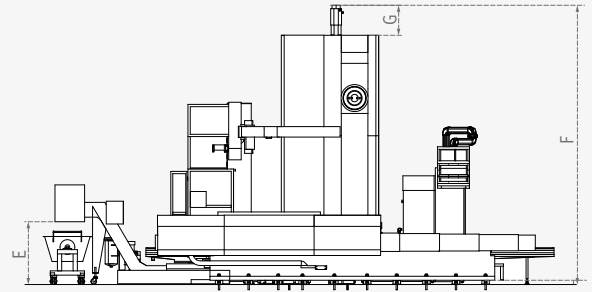
DBC 130 / L DBC 250 / L II

Unit: mm(inch)

Top View

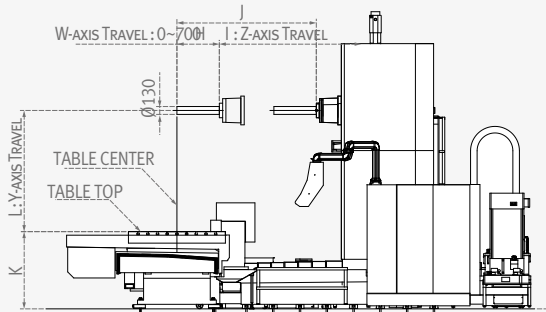


Front View



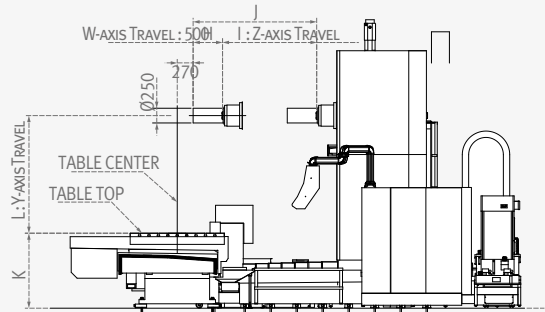
DBC 130 / L

Side View



DBC 250 / L II

Side View

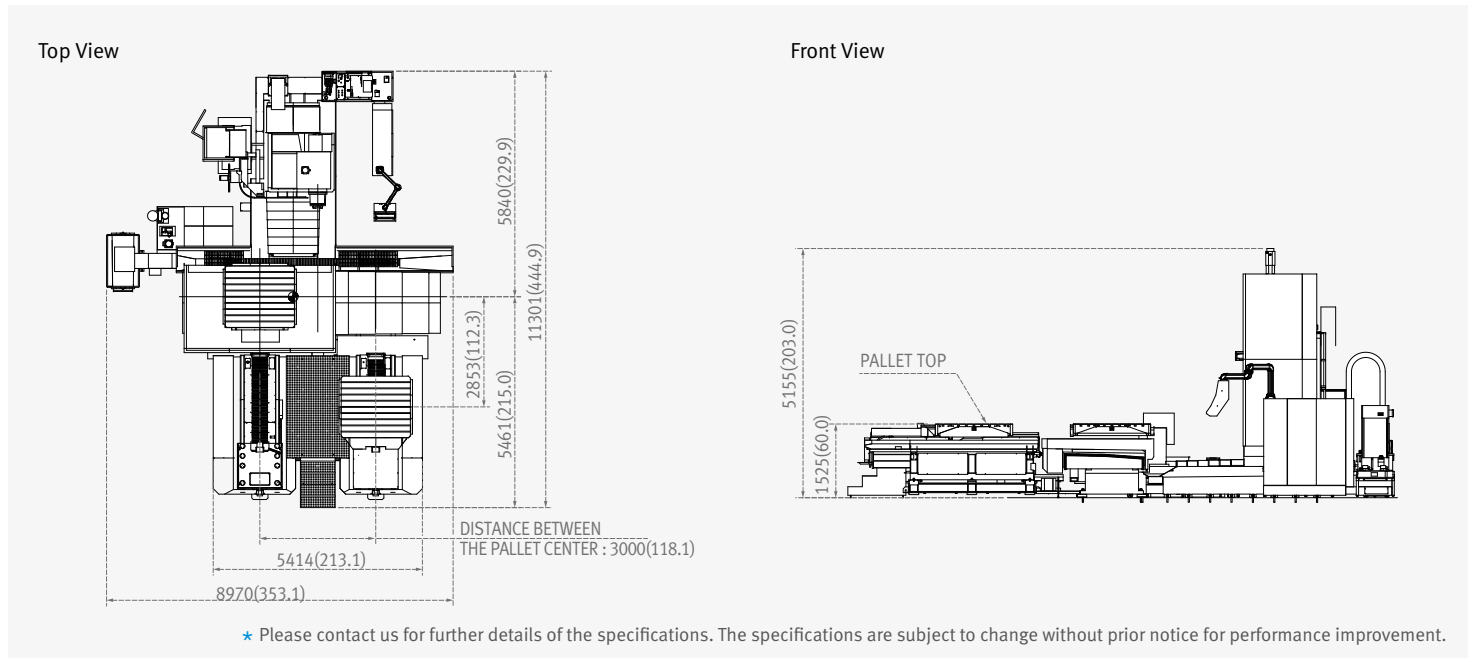


| Machine | A1 / A2 | B | C | D | E | F | G | H | I | J | K | L |
|-------------|----------------|---------------------|-----------------|-----------------|----------------|-----------------|---------------|-------------------|--------------------|-----------------|----------------|--------------------|
| DBC 130 II | 1500 (59.1) | 0-3000 (0-118.1) | 8970 (353.1) | 7660 (301.6) | 1103 (43.4) | 4905 (193.1) | 527 (20.7) | 0-700 (0-27.6) | 0-1600 (0-63.0) | 2300 (90.6) | 1275 (50.2) | 0-2000 (0-78.7) |
| DBC 130L II | 2000 (78.7) | 0-4000 (0-157.5) | 9970 (392.5) | 8085 (318.3) | 1103 (43.4) | 5406 (212.8) | 527 (20.7) | 0-700 (0-27.6) | 0-2000 (0-78.7) | 2700 (106.3) | 1275 (50.2) | 0-2500 (0-98.4) |
| DBC 250 II | 1500 (59.1) | 0-3000 (0-118.1) | 8970 (353.1) | 7660 (301.6) | 1103 (43.4) | 4905 (193.1) | 527 (20.7) | 0-500 (0-19.7) | 0-1600 (0-63.0) | 2100 (82.7) | 1275 (50.2) | 0-2000 (0-78.7) |
| DBC 250L II | 2000 (78.7) | 0-4000 (0-157.5) | 9970 (392.5) | 8085 (318.3) | 1103 (43.4) | 5406 (212.8) | 527 (20.7) | 0-500 (0-19.7) | 0-2000 (0-78.7) | 2500 (98.4) | 1275 (50.2) | 0-2500 (0-98.4) |

External Dimensions

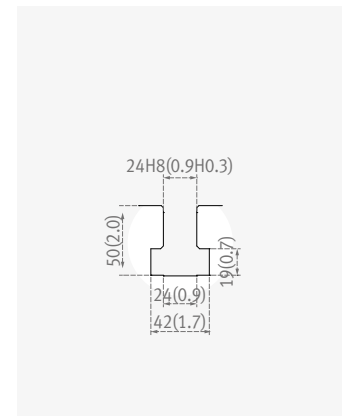
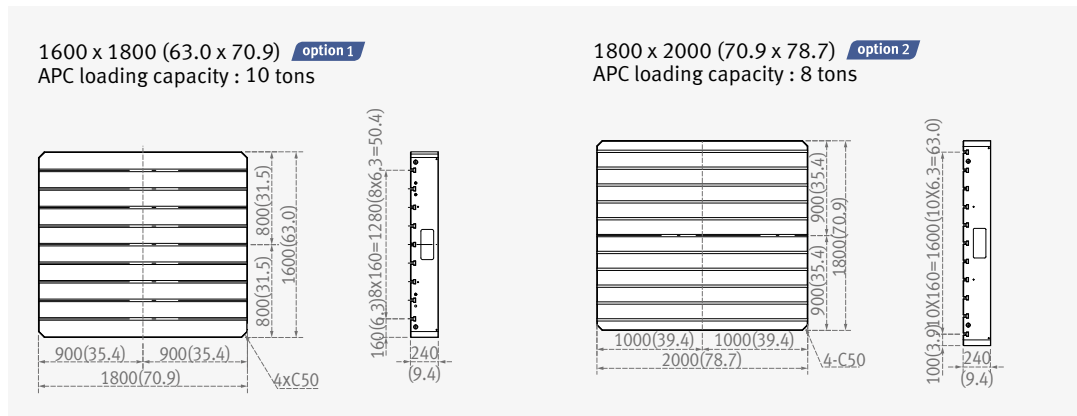
DBC 130 II with APC option

Unit: mm(inch)

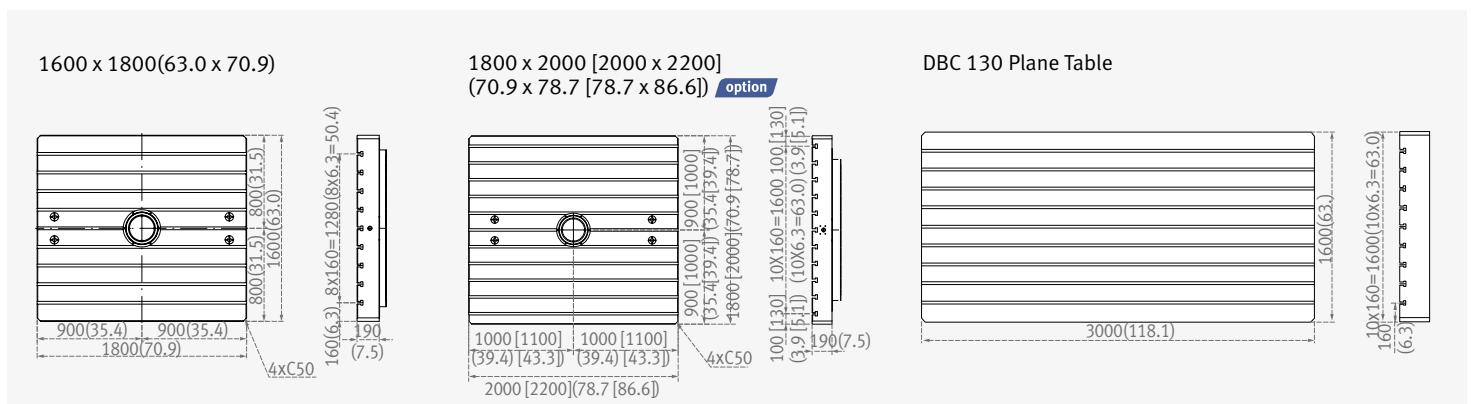


APC Pallet

T-Slot



Table



Machine Specifications

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

Options
Capacity Diagram
Specifications

Customer Support Service



| Description | | Unit | DBC 110S | DBC 130S | DBC 130SL | |
|--|---|-----------------------|-------------------------|---|----------------------------------|-----------------|
| Travels | Travel distance | X-axis | 2000 (78.7) | | 2500 (98.4) | |
| | | Y-axis | 1500 (59.1) | | 2000 (78.7) | |
| | | Z-axis | 1200 (47.2) | | 1500 (59.1) | |
| | W-axis | 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 | 12 | | | |
| | | W-axis | 6 | | | |
| | Cutting feedrate | X, Y, Zaxes | 1 ~ 6000 | | | |
| Table | Table size | | 1400 x 1600 (55.1x63.0) | | 1400 x 1800 (55.1x70.9) | |
| | Swing diameter | Without semi-S/G | ø2550 | | ø3400 | |
| | | With semi-S/G | ø2100 | | ø2250 | |
| | Load capacity | 1400 x 1600 mm | kg (lb) | 7000 (15432.1) | 8000 {10000} (17636.7 {22045.9}) | - |
| | | 1400 x 1800 mm | kg (lb) | - | - | 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 | |
| | Max. spindle speed | | mm (inch) | 110 | 130 | |
| | 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⁾ | | |
| | Max. tool length | | mm (inch) | 600 | | |
| | Max. tool weight | | kg (lb) | 25 (55.1) / 30 (66.1) | | |
| | Method of tool selection | | | Fixed address | | |
| Power source | Electric power supply (rated capacity) | | kVA | 70 | | |
| Machine dimensions | Height | | mm (inch) | 4230 (166.5) | 4860 (191.3) | |
| | Length x Width | | mm (inch) | 5520 x 5900 (217.3 x 232.3) | 7450 x 6800 (293.3 x 267.7) | |
| | Weight | | kg (lb) | 29000 (63933.1) | 30000 (66137.7) | 36000 (79365.2) |
| NC system | | | - | FANUC 32i | DOOSAN FANUC i | |

* { } : 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



| Description | | Unit | DBC 110 II | DBC 130 II | DBC 130L II | DBC 250 II | DBC 250L II | | |
|------------------------------|---|------------------|------------|---------------------------------------|---|-----------------------------|---|-----------------------------|---|
| Travels | Travel distance | X-axis | mm (inch) | 2500 (98.4) | 3000 (118.1) | 4000 (157.5) | 3000 (118.1) | 4000 (157.5) | |
| | | Y-axis | mm (inch) | 2000 (78.7) | | 2500 (98.4) | 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) | |
| | | W-axis | mm (inch) | 550 (21.7) | 700 (27.6) | | 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 ~ 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) | 770 ~ 2370 (30.3 ~ 93.3) | 770 ~ 2770 (30.3 ~ 109.1) | |
| Feedrate | Rapid traverse | X, Y, Zaxes | m/min | 12 | 10 | 10 / 8 / 10 {7 / 8 / 10}* | 10 | 10 / 8 / 10 | |
| | | W-axis | m/min | 6(0.2) | | | 10 | | |
| | Cutting feedrate | X, Y, Zaxes | 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)}* | | 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 | Ø3900 | Ø4800 | Ø3900 | Ø4800 | |
| | | With semi-S/G | mm (inch) | Ø2250 | Ø3400 | Ø3400 | Ø3400 | Ø3400 | |
| | Load capacity | 1400 x 1600 mm | | kg (lb) | - | - | - | - | - |
| | | 1400 x 1800 mm | | kg (lb) | 10000 (22045.9) | - | - | - | - |
| | | 1600 x 3000 mm | | kg (lb) | - | - | - | - | - |
| | | 1600 x 1800 mm | | kg (lb) | - | 15000 (3306.9) | | 15000 (3306.9) | |
| 1800 x 2000 mm | | kg (lb) | - | {13000 (28659.7)}* | {13000 (28659.7), 20000 (44091.8)}* | {13000 (28659.7)}* | | | |
| 2000 x 2200 mm | | kg (lb) | - | {12000 (26455.1)}* | {12000 (26455.1), 19000}* | {12000 (26455.1)}* | | | |
| Spindle | Max. spindle speed | | r/min | 4000 | 2500 | | 6000 | | |
| | Boring spindle diameter | | mm (inch) | 110 (4.3) | 130 (5.1) | | - | - | |
| | 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}* | | | 30 / 22 | | |
| ATC <small>option</small> | Tool storage capacity | | ea | 40 / 60 / 90 | | | | | |
| | Tool shank | | | MAS403 BT50 | | | | | |
| | Max. tool diameter | | mm | Ø130 / 250 / 400 / 600 ⁽¹⁾ | | | | | |
| | Max. tool length | | mm (inch) | 600 (23.6) | | | | | |
| | Max. tool weight | | kg (lb) | 25 (55.1) / 30 (66.1) | | | | | |
| | Method of tool selection | | | Fixed address | | | | | |
| Power source | Electric power supply (rated capacity) | | kVA | 70 {90 kVA with 45kW motor}* | | | 70 | | |
| Machine dimensions | Height | | mm (inch) | 4870 (191.7) | 4910 (193.3) | 5410 (213.0) | 4910(193.3) | 5410 (213.0) | |
| | Length x Width | | mm (inch) | 7470 x 6980 (294.1 x 274.8) | 8970 x 7660 (353.1 x 301.6) | 9970 x 8090 (392.5 x 318.5) | 8970 x 7640 (353.1 x 300.8) | 9970 x 8090 (392.5 x 318.5) | |
| | Weight | | kg (lb) | 36000 (79365.2) | 43000 (94797.4) | 48000 (105820.3) {50000}* | 43000 (94797.4) | 48000 (105820.3) | |
| NC system | | | - | FANUC 31i | | | | | |

* { } : Option

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

FANUC 31i

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

Options
Capacity Diagram
Specifications

Customer Support Service

Control Axes

| | |
|------------------------------------|--|
| - Controlled axes | 5 (X, Y, Z, W, B) |
| - Simultaneously controllable axes | |
| | Positioning(G00)/Linear interpolation(G01) : 3 axes Circular interpolation(G02, G03) : 2 axes |
| - Backlash compensation | |
| - Emergency stop / overtravel | |
| - Follow up | |
| - Least command increment | 0.001mm / 0.0001(inch) |
| - Least input increment | 0.001mm / 0.0001(inch) |
| - Machine lock | all axes / Z axis |
| - Mirror image | Reverse axis movement (setting screen and M - function) |
| - Stored pitch error compensation | Pitch error offset compensation for each axis |
| - Stored stroke check 1 | Overtravel controlled by software |

Interpolation & Feed Function

| | |
|--|---------------------------------|
| - 2nd reference point return | G30 |
| - AI Contour Control II | 200 block preview |
| - Automatic corner deceleration | |
| - Circular interpolation | G02, G03 |
| - Control axis detach | |
| - Dual position feedback | |
| - Dwell | G04 |
| - Exact stop check | G09, G61 (mode) |
| - Feed per minute | mm / min |
| - Feedrate clamp by circular radius | |
| - Feedrate override (10% increments) | 0 - 200 % |
| - Helical interpolation | |
| - Jog feedrate | 0~ 5000 mm/min |
| - Linear ACC/DEC after interpolation | |
| - Linear ACC/DEC before interpolation | |
| - Linear interpolation | G01 |
| - Manual handle feed(1 unit) | |
| - Manual handle feedrate | 0.1 / 0.01 / 0.001mm |
| - Override cancel | M48 / M49 |
| - Positioning | G00 |
| - Program restart | |
| - Rapid traverse bell-shaped acceleration / deceleration | |
| - Rapid traverse override | F0 (fine feed), 25 / 50 / 100 % |
| - Reference point return | G27, G28, G29 |
| - Skip function | G31 |
| - Smooth backlash compensation | |
| - Thread cutting, synchronous cutting | |

Spindle & M-code Function

| | |
|---|---------------|
| - M - code function | M 3 digits |
| - Polar coordinate interpolation | G12.1 / G13.1 |
| - Retraction for rigid tapping | |
| - Rigid tapping | G84, G74 |
| - Scaling | G50, G51 |
| - Spindle orientation | |
| - Spindle output switching | |
| - Spindle serial output | |
| - Spindle speed command | S5 digits |
| - Spindle speed override (10% increments) | 10 - 150 % |

TOOL FUNCTION

| | |
|----------------------------|---|
| - Cutter compensation C | G40, G41, G42 |
| - Tool length compensation | G43, G44, G49 |
| - Tool life management | |
| | Geometry / Wear and Length / Radius offset memory |
| - Tool number command | T3 digits |
| - Tool offset memory C | |
| - Number of tool offsets | 200 ea |

Programming & Editing Function

| | |
|--|-------------------------------|
| - Absolute / Incremental programming | G90 / G91 |
| - Addition of custom macro common variables | |
| - Additional work coordinate system(48 Pair) | G54.1 P1 - 48 pairs |
| - Auto. Coordinate system setting | |
| - Background editing | |
| - Canned cycle | G73, G74, G76, G80 - G89, G99 |
| - Circular interpolation by radius programming | |
| - Coordinate system rotation | G68, G69 |
| - Custom macro B | |
| - Custom size 512kb | |
| - Decimal point input | |
| - Extended part program editing | |
| - I / O interface | USB / RS-232C |
| - Inch / metric conversion | G20 / G21 |

| | |
|---|---|
| - Label skip | |
| - Local / Machine coordinate system G52 / G53 | |
| - Macro executor | |
| - Maximum commandable value | +99999.999mm (±9999.9999 inch) |
| - No. of Registered programs | 500 ea |
| - Optional angle chamfering / corner R | |
| - Optional block skip | |
| - Optional stop | M01 |
| - Part program storage | 256kb(640 m) |
| - Program number | O4-digits |
| - Program protect | |
| - Program stop / end | M00 / M02, M30 |
| - Programmable data input | Tool offset and work offset are entered by G10, G11 |
| - Sub program | Up to 4 nesting |
| - Tape code | ISO / EIA Automatic discrimination |
| - Work coordinate system | G54 - G59 |

OTHERS FUNCTIONS (Operation, Setting & Display, etc)

| | |
|------------------------------------|---|
| - Alarm display | |
| - Alarm history display | |
| - Clock function | |
| - Cycle start / Feed hold | |
| - Display of PMC alarm message | Message display when PMC alarm occurred |
| - Dry run | |
| - Ethernet function (Embedded) | |
| - External data input | |
| - Graphic display | Tool path drawing |
| - Help function | |
| - MDI / DISPLAY unit | 10.4" color LCD, Keyboard for data input, soft-keys |
| - Memory card interface | |
| - Multi language display | |
| - Operation functions | Tape / Memory / MDI / Manual |
| - Operation history display | |
| - Program restart | |
| - Run hour and part number display | |
| - Search function | Sequence NO. / Program NO. |
| - Self - diagnostic function | |
| - Servo setting screen | |
| - Single block | |

Optional Functions

| | |
|--|---|
| - 3-dimensional coordinate conversion | |
| - 3-dimensional tool compensation | |
| - 3rd / 4th reference return | |
| - Addition of tool pairs for tool life management | 1024 pairs |
| - Additional controlled axes | max. 6 axes in total |
| - Additional work coordinate system | G54.1 P1 - 300 (300 pairs) |
| - AI Contour Control II | 600 block preview |
| - Automatic corner override | G62 |
| - Chopping function | G81.1 |
| - Cylindrical interpolation | G07.1 |
| - Data server | |
| - Dynamic graphic display | Machining profile drawing |
| - Exponential interpolation | |
| - EZ Guide i (Doosan Infracore Conversational Programming Solution) with 10.4" Color TFT | |
| - Figure copying | G72.1, G72.2 |
| - Handle interruption | |
| - High speed skip function | |
| - Increment system 1/10 | |
| - Interpolation type pitch error compensation | |
| - Involute interpolation | G02.2, G03.2 |
| - Machining time stamp function | |
| - Manual handle feed 2/3 unit | |
| - No. of Registered programs | 1000 / 2000 / 4000 ea |
| - Number of tool offsets | 400 / 499 / 999 / 2000 ea |
| - Optional block skip | addition 9 blocks |
| - Part program storage | 512kb (1280m) / 1mb (2560m) / 2mb (5120m) / 4mb(10240m) / 8mb (20480m) |
| - Playback function | |
| - Polar coordinate command | G15 / G16 |
| - Position switch | |
| - Programmable mirror image | G50.1 / G51.1 |
| - Single direction positioning | G60 |
| - Stored stroke check 2 / 3 | |
| - Tape format for FS15 | |
| - Tool offset | G45 - G48 |

**FANUC
32i**

Control Axes

| | |
|-----------------------------------|---|
| - Controlled axes | 5 (X, Y, Z, W, B) |
| - Simultaneous controlled axes | Positioning(G00) /Linear interpolation (G01) : 3 axes Circular interpolation (G02, G03) : 2 axes |
| - Backlash compensation | |
| - Emergency stop / overtravel | |
| - Follow up | |
| - Least command increment | 0.001mm / 0.0001(inch) |
| - Least input increment | 0.001mm / 0.0001(inch) |
| - Machine lock | all axes / Z axis |
| - Stored pitch error compensation | Pitch error offset compensation for each axis |
| - Stored stroke check 1 | Overtravel controlled by software |

Interpolation & Feed Function

| | |
|---------------------------------------|---------------------------------|
| - 2nd reference point return | G30 |
| - Automatic corner deceleration | |
| - Circular interpolation | G02, G03 |
| - Dwell | G04 |
| - Feed per minute | mm/min(ipm) |
| - Feedrate clamp by circular radius | |
| - Feedrate override (10% increments) | 0 - 200% |
| - Helical interpolation | |
| - Jog feedrate | 0 - 5000 mm/min |
| - Linear ACC/DEC before interpolation | |
| - Linear interpolation | G01 |
| - Manual handle feedrate | 0.1/0.01/0.001mm |
| - NANO AICC (AI Contour Control) | 200 block preview |
| - Override cancel | M48 / M49 |
| - Positioning | G00 |
| - Program restart | |
| - Rapid traverse override | F0 (fine feed), 25 / 50 / 100 % |
| - Reference point return | G27, G28, G29 |
| - Skip function | G31 |
| - Thread cutting, synchronous cutting | |

Spindle & M-code Function

| | |
|----------------------------------|---------------|
| - M- code function | M 3 digits |
| - Polar coordinate interpolation | G12.1 / G13.1 |
| - Rigid tapping | G84, G74 |
| - Scaling | |
| - Spindle orientation | |
| - Spindle serial output | |
| - Spindle speed command | S5 digits |
| - Spindle speed override | 10 - 150% |

Programming & Editing Function

| | |
|--|--------------------------------|
| - Additional work coordinate system (48 Pair) | G54.1 P1 - 48 pairs |
| - Auto. Coordinate system setting | |
| - Background editing | |
| - Canned cycle | G73, G74, G76, G80 - G89, G99 |
| - Circular interpolation by radius programming | |
| - Coordinate system rotation | G68, G69 |
| - Custom macro B | |
| - Custom size | 512kb |
| - I / O interface | USB/RS-232C |
| - Inch / metric conversion (| G20 / G21 |
| - Local / Machine coordinate system | G52 / G53 |
| - Macro executor | |
| - Maximum commandable value | ±99999.999mm (±9999.9999 inch) |

| | |
|------------------------------|---|
| - No. of Registered programs | 500 ea |
| - Optional block skip | |
| - Optional stop | M01 |
| - Part program storage | 256kb (640m) |
| - Program number | O4-digits |
| - Program protect | |
| - Program stop / end | M00 / M02, M30 |
| - Programmable data input | Tool offset and work offset are entered by G10, G11 |
| - Sub program | Up to 4 nesting |
| - Tape code | ISO / EIA Automatic discrimination |
| - Work coordinate system | G54 - G59 |

Others Function (Operation, Setting & Display, etc)

| | |
|--------------------------------|---|
| - Alarm display | |
| - Cycle start / Feed hold | |
| - Display of PMC alarm message | Message display when PMC alarm occurred |
| - Dry run | |
| - Ethernet function (Embedded) | |
| - External data input | |
| - Graphic display | Tool path drawing |
| - Help function | |
| - MDI / DISPLAY unit | 10.4" color LCD, Keyboard for data input, soft-keys |
| - Memory card interface | |
| - Multi language display | |
| - Operation functions | Tape / Memory / MDI / Manual |
| - Program restart | |
| - Search function | Sequence NO. / Program NO. |
| - Servo setting screen | |

Optional Functions

| | |
|--|---|
| - 3rd / 4th reference return | |
| - Addition of tool pairs for tool life management | 512 pairs |
| - Additional controlled axes | max. 6 axes in total |
| - Additional work coordinate system | G54.1 P1 - 300 (300 pairs) |
| - AI HPCC* (High Precision Contour Control) with 64 bit Risc | 600 block preview |
| - Automatic corner override | G62 |
| - Chopping function | G81.1 |
| - Cylindrical interpolation | G07.1 |
| - EZ Guide i | (Doosan infracore Conversational Programming Solution) with 10.4" Color TFT |
| - Handle interruption | |
| - High speed skip function | |
| - Increment system 1/10 | |
| - Interpolation type pitch error compensation | |
| - Manual handle feed 2/3 unit | |
| - Machining time stamp function | |
| - No. of Registered programs | 1000 ea |
| - Number of tool offsets | 400 ea |
| - Optional block skip addition | 9 blocks |
| - Part program storage | 512kb(1280m)/1mb(2560m) |
| - Polar coordinate command | G15 / G16 |
| - Position switch | |
| - Stored stroke check 2 / 3 | |
| - Programmable mirror image | G50.1 / G51.1 |
| - Tool position offset | G45 - G48 |

DOOSAN FANUC i series

Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed Information

Options
Capacity Diagram
Specifications

Customer Support Service

Control Axes

| | |
|---|--|
| - Controlled axes | 5 (X, Y, Z, W, B) |
| - Simultaneously controllable axes | Positioning(G00)/Linear interpolation(G01) : 3 axes Circular interpolation(G02, G03) : 2 axes |
| - Backlash compensation | |
| - Emergency stop / overtravel | |
| - Follow up | |
| - Least command increment | 0.001mm (0.0001 inch) |
| - Least input increment | 0.001mm (0.0001 inch) |
| - Machine lock | all axes / Z axis |
| - Mirror image | Reverse axis movement (setting screen and M-function) |
| - Stored pitch error compensation | Pitch error offset compensation for each axis |
| - Stored stroke check 1 Overtravel controlled by software | |

Interpolation & Feed Function

| | |
|------------------------------|---------------------------------|
| - 2nd reference point return | G30 |
| - Circular interpolation | G2, G3 |
| - Cylindrical interpolation | G07.1 |
| - Dwell | G4 |
| - Exact stop check | G09, G61 (mode) |
| - Feed per minute (mm/min) | |
| - Feedrate override | 0 - 200 % |
| - Helical interpolation | |
| - Jog override | 0 - 200 % |
| - Linear interpolation | G01 |
| - Manual handle feed 1 unit | |
| - Manual handle feedrate | 0.1 / 0.01 / 0.001 mm |
| - override cancel | M48 / M49 |
| - Positioning (| G00 |
| - Rapid traverse override | F0 (fine feed), 25 / 50 / 100 % |
| - Reference point return | G27, G28, G29 |
| - Skip function | G31 |

Operation, Setting & Display, etc

| | |
|---|--|
| - 3rd / 4th reference return | |
| - Additional work coordinate system | G54.1 P1 - 48 (48 pairs) |
| - AICC1 (AI Contour Control 1) with Hardware : 40 block preview | |
| - Alarm display | |
| - Alarm history display | |
| - Automatic corner override G62 | |
| - Clock function | |
| - coordinate rotation | G68, G69 |
| - Cycle start / Feed hold | |
| - display of PMC Alarm message | Message display when PMC alarm occurred |
| - Machine condition selection function | |
| - Embedded ethernet | |
| - Dry run | |
| - Graphic display | Tool path drawing |
| - Help function | |
| - High speed Skip function | |
| - MDI / display unit | 10.4" color LCD, Keyboard for data input, 'soft-keys |
| - Memory card interface | |
| - Operation functions | Tape / Memory / MDI / Manual |
| - Operation history display | |
| - Optional angle chamfering / corner R | |
| - Polar coordinate command | G15 / G16 |
| - program restart | |
| - Programmable data input | |
| - Tool offset and work offset are entered by | G10, G11 |
| - Programmable Mirror image | G50.1 / G51.1 |
| - run hour and Part number display | |
| - Scaling | G50, G51 |

| | |
|--------------------------------|----------------------------|
| - Search function | Sequence No. / program No. |
| - Self - diagnostic function | |
| - Servo setting screen | |
| - Single block | |
| - Single direction Positioning | G60 |
| - Stored stroke check 2 | |

Spindle & M-code Function

| | |
|--------------------------|------------|
| - M - code function | M 3 digits |
| - Spindle orientation | |
| - Spindle serial output | |
| - Spindle speed command | S5 digits |
| - Spindle speed override | 10 - 150 % |

Tool Function

| | |
|---------------------------------|---|
| - Tool nose radius compensation | G40, G41, G42 |
| - Number of tool offsets | 400 ea |
| - Tool length compensation | G43, G44, G49 |
| - Tool life management | |
| - Tool number command | T2 digits |
| - Tool offset memory C | Geometry / Wear and Length / Radius offset memory |
| - Tool Position offset | G45 - G48 |

Programming & Editing Function

| | |
|--|-----------------------------------|
| - Absolute / Incremental programming | G90/G91 |
| - Automatic coordinate system setting | |
| - Background editing | |
| - Canned Cycle | G73, G74, G76, G80 - G89, G99 |
| - Circular interpolation by radius Programming | |
| - Custom macro B | |
| - Addition of Custom macro common variables | (#100 - #199, #500 - #999) |
| - Decimal point input | |
| - Extended Part program editing | |
| - Reader / puncher interface | RS - 232C, USB |
| - Inch / metric conversion | G20 / G21 |
| - Label Skip | |
| - Local / Machine coordinate system | G52 / G53 |
| - Maximum commandable value | ±99,999.999 mm (±9,999.9999 inch) |
| - No. of Registered programs | 400 ea |
| - Optional block Skip | |
| - Optional stop | M1 |
| - Part program storage | 1280m [512 kB] |
| - Palyback | |
| - program number | 04-digits |
| - program protect | |
| - Program stop / end | M00 / M02, M30 |
| - Rigid tapping | G84, G74 |
| - Sub program Up to 4 nesting | |
| - Tape code ISO / EIA Automatic discrimination | |
| - Thread cutting | |
| - Work coordinate system | G54 - G59 |

Optional Specifications

| | |
|--|-------------------|
| - Additional controlled axes, max. 6 axes in total | |
| - AICC II (AI Contour Control II) | 200 block preview |
| - Fast data server | |
| - Fast ethernet | |
| - Dynamic graphic display (w/10.4" Color TFT LCD) Machining profile drawing | |
| - When the EZ Guide i is used, the Dynamic graphic display cannot application | |
| - EZ Guide i (Doosan infracore Conversational Programming Solution) with 10.4" Color TFT | |
| - Dynamic graphic display Machining profile drawing | |

HEIDENHAIN iTNC 530

Control Axes

- Controlled axes 5 (X, Y, Z, W, B)
- Simultaneous controlled axes
 - Positioning / Linear interpolation 5 axes
 - Circular interpolation 2 axes
 - Helical interpolation 3 axes
- Backlash compensation
- Least command increment 0.001mm / 0.0001 (inch)
- Least input increment 0.001mm / 0.0001 (inch)
- Linear axis error compensation
- Reversal peaks with circular movement compensation
- Stick-slip friction compensation

Interpolation & Feed Function

- Circle In 3 axes
- Feedforward
- Feedrate override 0 -150 %
- Feed hold std.
- Helix interpolation
- Manual handwheel feed 1 unit
- Optional block skip
- Single block
- Spline interpolation
- Straight line In 5 axes

SPINDLE FUNCTION

- Spindle orientation
- Spindle position control
- Spindle speed override 0 - 150%

Tool Function

- 3 dimensional tool compensation
- Number of tool offset 999 ea
- Tool management

Spindle & M-code Function

- Actual position capture
- Calculator

- Comment and structure blocks in the NC program
- Complete list of all current error messages
- Context-sensitive help function for error message
- Datum tables
- Graphical support for programming cycles
- Graphic simulation
- Heidenhain conversation format programmi
- Mathematical function
- No. of registered program No limit
- Plane view
- Programming graphics
- Programming with variable Q parameters
- Program memory Approx 26GB on hard disk
- Returning to the contour
- The integrated help system TNC guide

Others Function (Operation, Setting & Display, etc)

- Actual speed display
- Alarm display
- Clock function
- Diagnostic function
- Display TFT 15" color
- Ethernet TCP / IP
- Integrated oscilloscope
- Log(error message and keystroke) use PCs
- Trace function
- USB USB1.1

Optional Specifications

- Display TFT 15" color
- DCM Collision
- DXF Converter
- Heidenhain DNC
- KinematicsOpt
- Tool touch probes TT-series, TL Series
- Workpiece touch probes TS-series

★ FOR A HEIDENHAIN NC, PLEASE CONTACT US.

Responding to Customers Anytime, Anywhere

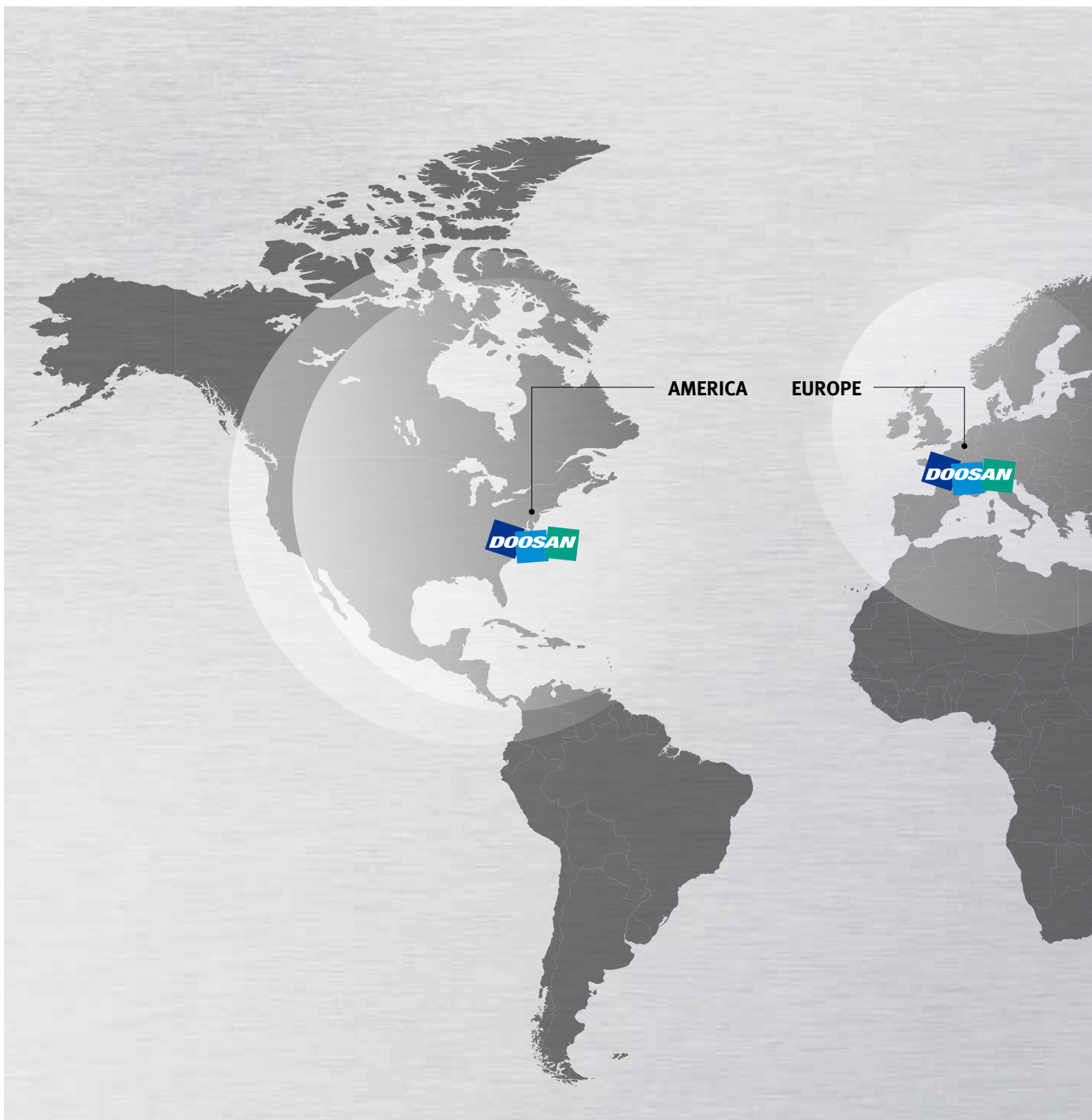
Basic Information

Diverse Line-up
High-Rigidity &
High-Precision
User Convenience

Detailed
Information

Options
Capacity Diagram
Specifications

Customer Support
Service



Global Service Support Network

Corporations

5

Dealer Networks

122

Technical Centers

18

Factories

3

Technical Center: Sales Support, Service Support, Parts Support

Doosan Machine Tools' Global Network, Responding to Customer's Needs nearby, Anytime, Anywhere

Doosan machine tools provides a system-based professional support service before and after the machine tool sale by responding quickly and efficiently to customers' demands. By supplying spare parts, product training, field service and technical support, we can provide top class support to our customers around the world.



Domestic Service Support Network

| | | | | | | | |
|----------------------------|---|----------------------|---|----------------------------|---|-----------------------------------|----|
| Integrated Support Centers | 2 | Sales Branch Offices | 7 | Post-Sales Service Centers | 6 | Designated Repair Service Centers | 31 |
|----------------------------|---|----------------------|---|----------------------------|---|-----------------------------------|----|

Customer Support Service

We help customers to achieve success by providing a variety of professional services from pre-sales consultancy to post-sales support.

Supplying Parts



- Supplying a wide range of original Doosan spare parts
- Parts repair service

Field Services



- On site service
- Machine installation and testing
- Scheduled preventive maintenance
- Machine repair

Technical Support



- Supports machining methods and technology
- Responds to technical queries
- Provides technical consultancy

Training



- Programming / machine setup and operation
- Electrical and mechanical maintenance
- Applications engineering

DBC series



| Model | X / Y / Z / W axes travel distance mm (inch) | Table size mm (inch) | Max. spindle speed r/min | Spindle motor kW (Hp) |
|-------------|--|--|--------------------------|-----------------------|
| DBC 110S | 2000 / 1500 / 1200 / 500 (78.7 / 59.1 / 47.2 / 19.7) | 1400 x 1600 (55.1 x 63.0) | 3000 | 26 (34.9) |
| DBC 130S | 2000 / 1500 / 1200 / 600 (78.7 / 59.1 / 47.2 / 23.6) | 1400 x 1600 (55.1 x 63.0) | 2500 | 30 (40.2) |
| DBC 130SL | 2500 / 2000 / 1500 / 600 (98.4 / 78.7 / 59.1 / 23.6) | 1400 x 1800 (55.1 x 70.9) | 2500 | 30 (40.2) |
| DBC 110 II | 2500 / 2000 / 1500 / 550 (98.4 / 78.7 / 59.1 / 21.7) | 1400 x 1800 (55.1 x 70.9) | 4000 | 26 (34.9) |
| DBC 130 II | 3000 / 2000 / 1600 / 700 (118.1 / 78.7 / 63.0 / 27.6) | 1600 x 1800 (63.0 x 70.9) | 2500 | 26 (34.9) |
| DBC 130L II | 4000 / 2500 / 2000 / 700 (157.5 / 98.4 / 78.7 / 27.6) | 1600 x 1800 {1800 x 2000, 2000 x 2200} (63.0 x 70.9) {(70.9 x 78.7, 78.7 x 86.6)} | 2500 | 26 (34.9) |
| DBC 250 II | 3000 / 2000 / 1600 / 500 (118.1 / 78.7 / 63.0 / 19.7) | 1600 x 1800 {1800 x 2000, 2000 x 2200} (63.0 x 70.9) {(70.9 x 78.7, 78.7 x 86.6)} | 6000 | 30 (40.2) |
| DBC 250L II | 4000 / 2500 / 2000 / 500 (157.5 / 98.4 / 78.7 / 19.7) | 1600 x 1800 {1800 x 2000, 2000 x 2200} (63.0 x 70.9) {(70.9 x 78.7, 78.7 x 86.6)} | 6000 | 30 (40.2) |



Doosan Machine Tools

<http://www.doosanmachinetools.com>

www.facebook.com/doosanmachinetools

Optimal Solutions for the Future

Head Office

Yeonkang Bldg., 6th FL., 270, Yeonji-dong,
Jongno-gu, Seoul, Korea
Tel +82-2-3670-5345 / 5362
Fax +82-2-3670-5382

Doosan Machine Tools 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

Doosan Machine Tools Japan

#2412, Mita Kokusai Bldg. 1-4-28 Mita,
Minato-ku, Tokyo 108-0073, Japan
Tel +81 3 5730 9013
Fax +81 3 5730 9016

Doosan Machine Tools America

19A Chapin Rd., Pine Brook, NJ 07058, U.S.A.
Tel +1-973-618-2500
Fax +1-973-618-2501

Doosan Machine Tools Europe

Emdener Strasse 24, D-41540 Dormagen, Germany
Tel +49-2133-5067-100
Fax +49-2133-5067-111

Doosan Machine Tools India

106 / 10-11-12, Amruthahalli, Byatarayanapura,
Bellary road, Bangalore-560 092, India
Tel +91-80-4266-0122 / 121 / 100



* For more details, please contact Doosan Machine Tools.
* The specifications and information above-mentioned may be changed without prior notice.
* Doosan Machine Tools Co., Ltd. is a subsidiary of MBK Partners. The trademark  **DOOSAN** is used under a licensing agreement with Doosan Corporation, the registered trademark holder.