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

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

**Spindle speed**
4000 r/min

**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)
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**

<table>
<thead>
<tr>
<th>Model</th>
<th>Spindle Speed r/min</th>
<th>Spindle motor kW(Hp)</th>
<th>Torque N·m(ft-lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBC 110S</td>
<td>3000</td>
<td>26 / 22 (34.9 / 29.5)</td>
<td>1137 (1273)* (839.1 / 939.5)*</td>
</tr>
<tr>
<td>DBC 130S</td>
<td>2500</td>
<td>37 / 30 (49.6 / 40.2)</td>
<td>3028 (2234.7)</td>
</tr>
</tbody>
</table>

DBC 110S / DBC 130S / DBC 130SL
Offer high-speed, high-power spindles to different boring sizes for higher productivity

**DBC II series**

<table>
<thead>
<tr>
<th>Model</th>
<th>Spindle Speed r/min</th>
<th>Spindle motor kW(Hp)</th>
<th>Torque N·m(ft-lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBC 110 II</td>
<td>4000</td>
<td>26 / 22 (34.9 / 29.5)</td>
<td>3259 (3853)* (2209.2 / 2843.5)*</td>
</tr>
<tr>
<td>DBC 130L</td>
<td>2500</td>
<td>37 / 30 (49.6 / 40.2)</td>
<td>3940 (3703)* (2907.7 / 2732.8)*</td>
</tr>
</tbody>
</table>

DBC 110 II
High-speed, high-performance spindle

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

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

**Note1** Please contact us if you wish to high power spindle. (45 / 37 kW) (60.3 / 49.6 Hp)
DBC S series

The powerful spindle motor further improves productivity.

DBC II series
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.

- **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.
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.

- Low gravity center design to minimize vibration 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.

- Short distance

**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.

- Excluding the X axes of DBC 110S / 110 II / 130S / 130SL
- Except DBC 110S / 130S (3-row angular contact bearings)
High Accuracy

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.

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**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).
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

<table>
<thead>
<tr>
<th>Max. tool dia.</th>
<th>Specification</th>
<th>Shape</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal tools:</td>
<td>D = ø130 mm</td>
<td><img src="image1" alt="Normal tool" /></td>
</tr>
<tr>
<td></td>
<td>(5.1 inch)</td>
<td></td>
</tr>
<tr>
<td>Facing tools:</td>
<td>D = ø250 mm</td>
<td><img src="image2" alt="Facing tool" /></td>
</tr>
<tr>
<td></td>
<td>(9.8 inch)</td>
<td></td>
</tr>
<tr>
<td>(Neighboring pots must be empty)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boring tools:</td>
<td>D = ø400 mm</td>
<td><img src="image3" alt="Boring tool" /></td>
</tr>
<tr>
<td></td>
<td>(15.7 inch)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>D = ø600 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(23.6 inch)</td>
<td></td>
</tr>
<tr>
<td>(Neighboring pots must be empty)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

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

Automatic Pallet Changer (APC)

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 130 II with APC

3D modeling layout

Detailed specification of APC

<table>
<thead>
<tr>
<th>Details</th>
<th>Unit</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Pallets</td>
<td>ea</td>
<td>2</td>
</tr>
<tr>
<td>APC type</td>
<td></td>
<td>Parallel shuttle (in Z-axis direction)</td>
</tr>
<tr>
<td>Pallet size (W x L) &amp; work load</td>
<td>mm (inch) &amp; ton</td>
<td>1600 x 1800 &amp; 10 (23.6 x 63.0 &amp; 10) &amp; 1800 x 2000 &amp; 8 (70.9 x 78.7 &amp; 8)</td>
</tr>
</tbody>
</table>

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.
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.
Special Options
Following special options are available on order:

1. **Angle head**  
   (manual indexing)  
   (L=365mm (14.4 inch))

2. **Long type angle head**  
   (manual indexing)  
   (L=660mm (26.0 inch))

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**  
   • DBC 110S / 110SL: L = 200mm (7.9 inch)  
   • DBC 130S / SL: L = 310mm (12.2 inch)  
   • DBC 130S / L: L = 310mm (12.2 inch)

7. **Facing head** (Cogsdill)  
   • Manual installation  
   (For more details, please contact us.)

8. **Angle plate** (4 types)  
   * Please contact us for customized specifications.  
   * Please contact us for further information.

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<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>450 (17.7)</td>
<td>500 (19.7)</td>
<td>750 (29.5)</td>
<td>750 (29.5)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>600 (23.6)</td>
<td>1000 (39.4)</td>
<td>1250 (49.2)</td>
<td>2000 (78.7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>400 (15.7)</td>
<td>550 (21.7)</td>
<td>750 (29.5)</td>
<td>1000 (39.4)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 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

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.
**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.

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

### 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.

<table>
<thead>
<tr>
<th>M-Code</th>
<th>Work Load Control</th>
<th>DBC 110S</th>
<th>DBC 130S / SL</th>
<th>DBC 110 L</th>
<th>DBC 130 L</th>
<th>DBC 130L L</th>
<th>DBC 250 / L L</th>
</tr>
</thead>
<tbody>
<tr>
<td>M380</td>
<td>5 tons or less</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M381</td>
<td>10 tons or less</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M382</td>
<td>15 tons or less</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M383</td>
<td>20 tons or less</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### 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.

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

<table>
<thead>
<tr>
<th>NO.</th>
<th>Description</th>
<th>Features</th>
<th>DBC 110S</th>
<th>DBC 130S</th>
<th>DBC 130SL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SPINDLE MOTOR POWER</td>
<td>26/22 KW (34.9/29.5 H.P) (3 WORKPIECE SETTING DEVICE)</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>2</td>
<td>SPINDLE MOTOR POWER</td>
<td>30/22 KW (40.2/27.5 H.P) (5 WORKPIECE SETTING DEVICE (AUP))</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>3</td>
<td>SPINDLE MOTOR POWER</td>
<td>45/37 KW (60.7/49.8 H.P) (3 WORKPIECE SETTING DEVICE)</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>4</td>
<td>SPINDLE MOTOR POWER</td>
<td>37/30 KW (49.6/40.2 H.P) (3 WORKPIECE SETTING DEVICE)</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>5</td>
<td>ATC</td>
<td>40 TOOLS</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>6</td>
<td>WORKPIECE SETTING DEVICE</td>
<td>CENTER BUSH</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7</td>
<td>EDGE LOCATOR</td>
<td>CENTER BUSH</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>8</td>
<td>TABLE SIZE</td>
<td>1400 X 1600 mm (55.1x63.0 inch)</td>
<td>•</td>
<td>•</td>
<td>X</td>
</tr>
<tr>
<td>9</td>
<td>TABLE SIZE</td>
<td>1400 X 1800 mm (55.1x70.9 inch)</td>
<td>X</td>
<td>X</td>
<td>•</td>
</tr>
<tr>
<td>10</td>
<td>TABLE SIZE</td>
<td>1600 X 1800 mm (63.0x70.9 inch)</td>
<td>X</td>
<td>X</td>
<td>•</td>
</tr>
<tr>
<td>11</td>
<td>TABLE SIZE</td>
<td>1800 X 2000 mm (70.9x78.7 inch)</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>12</td>
<td>TABLE SIZE</td>
<td>2000 X 2200 mm (78.7x86.6 inch)</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>13</td>
<td>TABLE SIZE</td>
<td>1800 X 2000 mm (70.9X78.7 inch) 20 ton</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>14</td>
<td>TABLE SIZE</td>
<td>2000 X 2200 mm (78.7x86.6 inch) 19 ton</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>15</td>
<td>TABLE SIZE</td>
<td>1600 X 3000 mm (63.0x118.1 inch) 20 ton</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>16</td>
<td>APC (1)</td>
<td>40 TOOLS</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>17</td>
<td>APC (1)</td>
<td>60 / 90 TOOLS</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>18</td>
<td>APC (1)</td>
<td>CENTER BUSH</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>19</td>
<td>APC (1)</td>
<td>EDGE LOCATOR</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

### Note
- **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)

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**Related Resources**

- [User Convenience](#)
- [Diverse Line-up](#)
- [Capacity Diagram](#)
- [Options](#)
- [Detailed Information](#)
- [Product Overview](#)
- [Service](#)
<table>
<thead>
<tr>
<th>NO.</th>
<th>Description</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SPINDLE MOTOR POWER</td>
<td>DBC 110: 26 / 22 KW (34.9 / 29.5 Hp) (30min/continuous)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130: 30 / 22 KW (34.9 / 29.5 Hp) (15min/continuous) (AMP UPS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130L: 45 / 37 KW (34.9 / 29.5 Hp) (30min/continuous)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 250: 37 / 30 KW (34.9 / 29.5 Hp) (30min/continuous)</td>
</tr>
<tr>
<td>2</td>
<td>ATC</td>
<td>DBC 110: 40 TOOLS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130: 60 / 90 TOOLS</td>
</tr>
<tr>
<td>3</td>
<td>WORKPIECE SETTING DEVICE</td>
<td>DBC 110: CENTER BUSH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130: EDGE LOCATOR</td>
</tr>
<tr>
<td>4</td>
<td>TABLE SIZE</td>
<td>DBC 110: 1400 X 1600 mm (55.1X63.0 inch)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130: 1400 X 1800 mm (55.1X70.9 inch)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130L: 1600 X 1800 mm (63.0X70.9 inch)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 250: 1800 X 2000 mm (70.9X87.8 inch)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 250L: 2000 X 2200 mm (78.7X86.6 inch)</td>
</tr>
<tr>
<td>5</td>
<td>COOLANT TANK</td>
<td>DBC 110: Flood Coolant</td>
</tr>
<tr>
<td>6</td>
<td>COOLANT GUN</td>
<td>DBC 110: MPD_DUAL BAG FILTER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130: MPD_CYCLON FILTER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130L: 1.5 KW, 2.0 MPD_BAG FILTER</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 250: 1.5 KW, 2.0 MPD_CYCLON FILTER</td>
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<tr>
<td></td>
<td></td>
<td>DBC 250L: 5.5 KW, 7.0 MPD_DUAL BAG FILTER</td>
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<td>7</td>
<td>ATTACHMENT</td>
<td>DBC 110: INDEXABLE ANGLE HEAD_90° INDEX</td>
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<tr>
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<td></td>
<td>DBC 130: 90° ANGLE HEAD_1, 635</td>
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<tr>
<td></td>
<td></td>
<td>DBC 130L: 90° ANGLE HEAD_1, 660</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 250: INDEXABLE ANGLE HEAD_90° INDEX</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 250L: 100° ANGLE HEAD_1, 000</td>
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<tr>
<td>8</td>
<td>ATTACHMENT SPEED LIMIT CONTROL</td>
<td>DBC 110: ATTACHMENT SPEED LIMIT CONTROL</td>
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<tr>
<td></td>
<td></td>
<td>DBC 130: 1 AXIS WIRE AND PIPING HYD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130L: OMPG6_RENISHAN</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 250: RMPG6_RENISHAN</td>
</tr>
<tr>
<td>9</td>
<td>MASTER TOOL FOR AUTO TOOL MEASUREMENT</td>
<td>DBC 110: CALIBRATION BLOCK</td>
</tr>
<tr>
<td>10</td>
<td>AUTO TOOL MEASURING DEVICE</td>
<td>DBC 110: TS27R_RENISHAN</td>
</tr>
<tr>
<td>11</td>
<td>ANGULAR FIXTURE</td>
<td>DBC 110: SIZE 450 X 600 X 400</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130: SIZE 500 X 1000 X 550</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 130L: SIZE 750 X 1250 X 750</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 250: SIZE 1000 X 2000 X 1000</td>
</tr>
<tr>
<td>12</td>
<td>ATTACHMENT SPEED LIMIT CONTROL</td>
<td>DBC 110: ATTACHMENT SPEED LIMIT CONTROL</td>
</tr>
<tr>
<td>13</td>
<td>SAFETY FENCE AND INTERLOCK SWITCH</td>
<td>DBC 110: 10.4 INCH (COLOR)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DBC 110: 15.0 INCH (COLOR)</td>
</tr>
<tr>
<td>14</td>
<td>GRAVITY SHAFT FALL PREVENTION SYSTEM (AT POWER FAILURE)</td>
<td>DBC 110: TRANSFORMER</td>
</tr>
<tr>
<td>15</td>
<td>POWER PANEL AIR CONDITIONER</td>
<td>DBC 110: POWER PANEL LIGHT</td>
</tr>
<tr>
<td>16</td>
<td>POWER PANEL LINE FILTER</td>
<td>DBC 110: AUTO NC POWER OFF</td>
</tr>
<tr>
<td>17</td>
<td>AUTO NC POWER ON</td>
<td>DBC 110: AUTO NC POWER ON</td>
</tr>
<tr>
<td>18</td>
<td>MACHINE WARMING UP</td>
<td>DBC 110: DOOSAN TOOL MANAGEMENT PACKAGE</td>
</tr>
<tr>
<td>19</td>
<td>DOOSAN TOOL LOAD MONITOR</td>
<td>DBC 110: NC 31IB</td>
</tr>
<tr>
<td>20</td>
<td>DOOSAN TOOL MANAGEMENT PACKAGE</td>
<td>DBC 110: DSQ1 (200Block)</td>
</tr>
<tr>
<td>21</td>
<td>DOOSAN TOOL MANAGEMENT PACKAGE</td>
<td>DBC 110: DSQ1 (400BLOCK)</td>
</tr>
<tr>
<td>22</td>
<td>DOOSAN TOOL MANAGEMENT PACKAGE</td>
<td>DBC 110: DSQ2 (DSQ1 + Data Server 1GB)</td>
</tr>
<tr>
<td>23</td>
<td>DOOSAN TOOL MANAGEMENT PACKAGE</td>
<td>DBC 110: DSQ3 (DSQ2 + 600Block)</td>
</tr>
<tr>
<td>24</td>
<td>NC COUNTER FUNCTION</td>
<td>DBC 110: WORK/TOTAL/DAILY</td>
</tr>
</tbody>
</table>

Note: The table above lists various features and specifications for the DBC II series machine tools, including spindle power, coolant systems, and other components. Each feature is matched to different models of the series, indicated by check marks (●) or crosses (X).
External Dimensions

DBC 110S

Unit: mm (inch)

Top View

Front View

Side View

Table

1400 x 1600 (55.1 x 63.0)
External Dimensions

**DBC 130S**

Top View

Front View

Side View

Table

1400 x 1600 (55.1 x 63.0)

Unit: mm(inch)
External Dimensions

**DBC 130 SL**

*Top View*

*Front View*

*Side View*

*Table*

1400 x 1800 (55.1 x 70.9)
External Dimensions

**DBC 110 II**

**Top View**

**Front View**

**Side View**

**Table**

1400 x 1600 (55.1 x 63.0)

Unit: mm (inch)
External Dimensions

**DBC 130 / L**
**DBC 250 / L II**

<table>
<thead>
<tr>
<th>Machine</th>
<th>A1 / A2</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
<th>K</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBC 130</td>
<td>1500</td>
<td>0-3000</td>
<td>8970</td>
<td>7660</td>
<td>1103</td>
<td>4905</td>
<td>527</td>
<td>0-700</td>
<td>0-1600</td>
<td>2300</td>
<td>1275</td>
<td>0-2000</td>
</tr>
<tr>
<td>DBC 130L</td>
<td>2000</td>
<td>0-4000</td>
<td>9970</td>
<td>8085</td>
<td>1103</td>
<td>5406</td>
<td>527</td>
<td>0-700</td>
<td>0-2000</td>
<td>2700</td>
<td>1275</td>
<td>0-2500</td>
</tr>
<tr>
<td>DBC 250</td>
<td>1500</td>
<td>0-3000</td>
<td>8970</td>
<td>7660</td>
<td>1103</td>
<td>4905</td>
<td>527</td>
<td>0-500</td>
<td>0-1600</td>
<td>2100</td>
<td>1275</td>
<td>0-2000</td>
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<tr>
<td>DBC 250L</td>
<td>2000</td>
<td>0-4000</td>
<td>9970</td>
<td>8085</td>
<td>1103</td>
<td>5406</td>
<td>527</td>
<td>0-500</td>
<td>0-2000</td>
<td>2500</td>
<td>1275</td>
<td>0-2500</td>
</tr>
</tbody>
</table>

Unit: mm (inch)
External Dimensions

**DBC 130 II with APC**

**External Dimensions**

**APC Pallet**

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

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

**T-Slot**

**Table**

1600 x 1800 (63.0 x 70.9)

1800 x 2000 (2000 x 2200)  
(70.9 x 78.7)  
(78.7 x 86.6)

DBC 130 Plane Table

---

* Please contact us for further details of the specifications. The specifications are subject to change without prior notice for performance improvement.
# Machine Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>DBC 110S</th>
<th>DBC 130S</th>
<th>DBC 130SL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Travels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X-axis</td>
<td>mm (inch)</td>
<td>2000 (78.7)</td>
<td>2500 (98.4)</td>
<td></td>
</tr>
<tr>
<td>Y-axis</td>
<td>mm (inch)</td>
<td>1500 (59.1)</td>
<td>2000 (78.7)</td>
<td></td>
</tr>
<tr>
<td>Z-axis</td>
<td>mm (inch)</td>
<td>1200 (47.2)</td>
<td>1500 (59.1)</td>
<td></td>
</tr>
<tr>
<td>W-axis</td>
<td>mm (inch)</td>
<td>500 (19.7)</td>
<td>600 (23.6)</td>
<td></td>
</tr>
<tr>
<td><strong>Distance from spindle nose to table top</strong></td>
<td>mm (inch)</td>
<td>0 – 1500 (0–59.1)</td>
<td>0–2000 (0–78.7)</td>
<td></td>
</tr>
<tr>
<td><strong>Distance from spindle nose to table center</strong></td>
<td>mm (inch)</td>
<td>550 – 1750 (21.7–2.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Feedrate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rapid traverse</td>
<td>X, Y, Z axes</td>
<td>m/min</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>W-axis</td>
<td>m/min</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cutting feedrate</td>
<td>X, Y, Z axes</td>
<td>mm/min</td>
<td>1 – 6000</td>
<td></td>
</tr>
<tr>
<td><strong>Table size</strong></td>
<td>mm (inch)</td>
<td>1400 x 1600 (55.1 x63.0)</td>
<td>1400 x 1800 (55.1 x70.9)</td>
<td></td>
</tr>
<tr>
<td><strong>Swing diameter</strong></td>
<td>mm (inch)</td>
<td>Ø2550</td>
<td>Ø3400</td>
<td></td>
</tr>
<tr>
<td>Without semi-S/G</td>
<td>mm (inch)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With semi-S/G</td>
<td>mm (inch)</td>
<td>Ø2100</td>
<td>Ø2250</td>
<td></td>
</tr>
<tr>
<td><strong>Table load capacity</strong></td>
<td>kg (lb)</td>
<td>7000 (15432.1)</td>
<td>8000 (10000)</td>
<td>(22045.9)</td>
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<tr>
<td>1400 x 1600 mm</td>
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<td></td>
<td>22045.9</td>
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</tr>
<tr>
<td>1400 x 1800 mm</td>
<td>kg (lb)</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>1600 x 3000 mm</td>
<td>kg (lb)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>1600 x 1800 mm</td>
<td>kg (lb)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>1800 x 2000 mm</td>
<td>kg (lb)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>2000 x 2200 mm</td>
<td>kg (lb)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Spindle</strong></td>
<td></td>
<td>3000</td>
<td>2500</td>
<td></td>
</tr>
<tr>
<td>Max. spindle speed</td>
<td>r/min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quill diameter</td>
<td>mm (inch)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Motor</strong></td>
<td>kW (hp)</td>
<td>26/22 (34.9/29.5)</td>
<td>30/22 (40.2/39.6)*</td>
<td>37/30 (49.6/40.2)</td>
</tr>
<tr>
<td>Spindle motor (30 min/cont.) (AMP UP: 15 min/cont.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool shank</td>
<td>MAS403 BT50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. tool diameter</td>
<td>mm (inch)</td>
<td>Ø130 / 250 / 400 / 600(1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. tool length</td>
<td>mm (inch)</td>
<td>600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. tool weight</td>
<td>kg (lb)</td>
<td>25 (55.1) / 30 (66.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Method of tool selection</td>
<td></td>
<td></td>
<td>Fixed address</td>
<td></td>
</tr>
<tr>
<td><strong>Power source</strong></td>
<td>kVA</td>
<td>70</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Machine dimensions</strong></td>
<td></td>
<td>4230 (166.5)</td>
<td>4860 (191.3)</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>mm (inch)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Length x Width</td>
<td>mm (inch)</td>
<td>5520 x 5900 (217.3 x 232.3)</td>
<td>7450 x 6800 (293.3 x 267.7)</td>
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</tr>
<tr>
<td>Weight</td>
<td>kg (lb)</td>
<td>29000 (63933.1)</td>
<td>30000 (66137.7)</td>
<td>36000 (79365.2)</td>
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<tr>
<td><strong>NC system</strong></td>
<td></td>
<td>FANUC 32i</td>
<td>DOOSAN FANUC i</td>
<td></td>
</tr>
</tbody>
</table>

(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

### Machine Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Unit</th>
<th>DBC 110 II</th>
<th>DBC 130 II</th>
<th>DBC 130L II</th>
<th>DBC 250 II</th>
<th>DBC 250L II</th>
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</thead>
<tbody>
<tr>
<td><strong>Travels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Travel distance</td>
<td>mm (inch)</td>
<td>2500 (98.4)</td>
<td>3000 (118.1)</td>
<td>4000 (157.5)</td>
<td>3000 (118.1)</td>
<td>4000 (157.5)</td>
</tr>
<tr>
<td>X-axis</td>
<td>mm (inch)</td>
<td>2000 (78.7)</td>
<td>2500 (98.4)</td>
<td>2000 (78.7)</td>
<td>2500 (98.4)</td>
<td>2500 (98.4)</td>
</tr>
<tr>
<td>Y-axis</td>
<td>mm (inch)</td>
<td>1500 (59.1)</td>
<td>1600 (63.0)</td>
<td>2000 (78.7)</td>
<td>1600 (63.0)</td>
<td>2000 (78.7)</td>
</tr>
<tr>
<td>Z-axis</td>
<td>mm (inch)</td>
<td>550 (21.7)</td>
<td>700 (27.6)</td>
<td>500 (19.7)</td>
<td>500 (19.7)</td>
<td></td>
</tr>
<tr>
<td>W-axis</td>
<td>mm (inch)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance from spindle nose to table top (mm (inch))</td>
<td>0 – 2000 (0–78.7)</td>
<td>0 – 2500 (0–98.4)</td>
<td>0 – 2000 (0–78.7)</td>
<td>0 – 2500 (0–98.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distance from spindle nose to table center (mm (inch))</td>
<td>550 – 1750 (21.7 – 68.9)</td>
<td>700 – 2300 (27.6 – 90.6)</td>
<td>700 – 2700 (27.6 – 106.3)</td>
<td>770 – 2370 (30.3 – 93.3)</td>
<td>770 – 2770 (30.3 – 109.1)</td>
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</tr>
<tr>
<td><strong>Feedrate</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rapid traverse</td>
<td>m/min</td>
<td>12</td>
<td>10</td>
<td>10 / 8 / 10</td>
<td>10</td>
<td>10 / 8 / 10</td>
</tr>
<tr>
<td>W-axis</td>
<td>m/min</td>
<td>6 – 0.2</td>
<td>10</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Cutting feedrate</td>
<td>X, Y, Z axes</td>
<td>1 – 6000</td>
<td></td>
<td>1 – 4000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Table</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Table size</td>
<td>mm (inch)</td>
<td>1400 x 1800 (55.1 x 70.9)</td>
<td>1600 x 1800 (63.0 x 70.9)</td>
<td>(1800 x 2000 (70.9 x 78.7), 2000 x 2200 (78.7 x 86.6))</td>
<td>(1600 x 1800 (63.0 x 70.9), 2000 x 2200 (78.7 x 86.6))</td>
<td></td>
</tr>
<tr>
<td>Swing diameter</td>
<td>Without semi-S/G</td>
<td>Ø3400</td>
<td>ø3900</td>
<td>ø4800</td>
<td>ø3900</td>
<td>ø4800</td>
</tr>
<tr>
<td>With semi-S/G</td>
<td>mm (inch)</td>
<td>Ø2250</td>
<td>ø3400</td>
<td>ø3400</td>
<td>ø3400</td>
<td>ø3400</td>
</tr>
<tr>
<td>Load capacity</td>
<td></td>
<td></td>
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<tr>
<td>Max. spindle speed</td>
<td>r/min</td>
<td>4000</td>
<td>2500</td>
<td>6000</td>
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</tr>
<tr>
<td>Boring spindle diameter</td>
<td>mm (inch)</td>
<td>110 (4.3)</td>
<td>130 (5.1)</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Quill diameter</td>
<td>mm (inch)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>250 (9.8)</td>
</tr>
<tr>
<td><strong>Motor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spindle motor</td>
<td>kW (Hp)</td>
<td>26 / 22 (30 / 22)<em>, (45 / 37)</em></td>
<td>30 / 22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool storage capacity</td>
<td>ea</td>
<td>40 / 60 / 90</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tool shank</td>
<td>MAS403 BT50</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Max. tool diameter</td>
<td>mm</td>
<td>ø130 / 250 / 400 / 600(1)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Max. tool length</td>
<td>mm</td>
<td>600 (23.6)</td>
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<td></td>
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<tr>
<td>Max. tool weight</td>
<td>kg (lb)</td>
<td>25 (55.1) / 30 (66.1)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Method of tool selection</td>
<td>Fixed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power source</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric power supply (rated capacity)</td>
<td>kVA</td>
<td>70 (90 kVA with 45kW motor)*</td>
<td>70</td>
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<tr>
<td><strong>Machine dimensions</strong></td>
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</tr>
<tr>
<td>Height</td>
<td>mm (inch)</td>
<td>4870 (191.7)</td>
<td>4910 (193.3)</td>
<td>5410 (213.0)</td>
<td>4910 (193.3)</td>
<td>5410 (213.0)</td>
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<tr>
<td>Length x Width</td>
<td>mm (inch)</td>
<td>7470 x 6980 (294.1 x 274.8)</td>
<td>8970 x 7660 (353.1 x 301.6)</td>
<td>9970 x 8090 (392.5 x 318.5)</td>
<td>8970 x 7640 (353.1 x 300.8)</td>
<td>9970 x 8090 (392.5 x 318.5)</td>
</tr>
<tr>
<td>Weight</td>
<td>kg (lb)</td>
<td>36000 (79365.2)</td>
<td>43000 (94797.4)</td>
<td>48000 (105820.3)</td>
<td>43000 (94797.4)</td>
<td>48000 (105820.3)</td>
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<td><strong>NC system</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>FANUC 311</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

*( ) : Option

(1) For Ø250 and Ø400 mm tools, neighboring pots must be empty. For Ø600 mm tools, neighboring two pots must be empty.
## FANUC NC Unit Specifications

**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 / 2 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: G01
- Manual handle feed (1 unit): G00
- Manual handle feedrate: 0.1 / 0.01 / 0.001mm
- Override cancel:
- Positioning: G00
- Program restart
- Rapid traverse bell-shaped acceleration / deceleration
- Rapid traverse override: P0 (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
- Circular interpolation: G12.1 / G13.1
- Retraction for rigid tapping: G68, G67
- Rigid tapping: G68, G67
- Scaling: G50, G51
- Spindle orientation
- Spindle output switching
- Spindle speed command
- 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

**Optional Functions**
- Alarm display
- Alarm history display
- Clock function
- Cycle start / Feed hold
- Display of PMC alarm message
- Dry run
- Ethernet function (Embedded)
- External data input
- Graphic display
- Help function
- Memory / DISPLAY unit
- 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

**Control Axes**
- AI Contour Control
- AI Contour Control
- Stored stroke check
- Mirror image Reflection
- Least input increment
- Least command increment
- Emergency stop / overtravel
- Simultaneously controllable axes
- Simultaneously controllable axes
- Linear ACC / DEC before interpolation
- Linear ACC / DEC after interpolation

**Specification**
- Label skip
- Local / Machine coordinate system G52 / G53
- Macro executor
- Maximum commandable value: ±9999999999999999 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: 04-digits
- Program protect
- Program stop / end: M00 / M02, M30
- Programmable data input
- Tool offset and work offset are entered by G10, G11
- Sub program
- 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
- Dry run
- Ethernet function (Embedded)
- External data input
- Graphic display
- Help function
- Memory / DISPLAY unit
- 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
- Addtion of tool pairs for tool life management: 1024 pairs
- Additional controlled axes: max. 6 axes in total
- Additional work coordinate system G54.1 P1 - 600 block preview
- AI Contour Control II
- Automatic corner override G02
- Chopping function: G81.1
- Cylindrical interpolation: G97.1
- Data server
- Dynamic graphic display
- Exponential interpolation
- EZ Guide (Daosun Infracon Conversational Programming Solution) with 10.4” Color TFT
- Figure copying
- 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
- Part program storage: 512kb (1280m) / 1 mb (2560m) / 2 mb (5120m) / 4mb (10240m) / 8 mb (20480m)
- Playback function
- Polar coordinate command: G15 / G16
- Position switch
- Programmable mirror image: G50.1 / G53.1
- Single direction positioning: G66
- Stored stroke check 2 / 3
- Tape format for FS15
- Tool offset: G45 - G48
Control Axes
- Controlled axes: 5 (X, Y, Z, W, B)
- Simultaneous controlled axes: 1
- Positioning/Linear interpolation (G01): 3 axes
- Circular interpolation (G02, G03): 2 axes
- Backlash compensation
- Emergency stop / overtravel
- Follow up
- Least command increment: 0.001 mm / 0.0001 inch
- Least input increment: 0.001 mm / 0.0001 inch
- Machine lock: all axes / 2 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 (ppm)
- 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: 0.1/0.01/0.001 mm
- 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: M3 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: 512 kb
- I / O interface: USB/RS-232C
- Inch / metric conversion: G20 / G21
- Local / Machine coordinate system: G52 / G53
- Macro executor
- Maximum commandable value: ±9999.999 mm (±9999.999 inch)

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

Others Function (Operation, Setting & Display, etc)
- Alarm display
- Dry run
- Ethernet function (Embedded)
- External data input
- Graphic display: Tool path drawing
- Help function
- MDI / DISPLAY unit
- Alarm display
- Cycle start / Feed hold
- Display of PMC alarm message
- Message display when PMC alarm occurred
- Memory card interface
- Multi language display
- Operation functions
- Tape / Memory / MDI / Manual
- Program restart
- Search function: Sequence NO. / Program NO.
- Servo setting screen
DOOSAN FANUC i series

### Control Axes
- Controlled axes: X, Y, Z, W, B
- Simultaneously controllable axes: 5 (X, Y, Z, W, B)
- Positioning: G00 / Linear interpolation: G01, 3 axes
- Circular interpolation: G02, G03, 2 axes
- Backlash compensation
- Emergency stop / overtravel
- Follow up
- Least command increment: 0.001 mm (0.0001 inch)
- Least input increment: 0.001 mm (0.0001 inch)
- Machine lock: All axes / Z axis
- Mirror image
- Spindle speed override
- Stored pitch error compensation
- Stored stroke check

### Interpolation & Feed Function
- 2nd reference point return: G30
- Circular interpolation: G2, G3
- Cylindrical interpolation: G07.1
- Dwell: G4
- Exact stop check: G09, G61
- Feed override: 0 - 200 %
- Helical interpolation: G01
- Jog override: 0 - 200 %
- Linear interpolation: G01
- Manual handle feed: 1 unit
- Manual handle feedrate: 0.1 / 0.01 / 0.001 mm
- Overide cancel: M48 / M49
- Positioning: G00
- Rapid traverse override: F0 (fine feed), 25 / 50 / 100 %
- Reference point return: G27, G28, G29
- Skip function: G51

### Operation, Setting & Display, etc.
- 3rd / 4th reference return
- Additional work coordinate system: G54.1 P1 - 48 (48 pairs)
- ACC1 (AI Contour Control I) 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
- Machine condition selection function
- Embedded ethernet
- Dry run
- Graphic display: Tool path drawing
- Help function
- High speed Skip function
- MDI / display unit
- 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

### Spindle & M-code Function
- M-code function: M3 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: 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
- 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: ±9,999,999 mm (±9,999,999 inch)
- No. of Registered programs: 400 ea
- Optional block Skip
- Optional stop: M1
- Part program storage: 1280m (512 kB)
- Palbyack
- Program number: O4 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
- ACC 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 is used, the Dynamic graphic display cannot application
- EZ Guide (Doosan Infracore Conversational Programming Solution) with 10.4" Color TFT
- Dynamic graphic display Machining profile drawing
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 0.001 mm / 0.0001 inch
- Least input increment 0.001 mm / 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
- Acture position capture
- Calculator

Interpolation & Feed Function
- 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 Funtion (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 USB 1.1

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

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Responding to Customers Anytime, Anywhere

Global Service Support Network

<table>
<thead>
<tr>
<th>Corporations</th>
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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.

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

Domestic Service Support Network

Integrated Support Centers: 2
Sales Branch Offices: 7
Post-Sales Service Centers: 6
Designated Repair Service Centers: 31
<table>
<thead>
<tr>
<th>Model</th>
<th>X / Y / Z / W axes travel distance (mm / inch)</th>
<th>Table size (mm / inch)</th>
<th>Max. spindle speed (r/min)</th>
<th>Spindle motor (Hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DBC 110S</td>
<td>2000 / 1500 / 1200 / 500 (78.7 / 59.1 / 47.2 / 19.7)</td>
<td>1400 x 1600 (55.1 x 63.0)</td>
<td>3000</td>
<td>26 (34.9)</td>
</tr>
<tr>
<td>DBC 130S</td>
<td>2000 / 1500 / 1200 / 600 (78.7 / 59.1 / 47.2 / 23.6)</td>
<td>1400 x 1600 (55.1 x 63.0)</td>
<td>2500</td>
<td>30 (40.2)</td>
</tr>
<tr>
<td>DBC 130SL</td>
<td>2500 / 2000 / 1500 / 600 (98.4 / 78.7 / 59.1 / 23.6)</td>
<td>1400 x 1800 (55.1 x 70.9)</td>
<td>2500</td>
<td>30 (40.2)</td>
</tr>
<tr>
<td>DBC 110 II</td>
<td>2500 / 2000 / 1500 / 550 (98.4 / 78.7 / 59.1 / 21.7)</td>
<td>1400 x 1800 (55.1 x 70.9)</td>
<td>4000</td>
<td>26 (34.9)</td>
</tr>
<tr>
<td>DBC 130 II</td>
<td>3000 / 2000 / 1600 / 700 (118.1 / 78.7 / 63.0 / 27.6)</td>
<td>1600 x 1800 (63.0 x 70.9)</td>
<td>2500</td>
<td>26 (34.9)</td>
</tr>
<tr>
<td>DBC 130L II</td>
<td>4000 / 2500 / 2000 / 700 (157.5 / 98.4 / 78.7 / 27.6)</td>
<td>1600 x 1800 (63.0 x 70.9)</td>
<td>2500</td>
<td>26 (34.9)</td>
</tr>
<tr>
<td>DBC 250 II</td>
<td>3000 / 2000 / 1600 / 500 (118.1 / 78.7 / 63.0 / 19.7)</td>
<td>1800 x 2000 (70.9 x 78.7 x 86.6)</td>
<td>6000</td>
<td>30 (40.2)</td>
</tr>
<tr>
<td>DBC 250L II</td>
<td>4000 / 2500 / 2000 / 500 (157.5 / 98.4 / 78.7 / 19.7)</td>
<td>1800 x 2000 (70.9 x 78.7 x 86.6)</td>
<td>6000</td>
<td>30 (40.2)</td>
</tr>
</tbody>
</table>

Doosan Machine Tools
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