The 3rd generation DMU: even better and more powerful!
DMU 50
Compact universal machining centre of the 3rd generation for 5-axis simultaneous machining.

Ever since the DMU 50 was developed over 20 years ago, standards and requirements have been increasing. The 3rd generation of the DMU 50 meets the needs of 5-axis machining of the future and is characterised by innovative mechanical engineering technology. The larger working area and swivel range of the B-axis broaden the range of applications of the machine. Rapid traverses of 42 m/min and a swivel speed of 30 rpm guarantee dynamic machining and up to 30% shorter cutting cycles. The extensive cooling measures are unique in this machine class and deliver maximum precision.

The latest control technology with ERGOline® Control with a 21.5” multi-touch screen and CELOS® guarantees optimum user-friendliness, precision and reliability. In the DMU 50, DMG MORI is providing the ideal, cost-effective entry into the world of 5-sided and even 5-axis simultaneous machining.
3: Belt fastener / automotive
4: Pump housing / fluid technology
5: Structural component / aerospace
Now even more precise with:

- **Linear scales** in all axes
- **Directly driven ball screws**
- **Cooled ball screw nuts, guideways and bearings**
- **Two cooled table bearings** (B and C-axes)
- **Cooled motor spindle**

**The best DMU 50**

- **78% larger working area**
- **40% faster rapid traverses**, 42 m/min as standard
- **28% larger swivel range**, swivel range of –35° / +110°
- **speedMASTER® spindles** rated at up to 20,000 rpm
- **Tool magazines** with up to 120 positions
DMU 50

Maximum precision with direct drives and extensive cooling.

With its low centre of mass and stable design, the one-piece machine bed provides improved static and dynamic stability. In combination with directly driven ball screws, linear scales and extensive cooling, it delivers a level of precision unheard of in this machine class.

DMU 50

- Linear scales in all axes
- Directly driven ball screws
- Cooled ball screw nuts, guideways and bearings
- Two cooled table bearings (B and C-axes)
- Cooled motor spindle
- 78% larger working area
- 40% faster rapid traverses, 42 m/min as standard
- 28% larger swivel range, swivel range of –35° / +110°
- speedMASTER® spindles rated at up to 20,000 rpm
- Tool magazines with up to 120 positions
DMU 50

Innovative technology and top-class options for every application.

The DMU 50’s new tool magazine with 30, 60 or 120 positions and a rapid double gripper make it possible to replenish the tools during machining. This, combined with short chip-to-chip times, saves time throughout the production process. Additionally, as the tools are stored outside the working area they cannot be contaminated by chips. With optional, high-performance speedMASTER® motor spindles rated at up to 20,000 rpm or 200 Nm, the machine has enough power to handle difficult materials and challenging applications.

78% larger working area with swivelling rotary table for 5-axis simultaneous machining of workpieces weighing up to 500 kg.

B-axis: –35° / +110°
C-axis: 360°
1 + 2: Tool magazine for 30, 60 or 120 positions
2: Set-up station for loading the magazine quickly and easily during the machining process
3: Powerful spindles:
   - 15,000 rpm / 21 kW, 111 Nm speedMASTER® spindle
   - 15,000 rpm / 46 kW, 200 Nm speedMASTER® spindle (optional)
   - 20,000 rpm / 35 kW, 130 Nm speedMASTER® spindle (optional)
Applications and Parts
Machine and Technology
Control Technology
Technical Data

Simplified machine operation.
The holistic integration of machines within a manufacturing organisation.

ERGOline® Control
with 21.5" multi-touch-screen and SIEMENS.

Simple
User-friendly machine operation for all new high-tech machines from DMG MORI.

Continuous
Consistent administration, documentation and visualisation of order, process and machine data.

Compatible
Compatible with PPS and ERP systems. Can be networked with CAD/CAM products. Open to trendsetting CELOS® apps extensions.

Like on a smart phone, the operator has direct access to all available applications through the APP MENU.

SMARTkey®
Personalised user authorisation: Individually adapted access privileges to the control system and the machine.
DMU 50

Optimal user convenience.

CELOS® features a standard user interface for all new high-tech machines from DMG MORI. CELOS® apps enable the consistent administration, documentation and visualisation of order, process and machine data. They also simplify, standardise and automate the operation of the machine. 16 standard apps help the machine operator prepare, optimise and systematically process production jobs.

High-end CNCs for safe processes and maximum precision.

SIEMENS
840D solutionline
+ SINUMERIK Operate 4.5
+ 3D simulation
+ Processing from the hard drive
+ Quick editing of large programs
+ Simple, graphically supported set-up
+ Comprehensive tool management

Advantages
+ Easy interactive programming
+ Programming with no additional documentation
+ Wide range of canned cycles
+ Safety thanks to pre-production simulations
+ Sophisticated tool handling

HEIDENHAIN
TNC 640
+ Shop floor or DIN-ISO programming
+ 3D workpiece simulation
+ Graphical programming
+ Coordinate transformation
+ Rapid program creation with visual programming

Advantages
+ Familiar and proven HEIDENHAIN user interface
+ For rapid programming
+ Graphical programming support
+ Convenient, thanks to the comprehensive selection of canned cycles
DMU 50

Power Diagrams

**speedMASTER®-spindle SK40 / HSK-A63**
15,000 rpm / 21 kW / 111 Nm

**speedMASTER®-spindle SK40 / HSK-A63***
15,000 rpm / 46 kW / 200 Nm

**speedMASTER®-spindle SK40 / HSK-A63***
20,000 rpm / 35 kW / 130 Nm

* Optional

DMU 50

Floor Plans

DMU 50

Front view with 30 tools

Plan view with 30 tools
# DMU 50

## Technical Data

<table>
<thead>
<tr>
<th>Working area</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Travels X / Y / Z mm</td>
<td>650 / 520 / 475</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main drive (standard)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed range rpm</td>
<td>20–15,000</td>
</tr>
<tr>
<td>Drive power (40 / 100 % DC) kW</td>
<td>21 / 16</td>
</tr>
<tr>
<td>Torque (40 / 100 % DC) Nm</td>
<td>111 / 85</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main drive (optional)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed range rpm</td>
<td>20–15,000</td>
</tr>
<tr>
<td>Drive power (40 / 100 % DC) kW</td>
<td>46 / 30</td>
</tr>
<tr>
<td>Torque (40 / 100 % DC) Nm</td>
<td>200 / 130</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Main drive (optional)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed range rpm</td>
<td>20–20,000</td>
</tr>
<tr>
<td>Drive power (40 / 100 % DC) kW</td>
<td>35 / 25</td>
</tr>
<tr>
<td>Torque (40 / 100 % DC) Nm</td>
<td>130 / 86</td>
</tr>
</tbody>
</table>

| Feed |  |
| Rapid traverse X / Y / Z m/min | 42 |
| Maximum thrust force X / Y / Z kN | 4.8 |

| Swivelling rotary table |  |
| Clamping area mm | ø 630 × 500 |
| Maximum load kg | 300 |
| Swivel range Degrees | −35 / +110 |

| Tool magazine with double gripper |  |
| Storage positions Number | 30 / 60° / 120° |
| Maximum tool length mm | 300 |
| Maximum tool diameter mm | 80 / 130 |
| Tool weight max kg | 8 |

| Machine weight / connected values |  |
| Weight kg | 6,600 |
| Power kW | 28 |
| Maximum current rating A | 40 |

| Options |  |
| Laser tool measurement; Tool magazine 60 / 120 pockets; Oil mist separator; Coolant / air blast switch; through-spindle air blast; Coolant gun; Chip conveyor; Internal coolant supply up to 40 bar |  |

| Control |  |
| ERGOline® Control with a 21.5” multi-touch screen, CELOS® and SIEMENS 840D solutionline |  |
| ERGOline® Control with a 19.5” screen and HEIDENHAIN TNC 640 |  |
Customer First – 
Our service promise!

“We have good news for you: Our service and spare parts prices have been completely revised. With our service commitments, we want to meet your high demands with the highest service quality.” Please contact us – your sales and service team is at your disposal!

Top quality at fair prices. It’s a promise!

Best Price Guarantee for Original Spare Parts. Should you get a spare part offered by us at least 20% cheaper elsewhere, we will refund the price difference up to 100% *.

Spindle service at best prices. The highest level of competence from the manufacturer at new and attractive prices – DMG MORI spindle service!

Up to 50% lower service costs. New Flat Call-Out Rate – without travel expenses or any additional costs!

Our protective shield for your productivity. Reduced operating costs, highest machine availability and maximum precision – DMG MORI ServicePlus!

*All information and price advantages for Customer First are available at: customer-first.dmgmori.com