

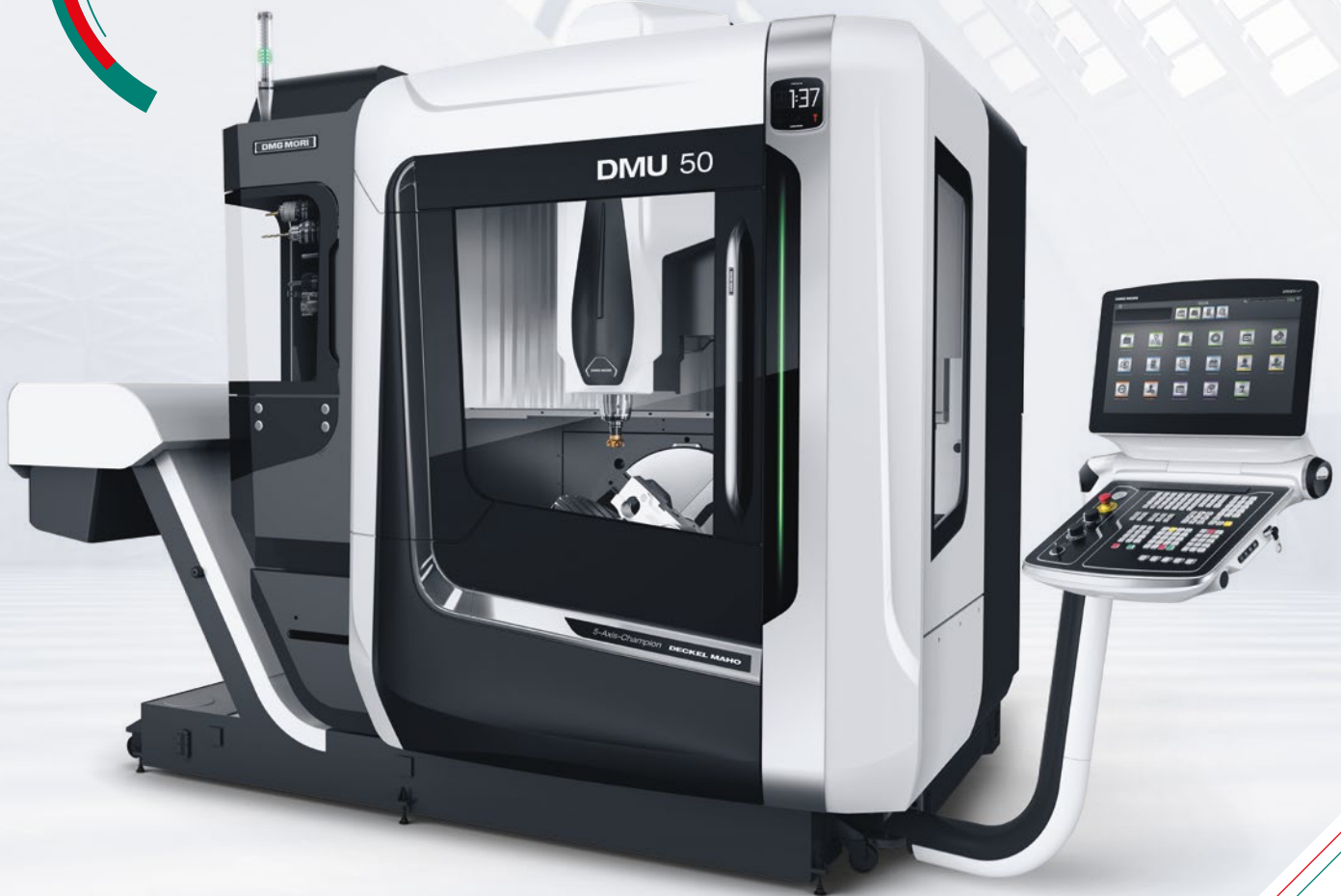
CNC UNIVERSAL MACHINING CENTRE

DMU 50

DMU 50

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 | 1,654 ipm 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.

02



1: Hydraulic component/motorsport
2: Milling head/tool manufacture





3

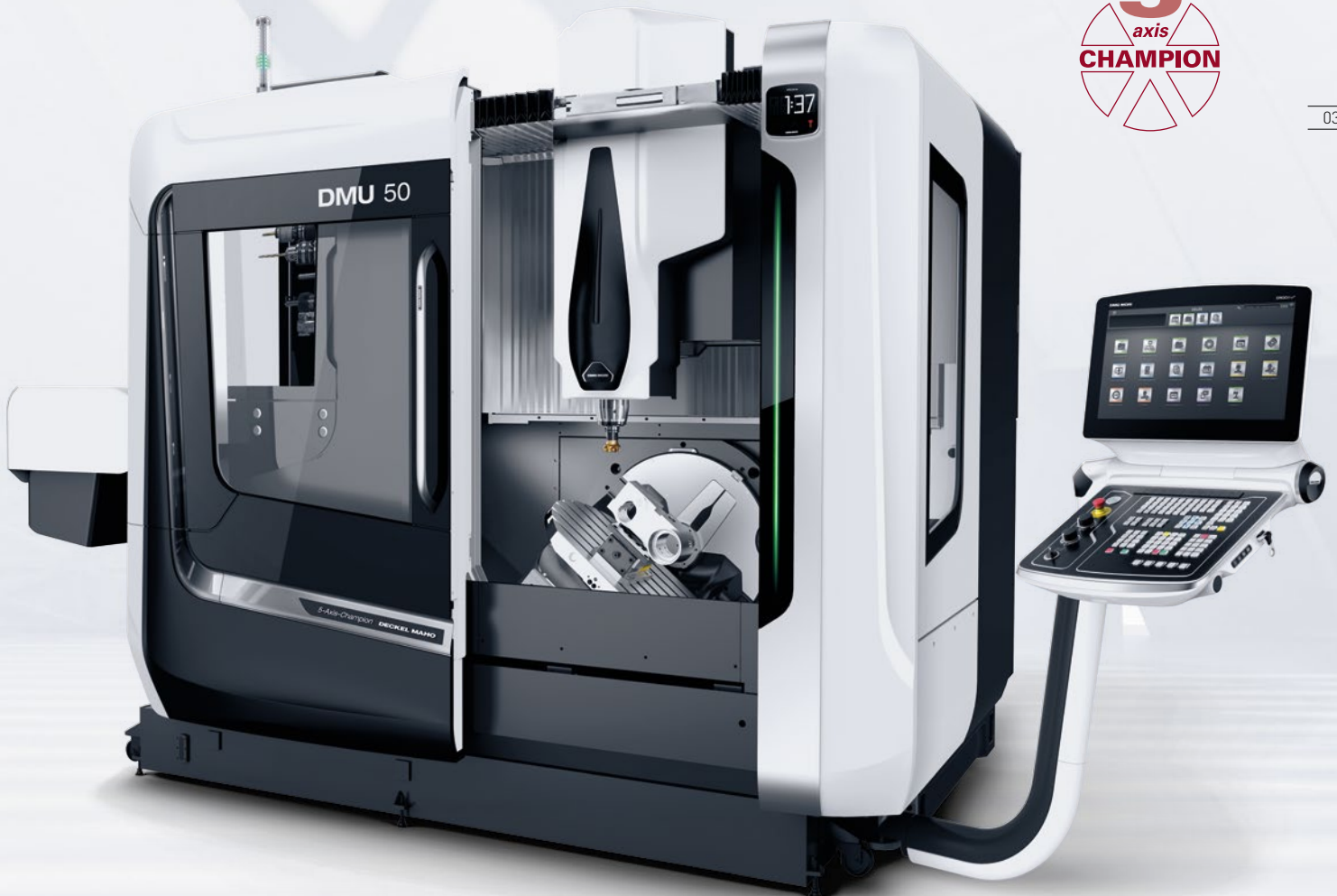


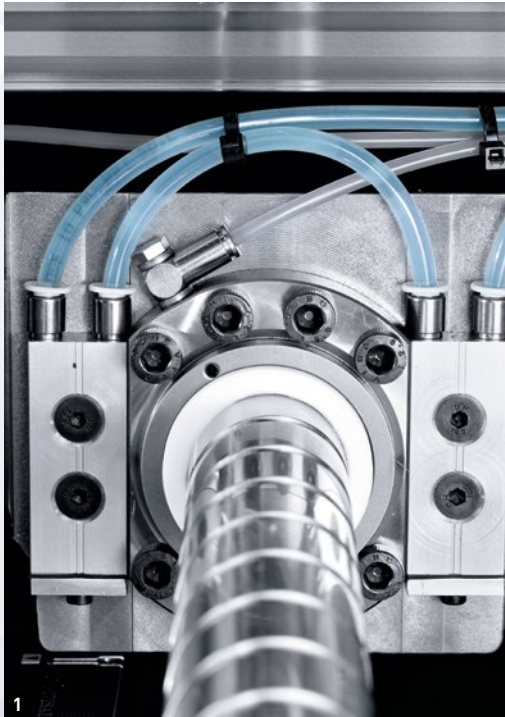
4



5

3: Belt fastener/automotive 4: Pump housing/fluid technology
5: Structural component/aerospace





1+2: Cooled ball screw nuts and guideways
3: Optimal overview of and accessibility to the hydraulics

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

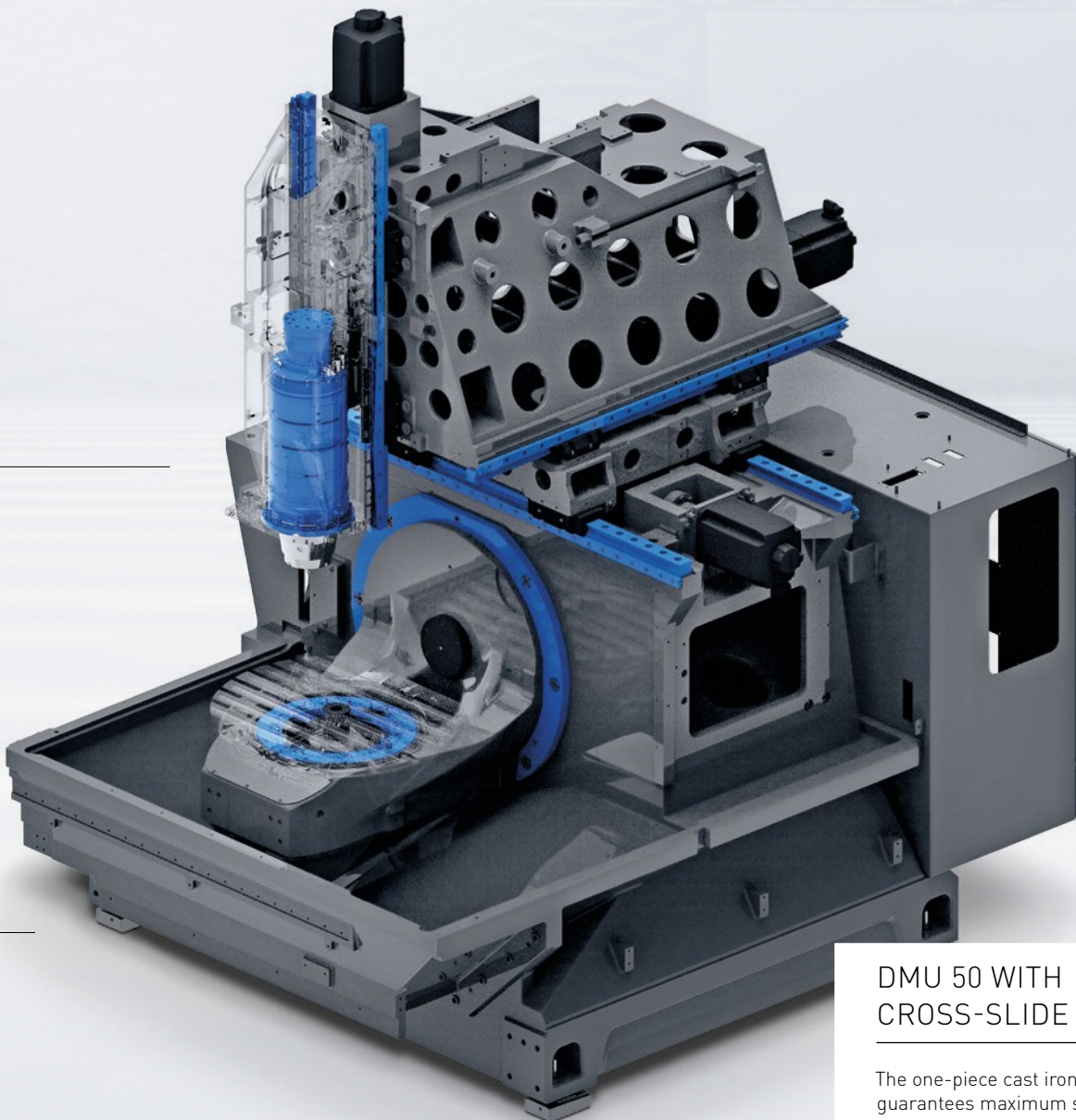
The best DMU 50

- + 78 % larger working area
- + 40 % faster rapid traverses, 42 m/min | 1,654 ipm 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

Highest accuracy thanks to direct drives and the integrated cooling concept.

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 unrivalled in this machine class.



05

DMU 50 WITH CROSS-SLIDE DESIGN:

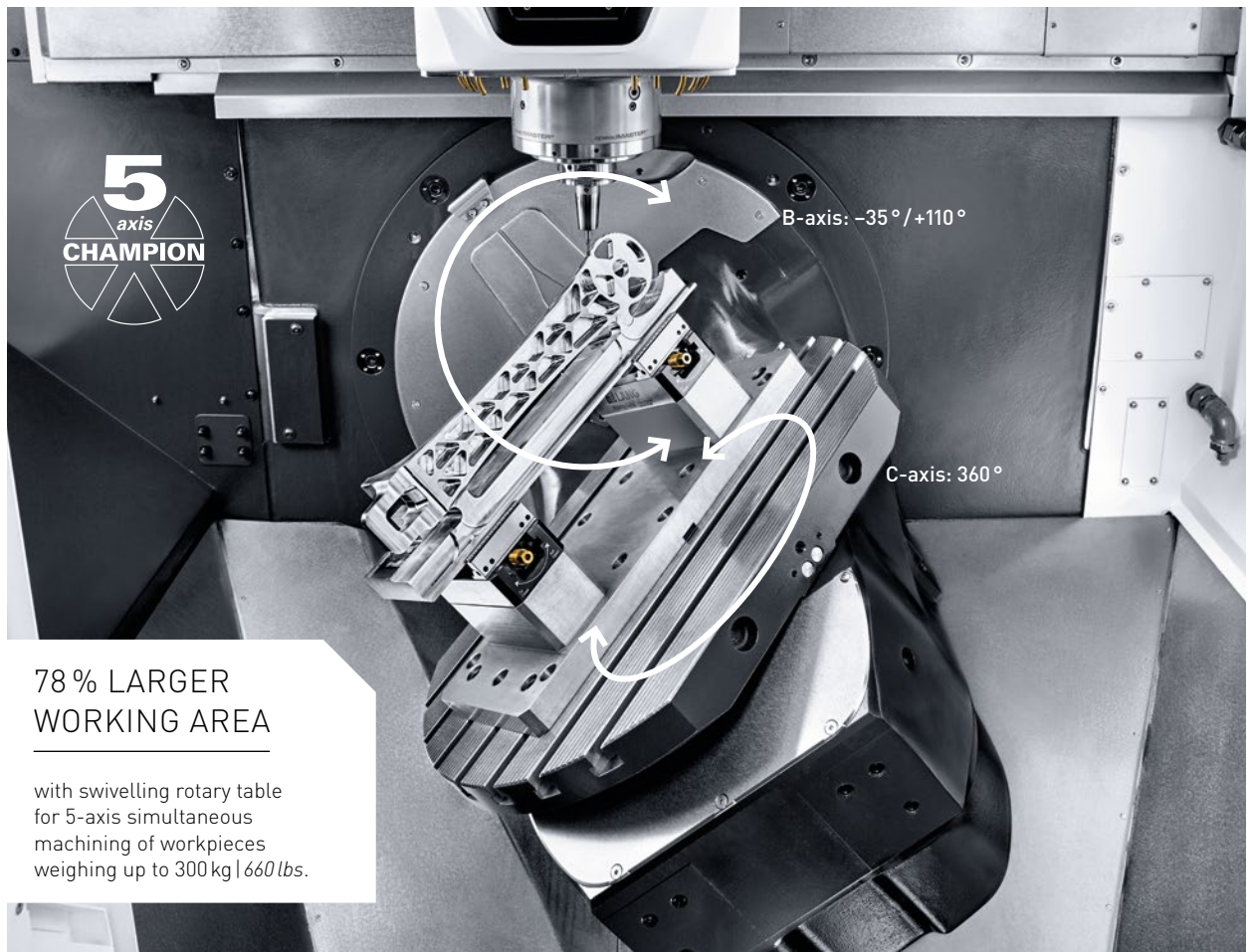
The one-piece cast iron machine bed guarantees maximum stability.

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 | 147.5 ft lbs, the machine has enough power to handle difficult materials and challenging applications.

06



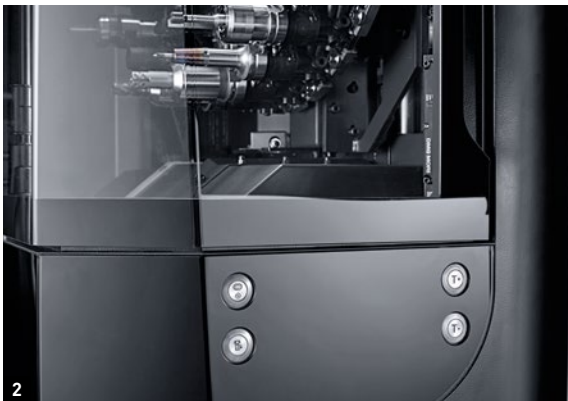
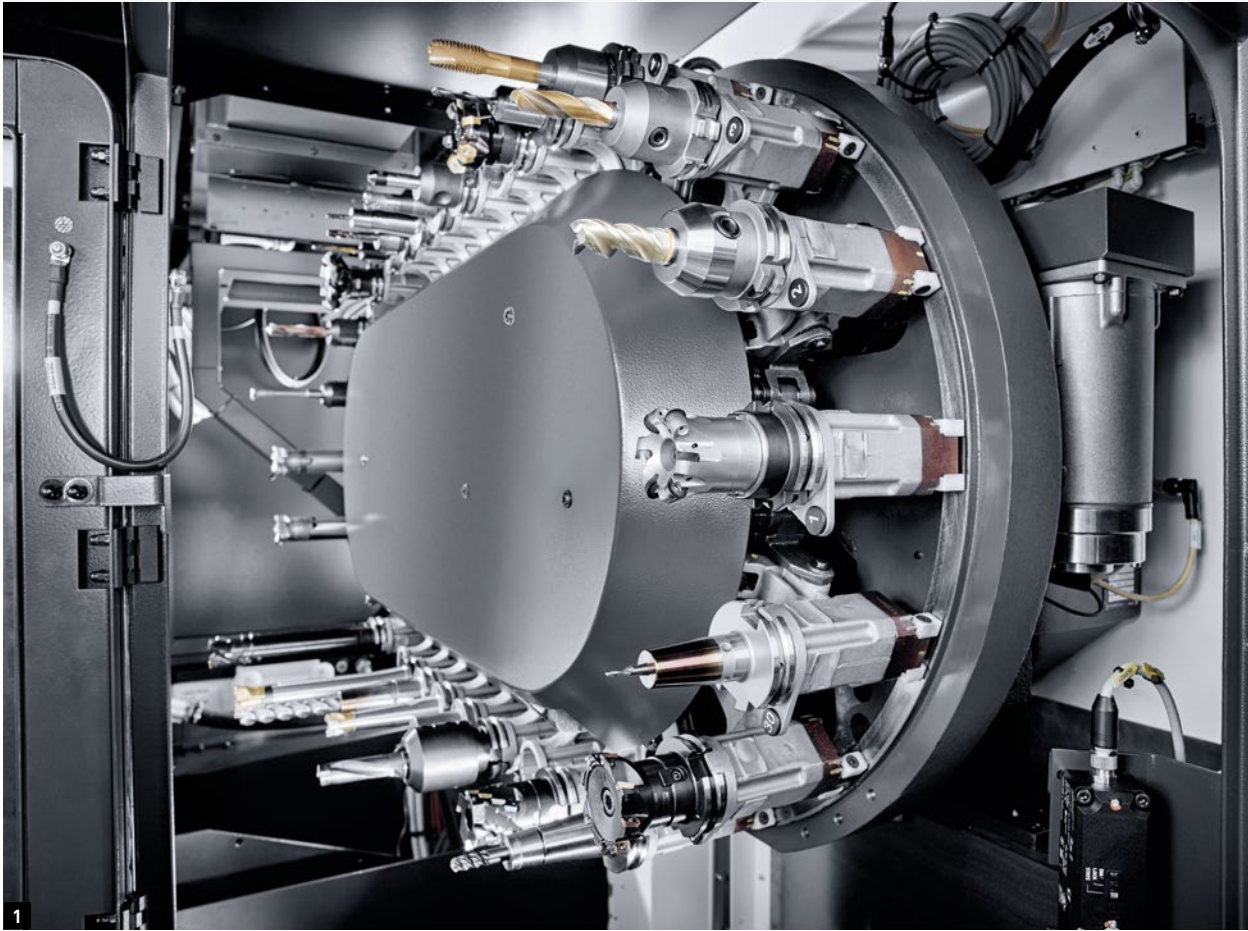
5
axis
CHAMPION

B-axis: $-35^{\circ} / +110^{\circ}$

C-axis: 360°

**78% LARGER
WORKING AREA**

with swivelling rotary table
for 5-axis simultaneous
machining of workpieces
weighing up to 300 kg | 660 lbs.



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 | 28.2 hp / 111 Nm | 81.9 ft lbs speedMASTER spindle SK40/HSK-A63

15,000 rpm / 46 kW | 61.7 hp / 200 Nm | 147.5 ft lbs speedMASTER spindle SK40/HSK-A63 (optional)

20,000 rpm / 35 kW | 46.9 hp / 130 Nm | 95.9 ft lbs speedMASTER spindle SK40/HSK-A63 (optional)

CELOS

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

APP MENU

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



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.

SMARTkey

Personalised user authorisation:
Individually adapted access
privileges to the control system
and the machine.

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. 26 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
- + 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



FANUC MAPPS IVS

- + FANUC based
- + User memory with large capacity of 6 GB as standard
- + Equipped with simple and easy-to-follow conversational programming function
- + Quick access to required information by manual data searchfunction
- + Two multi-touch panels

Advantages

- + 3D machining simulation for easy geometry checking
- + 4-window display for checking required machine information at the same time
- + Improved set-ups by displaying required machine information according to the operation

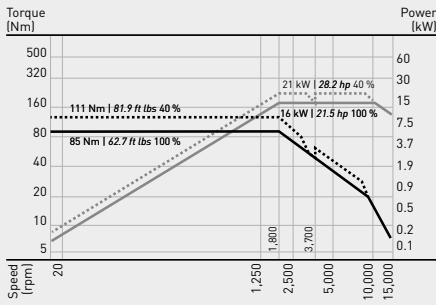


DMU 50

Power Diagrams

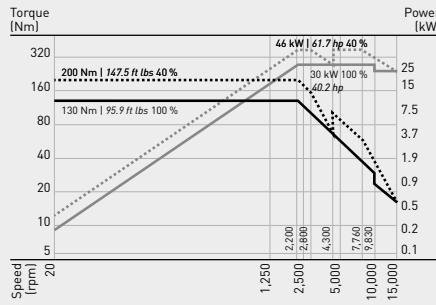
speedMASTER-spindle SK40/HSK-A63

15,000 rpm / 21 kW | 28.2 hp / 111 Nm | 81.9 ft lbs



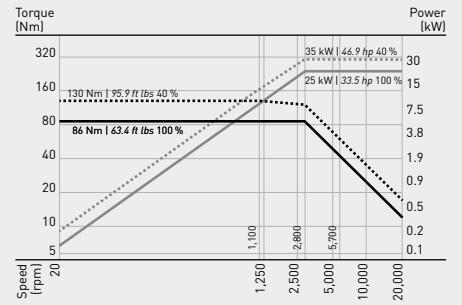
speedMASTER-spindle SK40/HSK-A63*

15,000 rpm / 46 kW | 61.7 hp / 200 Nm | 147.5 ft lbs



speedMASTER-spindle SK40/HSK-A63*

20,000 rpm / 35 kW | 46.9 hp / 130 Nm | 95.9 ft lbs



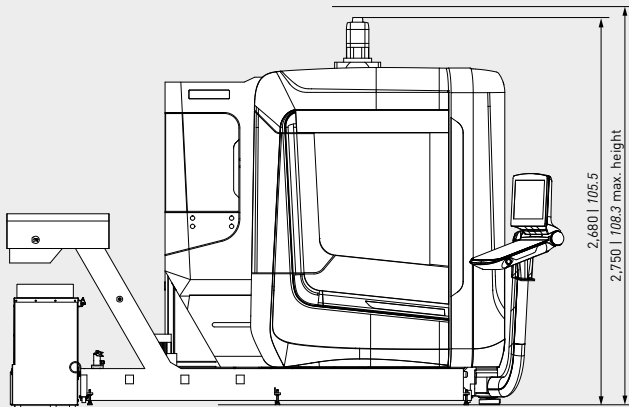
*Optional

DMU 50

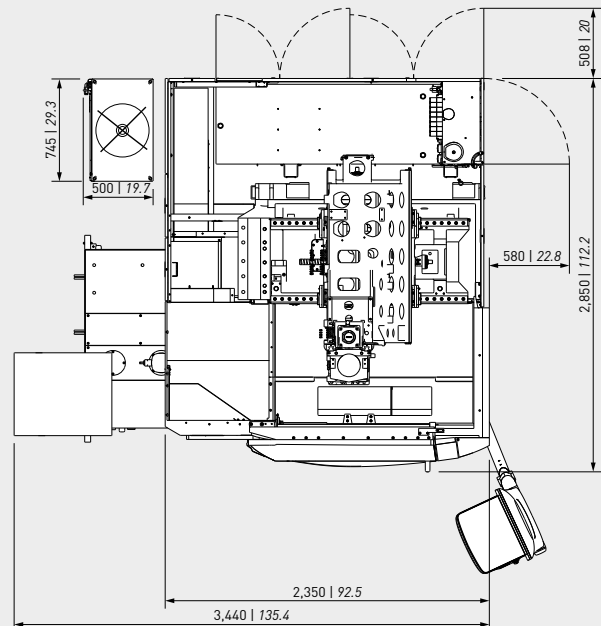
Floor Plans

DMU 50

Front view with 30 tools (mm | in)



Plan view with 30 tools (mm | in)



Technical Data

		DMU 50
Working area		
Travels X/Y/Z	mm in	650/520/475 25.6/20.5/18.7
Main drive (standard)		
Speed range	rpm	20 – 15,000
Drive power (40/100% DC)	kW hp	21/16 28.2/21.5
Torque (40/100% DC)	Nm ft lbs	111/85 81.9/62.7
Main drive (optional)		
Speed range	rpm	20 – 15,000
Drive power (40/100% DC)	kW hp	46/30 61.7/40.2
Torque (40/100% DC)	Nm ft lbs	200/130 147.5/95.9
Main drive (optional)		
Speed range	rpm	20 – 20,000
Drive power (40/100% DC)	kW hp	35/25 46.9/33.5
Torque (40/100% DC)	Nm ft lbs	130/86 95.9/63.4
Feed		
Rapid traverse X/Y/Z	m/min ipm	42 1,654
Maximum thrust force X/Y/Z	kN lbf	4.8 1,079
Swivelling rotary table		
Clamping area	mm in	∅ 630 × 500 ∅ 24.8 × 19.7
B-/C-axis speed	rpm	30*
Maximum load	kg lbs	300 660
Swivel range	Degrees	-35/+110
Tool magazine with double gripper		
Storage positions	Number	30/60**/120**
Maximum tool length	mm in	300 11.8
Maximum tool diameter	mm in	80/130 3.1/5.1
Tool weight max.	kg lbs	8 17.6
Machine weight / connected values		
Weight	kg lbs	7,480 16,490
Power	kW hp	28 37.5
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 21.5" multi-touch screen, CELOS and HEIDENHAIN TNC 640		•
ERGOline Control with a 21.5" multi-touch screen, CELOS and FANUC MAPPS IVS ***		•
ERGOline Control with a 19.5" screen and HEIDENHAIN TNC 640		•



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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 Service *Plus!*



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