

DMG MORI

VERTICAL HIGH SPEED MACHINING CENTER

DMP 70

DMP 70



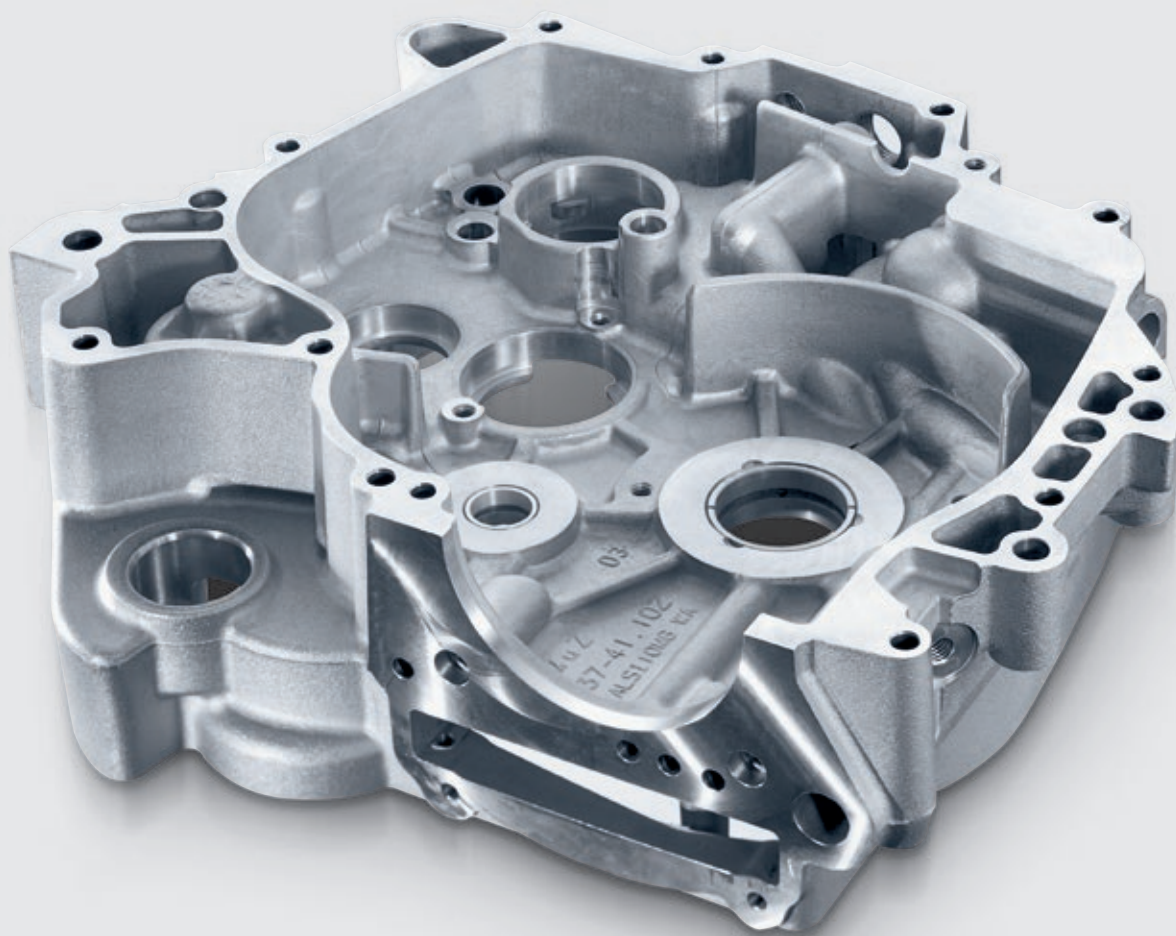
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DMP 70

Highest precision and productivity

The DMP 70 is the optimal answer to the requirements and needs of 3-axis as well as 5-axis machining for production-oriented sectors.

At the same time, the machine impresses with a single piece machine bed made of cast iron, a highly dynamic tool changer, direct absolute path measuring systems, optimal chip transportation, a minimal footprint and an optimal automation capacity.



AUTOMOTIVE

Motor housing made
of aluminum casting



PRODUCTION

Valve housing made of aluminum



PRODUCTION

Pump housing made of aluminum casting



MEDICAL

Bone plates made of titanium



JOB SHOP

Holder made of steel



MEDICAL

Transtibial prosthesis made of titanium

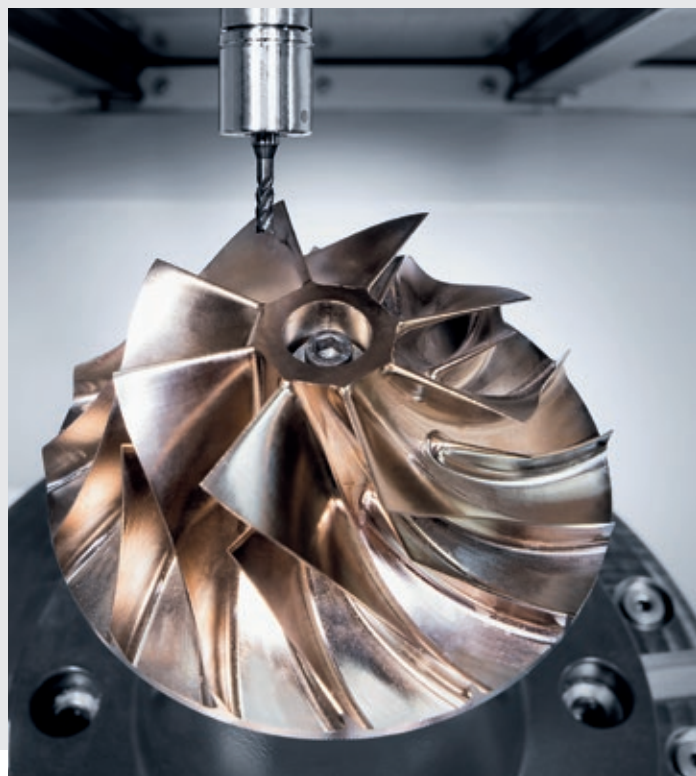


AEROSPACE

Blade made of aluminum

AEROSPACE

Impeller made of titanium



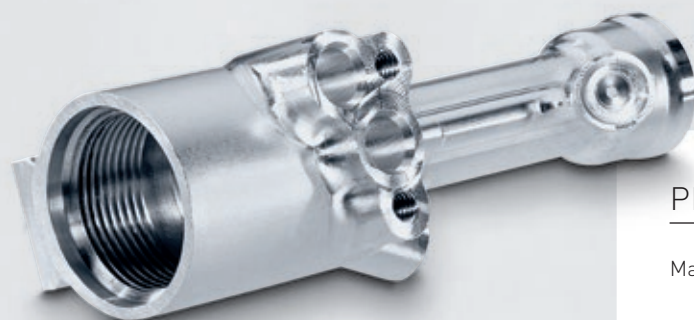
TECHNOLOGY EXCELLENCE

Flexible machine for production-oriented fields of application

The most impressive feature of the DMP 70 is its perfectly coordinated machine concept, which makes it the perfect solution for production-oriented fields of application. Moreover, the machines are equipped with a comprehensive portfolio of options for various sectors in the 3-axis and 5-axis area.

HIGHLIGHTS FOR THE PRODUCTION SECTOR

- + **Box-in-box cabin system**
with inner machine doors
- + **Efficient spindle** thanks to spring preload
as well as a robust design
- + **Highly dynamic tool changer**
(chip-to-chip time of only 1.5 seconds)
- + **Minimal footprint** of only 4.2 m²
- + **Best-possible chip flow** thanks to steep
covers in the working area
- + **Optimal integration of automation systems**
from right, left and the front
- + **Central maintenance access to the machine**
from the rear side



PRODUCTION

Manifold made of aluminum

MEDICAL EXCELLENCE CENTER

- + **Machining of the entire material range:**
From high-strength plastic to stainless steel,
from titanium right up to CoCr
- + **Compact machine** footprint
- + Standardized and customized
automation solutions
- + **Exclusive DMG MORI technology cycles,**
for example ATC for optimal surfaces

HIGHLIGHTS FOR THE MEDICAL TECHNOLOGY INDUSTRY (OPTIONAL)

- + **Inline spindle** with 24,000 rpm (6 kW/12 Nm at 40 % DC)
- + **Swivel rotary table** for 5-axis simultaneous
machining incl. DMG MORI technology cycle
3D quickSET and ATC – Application Tuning Cycle
- + **toolSTAR** magazine with 25 pockets
- + **Chip conveyor** and space-saving
40 bar internal coolant supply system
- + **Tool measuring system** and **measuring probe**
- + **Package for oil applications**
incl. fire-extinguishing system



Bone plates
made of titanium



DMP 70

Highly dynamic machine concept

The machine concept of the DMP 70 unites the highest precision, enormous stability as well as maximum flexibility in one machine, which offers an answer to the different requirements for the 3-axis and the 5-axis sector. At the same time, the DMP 70 features solid basic equipment and a comprehensive portfolio of options.

The DMP 70 impresses with enormous dynamics and flexibility, making the machine optimal for low quantities in the job shop area as well as for automated large-scale manufacturing in the production sector.

CONVINCING MACHINE DESIGN

- + **Single piece machine bed** made of cast iron with a broad positioning for maximum stability
- + **Excellent visibility** into the working area of the machine
- + **Extremely robust spindle and tool magazine**
- + **Best chip transport** due to steep slopes in the machine bed

HIGHEST PRECISION AND DYNAMICS

- + **Extensive cooling measures and direct absolute path measuring systems** in basic machine as well as high-precision manufactured machine components ensuring the highest accuracy
- + **High degree of rigidity and cutting performance** with rapid traverses of 60 m/min in all axes and up to 2g acceleration



SOLID BASIC EQUIPMENT

- + **Travel X/Y/Z:** 700/420/380 mm
- + **High torque inline spindle** with 10,000 rpm (8.5 kW/48 Nm at 40 % DC)
- + **Solid tool magazine** with 15 pockets and tool lengths up to 250 mm
- + **60 m/min rapid traverse** in all axes and up to 2g acceleration
- + **Direct absolute path measuring systems** in all axes
- + **Fully enclosed cabin** with inner machine doors
- + **DMG MORI SLIMline multi-touch panel** with SIEMENS 840D solutionline

OPTIMAL MACHINE DESIGN FOR PRODUCTION

- + **DMG MORI Stealth Design** with inner doors to avoid chips falling outside of the machine
- + **Highly dynamic tool changer with 15 pockets** with a chip-to-chip time of 1.5 seconds
- + **Optimal ergonomics in the working area** and the **tool changer ensure** perfect handling for the operator

BEST-POSSIBLE AUTOMATION CAPACITY

- + **Highest flexibility** thanks to optimal automation connection from right, left or from the front
- + **Minimal space requirement** with automation – e.g. only 8.8 m² for WH 3 Cell

DMP 70

Impressive machine design

The basis for the excellent milling accuracy of the DMP 70 is the high stability and rigidity of the machine, which is achieved by the single piece machine bed made of cast iron, the thermo-symmetrical design of the headstock and the wide linear guides.

1 Wide machine bed made of cast iron

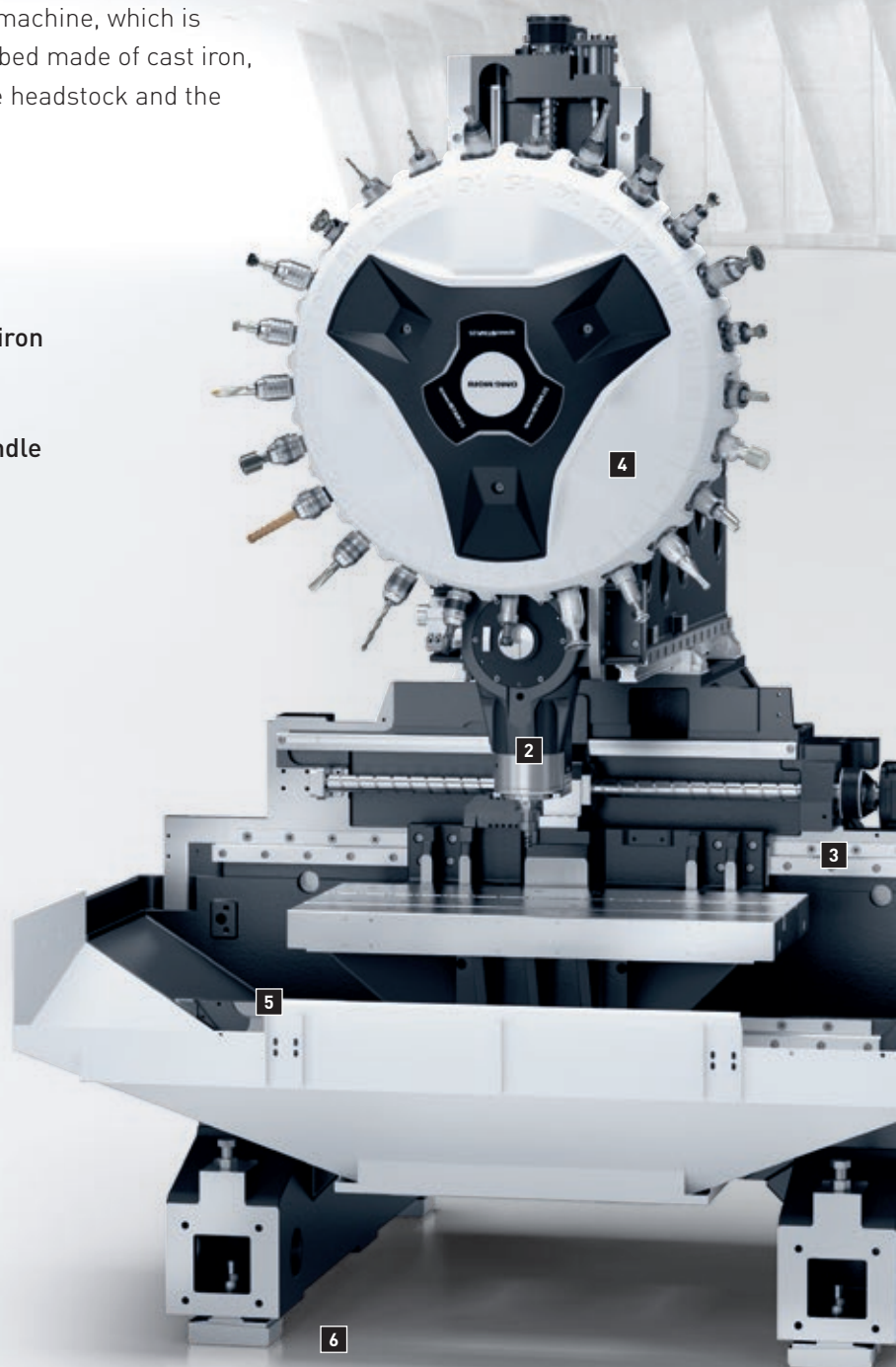
2 Thermo-symmetrical headstock with extremely robust inline spindle
10,000 rpm in basic machine

3 Wide linear guides (35 mm)
with the highest accuracy in all axes

4 Solid tool magazine
for up to 25 tools

5 Efficient chip transportation
with steep slopes in the machine bed

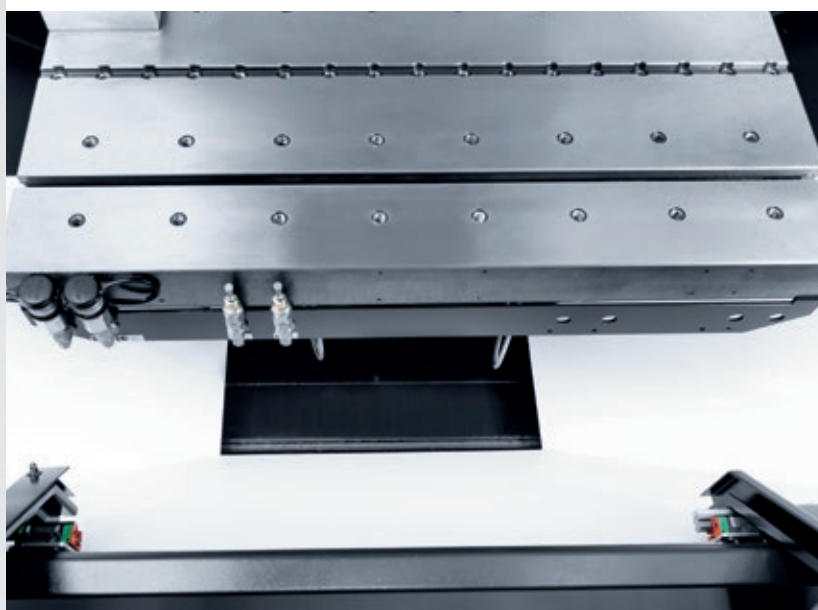
6 Symmetric positioning
4 position elements





MORE EFFICIENT TOOL CHANGER

Robust tool magazine with highly dynamic tool changer
(chip-to-chip time of 1.5 seconds)



BEST CHIP FLOW

Steep covers in the working area
for excellent chip flow

DMP 70

Highest precision and dynamics

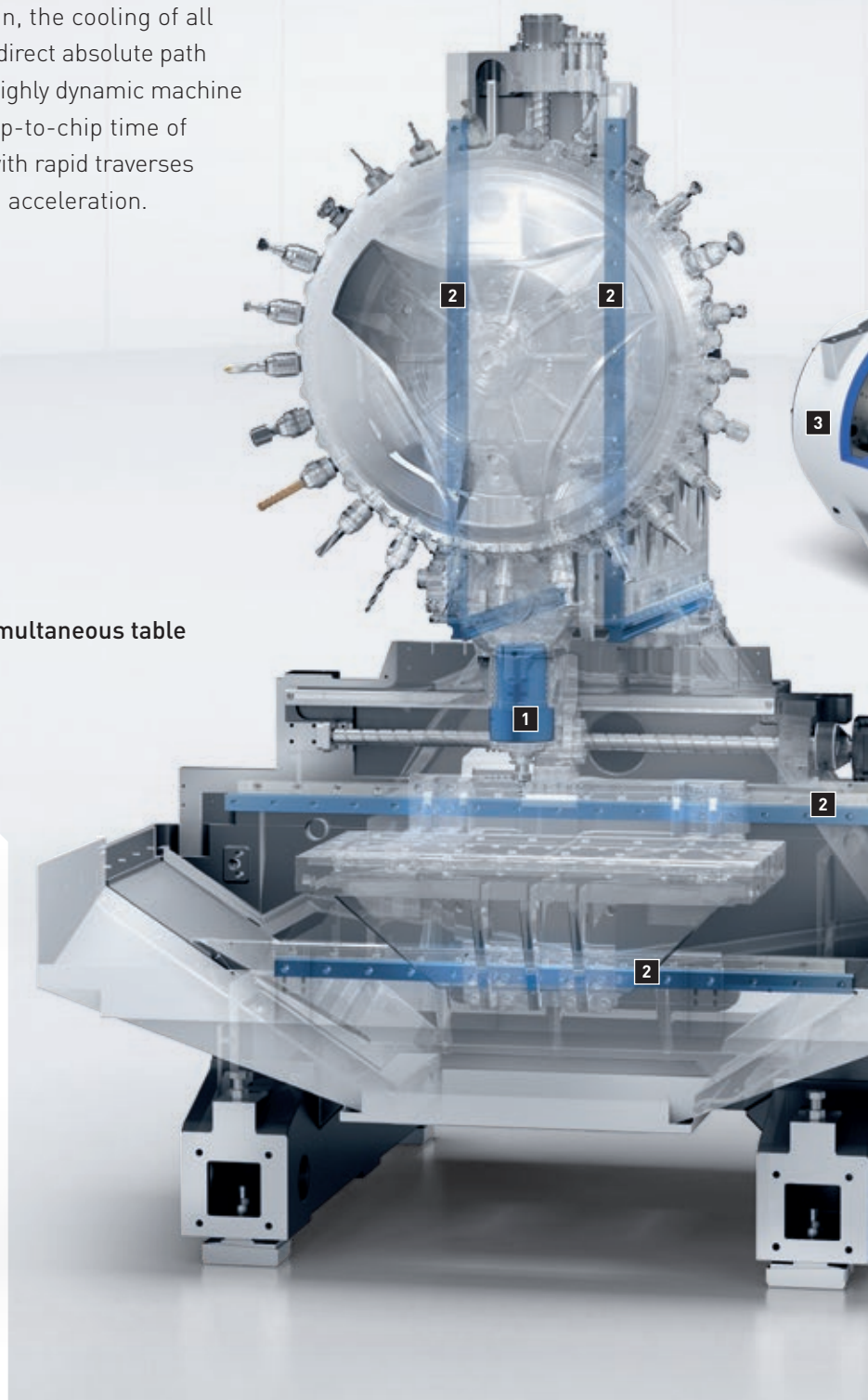
The DMP 70 achieves excellent accuracy and precision, thanks to the stable machine design, the cooling of all relevant components as well as the direct absolute path measuring systems. Moreover, the highly dynamic machine concept offers short idle times (chip-to-chip time of 1.5 seconds) and highest dynamics with rapid traverses of 60 m/min in all axes and up to 2g acceleration.

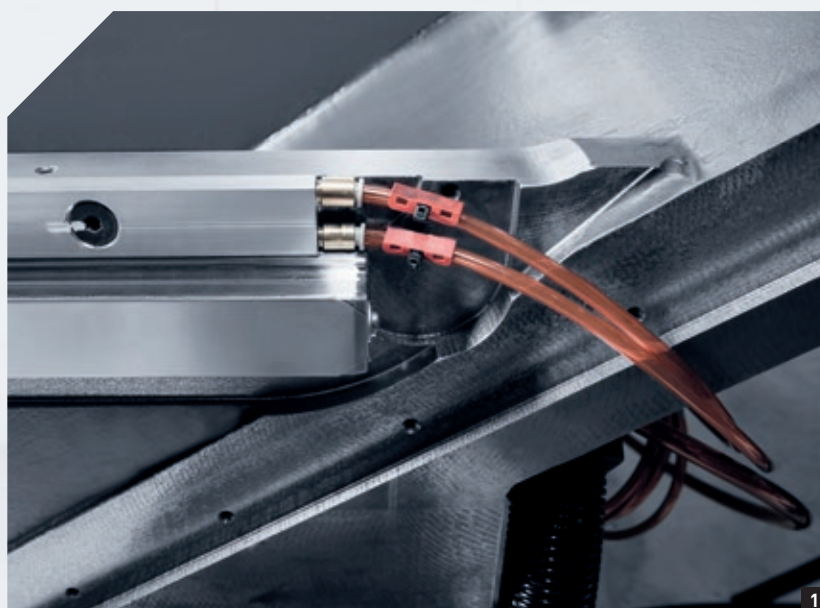
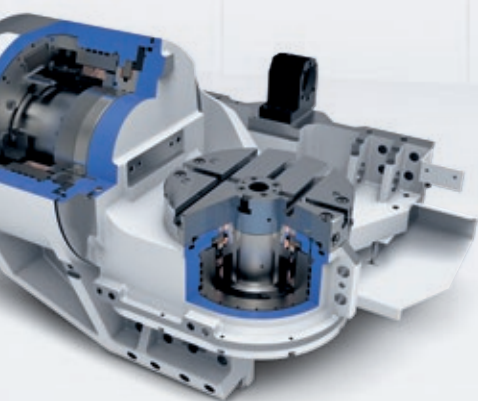
COOLING MEASURES

- 1 Milling spindle**
Cooling of motor and spindle flange
- 2 Cooling of linear guides**
in the X/Y/Z axes
- 3 Jacket cooling of the 5-axis simultaneous table**
Cooling of direct drives

HIGHLIGHTS FOR HIGHEST PRECISION AND ACCURACY

- + Highest rigidity and stability due to a single piece machine bed made of cast iron
- + Cooling of the motor spindle and the linear guides
- + Direct absolute path measuring systems in all axes





1



2

1. Cooling of the linear guides in the X-axis

2. Rapid traverses with 60 m/min and direct absolute path measuring systems in all axes for highest accuracy

DMP 70

Optimal machine design for production processes

The outstanding design of the DMP 70 will convince you with its innovative features such as the inner machine doors and the highly dynamic tool magazine with easy loading from the front. Moreover, the DMP 70 is equipped with the new 19" DMG MORI SLIMline multi-touch panel. These features ensure maximum ergonomics and user-friendliness. With a footprint of just 4.2m², the DMP 70 is also one of the most compact machines in the market. For this reason and also due to the option of central maintenance access at the rear side of the machine, production spaces can be optimally utilized. To sum up, the DMP 70 fulfills all the criteria that make it a tool machine ideally suited for production.

- 1 DMG MORI SLIMline multi-touch panel**
for the highest machine efficiency and reliability
- 2 Inner machine doors**
ensure smaller footprints and completely avoid any chips falling outside of the working area
- 3 Optimal view into the working area**
large windows for the best view in the working area
- 4 Optimal access as well as simple loading of the tool magazine**
- 5 Ergonomic machine loading**
large door opening with optimal access to the working area
- 6 Long-life surfaces**





NEW

PERFECT 3D MULTI-TOUCH CONTROL TECHNOLOGY

- + 19" DMG MORI SLIMline
Multi-touch panel with SIEMENS

DMP 70

Best-possible automation capacity

The DMP 70 offers ideal conditions for connecting automation systems. The machine can be directly loaded from the left side, the right side and also from the front. The machine also convinces here with its minimal footprint. This makes the DMP 70 the perfect machine for series production in the 3-axis and 5-axis sector.

1

OPTION
DOOR OPENING
FROM THE LEFT

2

OPTION
DOOR OPENING
AT THE FRONT

3

OPTION
DOOR OPENING
FROM THE RIGHT



4

OPTIONAL WH 3 Cell



15

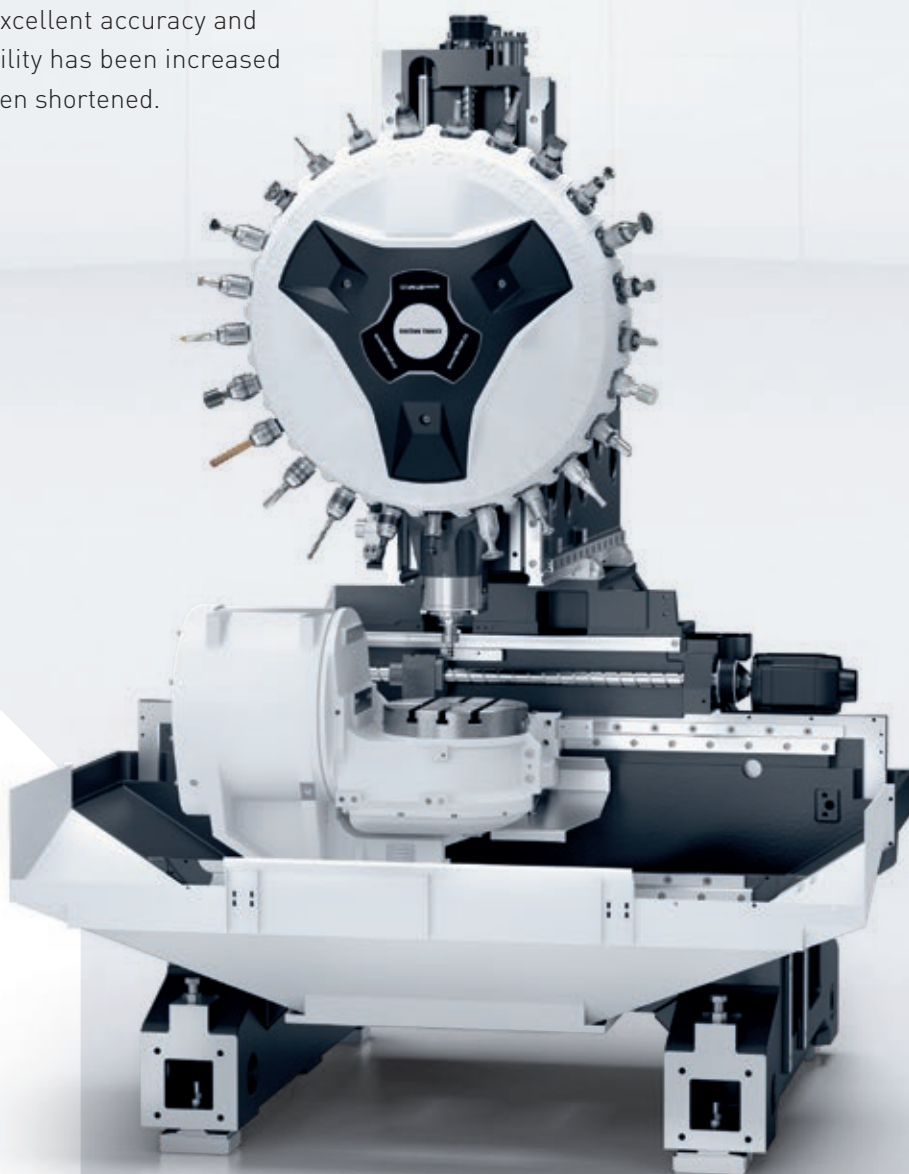
HIGHLIGHTS

- + **Highest flexibility** thanks to the connection options from the left, right and from the front of the machine
- + **Horizontally moveable automation door** to improve the teaching processes
- + **Optionally automatable front door** with enclosed pneumatic cylinder at the top
- + **Compact automation solution** with the standard automation system WH 3 Cell (space requirement of just 8.8 m²)

DMP 70

Efficient 5-axis complete machining

By means of the integrated swivel rotary table with a swivel range of -100° to $+120^{\circ}$ (A-axis), the DMP 70 offers the possibility of machining workpieces of up to 100 kg completely in one single setup. At the same time, the machine features excellent accuracy and dynamics, whereby the flexibility has been increased and machining times have been shortened.



ADVANTAGES OF 5-AXIS MACHINING

- + Machining of complex components in one single setup with highest accuracy
- + High dynamics and flexibility for short machining times and more efficiency
- + Optimal possibilities for automation connection for all axes variations



INTEGRATED SWIVEL ROTARY TABLE FOR 5-AXIS SIMULTANEOUS MACHINING

- + Max. table load: 100 kg
- + Clamping area with T-slots $\varnothing 290$ mm
- + Swivel range from -100° to $+120^{\circ}$ (A-axis)
- + Table optimized for a large range of standard clamping devices

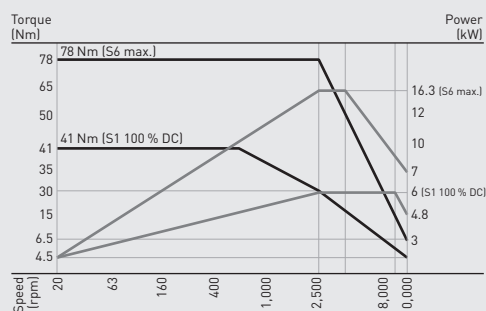


DMP 70

Comprehensive spindle range for maximum productivity

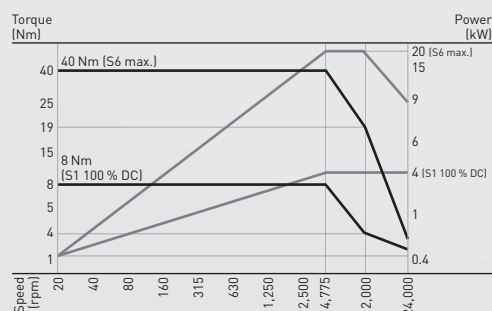
Inline spindle (standard)

10,000 rpm / 16.3 kW / 78 Nm (S6 max.)



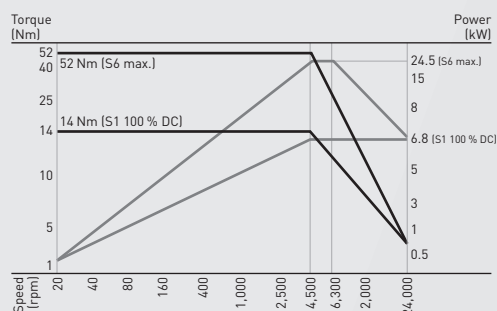
Inline spindle (optional)

24,000 rpm / 20 kW / 40 Nm (S6 max.)



Inline spindle (optional)

24,000 rpm / 24.5 kW / 52 Nm (S6 max.)



Extremely high load-bearing capacity, resistance to wear resistance and temperature stability

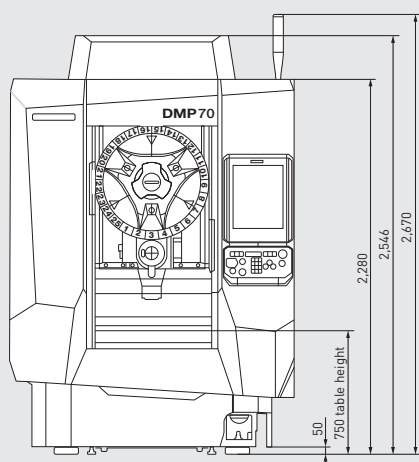


		Inline spindle	Inline spindle	Inline spindle HT
Main drive		Standard	Option	Option
Speed range	rpm	10,000	24,000	24,000
Drive power (40/100 % DC)	kW	8.5/6.0	6.0/4.0	9.4/6.8
Torque (40/100 % DC)	Nm	48/41	12/8	20/14

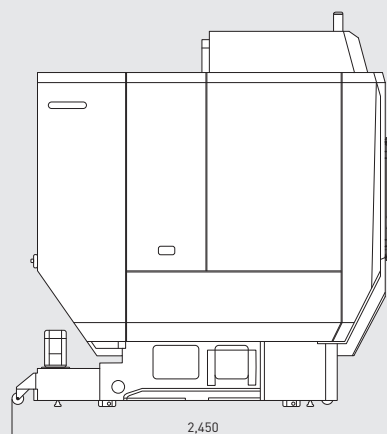
DMP 70

Minimal footprint of only 4.2 m²

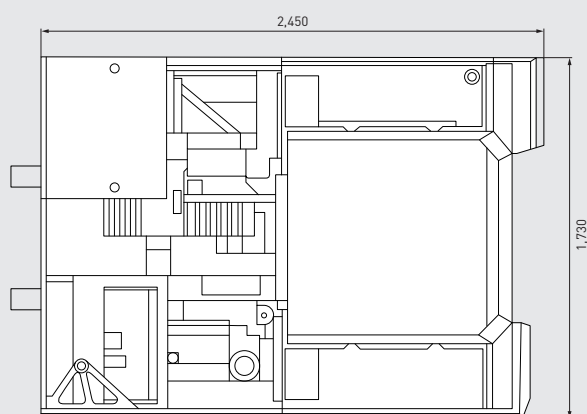
Front view



Side view



Top view



DMP 70

DMG MORI SLIMline multi-touch panel for maximum efficiency and reliability

The new DMG MORI SLIMline multi-touch panel with Operate 4.8 on SIEMENS and the 3D control technology are a decisive innovation step towards a modern operator interface, whereby the compatibility to earlier operating versions remains intact. The practical and ergonomic 19" multi-touch screen with its high resolution offers advantages to the user.

Thanks to the 3D technology, it is possible to simulate the machining process beforehand. Moreover, the control offers generous extended storage capacity with 6 GB and an additional 8 GB storage space on the DMG MORI SMARTkey.

INTUITIVE OPERATION FOR FAST AND SIMPLE USE

**Tap with a finger**

Selection of window/object

**Tap and hold**

Open window/object

**Pinch closed**

Zoom out on a graphic
e.g. simulation, viewing a mold

**Tapping with two fingers**

Context menu,
e.g. copying/inserting

**Swiping**

For a list/scrolling through files, e.g. programs or tools/NC programs

**Pinch open**

Zoom in a graphic
e.g. simulation, viewing a mold

NEW



- + 19"-multi-touch screen
- + 66 % more pixels
- + 6 GB – with expandable storage capacity
- + 3D control technology

MORE EFFECTIVE OPERATION

- + **Fast and convenient** "zoom" function
- + **Fast and easy access** to parameters and user data
- + **Extended storage capacity of 6 GB**
- + **Program selection:**
Extension to local drive/USB/network
- + **Multi-tasking processing:** Extension of the drilling cycle/through-drilling; program navigation with new deep-hole boring technology
- + **Execution from external storage:**
Display and storage of additional file formats such as HTML/PDF/JPEG/DXF also on the NC control
- + **Extended simulation:**
Workpiece definition through clamps; simultaneous recording
- + **DMG MORI SMARTkey:**
Personalized authorization and additional USB storage (8GB)

MORE USER COMFORT

- + **Better overview due to 19"-screen:**
higher resolution and innovative, intuitive and easy-to-use operating convenience with unique functionality
- + **3D control technology:**
Simulation of workpiece and machining via touch operation
- + **Flexible screen keyboard**
integrated into multi-touch screen
- + **Effective and secure machining**
with content access keys on the operating field
- + **Optimized ergonomics and design and simplified processes**
- + **Reliable touch control** with the proven operator interface SINUMERIK Operate
- + **Optimization of the elements**
on the screen
- + **Reliable and scratch-proof**
operating surface

DMP 70

Operate 4.8 on SIEMENS 840D solutionline – simple and efficient programming

Intelligent control of the machine is necessary to guarantee maximum process efficiency, the highest accuracy for the component and optimal user-friendliness. The modular universal control Operate 4.8 from the SIEMENS 840D solutionline is a highly dynamic control concept, which corresponds precisely to the requirements placed on an intelligent control system.



SLIMline MULTI-TOUCH PANEL

The new DMG MORI SLIMline multi-touch panel offers a high degree of user-friendliness combined with efficient handling. Moreover, several software solutions, such as the DMG MORI Virtual Machine and the DMG MORI process chain, increase the quality of the workpiece and productivity.

EXCLUSIVE, OPTIONALLY AVAILABLE DMG MORI TECHNOLOGY CYCLES



3D QUICKSET

Achieving the highest level of accuracy quickly and easily

- + Toolkit for checking and correcting the kinematic accuracy of 4 and 5-axis machine configurations
- + All head variants and each table axis



ATC – APPLICATION TUNING CYCLE

Process optimization at the touch of a button

- + Process-oriented tuning of the feed-drives
- + Minimization of machining time while maximizing the relevant component quality, even when dependent on workpiece weight



INTERPOLATION TURNING

Manufacturing sealing surfaces and cut depths without the FD table

- + Machining takes place in circular movements around or within the workpiece
- + The spindle aligns itself at right angles to the direction of travel

Technical data

		DMP 70
Working area		
Travel X/Y/Z	mm	700/420/380
Distance between spindle nose and table	mm	200 – 580
Main drive (standard)		
Speed range	rpm	10,000
Drive power (40/100 % DC)	kW	8.5/6.0
Torque (40/100 % DC)	Nm	48/41
Tool holder DIN 69871/DIN 69893		BT 30/BBT30*/SK30*/SK30 BIG+*/HSK-A40**
Main drive (optional)		
Speed range	rpm	24,000
Drive power (40/100 % DC)	kW	6/4
Torque (40/100 % DC)	Nm	12/8
Tool holder DIN 69871/DIN 69893		BT 30/BBT30/SK30/SK30 BIG+/HSK-A40**
Main drive (optional)		
Speed range	rpm	24,000
Drive power (40/100 % DC)	kW	9.4/6.8
Torque (40/100 % DC)	Nm	20/14
Tool holder DIN 69871/DIN 69893		BT 30/BBT30/SK30/SK30 BIG+/HSK-A40**
Feed		
Feed force	kN	5
Rapid traverse	m / min	60
Acceleration (X/Y/Z)	m / min	10/10/18
Positioning accuracy		
P _{max} according to ISO 230	µm	5
Tool magazine		
Selection of the tools (BT 30/BBT30/SK30/SK30 BIG+/HSK-A40)		15 (25*)
Max. tool diameter	mm	80
Max. tool length	mm	250
Chip-to chip time (15 tools/25 tools)	seconds	1.5/1.6
Fixed table		
Clamping area	mm	840 × 420
Table load	kg	400
NC swiveling rotary table		
Clamping area	mm	ø 290
Table load	kg	100
Swivel range A-axis	Degree	+120/-100
Rotation range C-axis	Degree	360
Speed A-/C-axis	rpm	50/100
Dimensions		
Footprint	mm	1,730 × 2,450
Height	mm	2,670
Control		
19" DMG MORI SLIMline multi-touch panel with SIEMENS 840D solutionline		

*Option, **Available from Q4/2019



Available for you around the clock:

service-hotline.dmgmori.com 

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 Service *Plus*!



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

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