

DMG MORI

DMF 200 | 8
DMF 300 | 8
DMF 300 | 11
DMF 400 | 11

THE NEXT GENERATION OF TRAVELLING COLUMN MACHINES
FOR 5-AXIS SIMULTANEOUS MACHINING

DMF Series



Applications and Parts

Highlights

Overview

Control Technology

Technical Data

DMF SERIES

The problem solver for all industries

The innovative machine concept of the new DMF|8 and DMF|11 series ensures maximum flexibility and performance in key industries such as tool and mold construction, the aerospace sector and even medical technology. A comprehensive modular construction kit enables application-orientated configurations and is thus the perfect manufacturing solution for challenging components in almost every industry.





AEROSPACE

Structural component

- + Flexible, large working area with up to 1,100 mm Y-axis travel
- + 5-axis simultaneous machining
- + Linear drive for highest contour accuracy with dynamic machining in the X-axis
- + B-axis milling head with swivel range of $\pm 120^\circ$ as standard

MOLD CONSTRUCTION

Tool mold

- + High rigidity due to constant overhang over the entire working area
- + Linear drive for highest contour accuracy with dynamic machining in the X-axis
- + High table load of up to 8,000 kg possible



MECHANICAL ENGINEERING

Guide rail base

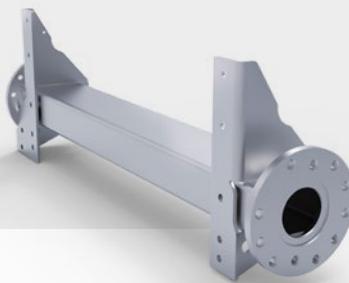
- + High flexibility in machine configuration
- + speedMASTER motor spindles with up to 20,000 rpm and up to 200 Nm or 12,000/16,000 rpm and up to 430 Nm*
- + Possibility to easily integrate indexing heads



AUTOMOTIVE

Battery box

- + Integrated NC rotary table optionally available
- + 5-axis simultaneous machining
- + Pendulum machining for boosting productivity with partition wall possible (optional)
- + Linear drive for highest contour accuracy with dynamic machining in the X-axis (optional)



JOB SHOP

Axle carrier

- + High flexibility in machine configuration
- + Optimal crane loading possible
- + Additional tool loading station for time savings (optional)
- + Very good visibility into the working area of the machine



AEROSPACE

Housing

- + 5-axis simultaneous machining
- + B-axis milling head with swivel angle of $\pm 120^\circ$ as standard
- + Flexible, large working area with up to 1,100 mm Y-axis travel
- + Linear drive for highest contour accuracy with dynamic machining in the X-axis

UNBEATABLE IN EVERY RESPECT

The best DMF of all time!

The DMF series sets new standards on the market for travelling column machines. The impressive performance of the machines is unparalleled, which every user will immediately recognize.

The maximum flexibility of the latest generation within the DMF series allows a solution to be found for any new requirement for the most diverse machining operations.



04

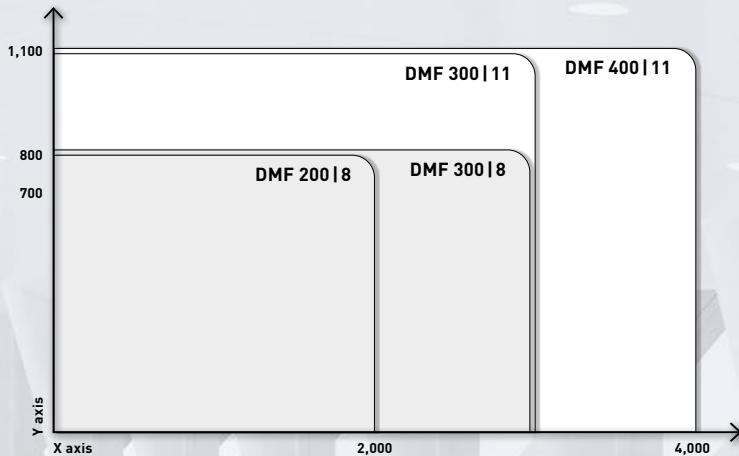
FLEXIBLE

- + Large working area with X-/Y-/Z-axis travel
DMF|8: 2,000 (3,000*)/800/850 mm
DMF|11: 3,000 (4,000**)/1,100/1,050 mm
- + Comprehensive basic equipment and comprehensive range of options for almost every industry
- + B-axis milling head with swivel range of $\pm 120^\circ$ as standard
- + High table load of up to 8,000 kg for the DMF|11 and up to 3,000 kg for the DMF|8 possible
- + 5-axis simultaneous machining with integrated rotary table (C-axis) $\varnothing 800$ mm ($\varnothing 1,050$ mm**) possible (optional)
- + Components can be loaded through the side opening in the cabin (optional)

EFFICIENT

- + Constant rigidity over the entire working area
- + New basic construction for maximum stability
- + Constant overhang enables a high chip volume as well as very high productivity
- + 3 linear guides in the X-axis for increased rigidity
- + Increase in productivity thanks to pendulum machining with partition wall (option)
- + Smooth running of the machine for low noise development

Flexible
Efficient
Accurate
Unique



ALL-IN-ONE: THE EXPERTISE UNITED IN THE FIELD OF TRAVELLING COLUMNS

- + **Expansion of the DMF series:**
Integration of the new DMF 400|11 completes the new travelling column series
- + **Concentration of the travelling column competences at DMG MORI in Seebach:**
An universal concept with a flexible with a modular construction system



05

ACCURATE

- + Very high thermal long-term stability due to symmetrical sliding carriage design and FEM-optimized travelling column
- + Cooling of all main components such as drives, ball screws, spindles and all linear guides
- + Direct path measuring systems in all axes

UNIQUE

- + Unique tool change outside of the working area (depending on tool dimension)
- + Possibility to load the complete work table
- + Tool magazine with up to 120 pockets (40 pockets as standard for SK40/HSK-A63, 30 pockets as standard for SK50/HSK-A100)
- + Tool lengths of up to 400 mm for SK40/HSK-A63 (up to 450 mm for SK50/up to 540 mm HSK-A100)

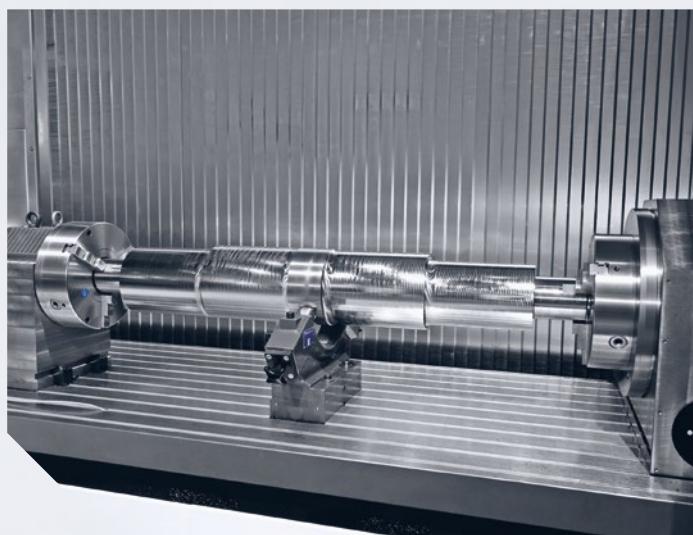
UNBEATABLE IN EVERY RESPECT

Maximum flexibility for the customer

The machines of the DMF series have been designed for maximum flexibility. The sound basic equipment, the comprehensive range of options and the maximum flexibility of the travelling column concept allows to always find the perfect configuration for almost any problem in the industry. The flexible working area with travel distances of 2,000 mm up to 4,000 mm in the X-axis, 800 mm (1,100 mm*) in the overhanging Y-axis and 850 mm (1,050 mm*) in the Z-axis, are supported by innovative features such as the powerful B-axis milling head, the integrated C-axis as well as the unique tool change.

Comprehensive basic equipment

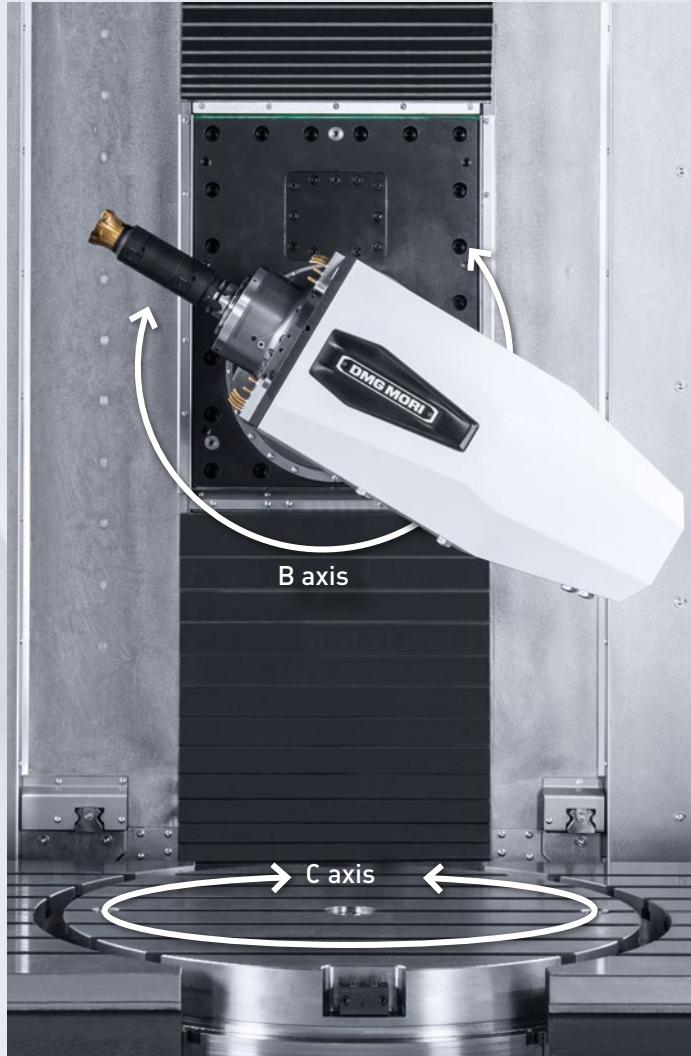
- + CELOS with SIEMENS control
- + speedMASTER spindle with 15,000 rpm
- + B-axis milling head with $\pm 120^\circ$ swivel range
- + Direct absolute position measuring systems in all axes
- + Tool magazine with 40 pockets (SK40/HSK-A63)
- + Scraper-belt chip conveyor
- + Active cooling for control cabinet and spindle
- + Fully enclosed cabin



INTEGRATION OF INDEXING HEADS

An interface on the work table enables to quickly and easily integrate indexing heads (4th axis).

Flexible
Efficient
Accurate
Unique

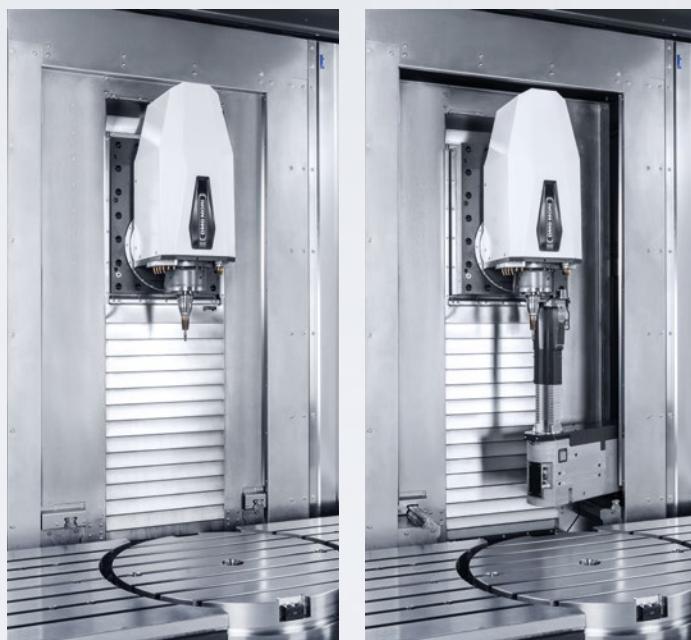


B-AXIS MILLING HEAD

- + B-axis milling head with swivel range of $\pm 120^\circ$
- + High clamping torque of up to 6,000 Nm
- + Speeds of 50 rpm
- + Only 200 mm distance from the tool system to the rotating axis
- + Distance between horizontally swiveled spindle and work table of only 250 mm

INTEGRATED C-AXIS

- + Integrated C-axis rotary table for 5-axis simultaneous machining (optional)
- + Rotary table with $\varnothing 800$ mm ($\varnothing 1,050$ mm*)
- + Loading weight of up to 800 kg (1,200 kg*)
- + High rapid traverses up to 50 rpm



INNOVATIVE TOOL CHANGE

- + Changeover carriage outside of the working area
- + Entire work table can be loaded
- + Optimal sealing between the working area and the machine
- + Tool lengths of up to 400 mm for SK40/HSK-A63 (up to 450 mm for SK50/ up to 540 mm HSK-A100)

UNBEATABLE IN EVERY RESPECT

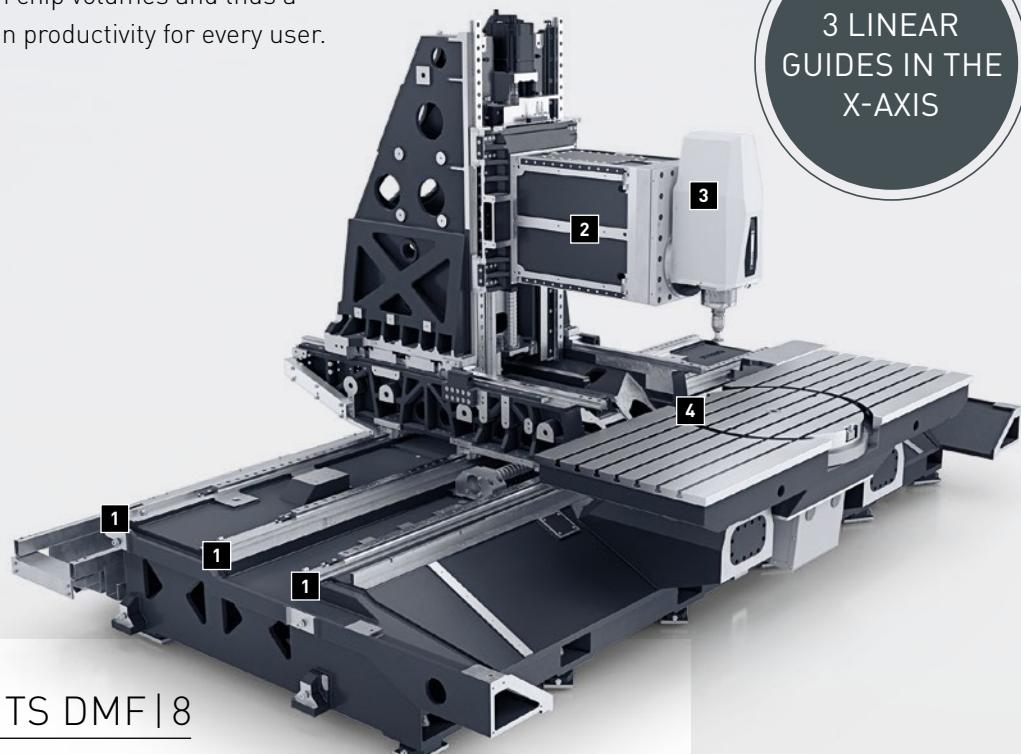
Constant rigidity over the entire working area

The new basic construction of the DMF gives the machine enormous stability. Due to the impressive cutting depth, it is possible to process materials that are difficult to machine.

The machine also performs consistently well in every axis position. This is achieved by the constant overhang in the machine concept. Using the linear drive in the X-axis, it is also possible to increase the dynamics in the rapid traverses of the machine to up to 80 m/min.

The speedMASTER spindles with up to 20,000 rpm and up to 200 Nm also ensure higher cutting performance. The new machine concept enables high chip volumes and thus a significant increase in productivity for every user.

3 LINEAR GUIDES IN THE X-AXIS



HIGHLIGHTS DMF | 8

- + One-piece machine bed made of cast iron
- + High table load of up to 3,000 kg possible
- + Direct driven ball screw in Y and X-axis
- + Linear guide width of 45 mm in each linear axes

HIGHLIGHTS DMF | 11

- + All cast iron components made out of ductile iron (EN-GJS 600)
- + High table load of up to 8,000 kg possible
- + Toothed belt with arrow gearing in all linear axes
- + Linear guide width of 55 mm in each linear axes



09

- 1 3 linear guides in the X-axis**
for maximum stability
- 2 Constant overhangs in the entire working area**
ensure maximum accuracy
- 3 B-axis milling head with $\pm 120^\circ$ swivel range and high clamping torque**
for maximum performance
- 4 No open guides in the working area**
for less wear and maximum availability



Measuring systems **Magnescale**

- + Direct absolute path measuring systems in the X-/Y- and Z-axis
- + CELOS SIEMENS:
smartSCALE from Magnescale
- + CELOS HEIDENHAIN:
Glass scales by HEIDENHAIN

UNBEATABLE IN EVERY RESPECT

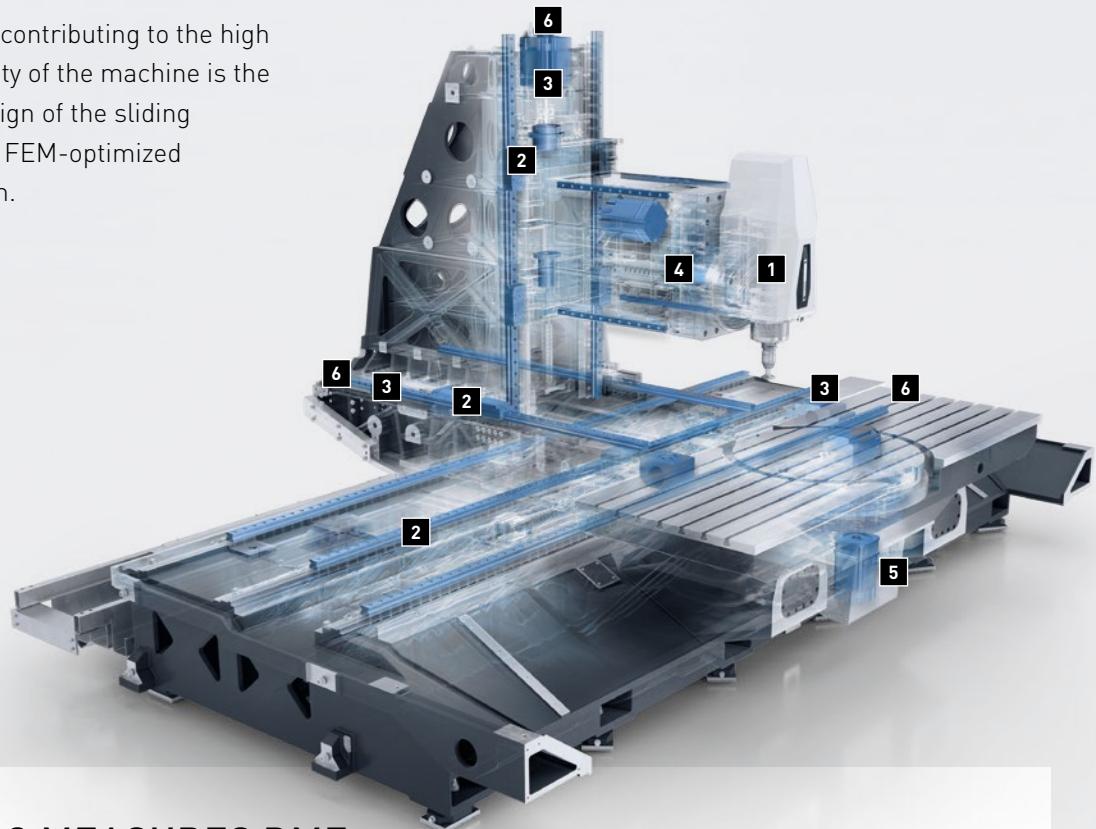
Very high thermal long-term stability

The cooling concept is an important component for the accuracy of the workpieces to be processed. The new DMF series has a system where all components which were produced using heat are actively cooled. In addition to the cooling of all motors, all linear guides, spindle bearings and round bearings, such as those in the B-axis, are tempered as standard.

This interrupts the heat flow in the structural components.

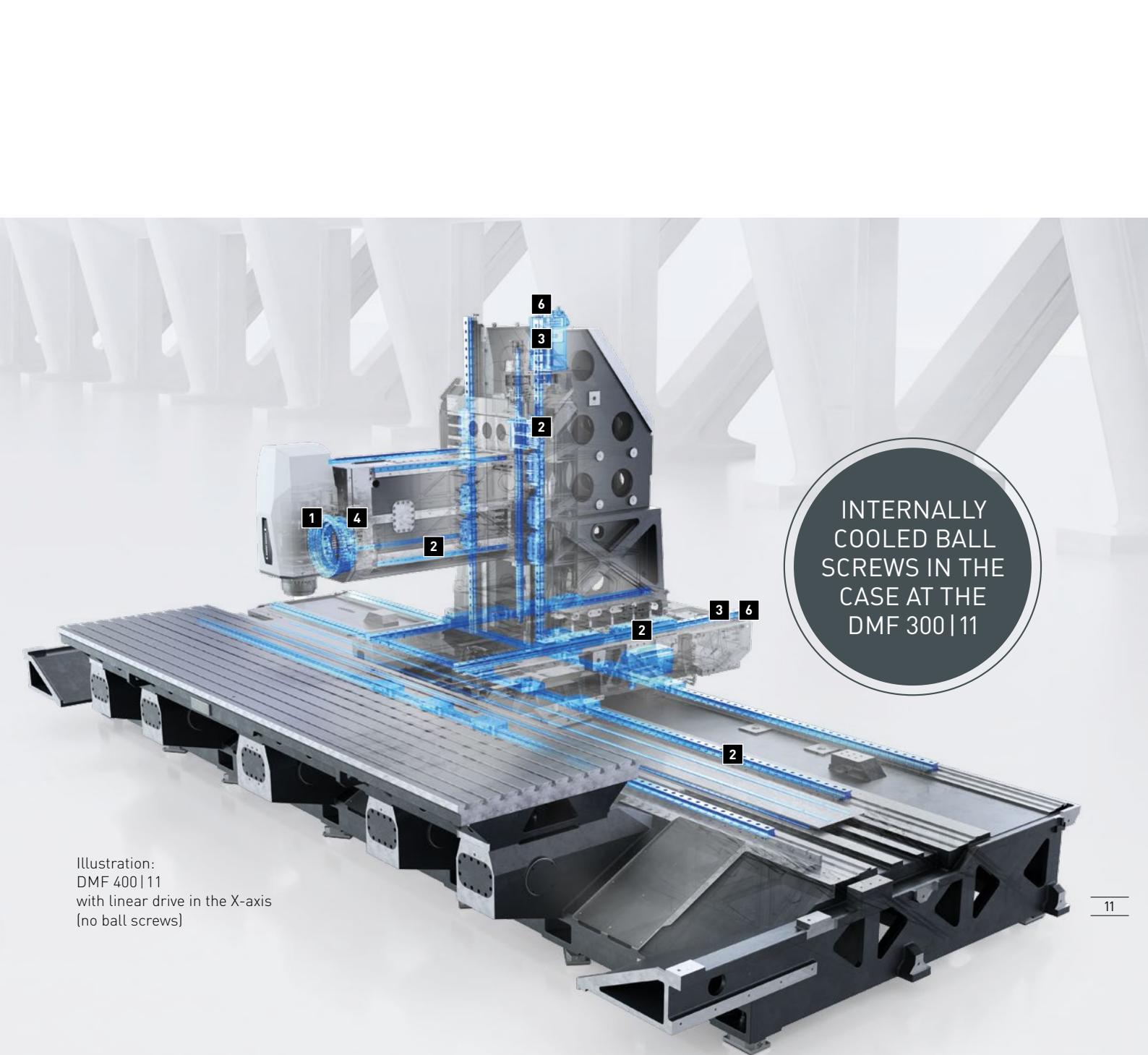
The machines of the DMF series thus achieve the best long-term accuracy any DMF machine ever achieved.

A further aspect contributing to the high long-term stability of the machine is the symmetrical design of the sliding carriage and the FEM-optimized travelling column.



COOLING MEASURES DMF

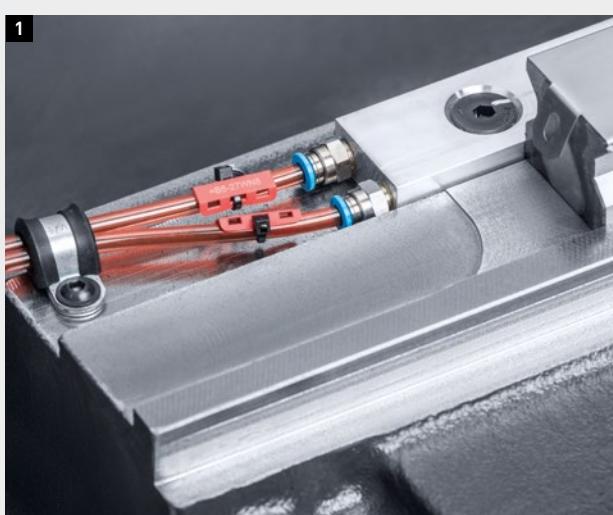
- 1** Cooling of motor spindle and spindle flange
- 2** Cooling of linear guides in the X-/Y-/Z-axis
- 3** Cooling of drive motors in the X-/Y-/Z-axis
- 4** Cooling of the B-axis
- 5** Cooling of the C-axis drive motor
- 6** Indirect cooling of the ball screw bearings and nuts (DMF|8)
Internally cooled ball screws in the X-/Y-/Z-axis (DMF|11)



INTERNALLY
COOLED BALL
SCREWS IN THE
CASE AT THE
DMF 300|11

Illustration:
DMF 400|11
with linear drive in the X-axis
(no ball screws)

- 1: Cooling of the linear guide of the X-axis
2: Cooling of the drives in the Y-axis



UNBEATABLE IN EVERY RESPECT

Best surfaces in its class

The surface quality of components is crucial, particularly in industries such as tool and mold construction. When it comes to this aspect, the new DMF is also unique in its class. The machine achieves first-rate surfaces on the components to be machined thanks to the new machine concept, the direct driven motors in the Y- / and Z-axis (only in the case of the DMF|8) as well as new, control-internal algorithms.

SUCCESS FACTORS FOR FIRST-RATE SURFACES



New machine concept

with constant overhangs in the entire working area



Optimized gears

for the highest surface quality, accuracy and quiet running

Directly driven ball screws

in the DMF|8 in the Y- and Z-axis

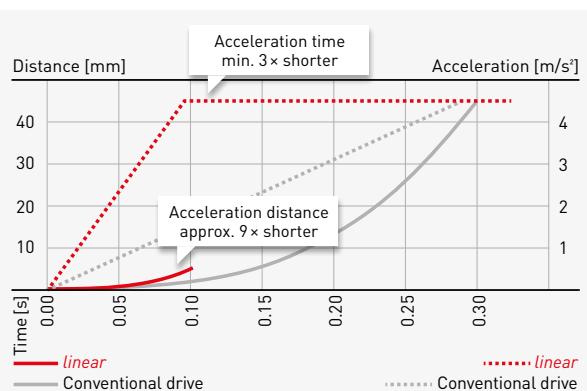


Linear drives in the X-axis

for enhanced dynamics and increased surface qualities optionally available

LINEAR DRIVE

- + Long-term accuracy and maintenance-free due to contactless drive
- + Up to 20% less idle-times especially in machining operations with many positioning movements or tool changeovers due to rapid traverse of up to 80 m/min
- + Clear reduction of machining time up to 30% in free-form surfaces due to higher drive parameters (rapid traverse, acceleration, jerk)
- + Highest surface quality up to Ra 0.3 µm thanks to high drive rigidity and no gear meshing frequencies
- + Low tool wear due to fewer vibrations
- + Highest contour accuracy due to fewer contouring errors



Flexible
Efficient
Accurate
Unique

FIRST-RATE
SURFACES
FOR YOUR
COMPONENTS



UNBEATABLE IN EVERY RESPECT

Unique tool change

An unique highlight of the DMF is the new and innovative tool change. The tool change carriage is permanently positioned outside of the working area. Moreover, a tool change is possible at any X-position thanks to the moving tool magazine. This also achieves very short chip-to-chip times. It is also possible to move to a fixed tool change position. This also emphasizes the maximum flexibility of the working area.

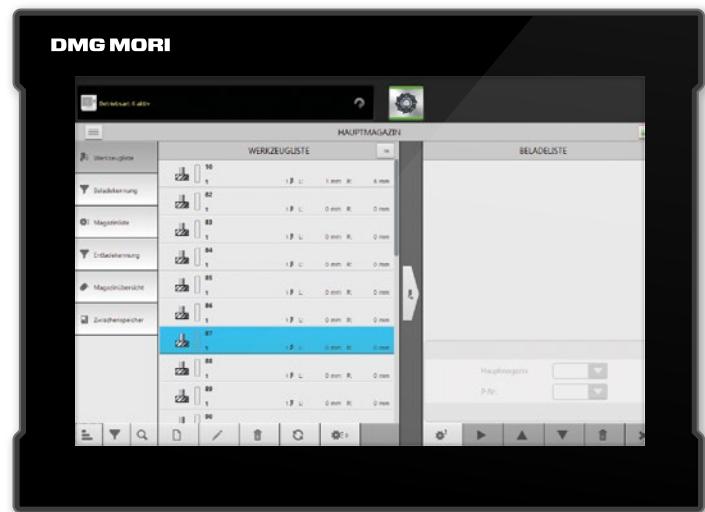
The tool magazine of the DMF series has up to 120 pockets (40 tool pockets as standard equipment) and can be loaded with tools up to a length of 400 mm. Loading takes place through the tool terminal, which is located on the right side of the machine. The additional tool loading station (optional) also contributes to further increasing the loading efficiency for the machine operator.

Patented and unique on the market

- + Changeover carriage outside of the working area
- + Short tool change time
- + Tool magazine with up to 120 pockets SK40 / up to 50 pockets SK 50
- + Maximum tool length up to 400 mm for SK40 / HSK-A63
(up to 450 mm for SK50 / up to 540 mm HSK-A100)

TOOL LOADING STATION

Easy, fast and ergonomic loading of tools thanks to the optional tool loading station



Flexible
Efficient
Accurate
Unique



UNIQUE TOOL CHANGE
WITH TOOLS UP TO
A LENGTH OF 400 mm
(SK 40)

DMF SERIES

The most flexible DMF of all time

The extensive construction kit and the maximum flexibility of the DMF series makes it possible to always find exactly the right solution for every application. This makes the latest DMF generation the solution for your challenges in the area of travelling column machines.

DRIVES



2-start ground Ball screws
in the standard (only for the
DMF | 8 series) 50 m/min
rapid traverse



Linear motor (option)
80 m/min rapid traverse

CONTROLS



CELOS with
SIEMENS 840D (Standard)



CELOS with
HEIDENHAIN TNC640 (Option)

MOTOR SPINDLES SPEEDMASTER / POWERMASTER

Torque and power 40 % DC



15,000 rpm, 111 Nm/21 kW
15,000 rpm, 200 Nm/46 kW (option)
20,000 rpm, 130 Nm/35 kW (option)



12,000 rpm, 288 Nm/44 kW (option)
12,000 rpm, 430 Nm/52 kW (option)

SK40 standard / HSK-A63 optional | SK50 / HSK-A100 for DMF | 11 as an option

TOOL MAGAZINES (SK 40 / HSK-A63)



40 pockets
(standard)



90 pockets
(option)



120 pockets
(option)

TOOL MAGAZINES (SK 50 / HSK-A100)

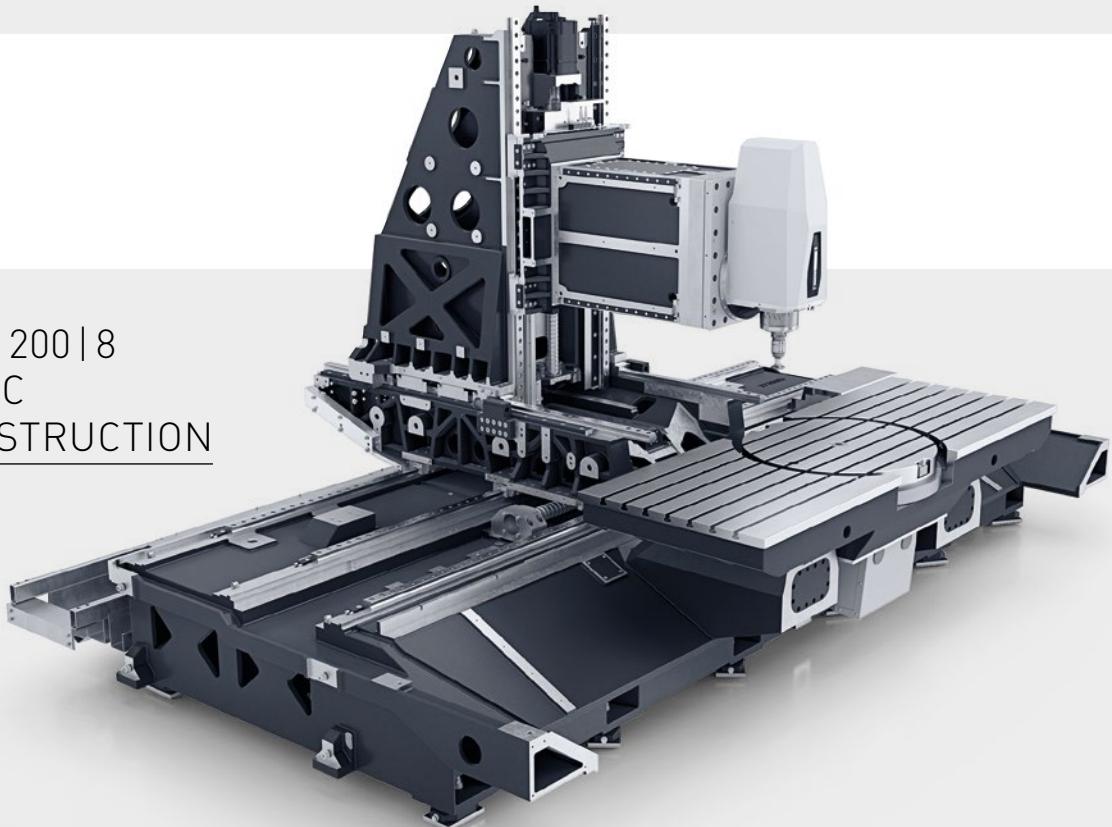


30 pockets
(option)



50 pockets
(option)

DMF 200 | 8 BASIC CONSTRUCTION



HYDRAULIC CLAMPING (OPTION)



Clamping for rigid table (2 circuits)



Clamping for rigid table (1 circuit) and
for integrated rotary table (1 circuit)

PARTITION WALL



Partition wall for pendulum machining
and setup parallel to machining

CHIP CONVEYOR/ICS



Scraper-belt chip conveyor (standard)
Hinged belt conveyor (option)



ICS 40 bar/600l
(available for the DMF | 8 as an option)



IKZ 40 bar/980l (option)
IKZ 40 bar/980l frequency controlled (option)

DMF SERIES

Maximum flexibility with regard to the work table

A highlight of the DMF is its high level of flexibility with regard to the table design. Like no previous DMF ever before, the new DMF offers a solution for your individual application and any requirement. The machine achieves maximum productivity thanks to the use of a partition wall which enables the integration of pendulum machining.



TABLE VERSIONS



Integrated rotary table left or right (option)*



Two integrated rotary tables (option)**



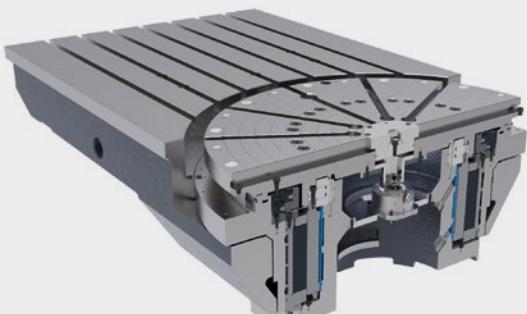
Fixed table with one or two simultaneously capable A-axes or indexing heads (option)

*DMF 200|8 with centrally arranged, integrated rotary table
**Only available for the DMF 300|8 / DMF 300|11 / DMF 400|11

DMF SERIES

Next generation of simultaneous mill-turn technology

- + Complete machining thanks to milling and turning in a single setup on one machine with Direct Drive technology for up to 800 rpm
- + Simultaneous mill-turn operations for new solutions aimed at maximizing flexibility
- + Lower investment costs and reduced space requirements thanks to the use of just one machine
- + Reduction of idle-times and increase in productivity
- + 1,200 kg* maximum workpiece weight



 **Direct Drive**

DMF series		
Max. speed	rpm	800 (700*)
Power (100 % ED)	kW	67
Torque (100 % ED)	Nm	2,900
Clamping torque	Nm	6,000
Application example mill-turn machining		
Material		CK45
Chip removal rate	cm ³ /min	720
Cutting depth	mm	6
Feed	mm/rotation	0.6
Cutting diameter	mm	500
Cutting speed	m/min	200
Speed	rpm	127

*DMF|11



DMF SERIES

Ergonomics as a factor of success

Ergonomics when loading and operating a machine tool is a decisive aspect in the area of the job shop or when manufacturing smaller batch sizes.

In addition to the excellent view into the working area, the DMF offers unrestricted crane loading through the roof due to the fact that the roof opens automatically when the doors are operated.

The work table of the machine has the perfect height for set-up. Moreover, indexing heads (additional axis) can flexibly and easily be integrated by means of a plug-in connection. The additional tool loading terminal (optional) on the outside of the machine also significantly reduces operator distances, since all data can be entered here directly with this option.

1 Completely opening machine roof

for unrestricted crane loading

2 Low loading height and large door opening

for optimal loading of the machine

3 Plug-in connector for indexing head

for simple and flexible integration of an additional axis (optional)

4 Adjustable control panel

for maximum ergonomics for the operator (optional)

5 Large window

for very good visibility into the working area

6 Tool loading station

for the best-possible loading of the tools (option)

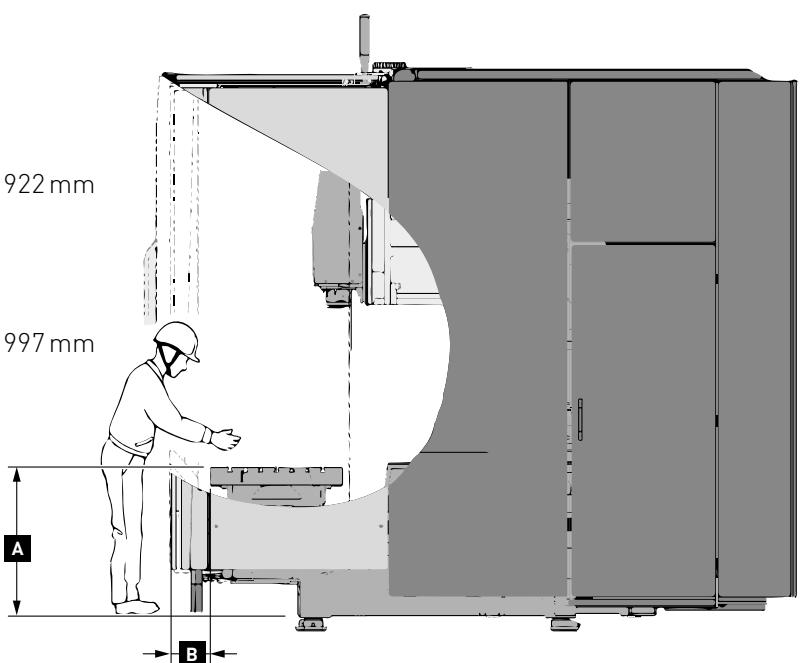
ERGONOMICS

DMF|8

- A** Height of the table surface: 922 mm
- B** Distance to table: 250 mm

DMF|11

- A** Height of the table surface: 997 mm
- B** Distance to table: 250 mm



**UNRESTRICTED CRANE
LOADING FROM THE FRONT
UP TO 8,000 kg***



*2,000 kg for DMF 200|8,
3,000 kg for DMF 300|8

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TOOL LOADING STATION

- + Tool loading directly at the tool magazine
- + Clamping of the tool by means of a foot switch (optional for the DMF|8 series)
- + Optional tool loading station for maximum ergonomics and efficiency while loading the tool

Exclusive, optionally available DMG MORI Technology Cycles



MPC 2.0 – MACHINE PROTECTION CONTROL

Machine protection by means of rapid shutdown

- + In-process vibration monitoring
- + Shutdown function with teach function
- + NEW: Torque monitoring
- + Bearing status diagnostics of the milling spindle

3D quickSET

Achieving the highest level of accuracy quickly and easily

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

ATC – APPLICATION

TUNING CYCLE

Process optimization at the push of a button

- + Process-oriented tuning of the feed drives
- + Minimization of machining time while maximizing the relevant component quality, also depending on the workpiece weight
- + High surface quality during finishing

INTERPOLATION TURNING

Manufacturing of sealing surfaces and cut depths without the mill-turn table

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

gearSKIVING

Efficient manufacturing of gears on universal milling machines

- + Synchronized rotation of tool and workpiece
- + Innovative manufacturing process for straight or helical cut spurs
- + For external and internal gears
- + Module 2–5 possible
- + Highly productive gear manufacturing process on universal machines

MAINTENANCE PACKAGE i4.0

Reduced maintenance without manual intervention

- + Automatic detection of tool clamping force for consistently high process stability
- + Pre-defined cycle for automatic lubrication, every 75 hours or after 20,000 tool changes
- + Leakage detection and consumption measurement of the pneumatic system

gearMILL

Simple programming of gears for the fast-growing range of components

- + Productive complete machining with turning, drilling, gear cutting
- + Highest flexibility as the result of manufacturing with standard tools on standard machines
- + Free modification of profiles, flanks and the tooth contact pattern
- + Flexible for different types of gears
- + Soft and hard machining on one machine

TCC –

TOOL CONTROL CENTER

Detection of forces and bending through integrated sensor technology

- + Chip detection on face and taper support
- + Monitoring of pull force
- + Detection of broken cutting edges in the process by means of symmetry monitoring of the bending moment per cutting edge (polar plot)
- + Visualization of the bending moment over time using a graph



L-MEASURING PROBE PACKAGE

More measuring options with the L-measuring probe

- + Drag measurement of webs and grooves
- + Measurement in difficult-to-access places
- + Single-point measurement
- + Package with manual and automatic calibration solution



FIT-IN B-AXIS PLUNGING

Collision-free plunging through automated approach and retract movement

- + Full utilization of the working area during internal machining of high workpieces with long tools
- + Positional changes of the B-axis during turning are balanced by the X-axis and Y-axis
- + The Z-axis remains at the retracted position while the B-axis is moving



CELOS WITH SIEMENS 840D SL OPERATE

- + Extremely simple interactive programming
- + New SINUMERIK Operate user interface
- + ATC*, 3D quickSET*
- + With new powerful functions for set-up, programming, tool and program management
- + Fast block processing time of 0.6 ms
- + DECKEL MAHO package MDynamics for improved surface quality with shortened machining time for the smoothing of surfaces etc.*

*Optional



CELOS WITH HEIDENHAIN TNC 640

- + Unique 3D simulation graphics, accurate down to the last detail
- + New, optimized TNC user interface
- + HSCI – HEIDENHAIN Serial Controller Interface
- + Workshop or DIN-ISO programming
- + Super-fast program creation thanks to plain text programming
- + Graphical programming
- + CollisionMonitoring (DCM)
- + ATC*, 3D quickSET*

*Optional

DMF SERIES

High-end CNCs for safe processes and maximum precision

The new DMF is equipped either with the SIEMENS 840D solutionline or the HEIDENHAIN TNC 640 (optional) in combination with the new ERGOLINE Control with 21.5" screen and CELOS.

Available as options are various exclusive software cycles such as ATC, MPC, 3D quickSET and DMG MORI Virtual Machine, which directly affect either the workpiece quality or process optimization.



CELOS ON THE ERGOline CONTROL WITH 21.5" MULTI-TOUCH SCREEN

Uniform

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

Consistent

Consistent administration, documentation and visualization of order, process and machine data.

Open

Direct data import from MES and ERP systems.
Integration of any external program and web contents.

Measurable

With the DMG MORI MESSENGER all status information from the connected machines and devices is available at a glance. Regular and automated reports boost transparency in production.

Future proof

Simple, PLC-independent CELOS update to the latest version of every existing version. The data are migrated securely and all functions supported by the PLC are then available in full.

CELOS - From the idea to the finished product

CELOS features a standard user interface for all new high-tech machines from DMG MORI. CELOS APPs enable continuous administration, documentation and visualization of order, process and machine data. They also simplify, standardize and automate the operation of the machine. Standard APPs help the machine operator prepare, optimize and systematically process production jobs.

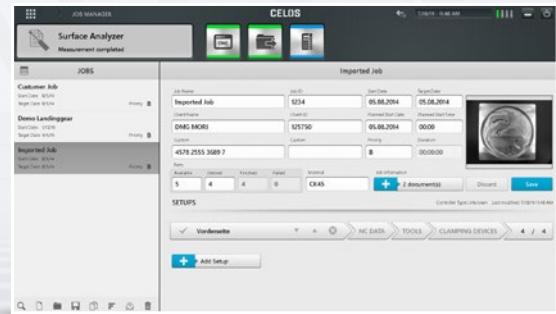
CELOS APPs – 3 EXAMPLES



JOB MANAGER

Systematic planning, administration and preparation of orders.

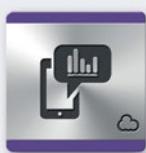
- + Machine-related creation and configuration of new orders
- + Structured storage of all production-related data and documents
- + Automatic order data import with the aid of the job import functionality



APPLICATION CONNECTOR

Your application directly on the machine.

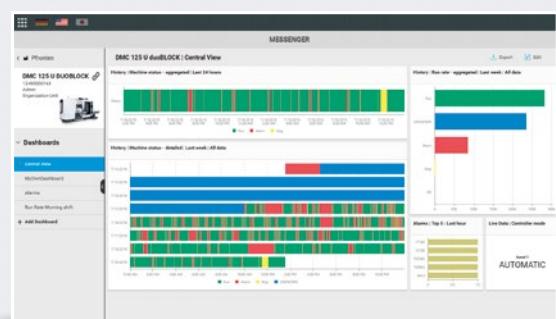
- + Integration of a company's internal systems plus access to the Intranet and Internet directly on the CELOS machine
- + Up to 20 internal connections as the company's own CELOS APPs with its own icon possible
- + Simple remote control (RDP or VNC) or Web connections directly from CELOS



MESSENGER

Latest status data from networked machines and devices on the shop floor at a glance.

- + DMG MORI monitoring of all machines and devices networked on the shop floor via DMG MORI Connectivity
- + Automatically generated one-page reports
- + Maximum flexibility through the creation of individual dashboards

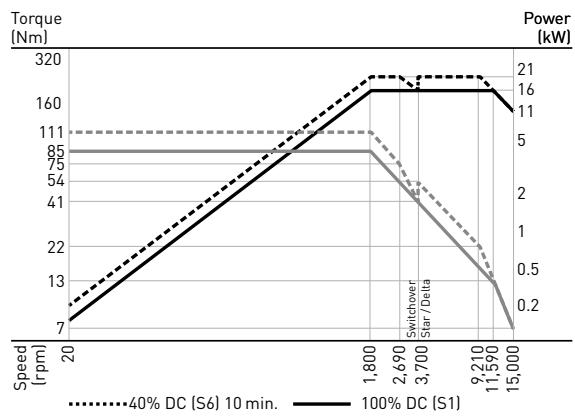


DMF SERIES

Comprehensive spindle range for maximum performance

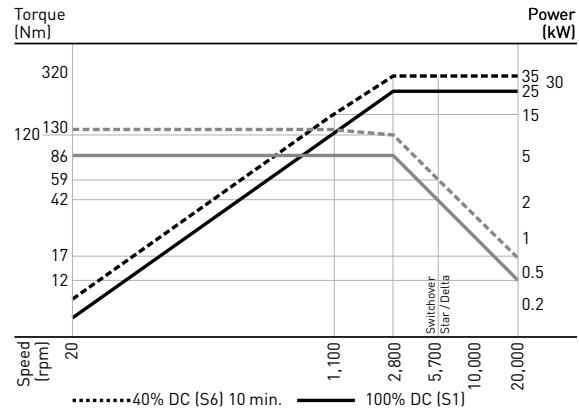
speedMASTER (STANDARD)

Speed range: **15,000 min⁻¹**
 Drive power: **21/16 kW [40/100 % ED]**
 Torque: **111/85 Nm [40/100 % ED]**
 Tool holder: SK40/SK40 Big Plus
 DIN 69871/DIN 69893 HSK-A63



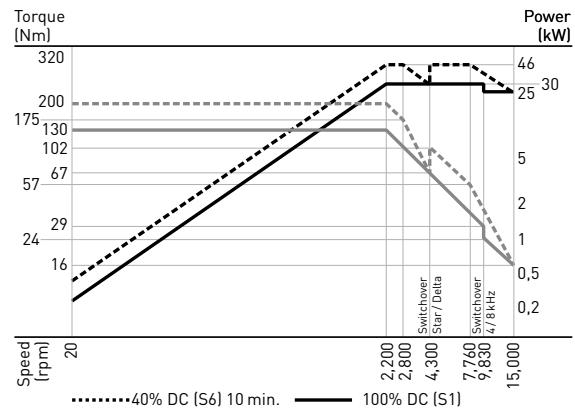
speedMASTER (OPTION)

Speed range: **20,000 min⁻¹**
 Drive power: **35/25 kW [40/100 % ED]**
 Torque: **130/86 Nm [40/100 % ED]**
 Tool holder: SK40/SK40 Big Plus
 DIN 69871/DIN 69893 HSK-A63



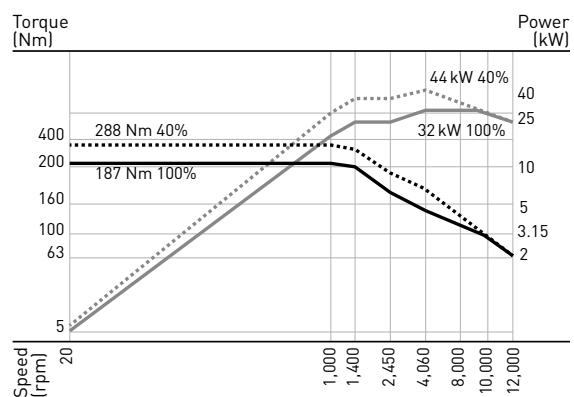
speedMASTER HT (OPTION)

Speed range: **15,000 min⁻¹**
 Drive power: **46/30 kW [40/100 % ED]**
 Torque: **200/130 Nm [40/100 % ED]**
 Tool holder: SK40/SK40 Big Plus
 DIN 69871/DIN 69893 HSK-A63



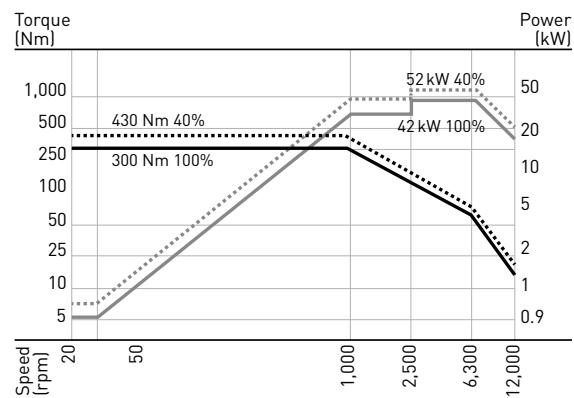
powerMASTER (OPTION)

Speed range: 12,000 min⁻¹
Drive power: 44/32 kW (40/100 % ED)
Torque: 288/187 Nm (40/100 % ED)
Tool holder: SK50/SK50 Big Plus
 DIN 69871/DIN 69893 HSK-A100



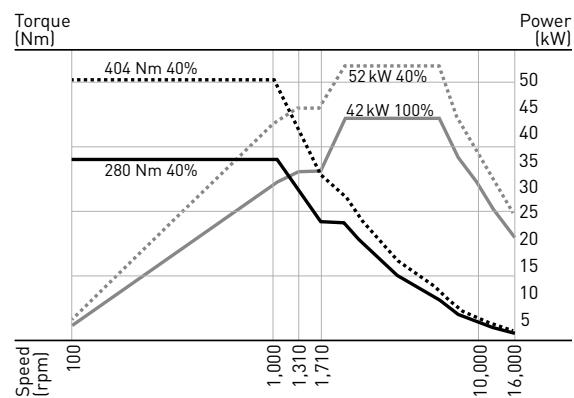
powerMASTER (OPTION)

Speed range: 12,000 min⁻¹
Drive power: 52/42 kW (40/100 % ED)
Torque: 430/300 Nm (40/100 % ED)
Tool holder: SK50/SK50 Big Plus
 DIN 69871/DIN 69893 HSK-A100



powerMASTER (ON REQUEST)*

Speed range: 16,000 min⁻¹
Drive power: 52/42 kW (40/100 % ED)
Torque: 404/280 Nm (40/100 % ED)
Tool holder: HSK-A100
 DIN 69871/DIN 69893



* Spindle available for DMF | 11

Applications and Parts
Highlights
Overview
Control Technology
Technical Data
› Performance diagrams
› Technical Data

DMF SERIES

Technical Data

Working area

Travel paths X-/Y-/Z-axis	mm
---------------------------	----

Min. distance spindle nose > table (vertical)	mm
---	----

Linear axes (X/Y/Z)

Feed rate	mm/min
-----------	--------

Rapid traverse	m/min
----------------	-------

Acceleration	m/s ²
--------------	------------------

Feed force	kN
------------	----

P _{max} (X/Y/Z) – VDI DGQ 3441/ISO 230-2	µm
---	----

Work table

Table dimensions	mm
------------------	----

Max. workpiece weight	kg
-----------------------	----

Load height (table upper edge)	mm
--------------------------------	----

Integrated NC swivel milling head (B-axis)

Swivel range	°
--------------	---

Clamping torque	Nm
-----------------	----

Swivel speed	rpm
--------------	-----

Min. distance spindle nose – table vertical (horizontal)	mm
--	----

Integrated NC rotary indexing table (option)

Table diameter	mm
----------------	----

Speed	rpm
-------	-----

Clamping torque	Nm
-----------------	----

Max. workpiece weight	kg
-----------------------	----

Main spindle (standard)

speedMASTER spindle SK40	rpm
--------------------------	-----

Power (40%/100% ED)	kW
---------------------	----

Torque (40%/100% ED)	Nm
----------------------	----

Tool changer SK40/HSK-A63

Number of pockets	
-------------------	--

Tool diameter	mm
---------------	----

Max. Tool length	mm
------------------	----

Max. Tool weight	kg
------------------	----

Chip-to-chip time	sec.
-------------------	------

Tool changer SK50/HSK-A100

Number of pockets	
-------------------	--

Tool diameter	mm
---------------	----

Max. Tool length	mm
------------------	----

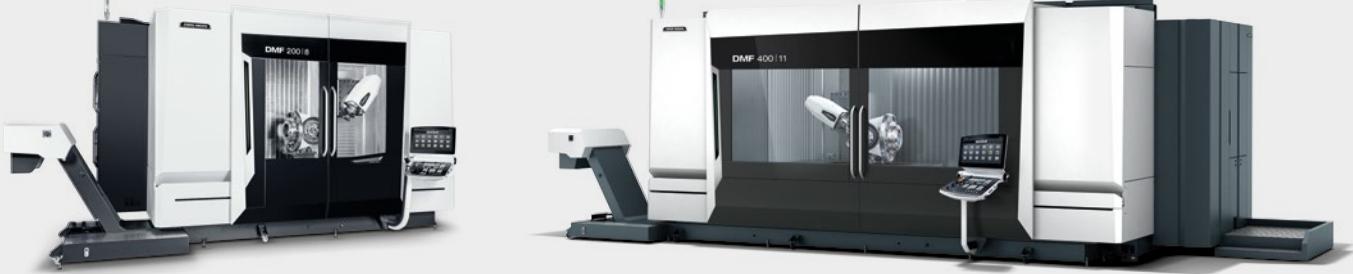
Max. Tool weight	kg
------------------	----

Chip-to-chip time	sec.
-------------------	------

Control

CELOS with SIEMENS 840D solutionline Operate	
--	--

CELOS with HEIDENHAIN TNC 640	
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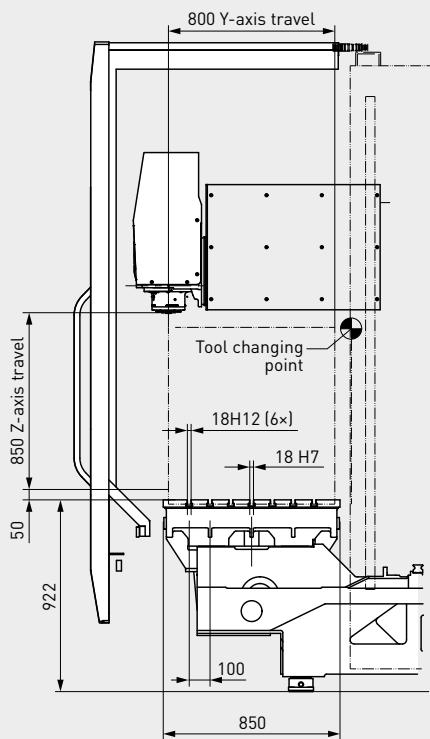
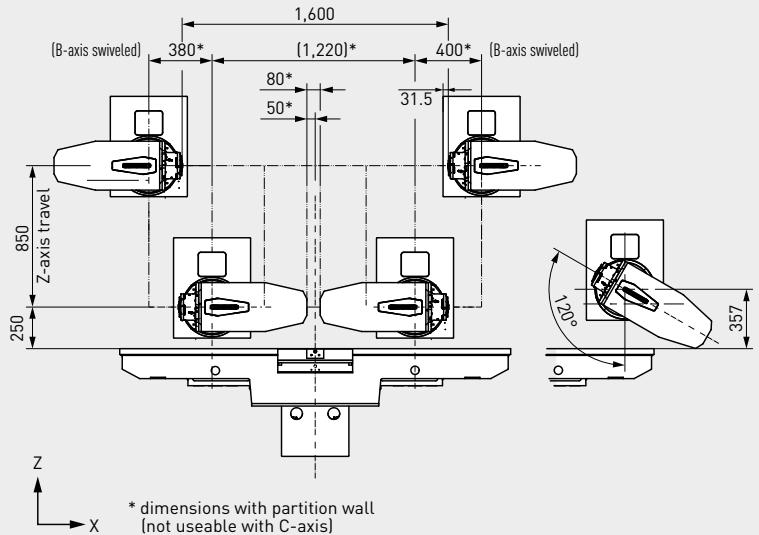
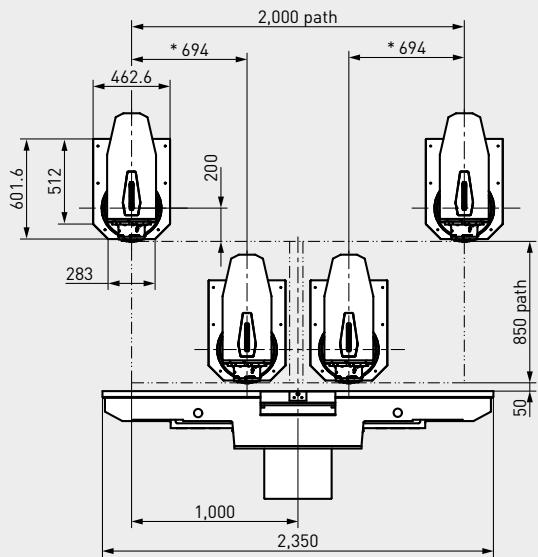


DMF 200 8	DMF 300 8	DMF 300 11	DMF 400 11
2,000/800/850	3,000/800/850	3,000/1,100/1,050	4,000/1,100/1,050
50	50	50	50
50,000 (80,000*)	50,000 (80,000*)	42,000 (80,000*)	42,000 (80,000*)
50 (80*)	50 (80*)	42 (80/60/60*)	42 (80/60/60*)
5 (8*)	5 (8*)	4 (6*)	4 (6*)
12	12	12	12
<9/7/7	<9/7/7	<10/9/9	<12/9/9
2,300×850	3,300×850	3,600×1,100	4,600×1,100
2,000	3,000	6,000	8,000
922	922	997	997
±120	±120	±120	±120
6,000	6,000	6,000	6,000
50	50	50	50
50 (250)	50 (250)	50 (250)	50 (250)
800	800	1,050	1,050
50	50	50	50
-	-	7,000	7,000
800 (1,200*)	800 (1,200*)	1,200 (2,000*)	1,200 (2,000*)
15,000	15,000	15,000	15,000
21/16	21/16	21/16	21/16
111/85	111/85	111/85	111/85
40 (60/90/120*)	40 (60/90/120*)	40 (90/120*)	40 (90/120*)
80 (130**)	80 (130**)	80 (130**)	80 (130**)
400	400	400	400
8	8	8	8
from 7.5	from 7.5	from 9.0	from 9.0
-	-	30 (50*)	30 (50*)
-	-	115 (160**)	115 (160**)
-	-	450/540 (SK50/HSK-A100)	450/540 (SK50/HSK-A100)
-	-	20	20
-	-	from 11.5	from 11.5
•	•	•	•
○	○	○	○

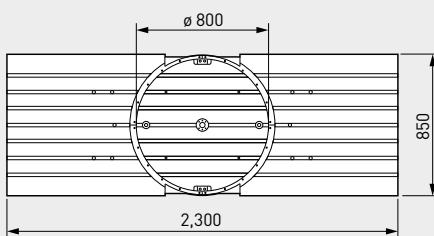
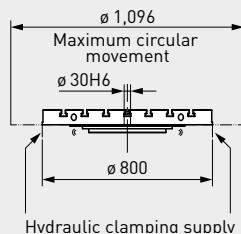
DMF 200 | 8

Working areas

DMF 200 | 8 working area



C-Achse
Option

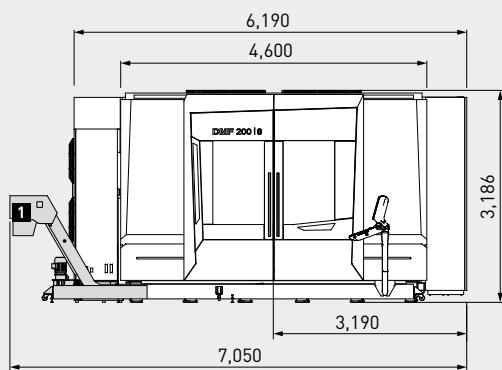


DMF 200 | 8

Floor plans

DMF 200 | 8

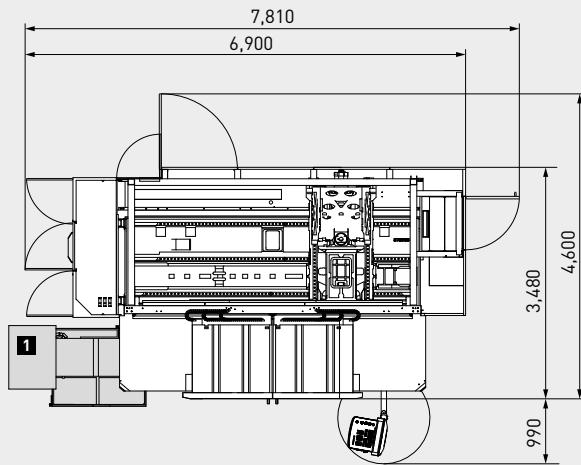
Side view with tool magazine SK40/HSKA-63 with 40/90/120 pockets



DMF 200 | 8

Top view with tool magazine SK40/HSKA-63 with 40/90/120 pockets

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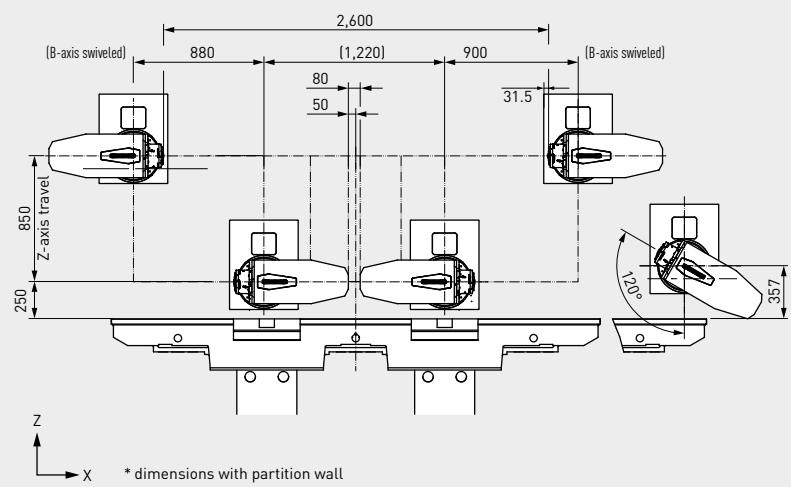
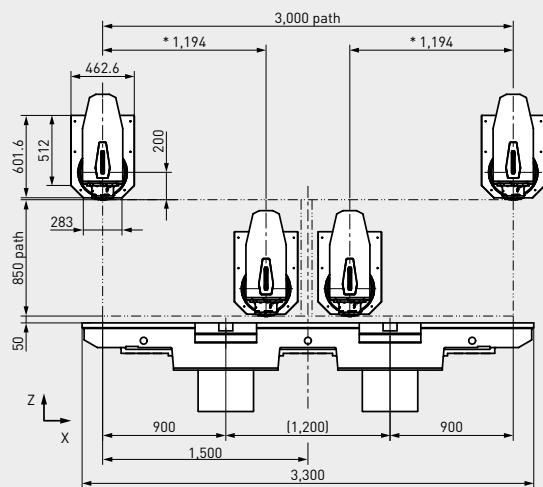


1 Chip conveyor

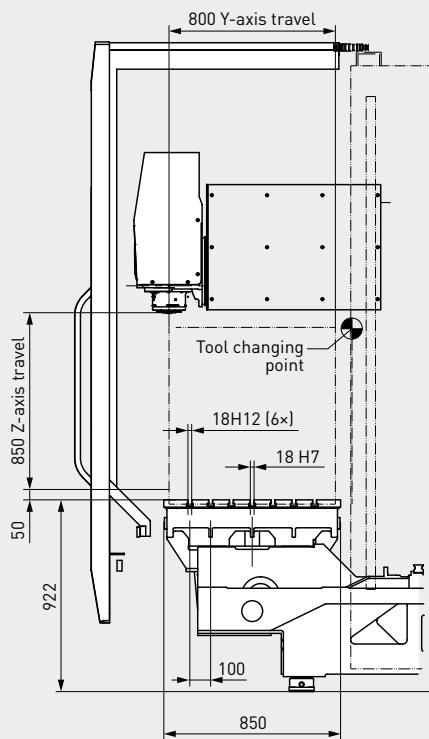
DMF 300 | 8

Working areas

DMF 300 | 8 working area

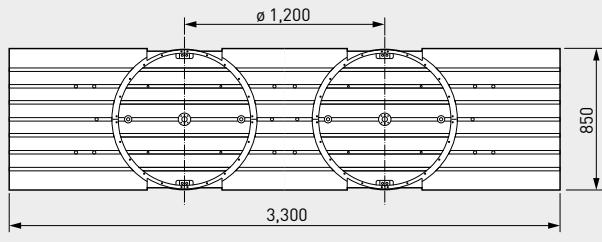


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C-axis

Option

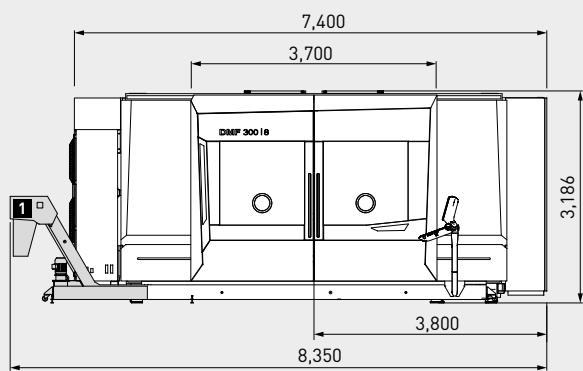


DMF 300 | 8

Floor plans

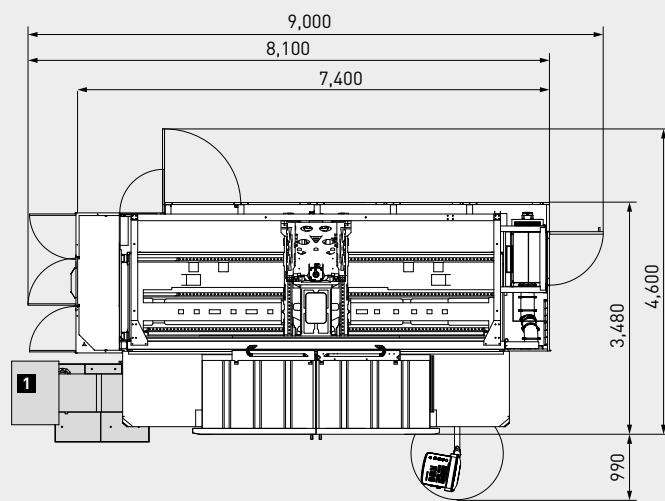
DMF 300 | 8

Side view with tool magazine SK40/HSKA-63 with 40/90/120 pockets



DMF 300 | 8

Top view with tool magazine n SK40/HSKA-63 with 40/90/120 pockets

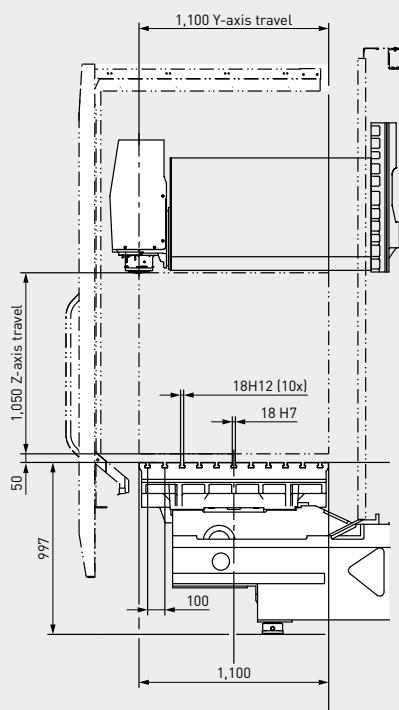
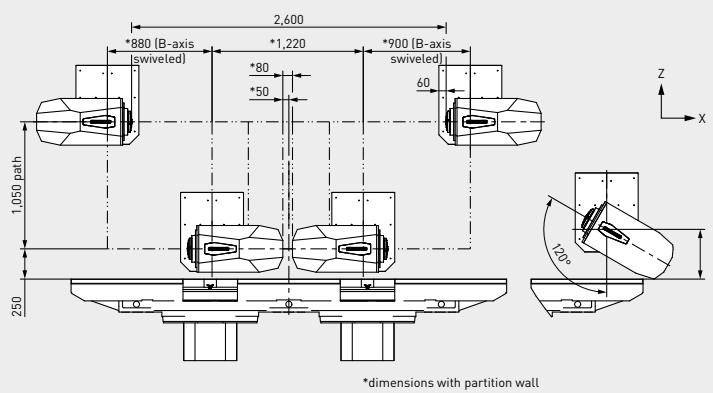
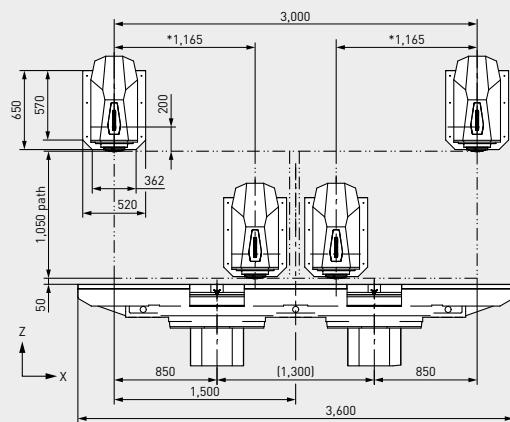


1 Chip conveyor

DMF 300 | 11

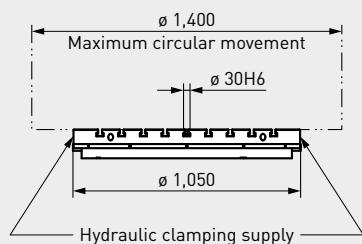
Working areas

DMF 300 | 11 working area



C-axis

Option

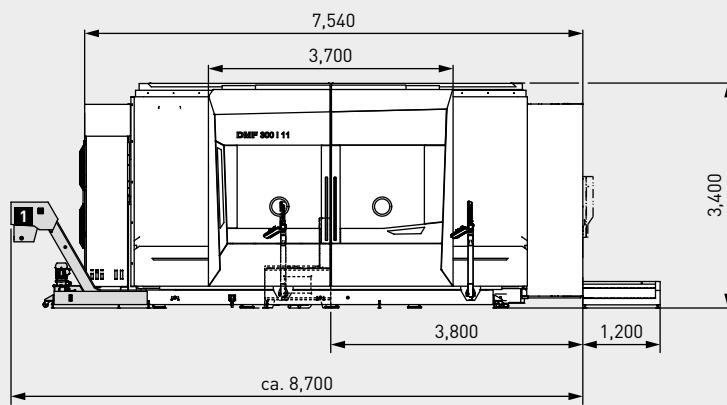


DMF 300 | 11

Floor plans

DMF 300 | 11

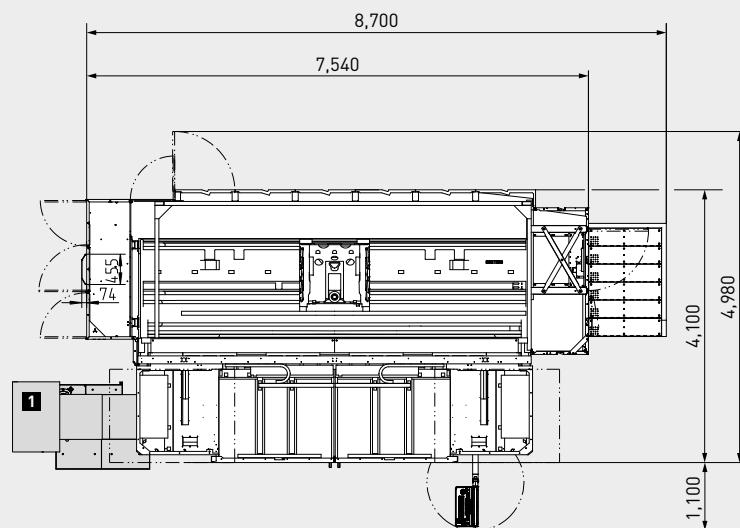
Side view with tool magazine with 40, 90, 120 pockets



35

DMF 300 | 11

Top view with tool magazine with 40, 90, 120 pockets

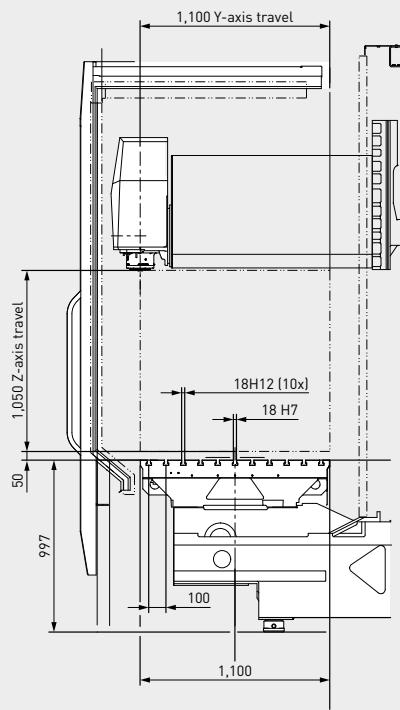
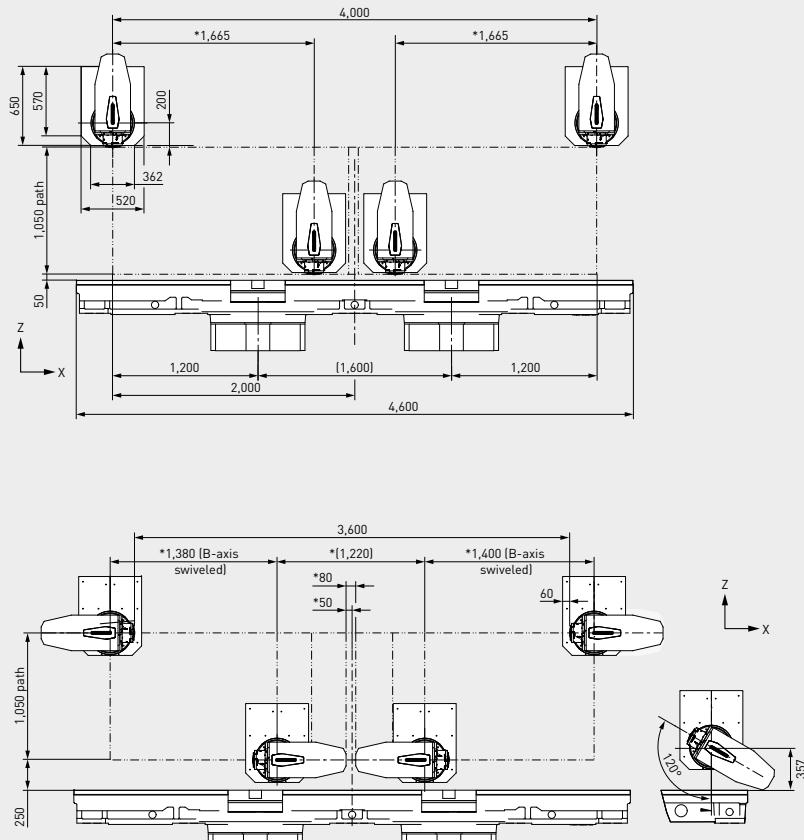


1 Chip conveyor

DMF 400 | 11

Working areas

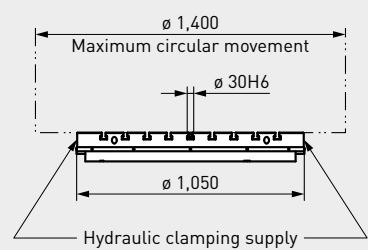
DMF 400 | 11 working area



*dimensions with partition wall

C-axis

Option

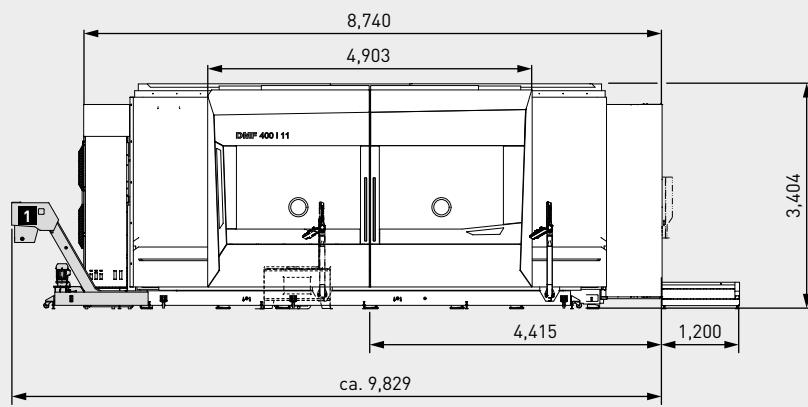


DMF 400 | 11

Floor plans

DMF 400 | 11

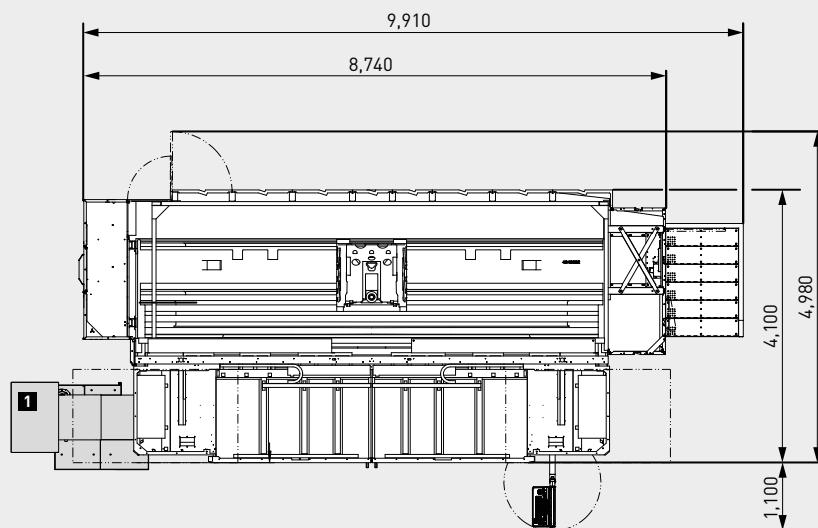
Side view with tool magazine with 40, 90, 120 pockets



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DMF 400 | 11

Top view with tool magazine with 40, 90, 120 pockets



1 Chip conveyor

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