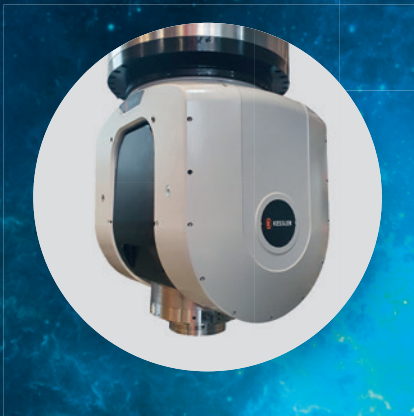


GANTRY MACHINING CENTRES

MODULAR AND INNOVATIVE FOR HIGHEST STANDARDS

Moving Table | Automation with Pallet Changer

Table Version | Floor-Running



MATEC

Gantry centres

OVERVIEW

Pages 4 – 11

Compact centre

Stationary gantry | Moving table



Pages 12 – 13

Pallet changer

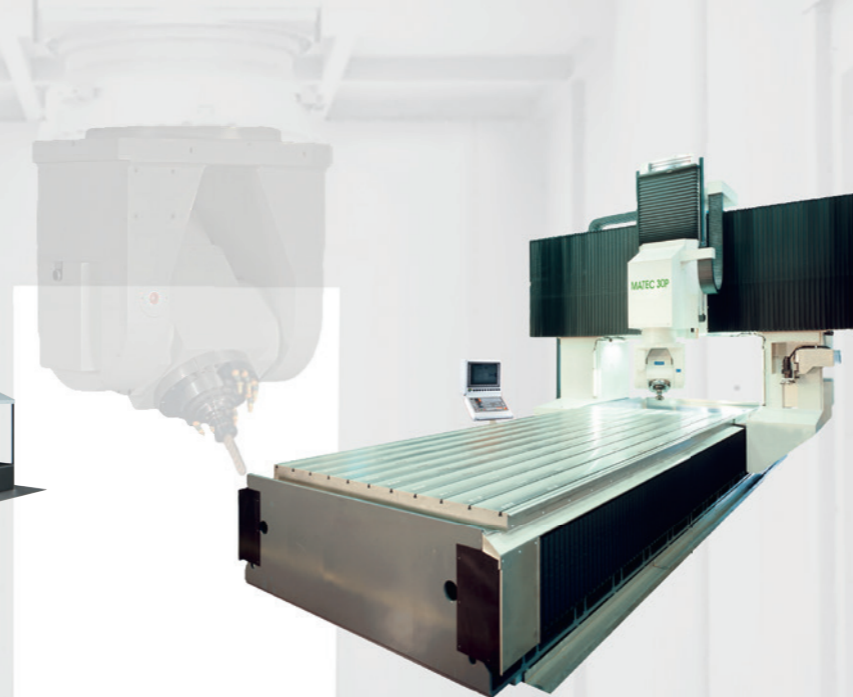
Stationary gantry | Pallet changer
2 or 4 Pallets



Pages 14 – 15

Model with stationary table

Moving gantry | Stationary table



Pages 16 – 19

Floor plate

Moving gantry | Floor-running
Floor-plate table on shopfloor level



The perfect head for every production task



2-Axis CNC fork head

- Infinitely variable
- With worm drive
- Clampable axes
- High torque rates
- C-axis: 360°
- A-axis: $\pm 105^\circ$
- HSK63 or HSK100



2-Axis CNC universal head

- Infinitely variable
- C-axis with worm drive
- A-axis with direct drive
- Clampable axes
- High torque rates
- C-axis: $\pm 180^\circ$
- A-axis: $\pm 180^\circ$
- HSK63 or HSK100



2-Axis CNC fork head

- Infinitely variable
- Direct drive in both axes
- Clampable axes
- High torque rates
- C-axis: 360°
- A-axis: $\pm 120^\circ$
- HSK63 or HSK100

Precision and dynamics in 5-axis and 3D

MATEC 30PT | 40PT

5-Axis gantry series | 2-Axis fork head

Stationary gantry | Moving table

Performance class HSK63 | HSK100

CNC control unit: SIEMENS | HEIDENHAIN



Gantry centres with 2-axis fork head are classic standard machines for 5-sided machining without special requirements for maximum precision. Basis are the requirements of DIN ISO 230-2 for the precision of machine tools.

Fork heads are very compact in design and enable certain machining operations from below in the A-axis.

Work area

X-axis	3,750 4,750 5,750 6,750 mm
Y-axis	3,400 4,400 mm
Z-axis	1,500 1,800 2,100 mm

Clearance height	1,350 1,650 2,050 mm
Clearance width	2,320 3,320 mm

Main spindle

Speed	10,000 15,000 20,000 1/min
Power max.	96 kW
Torque max.	690 Nm

Tool magazine

Tool places	40 48 max. 680 pcs.
Tool length	450 mm
Tool weight	10 20 kg

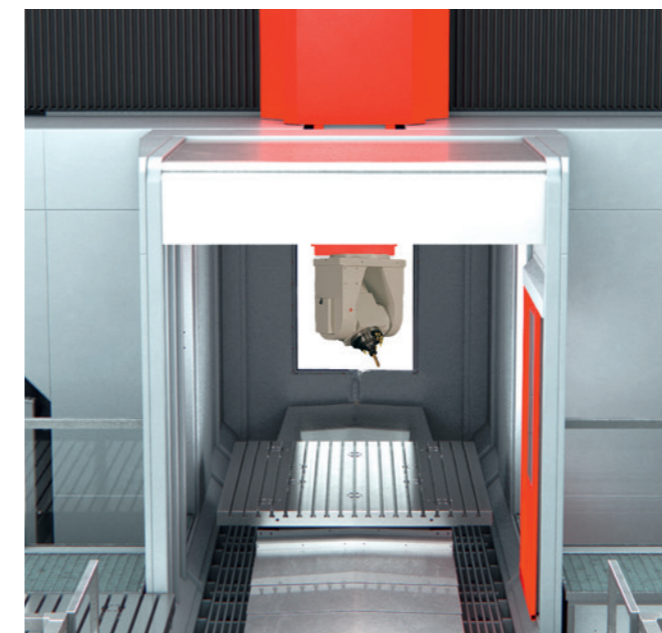
Interchangeable head magazine (option)

Ready to take 4 different machining heads.
Automatic change procedure.



2-Axis fork head

Swivel radius	250 mm
Rotation angle C-axis	$\pm 180^\circ$
Direct measuring system	$\pm 6''$
Rotation angle A-axis	$\pm 105^\circ$
Direct measuring system	$\pm 5''$



Clamping table

Length	2,000 3,000 4,000 5,000 mm
Width	2,000 3,000 mm
Table load max.	4,000 kg
(depending on table size and drive system)	

Feed | rapid traverse 30 m/min
Option: linear drive or toothed rack drive.

MATEC 30PTU | 40PTU

5-Axis gantry series | 2-Axis universal head

Stationary gantry | Moving table

Performance class HSK63 | HSK100

CNC control unit: SIEMENS | HEIDENHAIN



The MATEC gantry series with 2-axis universal head combines a variety of economical applications in all angular positions. Universal use for every industry, every component and every material.

The innovative design with stationary gantry and moving table ensures maximum stability and precision. It enables high-speed machining while achieving the highest quality surfaces, often without further reworking.

Work area

X-axis	3,750 4,750 5,750 6,750 mm
Y-axis	3,400 4,400 mm
Z-axis	1,500 1,800 2,100 mm

Clearance height	1,350 1,650 2,050 mm
Clearance width	2,320 3,320 mm

Main spindle

Speed	10,000 15,000 20,000 1/min
Power max.	96 kW
Torque max.	690 Nm

Tool magazine

Tool places	40 48 max. 680 pcs.
Tool length	450 mm
Tool weight max.	10 20 kg

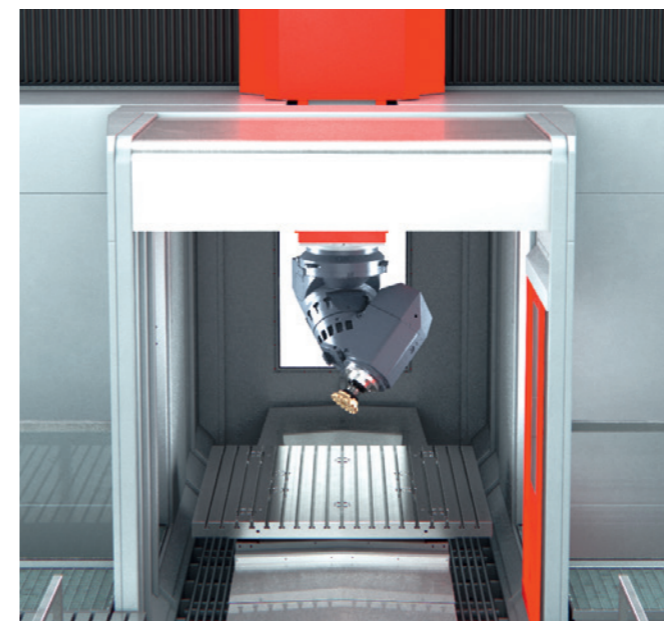
Interchangeable head magazine (option)

Ready to take 4 different machining heads.
Automatic change procedure.



2-Axis universal head

Swivel radius	440 mm
Rotation angle C-axis	$\pm 180^\circ$
Direct measuring system	$\pm 1.9''$
Rotation angle A-axis	$\pm 180^\circ$
Direct measuring system	$\pm 1.7''$



Clamping table

Length	2,000 3,000 4,000 5,000 mm
Width	2,000 3,000 mm
Table load max.	4,000 kg
(depending on table size and drive system)	

Axis drive with ball screw

Feed rapid traverse	30 m/min
Option: linear drive or toothed rack drive.	

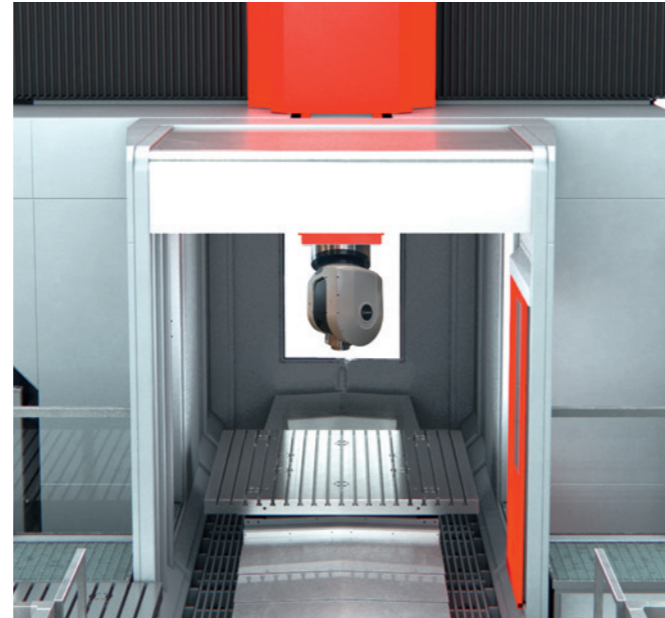
MATEC 30PTT | 40PTT

5-Axis gantry series | 2-Axis fork head torque drive

Stationary gantry | Moving table

Performance class HSK63 | HSK100

CNC control unit: SIEMENS | HEIDENHAIN



Work area

X-axis	3,750 4,750 5,750 6,750 mm
Y-axis	3,400 4,400 mm
Z-axis	1,500 1,800 2,100 mm

Clearance height	1,350 1,650 2,050 mm
Clearance width	2,320 3,320 mm

Main spindle

Speed	10,000 15,000 24,000 1/min
Power max.	96 kW
Torque max.	690 Nm

Tool magazine

Tool places	40 48 max. 680 pcs.
Tool length	450 mm
Tool weight max.	20 kg

Interchangeable head magazine (option)

Ready to take 4 different machining heads.
Automatic change procedure.

2-Axis fork head torque

Direct drive in both axes.
Area of application for volume machining in high-strength light metals or in tool and mould making with higher demands on precision and surface quality.

Swivel radius	225 280 mm
Rotation angle C-axis	360°

Direct measuring system	± 2.8"
Rotation angle A-axis	± 110°
Direct measuring system	± 2.8"

Clamping table

Length	2,000 3,000 4,000 5,000 mm
Width	2,000 3,000 mm
Table load max.	4,000 kg
(depending on table size and drive system)	
Axis drive with ball screw	
Feed rapid traverse	30 m/min
Option: X-axis with linear drive or toothed rack drive.	

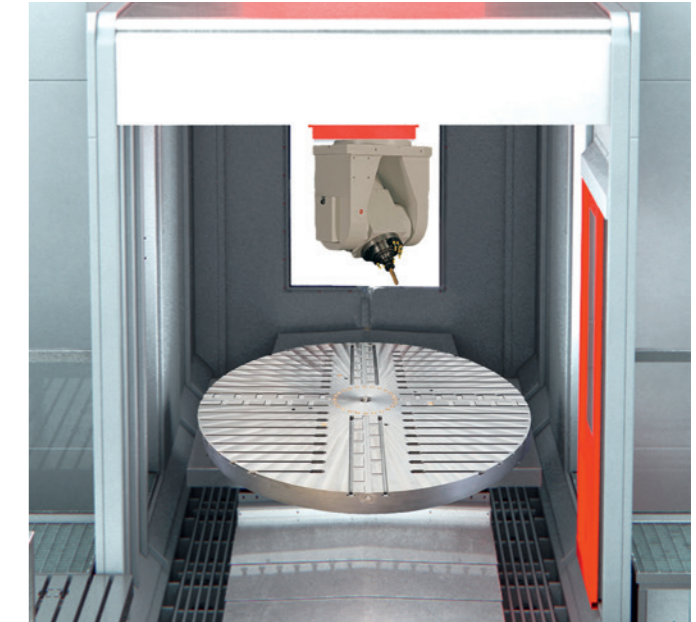
MATEC 30PTR | 40PTR

5-Axis gantry series | 2-Axis fork head

Stationary gantry | Moving table | Integrated CNC rotary table

Performance class HSK63 | HSK100

CNC control unit: SIEMENS | HEIDENHAIN



Work area

X-axis	3,750 4,750 5,750 6,750 mm
Y-axis	3,400 4,400 mm
Z-axis	1,500 1,800 2,100 mm

Clearance height	1,350 1,650 2,050 mm
Clearance width	2,320 3,320 mm

Main spindle

Speed	10,000 15,000 24,000 1/min
Power max.	96 kW
Torque max.	690 Nm

Tool magazine

Tool places	40 48 max. 680 pcs.
Tool length	450 mm
Tool weight max.	10 20 kg

Interchangeable head magazine (option)

Ready to take 4 different machining heads.
Automatic change procedure.

2-Axis fork head

Swivel radius	225 280 mm
Rotation angle C-axis	360°
Direct measuring system	± 2.8"
Rotation angle A-axis	± 110°
Direct measuring system	± 2.8"

Clamping table

CNC-Rundtisch	Ø 1,800 Ø 2,200 mm
Table load max.	4,000 kg
(depending on table size and drive system)	
Axis drive with ball screw	
Feed rapid traverse	30 m/min
Option: X-axis with linear drive or toothed rack drive.	

Option:

2-Axis universal head **2-Axis fork head torque drive**



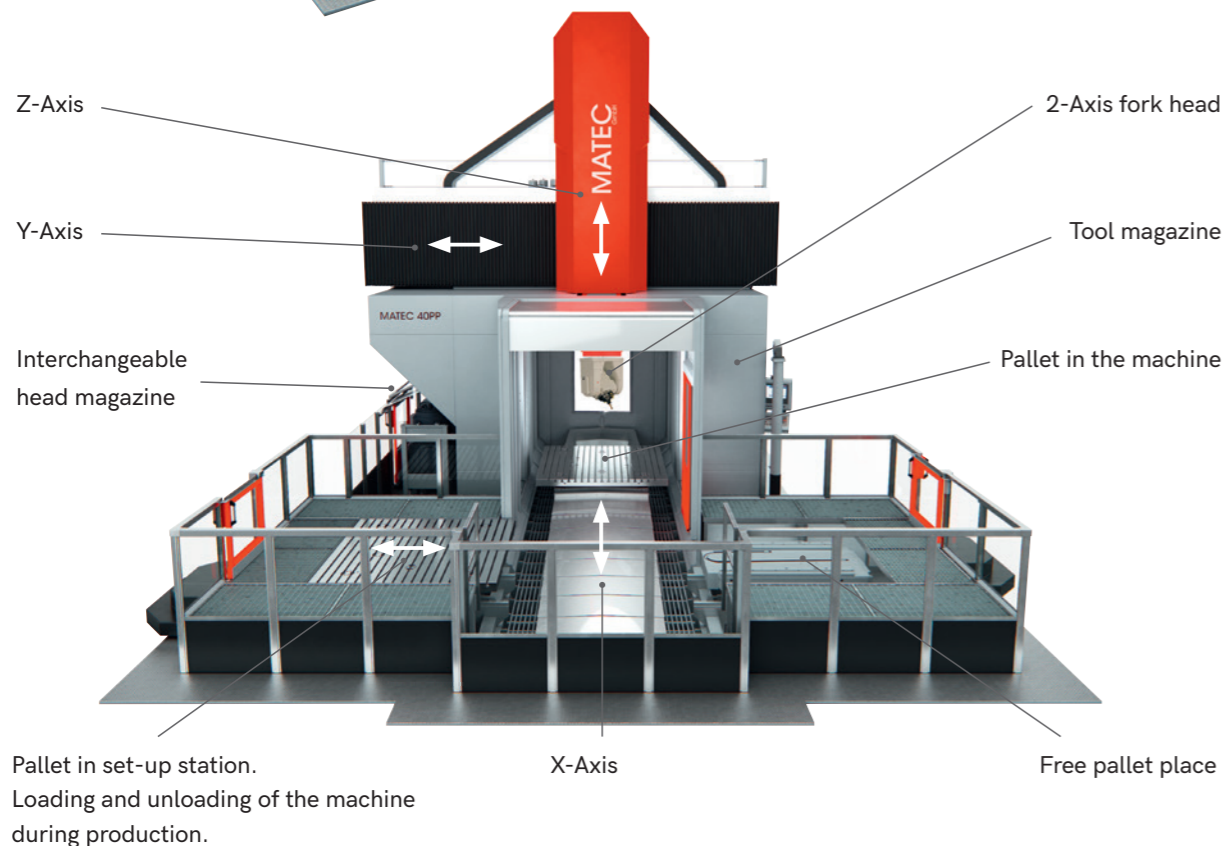
MATEC 30PP | 40PP

5-Axis gantry series | 2-Axis fork head

Stationary gantry | Moving table with pallet change

Performance class HSK63 | HSK100

CNC control unit: SIEMENS | HEIDENHAIN



The pallet changer is the core element of the MATEC PP series. Setting up or reclamping while the machine is in production, results in extremely high time savings, especially for large parts. In addition to all the other advantages of the machine, this results in a convincing cost-effectiveness. With an optional two additional pallet stations and a corresponding running time of the workpieces, it is possible to produce in a multi-shift production with a considerably reduced workforce.

If needed, the automatic head change and the available capacity of tool places make the machine extremely flexible. State-of-the-art monitoring systems ensure safe production.

Work area

X-axis	3,750 4,750 5,750 6,750 mm
Y-axis	3,400 4,400 mm
Z-axis	1,500 1,800 2,100 mm

Clearance height	1,350 1,650 2,050 mm
Clearance width	2,320 3,320 mm

Main spindle

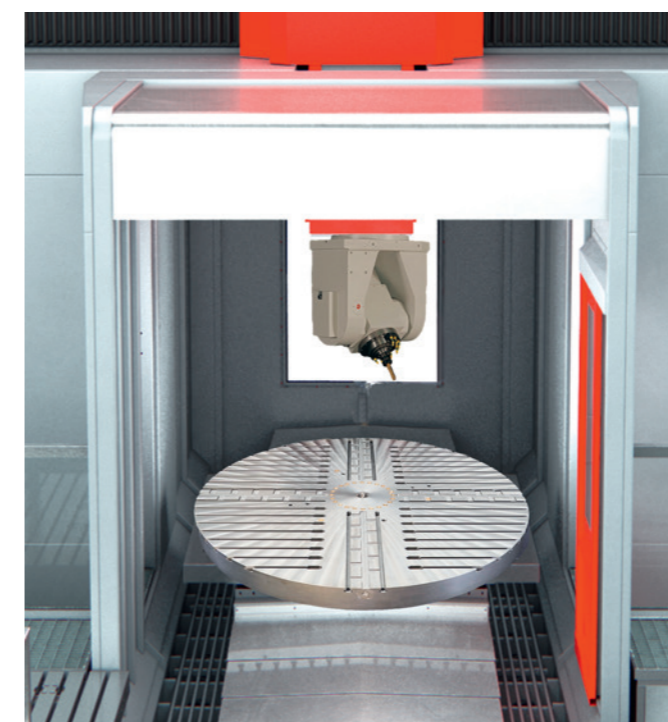
Speed	10,000 15,000 24,000 1/min
Power max.	96 kW
Torque max.	690 Nm

Tool magazine

Tool places	40 48 max. 680 pcs.
Tool length	450 mm
Tool weight max.	20 kg

Interchangeable head magazine (option)

Ready to take 4 different machining heads.
Automatic change procedure.



2-Axis fork head

Swivel radius	250 mm
Rotation angle C-axis	± 180°
Direct measuring system	± 6"
Rotation angle A-axis	± 105°
Direct measuring system	± 5"

Clamping table (pallet):

Pallet length:	2,000 - 5,000 mm
Pallet width:	2,000 - 3,000 mm
Pallet load:	4,000 kg
(depending on table size and drive system)	
Axis drive with ball screw	
Feed rapid traverse	30 m/min
Option: X-axis with linear drive or toothed rack drive.	

MATEC 30PPU | 40PPU

5-Axis gantry series | 2-Axis universal head
 Stationary gantry | Moving table with pallet change
 Performance class HSK63 | HSK100
 CNC control unit: SIEMENS | HEIDENHAIN



Gantry series MATEC 30PPU | 40PPU
 Technical data for 2-axis universal head:

Swivel radius	440 mm
Rotation angle C-axis	$\pm 180^\circ$
Direct measuring system	$\pm 1.9''$
Rotation angle A-axis	$\pm 180^\circ$
Direct measuring system	$\pm 1.7''$
Work area	
Clearance height	1,350 1,650 2,050 mm
Clearance width	2,320 3,320 mm

For further data, please refer to the basic machine 30PP | 40PP.

MATEC 30PPT | 40PPT

5-Axis gantry series | 2-Axis fork head torque
 Stationary gantry | Moving table with pallet change
 Performance class HSK63 | HSK100
 CNC control unit: SIEMENS | HEIDENHAIN



Gantry series MATEC 30PPT | 40PPT
 Technical data for 2-axis fork head torque:

Swivel radius	225 280 mm
Rotation angle C-axis	$\pm 360^\circ$
Direct measuring system	$\pm 2.8''$
Rotation angle A-axis	$\pm 110^\circ$
Direct measuring system	$\pm 2.8''$
Work area	
Clearance height	1,350 1,650 2,050 mm
Clearance width	2,320 3,320 mm

For further data, please refer to the basic machine 30PP | 40PP.



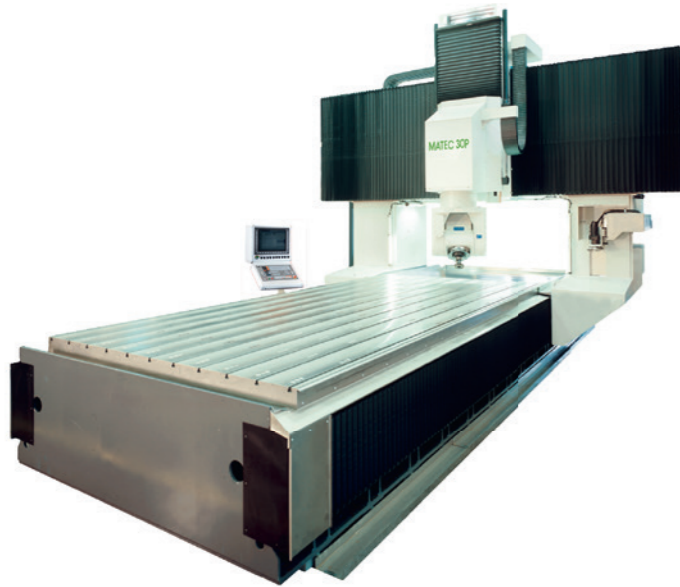
MATEC 30P | 40P

5-Axis gantry series | 2-Axis fork head

Moving gantry | Stationary table

Performance class HSK63 | HSK100

CNC control unit: SIEMENS | HEIDENHAIN



Gantry machines of the series MATEC 30P | 40P meet the highest quality requirements. The moving gantry with all axis movements convinces with a smaller space requirement compared to the stationary gantry. The machine itself is only slightly longer than the travel of the X-axis. In addition, stationary machine tables are structurally much more resilient.

Optimal component structures guarantee the best results in terms of compliance and resonance behaviour. They are the basis for stability, precision, maximum contour fidelity and surface quality on the workpiece. The basic design of the machine is identical for both performance classes.

Work area

X-axis	3,000 - 40,000 mm
Y-axis	2,500 - 4,300 mm
Z-axis	1,300 1,500 1,800 mm

Clearance height	1,100 1,300 1,650 mm
Clearance width	1,900 - 3,400 mm

Main spindle

Speed	10,000 15,000 24,000 1/min
Power max.	96 kW
Torque max.	690 Nm

Tool magazine

Tool places	40 80 max. 680 pcs.
Tool length	450 mm
Tool weight max.	10 20 kg

2-Axis fork head

Swivel radius	250 mm
Rotation angle C-axis	± 180°
Direct measuring system	± 6"
Rotation angle A-axis	± 105°
Direct measuring system	± 5"

Clamping table

Length	3,500 - 40,500 mm
Width	2,100 - 3,100 mm
Table load	4,000 kg
(depending on table size and drive system)	
Axis drive with ball screw	
Feed rapid traverse	30 m/min
Option: linear drive.	

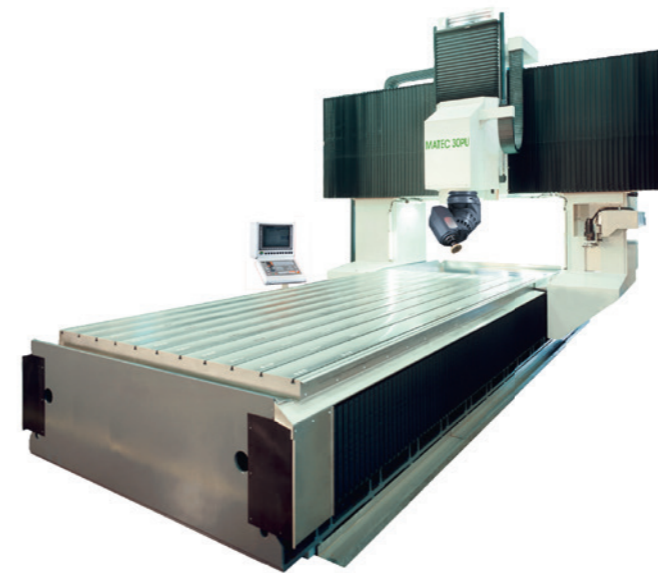
MATEC 30PU | 40PU

5-Axis gantry series | 2-Axis universal head

Moving gantry | Stationary table

Performance class HSK63 | HSK100

CNC control unit: SIEMENS | HEIDENHAIN



Gantry machines of the series MATEC 30PU | 40PU meet the highest quality requirements. The moving gantry with all axis movements convinces with a smaller space requirement compared to the stationary gantry. The machine itself is only slightly longer than the travel of the X-axis. In addition, stationary machine tables are structurally much more resilient. The universal head rotates continuously 360° in both axes and thus achieves any required angular position.

Optimal component structures guarantee the best results in terms of compliance and resonance behaviour. They are the basis for stability, precision, maximum contour fidelity and surface quality on the workpiece. The basic design of the machine is identical for both performance classes.

Work area

X-axis	3,000 - 40,000 mm
Y-axis	2,500 - 4,300 mm
Z-axis	1,300 1,500 1,800 mm

Clearance height	1,100 1,300 1,650 mm
Clearance width	1,900 - 3,400 mm

Main spindle

Speed	10,000 15,000 24,000 1/min
Power max.	96 kW
Torque max.	690 Nm

Tool magazine

Tool places	40 80 max. 680 pcs.
Tool length	450 mm
Tool weight max.	10 20 kg

2-Axis universal head

Swivel radius	440 mm
Rotation angle C-axis	± 360°
Direct measuring system	± 1.9"
Rotation angle A-axis	± 360°
Direct measuring system	± 1.7"

Clamping table

Length	3,500 - 40,500 mm
Width	2,100 - 3,100 mm
Table load	4,000 kg
(depending on table size and drive system)	
Axis drive with ball screw	
Feed rapid traverse	30 m/min
Option: linear drive.	

MATEC 30PB | 40PB

5-Axis gantry series | Floor-running

2-Axis fork head

Moving gantry | Stationary table

Performance class HSK63 | HSK100

CNC control unit: SIEMENS | HEIDENHAIN



Gantry machines of the floor-running series MATEC 30PB | 40PB are variants of the MATEC modular system. The main difference is the type of head. All machines meet the highest quality requirements and convince with their ground-level accessibility.

The technical details of the 2-axis fork head are the same as for all gantry centres. Please take the relevant data from the other gantry centres.

Work area

X-axis	3,000 - 40,000 mm
Y-axis	2,500 - 4,300 mm
Z-axis	1,500 1,800 mm

Clearance height	1,500 1,800 mm
Clearance width	2,900 - 3,400 mm

Clamping table

Length	3,500 - 40,500 mm
Width	2,500 - 3,100 mm
Table load	4,000 kg/m ²
(depending on table size and drive system)	

Axis drive with ball screw

Feed rapid traverse	30 m/min
Option: linear drive.	

MATEC 30PBU | 40PBU

5-Axis gantry series | Floor-running

2-Axis universal head

Moving gantry | Stationary table

Performance class HSK63 | HSK100

CNC control unit: SIEMENS | HEIDENHAIN



Gantry machines of the floor-running series MATEC 30PBU | 40PBU also consist of components of the MATEC modular system. The basic design of all floor-running machines is identical. The advantage of this machine version lies in the versatility of the universal head and the optimal accessibility to the workpiece.

The technical details of the 2-axis fork head are the same as for all gantry centres. Please take the relevant data from the other gantry centres.

Work area

X-axis	3,000 - 40,000 mm
Y-axis	2,500 - 4,300 mm
Z-axis	1,500 1,800 mm

Clearance height	1,500 1,800 mm
Clearance width	2,900 - 3,400 mm

Clamping table

Length	3,500 - 40,500 mm
Width	2,500 - 3,100 mm
Table load	4,000 kg/m ²
(depending on table size and drive system)	

Axis drive with ball screw

Feed rapid traverse	30 m/min
Option: linear drive.	

MATEC 50PB

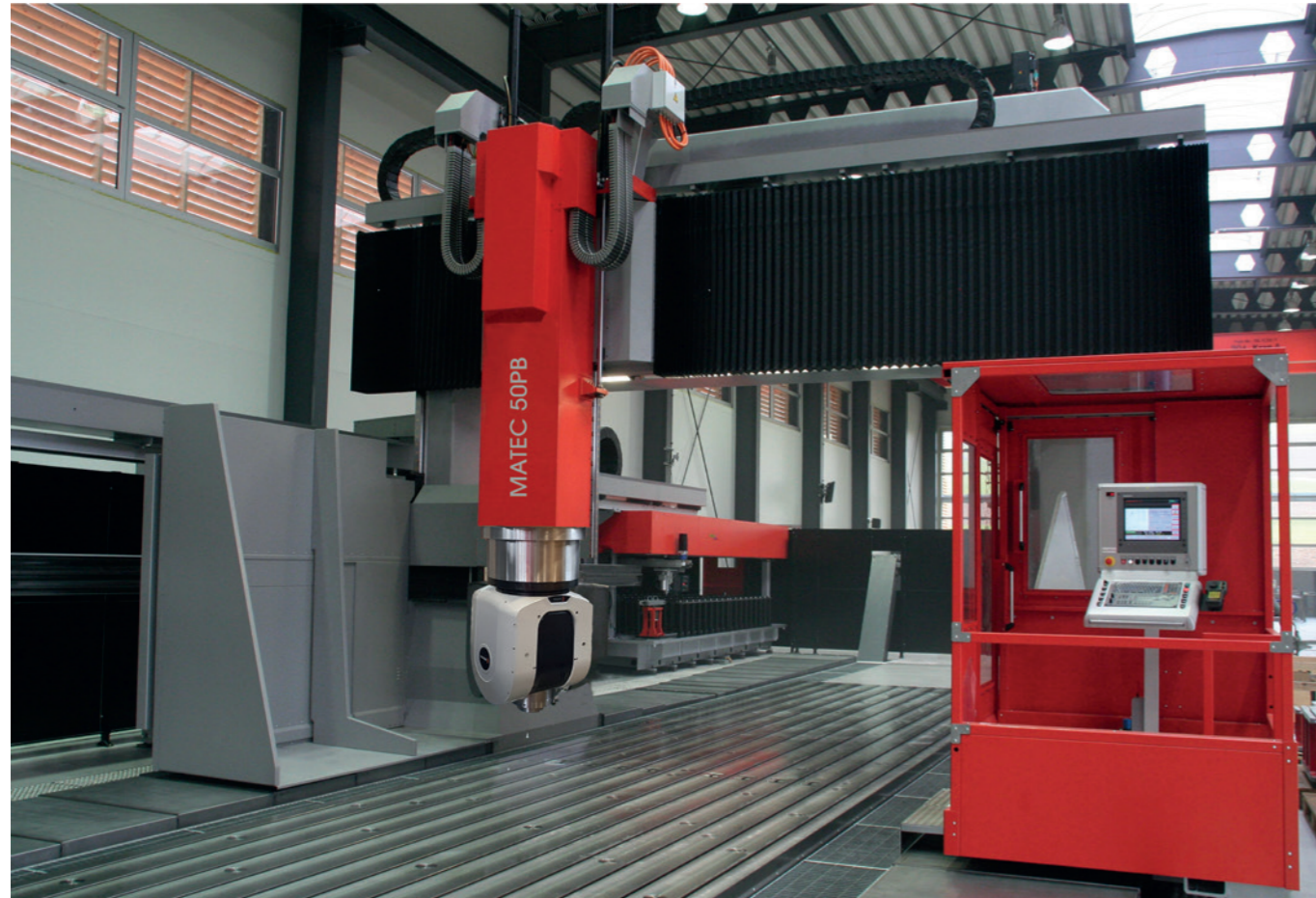
5-Axis gantry series | Floor-running

2-Axis fork head torque

Moving gantry | Stationary table

Performance class HSK63 | HSK100

CNC control unit: SIEMENS | HEIDENHAIN



In addition to the Z-axis, gantry machines of the series MATEC 50PB have an automatically height-adjustable gantry beam as a W-axis.

Combined with the large Z-axes, the W-axis with 800 mm or optionally with 1,100 mm, ensures the machining of very high workpieces.

The infinitely variable 2-axis torque fork head enables 5-sided bzw. 3D machining of the workpiece in convincing top quality.

The moving gantry with all axis movements convinces with a smaller space requirement compared to the

stationary gantry. The machine itself is only slightly longer than the travel of the X-axis.

In addition, stationary machine tables are structurally much more resilient. Due to its accessibility, this machine series allows to perfectly handle heavy weight workpieces.

Optimal component structures guarantee the best results in terms of compliance and resonance behaviour. They are the basis for stability, precision, maximum contour fidelity and surface quality on the workpiece.



Work area

X-axis	6,000 - 20,000 mm
Y-axis	5,000 mm
Z-axis	1,100 1,500 mm
W-axis	800 1,100 mm

(height adjustment gantry beam)

Axis drives

Y- Z-axis	Ball screw
X-axis	Linear drive
Feed rapid traverse	30 m/min

Work area

Clearance height max.	3,370 mm
Clearance width	4,400 mm

Main spindle

Speed	10,000 15,000 1/min
Power max.	96 kW
Torque max.	690 Nm

Tool magazine

Tool places max.	680 pcs.
Tool length	450 mm
Tool weight	20 kg

2-Axis fork head torque

Swivel radius	280 mm
Rotation angle C-axis	± 360°
Direct measuring system	± 2.8"
Rotation angle A-axis	± 110°
Direct measuring system	± 2.8"

Clamping table

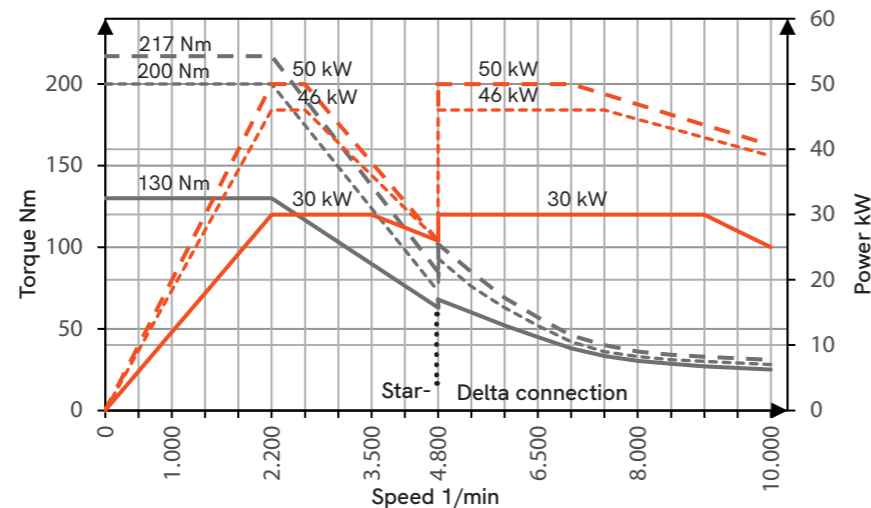
Table length	6,500 - 20,500 mm
Table width	2,000 - 3,000 mm
Table load	4,000 kg/m ²

Power and torque for every application Motor spindles in performance class HSK63 | SK40

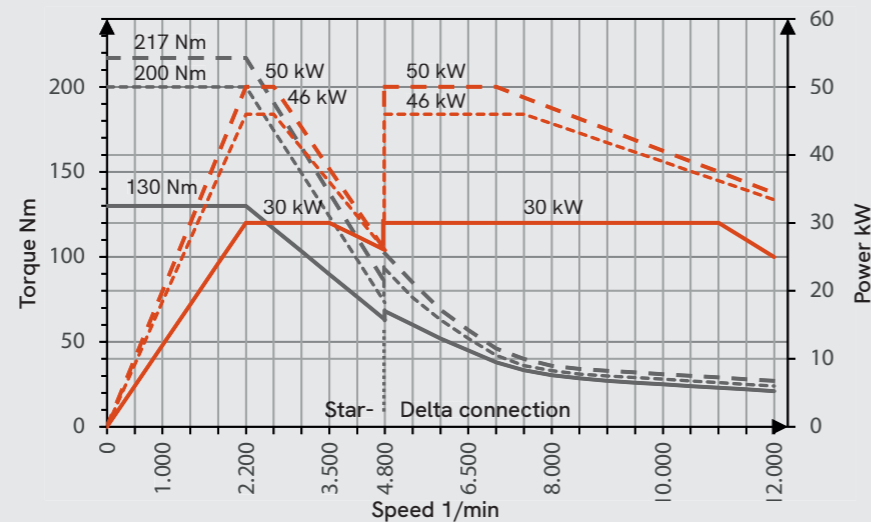
Options for both performance classes:

- Linear growth compensation
- Vibration sensor
- Hydraulic clamping for mill turn centre

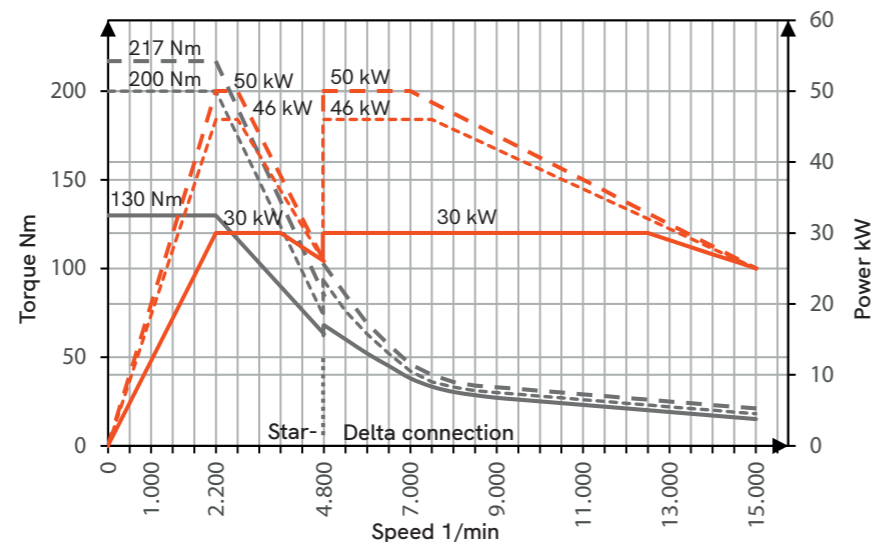
Spindle speed 10,000 1/min
Drive power 50 | 46 | 30 kW
(25 | 40 | 100% DC)
Torque 217 | 200 | 130 Nm
(25 | 40 | 100% DC)



Spindle speed 12,000 1/min
Drive power 50 | 46 | 30 kW
(25 | 40 | 100% DC)
Torque 217 | 200 | 130 Nm
(25 | 40 | 100% DC)



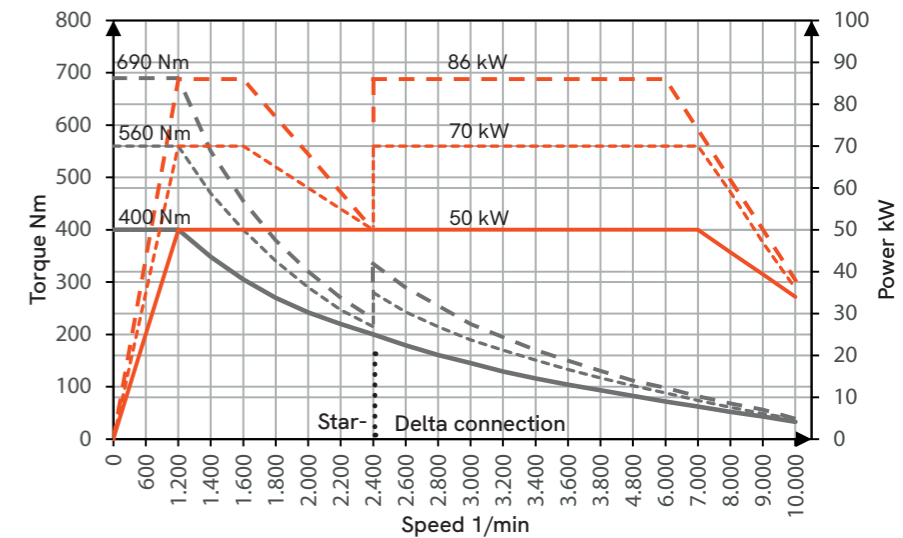
Spindle speed 15,000 1/min
Drive power 50 | 46 | 30 kW
(25 | 40 | 100% DC)
Torque 217 | 200 | 130 Nm
(25 | 40 | 100% DC)



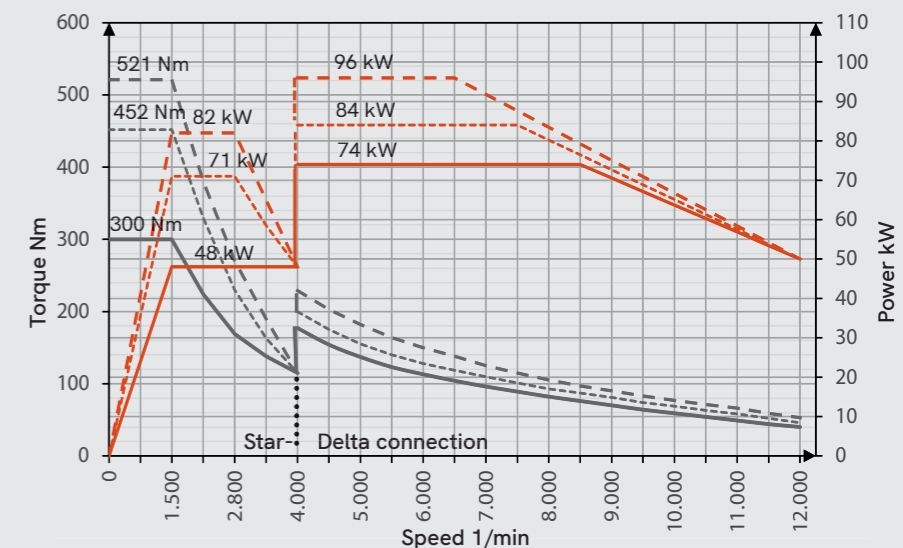
— S6 25% DC - - - S6 40% DC — S1 100% DC

Motor spindles in performance class HSK100 | SK50

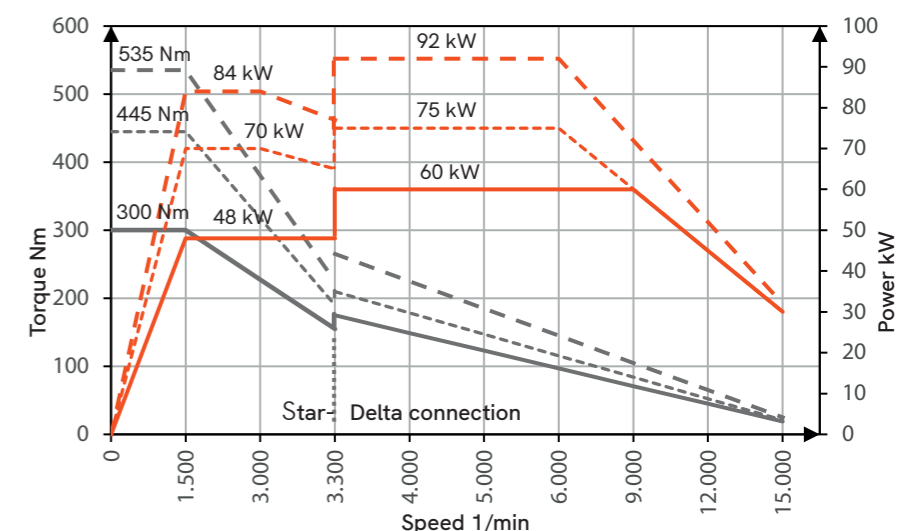
Spindle speed 10,000 1/min
Drive power 86 | 70 | 50 kW
(25 | 40 | 100% DC)
Torque 690 | 560 | 400 Nm
(25 | 40 | 100% DC)



Spindle speed 12,000 1/min
Drive power 96 | 84 | 74 kW
(25 | 40 | 100% DC)
Torque 521 | 452 | 300 Nm
(25 | 40 | 100% DC)



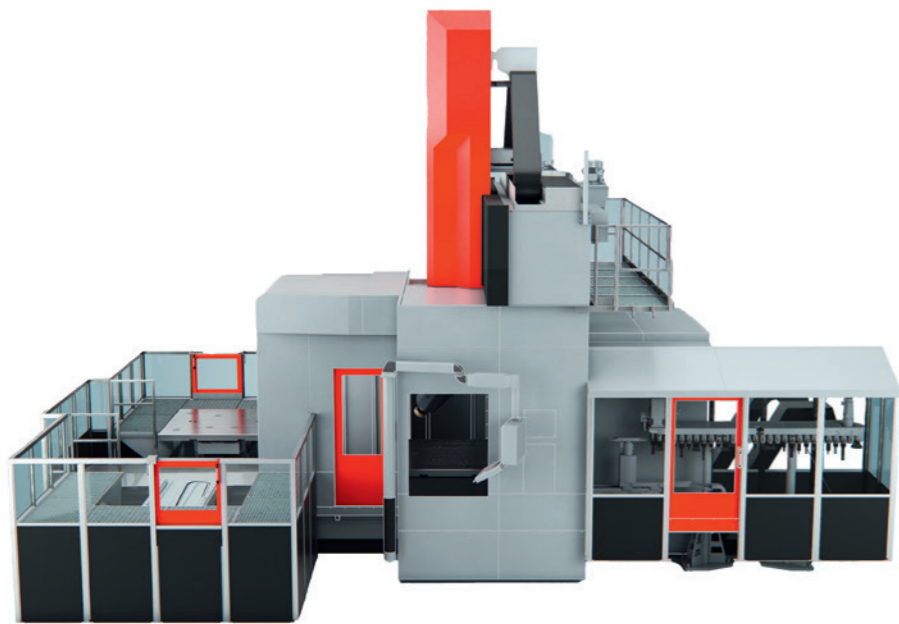
Spindle speed 15,000 1/min
Drive power 92 | 75 | 60 kW
(25 | 40 | 100% DC)
Torque 535 | 445 | 300 Nm
(25 | 40 | 100% DC)



— S6 25% DC - - - S6 40% DC — S1 100% DC

Technical equipment: magazines

Options: tool storages



Lateral magazine

- 80 tool places
- Separate tool changer
- Design with lateral loading door
- Applicable with all machines with stationary gantry

Additional magazine up to 280 tools

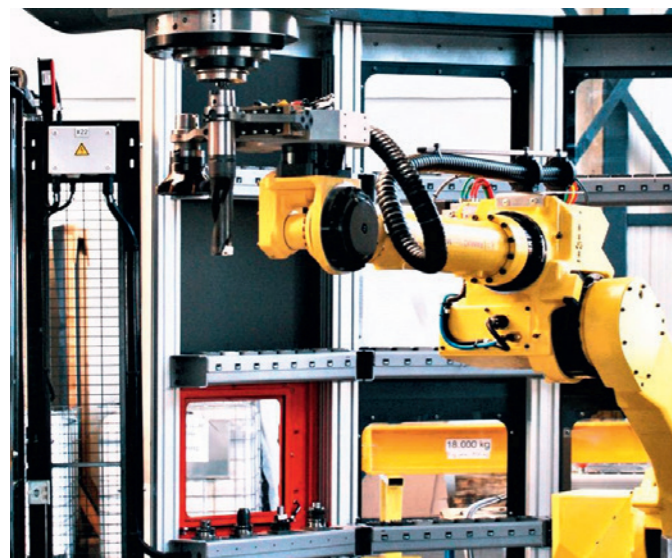
with double gripper and automatic tool supply.

Additional control panel at the tool loading station

Tool management for standard magazine and additional magazine directly at the loading station.

Additional magazine with robot

- Tool change directly into the spindle
- Double gripper for super-fast tool change
- Up to 680 tools
- Tool weight up to 50 kg
- Special storage zone for oversized tools



Technical equipment

Options: interchangeable heads

Automatic head change system

Applicable with all machines with stationary gantry and moving table. Head storage with up to 5 places.

2-Axis NC change heads

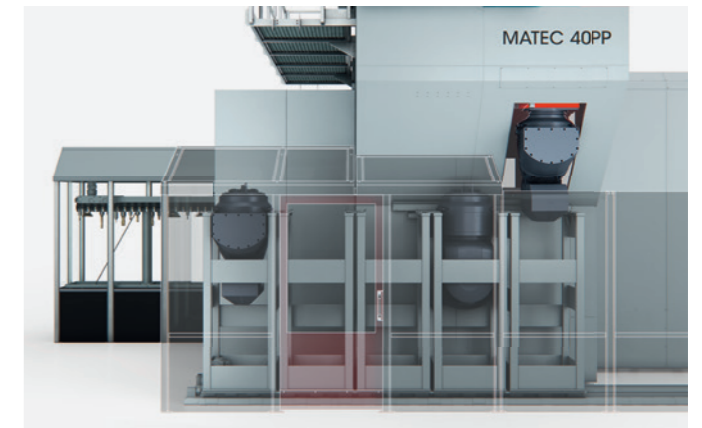
freely selectable combinations.

Pick-up station

- Fully automatic head change
- Up to 4 storage places
- Installation outside the work area
- Applicable with all machines with moving gantry and stationary machine table.

Special machining heads

Use of standard heads of renowned manufacturers or special design according to the conditions given by the workpiece. Mainly used in the internal machining of housings with limited space or low-lying machining operations.



Technical equipment Options

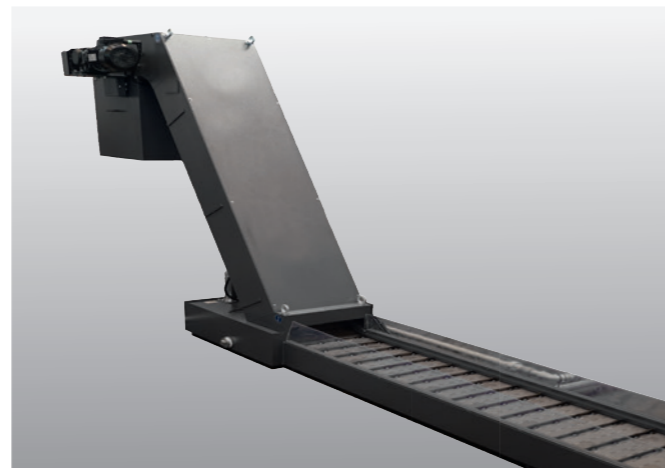
Coolant systems

Adapted to all machine sizes and customer requirements.

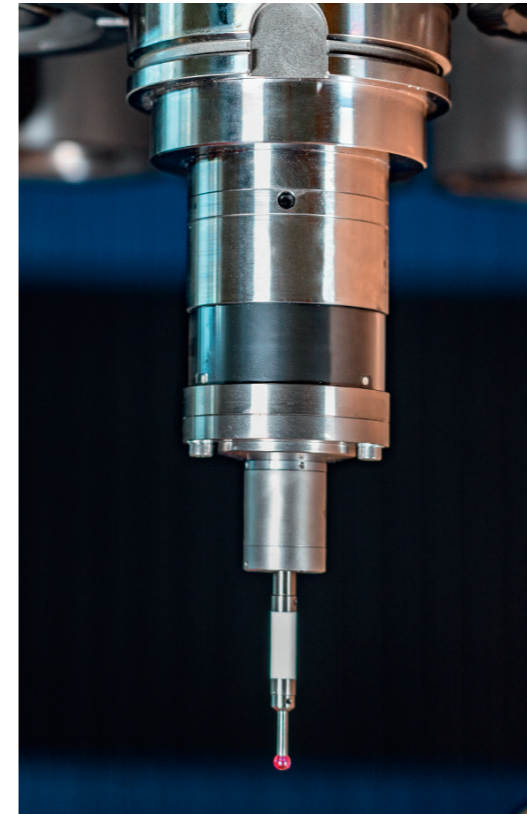
- Internal coolant supply up to 120 bar
- Coolant tank up to 10,000 litres
- Application-specific filter systems
- Additional pumps for automation and special applications
- Coolant temperature control
- Air through spindle
- Air/coolant high pressure at outer nozzles
- Circulation control coolant tank
- Oil skimmer
- Automatic filling of the coolant system
- Connection to central coolant system
- Minimum quantity lubrication



Coolant systems with edge gap filter



Slat-band conveyors in special sizes



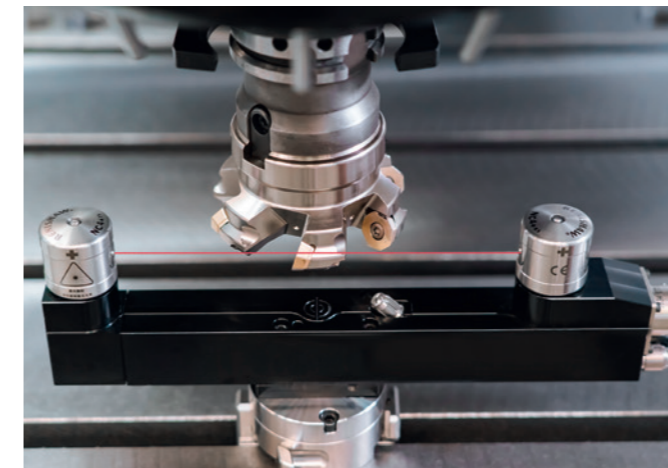
Radio measuring probe

- Recording of the workpiece position
- Workpiece measurement and logging
- Creation of customized measuring cycles
- Visual evaluation of measurement results



Handwheel

for manual operation of machine tools.
Version with cable or via radio.



Laser systems

for tool measurement and tool breakage control.



Radio table touch probe

for tool measurement and tool breakage control.

Other machine series and their performance classes

Performance Class HSK63 | SK40 → MATEC 30 | MATEC 60
 Performance Class HSK100 | SK50 → MATEC 40 | MATEC 50 | MATEC 70

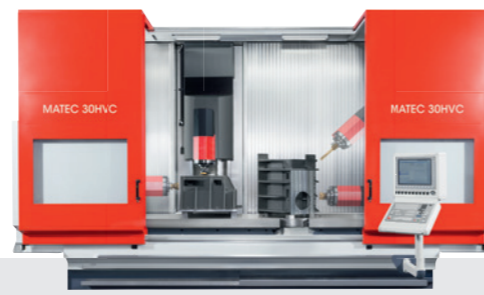
Standard HVC series

With 1-axis swivel head.
 Standard machine with high-quality basic equipment and short delivery times.
 X-axis 1,300 up to 4,000 mm
 Y-axis 600 up to 1,125 mm
 Z-axis up to 1,300 mm



Modular group 30HV machining centre

With 1-axis swivel head.
 Customized to the required production conditions.
 X-axis 1,300 up to 4,000 mm
 Y-axis 600 up to 1,125 mm
 Z-axis up to 1,300 mm



Modular HV group 60HV

With 1-axis swivel head
 X-axis up to 8,300 mm
 Y-axis 1,630 mm
 Z-axis up to 1,800 mm



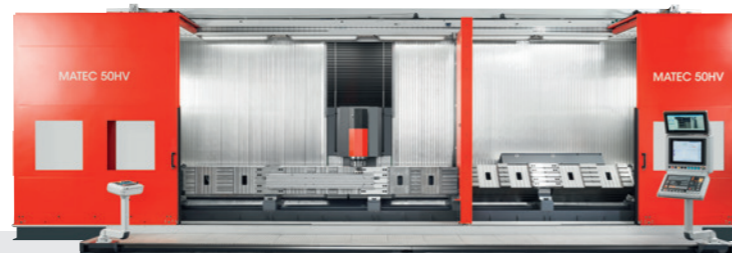
Modular HVU group 60HVU

With 2-axis swivel head
 X-axis up to 8,300 mm
 Y-axis 1,630 mm
 Z-axis up to 1,800 mm



Special solutions

5-side machining of long traverses and profiles.
 Special solution designed based on standard machining centres.
 The picture shows a 50HV with swivel head and rotatable machine table.
 X- | Y- | Z-axis: 8,400 | 1,025 | 1,100 mm



Other machine series Standard machine series

MATEC VMC
 Vertical machining centre

Designed for single-part and series production.



MATEC FUV620 | FUV720
 5-Axis universal machining centres

MATEC FUV800
 5-Axis gantry machining centres

For manufacturing of complex parts and shapes.



MATEC FUV170T | FUV190T
 Travelling column 5-axis machining centres

Performance class HSK63

FUV170T	FUV190T
X-axis 1,700 mm	X-axis 1,900 mm
Y-axis 540 mm	Y-axis 540 mm
Z-axis 460 mm	Z-axis 460 mm



MATEC GPC series
 3-Axis standard gantry centre

MATEC GPC
 Gantry centre
 Performance class HSK100
 X-axis 2,200 up to 4,200 mm
 Y-axis 1,700 up to 2,100 mm
 Z-axis 900 up to 900 mm



Company headquarters

MATEC GmbH
Wilhelm-Maier-Str. 3
D-73257 Köngen
Germany
Tel.: +49 7024 983 85 - 0
sales@matec.de
www.matec.de

Branch office Switzerland

MATEC SCHWEIZ AG
Alte Steinhäuserstrasse 3
CH-6330 Cham
Switzerland
Tel.: +41 58 058 55 00
sales@matec-schweiz.ch
service@matec-schweiz.ch
info@matec-schweiz.ch
www.matec-schweiz.ch



Subject to technical changes. Illustrations may contain options.

