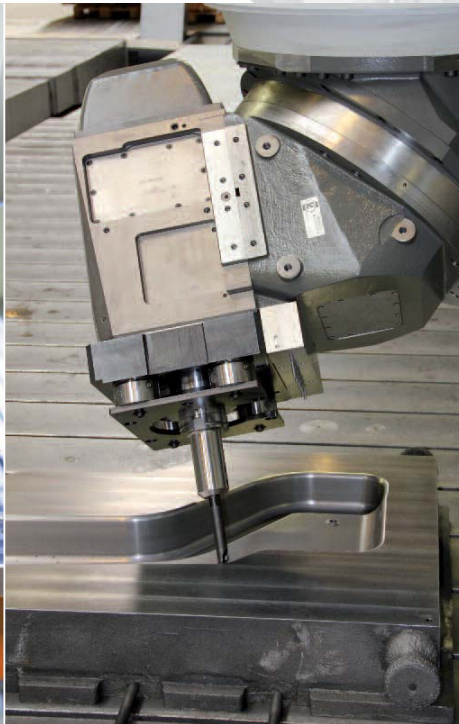


# matec

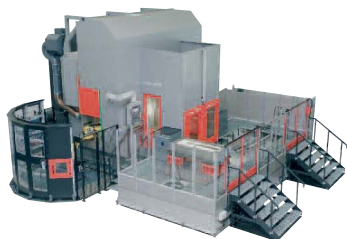
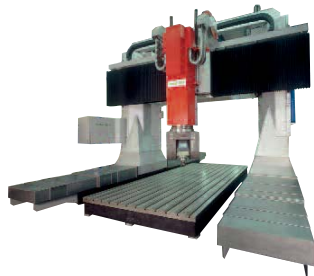
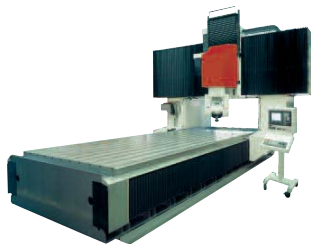
MASCHINENBAU



Gantry Series

# Gantry Series

Specialists for voluminous and heavy work parts



## Standard specifications

Gantry design with fixed machine table

Traverse path in X-axis from 3,000 to 15,000 mm

Traverse path in Y-axis from 1,600 to 5,000 mm

Traverse path in Z-axis from 800 to 2,300 mm

Pre-stressed roller guides in all axes

Drive system in X-axis with ballscrews on both sides

Rapid feed rate with digital AC servo motor

Digital main spindle drive

Motor spindle, speed 9,000 rpm

Orientated spindle stop

Tool magazine travelling in X-axis

Tool position coding variable

Tool life control

Sister tool managing

Automatic lag compensation in order to provide high speed milling of contours

Chip conveyor on both sides along the X-axis

Coolant system (CTS)

Machine cladding (without roof) according to CE norm

Control panel with all necessary operating devices

**Controls:**

Rexroth INDRA Motion MTX

Heidenhain iTNC 530

Siemens 840D

## Options

Linear drives in X- and Y-axis

Motor spindles up to 42,000 rpm

Motor spindle power up to 34/60 kW

Additional tool magazines with up to 200 pcs

Pick-up stations for oversized tools or angle drilling and milling heads

CTS with pressure 20/40/70 bar

Micro lubrication system

Coolant cleaning units with different filter systems

Coolant temperature control

Coolant tank with volume capacity 450/900/2,000 l

Oil suction unit

Automatic doors

Integrated quick change pallet system

Clamping hydraulics or pneumatics

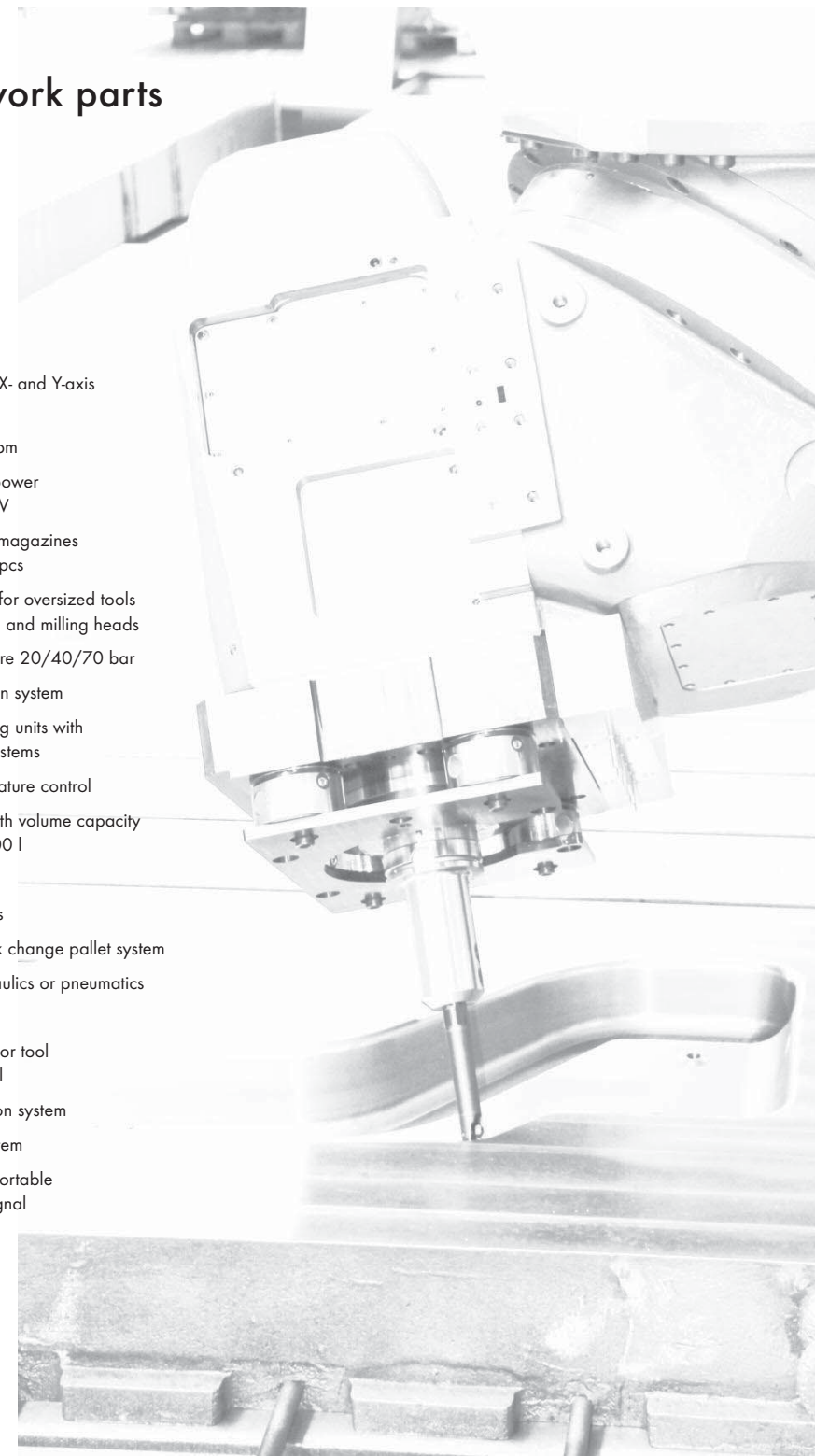
3-D probe

Tool measuring or tool breaking control

Tool identification system

Tool control system

Control panel portable or with radio signal





# The head makes the difference!



The machines of the gantry-series were designed for single-part and series production of large and heavy work parts for tool and mould making, mechanical engineering, and structural steel engineering. Main range of application is the machining of 3D-shapes in steel and aluminium, plates, welding, and steel construction.

The gantry construction guarantees good accessibility from all sides if space is limited. The application of either a 2-axis CNC motor spindle milling head or a universal milling head permits multilateral machining. A rich variety of spindle speed and power options for all materials is available.

matec-30 P and matec-40 P sind mit einem erhöhten Maschinenbett ausgestattet - available as matec-30 PB und matec-40 PB in floor-running version. matec-50 P is available in floor-running version.

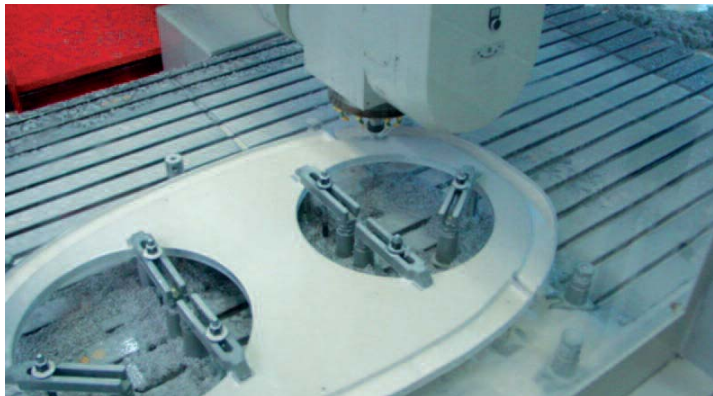
matec-30 PBU and matec-40 PBU are floor-running gantry machines with universal head.

matec-30 PP and matec-40 PP are equipped with pallet changer and a robot loading unit.





Free-surface machining

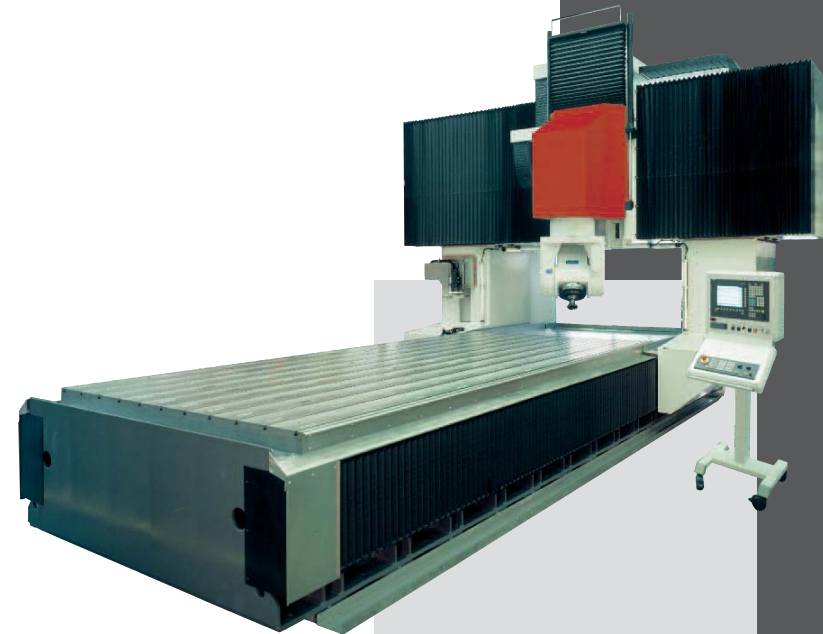
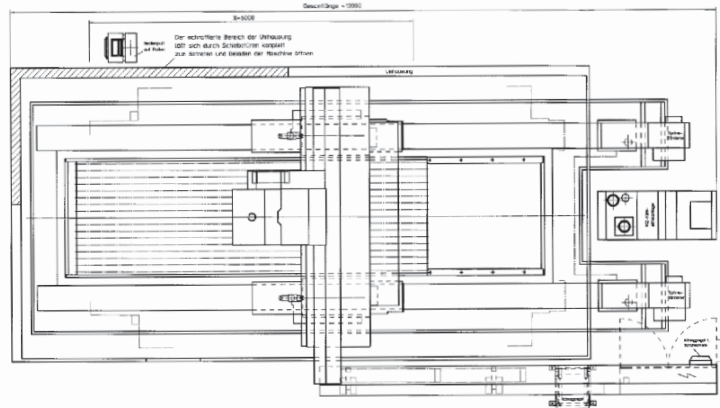


Machining of a work part

matec-30 P is a gantry machining center with 2-axis CNC swivel head for 3-D machining. The machine has been developed for tool and mold production and meets highest quality requirements. The well dimensioned gantry construction warrants minor deformation of the machine and therefore contour constancy and surface quality of the work part. Exhibiting stability and surpassing chipping performance, this machine concept can be applied in machine and welding industries.

### Special features

- 2-axis CNC swivel head for 5-axis simultaneous machining.
- C-axis (rotary axis)  $\pm 180^\circ$
- B-axis (swivel axis)  $\pm 95^\circ$
- Long Z-axis up to 1,500 mm
- Stable gantry bridge



### Specifications

Working area X-axis	3,000-12,000 mm
Working area Y-axis	2,500 (3,000/3,500/4,000) mm
Working area Z-axis	vertical and horizontal 1,100 (1,300/1,500/1,800) mm
Distance spindle nose/table	vert. 0-1,100 (1,300/1,500)/hor. 250-1,350/1,550/1,750) mm
Gantry clearance in Z-direction	900 (1,100/1,300/1,950) mm
Machine table width	1,600 (2,100/2,600) mm
T-slots	18 H8
Spindle	SK 40 (HSK-A 63)
Speed	9,000 (12,000/15,000/18,000/24,000/42,000) rpm
Power	16 (30) kW - 40% DC
Torque, max.	100 (191) Nm - 40% DC
Rapid feed	30 m/min
Drilling performance in steel	40 (60) mm
Tapping in steel	M22 (M30)
Milling capacity in steel	400 (500) cm <sup>3</sup> /min
Tool magazine	36 (48/72/96) pcs
Tool diameter, max.	70 (130) mm
Tool length, max.	340 mm
Tool weight	3 (10) kg
Tool change time	approx. 4.5 sec
Chip-to-chip time	(depending on Y-axis) approx. 9.8 sec

Subject to technical changes





The flush embedded machine table is perfect for heavy parts



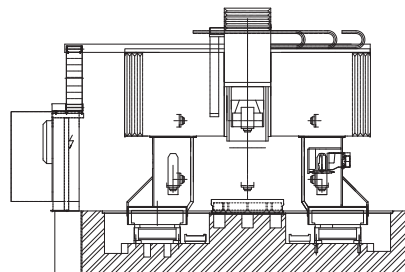
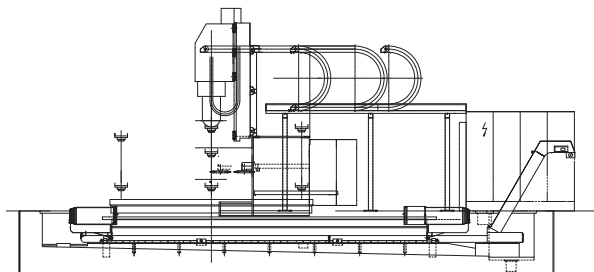
2-axis swivel head with 9,000 rpm

The gantry machining center matec-30 PB is a floor-running variant of the matec-30 P. The machine is equipped with a 2-axis swivel head with taper SK 40/ HSK-A 63. The high-performance motor spindle with 30 kW and constant speed 9,000-42,000 rpm provides for the optimal chipping of all materials in its class. The floor-running gantry and a flush embedded machine table ensure easy loading by lift trucks and cranes, and permit the machining of heavy parts. All sides of the mounting table are easily accessible.

The matec-30 PB is optionally available as matec-30 PBU, equipped with a universal milling head. This universal milling head increases the working area in Z by 250 mm and allows a 360° all-over machining of parts.

## Special features

- 2-axis CNC swivel head for 5-axis simultaneous machining
- C-axis (rotary axis)  $\pm 200^\circ$
- B-axis (swivel axis)  $\pm 95^\circ$
- Long Z-axis up to 1,500 mm



## Specifications

Working area X	3,000-50,000 mm
Working area Y	3,000-5,000 mm
Working area Z	1,300 (1,500/1,800) mm
Distance spindle nose/table	vert. 20-1,320 (1,520) /horizontal 270-1,570 (270-1,770) mm
Machine table width	1,500-4,000 mm
Gantry clearance height	1,295 mm
Gantry clearance width	2,400-4,000 mm
T-slots DIN 650	22 H8
Spindle	SK 40 (HSK-A 63)
Speed	9,000-42,000 rpm
Power, max.	30 kW
Torque, max.	191 Nm
Rapid feed	30 m/min
Drilling performance in steel	60 mm
Tapping in steel	M30
Milling capacity in steel	500 cm <sup>3</sup> /min
Tool magazine	36 (up to 200) pcs
Tool diameter, max.	70/135 mm
Tool length, max.	340 mm
Tool weight, max.	10 kg
Tool change time	approx. 2.5 sec
Chip-to-chip time	(depending on Y-axis) approx. 9.8 sec

Subject to technical changes



Universal milling head



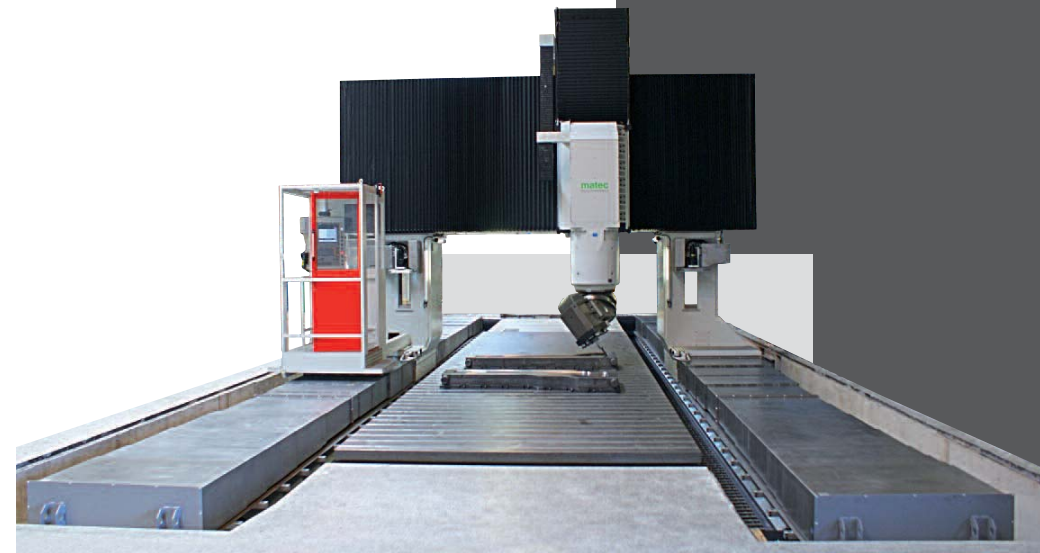
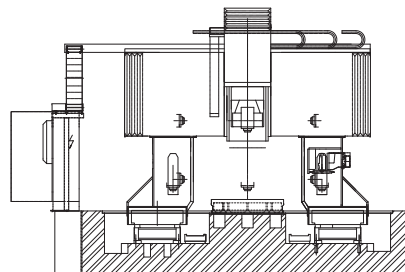
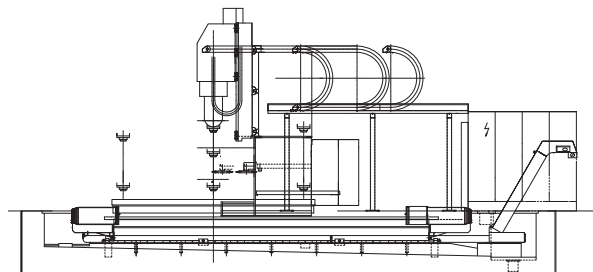
Traveling operator platform

The gantry machining center matec-30 PBU is floor-running. The machine is equipped with a universal CNC milling head with taper SK 40/ HSK-A 63. Compared to a 2-axis milling head the universal head increases the machining area in axis Z by 250 mm (based on same Z-axis specifications) and provides for 5-side machining (continuous). The high-performance motor spindle provides for the optimal chipping of all materials in its class.

The floor-running gantry and a flush embedded machine table ensure easy loading by lift trucks and cranes, and permit the machining of heavy parts. All sides of the mounting table are easily accessible.

## Special features

- Universal milling head continuously and simultaneously swiveling in both axes  $\pm 180^\circ$ . C-axis  $\pm 200^\circ$
- Swivel range  $45^\circ$  horizontal/vertical
- Option: hydraulic disconnection of axes via M-mode



## Specifications

Working area X	3,000-50,000 mm
Working area Y	3,000-5,000 mm
Working area Z	1,300 (1,500/1,800) mm
Distance spindle nose/table	vertical/horizontal 180-1,480 (180-1,980) mm
Machine table width	1,500-4,000 mm
Gantry clearance height	1,450 (1,950) mm
Gantry clearance width	2,400-4,000 mm
T-slots DIN 650	22 H8
Spindle	SK 40 (HSK-A 63)
Speed	9,000-42,000 rpm
Power, max.	30 kW
Torque, max.	191 Nm
Rapid feed	30 m/min
Drilling performance in steel	60 mm
Tapping in steel	M30
Milling capacity in steel	500 cm <sup>3</sup> /min
Tool magazine	36 (up to 200) pcs
Tool diameter, max.	70/135 mm
Tool length, max.	340 mm
Tool weight, max.	10 kg
Tool change time	approx. 2.5 sec
Chip-to-chip time	(depending on Y-axis) approx. 9.8 sec

Subject to technical changes



matec-40 P with 2-axis swivel head

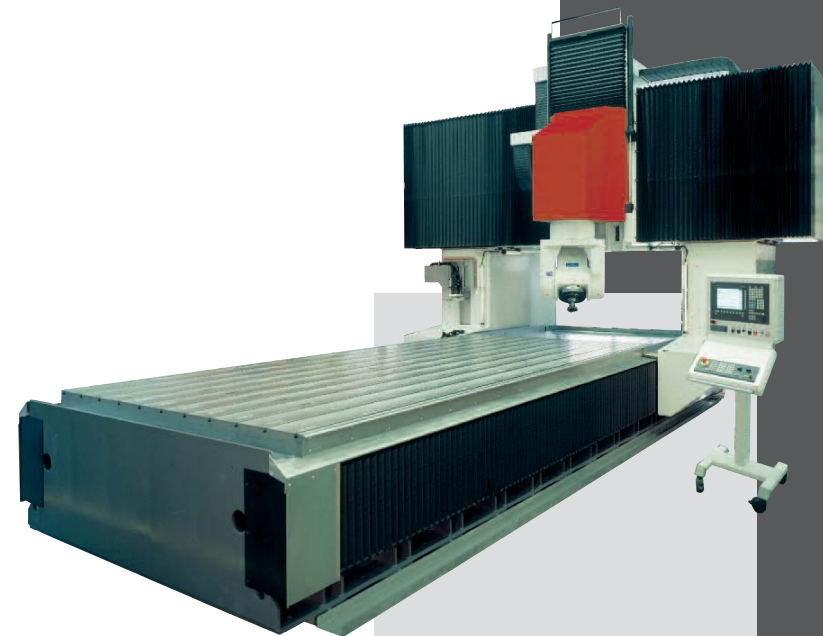


The matec-40 P with 2-axis swivel head is a gantry machining center with tool system SK 50 / HSK-A100. The machine has been developed for machining of extensive and voluminous work parts in mold, steel and machine industries.

The application range mainly covers the manufacturing of 3-D forms made of synthetic materials, non-steel metals and steel as well as machining of welding parts and plate-formed work parts. The high-performance motor spindle with 33 kW and constant speed 8,000 rpm provides for the optimal chipping of all materials in its class.

## Special features

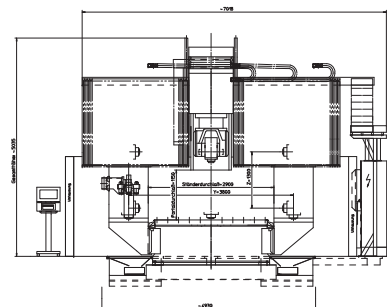
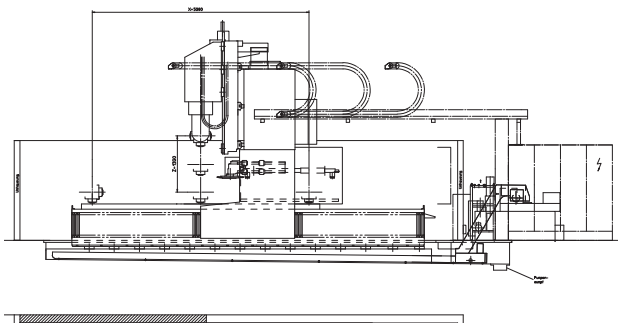
- 2-axis CNC swivel head for 5-axis simultaneous machining  
C-axis (rotary axis)  $\pm 200^\circ$
- Option: 2-axis CNC swivel head with continuous rotation in the C-axis



## Specifications

Working area X-axis	3,000-12,000 mm
Working area Y-axis	2,500 (3,000/3,500/4,000) mm
Working area Z-axis	1,300 (1,500/1,800) mm
Distance spindle nose/table	vert. 20-1,320 (1,520)/hor. 270-1,570 (270-1,770) mm
Machine table width	1,600 (2,100/2,600/3,100) mm
Gantry clearance height	1,150 (1,350/1,950) mm
Gantry clearance width	1,900 (2,400/2,900/3,400) mm
T-slots DIN 650	18 H8
Spindle	SK 50 (HSK-A 100)
Speed	8,000 rpm
Power	25/40/100% DC 50/45/31 kW
Torque, max.	25/40/100% DC 530/480/330 Nm
Rapid feed	30 m/min
Drilling performance in steel	60 mm
Tapping in steel	M30
Milling capacity in steel	600 cm <sup>3</sup> /min
Tool magazine	40 (80 up to 200) pcs
Tool diameter, max.	104/[200]
Tool length, max.	460 mm
Tool weight	25 kg
Tool change time	approx. 4.5 sec
Chip-to-chip time	(depending on Y-axis) approx. 9.8 sec

Subject to technical changes







Floor-running gantry machine in row



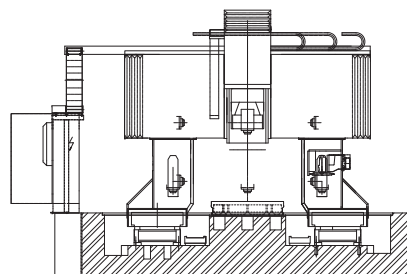
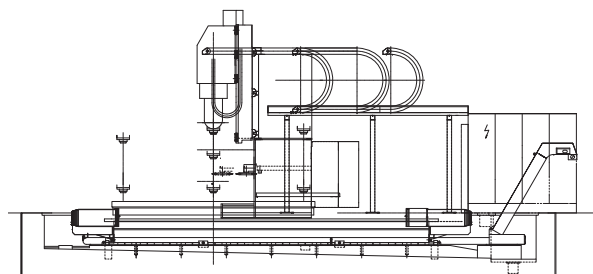
Optimal chip-flow

The gantry machining center matec-40 PB is a floor-running variant of the matec-40 P. The machine is equipped with a 2-axis swivel head with taper SK 50/ HSK-A 100. The high-performance motor spindle with 33 kW and constant speed 8,000 rpm provides for the optimal chipping of all materials in its class. The floor-running gantry and a flush embedded machine table ensure easy loading by lift trucks and cranes, and permit the machining of heavy parts. All sides of the mounting table are easily accessible.

The matec-40 PB is optionally available as matec-40 PBU, equipped with a universal milling head. This universal milling head increases the working area in Z by 250 mm and allows a 360° all-over machining of parts.

## Special features

- 2-axis CNC swivel head for 5-axis simultaneous machining
- C-axis (rotary axis)  $\pm 200^\circ$
- B-axis (swivel axis)  $\pm 95^\circ$
- Long Z-axis up to 1,500 mm



## Specifications

Working area X	3,000-50,000 mm
Working area Y	3,000-5,000 mm
Working area Z	1,300 (1,500/1,800) mm
Distance spindle nose/table	vert. 20-1,320 (1,520) / hor. 270-1,570 (270-1,770) mm
Machine table width	1,500-4,000 mm
Gantry clearance height	1,295 mm
Gantry clearance width	2,400-4,000 mm
T-slots DIN 650	22 H8
Spindle	SK 50 (HSK-A 100)
Speed	8,000-15,000 rpm
Power, max.	50/90 kW
Torque, max.	530/296 Nm
Rapid feed	30 m/min
Drilling performance in steel	80 mm
Tapping in steel	M30
Milling capacity in steel	1,000 cm <sup>3</sup> /min
Tool magazine	40 (up to 200) pcs
Tool diameter, max.	104/(200) mm
Tool length, max.	460 mm
Tool weight, max.	25 kg
Tool change time	approx. 4.5 sec
Chip-to-chip time	(depending on Y-axis) approx. 9.8 sec

Subject to technical changes





Universal milling head with taper HSK 100



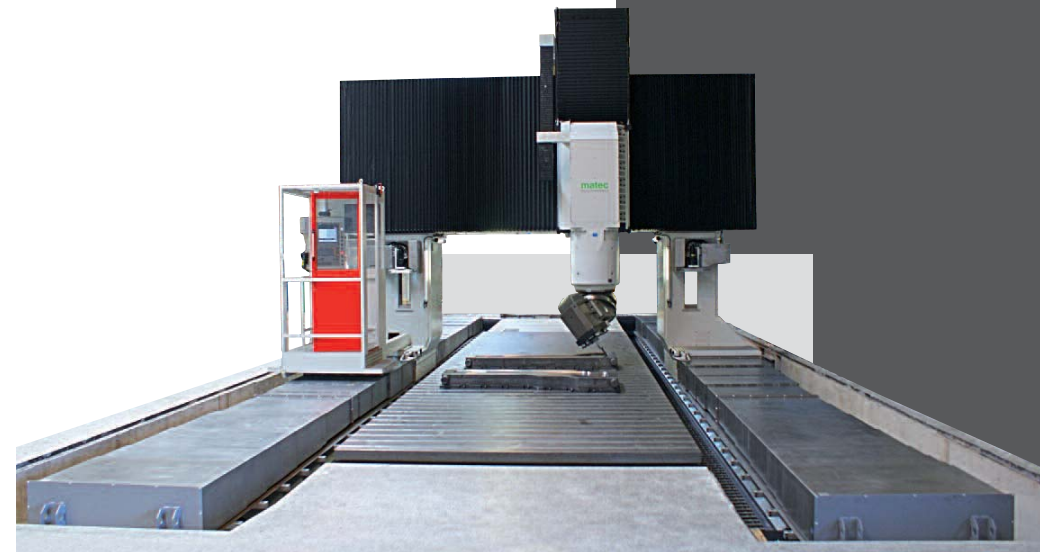
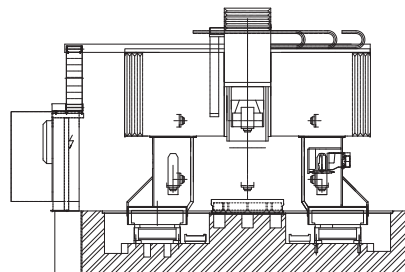
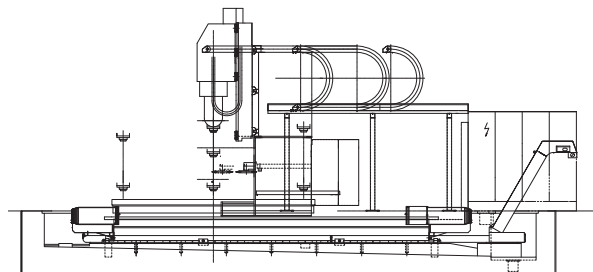
Stability and easy access

The gantry machining center matec-40 PBU is floor-running. The machine is equipped with a universal CNC milling head with taper SK 50/ HSK-A 100. Compared to a 2-axis milling head the universal head increases the machining area in axis Z by 250 mm (based on same Z-axis specifications) and provides for 5-side machining (continuous). The high-performance motor spindle provides for the optimal chipping of all materials in its class.

The floor-running gantry and a flush embedded machine table ensure easy loading by lift trucks and cranes, and permit the machining of heavy parts. All sides of the mounting table are easily accessible.

## Special features

- Universal milling head continuously and simultaneously swiveling in both axes  $\pm 180^\circ$ . C-axis  $\pm 200^\circ$
- Swivel range  $45^\circ$  horizontal/vertical
- Option: hydraulic disconnection of axes via M-mode



## Specifications

Working area X	3,000-50,000 mm
Working area Y	3,000-5,000 mm
Working area Z	1,300 (1,500/1,800) mm
Distance spindle nose/table	vertical/horizontal 180-1,480 (180-1,980) mm
Machine table width	1,500-4,000 mm
Gantry clearance height	1,450 (1,950) mm
Gantry clearance width	2,400-4,000 mm
T-slots DIN 650	22 H8
Spindle	SK 50 (HSK-A 100)
Speed	8,000-15,000 rpm
Power, max.	50/90 kW
Torque, max.	530/296 Nm
Rapid feed	30 m/min
Drilling performance in steel	80 mm
Tapping in steel	M30
Milling capacity in steel	1,000 cm <sup>3</sup> /min
Tool magazine	40 (up to 200) pcs
Tool diameter, max.	104/[200] mm
Tool length, max.	460 mm
Tool weight, max.	25 kg
Tool change time	approx. 4.5 sec
Chip-to-chip time	(depending on Y-axis) approx. 9.8 sec

Subject to technical changes



matec-50 P with 2-axis-CNC-motor spindle milling head and traveling operator platform



Tool magazine HSK-A 100 with 200 tools

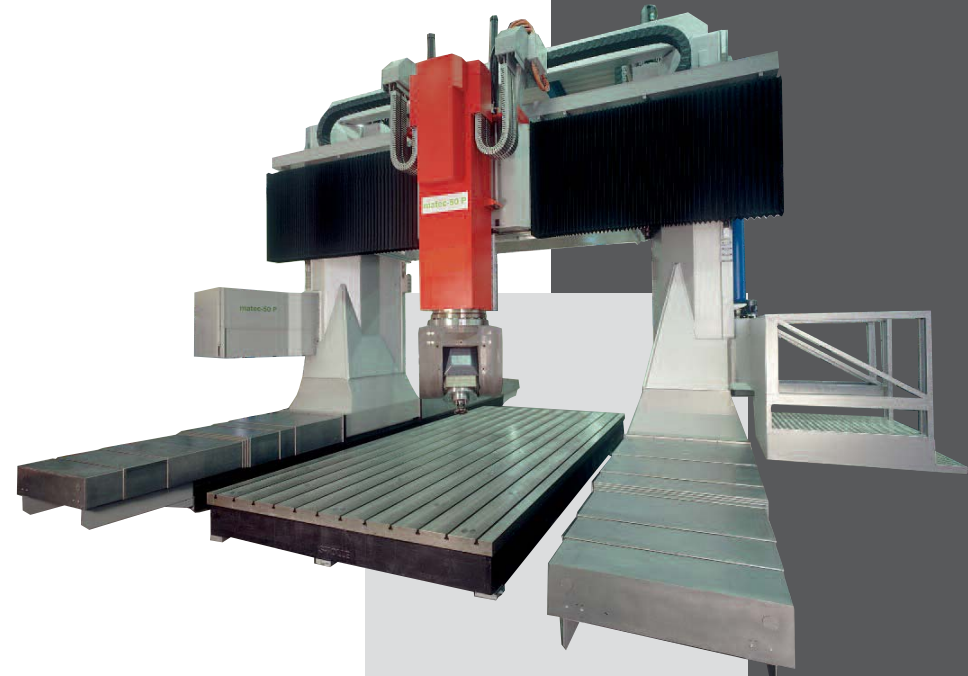
matec-50 P with 2-axis swivel head is a gantry machining center with tool system SK 50 / HSK-A 100. The machine has been developed for machining of extensive and voluminous work parts in mold, steel and machine industries.

The application range mainly covers the manufacturing of 3-D forms made of synthetic materials, non-steel metals and steel as well as machining of welding parts and plate-formed work parts.

The high-performance motor spindle with 60 kW and constant speed 9,000 rpm provides for the optimal chipping of all materials in its class.

## Special features

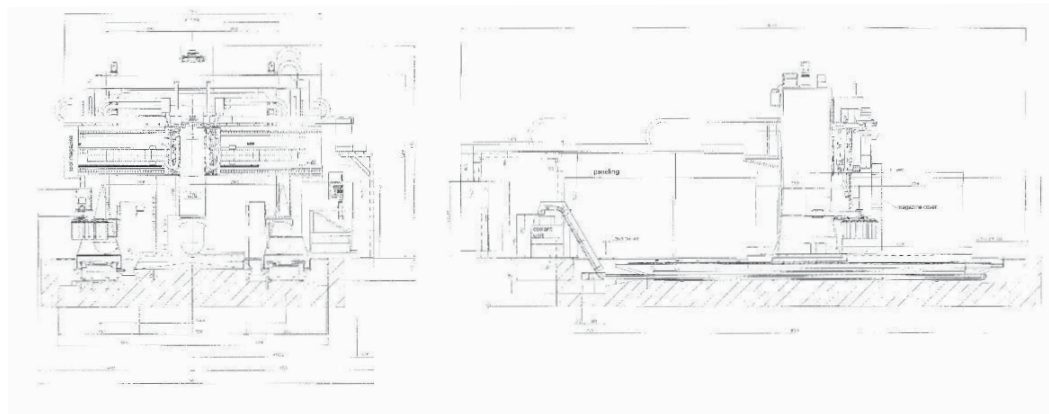
- 2-axis CNC swivel head for 5-axis simultaneous machining.
- C-axis (rotary axis)  $\pm 200^\circ$
- B-axis (swivel axis)  $\pm 120^\circ$
- Long Z-axis up to 1,500 mm
- Gantry bridge adjustment for optimal chipping process



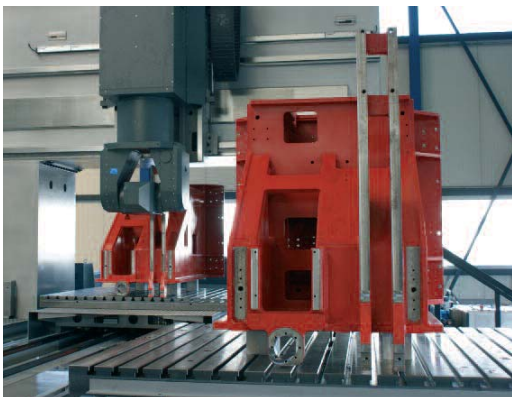
## Specifications

Working area X-axis	4,000-50,000 mm
Working area Y-axis	5,000 mm
Working area Z-axis	1,100 (1,500/1,800) mm
Working area W-axis	gantry bridge adjustment 800 (1,100) mm
Gantry clearance height	2,270 (3,070) mm
Gantry clearance width	4,000 mm
Machine table width	3,000 mm
T-slots DIN 650	22 H10
Spindle	SK 50 (HSK-A 100)
Speed	9,000 rpm
Power	60 kW - 40% DC
Torque, max.	575 Nm - 40% DC
Rapid feed	30 m/min
Drilling performance in steel	80 mm
Tapping in steel	M36
Milling capacity in steel	1,000 cm <sup>3</sup> /min
Tool magazine	18 (up to 200) pcs
Tool diameter, max.	150 (250) mm
Tool length, max.	520 mm
Tool weight	25 kg
Tool change time	approx. 10 sec
Chip-to-chip time	(depending on Y-axis) approx. 20 sec

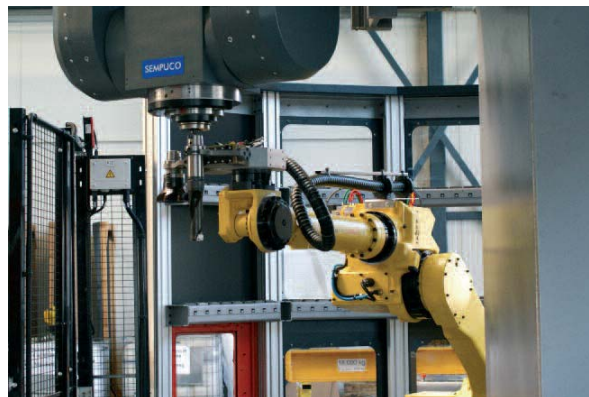
Subject to technical changes







The newly developed pallet changer allows the machining of work-parts up to 2,000 x 2,000 mm.



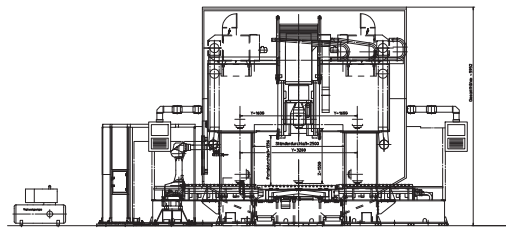
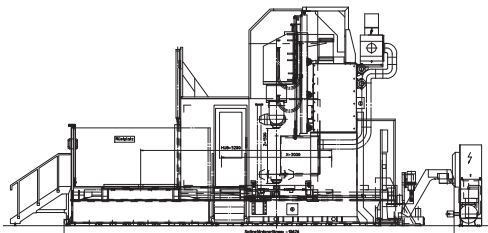
A robot provides for a safe change of tools from the newly developed tool magazine

The gantry machines matec-30 PP and matec-40 PP fulfill highest quality demands. The well-dimensioned gantry construction warrants minor deformation of the machine and therefore highest contour constancy and surface quality of the work part. The gantry construction guarantees good accessibility from all sides if space is limited. The application of either a swivel head ( $\pm 95^\circ$ ) or a 2-axis CNC motor spindle milling head permits multilateral machining.

Breaking news is the pallet changer, which functions as a machine table. The pallet changer is moving in the X-axis.

## Special features

- 2-axis swivel head CNC-controlled for 5-axis simultaneous machining.  
C-axis (turning axis)  $\pm 180^\circ$   
B-axis (tilting axis)  $\pm 95^\circ$
- Option: 2-axis CNC swivel head with continuous rotation in the C-axis
- Long Z-axis 1,500 mm
- Stable gantry bridge
- New tool magazine with 250 tool pockets



## Specifications

Working area X	3,000 mm
Working area Y	3,200 mm
Working area Z	1,300/1,500 mm
Distance spindle nose/table	vertical 20 - 1,320 mm
Gantry clearance in Z-direction	30 PP 1,150 mm / 40 PP 900 mm
Pallet size	2,000 x 2,000 mm
T-slots	18/22 H8
Spindle 30 PP	SK 40 (HSK-A 63)
Spindle 40 PP	SK 50 (HSK-A 100)
Speed 30 PP	9,000 (12,000/15,000/18,000/24,000/42,000) rpm
Speed 40 PP	8,000 rpm
Power	30 PP 16 (30) kW / 40 PP 26 kW - 40% DC
Torque, max.	30 PP 100 (191) Nm / 40 PP 340 Nm - 40% DC
Rapid feed	30 m/min
Drilling performance in steel	30 PP 40 (54) mm / 40 PP 60 mm
Tapping in steel	30 PP M22 (M30) / 40 PP M30
Milling capacity in steel	30 PP 400 (500) cm <sup>3</sup> /min / 40 PP 1,000 cm <sup>3</sup> /min
Tool magazine	30 PP 48 (2x48) pcs / 40 PP 40 (100/200) pcs
Tool diameter, max.	30 PP 70 (130) mm / 40 PP 104 (200) mm
Tool length, max.	30 PP 340 mm / 40 PP 460 mm
Tool weight	30 PP 3 (10) kg / 40 PP 25 kg
Tool change time	approx. 4.5 sec
Chip-to-chip-time	(depending on Y-axis) approx. 9.8 sec

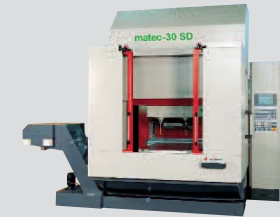
Subject to technical changes

## Swivel table series

Highly productive machines for series production

matec-30 SH  
matec-30 S  
matec-30 SG

matec-30 SD  
matec-30 SHV



## Traveling column series

Highly flexible machines for single and series production



matec-30 L  
matec-30 L duo  
matec-30 LD  
matec-40 L  
matec-50 L

matec-30 HV  
matec-30 HVK  
matec-30 HVC  
matec-30 HVT  
matec-30 HVTH

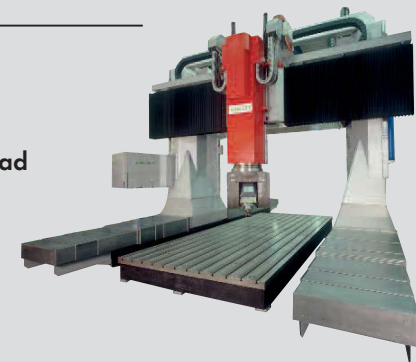
matec-30 HV duo  
matec-30 HVU  
matec-40 HV  
matec-50 HV  
matec-50 HVU

## Gantry series

The specialists for the machining of voluminous and heavy work parts

matec-30 P with motor spindle vertical  
matec-30 P with 2-axis swivel head  
matec-30 PB with 2-axis swivel head  
matec-30 PBU with universal milling head  
matec-40 P with 2-axis swivel head

matec-40 PB with 2-axis swivel head  
matec-40 PBU with universal milling head  
matec-50 P with 2-axis swivel head  
matec-30 PP with pallet changer  
matec-40 PP with pallet changer



Based on our standard machine series we develop custom-made machines and complete solutions



We are in the Center



### **matec Maschinenbau GmbH**

**Wilhelm-Maier-Str. 3 · D-73257 Köngen**

Phone +49-(0)7024/983 85-0 · Fax +49-(0)7024/983 85-30

E-Mail: [sales@matec.de](mailto:sales@matec.de) · internet: [www.matec.de](http://www.matec.de)

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