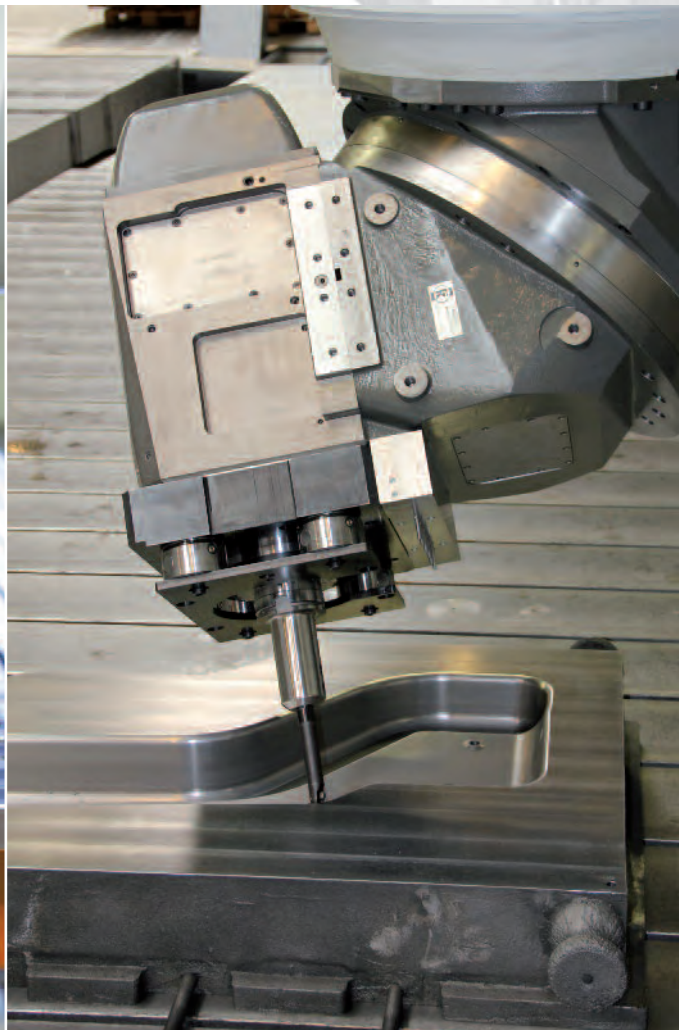


# MATEC

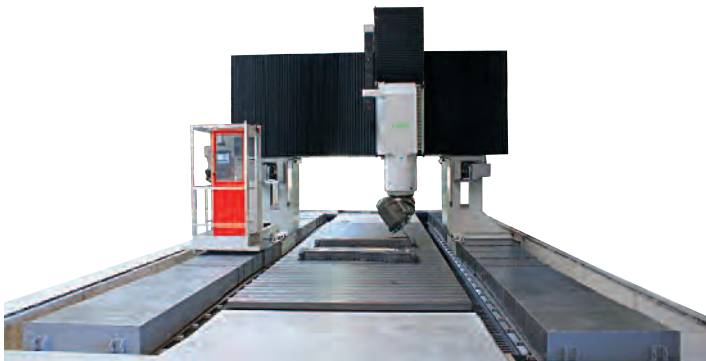
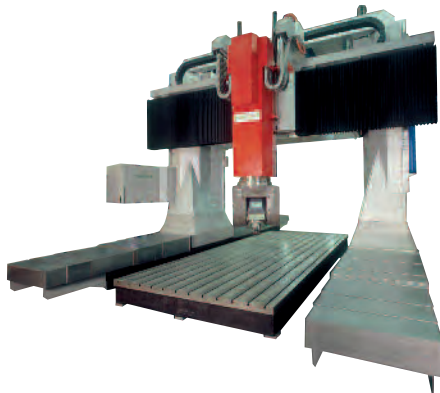
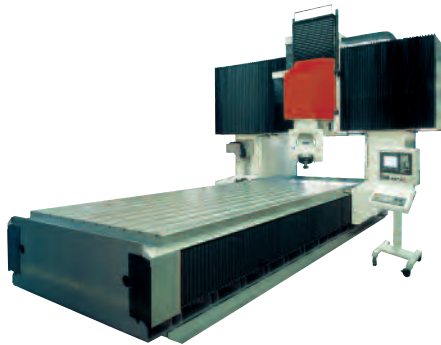
GmbH



Gantry Series

# Gantry Series

## Specialists for voluminous



### 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 traveling with 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:

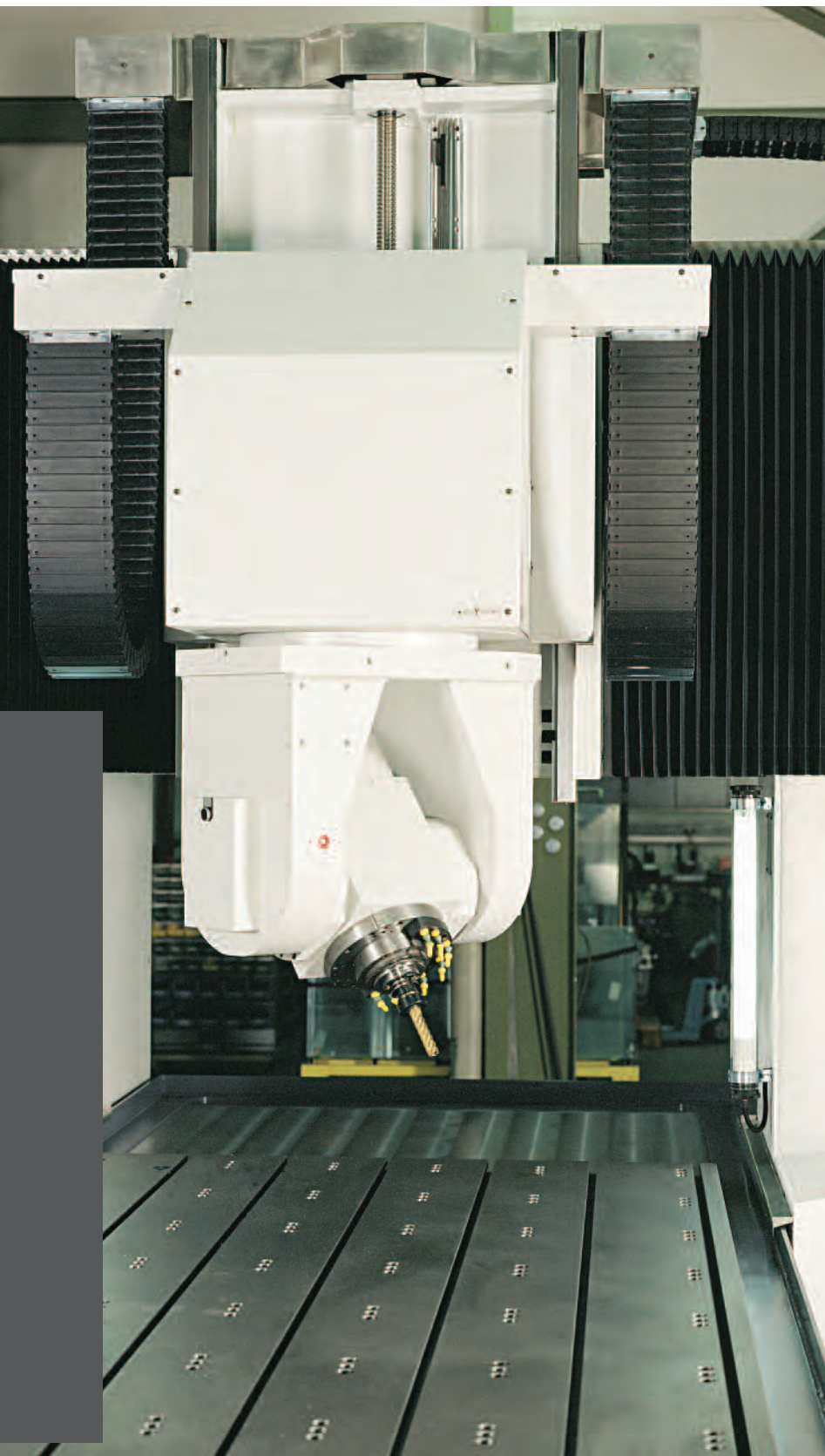
Rexroth INDRA Motion MTX

Heidenhain TNC 640

Siemens 840D Solution Line



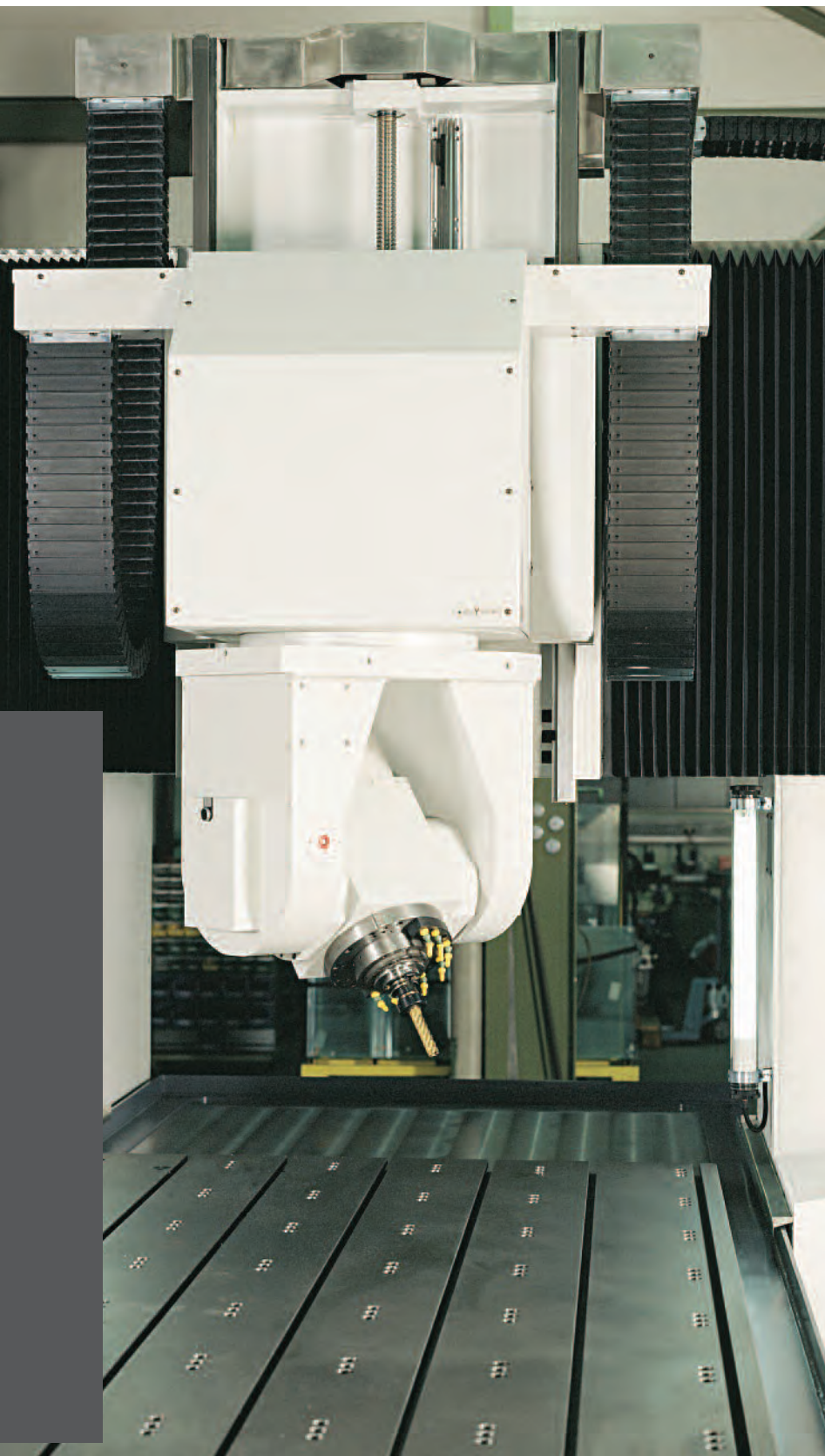
## The head



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.

# The head



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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.

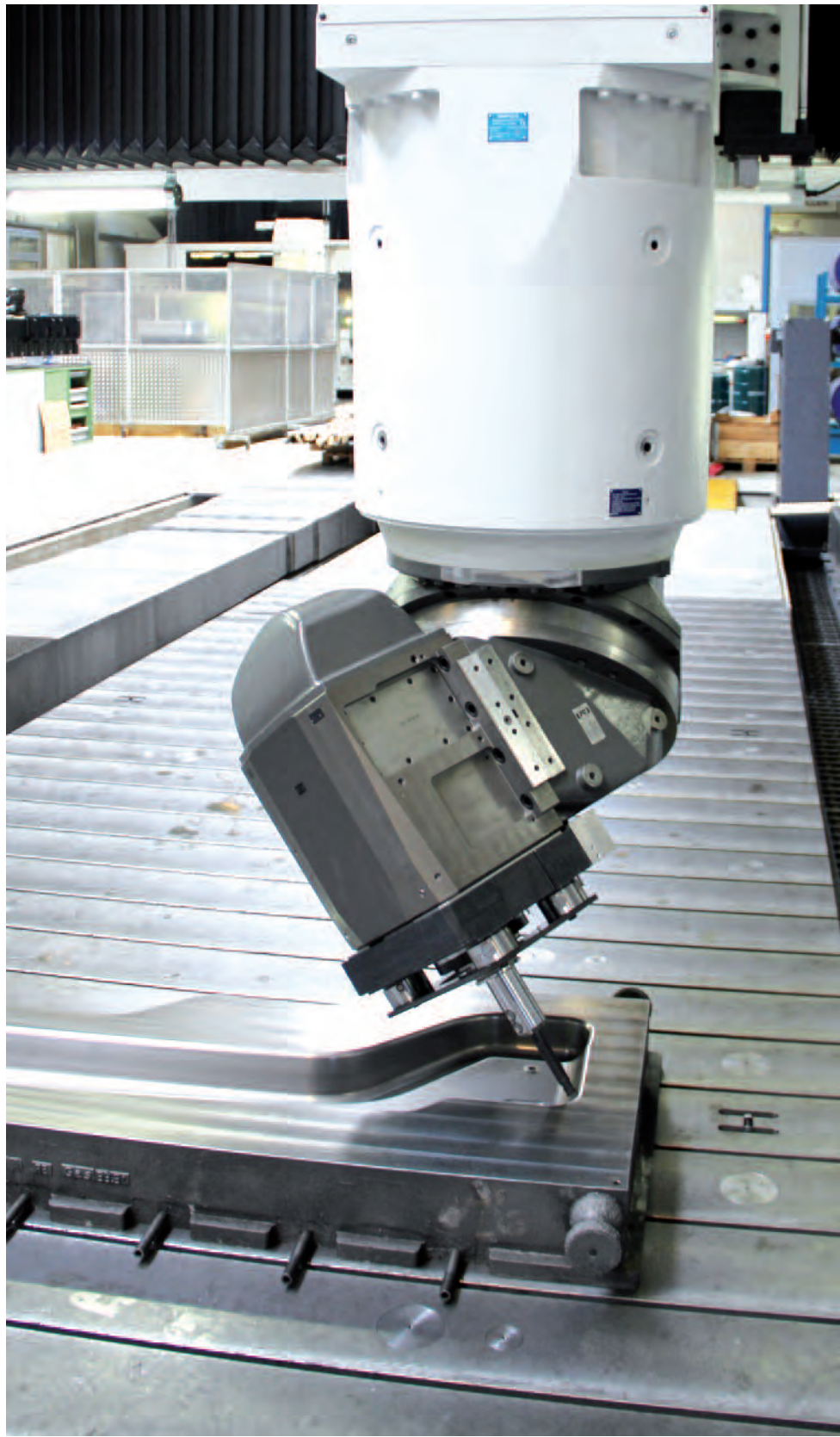


# makes the difference!

matec-30 P and matec-40 P are designed with an elevated machine table - both machines are also available in floor-running versions as matec-30 PB und matec-40 PB. matec-50 P is only available with floor-running machine table.

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 for cutting tools.



# Free-surface machining with 2-axis swivel head



Free-surface machining

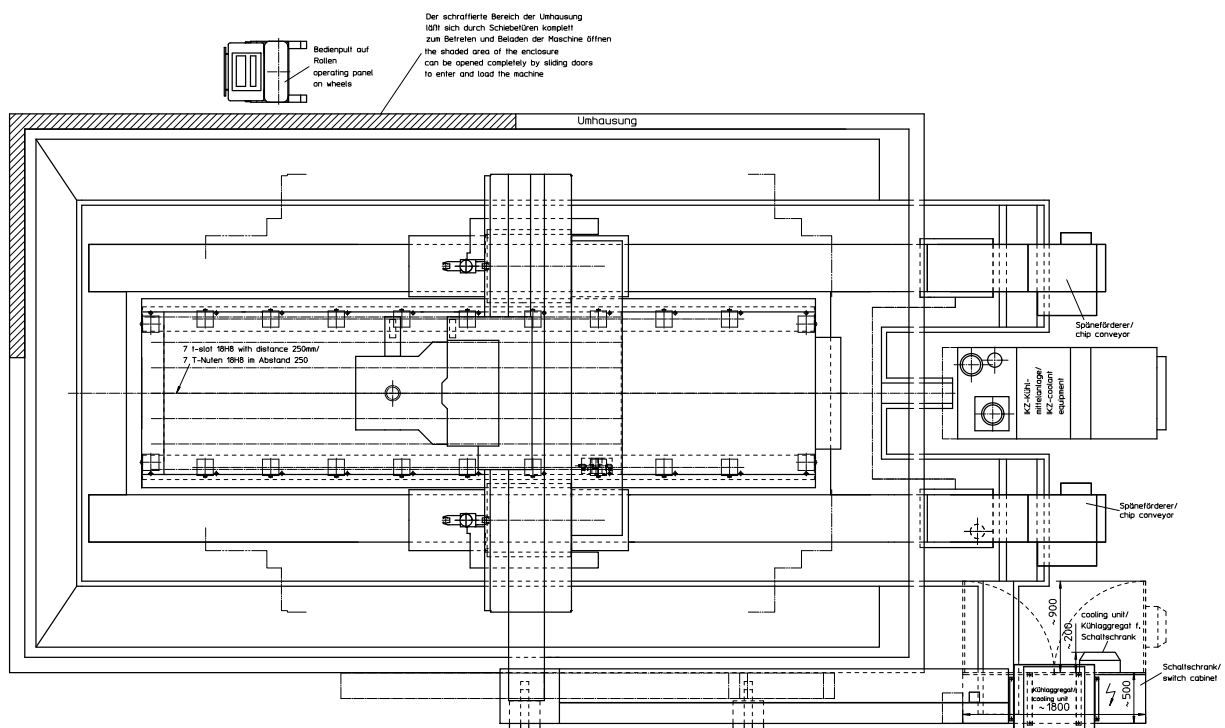


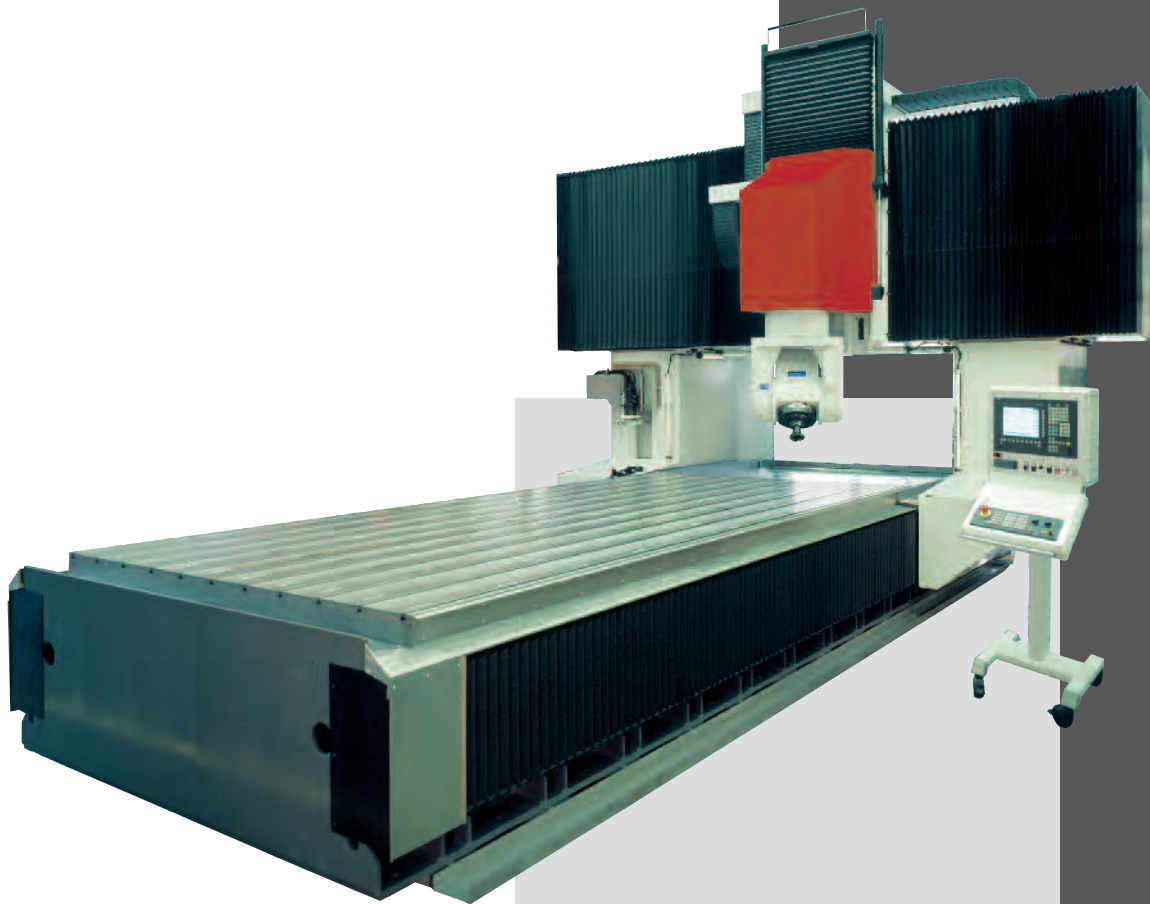
Machining of a work part

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)  $\pm 200^\circ$   
B-axis (swivel axis)  $\pm 95^\circ$
- Long Z-axis up to 1,800 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 (2,100/2,600/3,100) 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



## Floor-running for extra stability and better accessibility



The flush embedded machine table is perfect for heavy parts



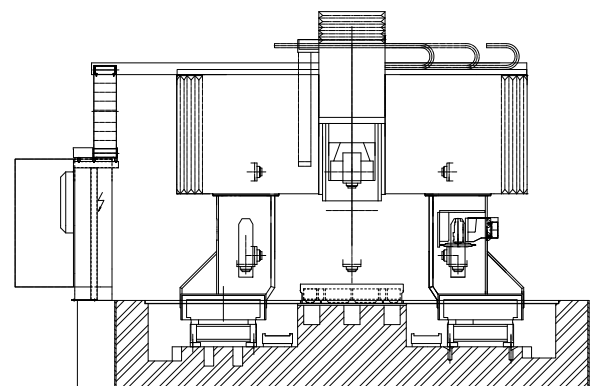
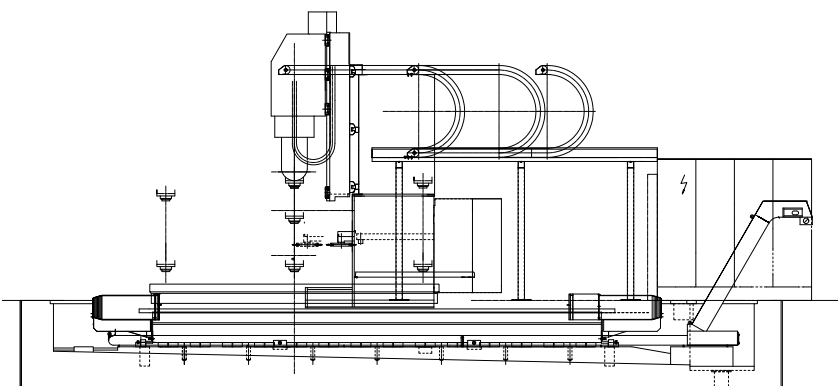
2-axis swivel head with 9,000 rpm

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.

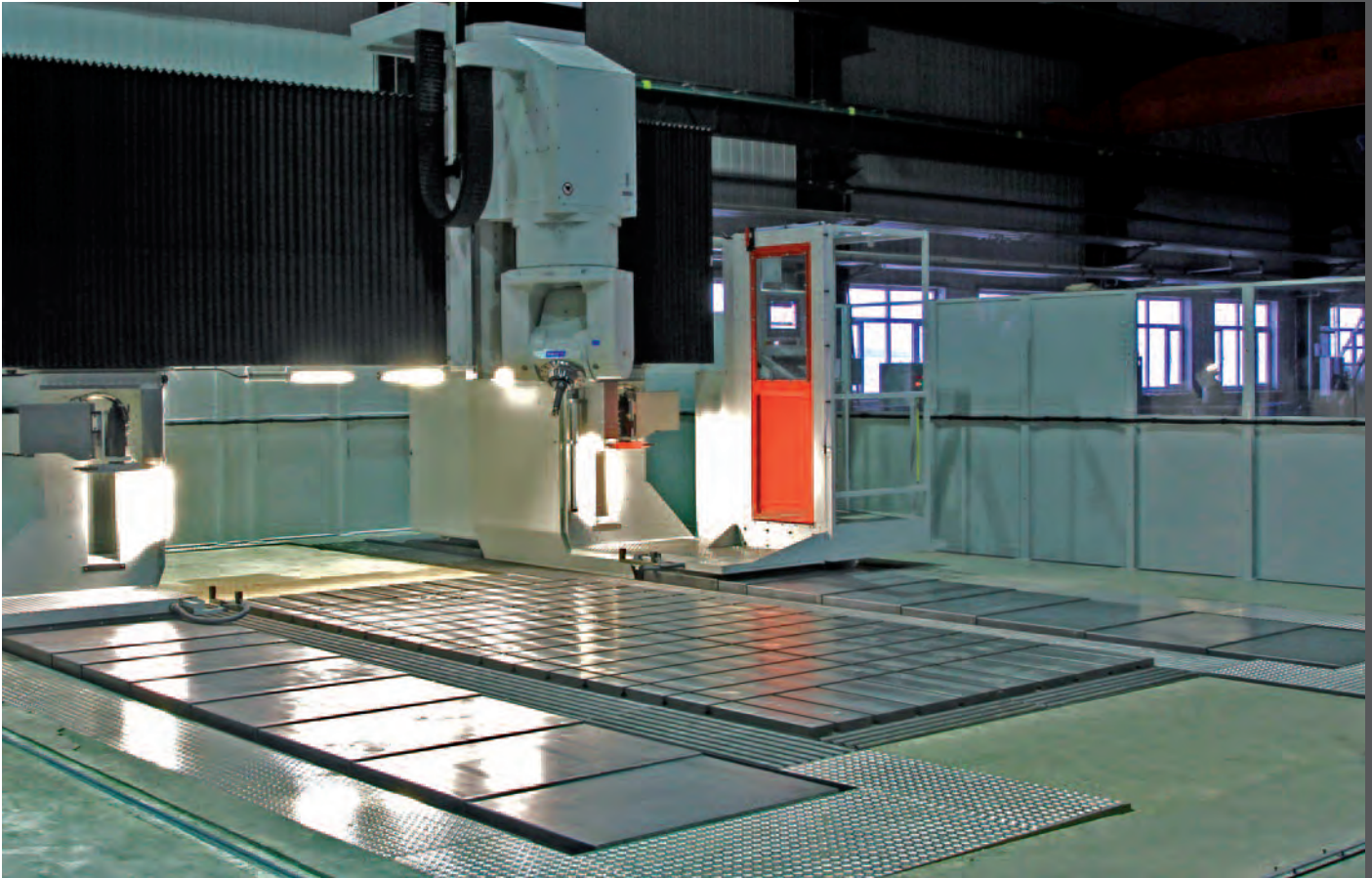
The matec-30 PB is optionally available as matec-30 PBU, equipped with a universal milling head. This universal milling head increases the working area in Z by 250 mm and allows a 360° all-over machining of parts.

### 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 1,800 mm







## Specifications

Working area X	3,000-50,000 mm
Working area Y	3,800-5,800 mm
Working area Z	1,500/1,800 mm
Machine table width	2,000-4,000 mm
Gantry clearance height	1,500/1,800 mm
Gantry clearance width	2,900-4,900 mm
T-slots DIN 650	22 H8
Spindle	SK 40 (HSK-A 63)
Speed	9,000-42,000 rpm
Power, max.	30 (85) 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

## The head makes the difference



Universal milling head



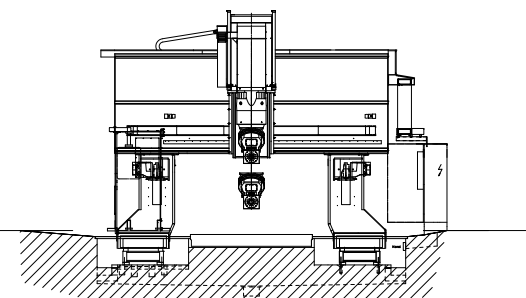
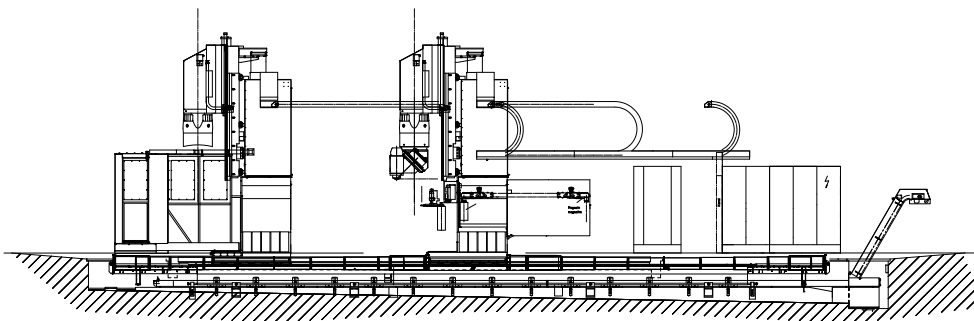
Traveling operator platform

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

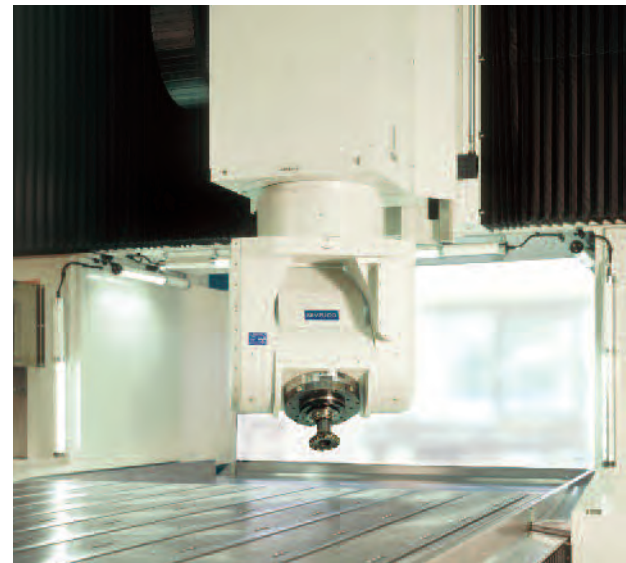
Working area X	3,000-50,000 mm
Working area Y	3,800-5,800 mm
Working area Z	1,500/1,800 mm
Machine table width	2,000-4,000 mm
Gantry clearance height	1,650 (1,950) mm
Gantry clearance width	2,900-5,900 mm
T-slots DIN 650	22 H8
Spindle	SK 40 (HSK-A 63)
Speed	9,000-42,000 rpm
Power, max.	30 kW
Torque, 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

## 5-axis simultaneous machining with 2-axis swivel head



matec-40 P with 2-axis swivel head

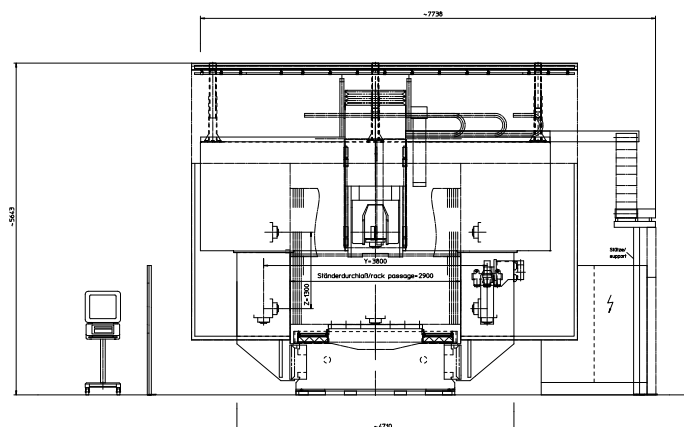
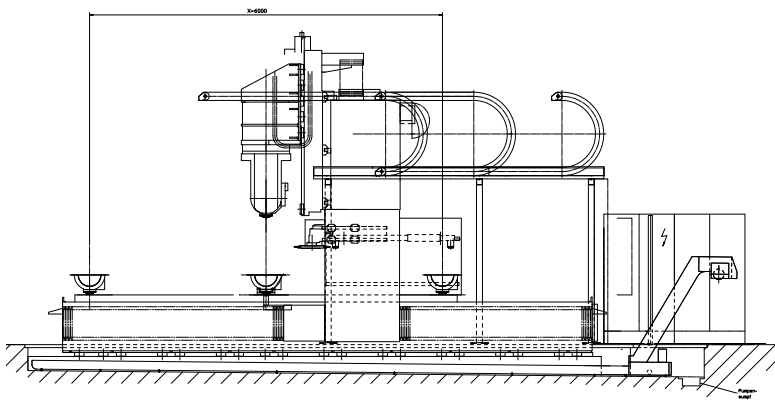


The matec-40 P with 2-axis swivel head is a gantry machining center with tool system SK 50 / HSK-A100. The machine has been developed for machining of extensive and voluminous work parts in mold, steel and machine industries.

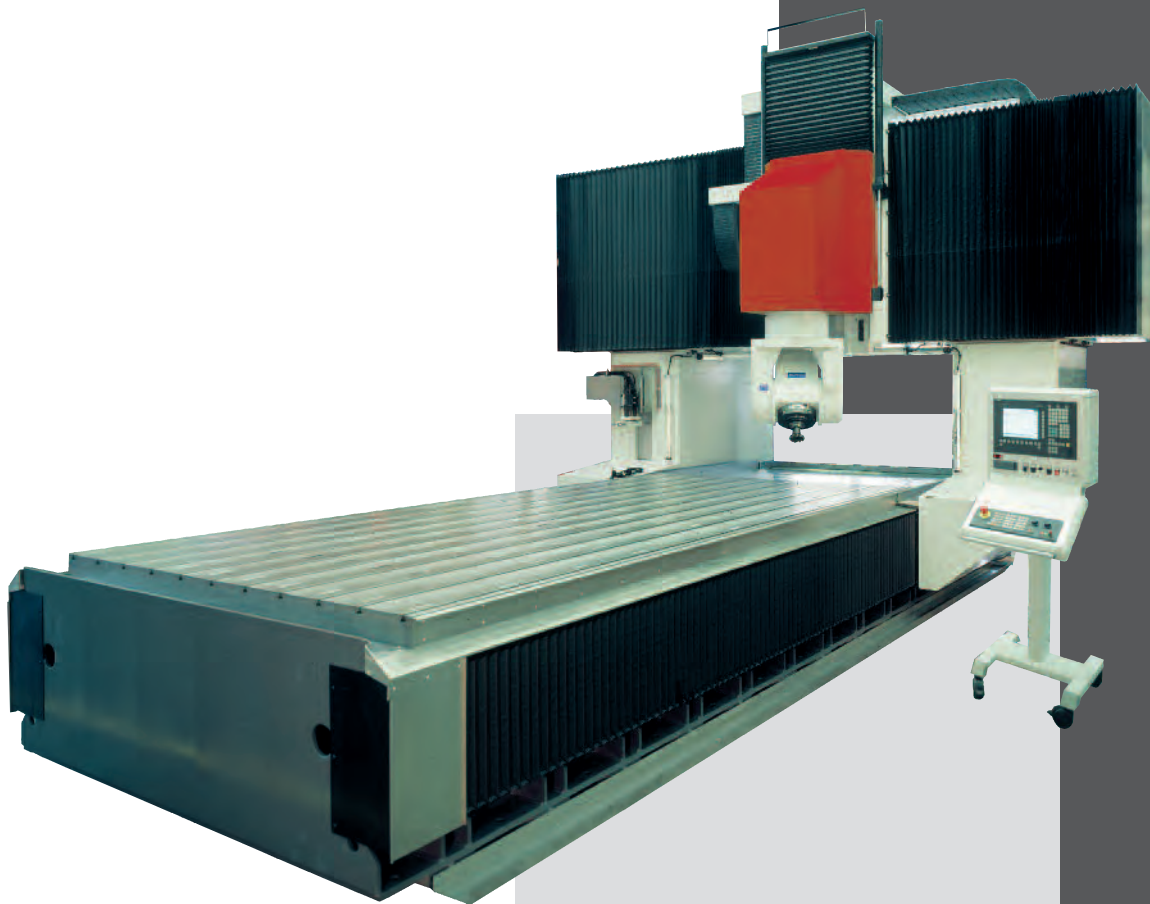
The application range mainly covers the manufacturing of 3-D forms made of synthetic materials, non-steel metals and steel as well as machining of welding parts and plate-formed work parts. The high-performance motor spindle with 33 kW and constant speed 8,000 rpm provides for the optimal chipping of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

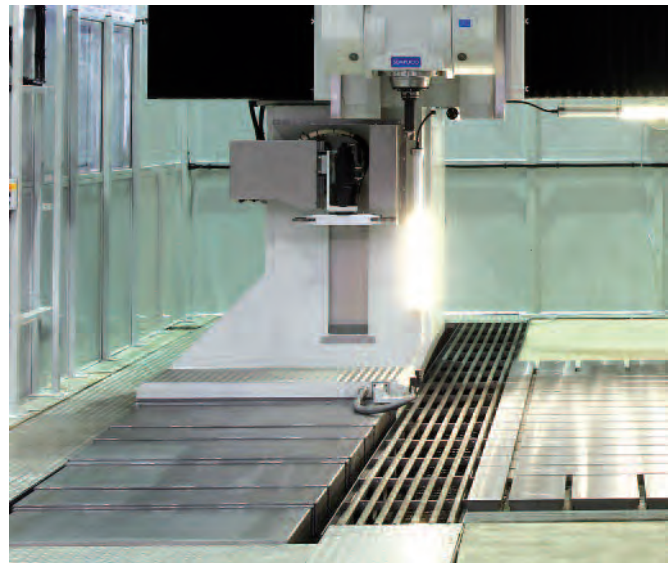
Working area X-axis	3,000-12,000 mm
Working area Y-axis	2,500 (3,000/3,500/4,000) mm
Working area Z-axis	1,300 (1,500/1,800) mm
Distance spindle nose/table	vert. 20-1,320 (1,520)/hor. 270-1,570 (270-1,770) mm
Machine table width	1,600 (2,100/2,600/3,100) mm
Gantry clearance height	1,150 (1,350/1,950) 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) mm
Tool length, max.	460 mm
Tool weight	20 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 for extra stability and heavy-duty milling



Floor-running gantry machine in row



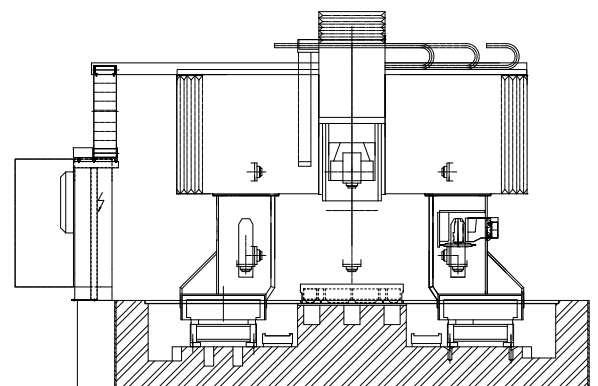
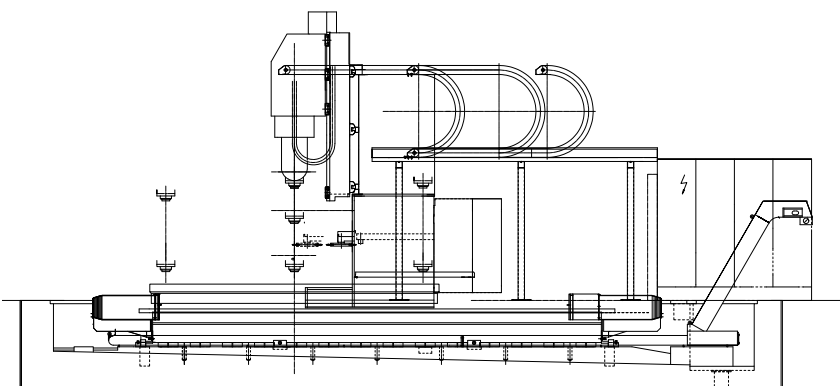
Optimal chip-flow

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 1,800 mm





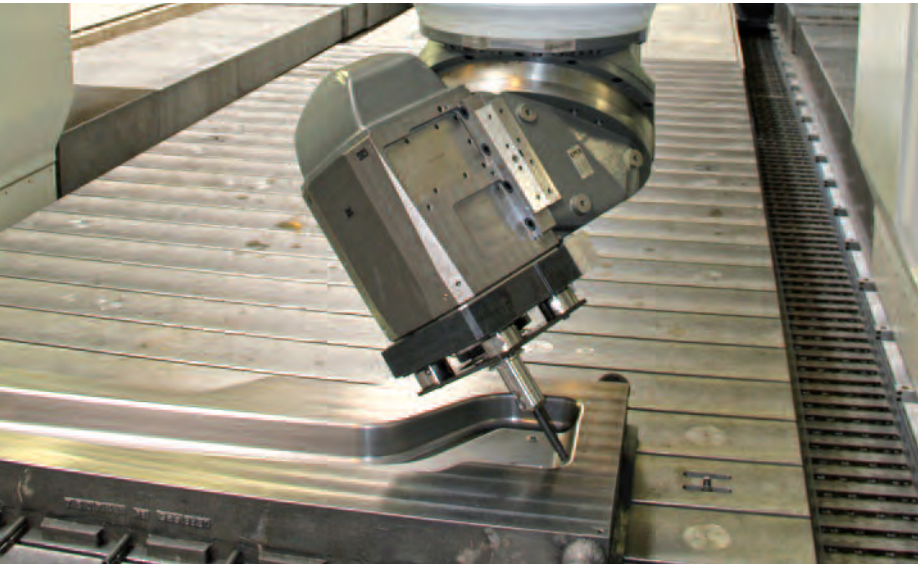


## Specifications

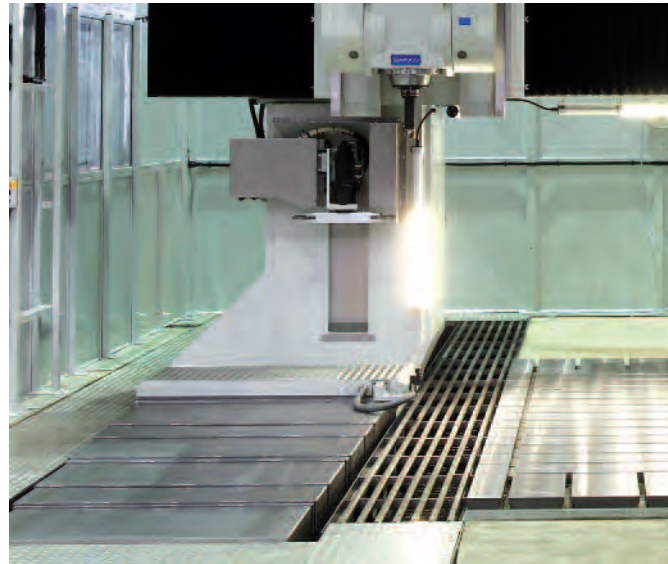
Working area X	3,000-50,000 mm
Working area Y	3,800-5,800 mm
Working area Z	1,500/1,800 mm
Machine table width	2,000-4,000 mm
Gantry clearance height	1500/1800 mm
Gantry clearance width	2,900-4,900 mm
T-slots DIN 650	22 H8
Spindle	SK 50 (HSK-A 100)
Speed	8,000-15,000 rpm
Power, max.	50/90 kW
Torque, 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.	20 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 with universal milling head for more flexibility



Universal milling head with taper HSK 100



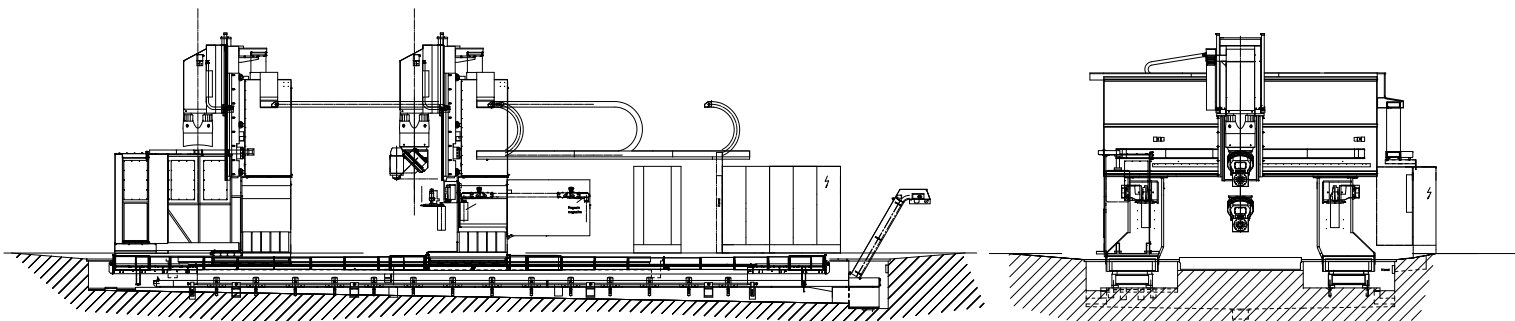
Stability and easy access

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

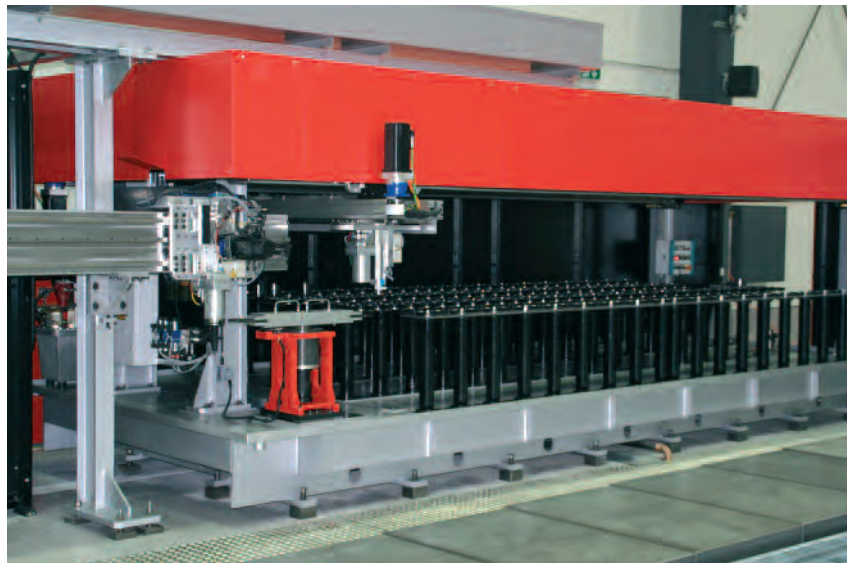
Working area X	3,000-50,000 mm
Working area Y	3,800-5,800 mm
Working area Z	1,500/1,800 mm
Machine table width	2,000-4,000 mm
Gantry clearance height	1,650 (1,950) mm
Gantry clearance width	2,900-5,900 mm
T-slots DIN 650	22 H8
Spindle	SK 50 (HSK-A 100)
Speed	8,000-15,000 rpm
Power, max.	50/90 kW
Torque, 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.	20 kg
Tool change time	approx. 4.5 sec
Chip-to-chip time	(depending on Y-axis) approx. 9.8 sec

Subject to technical changes

## Top level machining with taper SK 50



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



Tool magazine HSK-A 100 with 200 tools

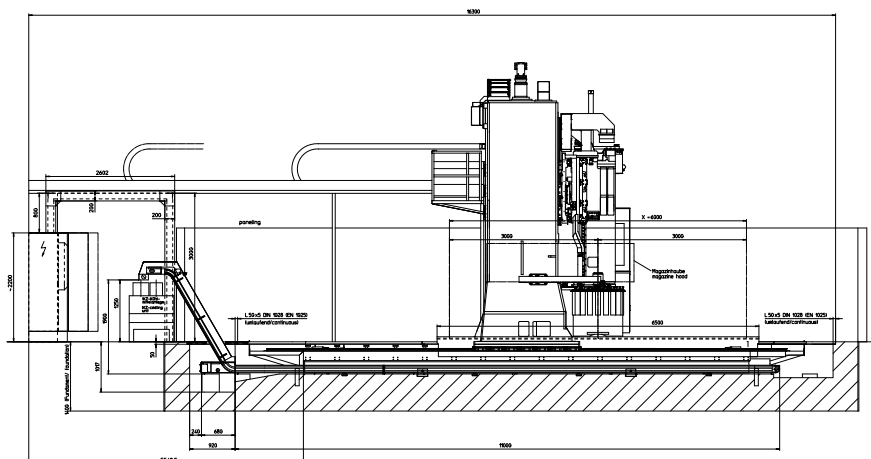
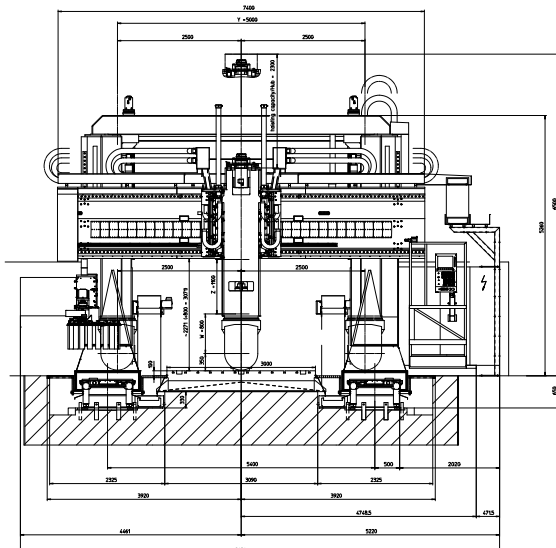
matec-50 P with 2-axis swivel head is a gantry machining center with tool system SK 50 / HSK-A 100. The machine has been developed for machining of extensive and voluminous work parts in mold, steel and machine industries.

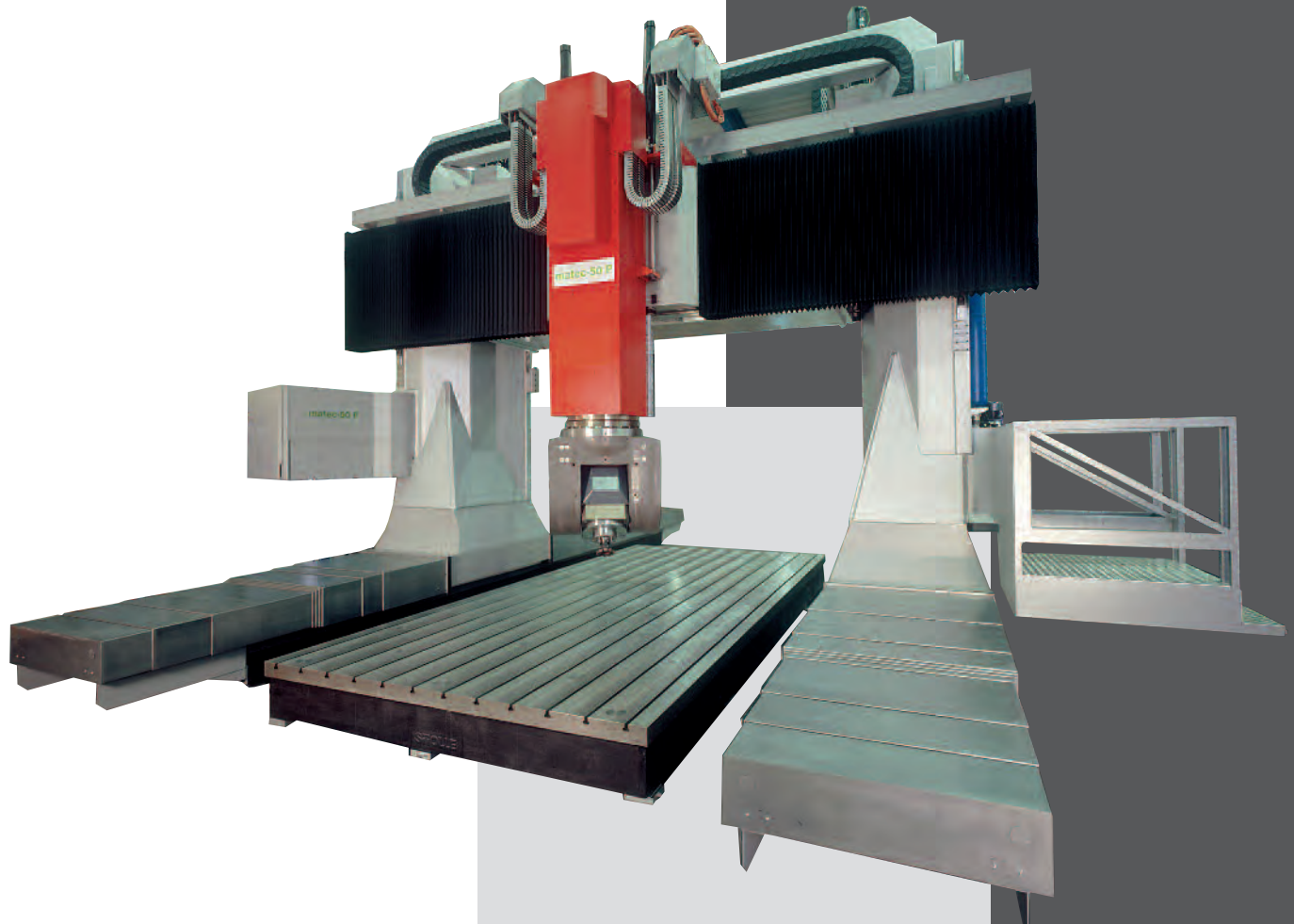
The application range mainly covers the manufacturing of 3-D forms made of synthetic materials, non-steel metals and steel as well as machining of welding parts and plate-formed work parts.

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 1,800 mm
- Gantry bridge adjustment for optimal chipping process





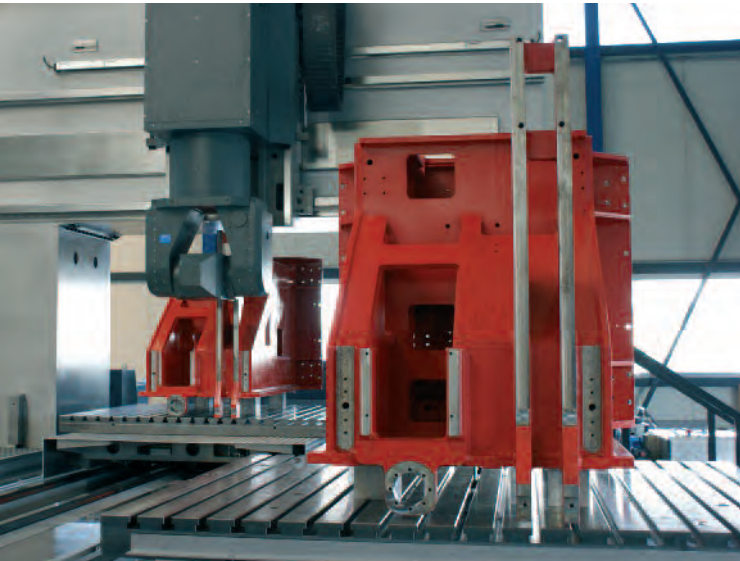
## Specifications

Working area X-axis	4,000-50,000 mm
Working area Y-axis	5,000 mm
Working area Z-axis	1,500/1,800 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

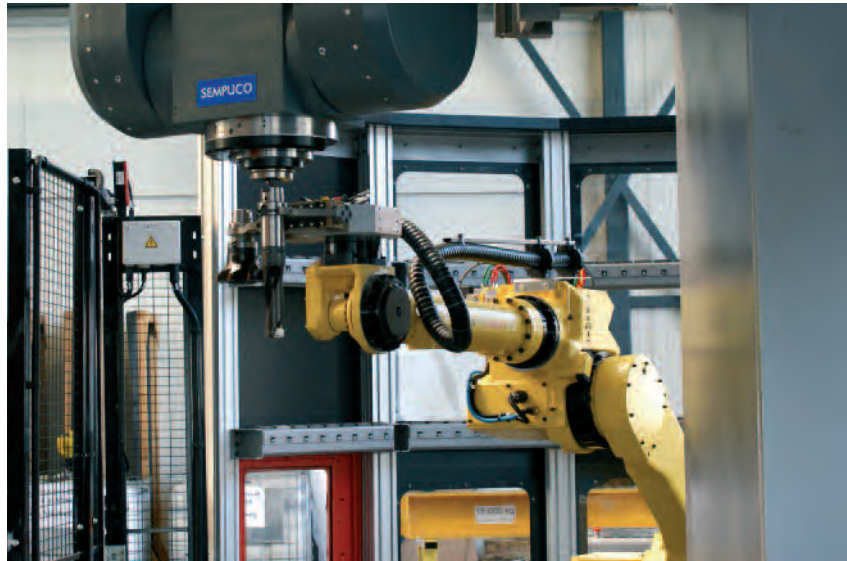
Subject to technical changes



## Stability and speed due to pallet changer



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



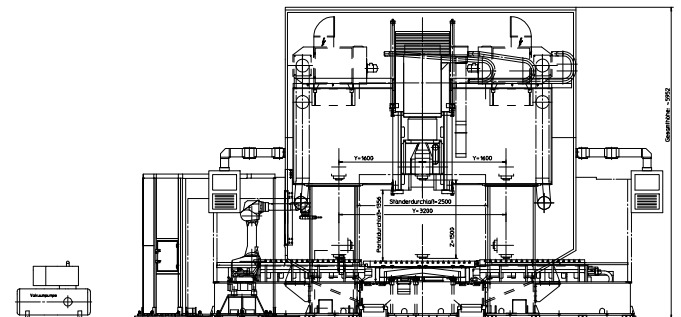
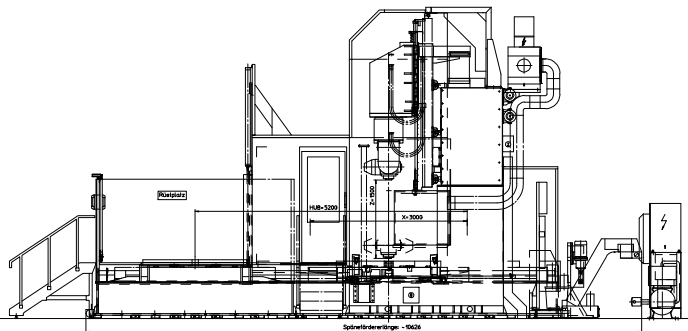
A robot provides for a safe change of tools from the tool magazine which was designed especially for the PP series

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.

The pallet changer functions as a machine table and moves 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
- Innovative tool magazine with 250 tool pockets



# matec-30/40 PP



## 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 20 kg
Tool change time	approx. 4.5 sec
Chip-to-chip-time	(depending on Y-axis) approx. 9.8 sec

Subject to technical changes

## Traveling column series

HV-machines – Highly flexible for single and series production



## Traveling column series

L-machines – Highly flexible for single and series production



matec L 2000  
matec-30 L  
matec-30 L duo  
matec-30 LD  
matec-40 L  
matec-50 L

## Gantry series

The specialists for the machining of voluminous and heavy workpieces





# Range of products

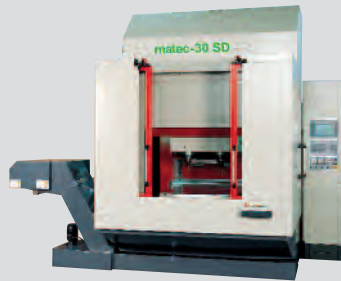
matec HV 2000  
matec-30 HV  
matec-30 HVK  
matec-30 HVC

matec-30 HVT  
matec-30 HVTH  
matec-30 HV duo  
matec-30 HVU

matec-40 HV  
matec-50 HV  
matec-50 HVU

## Swivel table series

Highly productive machines for series production



matec-30 SH  
matec-30 S  
matec-30 SG  
matec-30 SD  
matec-30 SHV

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 head  
matec-40 P with 2-axis swivel head

matec-40 PB with 2-axis swivel head  
matec-40 PBU with universal 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

# MATEC

GmbH

MATEC GmbH  
Wilhelm-Maier-Straße 3  
73257 Köngen  
Germany

Tel.: +49 7024 98385 0  
Fax: +49 7024 98385 30  
info@matec.de  
www.matec.de