www.matec.de







Machines Processes Applications

Ed. 1/2012

For standard machines and customized machine concepts based on our modular component system - matec is the right partner for you!



For more information on our exhibits matec-30 HVC and matec-40 HV see pages 2-5





Editorial



Erich Unger, Managing Director matec Maschinenbau GmbH

matec machines - the best choice for every machining task

matec-30 HVC and matec-40 HV are two of a great variety of machine solutions based on our modular component system. Both machines are ideally suited for 5-side and 3D machining of parts. The matec-30 HVC is equipped with a long Z-axis, which extends the machinable range of work parts in the height. The matec-40 HV is equipped with taper SK50 for heavy-duty machining tasks. You will find more detailed information on the following pages. You will also find the user report of a renowned Swiss manufacturer of packaging machines. A robot automation was applied to both a matec-30 HVC and a matec-30 HV, the smaller version of a matec-40 HV.

The L series as well as the series HVU, P and PP offer further perfect solutions for the machining of voluminous and heavy parts, which are required by the market right now. See pages 9-15 for these machine concepts.

If you are on the lookout for a perfect solution for your manufacturing task: Get inspired by matec!

Cordially Erich Unger

Content

S. 1	METAV fair information
S. 2-3	matec-40 HV
S. 4-5	matec-30 HVC
S. 6-7	Application HV und HVC
S. 8	Mill/turn machines
S. 9	Series L
S. 10-11	Series HVU
S. 12-15	Series P
S. 16	On matec/fairs









matec-30 HVC



matec-40 HV

matec-40 HV – heavy-duty machine with excellent price/performance ratio



The traveling column machining center matec-40 HV is equipped with taper SK50/HSK-A 100. Thus it is perfectly suited for heavy-duty milling tasks. One of the particular machine features is a swivel head. A variety of CNC rotary tables in connection with the swivel head allow 5-side or 3D machining of work parts. The long X-axis and the swivel head swivelling 105° to both sides guarantee multilateral machining of long profiles or shafts in multiple clamping. The matec-40 HV has an excellent price/performance ratio.

Special features

We show the matec-40 HV at the METAV in Düsseldorf

- Tool taper SK 50/HSK-A 100
- Swivel head ± 105° continuously variable as CNC-axis for horizontal and vertical machining, indexing precision ± 5 angular seconds
- Optionally available as milling/turning center with turning diameters up to 2,200 mm

with the features: X=4,000/Y=1,000/Z=1,100 2 rotary tables with direct drive tool breaking control



Large machine table with integrated rotary table for long parts

Working area milling and turnning

Lathe spindle and tailstock, separate tool holder for lathe tools

+ solutions

matec-40 HV

For more information on our machines please see www.matec.de





matec-30 HV with lathe spindles

Maximum flexibility – The HV series offers machine concepts for every machining task



Prototypes for nearly all car manufacturers worldwide are manufactured on this HV machine. The machine is equipped with a swivel head for vertical and horizontal machining and has an integrated rotary table.

Specifications	matec-40 HV
Working area X	2,000-12,000 mm
Working area Y	800 mm
Working area Z	800/1,100 mm
Spindle	SK 50 (HSK-A 100)
Spindle speed	8,000 rpm

matec's machine tool conception is based on standard machines as well as custom-made machines. Planning is always based on our customer's specific machining tasks.

Choosing a basic machine from our programme marks the beginning of each planning. A great variety of options, e.g. CNC round and tilting tables, 5-axis milling heads, infinitely variable NC heads, linear drives, handling systems, tools, and devices turn basic machines into complete solutions. The "clever-engineered" matec modular component system allows to cover nearly all customer requests in metal cutting.

The traveling column series has been developed for single-part and series production. Whether used for twin-table machining with rotary table or tail stock, multiple clamping or single-part manufacturing of voluminous parts, this machine group covers nearly all fields of application. Stability, precision and high speed are characteristics of these machines.

The traveling column machines are ideally suited for the machining of long, bulky workpieces in one clamping. Large machine tables allow multiple clamping or twin-table machining. While the traveling column is machining one or more workpieces in the first working area, raw parts can be set up in the second working area during processing time.

Outstanding features of the traveling column series are long traverse paths, horizontally and vertically swiveling machine spindles, easy mounting of clamping units as well as automatic loading by means of external loading systems. The possibilities of the HV machines for the machining of 5 sides or 3D machining of any kind of work parts are almost unlimited. The long X-axis and a swivel head tilting 105° continuously to both sides, with SK or HSK tapers, in combination with a variety of CNC rotary tables make these machines infinitely flexible.

Turning and milling in one machine

Each HV machine can be turned into a milling/turning center for series

matec-30 HV with rotary table

matec-30 HVT

Power	44 (68) kW - 20% DC
Torque, max.	350 (460) Nm - 20 % DC
Rapid feed	30/ (48/80 with linear drive) m/min
Toolmagazine	40 (60 up to 200) pcs

production. If work parts are best manufactured by complete machining this can be done in max. two clampings. The swivel head provides for 5-side machining during drilling and milling processes and during the turning process it allows the application of multifunctional lathe tools in all angles.



Machining of truck axles on matec-40 HV

Twin-table machining

Machining of crankshafts on matec-40 HV











matec-30 HV

matec-30 HVC

matec-30 HVK

matec-30 HVE

matec-30 HVC - machining of tall and heavy work-pieces



Special features

The matec-30 HVC is a larger variant of the matec-30 HVK. The machine is ideal for 5-side machining of voluminous and heavy parts, e.g. turbine blades (free-form surface parts) or gear housings.

Like the matec-30 HVK, the matec-30 HVC is equipped with a long Z-axis (800/1,100 mm), which extends the machinable range of work parts in the height. Crane loading from the top is possible.

Especially for the tool and mould making sector the matec-30 HVC, as well as the matec-30 HVE, and the matec-30 HVK, is the best choice. Direct drives in swivel head and rotary table bring a plus in dynamics in 5-side and 3D machining.

> We show this machine at the **METAV** in Düsseldorf

Specifications

matec-30 HVC

Working area X	1,500 mm
Working area Y	800 mm
Working area Z	800/1,100 mm
Spindle	SK 40 (HSK-A 63)
Speed	9,000-42,000 rpm
Power	16 (30) kW - 40% DC
Torque, max.	100 (191) Nm - 40 % DC
Rapid feed	30/(48/80 with linear drive) m/min
Tool magazine	36 (48 up to 128) pcs

1-axis CNC swivel head \pm 105° for 5-side machining Free-standing CNC rotary table swing diameter max. 940 mm Long Z-axis for the machining of tall workpieces



Working area with rotary table and fixed machine table



matec-30 HVK with rotary table, diameter 630 mm

+ solutions

matec-30 HVC

For more information on our machines please see www.matec.de







matec-30 HV rotary table

matec-30 HVT

Maximum flexibility – The HV series offers machine concepts for every machining tasks



Spacious working area with perfect chip-flow



Standard specifications traveling column series

Digital main spindle drive, motor spindle, oriented spindle stop Spindle bearing Ø 80 mm, tool clamping 12,000 N Linear guides in all axes Feed rate/rapid feed with digital AC servomotors in all axes Tool magazine traveling in X-axis (protected installation in the traveling column) Tool position coding variable Automatic lag compensation for high speed milling of contours

Options traveling column series

Additional tool magazine 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 1-axis rotary table with conventional or direct drives 2-axis tilting rotary table Lathe spindle vertical/horizontal, size A8 and A11 High speed rotary table with direct drive up to 4,000 rpm (turning/positioning) Additional tool magazine only for lathe tools with separate tool changer Separate fixed tool holder on the headstock for lathe tools (option: with interrupted cut especially for heavy turning operations) CNC-carriage unit for tail-stock, steady rest and opposed spindle Integrated quick change pallet systems

matec-30 HVC - Aluminium work part for the chip industry, machined in one clamping

3 D probe Tool measuring or tool breaking control Loading automation / NC-gripper



Working area with perfect chip-flow

matec-30 HVK with rotary table and face plate

matec-50 HV with integrated rotary table, diameter 1,250 mm







Swiss packaging specialist relies on fully automated matec machining centers Flexible cells - fully automated manufacturing down to lot size 1

Rychiger AG in Steffisburg, Switzerland is one of the leading international suppliers of customized packaging machines for food, pet food, coffee and tea industry as well as for pharmaceutical industry. Rychiger has been the face of the filling and sealing sector since the 1970s and still keeps shaping this market with its leading innovations. matec fulfilled the high requirements of a visionary manufacturing concept with its proven product range.

The Rychiger machines for filling and sealing of aluminium and multi-layer portion packs are based on the combination of decades of experience with state-of-the-art technology. Each complex machine and installation is custom-tailored. Pre- and postproduction stages are integrated, according to customer needs, from fully automated container feeds to the automated loading of sterilization baskets and final packaging to a complete production line. Rychiger delivers a turnkey solution, from planning the project, defining functionality, system purchasing, to installation and operational startup. Following the handover to the customer the mututal way is long from over. With comprehensive after-sales services Rychiger ensures full benefits of the installations during their entire life cycle. machinery, Rychiger could regain the majority of the external production and, at the same time lower the costs per piece, thus keeping the added value in the company.

Decision for the "quantum leap"

Kurt Sallin, menber of the management and factory manager in the company Rychiger says: "There were two strategic ways for a reorganization of our production: we could do it in small coordinated steps, just like most people would advise - or we dared a quantum leap! We have decided on one giant step into the future. Our vision was to manufacture in three shifts, on seven days a week - fully automated and flexible down to lot size 1." Manfred Schmidt, manufacturing expert in Rychiger's CNC department, and his CNC team, were entrusted to link vision and reality.



The machines can be wet or dry cleaned. Their modular construction facilitates customer-specific configurations and adaptability for any product, packaging material and process requirement. Plus, they meet the most demanding hygienic standards.

Up to 1440 portion per minute

The "sealing procedure" consists of a number of steps: de-stacking of the containers, transportation, volumetric dispensing, weighing, punching and sealing with foil, plus the gassing of the containers with nitrogen. Hundreds of different machine parts with a precision in the hundredth range coupled with fast actuators, sensors and controls, provide reliable mechanical high speed kinematics and the precise coordination of the different cycles.

Rychiger's success on the world market lately resulted in higher investments in terms of personnel, new state-of-the art production facilities and machinery. In former years subsuppliers had handled over-capacities. But the company's core technology and knowledge were far too precious to run a risk by having key-pieces manufactured externally. New paths had to be explored. By purchasing highly automated, but still flexible



matec-30 HVC with robot-automated tool and parts magazine

in different industrial sectors and all over the world

"We wanted to have the best machines with the "best" personnel (meaning robots) from the best supplier with the best integrated solution", Sallin explains. "Manfred Schmidt had to fulfill a very demanding task." Schmidt: "We gathered information by vitising fairs, drew parts analyses, and investigated, what kind of highly-automated machine would best cover our range of parts. This was an bold approach, considering that up to that point we had never had any automated machinery and whatever CNC machinery we had was 5 to 20 years of age."

"...only a matec."

"We found what we were looking for in November 2008 at the Prodex visiting "Swiss Machinery Import" (SMI). They recommended a matec-30 HVC, equipped with 5 simultaneous axes and combined with an automation concept. The recommendation confirmed the information given by suppliers, who had manufactured Rychiger parts on matec machines for quite some time. They said concordantly: "The perfect machine for your range of parts can only be a matec."

Every single one of their statements as to the advantages of matec was positive: the customized solutions, the modular component system the machines were based on, their reliability, high quality and performance and the excellent after-sales service provided by SMI or directly by matec. Again: "If you are looking for the right solution, you have to turn to matec, because you won't run a risk with them." For a company with zero automation and CNC machinery, which was more or less 20 years old, these informations were a perfect starting point. A visit to the suppliers was followed by a trip to Holland in order to form an opinion about the automation skills of Cellro - and in the end everybody was convinced, that SMI had suggested the perfect machine.

The SMI machine concept combined a customized standard machine with a productionspecific automation, which covered 80 percent of all cubic parts as well as Rychiger's requirements concerning lot size.

The manufacturing cell was installed in 2010 and started to operate without any problem. It consisted of a matec-30 HVC, a Fanuc robot with a lifting capacity of 210 kg, a palette magazine for pallets 400 x 400, 500 x 500, 500 x 800 and 600 x 800 mm, a loading station for pallets and tools, and a magazine with transfer station for 210 HSK 63 tools, additional to the 48 tool positions inside the machine. The pallet magazine allows a random storage of pallets in various sizes.

The matec-30 HVC is equipped with traveling paths in xyz of 1500 x 800 x 1100 mm, B-axis \pm 105°, C-axis 360°, and an integrated rotary table placed slightly off-center in x/y direction with diameter 630 mm. The off-center placement augments the interference circle diameter. A Unilock zero point clamping system clamps pallets, vices, multiple clamping systems and mounting towers. The smaller pallets are made of steel lined with mineral casting, in order to have less weight, more rigidness and a good damping. The larger pallets are made of aluminium.

The second, even bigger matec

The very positive experience with the manufacturing cell, the partners matec, SMI and Cellro, led to the installation of a second cell in August 2011, this time with an even higher performance. The heart of the cell is a 5-axis matec-30 HV with traveling paths in xyz of 3000 x 1000 x 1100 mm. An integrated rotary table with diameter 800 mm is again placed off-center on the left side of the machine table, in order to have enough space for additional parts and clamping devices or very voluminous parts.

The lifting capacity of the robot is 750 kg, it can hold pallets size 600 x 1000 mm, inkluding clamping devices and parts. The pallet magazine has 26 positions, the upper shelf space is reserved for mounting towers with a weight of up to 560 kg. The tool stock in the



Efficient multi-side machining: the matec-30 HV and the matec-30 HVC in Rychiger's production are equipped with a swivel head for horizontal and vertical machining. The picture shows the machining of an aluminium cartridge for the filling and sealing machine in the picture below.



One of a variety of filling and sealing machines manufactured by Rychiger in Steffisburg. Higl freauency and reliability, on duty all over the world.

cell amounts to 328 HSK 63 tools, 280 of which are stored in an additional magazine and 48 inside the machine.

More than 100 hours of real spindle time per week

The cells produce in three shifts, including a manned afternoon shift. Programming, start-up and setting operation are done in this afternoon shift, so in the morning and night shifts only loading is performed - if necessary. On Saturday mornings the machine is being loaded for the weekend. Lot sizes range from 1 to 200 parts. The two cells can manage the machining of approximately 1,000 different cubic parts - from small parts up to parts the size of the clamping table.

Kurt Sallin: "Our vision of a 24/7 production is almost fulfilled. From the maximum of 168 hours available per week, we already achieve more than 100 hours of real spindle time." Manfred Schmidt adds: "We could see, that matec and the dutch automation specialist Cellro were long-term partners. They had worked together successfully on a number of projects. The customer-specific approach of both companies results in balanced and reliable solutions. A big applause goes to SMI and their service. The high technological requirements of our machine project were pefectly implemented by the the system configurations, SMI designed, including clamping devices and robots."

The original version of this article was published in NC-Fertigung 11/2011 · Author: Hubert Winkler



Intensive and successful cooperation between machine tool builder, automation specialist and customer: matec sales person Jürgen Wolf, Stefan Kläsi from SMI and Kurt Sallin, Manfred Schmidt and their co-workers from Rychiger (from the left) are happy with the performance of the two automated manufacturing cells



SO Mill/turn Centers

The flexible HV Series: Milling and turning in one machine

Most machining centers of the traveling column series can be additionally equipped with a lathe spindle or high-speed rotary table with direct drive. In connection with a CNC swivel head we have developed a universal milling/turning center especially for supplier companies in single-part and small-part production.

Economical manufacturing of complex parts

Complex parts can be machined economically on such machines in one or two clampings in demanded tolerance and surface quality. Designed correspondingly our machines allow controlled boring of even the inner contours in slant borings. The advantage is evident: two machining processes united in one machine – the work part machined either on the face or on the perimeter and in every angular position – that saves time and costs. On the basis of the modular system matec offers a wide range of various options to satisfy every customer's need.

matec-30 HVT and matec-30 HVTH are especially designed as mill/turn centers.



Rotary table with direct drive mit 6-jaw chuck and CNC face plate lathe table for the machining of inner contours



Fast milling and turning

The HV machines can be equipped with direct drives in the swivel head and in the rotary table. The integrated high-speed rotary table is available in different diameters up to 2,200 mm and tapers. This makes the HV machines a perfect solution for complex machining tasks in three dimensional domain and 5-side machining, and at the same time allows turning in all angles. The separation of the axes B and C brings stable chipping conditions for exact contours und optimal surface quality of the workpiece.

matec-30 HVT

matec-30 HVT is a milling/turning center for series production. If work parts are best manufactured by complete machining this can be done on the matec-30 HVT in max. two clampings.

The vertical lathe spindles (Ø 300 up to 2,200 mm) are able to turn and to position depending on the machining task. Speed of lathe spindle from 100 up to 6,000 rpm (depending on spindle type and turning device)

The swivel head +/- 90° with serration catching in steps of 1°, option: continuously variable), provides for five-side machining during drilling and milling processes and during the turning process it allows the application of multifunctional lathe tools in all angles. The machine is equipped with a separate tool magazine for lathe tools.

matec-30 HVTH

matec-30 HVTH is a machining center with a rotary table and opposed spindle for complete machining (front and back sides) of work parts from a bar in singlepart or series production with a loading and unloading automation unit. Lathe spindles A8 or A 11.

The range of forms machined on matec-30 HVTH extends from profiles, round material, square and rectangular cross-sections up to diagonals of 120 mm. The loading of the machine is handled by a bar feeder. A 2-axis saw unit to crosscut the parts from the bar is optionally available.



matec-30 HVT: left and right working area with mounted fast-moving rotary tables with direct drive

Work-piece discharge is handled by NC-gripper or robot. The NC gripper deposits finished parts on a conveyor belt after machining.



Machining of a work part at the main spindle. U-axis with counter-spindle



Special: Voluminous parts



matec-30 L







matec-30 LD



matec-50 L

L series long-bed machines – perfectly suited for voluminous workpieces



The L series has been conceived for single-part and series production. The machines are available in various configurations, e.g. with one motor spindle (matec-30 L), double motor spindle (matec-30 LD) or with 2 traveling columns (matec -30 L duo). Also available as matec-40 L and matec-50 L with taper SK 50/HSK-A 100.

The L machines are ideally suited for the machining of long, bulky workpieces in one clamping. Large machine tables allow multiple clamping or twin-table machining.

The customer-specific variant of matec-30 L shown above is designed for the machining of gear rims for wind turbine generators. It has a twin-table

Whether used for twin table machining with rotary table or tail stock, multiple clamping or single-part manufacturing of voluminous parts, this machine group covers nearly all fields of application. Stability, precision and high speed are characteristics of these machines. The finely graded traverse paths of up to 12,000 mm in the X-axis, up to 1,200 mm in the Y-axis and up to 1,100 mm in the Z-axis allow for the optimum solution for each machining task.

working area, which allows parallel loading and unloading in the main time. The mounting of the new work part during machining time saves 40-50 minutes of setting-up time. 2 CNC rotary tables with face plate, Ø 2,200 mm, safely hold the heavy and voluminous work parts.



matec-30 L with rotary table and counter spindle



matec-30 L with double swiveling bridge - separately or simultaneously swiveling



matec-30 HVU and matec-50 HVU Machining centers with universal milling heads



The pictures on the right-hand side show the matec-50 HVU configurated as mill/turn center with a rotary table with direct drive, diameter 2,200 mm and 200 rpm max. The rotary table is used for turning and positioning.

A second CNC rotary table with counter-bearing for undulated workparts and a pick-up magazine for lathe tools up to a length of 1,000 mm complete the machine.

In order to avoid vibrations in consequence of the oscillation of the thinwalled work-parts, only massive lathe tools are in use. For tool holding and rotary support of overlong lathe tools, a special tool holding device designed by matec is fixed to the spindle stock.

The significant characteristic of the HVU series is a 2-axis universal milling head with 45° swivel range. The tools can be utilized in horizontal machining position in the Y-axis. This allows for new designs in the working area, along with more innovative machine concepts, and therefore more economical manufacturing solutions for the user.

Universal milling head and variable traveling paths

The HVU machines have a universal milling head with 2 axes, which turns the motor spindle in a 45° diagonal position from vertical to horizontal. This allows the machining of long workpieces on four sides. In connection with an integrated rotary table even on five sides. In that case 6 axes are at disposal for demanding machining tasks on a workpiece.

The HVU series is available in two versions: matec-30 HVU with taper SK 40/HSK-A 63 and matec-50 HVU with taper SK 50/HSK-A 100.

A CNC rotary table with horizontal plan disk, adapted to the size of the workparts, allows for the machining of comparatively big workparts in combination with a short Y-axis (1,070/1,200/1,400 mm). Circular parts with diameters of up to 5,000 mm can be machined. A rotary table with direct drive turns the HVU machines



into mill/turn centers.





Solutio Machining of voluminous parts

For more information on our machines please see www.matec.de



matec-30 HVU

Mill/turn center for complete machining in one clamping

Specifications	matec-50 HVU
Working area X	4,000 mm
Working area Y	1,400 mm
Working area Z	1,800 mm
Spindle	HSK-A 100
Speed	8000 rpm
Power	45 kW - 40% DC
Torque, max.	520 Nm - 40 % DC
Rapid feed	X- / Y- and Z-axis 30 m/min
Tool magazine	40 pcs

Specifications	matec-30 HVU
-	
X-axis	2,000 - 20,000 mm
Y-axis	1,070/1,200/1,400 mm
Z-axis	1,100/1,300/1,500/1,800/2,500 mm
Speed	up to 18,000 rpm
Power	up to 34 kW
Torque	up to 216 Nm

Specifications	matec-50 HVU
X-axis	2,000 - 20,000 mm
Y-axis	1,070/1,200/1,400 mm
Z-axis	1,300/1,500/1,800/2,500 mm
Speed	up to 8,000 rpm
Power	up to 33/45 kW
Torquo	up to 382/520 Nm

Special features

- 2-axis universal milling head
 Rotary table with direct drive
 Ø 2,200 mm, speed max. 200 rpm
- Additional rotary table Ø 320 mm
- with tail-stock for machining of shafts Pick-up station for 3 tools with a length of up to 1,000 mm
- CNC control MTX Indra-Motion

Special features

Variable traveling paths

of axes via M-mode

Universal milling head, continuously and simultaneously swiveling in both axes by ± 180°

Option: hydraulic disconnection



Universal milling head matec-30 HVU



matec-50 HVU





RENISHAW

Complete measurement solutions from one trusted supplier

Precision is a necessity and the foundation for maximum cost efficiency in many manufacturing processes. With this in mind, Renishaw focuses on high quality and precision requirements for all its products.

www.renishaw.com/survivalofthefittest

Renishaw - apply innovation!

RENISHAW. € apply innovation[™]

Renishaw plc, New Mills, Wotton-under-Edge, Gloucestershire, GL12 8JR, United Kingdom telephone +44 1453 524524, fax +44 1453 524901, email uk@renishaw.com, www.renishaw.com







matec-30 P with 2-axis swivel head



The gantry series – designed for heavy-duty milling of voluminous and heavy workpieces



Customer-specific variant matec-50 P with 2-axis CNC motor spindle milling head and traveling operator platform X=4,000 mm, Y=5,000 mm, Z=1,500 mm, W=800 mm

Special features

- 2-axis CNC swivel head for
 5-axis simultaneous machining
- C-axis (rotary axis) ± 200°/
 W-axis (swivel axis) ± 120°
- Long Z-axis up to 1,500 mm
- Gantry bridge adjustment for optimal chipping process



matec-50 P tool magazine HSK-A 100 with 200 tools

SOUTIO Machining of voluminous parts

For more information on our machines please see www.matec.de





matec-30 P with traveling operator platform

matec-40 P with 2-axis swivel head

 matec-30 PP with

pallet changer

Stability and speed - Gantry machine matec-30 PP with pallet changer



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

Special features

- 2-axis CNC swivel head for 5-axis simultaneous machining
- C-axis (rotary axis) ± 180°/
 W-axis (swivel axis) ± 95°
- New tool magazine for 250 tools
- Long Z-axis up to 1,500 mm
- Stable gantry bridge
- Pallet changer



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





Long traverse paths for voluminous work parts



matec-30 PP with pallet changer



mater 10 P a newer of 30 kW and a spindle speed of up to



matec-50 P with 2-axis swivel head



mates 10 P with a newer of 11 kW and spindle spee



matec-50 P, machining of aluminium



roo surfaco machinin

18,000 rpm, traveling paths of 10,000 x 3,500 x 1,500 mm and a gantry clearance of 1,300 mm allow the machining of very large parts as well as high-speed cutting. 12,000 rpm. Traveling paths: 6,000 x 4,000 x 1,500 mm.

rree-surface machining

MASCHINENBAUTEILE

Our service:

- Thermal cutting
- Welding
- Thermal stress relief
- Sandblasting
- Priming/Coating
- CNC Machining

The medium-sized company HINZ has 45 employees in two locations and manufactures machine parts with a piece weight of up to 50 tons. We deliver best quality - from thermal cutting to finished and coated parts - everything from one source!







Learn more about us: www.hinz-maschinenbauteile.de

Our plants

Plant 1

Daimlerstr. 3-5 D-71254 Ditzingen-Schöckingen Phone 07156/9555-0 Fax 07156/9555-11

Plant 2

Langwiesenstr. 14 D-74363 Güglingen-Frauenzimmern Phone 07135/97405-0 Fax 07135/97405-25

+ SO UTO Machining of voluminous parts

For more information on our machines please see www.matec.de

series – high stability and a milling performance above average

The gantry machines matec-30P (taper SK 40/HSK-A 63), matec-40 P and 50 P (taper SK 50/HSK-A 100), as well as the gantry machines matec-30 PP and 40 PP, 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 3 D-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 swivel head (\pm 90°) or a 2-axis CNC motor spindle milling head permits multilateral machining. A rich variety of spindle speed and spindle power options for all materials is available.

Specifications matec-30 PP/40 PP

Working area X	3,000 mm
Working area Y	3,200 mm
Working area Z	1,300 (1,500) mm
Gantry clearance height	30 PP 1,350 / 40 PP 1,500 mm
Gantry clearance width	2,260 mm
Pallet size	2,000 x 2,000 mm
Spindle	SK 50 (HSK-A 100)
Speed 9,000/12	2,000/15,000/18,000/24,000/42,000 rpm
Power	30 PP 16 (30) / 40 PP 26 kW - 40% ED
Torque, max.	30 PP 100 (191) / 40 PP 340 Nm - 40 % ED
Rapid feed	30 m/min
Tool magazine	up to 250 pcs
Subject to technical changes	

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 servomotor Digital main spindle drive Motor spindle, speed 9,000 rpm Orientated spindle stop Tool magazine travelling in X-axis Tool position coding variable

Specifications matec-40 P

Working area X	3,000-20,000 mm
Working area Y	2,500-4,000 mm
Working area Z	1,300-1,500 mm
Gantry clearance height	1,150-1,350 mm
Gantry clearance width	2,800-3,800 mm
Machine table width	1,600-3,600 mm
Spindle	SK 50 (HSK-A 100)
Speed	8,000 rpm
Power	33 kW - 40% DC
Torque, max.	382 Nm - 40 % DC
Rapid feed	30 m/min
Tool magazine	40 (up to 200) pcs
Subject to technical changes	

Specifications matec-50 P

Working area X	4,000-50,000 mm
Working area Y	5,000 mm
Working area Z	1,100 (1,500) mm
Gantry clearance height	2,270 (3,070) mm
Gantry clearance width	4000 mm
Machine table width	3000 mm
Spindle	SK 50 (HSK-A 100)
Speed	9,000 rpm
Power	60 kW - 40% ED
Torque, max.	575 Nm - 40 % ED
Rapid feed	30 m/min
Tool magazine	18 (up to 200) pcs
Subject to technical changes	

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), CE norm Control panel with all necessary operating devices

Controls:



Machining of voluminous parts on matec-50 P



matec-50 P with traveling operator platform



Mould making



Rexroth IndraMotion MTX Heidenhain iTNC 530 Siemens 840D

matec-40 P, X=10,000 mm







For more information on our machines please see www.matec.de

We cordially invite you to the METAV in Düsseldorf



Nordpark

Sectors

General suppliers Automotive industry Tool and mould industries Device manufacturing Aluminium machining/Foundry Machine and plant engineering Packing machines Electric and electronics industries Plastic processing industry Medical technology Metal-working industry Aerospace industry Automobile manufacturers



Impressum

Published by: matec Maschinenbau GmbH · Wilhelm-Maier-Str. 3 · D-73257 Köngen Tel. +49-(0)7024/98385-0 · Fax +49-(0)7024/98385-30 · E-Mail: sales@matec.de · www.matec.de