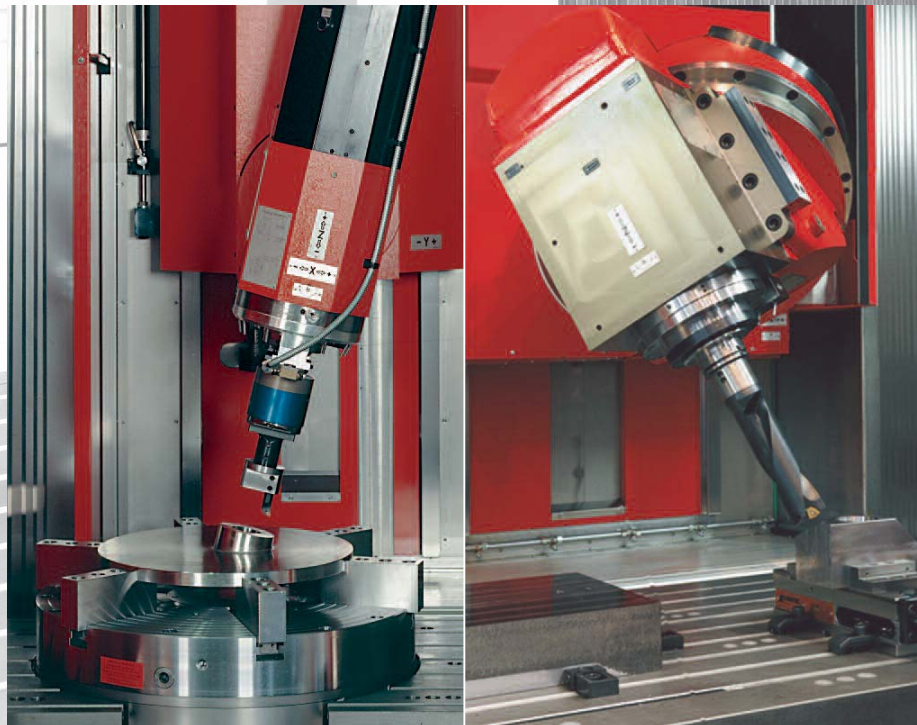


**matec**  
MASCHINENBAU



**Traveling Column Series HV/HVU**

# Traveling Column Series - HV Machines

Flexibility in single-part and series production

**matec**  
MASCHINENBAU

## Standard specifications

Full cladding of the machining area incl. electrically protected sliding doors

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 servo motors in all axes

Tool magazine traveling in X-axis (protectively installed in the traveling column)

Tool position coding variable

Automatic lag compensation for high speed milling of contours

Chip conveyor

### Controls

Rexroth INDRA Motion MTX

Heidenhain iTNC 530

Siemens 840D



## Options

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

Coolant cleaning units with different filter system

Coolant temperature control

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

Oil suction units

Automatic doors

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 turning tools with separate tool changer

Separate fixed tool holder on the headstock for turning 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

Clamping hydraulics or pneumatics

Rotary distributor for hydraulics and pneumatics

3-D probe

Tool measuring or tool breaking control

Loading automation / NC-gripper

## Traveling Column Series HV machines

The traveling column series has been conceived 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.

Outstanding features of the HV machines 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.

A swivel head for 5-side horizontal and vertical machining as well as for 3D machining distinguishes the HV series. These machines are also available in different configurations.

The matec "tailor-made" system with its extensive service package allows a multitude of machine concepts which provide an optimal manufacturing solution for every customer, securing a competitive advantage.





matec-30 HV with integrated rotary table 1,450 mm

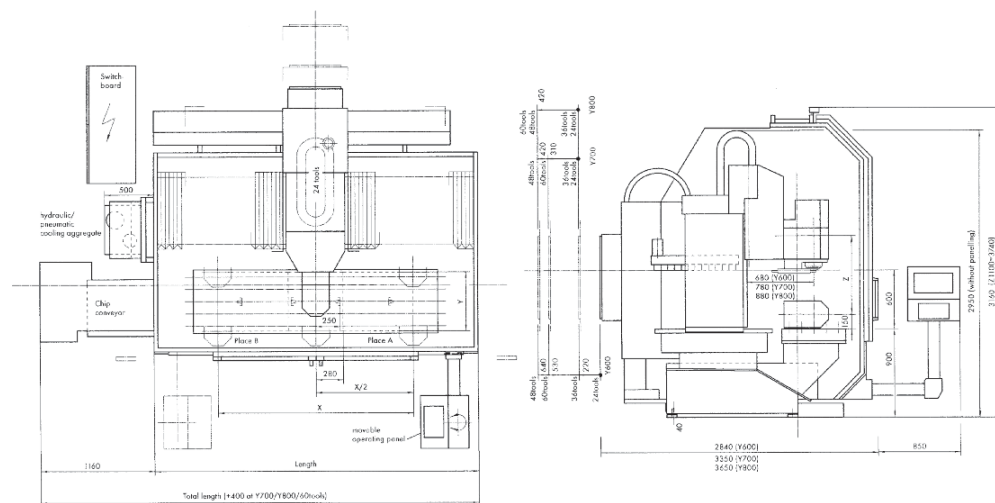


matec-30 HV with two traveling columns and 9 CNC axes

The machine concept of matec-30 HV is based on the long-bed machine matec-30 L. The machine is equipped with a swivel head. Various CNC rotary tables in connection with the swivel head enable to perform 5-side or 3D machining of work parts. The long X-axis and the swivel head swiveling 105° to both sides guarantee multilateral machining of long profiles or shafts in multiple clamping.

## Special features

- Tool system SK 40 / HSK-A 63
- 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



## Specifications

Working area X-axis	1,300-12,000 mm
Working area Y-axis	600 (800/1,000/1,200) mm
Working area Z-axis	vert. 700 (1,000/1,200)/hor. 800 (1,100/1,300) mm
Distance spindle nose/table	vert. 0-700 (1,000/1,200)/hor. 150-950 (1,250/1,450) mm
Machine table width	635 (835/1,035/1,235) 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 (48/100 with linear drive) 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 up to 200) pcs
Tool diameter, max.	70 (130) mm
Tool length, max.	340 (450) mm
Tool change time	vertical approx. 3.5 sec / horizontal approx. 6.5 sec
Chip-to-chip time	vertical approx. 5.5 sec / horizontal approx. 8.5 sec

Specifications valid for Y=600 mm and swivel head with serration 1°

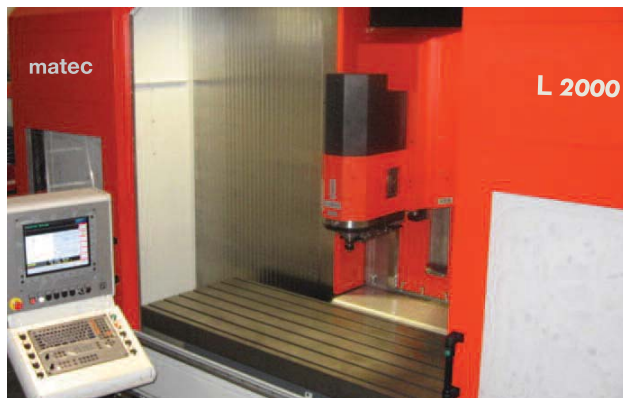
Traverse paths X-axis	mm	1,300	2,000	3,000	4,000	5,000	up to 12,000
Machine table length	mm	1,800	2,500	3,500	4,500	5,500	12,500
Twin room mach. max. vert.	mm	-	2x720	2x1,220	2x1,720	2x2,220	2x2,720
Machine length, approx.	mm	4,910	5,870	7,150	8,460	9,740	18,700
Weight, approx.	t	7.5	9.2	10.4	11.8	12.8	25

Subject to technical changes





Mounted rotary table matec HV 2000



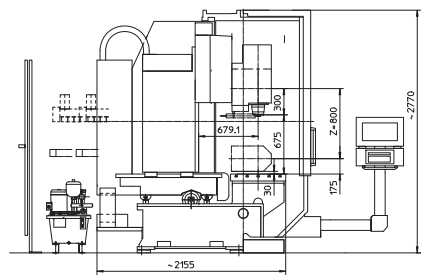
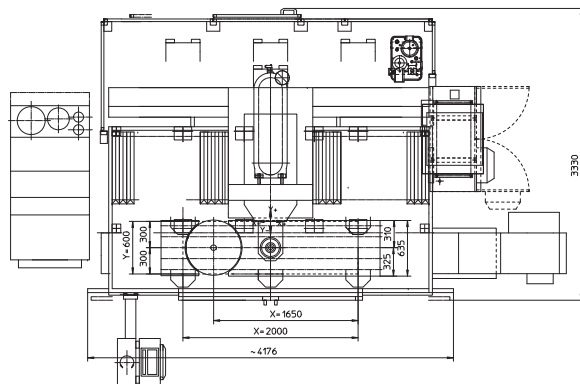
Also available as matec L 2000 with fixed column

The traveling column machining center matec HV 2000 is a machine with superior equipment which is available with standard characteristics and options.

From the matec modular component system options are available, which do not collide with the basic construction of the machines, e.g. mounted rotary tables with diameter 160/220 and 320 mm. Advantages of the machine are short delivery time and great price.

## Special features

- CNC swivel head  $\pm 105^\circ$  continuous
- Control: Heidenhain iTNC 530
- Integrated rotary table with direct drive diameter 630 mm (option), swing diameter max. 980 mm, table load capacity max. 1200 kg

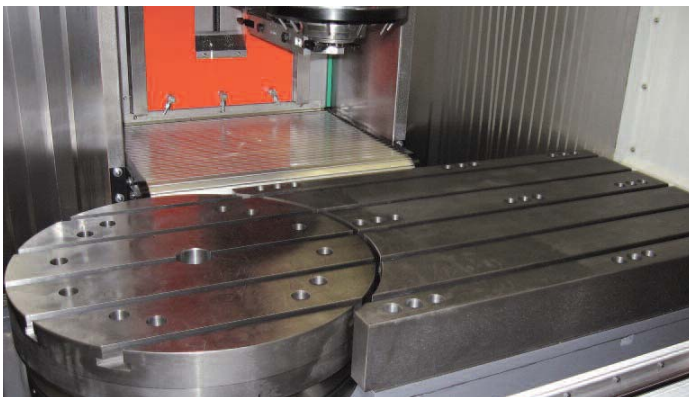


The machine shown above is equipped with special options

## Specifications

Working area X	2,000 mm
Working area Y	600 mm
Working area Z	vertical 675/800 mm
Distance spindle nose/table	vertical 0 - 675/horizontal 175-975 mm
Machine table width	635 mm
T slots DIN 650	18 H8 / distance 125 mm
Spindle	SK40 (HSK-A 63)
Speed	10,000 (14,000, 9,000, 12,000, 15,000, 18,000, 24,000, 42,000) rpm
Power	16 kW - 40% DC
Torque, max.	83 Nm - 40% DC
Rapid feed	30 m/min
Drilling performance in steel	35 mm
Tapping in steel	M20
Milling capacity in steel	400 cm <sup>3</sup> /min
Tool magazine	36 (48) pcs.
Tool diameter, max.	70 (130) mm
Tool length, max.	340 mm
Tool weight	3/10 kg
Tool change time	vertical ca. 3.5 sec. / horizontal approx. 6.5 sec.
Chip-to-chip time	vertical ca. 5.5 sec. / horizontal approx. 8.5 sec.

Subject to technical changes



Working area with rotary table and fixed machine table



Machining of a work part

The universal machining center matec-30 HVK is the perfect solution for complex machining tasks in 3D and 5-side machining. The longer Z-axis extends the machinable range of work parts in the height. Work parts with a swing diameter of up to 980 mm can be loaded on the rotary table. The machine is also available as milling/ turning center.

## Special features

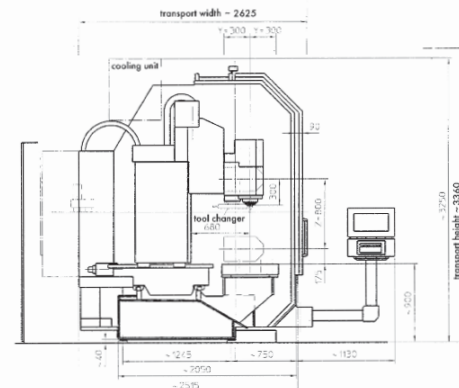
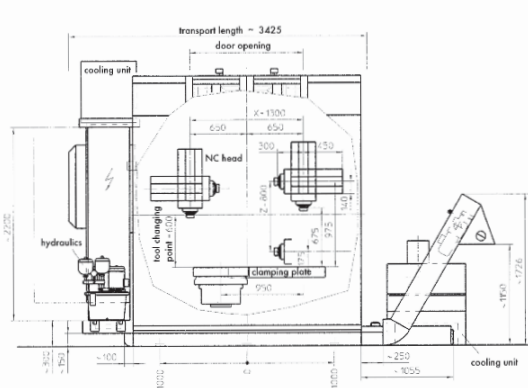
- Integrated rotary table with direct drive  
Ø 630 mm, swing diameter max. 980 mm
- Swivel head continuously variable with  
direct drive, speed range up to 1,000 rpm



## Specifications

Working area X-axis	1,300 mm
Working area Y-axis	600 mm
Working area Z-axis	vertical 675 / horizontal 800 mm
Distance spindle nose/table	vertical 0-675 / horizontal 175-975 mm
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 (48/100 with linear drive) m/min
Drilling performance in steel	40 (54) mm
Tapping in steel	M22 (M30)
Milling capacity in steel	400 (500) cm <sup>3</sup> /min
Machine table	1,515 x 635 mm
T-slots DIN 650	18 H8
CNC rotary table with direct drive Ø	630 mm
Swing diameter max.	940 mm
Speed	0-80 (0-1,000) rpm
Torque, max.	800 Nm
Table load capacity max.	1,200 kg
Tool magazine	36 (48 up to 128) pcs
Tool diameter, max.	70 (130) mm
Tool length, max.	340 mm
Tool change time	vertical approx. 3.5 sec / horizontal approx. 6.5 sec
Chip-to-chip time	vertical approx. 5.5 sec / horizontal approx. 8.5 sec
Machine weight	9.5 t

Subject to technical changes

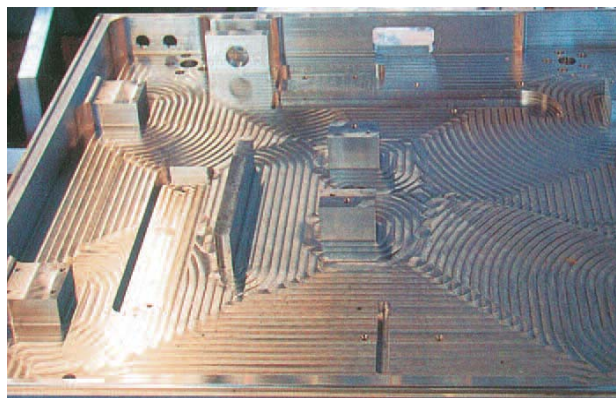


For tall and heavy work parts

matec-30 HVC



Spacious working area with perfect chip-flow

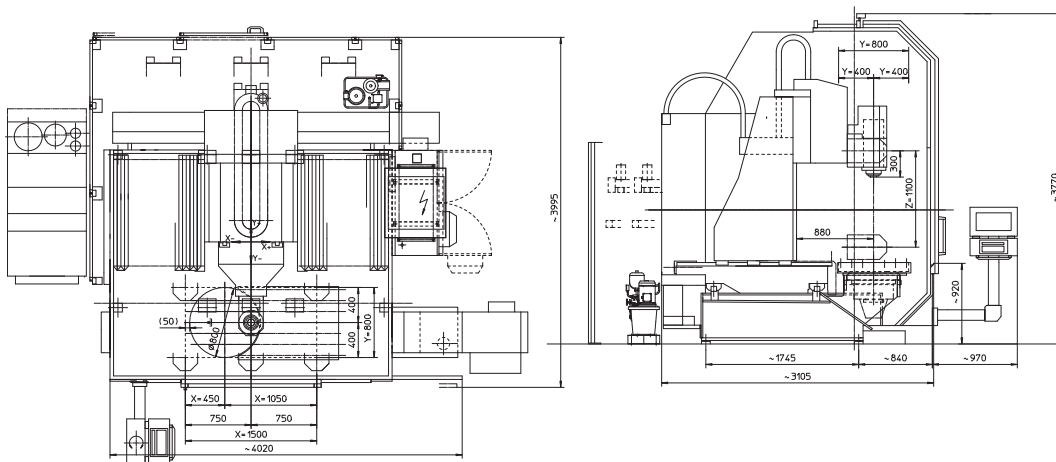


Aluminium work part for the chip industry, machined in one clamping

matec-30 HVC is ideal for 5-side machining of voluminous and heavy parts, e.g. turbine blades (free-form surface parts) or gear housings. The longer Z-axis extends the machinable range of work parts in the height. Crane loading from the top is possible.

## Special features

- 1-axis CNC swivel head  $\pm 105^\circ$  continuously variable for 5-side machining
- Fixed CNC rotary table with swing diameter max. 940 mm

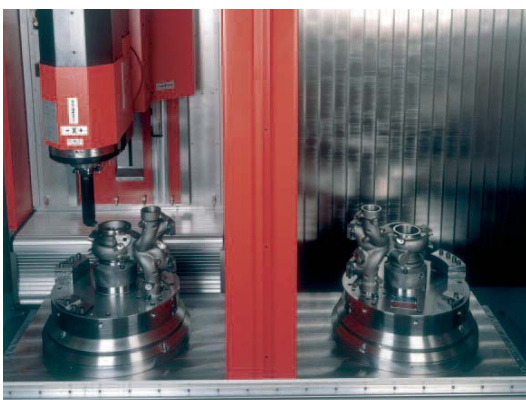


## Specifications

Working area X-axis	1,500 mm
Working area Y-axis	800 mm
Working area Z-axis	vertical 675 (975) / horizontal 800 (1,100) mm
Distance spindle nose/table	vert. 0 - 675 (0-975) / hor. 175 - 975 (175 - 1,275) mm
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 (80 with linear drive) 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
CNC rotary table Ø	800 mm
Speed	0 - 80 rpm
Torque at circular milling, max.	800 Nm
Torque with clamping	3,000 Nm
Table load capacity, max.	1,000 kg
T-slots DIN 650	7 x 18 H8 / D=100 mm
Tool magazine	36 (48 up to 128) pcs
Tool diameter, max.	70 (130) mm
Tool length, max.	340 (450) mm
Tool change time	vertical approx. 3.5 sec / horizontal approx. 6.5 sec
Chip-to-chip time	vertical approx. 5.5 sec / horizontal approx. 8.5 sec
Machine weight	11.5 t

Subject to technical changes





Left-sided and right-sided working area with mounted rotary tables

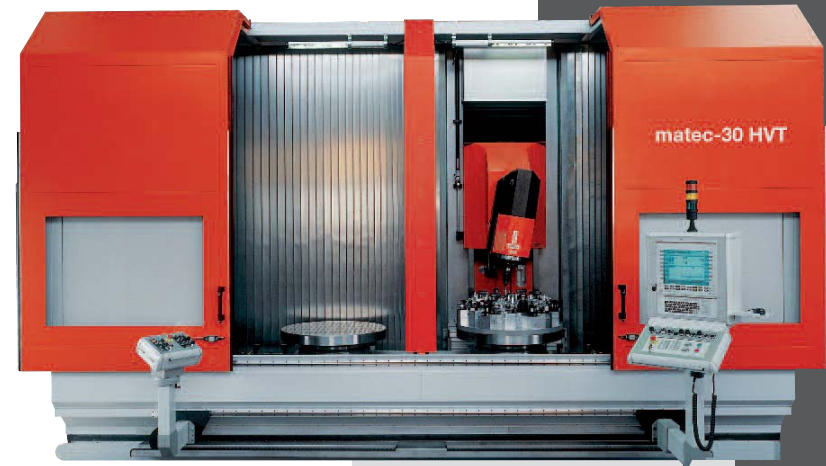
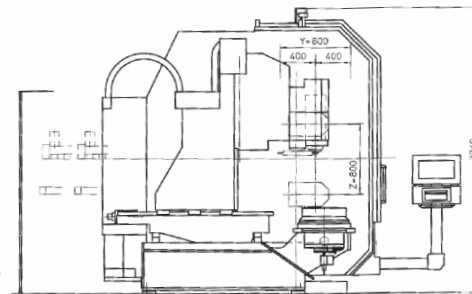
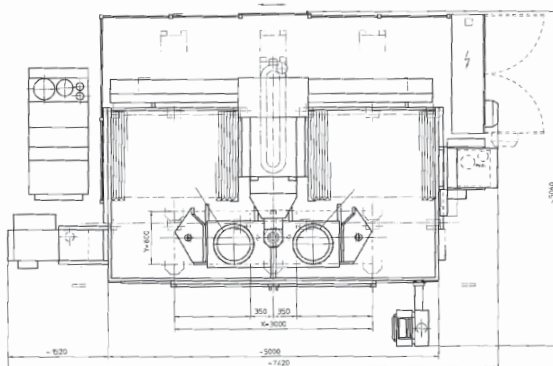


Lathe spindles

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 are able to turn and to position depending on the machining task. 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.

## Special features

- High-speed rotary tables with direct drive,  $\varnothing$  300 up to 2,200 mm
- Speed of lathe spindle from 100 up to 6,000 rpm (depending on spindle type and turning device)
- Separate tool magazines for turning tool holder
- Swivel head  $\pm 90^\circ$  with serration catching in steps of  $1^\circ$ , option: continuously variable)



## Specifications

Working area X-axis	1,300 - 8,000 mm
Working area Y-axis	600 (800/1,000/1,200) mm
Working area Z-axis	vert. 700 (1,000/1,200)/hor. 800 (1,100/1,300) mm
Distance spindle nose/table	vert. 0 - 700 (1,000/1,200)/hor. 150 - 950 (1,250/1,350) mm
Machine table width	635 (835/1,035/1,235) mm
T-slots	18 H8
Spindle	(clamping for turning operation optional) (HSK-A 63)
Speed	12,000 rpm
Power	16 (30) kW - 40% DC
Torque, max.	100 (191) Nm - 40 % DC
Rapid feed	30 (48/100 with linear drive) 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
Rotary table (lathe spindle)	$\varnothing$ 630 ( $\varnothing$ 800 - 2200) mm (lathe spindle A8/A11)
Speed range $\varnothing$ 630*	1000 (A8 - 6000 / A11 - 2500) rpm
Tool magazine	36 (48 up to 128) pcs
Tool diameter, max.	70 (130) mm
Tool length, max.	340 (450) mm
Tool change time	vertical approx. 3.5 sec / horizontal approx. 6.5 sec
Chip-to-chip time	vertical approx. 5.5 sec / horizontal approx. 8.5 sec

\* Other speed ranges on request

See matec-30 HV sheet for the specifications concerning machine length, table length, etc.

Subject to technical changes



Workpart machining on the main spindle



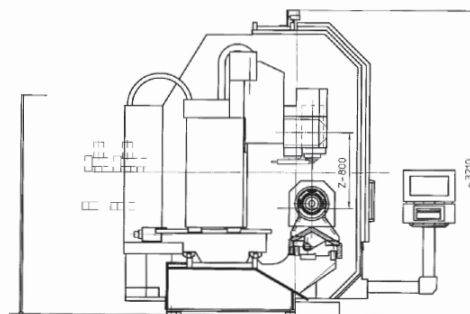
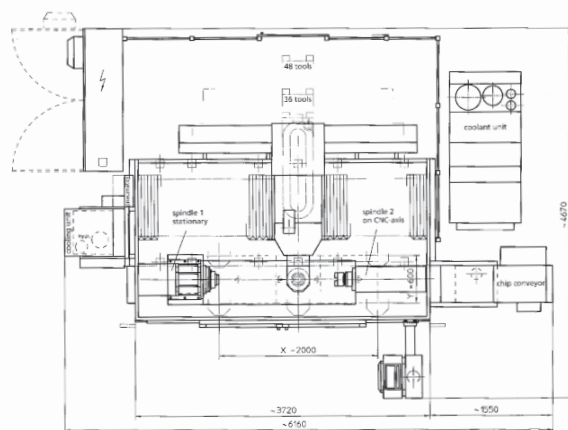
Workpart transfer into the opposed spindle



matec-30 HVTH is a machining centre with a rotary table and opposed spindle for complete machining (front and back sides) of workparts from a bar in single-part or series production with a loading and unloading automation unit. 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. Optionally with 2-axes saw unit to crosscut the part from the bar.

## Special features

- Lathe spindles A8 or A11
- Automation unit with roboter or NC-gripper / discharge belt
- U-axis with opposed spindle
- Bar feeder



## Specifications

Working area X-axis	2,000 mm
Working area Y-axis	600 mm
Working area Z-axis	800 mm
Distance spindle nose/lathe spindle	vertical 400 / horizontal -100/+400 mm
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 (48/100 with linear drive) m/min
Drilling performance in steel	40 (54) mm
Tapping in steel	M22 (M30)
Milling capacity in steel	400 (500) cm <sup>3</sup> /min
Lathe spindle and opposed lathe sp.	motor spindle - spindle head DIN 55026 A8 (A11)
Speed	0 - 6,000 (0 - 2,500) rpm
Power	30 (73) kW
Torque max.	191 (1,000) Nm
Swing diameter max.	600 mm
Hollow shaft diameter	60 (120) mm
CNC slide unit/counterspindle	1,710 mm
Tool magazine	36 (48 up to 128) pcs
Tool diameter, max.	70 (130) mm
Tool length, max.	340 (450) mm
Tool change time	vertical approx. 3.5 sec / horizontal approx. 6.5 sec
Chip-to-chip time	vertical approx. 5.5 sec / horizontal approx. 8.5 sec
Machine weight	13 t

Subject to technical changes





Working area with 2 traveling columns, opposed spindle vs. CNC rotary table and saw unit



Machining at opposite spindle



NC-gripper depositing a work part

matec-30 HV duo is a long-bed machine based on matec-30 L duo. The center has 2 independent traveling columns with swivel head (2 x 4 axes), which makes separate machining of 2 x 3 sides of the work part possible by transferring the work part to the opposed spindle. When the machining process is finished, an automation unit with NC-gripper deposits the work part on a discharge belt.

## Special features

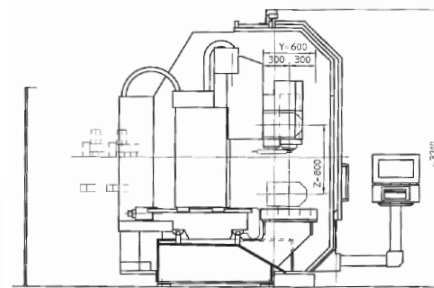
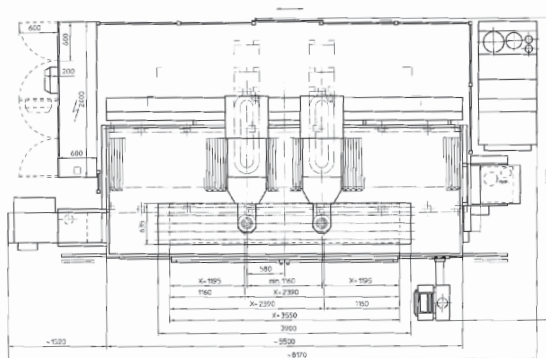
- 2 independent traveling columns with swivel head
- Rotary table, tail stock, opposed spindle
- Bar feeder and automation unit
- 2-axes saw unit (opt.)



## Specifications

Working area X-axis	4,000 mm
Working area Y-axis	600 mm
Working area Z-axis	vertical 700 / horizontal 800 mm
Distance spindle nose/lathe spindle	vertical 425 / horizontal -125/+725 mm
2 traveling columns	spindle distance min. 1160 mm
2-axis saw unit (opt.)	X=900 mm Y=500 mm, saw blade Ø 490 mm
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 (48/100 with linear drive) m/min
Drilling performance in steel	2 x 40 (54) mm
Tapping in steel	2 x M22 (M30)
Milling capacity in steel	2 x 400 (500) cm <sup>3</sup> /min
Tool magazine	2 x 36 (48) pcs
Tool diameter, max.	70 (130) mm
Tool length, max.	354 mm
Tool change time	vertical approx. 3.5 sec / horizontal approx. 6.5 sec
Chip-to-chip time	vertical approx. 5.5 sec / horizontal approx. 8.5 sec
Machine weight	22 t

Subject to technical changes




Swivel head  $\pm 105^\circ$  continuously variable

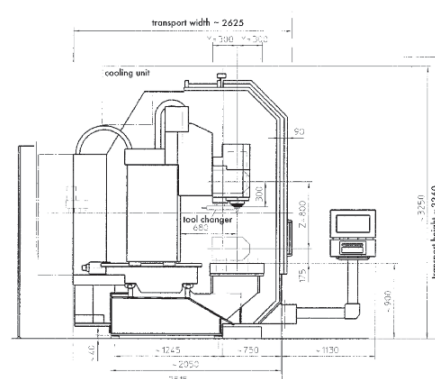
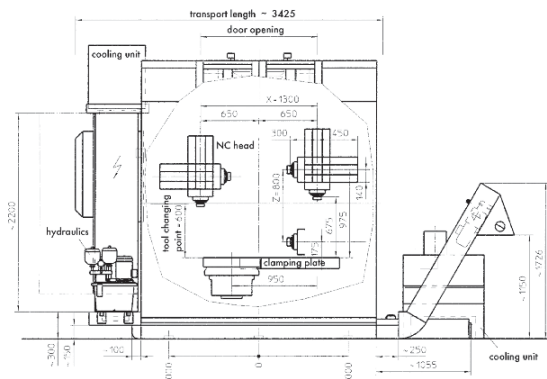

Integrated rotary table with direct drive, speed max. = 500 rpm



matec-40 HV is based on the concept of the long-bed machine matec-40 L. 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  $105^\circ$  to both sides guarantee multilateral machining of long profiles or shafts in multiple clamping.

## Special features

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



## Specifications

Working area X-axis	2,000 - 12,000 mm
Working area Y-axis	800 mm
Working area Z-axis	vertical 690 (990) / horizontal 800 (1,100) mm
Distance spindle nose/table	vert. 0 - 690 (0-990) / hor. 250 - 1,050 (0-1,350) mm
Machine table width	835 (1,035/1,235) mm
T-slots	18 H8
Spindle	SK 50 (HSK-A 100)
Speed	8,000 (12,000) rpm
Power	44 (68) kW - 20% DC
Torque, max.	350 (460) Nm - 20% DC
Rapid feed	30 (80 with linear drive) m/min
Drilling performance in steel	80 (100) mm
Tapping in steel	M30 (M36)
Milling capacity in steel	1,000 (1,100) 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 change time	vertical approx. 8.5 sec / horizontal approx. 8.5 sec
Chip-to-chip time	vertical approx. 9.5 sec. / horizontal approx. 9.5 sec

Traverse paths X-axis	mm	2,000	3,000	4,000	5,000	6,000	up to 12,000
Machine table length	mm	2,500	3,500	4,500	5,500	6,500	12,500
Twin table mach., max. vert.	mm	2 x 500	2 x 1,000	2 x 1,500	2 x 2,000	2 x 2,500	2 x 5,500
Machine length, approx.	mm	5,870	7,150	8,460	9,740	11,020	18,700
Weight, approx.	t	14	17	22	25	30	65

Subject to technical changes



Tool changer



Tool magazine with 40 or 60 tool pockets

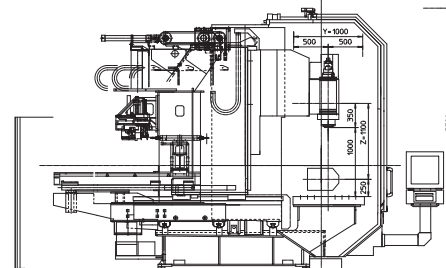
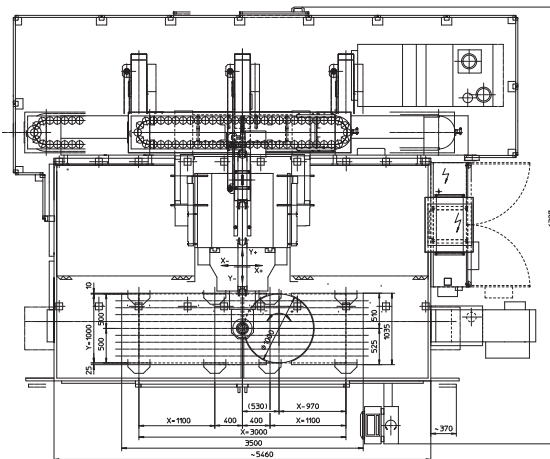


matec-50 HV is based on the concept of the long-bed machine matec-50 L. One of the particular machine features is a swivel head.

A variety of CNC rotary tables in connection with the swivel head allow the 5-side or 3D machining of work parts. The long X-axis and the swivel head swiveling 105° to both sides guarantee multilateral machining of long profiles or shafts in multiple clamping.

## Special features

- Tool system SK50/HSK-A 100
- Swivel head  $\pm 105^\circ$  continuously variable as CNC-axis for horizontal and vertical machining, indexing precision  $\pm 5$  angular seconds
- Optionally available as milling/turning center with turning diameters up to 2,200 mm



## Specifications

Working area X-axis	2,000-12,000 mm
Working area Y-axis	1,000 (1,200/1,400) mm
Working area Z-axis	vertical 1,000 (1,200) / horizontal 1,100 (1,300) mm
Distance spindle nose/table	vertical 0-1,000 / horizontal 250-1,350 (1,550) mm
Machine table width	1,035 (1,235/1,435) mm
T-slots	18 H8
Spindle	SK50 (HSK-A 100)
Speed	8,000 (12,000) rpm
Power	44 (68) kW - 20% DC
Torque, max.	350 (460) Nm - 20% DC
Rapid feed	30 (40 with linear drive) m/min
Drilling performance in steel	80 (100) mm
Tapping in steel	M30 (M36)
Milling capacity in steel	1,000 (1,100) cm <sup>3</sup> /min
Tool magazine	40 (60 up to 200) pcs
Tool diameter, max.	104 (200) mm
Tool length, max.	460 mm
Tool change time	vertical approx. 8.5 sec / horizontal approx. 8.5 sec
Chip-to-chip time	vertical approx. 9.5 sec / horizontal approx. 9.5 sec

Specifications valid for Y-axis=1,000 mm

Traverse paths X-axis	mm	2,000	3,000	4,000	5,000	6,000	up to 12,000
Machine table length	mm	2,500	3,500	4,500	5,500	6,500	12,500
Twin table mach., max. vert.	mm	2 x 500	2 x 1,000	2 x 1,500	2 x 2,000	2 x 2,500	2 x 5,500
Machine length, approx.	mm	5,870	7,150	8,460	9,740	11,020	18,700
Weight, approx.	t	24	32	39	46	53	95

Subject to technical changes





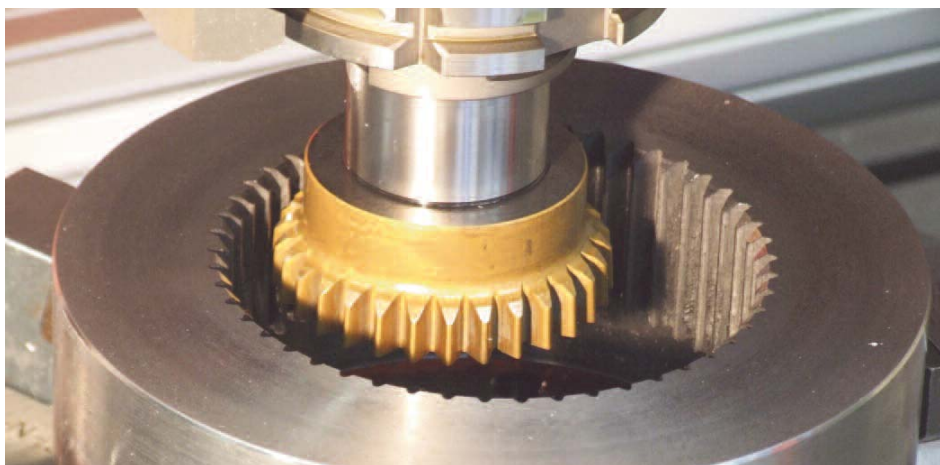
### Economical machining of complex parts

Almost all the 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.

Complex parts can be machined economically on such machines in one or two clampings in demanded tolerance and surface quality. Designed correspondingly, our machines even allow controlled boring of 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.

### Gear cutting on a general-purpose machine

All traveling column machining centers of the HV series can additionally be equipped with a hobbing module. This module can be used for straight and helical gearing as well as for worm-shaped gearing. The extremely rugged HV machines are perfectly fit for this kind of application. Gears up to 2 m in diameter can be manufactured in single and series production. Equipped with an integrated rotary table the HV machines are ideally suited for the machining of flat gears; for the gearing of long shafts the machines are fitted with a horizontally mounted rotary table with tailstock.



### 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.

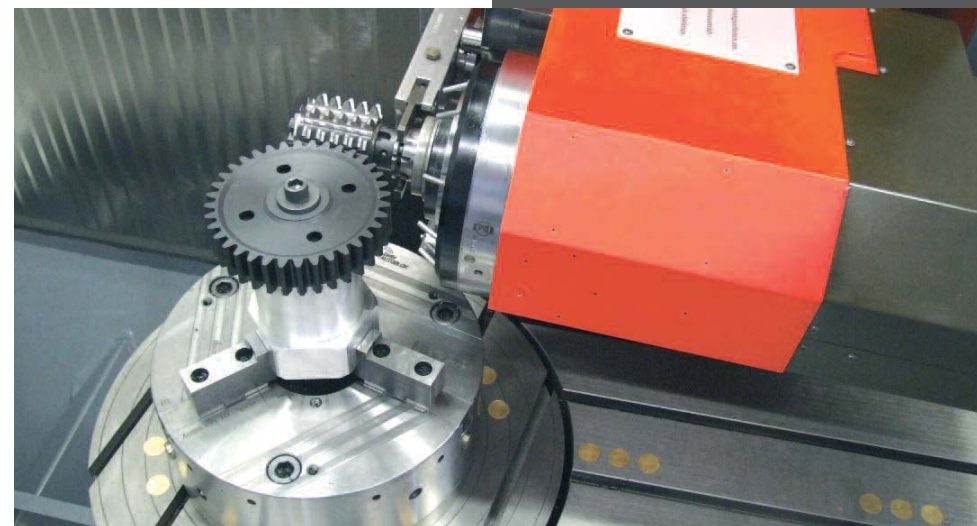
This makes the HV machines a perfect solution for complex machining tasks in three dimensional domain and 5-side machining, and at the same time allows turning in all angles.

The separation of the axes B and C brings stable chip-ping conditions for exact contours and optimal surface quality of the workpiece.



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

Gear cutting now possible on all HV series machines



# Traveling Column Series - HVU machines

Universal milling head for highest flexibility in machining

**matec**  
MASCHINENBAU



## Standard specifications

Full cladding of the machining area incl. electrically protected sliding doors

Digital main spindle drive, motor spindle, oriented spindle stop

Linear guides in all axes

Feed rate/rapid feed with digital AC servo motors in all axes

Tool magazine traveling in X-axis (protectively installed in the traveling column)

Tool position coding variable

Automatic lag compensation for high speed milling of contours

Chip conveyor

### Controls

Rexroth INDRA Motion MTX

Heidenhain iTNC 530

Siemens 840D



## Options

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

Coolant cleaning units with different filter system

Coolant temperature control

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

Oil suction units

Automatic doors

1-axis rotary table with conventional or direct drives

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 turning 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

Clamping hydraulics or pneumatics

Rotary distributor for hydraulics and pneumatics

3-D probe

Tool measuring or tool breaking control

Loading automation / NC-gripper



Traveling Column Series HVU machines

The HVU machines have been conceived 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.

Outstanding features of the HVU machines 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.

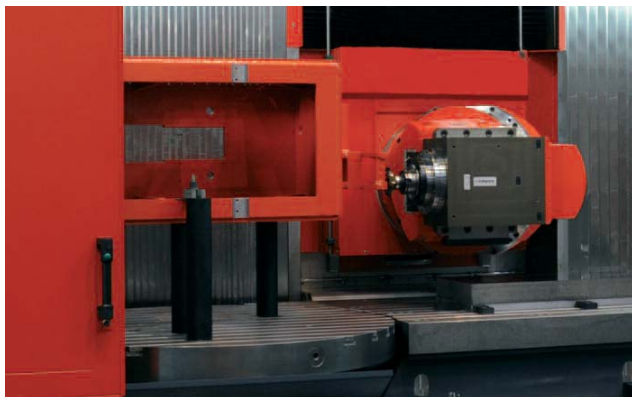
The universal machining centers matec-30 HVU and matec-50 HVU are based on the HV series. The HVU machines have a universal milling head with two axes, which turns the motor spindle in a 45° diagonal position from vertical to horizontal.

The HVU series is available in two versions: matec-30 HVU with taper SK40/HSK-A 63 and matec-50 HVU with taper SK50/HSK-A 100.





Universal milling head with continuous rotation

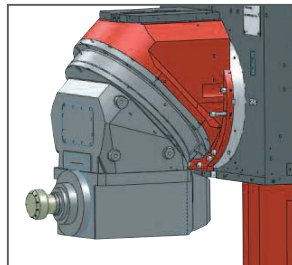
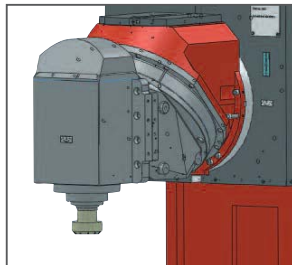
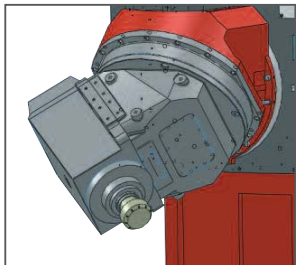


Universal milling head and integrated rotary table

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.

## Special features

- Variable traveling paths
- Universal milling head, applicable as positioning and CNC-milling head, continuously swivelling in both axes simultaneously
- Option: hydraulic disconnection via M-mode

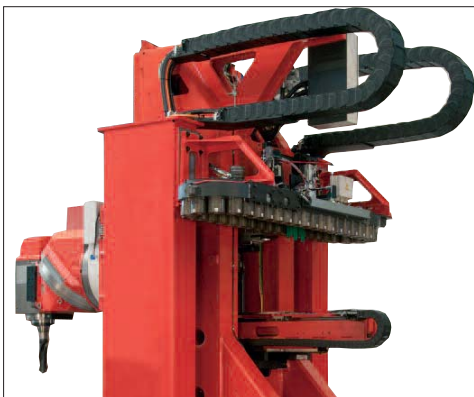


## Specifications

Working area X	2,000-20,000 mm
Working area Y	1,070/1,400 mm
Working area Z	1,100/1,300/1,500/1,800 mm
Distance spindle nose/table (vert.)	0-1,090 / 0-1,290 / 0-1,490 / 0-1,790 mm
Distance spindle nose/table (hor.)	410-1,510 / 410-1,710 / 410-1,910 / 410-2,210 mm
2-axis universal milling head B-axis	± 180°
Torque B-axis max.	clamped/unclamped 4,200/12,000 Nm
Direct measuring system B-axis	5"
2-axis universal milling head A-axis	(swivel level 45°) ± 180°
Torque A-axis max.	clamped/unclamped 1,750/2,500 Nm
Direct measuring system A-axis	3"
Machine table width	1,035/1,235 mm
T-slots	18 H8
Spindle	SK 40 (HSK-A 63)
Speed	9,000 (12,000/15,000/18,000/24,000) 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 (650) cm <sup>3</sup> /min
Tool magazine	48 (96/108/128) pcs
Tool diameter, max.	70 (130) mm
Tool length, max.	340 mm
Tool weight	3 (10) kg
Chip-to-chip time	(depending on Y and Z axis) approx. 9.8 sec

Subject to technical changes





Tool magazine with 40 tool pockets

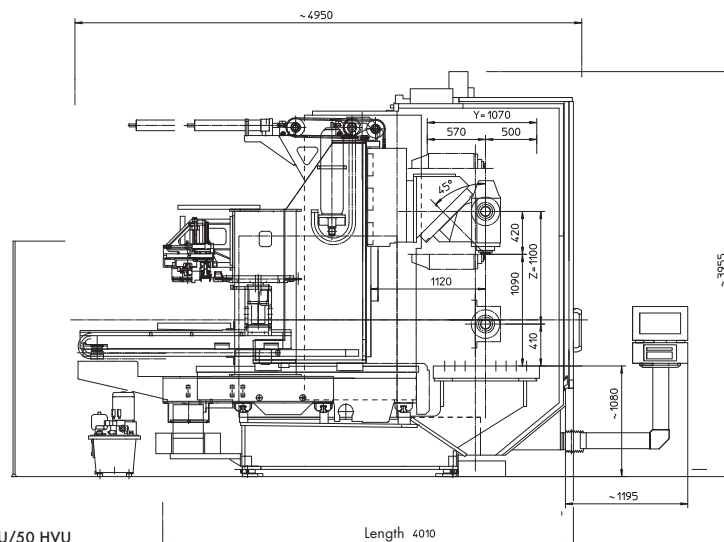


Integrated rotary table and universal milling head with special turning tool

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.

### Special features

- Variable traveling paths
- Universal milling head, applicable as positioning and CNC-milling head, continuously swiveling in both axes simultaneously
- Option: hydraulic disconnection via M-mode


Lateral view  
matec-30 HVU/40 HVU/50 HVU


### Specifications

Working area X	2,000 - 20,000 mm
Working area Y	1,070/1,400 mm
Working area Z	1.100/1,300/1,500/1,800 mm
Distance spindle nose/table (vert.)	0-1,090 / 0-1,290 / 0-1,490 / 0-1,790 mm
Distance spindle nose/table (hor.)	410-1,510 / 410-1,710 / 410-1,910 / 410-2,210 mm
2-axis universal milling head B-axis	± 180°
Torque B-axis max.	clamped/unclamped 4,200/12,000 Nm
Direct measuring system B-axis	5"
2-axis universal milling head A-axis	(swivel level 45°) ± 180°
Torque A-axis max.	clamped/unclamped 1,750/2,500 Nm
Direct measuring system A-axis	3"
Machine table width	1,035/1,235 mm
T-slots	18 H8
Spindle	SK 50 (HSK-A 100)
Speed	8,000 rpm
Power	45 kW - 40% DC
Torque, max.	480 Nm - 40% DC
Rapid feed	30 m/min
Drilling performance in steel	80 mm
Tapping in steel	M40
Milling capacity in steel	1,000 cm <sup>3</sup> /min
Tool magazine	40 (60 up to 200) pcs
Tool diameter, max.	104/200 mm
Tool length, max.	460 mm
Tool weight	25 kg
Chip-to-chip time	(depending on Y-and Z-axis) approx. 9.8 sec

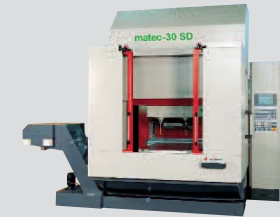
Subject to technical changes

## 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

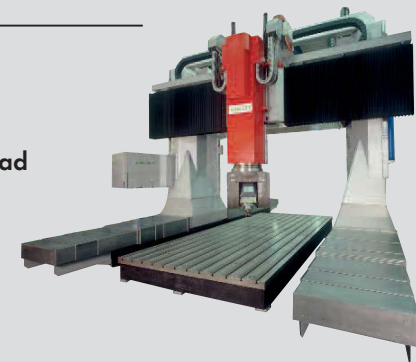
matec-30 HV duo  
matec-30 HVU  
matec-40 HV  
matec-50 HV  
matec-50 HVU

## 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



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