

HEAVY-DUTY CUTTING IN SERIES PRODUCTION

30SHV | 30S | 30SD | 30LD SERIES

Moving-column centres with swivel table and long bed
Swivel head | Single spindle | Double spindle



MATEC 30SHV

Machining centre with swivel head and swivel table

Loading and unloading during machining
Pallet change in approx. 4 seconds



Moving-column machining centre with swivel head, designed for medium and large-series production. The basic machine is the MATEC 30HV with an X-axis travel of 2,000 mm. The production principle of the MATEC 30SHV is based on a 0-180° pendulum swivel table with two work areas. The work area is changed by a 180° rotation of the swivel table.

A lifting door with safety glass separates the machining areas. This design enables loading and unloading to take place during machining while the machine is producing in the other machine area. Non-productive time is thus reduced to a minimum.

Accessibility and visual control for the machine operator are optimal. The same applies to automated loading and unloading.

The modular design of the basic machine and the swivel table from the modular system provides the perfect individual solution. In conjunction with the swivel head,

even long workpieces can be machined at both ends. Additional machining units, oversized tools and special equipment can also be set up economically via pick-up stations. Rotary distributors for clamping hydraulics, pneumatics or vacuum integrated in the swivel table enable complex fixtures with different clamping sequences.

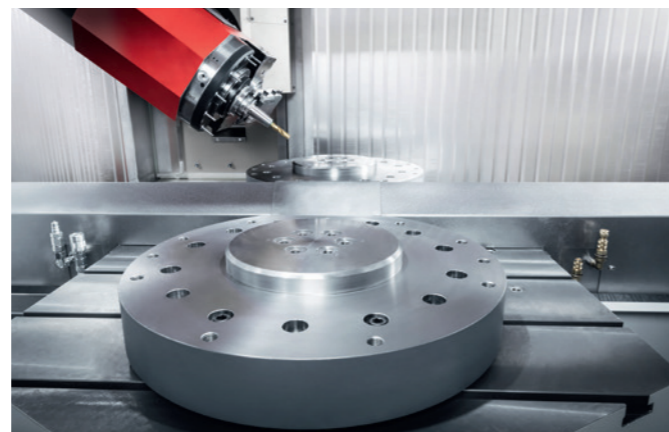
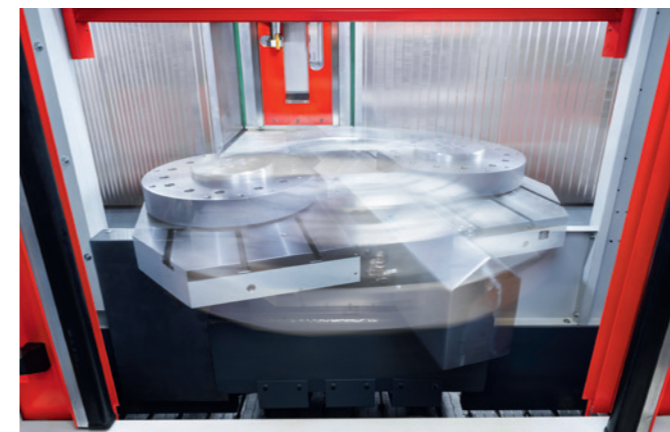


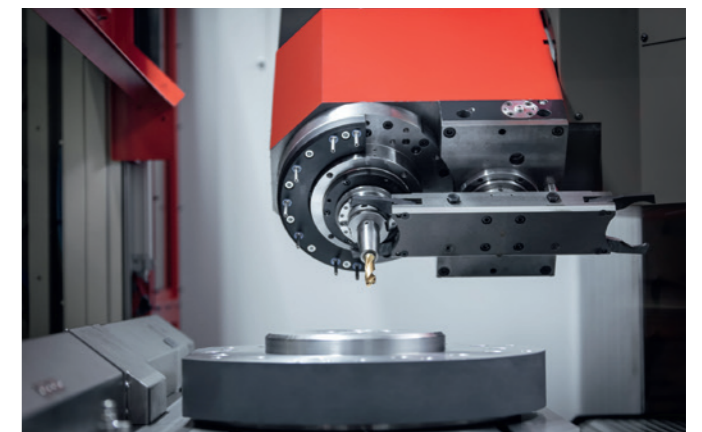
Illustration of the two work areas with open safety partition wall.

Technical data

Work area	Dim.	MATEC 30SHV
X-axis	mm	2,000
Y-axis	mm	600
Z-axis	mm	800
Distance spindle nose machine table (vertical)	mm	675
Distance spindle centre machine table (horizontal)	mm	175
1-axis swivel head		
Swivel radius	mm	300
Swivel angle	Degrees	±105
Direct path measuring system	sec	±3"
Torque, clamped unclamped	Nm	4,000 2,200
Main spindle (standard) Motor spindles available in other performance classes as an option		
Tool holder		HSK63
Speed	1/min	9,000
Power at 20 40 100% DC	kW	19 16 11
Torque at 20 40 100% DC	Nm	115 100 75
Tool magazine (travelling)		
Tool places	pcs.	48
Tool length	mm	340
Tool Ø, all places occupied	mm	70
Tool Ø, adjacent places free	mm	140
Tool weight	kg	3 10
Axis drives		
Ball screw (standard)		
Rapid traverse	m/min	48
Feed rate	mm/min	30,000
Swivel table		
Table width	mm	850
Table depth	mm	550
T-slots according to DIN 650	mm	14 ^{H8}
Number of T-slots per table side	pcs.	3
Slot spacing	mm	160
Table load, max.	kg	2 x 400
Swivel time, approx.	sec	4 (depending on weight)



Swivel table 0-180° in pendulum movement.



Infinitely variable swivel head for multi-sided or end machining.

MATEC 30S

3-axis machining centre with swivel table

Two work areas. Loading and unloading during machining

Tool change directly above the workpiece

Pallet change in approx. 4 seconds

Ideal concept for manual and automatic loading



The production principle of the MATEC 30S is based on a 0-180° pendulum swivel table with two work areas. The work area is changed by a 180° rotation of the swivel table.

A lifting door with safety glass separates the machining areas. This design enables loading and unloading to take place during machining while the machine is producing in the other machine area. Non-productive time is thus reduced to a minimum.

Accessibility and visual control for the machine operator are optimal. The same applies to automated loading and unloading.

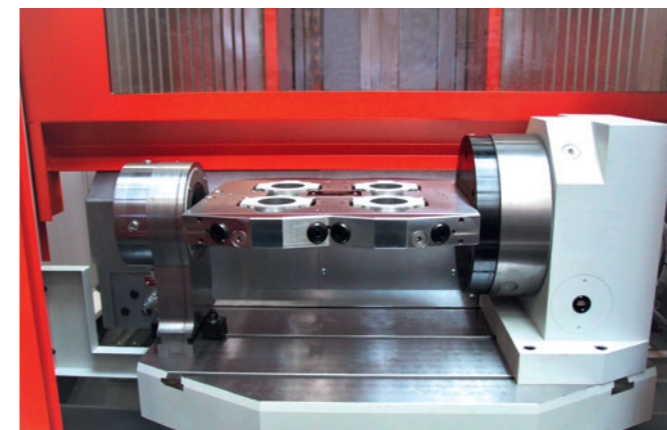
The modular design of the basic machine and the swivel table provides the perfect individual solution.

Additional rotary tables or swivel bridges with counter bearing enable multi-sided machining. Furthermore, special tools such as multi-spindle heads and angular drilling heads as well as oversized tools can be set up economically via pick-up stations.

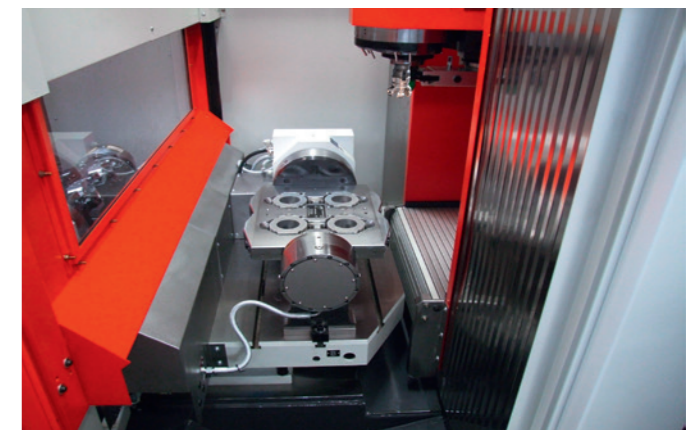
Rotary distributors for clamping hydraulics, pneumatics or vacuum integrated in the swivel table enable complex fixtures with multiple clamping or different clamping sequences.

Technical data

Work area	Dim.	MATEC 30S
X-axis	mm	800
Y-axis	mm	480
Z-axis	mm	500
Distance spindle nose machine table, max.	mm	650
Distance spindle nose machine table, min.	mm	150
Main spindle - Motor spindle (standard)		
Tool holder		HSK63 SK40
Speed	1/min	9,000
Power at 20 40 100% DC	kW	19 16 11
Torque at 20 40 100% DC	Nm	115 100 75
Main spindle - Motor spindle (options for the basic machine)		
Tool holder		HSK63 SK40
Speed (optional 12,000 15,000 18,000 24,000 42,000)	1/min	9,000
Power at 20 40 100% DC	kW	36 30 17
Torque at 20 40 100% DC	Nm	230 191 108
Tool magazine (travelling)		
Tool places	pcs.	36
Tool length	mm	340
Tool Ø, all places occupied	mm	70
Tool Ø, adjacent places free	mm	140
Tool weight	kg	3 10
Axis drives		
Ball screw		
Rapid traverse	m/min	48
Feed rate	mm/min	30
Swivel table		
Table width	mm	850
Table depth	mm	550
T-slots according to DIN 650	mm	14 ^{H8}
Number of T-slots per table side	pcs.	3
Slot spacing	mm	160
Table load, max.	kg	2 x 400
Swivel time, approx.	sec	4 (depending on weight)



Work area 1: Loading station.
Design with rotary table, fixture bridge and counter bearing.



Work area 2: Machining station.
Multi-sided machining in one clamping position.

MATEC 30SD

3-axis double-spindle machining centre with swivel table

Two work areas. Loading and unloading during machining
 Reduction of the piece time by 50%
 Tool change directly above the workpiece
 Pallet change in approx. 4 seconds
 Ideal concept for manual and automatic loading



The production principle of the MATEC 30SD is based on a 0-180° pendulum swivel table with two work areas. The work area is changed by a 180° rotation of the swivel table.

A lifting door with safety glass separates the machining areas. This design enables loading and unloading to take place during machining while the machine is producing in the other machine area. Non-productive time is thus reduced to a minimum.

Accessibility and visual control for the machine operator are optimal. The same applies to automated loading and unloading.

The modular design of the basic machine and the swivel table provides the perfect individual solution.

Additional rotary tables or swivel bridges with counter bearing enable multi-sided machining.

Rotary distributors for clamping hydraulics, pneumatics or vacuum integrated in the swivel table enable complex fixtures with multiple clamping or different clamping sequences.

Technical data

Work area	Dim.	MATEC 30SD
X-axis	mm	450
Y-axis	mm	480
Z-axis	mm	500
Spindle distance, double spindle	mm	400
Distance spindle nose machine table, max.	mm	650
Distance spindle nose machine table, min.	mm	150
Main spindle - Motor spindle (standard)		
Tool holder		HSK63 SK40
Speed	1/min	9,000
Power at 20 40 100% DC	kW	19 16 11
Torque at 20 40 100% DC	Nm	115 100 75
Main spindle - Motor spindle (options for the basic machine)		
Tool holder		HSK63 SK40
Speed (optional 12,000 15,000 18,000 24,000 42,000)	1/min	9,000
Power at 20 40 100% DC	kW	36 30 17
Torque at 20 40 100% DC	Nm	230 191 108
Tool magazine (travelling)		
Tool places	pcs.	2 x 36
Tool length	mm	340
Tool Ø, all places occupied	mm	70
Tool Ø, adjacent places free	mm	140
Tool weight	kg	3 10
Axis drives		
Ball screw		
Rapid traverse	m/min	48
Feed rate	mm/min	30
Swivel table		
Table width	mm	850
Table depth	mm	550
T-slots according to DIN 650	mm	14 ^{H8}
Number of T-slots per table side	pcs.	3
Slot spacing	mm	160
Table load, max.	kg	2 x 400
Swivel time, approx.	sec	4 (depending on weight)



Work area 1: Loading station. Hydraulically operated double clamping device for automation.



Work area 2: Machining station.

MATEC 30LD

3-axis double-spindle machining centre with long bed MODULAR series

Two work areas. Loading and unloading during machining
Reduction of the piece time by 50%
Tool change directly above the workpiece
Work area change in approx. 4 seconds
Ideal concept for manual and automatic loading



With two spindles - to reduce the unit cost

The MATEC 30LD belongs to the MODULAR SERIES. The proven design principles of the MATEC modular system guarantee the ideal configuration for almost any production methods. Customer requirements and machining centre can thus be optimally matched. The basic machine with double spindle and two work areas has already been designed for series production. Furthermore, it can be expanded by various optional equipment.

Variants of the basic machine

- Motor spindles, increased power and speed.
- Extension of the spindle distance from 400 to 550 mm.
- Second Z-axis for compensation of different work-piece lengths.

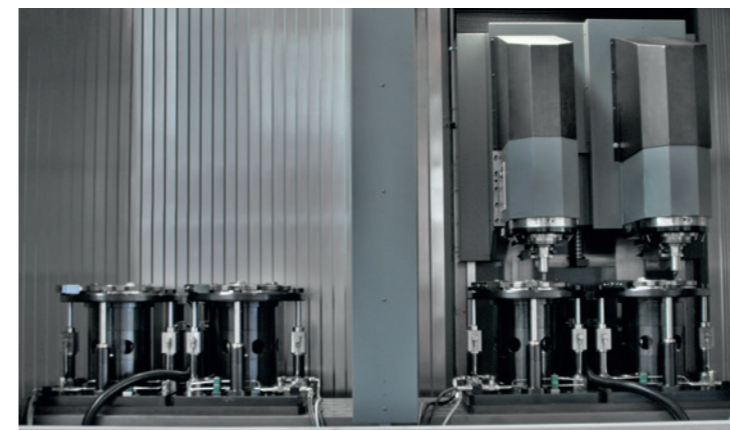
Variants of the machine table assembly group

- Standard fixed table, optionally with table lowering by 100 mm.
- Prepared for 1-axis or 2-axis double rotary tables for multi-sided machining.
- Version without fixed table, however, with mounting brackets for the installation of various equipment.
- Swivelling machine table in bridge design.

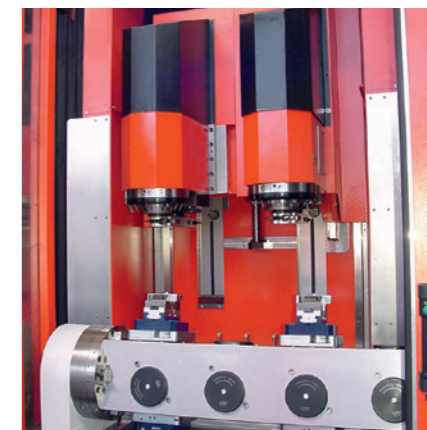
Technical data

Work area	Dim.	MATEC 30LD
X-axis	mm	2,600
Y-axis	mm	600
Z-axis	mm	600
Spindle distance, double spindle	mm	400 (550*)
2nd Z-axis for tool length compensation, right-hand spindle - adjustable range:	mm	± 5 mm*
Distance spindle nose machine table, max.	mm	700
Distance spindle nose machine table, min.	mm	200
Main spindle - Motor spindle (standard)		
Tool holder		HSK63 SK40
Speed	1/min	9,000
Power at 20 40 100% DC	kW	19 16 11
Torque at 20 40 100% DC	Nm	115 100 75
Main spindle - Motor spindle (options for the basic machine)		
Tool holder		HSK63 SK40
Speed (12,000 15,000 18,000 24,000 42,000*)	1/min	9,000
Power at 20 40 100% DC	kW	36 30 17
Torque at 20 40 100% DC	Nm	230 191 108
Tool magazine (travelling)		
Tool places	pcs.	2 x 36 (2 x 48*)
Tool length	mm	340
Tool Ø, all places occupied	mm	70
Tool Ø, adjacent places free	mm	140
Tool weight	kg	3 10
Axis drives		
Ball screw		
Rapid traverse	m/min	48
Feed rate	mm/min	30
Machine table		
Table length	mm	3,100
Table width	mm	635
T-slots according to DIN 650	mm	18 ^{H7}
Number of T-slots	pcs.	5
Slot spacing	mm	125

* Option



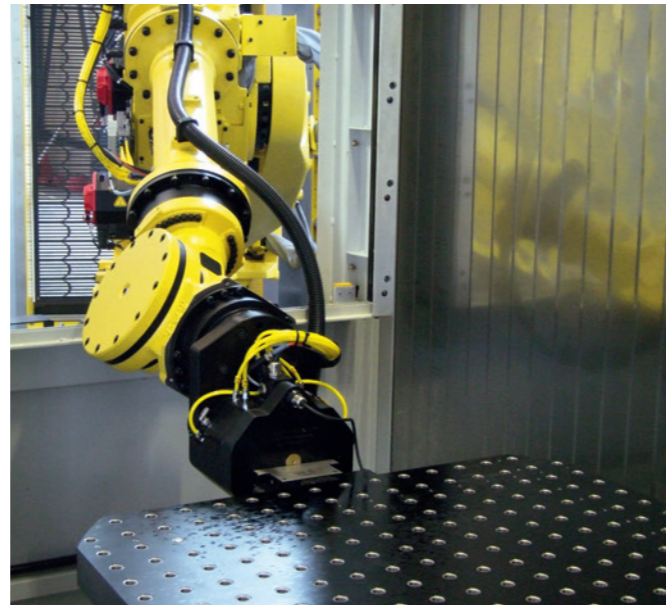
Pendulum machining with two work areas.
Version without fixed table, however, with mounting brackets for the installation of various equipment for high workpieces.



Rotary table - swivel bridge - counter bearing:
Clamping capacity for 16 workpieces.

Automation solutions 30SHV | 30S | 30SD Modular series with swivel table

The ideal combination of high-productivity series machines and efficient automation



The machines of the MATEC swivel table series solely consist of the modules of our sturdy long-bed machine series. In series production, they are therefore preferentially used where high cutting capacity is required and for the end machining of long components.

The machine is offered in three basic versions:

- MATEC 30SHV with swivel head
- MATEC 30S Single-spindle version with fixed head
- MATEC 30SD Double-spindle version with fixed head

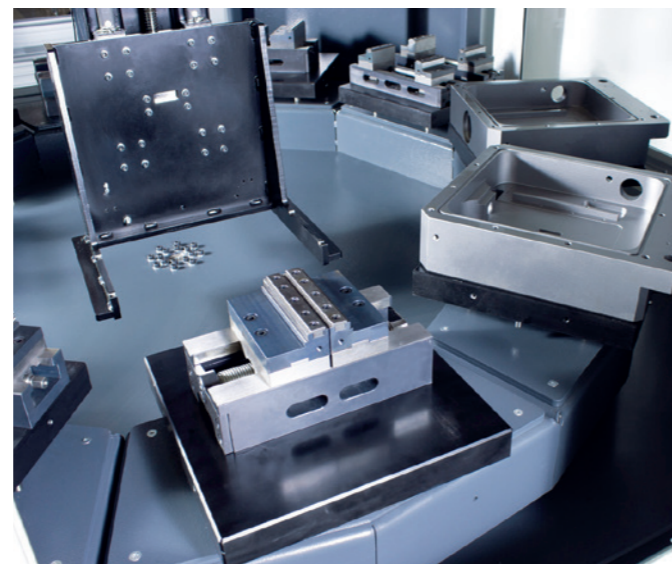
For all machine versions, the production principle of the MATEC swivel table series is based on a 0-180° pendulum swivel table with two separate work areas. The work area is changed by a 180° rotation of the swivel table.

A lifting door with safety glass separates the machining areas. This design enables loading and unloading to take place during machining while the machine is producing in the other machine area.

For multi-sided machining, numerous standard rotary tables in single- or two-axis versions as well as special fixture bridges, even with multiple clamping, are available.

For automation, usually fast robot systems are used. If required, these systems can also take on auxiliary and additional tasks such as brushing, deburring, washing and marking in a cost-effective manner. Automation principle optionally with pallet or workpiece handling – or both.

Do not hesitate to contact us.



MATEC 30SHV

- Swivel table
- Swivel head $\pm 105^\circ$
- X-/Y-/Z-axis 2,000/600/800 mm

Multi-sided or end machining on long workpieces with a length of up to 800 mm

Automation sample: MATEC 30SHV

Plant interlinked in a line with upstream and downstream process steps.

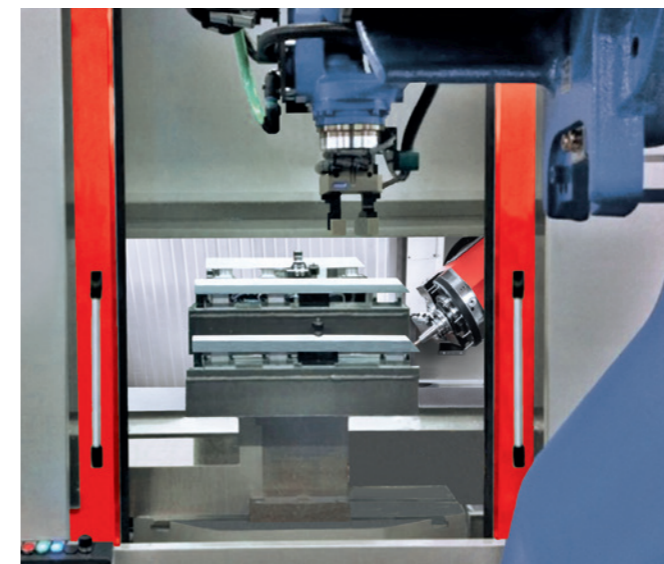
3-sided machining of profiles. MATEC manufacturing cell with loading and unloading during machining operations.

Additional processes: deburring, washing and drying at the loading station.

Automation

- 6-axis robot
- 2 x drawer-type magazine with six drawers
- Drawers can be loaded externally
- Alignment and positioning station

The arrangement of the robot in front of the machine guarantees free access to the loading station even for set-up and manual loading.



View of the work areas with the safety partition wall at the centre of the swivel table open. 6-axis robot in unloading position.

Two workpieces clamped in each work area. Machining of both ends by means of swivel head.

Other machine series

Gantry series

Travelling gantry

Performance class HSK63 | HSK100

5-axis gantry machines with infinitely variable 2-axis fork or universal head

- Table version
- Floor-running
- Floor-running with movable gantry beam (W-axis)

Traverse paths:

- X-axis up to 20,000 mm
- Y-axis up to 5,300 mm
- Z-axis up to 2,900 mm

Other sizes are available on request.



Stationary gantry | Moving machine table



- As single-station machine
- With pallet changer for 2 to 4 pallets (more pallets on request)

Pallet size = part size:
2,000 x 2,000 mm up to
4,000 x 3,000 mm



Other machine series

MATEC 30HVC

5-axis standard machining centres
Performance class HSK63

The standard machine for complex 5-sided machining

- High stability and precision
- Short delivery times



20A and AF series

Standard series with cross table:

MATEC 20A

Performance class SK40 | HSK63

Traverse paths: X-axis: 850 to 1,300 mm
Y-axis: 520 to 600 mm
Z-axis: 520 to 560 mm



MATEC 30HVU | 30U | 50HVU | 50U | 60HVU | 60U | 70HVU | 70U

Modular group HVU | U
Basic machines



MATEC 20AF

Performance class SK40 | HSK63 or SK50 | HSK100

Traverse paths: X-axis: 1,100 to 2,200 mm
Y-axis: 620 to 1,020 mm
Z-axis: 600 to 800 mm



Long-bed series

MATEC 30L

Vertical machining centre



MATEC 20P series

3-axis standard gantry centre

MATEC 20P

Performance class SK40 | HSK63 or SK40 | HSK100,
stationary gantry, moving machine table

Traverse paths: X-axis: 2,200 to 5,200 mm
Y-axis: 1,600 to 2,600 mm
Z-axis: 750 to 800 mm



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Subject to technical changes. Illustrations may contain options.

