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[E[M]CONOMY means:]

High precision for heavy weights. MMV 3200

Travelling Column Machining Center

MMV 3200

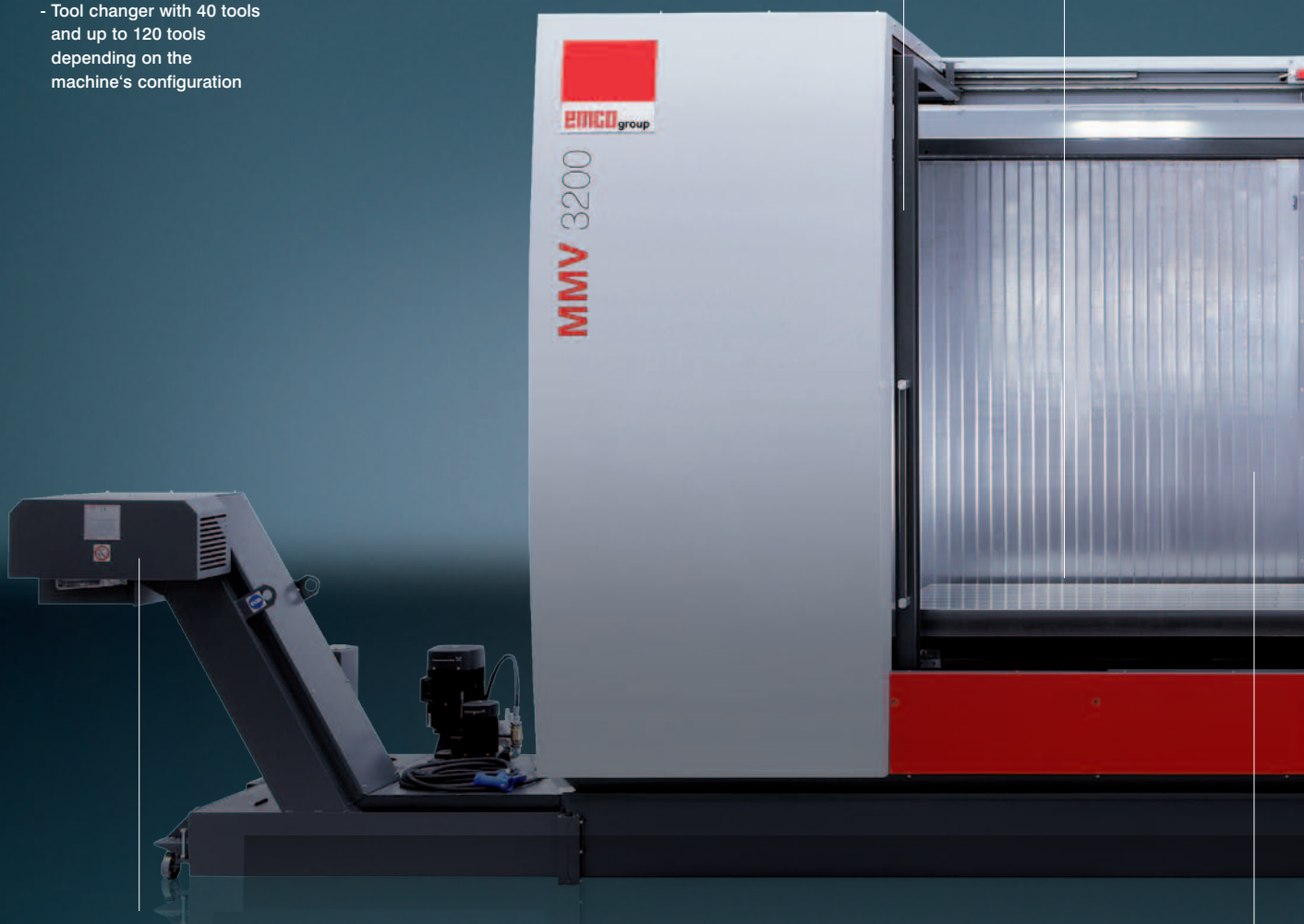
Travelling Column Machining Center for workpieces up to 5000 kg

[Axes]

- Linear roller guides in X, Y and Z directions
- Linear scales in X directions

[Tool magazine]

- Tool changer with 40 tools and up to 120 tools depending on the machine's configuration



[Chip conveyor]

- Chip conveyor fitted as standard
- Chip removal to the left

[Rear machine compartment]

- Machine compartment partitioned by maintenance-free steel accordion way-covers

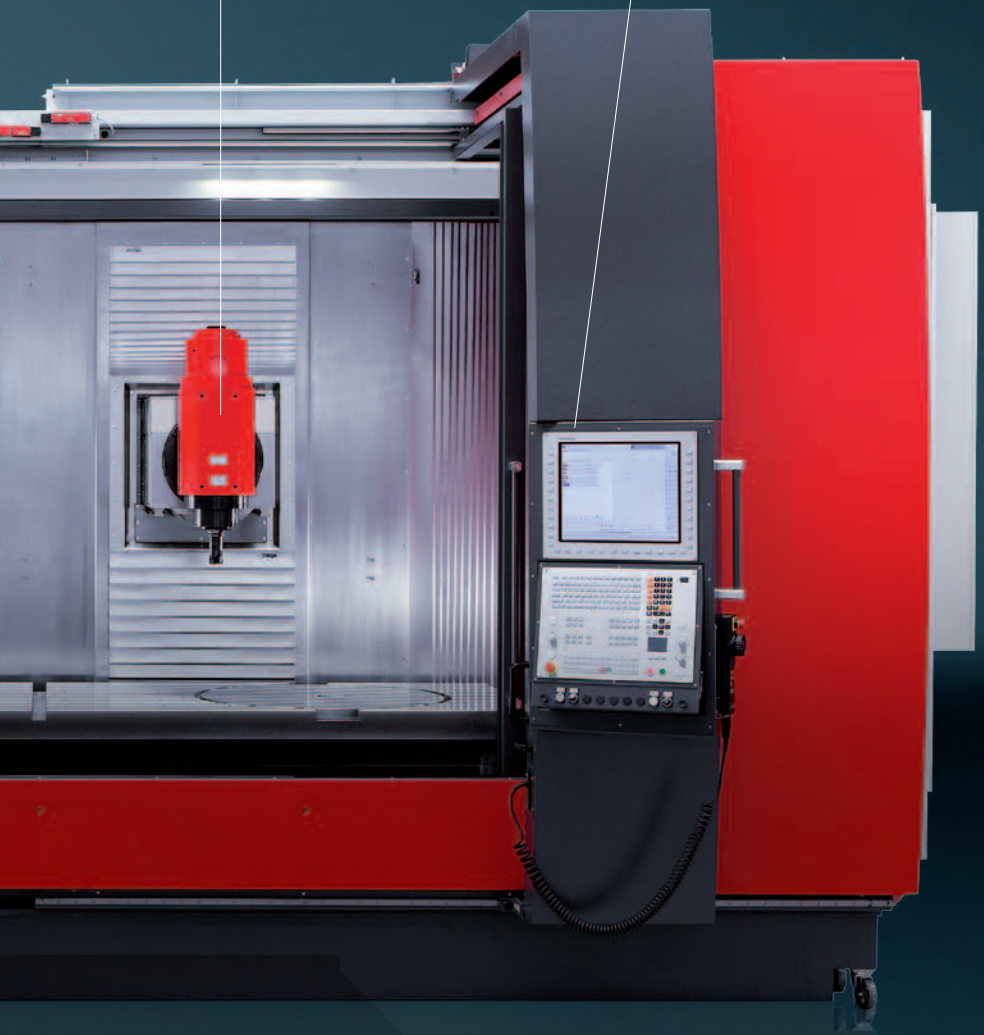
Travelling Column Machining Center for 3, 4, or 5 axes machining of big and heavy parts for small to medium lot sizes. Rapid travel up to 50 m/min with the utmost in precision. The super-structure is highly rigid, even for heavy work pieces weighing up to 5000 kg.

[Spindle]

- Motor spindle with 15000 rpm or 18000 rpm (only for the HSK A63 version)
- High dynamic
- Water-cooled

[Control]

- State-of-the-art control systems
- SIEMENS 840D sl
- HEIDENHAIN TNC 640

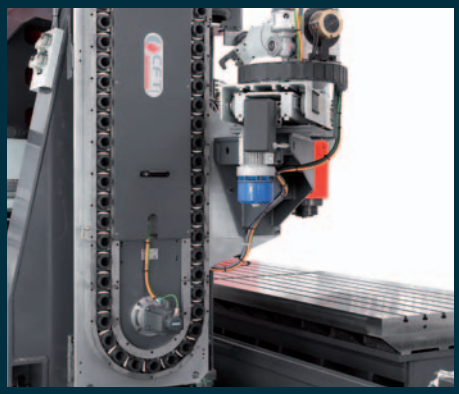


Machine with optional equipment

[Engineering]

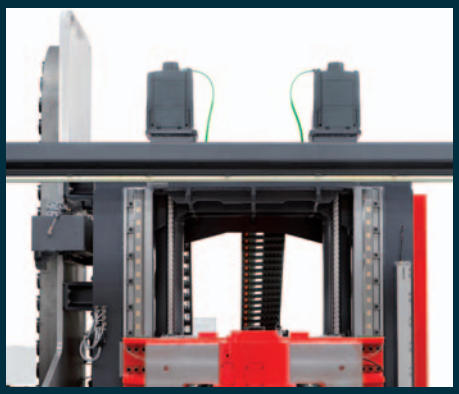
Highlights

- Flexible modular design
- Available as 3-, 4- or 5-axis version
- High-performance motor spindle
- Compact and attractive machine design
- Rigid design achieved through a closed box structure
- Solid machine base
- Rigid linear roller guides size 55 (X-axis)
- Direct driven ball screws on the Y- and Z-axis, quiet operation
- X-axis with rotating nut ballscrew and fixed screw

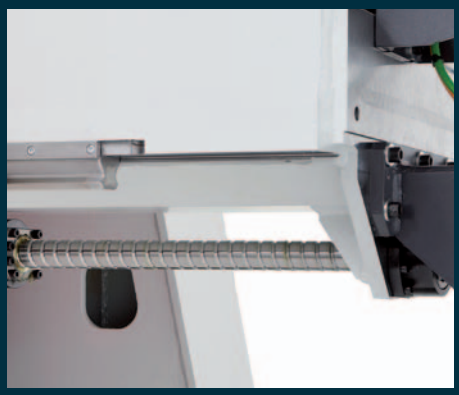


Tool magazine: available with turret configuration on 3-, 4- and 5-axis version, or with alongside column configuration on 4- and 5-axis version. Tool change on turret configuration with dual arm grippers at the X-axis limit, with 40 tool stations (optional 80). Tool change on the alongside configuration fast and safe, all along the X-axis and at the extreme limit of the Z- and Y-axis. Up to 120 tool stations. An external tool changer „tower“ is available upon request.

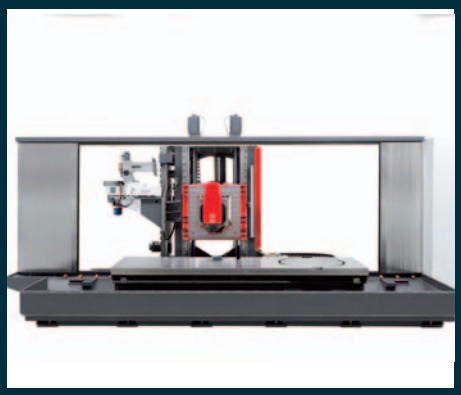
Milling spindle: The machine is equipped with a liquid cooled motor spindle with compelling performance specs. At spindle speeds of 15000 rpms, a power rating of 46 kW, and a torque of 170 Nm, the machine is also suited for heavy-duty machining. A motor spindle 18000 rpm is available with HSK A63.



Z-axis travel: In order to attain precision Z-axis rapid travel at speeds of 40 m/min, and due to its large mass, this axis is powered by two ball screw drives and two motors in a master-slave configuration.



Y-axis: The Y-axis has a ram configuration. This design uses long way guides in order to attain the required rigidity. Its high precision is guaranteed by the motor installed direct drive on the screw.

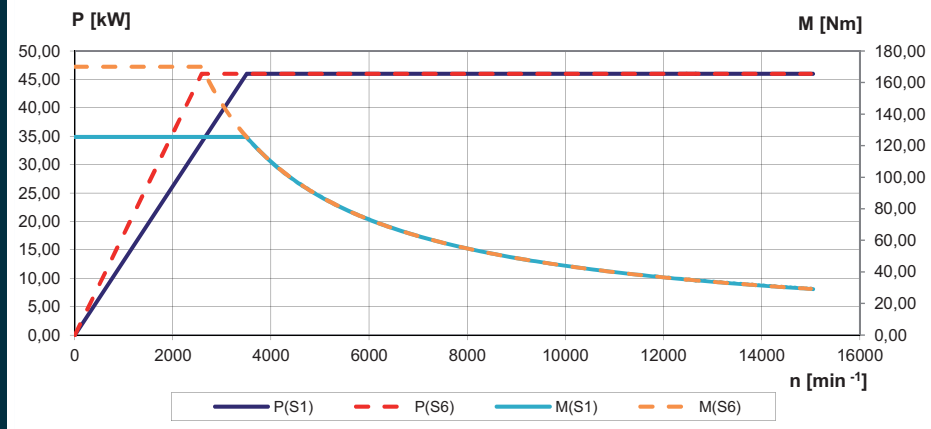


Machine frame: The machine bed is made of welded high quality steel. This ensures the required rigidity of the machine base, and also facilitates vibration dumping.

X-axis: Equipped with rotating nut ballscrew and fixed screw. The positioning accuracy is guaranteed by the standard linear scale.

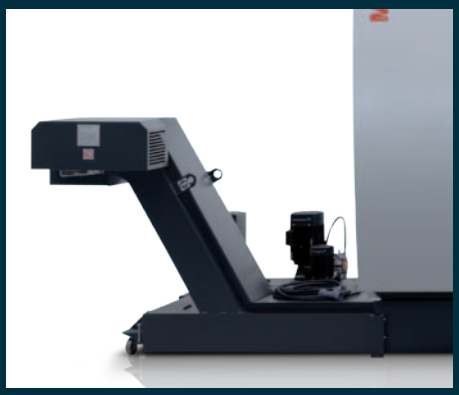
- Rotary table and B-axis with torque motors
- Simple and solid axis cover system
- Flexible configuration of tool magazine systems
- State-of-the-art control systems
  SIEMENS 840D sl
  HEIDENHAIN TNC 640
- Ideal value for money
- Made in the Heart of Europe

Power



Control unit: The operator panel can travel, rotate and be adjusted in the direction of the work space. This ergonomic design provides ideal working conditions for the operator.

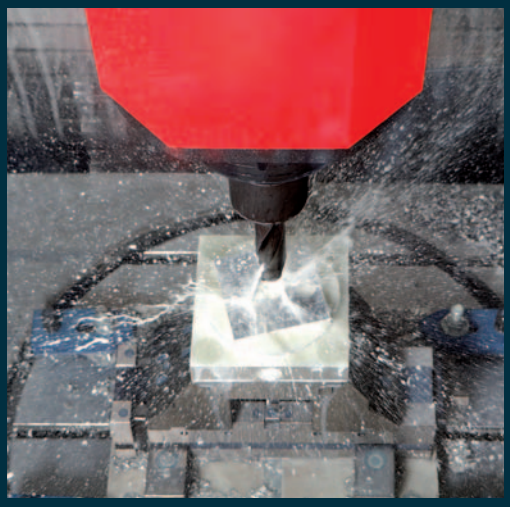
B-axis: The B-axis is driven by a torque motor, therefore achieving highly dynamic axis travel within the pivoting range of +/- 120 degrees.



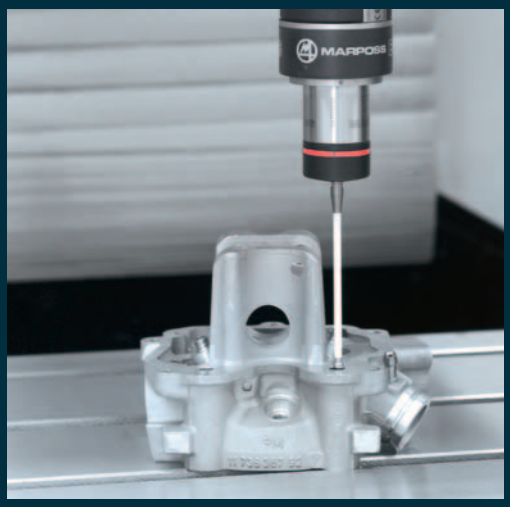
Hinge type conveyer: The chip rinsing system washes chips into the hinge type conveyer, which then automatically transports the chips from the machine into the customer provided container.

Options

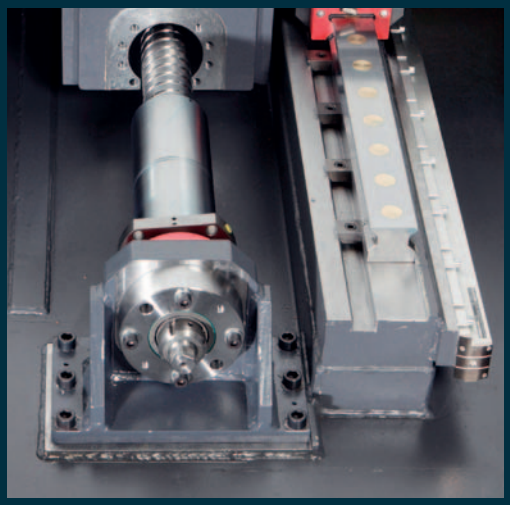
- Workpiece and tool measurement
- Coolant through the spindle
- Automatic doors
- Hydraulic device for clamping systems
- Linear scales in Y and Z direction
- Thermal compensation of the milling spindle
- Coolant filter systems with high-presssure pumps
- Rotary coupling through the round table
- Pneumatic weight balance, highly dynamic



Coolant through the spindle
The spindle can be optionally flooded with high-pressure coolant (25 to 60 bar [362,59 to 870,23 psi]). This ensures reliable chip removal from holes and pockets and reduces cycle times for this type of machining.

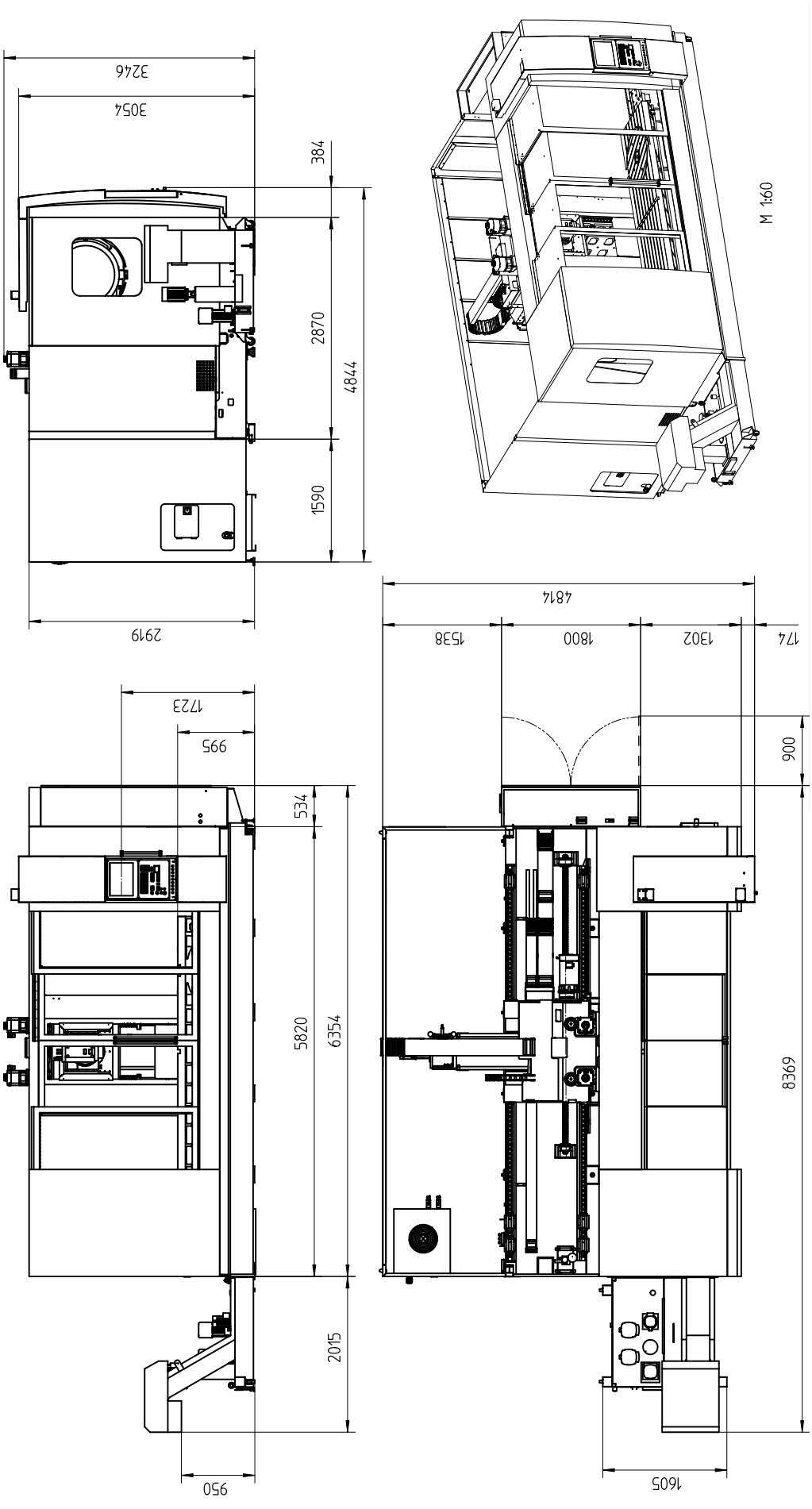


Measurement systems
Tools measurements to reduce setup times during tool changes, as well as work piece measurements to verify dimensions or to find zero locations. The work piece measurement is radio.



Glass scales
Due to its length, the X-axis is always equipped with glass scales. Y- and Z-axis can be equipped with glass scales on demand.

Machine layout and work area



Indications in millimetres

[Technical Data]

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MMV 3200

Travel	
Travel in X – axis	3200 mm (126")
Travel in Y – axis	1000 mm (39,4")
Travel in Z – axis	950 mm (37,4")
Min. - max. distance spindle nose - table (vertical)	0 - 950 mm (0" - 37,4")
Min. - max. distance spindle nose - table (horizontal)	250 - 1200 mm (9,8" - 47,2")
Table	
Length	3500 mm (137,8")
Width	1050 mm (41,3")
Slot size	18 mm (0.7")
Number of slots	7
Slot spacing	125 mm (4.9")
Maximum table load (equally distributed)	5000 kg (11023 lb)
Rotary table	
Diameter	900 mm (35,4")
Maximum table load	2000 kg (4409 lb)
Drive	Torque Motor
Main spindle ISO / BT	
Speed range	50 –15000 rpm
Torque	125 Nm (S1) (92.1 ft/lbs) 170 Nm (S6-40%) (125,4 ft/lbs)
Spindle power	46 kW (61.7 hp)
Tool taper DIN 69871 / option	ISO 40 / BT 40
Pull stud	ISO 7388/2-B
Drive type	Motor spindle
Main Spindle HSK A63	
Speed range	50 - 18000 rpm
Torque	125 Nm (S1) (92,1 ft/lbs) 170 Nm (S6-40%) (125,4 ft/lbs)
Spindle power	46 kW (61,7 hp)
Tool taper	HSK A63
Tool magazine (alongside column)	
Number of tool stations / options	40 / 60 - 120
Changeover principle	S-Arm
Tool management	random
Max. tool diameter	90 mm (3,5")

Tool magazine (alongside column)	
Max. tool diameter (with empty location)	125 mm (4,9")
Max. tool length	300 mm (11,8")
Max. tool weight	8 kg (17,6 lb)
Max. tool magazine weight	180 kg (396,8 lb) / 240 kg (529,1 lb) - 360 kg (793,7 lb)
Tool magazine (turret)	
Number of tool stations	40
Changeover principle	S - Arm
Tool management	random
Max. tool diameter	75 mm (2.9")
Max. tool diameter (with empty location)	125 mm (4.9")
Max. tool length	380 mm (15.0")
Max. tool weight	8 kg (17.6 lb)
Max. tool magazine weight	160 kg (352,7 lb)
Feed drives	
X / Y / Z rapid motion speeds	50 / 40 / 40 m/min (1970 / 1575 / 1575 ipm)
Acceleration in X-/ Y- /Z-axis	3 / 4 / 4 m/s²
Coolant system	
Coolant pressure	2 bar (29 PSI)
Outlet at spindle	4 nozzles
Pneumatic supply	
Supply pressure	6 bar (87.0 PSI)
Lubrication	
Guides	Automatic central lubrication with grease
Feed spindles	Automatic central lubrication with grease
Dimensions/weight	
Overall height	3458 mm (136,1")
Dimensions w x d	8414 mm x 5026 mm (331,2" x 197,9")
Total weight of machine	24000 kg (52911 lb)

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