

# Increased accuracy reduced footprint and time savings



Since deploying the MAXXMILL 500, the machining time at HABICHT Herbert Eigentler has been significantly reduced. An important contribution for this has been the ability to machine parts complete in only a single setup.

## HABICHT Herbert Eigentler GmbH

Based in the Tyrolean Stubai Valley, Herbert Eigentler is continuing nine decades of family tradition – now in its third generation since founding grand-father, Konrad Eigentler. Today, nine qualified employees make up the company's team. It supplies winter enthusiasts from the popular ski region with fast snow gliders and portable tour snow-shovels. The product portfolio also includes high-quality tongues. But the focus of the product and service product line at Herbert Eigentler is decidedly on job-shop machining using highly accurate CNC lathes, milling machines and machining centers. Partners from various branches of industry, including many regular customers, appreciate the quality of the products and the reliability of the supplier and service provider. Riveting, stamping, bending and metal surface treatment round out the range of services.



HABICHT Herbert Eigentler GmbH  
A-6166 Fulpmes im Stubaital, Fachschulstr. 23  
Austria  
Tel.: +43 (0) 5226 54259 · Fax: +43 (0) 5226 4881  
Email: eigentler.gmbh@aon.at  
www.eigentler-gmbh.at

## Requirements profile

- Complete machining - turning and milling at high quality and accuracy
- A compact machine - the available space does not provide room for multi-machine solutions
- Short machining cycles
- Affordable price/performance



## Planning for an investment

Anyone who supplies customers in high-tech industries – such as Herbert Eigentler – must be able to provide products that meet the most demanding quality requirements. But Herbert Eigentler has backed up his good reputation with class-leading short lead times and exemplary service. When order bookings and quality requirements mandated the acquisition of a new machining capability, Herbert Eigentler knew that a complete machining option was called for.

The available space in the production building eliminated the option to install two individual machines from the get-go. Herbert Eigentler and his employees already had good experience with EMCO's machine tools and customer service. The machine park at Fulpmes-based Habicht includes four VMC 300 machining centers and two VMC 600. „Over the course of many years, we have developed a great deal of confidence in our relationship with EMCO. In addition to his outstanding technical knowledge, the field-service technician from Hallein also has a certain sensitivity to our needs“, Herbert Eigentler rationalizes his relatively speedy foregone conclusion. After thoroughly studying and reviewing the options, the final selection was then made in favor of the EMCO MAXXMILL 500 vertical CNC milling center.

## Flexibility, broad accessories and special capabilities

The owner of the family-owned business, Habicht, expresses himself as satisfied after considerable hands-on use of the machine in his facility: „We are operating the new MAXXMILL 500 for one and a half shifts at nearly full capacity. We regard our expectations as having been met: The machining cycle times have been reduced, while also machining complex production parts to the utmost in precision. Being able to machine a part complete in only one setup is an important contributing element for this. We are also able to eliminate the manual deburring step. This is now performed by the MAXXMILL with its convenient rotary-tilt bed. We are producing more cost-effectively and efficiently and have reduced our lead times – positioning us for future competition.“

The tradesmen at Habicht are working with hydraulic clamping devices on the bed. They are using the optional rotary joint through the rotary-tilt bed, providing them with the option to use two hydraulic loops. The integrated home-position clamping systems permits workpiece clamps to be exchanged with ease. This greatly simplifies quick setups for other workpieces. Habicht also selected the optional automatic machine door for its

MAXXMILL 500. This simplifies the operator's work, especially with short cycle times. When the program ends, the machine door opens automatically. The door is closed at the push of a button. An automatic safety rail reliably fends off injury risks for operators, which otherwise originate from automated doors. The high-performance motor spindle is equipped with a 34.5 kW and 110 Nm torque spindle drive, which facilitates considerable clamping volume – and a favorable impact on cycle times. Selecting the demanding optional coolant-through spindle, also in use in Fulpmes, was the result of a detailed cost-benefit review. This is worthwhile in the applications typical for Habicht, since it increases tool-life and the coolant-through tooling permits faster feed rates.

Herbert Eigentler ordered his MAXXMILL 500 with the belt filter system accessory in order to safeguard the coolant-through feature from plugging with chips.



The ability of the MAXXMILL 500 to machine parts complete in one setup enables HABICHT to reduce machining time and lead times, and also ensures high precision even on complex workpiece geometries.



Our many years of having had good experience with EMCO's machining technology continues: The MAXXMILL 500 yet again demonstrates that a machine made by EMCO keeps its promises.

Herbert Eigentler,  
Owner-Operator of  
HABICHT Herbert  
Eigentler GmbH



The metal specialists at HABICHT Herbert Eigentler place their trust in machines and services from EMCO.

When used in combination with a broad range of options that are used based on requirements, the compact, high-performance MAXXMILL 500 enables our customers to respond to new orders quickly and efficiently.

Anton Kranabetter  
Sales Manager  
for EMCO Maier



## Efficiency matters

With only one setup, users of the five-axis MAXXMILL 500 can efficiently and accurately machine complex workpieces with edge lengths of 500 x 500 x 475.

Five sides without changing setups – a capability that unlocks economic and quality-related advantages, especially for mid-sized companies. Small and medium production runs, ideally between 15 and 300 pieces, can be produced on this machine efficiently and at high quality. The tool magazine holds 30 tool stations ready for use.



The tools and tool-holders for the MAXXMILL 500 provide users such as HABICHT with a degree of flexibility and operator convenience.

The host of options on the MAXXMILL ensures that customer and application-specific special needs are combined with the price advantages of a standard machine: Optional accessories include glass scales, chip conveyors, or, as is the case at Habicht, a high-pressure coolant-through spindle. The machine is available in two basic versions for five-axis milling work: The first version, which has the ability to only position two rotary axis, or to interpolate only one rotary axis using two linear axis, and the second version for simultaneous machining, where all five axis are controlled at the same time. Depending on specific needs, the spindle also comes with choices: Either a mechanical version at max. 10,000 rpm and 70 Nm, or a motor spindle at max. 15 000 rpm and 110 Nm. The MAXXMILL 500 is programmed with leading edge control technology from Siemens or Haidenhain. The operator panel is conveniently configured to rotate and tilt. Herbert Eigentler also has praise for the software: „The control is easy to operate. I also find the ability to transfer home positions in the tilt mode of the rotary bed to be ideal – this greatly simplifies programming!“

EMCO Group develops and produces all its machines in Central Europe, while exclusively relying on European brand-name equipment. This ensures the highest levels of European processing quality, the most demanding quality standards and maximum productivity.

## Tyrolean-based HABICHT Herbert Eigentler GmbH

combines three generations of experience in the metal machining industry. Konrad Eigentler founded the business in 1924 as a member of the reputable Stubai-based Werkzeugindustrie reg. gen.mmbH. He successfully led the company for 35 years, until handing the reigns of the business to his son Alexander in 1960. In 1988, after yet another 24 years, it was his son Herbert's turn. Under the leadership of Herbert Eigentler, the GmbH now supplies customers with quality products as a job-shop for chip-generating and non-chip generating machining services. Adding to the knowledge base of the founding fathers, Herbert Eigentler is now leveraging the technological know-how of the IT age. In particular by using highly advanced CNC lathe and mill technology, he and his 9 employees are leveraging numerically controlled machining to his customer's benefit. HABICHT has been certified to EN ISO 9001 since 1996. The milling machine expertise is not only limited to steel and aluminum materials, but also includes plastics. The Fulpmes facility is able to make turned parts up to a rod diameter of 45 mm, and chucked parts up to 155 mm. Complete processing in Fulpmes also includes surface treatments: The service spectrum includes brushing and burnishing. Habicht has the capability to treat workpieces up to a length of 500 mm in its hot-burnishing plant.



# [Technical data]

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## MAXXMILL 500

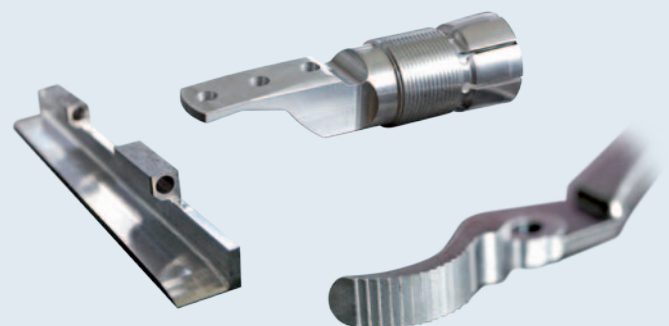
Travel and tolerances	
Travel in X (without 100 mm extra-stroke for tool change)	650 mm (25.6")
Travel in Y	550 mm (21.7")
Travel in Z	500 mm (19.7")
Distance spindle nose - table (min – max)	150/650 mm (5.9"/16.9")
Movement B axis (tilting)	+/-100°
Movement B axis (table)	0 – 360°
Positioning accuracy P according to VDI 3441 *	8 µm
Positioning repeatability Ps according to VDI 3441 *	3 µm
Positioning accuracy B axis (tilting – with motor encoder)	+/- 10 sec.
Positioning accuracy C axis (table – with motor encoder)	+/- 20 sec.
Feed	
Rapid motion speed X-Y-Z axis	30 m/min (1181.1 ipm)
Max. rotational speed B axis	25 rpm
Max. rotational speed C axis	25 rpm
Max. feed force X axis	5000 N (1124 lbs)
Max. feed force Y axis	5000 N (1124 lbs)
Max. feed force Z axis	5000 N (1124 lbs)
Max. acceleration X-Y-Z axis	3 m/s <sup>2</sup>
Tilting table	
Clamping area	600 x 600 mm (23.6 x 23.6")
Table-floor distance	776 mm (30.6")
Slot number	5
Distance between two T-slots	100 mm (3.9")
Max. workpiece weight (equally distributed)	250 kg (551.2 lb)
Main spindle (mechanical spindle)	
Speed range	50 – 10000 rpm
Maximum spindle torque	70 Nm (51.6 ft/lbs)
Maximum spindle power	11 kW (14.8 hp)
Tool taper	ISO 40 DIN 69871
Pull stud	ISO 7388/2 type B
Drive	Direct with coupling

Main spindle (motor spindle)	
Speed range	50 - 15000 rpm
Maximum spindle torque	110 Nm (81.1 ft/lbs)
Maximum spindle power	34,5 kW (46,3 hp)
Tool magazine	
Number of tool stations	30
Tool changing type	With changing arm
Tool management	Random
Tool changing time (tool-tool)	1.6 sec
Max. tool diameter	80 mm (3.1")
Max. tool diameter (without neighbouring tools)	125 mm (4.9")
Max. tool length	250 mm (9.8")
Max. tool weight	8 kg (17.6 lb)
Total tool weight supported by the magazine	100 kg (220.5 lb)
Coolant tank	
Tank capacity	250 l (66.0 gal)
Standard pump pressure	2 bar (29.0 PSI)
Max. capacity at 2 bar	40 l/min (10.6 gal/min)
Pneumatic supply	
Min. pressure supply	5.5 bar (79.8 PSI)
Min. capacity required	200 NI/min
Lubrication	
Spindle	Grease
Caged ball ways	Oil / central lubrication
Ball screws	Oil / central lubrication
Dimensions	
Total height	3000 mm (118.1")
Dimensions L x D	2880 x 3230 mm (113.4 x 127.2")
Weight	9200 kg (20,283 lb)

### Highlights MAXXMILL 500

- 5-axis machining in only one setup
- Top thermostability
- Top machining precision
- Mechanical or motor spindle
- Compact machine design
- Cutting-edge control technology from Siemens or Heidenhain
- Very attractive price/performance
- Made in the Heart of Europe

### Produced parts



**tuV**  
CERT  
EN ISO 9001  
Zertifikat Nr. 20 100 20419  
www.tuv.at

EMCO Maier Ges.m.b.H.

Salzburger Str. 80  
5400 Hallein  
AUSTRIA  
Phone: +43-6245/891-0  
Fax: +43-6245/86965  
info@emco.at

www.emco-world.com