

# Engineering





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Gremotool Engineering

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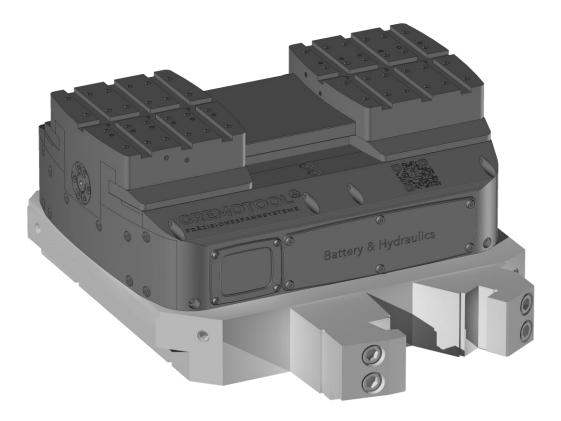
# **Gremotool Swiss Precision Engineering**

Let's design the future together

# The world is constantly changing, and this change is continuously increasing.

Increasing global competition not only has an impact on manufacturing, the development of products must also be innovative, flexible, market-driven and effective at a high level. The opportunities and risks of the current state of the art and new technologies must be constantly taken into consideration.

With our vast experience in the ranges of project management, mechanics, electronics and digital technology, we are the ideal partner for every development process.





# **Gremotool Swiss Precision Engineering**

Reliability in all sectors

# The major challenge in projects is the assessment of risks.

Economic, technical or safety risks must be carefully and realistically assessed. We prepare the documentation in accordance with the current, fundamental standards and regulations.

- Machinery Regulation MR (EU) 2023/1230
- Safety of machinery Risk assessment and Risk minimation EN ISO 12100:2011
- Safety of machinery General layout guidelines EN ISO 13849-1:2023

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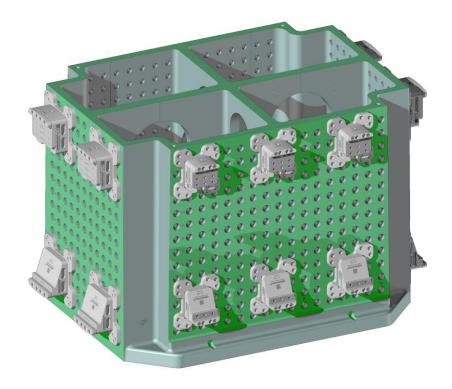


# Services by Gremotool

Innovative and sustainable developments

#### With our network-based partners, we offer a full range of services from the very first idea to the completed product.

- Recording requirements
- Concept and technical studies with functional specifications and processes
- Machine system layout
- Mechanical, electrical and digital design and engineering
- Digital twin with drawings, circuit diagrams and source code
- Documentation of the development
- Production and purchasing
- Assembly and documentation of the process
- Commissioning, service and maintenance





# **Documentation by Gremotool**

Solutions developed in direct cooperation with our customers

#### The process to the EC Declaration of Conformity

In Switzerland and in the EU countries, all products placed on the market by dealers or manufacturers must fulfil the Machinery Ordinance. We prepare the complete documentation and declaration to confirm that the product complies with the state of technology.

- User agreement
  - o Catalogue of requirements
  - o Operating requirements
  - o Special requirements
  - o Goals of protection, risks
  - To be complied with standards
- Project basis
  - o Duration of use
  - o Conditions of use
  - o Risk profiles
  - o Requirements
- Measurement documentation
  - o Measurements
  - o Calculations incl. FEM simulations
  - o Audit reports
- Technical documentation
  - o Drawings
  - o Digital twin
  - o Circuit diagrams
  - o Sourcecode
- Risk assessment
  - o Hazard analysis
  - o Risk analysis
  - o Actions
- Operating instructions with security instructions
  - o EC- Declaration of Conformity



# Engineering

According requirements

#### Combined CAD / CAM

The digital twin is already present in the name. The Gremotool clamping devices are designed in the same programme in which the production programming is created. This makes it possible to update changes to the geometries of the finished workpiece with minimal programming effort for production. In combination, product development becomes scalable at several levels of production.

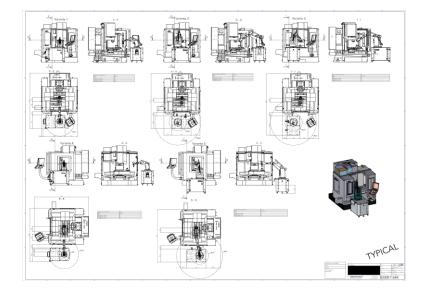
# Customised solutions according to requirements

Whether a special jaw or equipping a machine with a clamping device specifically for a family of cast components, Gremotool offers customised clamping solutions. Together, we offer over 60 years of expertise in various parts of manufacturing, system technology and mechanical engineering to guarantee the best possible clamping solution for reliable production.

#### Parameterised series

The consistent parameterisation of the design data of all clamping devices makes it possible to create Gremotool products cost-effectively, flexibly and according to customer requirements. Special jaws for specific applications can also be made available quickly and easily using this process.

Are you looking for a new solution for clamping? We are looking forward, solving your tensions ensuring a secure grip.





# Digitisation

With the future

#### Sensors

Gremotool integrates various types of sensors into selected products for the era of Industry 4.0. These include acceleration, pressure and force measurement sensors. These are read and temporarily stored by a microcontroller. These components are powered by a rechargeable battery.

#### **Process reliability**

Clamping devices that are enhanced with these functions make it possible to guarantee process stability in automated production. Key factors in workpiece clamping are monitored and analysed:

#### Monitoring

Once the data has been collected, it is sent from the microcontroller to a base station in the machining centre via a wireless connection. There it is stored and analysed. This allows the user to access further machine-independent values directly during the production process. This gives the user a deeper insight into the machining process and can optimise it in a targeted manner.

## Is the workpiece still sufficiently tensioned?

Which forces are acting on the workpiece?

Is there still enough energy for safe clamping?

Are there any vibrations during the production process?

This allows conclusions to be drawn about the tolerances and surface quality of the component while it is still being machined.



# **Our Knowhow Focus**

Development and sales of machine tools
Mold engineering
Mold production
Special-Purpose Engineering
Measurement & Test Equipment Engineering
Integration of Handling Systems
Engineering of Production Resources
Hydro-Mechanical Installations
Engineering of workpiece clamping
Project Management
Medical Engineering
Integration of Sensors / Actuators
Digital Technology

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# Contact



René Baumann CEO and Chief Sales «Industrie 4.0 – an (R)Evolution?»



**Philipp Hugentobler** 

Technology & Chief Development

«Paying attention of the entire process from production to application in development, and constantly learning new things along the way, is a motivating challenge. »



Christian Eberle Technology & Chief Development «Collected data influences the longterm success of today's manufacturing. »



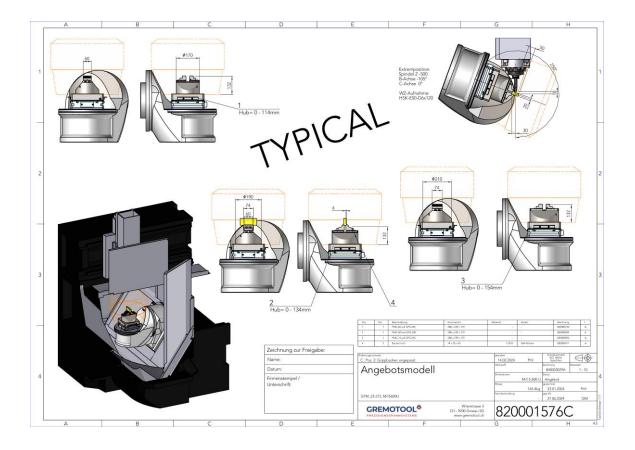
Gerda Weissteiner

Administration and customer service **«Pleasure, heart and engagement.»** 



Machining tool manufactures and retailers

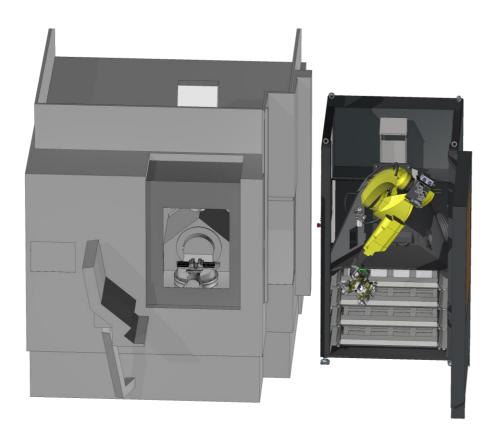
We are looking forward to support customers in assessing the suitability of machines. For this purpose, the machine, machine equipment, tools and clamping devices are checked in detail regarding the required workpieces. Afterwards we create a report with the assessment and show the potential dangers during use. This includes collision considerations, automation capabilities, process reliability, suggestions for an economical manufacturing strategy and a cost overview.





Automation and Integrator

There is a lot to consider when integrating robots into existing or new machines. If the manufacturing strategy is not defined or the environment does not allow it, the best robot is of no use. With us, robot manufacturers and integrators receive the best possible support so that they can focus on their core competencies. We provide the integrator with the best possible information about the processing machine.





Individual customers

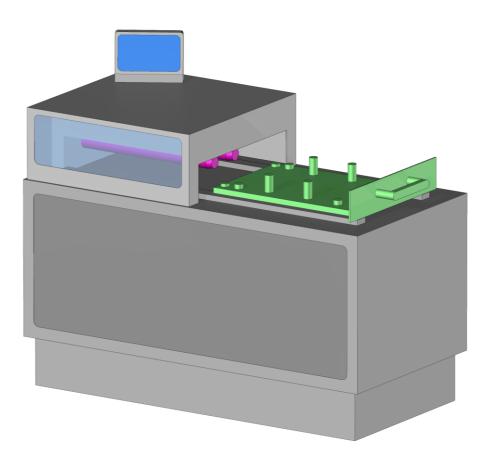
How should the workpiece be manufactured as quickly and most economically as possible? Everyone who works in the manufacturing process asks themselves this question. From our experience, we know the most common and best manufacturing processes for every workpiece, having the network.





Measuring and Test Equipment

Precision and accuracy are the big keywords when it comes to measuring and testing equipment construction. The requirements in this range are particularly high so that process reliability is at the highest level, the measurements are meaningful, and the tested workpieces correspond to the quality. We are looking forward to supporting our customers in achieving their quality goals.









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