

Established Rotational Mechanics  
for Machining

RATIONALIZATION

# Economizing Process



To achieve a hole pattern in metal working, each individual position needs to be set up and worked on.

But if a multi-spindle head is utilized, all of the holes can be drilled in a single run.

That's when we talk about "Rationalization".

Angular heads reduce the amount of tool set-ups. This reduces the machining time to a fraction so investing in a transmission gear is often worthwhile, even with little usage. Through this, the precision of the workpieces in terms of reliability is continually being improved.

The enormous time savings, and therefore financial savings, of transmission gears are perhaps the main

arguments, however they are far from being the only reason for purchasing them from [ROMAI](#).

With rationalization tools, procedures can be simplified, manufacturing steps can be reproduced accurately and without variation, process reliability can be maximised, and complete processing can be recognized.

Sources of error are reduced in the machining center because expensive machine downtime periods are shortened. The end product can be manufactured quicker, cheaper, and with consistently high quality.

Name your application! We are happy to show you different possibilities for optimization.



Established Rotational Mechanics



Probably the most famous  
rationalization tool in the world.

“12 bottles, it might even be more depending on the make of the product, can be transported at the same time by a single person. Drinks crates are stackable and also function when they are not entirely filled. The concept is so simple and effective that it could be from [ROMAI](#).”





Angular Heads



Multispindle Heads

Transmission gears by ROMAI  
make happy cuttings.

Transmissions by [ROMAI](http://www.romai.de) stand for the highest precision. For reliability and for longevity. We know that you work with transmission gears. [ROMAI](http://www.romai.de) products are work horses, designed and built to be used for years. Our transmissions keep what the data sheets promise."



TRANSMISSION GEARS

# Get into the Right Gear



Driven Tools



High-Speed Spindles



Non-standard Applications



Drilling



Reaming



Milling



Grinding



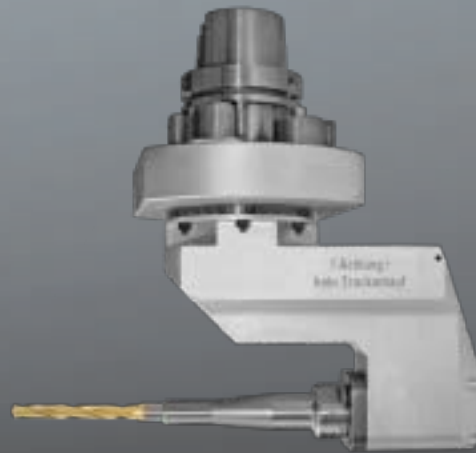
Threading



Finish Boring

STANDARD AND NON-STANDARD

# Flexible <sup>3</sup>



No two workpieces are alike. Machines work differently and every company has its own philosophy and **product diversity**. Even the slightest deviance from the usual solution often helps to alleviate compromises and make big steps forward.

For **ROMAI**, non-standard development is standard. Early on we adapted to the very complex demands of the industry, and therefore we are able to deliver the exact transmission gear that is **optimized to the customer's application**.

No matter if it's a "standard product" or a "non-standard development", it shouldn't affect the

quality or price of a product. From one to 250 spindles, speeds up to 60,000 rpm, automated tool change, and angular application constellations, these are all available features right from the beginning.

More than 50 years of experience and a unique model catalog enable us to quickly produce every tool imaginable and to the **highest standard**. The only limits are those set by the laws of physics.



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Produce what you desire!

We'll be with you.

"Eleven at one stroke, or however many you like. The workpiece decides the machining method; the machine tool specifies the design of the transmission gear – not the other way round. Development can only be innovative, if the production methods can be chosen freely, if the limits of technology can be fully explored, and if manufacturing costs are flexible. Your wishes dictate our aims – that's the reason why [ROMAI](#) rationalization tools have been used by leading industrial enterprises around the world since 1957."





small & large



changeable & stationary

These heads provide  
the highest precision

"Our employees give their best every day to position tools into the perfect machining angle, to optimize application parameters, and to transport coolant most effectively to the workpiece. They live in a three-dimensional world of drive and output, conversions, and weight saving. Whatever comes out of the CAD of a [ROMAI](#) constructor has been developed with passion and goes to production clearance carrying his own personal name."





PRECISION

# From the vector to the $\mu\text{m}$



angular & adjustable



simple & complex

We look at the entire project right from the beginning. Through **close cooperation** with the customer and system partners, we discuss the later applications and look at the periphery from all sides.

No matter if it's a completely new development, or something that has been produced many times – without exception, every one of our products passes rigorous **inspection** and **quality standards**.

We adapt it perfectly to the wants and needs of our customers. Naturally, our construction data is

archived so that we are able to fulfill follow-up orders promptly and cost-effectively.

Note: All 2-D and 3-D CAD-data can be made available digitally for the customer to simplify the overall planning and documentation.

Mathias and Roland Maier  
General Managers





PRODUCTION

# Made in Germany



The “production” division has this name for a reason: From the milled case to the individual spindles, to all kinds of shims, all components are produced and assembled in-house. A real **Net Output Ratio of over 90 %** guarantees unique and consistent manufacturing quality.

In order to maintain this standard in the future, we focus on qualified, young employees. Apprenticeship training positions in every area and regular full-time and part-time positions dramatically incre-

ase and help us maintain **employee know-how** and maintain a predominately longtime staff affiliation in our company.

Traditionally, the name **ROMAI** stands for **ultra-modern** and groundbreaking design and production. We provide the highest precision in climate-controlled rooms with our continuous CAD/CAM-system and **five-axle jig boring machine**. This type of precision is what we demand from our own products.



Established Rotational Mechanics



We know every little wheel by its name.  
And its résumé inside out.

"In our transmission gears about 500 components or more interact. Every cog, every little screw, every bearing has to do its part to get the team to deliver the highest performance."





ROMAI  
WWW.ROMAI.DE  
07.3131-2 03/2008  
MSK4/1835-B32



Take it out. Put it in.

Be happy.

"Even if it's about professional industrial applications and not about a model railway: It's nice to take a brand new apparatus out of its packaging and be able to use it instantly. Whatever leaves our plant has been tried and tested and is guaranteed to be immediately ready-to-use. Treat yourself – with **ROMAI** products."

DIN EN ISO 9001:2008







QUALITY MANAGEMENT

# Ready-to-use perfection



**ROMAI** quality management is aimed towards identifying possible sources of error early on and to correct them immediately.

As early as the construction phase, every transmission runs through a series of load tests as a “virtual prototype” and through complex collision checks in application simulations. As part of the final check, there is an initial break-in run and **documented trial runs under production condi-**

**tions.** As a Swabian family-run business, we see our good reputation as a commitment.

**Highest quality and precision demands,** extensive production in our own factory, and a strong bond with our employees are values that have been a priority for three generations of the Maier family.

CUSTOMER SERVICE

# And runs and runs and ...



ROMAI products are mostly maintenance-free. If a drop of oil is needed, the customer can easily apply it himself. If you don't wish to do this, we would be happy to send a service technician to you.

Professional **consultation**, alongside a coherent cost/performance ratio, **quick reactions**, and **short delivery times** are important factors, along with the actual product quality. We have a large number of

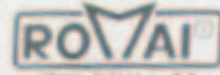
regular customers through- out the world as proof of our diligent work, but also as an incentive to further increase our performance and service in the future.

Come visit us in the picturesque Horrheim near Stuttgart! Let us show you our products first- hand during a factory visit!



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Wir  
Custo



WWW.ROMAI.DE

Type: RWG7 CAT50/FD 1"  
Order No: 07 1078-1  
Spindle direction: opp  
Shank size: CAT  
Output: FDI  
Gear ratio: 1:1

RPM  
11/  
14  
NBU



Transmission gears have  
a good life with us

"Rooms with the right temperature, qualified and  
friendly employees, palm trees in the production  
halls – and for all that we don't get to see most of  
our offspring ever again."

# Tool and Machine Build

Solar Energy

Medical Technology

Automotive

Aerospace Industry

# nd Energy

Tool and Machine Building

Household Appliances

# omer Service





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