

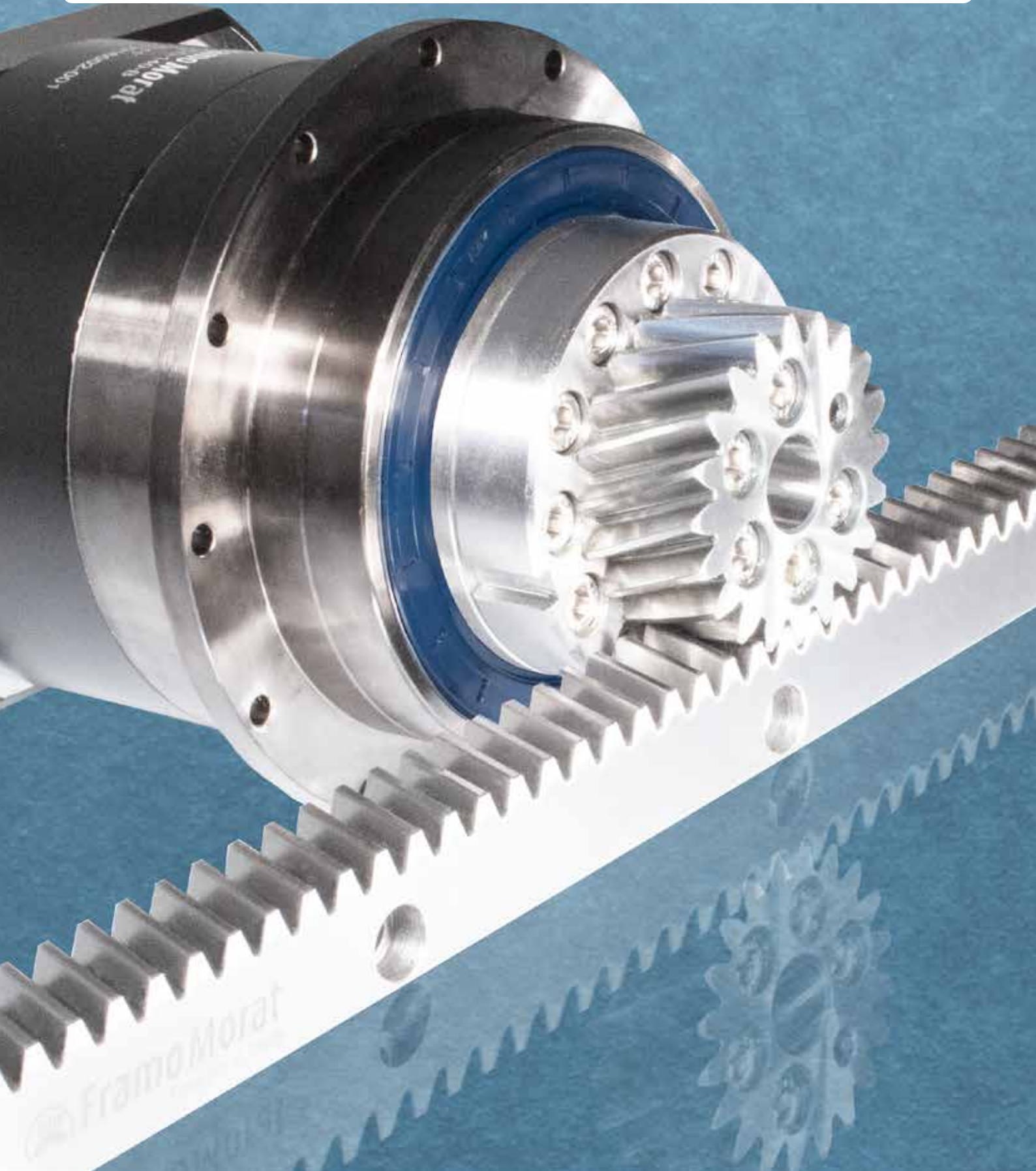
# Dynamic and high-precision.

Mechanical Drive Systems for Laser cutting machines.

**Franz Morat Group**

 FMORAT-CO

 FramoMorat



# Single source solutions - individually configured.

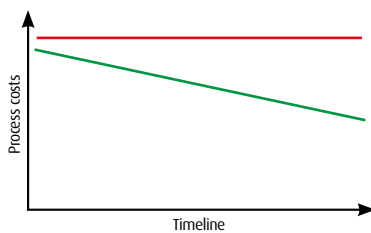
The suitable and economical drive system for every machine type.

The laser cutting process is used to cut different materials. Modern laser cutting gantries assure high positioning and repeat accuracy with less than 1 µm tolerance while maintaining a highly dynamic process speed of up to 300 m/min.

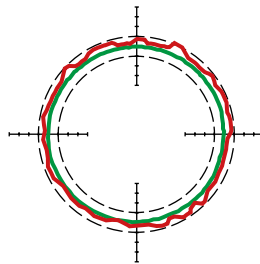
In the gantry drive units, rack and pinion drive systems - consisting of planetary gear, pinion and toothed rack - ensure the dynamic and positionally accurate motion sequence. The technically and economically sophisticated linear systems are used for positioning both the X-axes and the Y-axes. The key element of the drive system is a high-precision planetary gear of the GSD series from Framo Morat. The gear unit, designed for high radial and axial forces, impresses with its compact design. The robotic output flange ensures maximum torsional stiffness.

When selecting the suitable rack and pinion drive, Framo Morat has over 100 years of experience in gearing and drive technology and many years of industry expertise. Based on the modular system, the planetary gearhead, which is available in sizes 47, 64, 90, 110 and 140, is combined with a suitable pinion and corresponding rack, depending on the requirement profile of the overall system. The drive unit can also be optionally equipped with a lubrication system.

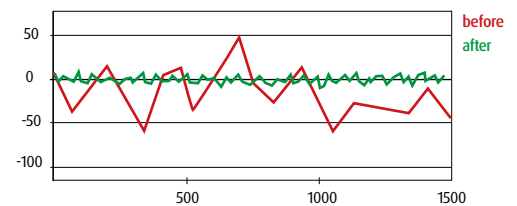
✓ Profitability



✓ Positioning accuracy



✓ Repeatability



## Modular Linear Systems from Framo Morat.

The advanced combination of gearbox, pinion, rack and lubrication systems.



**High End Planetary Gears GSD**

- Compact design
- Highest torsional rigidity
- High permissible radial and axial forces
- Low backlash
- Low noise level
- Protection class IP 65



**High Precision Pinions**

- High-precision gearing
- Optimized toothing geometry
- Positioning accuracy
- High process forces
- Compact design



**High-Precision Racks**

- No deformation during gear coupling
- High strength of rack and teeth
- Transmission of high torque or high feed force



**High End Linear Systems**

- Positioning accuracy
- Feed force and Power density
- Stiffness
- Ease of assembly
- Less wearing, long life-time
- Application specific versions

Framo Morat modular linear systems are being applied as machine axis drives for both X and Y axes and guarantee a dynamic and positionally accurate motion sequence.

The key element of the drive system is the planetary gear GSD, which allows gear ratios of up to 100:1 and a maximum drive speed of up to 10.000 rpm. High-precision pinion, rack and the corresponding lubrication system complete the drive unit.



## What can we do for you?

We are glad to be personally there for you and we look forward to common challenges and projects:

 +49 7657 88 303

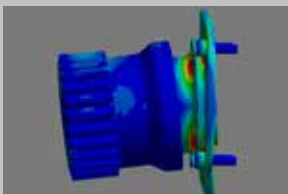
 [drives@framo-morat.com](mailto:drives@framo-morat.com)

 [framo-morat.com/products/planetary-gears/](https://framo-morat.com/products/planetary-gears/)

## Linear Systems and more – your application is our priority.

### Project development

Based on your specifications, we develop the optimum technical and cost-effective solution for the defined application.



### Application expertise

We have already developed and produced countless drive solutions – from worm, spur or planetary gears to complex drive systems – for a variety of applications.



### Quality assurance

We ensure reproducible results at the highest quality level by means of inline measurements and visual inspections.



# The best of both worlds.

Gear technology and drive solutions of both metals & plastics.



## Combining local expertise & global presence.

Since the founding of Franz Morat GmbH in 1912, gear and drive engineering has been in a continuous state of development at the company's headquarters in Eisenbach, Black Forest. Today, the Franz Morat Group is a globally operating manufacturer of high-quality drive solutions for many industries and applications. The company counts over 670 employees and runs subsidiaries in the United States, Turkey, Poland and México.



## Uniting metals & plastics.

Our core competencies lie in the production of high-precision gears, rotor shafts and worm gear sets made from various metals as well as technically advanced injection-molded parts from thermoplastics. This results in solutions that incorporate the technical advantages of both material groups depending on the required specifications. You benefit from over 100 years of expertise and an experienced partner who offers all process steps from a single source.



### Metal machining:

Turning, Milling, Gear Hobbing, Gear Shaping, Broaching, Hardening, Cylindrical Grinding, Honing, Profile & Hob Grinding



### Plastic injection molding:

Mold Design & Tool Making, Over 70 injection molding machines, All technical thermoplastics (incl. PEEK™), Subsequent processing



## Pioneering research & development.

In developing custom engineered drive solutions, Framo Morat and F. Morat cooperate closely under the umbrella of the Franz Morat Group. Our many years of experience make us your ideal partner, from development and design engineering to prototyping and testing all the way to series production and assembly. Numerous highly respected companies from a wide variety of industries rely on our development services and the resulting drive solutions.



### Drive technology:

Specification, Development & Design, Prototyping, Testing & Quality Control, Serial Production, Assembly & Use

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# Franz Morat Group

