

EPUGRIND | Precision grinding for high-precision machine components



Machine Systems

Innovative solutions for highly dynamic production technology

RAMPF Group

The international RAMPF Group stands for **engineering and chemical solutions** and caters to the economic and ecological needs of industry.

Our range of competencies includes:

- > Production and recycling of **materials** for modeling, lightweight construction, bonding, and protection
- > **Technical production systems** for precise, dynamic positioning and automation, as well as technologies for complex composite parts production
- > **Comprehensive range of solutions and services**, particularly for innovative customer-specific requirements

This know-how helps our customers achieve profitable and sustainable growth.

Trusting relationships are of utmost importance to RAMPF. They are a vital part of the success story of the family-owned company, which now spans over 35 years.

RAMPF thinks globally and acts locally. The company has production facilities strategically located in Germany, in the United States, Canada, China, and Japan.

RAMPF Machine Systems

Based in Wangen (near Göppingen), Germany, the company is the market-leading development partner and system supplier of complete machine bed solutions and machine systems.

Its service portfolio includes system solutions, trunk machines, basic machinery, and multi-axis positioning and moving systems based on machine beds and machine bed components made from alternative materials such as mineral casting, hard stone, ultra-high performance concrete, aluminum foam, and fiber composites.

High-precision machine systems are created using innovative replication, grinding, and lapping processes in temperature-controlled production environments.

This makes RAMPF Machine Systems the full-service partner for developing and manufacturing future-oriented machinery and production technology for a wide range of industries.



Machine Systems



Production Systems



Composite Solutions



Eco Solutions

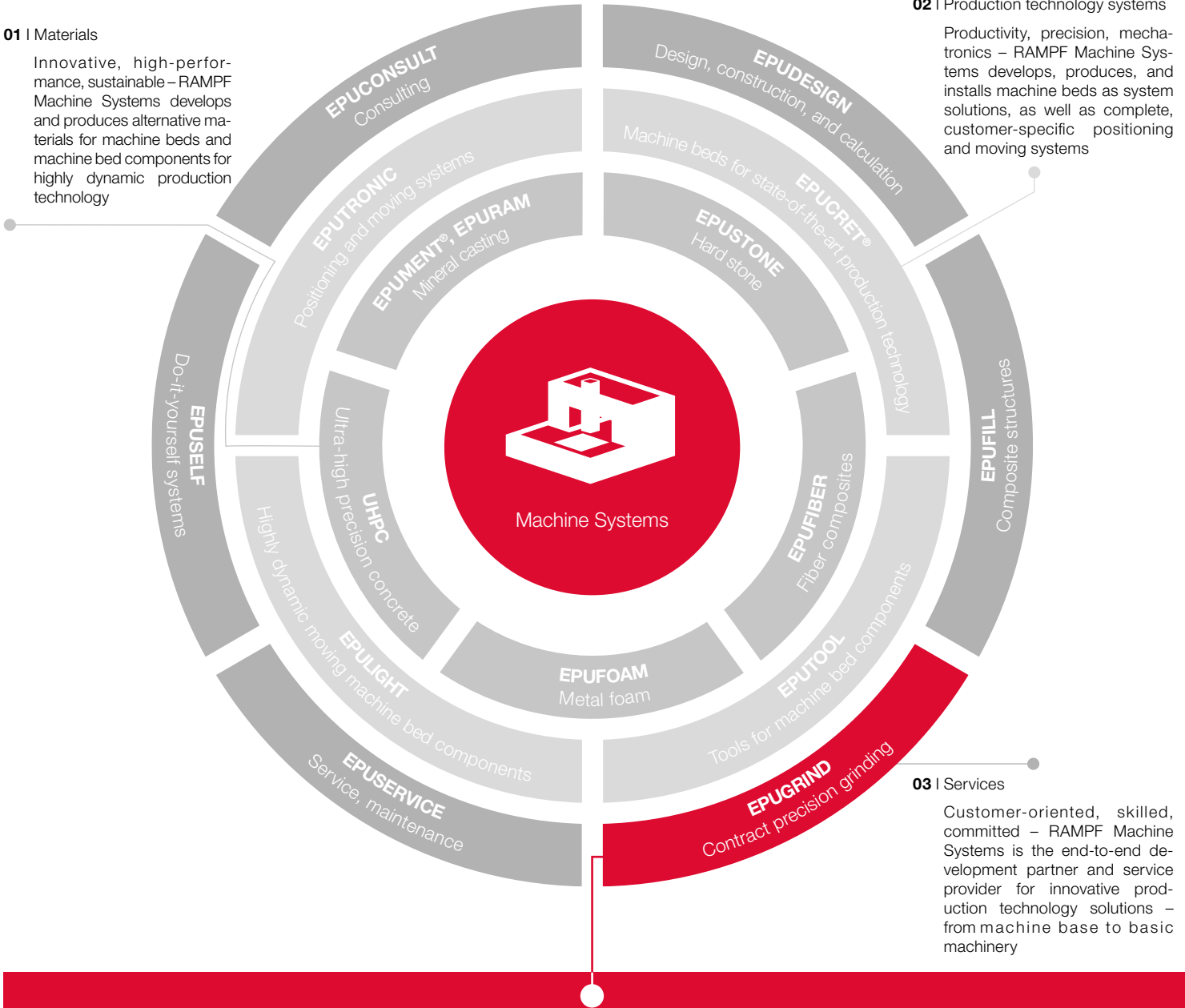


Polymer Solutions



Tooling Solutions

Range of products and services



» With its very own precision grinding center, RAMPF Machine Systems offers an end-to-end service concept for high-precision machine components made from alternative materials such as mineral casting, hard stone, ultra-high performance concrete (UHPC), ceramics, fiber composite, aluminum, and tungsten. Of course, conventional materials such as cast iron and steel can also be ground. This innovative and comprehensive service covers all the key steps of your complete solution – from technical and design-related advice to grinding, hand-lapping, measurement, calibration, and assembly. «

Services

500



EPUGRIND | Complete service package

for high-precision machine components used in high-performance production technology

Expert advice on material selection and choosing a design that is suitable for grinding.

Flat and guideway grinding with cutting-edge equipment for workpieces up to a size of 7,000×2,650×2,000 mm (L×W×H) and a weight of 25,000 kg.

Hand-lapping of components with high-precision requirements.

End-to-end production of precise and dynamic moving systems and basic machinery, including joining (bonding, bolting).

Precision assembly of add-on components such as guideways, measuring systems, and drives.

Turn-key completion of measuring plates, measuring angles, gauges, precision measuring tables, test frames, and measuring standards as per customer requirements. We calibrate and adjust your measuring equipment to comply with your on-site protocols.



Your benefits

- > End-to-end service from a single source – from initial drafts and designs suitable for grinding, to manufacturing, machining, joining of raw parts, measurement, and assembly
- > Exceptional accuracy thanks to fully climate-controlled production, assembly, and inspection facilities (20 °C +/- 0,5K / 8h)
- > In our fully climate-controlled inspection facilities, high-precision measurements are made and documented down to micrometers using autocollimators and electronic inclination balances. An inspection certificate is issued and delivered for every component that RAMPF Machine Systems produces.
- > Grinding of application-specific geometries as per customer requirements (e.g. convex, concave, tapered, parabola and angular grinding to 0.001°)



Materials



EPUGRIND | Precision grinding

of conventional and alternative materials for highly dynamic mechanical and plant engineering

Flat and guideway grinding for metal machine components such as cast iron and steel with various alloys, tempering and hardness levels, and coatings. Refurbishing or reworking of large components.

Manufacture and precision grinding of vibration-damping machine beds and machine bed components using mineral casting, hard stone, and ultra-high performance concrete (UHPC). Configuration into system solutions and fully integrated basic machinery through subsequent joining and assembly processes.

The high-precision flat grinding and hand-lapping of cutting-edge mechanical engineering materials (e.g. ceramics, fiber composites, aluminum, and tungsten) is ensured by exactly matching the rotational speed, feed, and grinding medium to the material.



Additional information

- > **Image 1:** High-precision hand-lapping of a machine gantry made of natural hard stone (EPUSTONE) – attainable accuracy is 3 µm/1,000 mm
- > **Image 2:** Precision flat grinding of a machine bed made of epoxy resin-bonded mineral casting (EPUMENT®) – attainable accuracy is 8 µm/1,000 mm
- > **Image 3:** Precision-ground machine bed made of ultra-high performance concrete (EPUDUR) – thread anchor flush with high-precision mounting surface – attainable accuracy is 8 µm/1,000 mm
- > **Image 4:** Precision-ground and hand-lapped carriages made of fiber composites (CFRP) – attainable accuracy is 3 µm/1,000 mm



RAMPF Group | Locations

