KERN LIEBERS

SMART SPRINGS & SMART PARTS

SMART SPRINGS

more than just technical springs.

OUR PRODUCT RANGE

INDIVIDUAL, HIGH-PRECISION, COMPLIANT.

Our portfolio provides an exceptional range of shapes, materials, and applications – tailored to a variety of industries and requirements. With us, it is not about standard dimensions – it is about your specific challenges.

Why 'smart'?
Because every Smart Spring is meticulously tailored to specific forces, loads, and motion patterns. They adapt with smart precision, responding to thermal, mechanical, or dynamic influences through the unique properties of their materials.

COMPRESSION SPRINGS

are elastic machine elements that can be compressed by axial pressure. They are made of spring steel wire or other elastic materials and store mechanical energy by deforming elastically. After being released, they return to their original shape.

TENSION SPRINGS

are elastic machine elements that store mechanical energy and are stretched by an axial tensile force. When they are released, they return to their original length. They are typically made of spring steel wire and are fitted with eyelets or hooks at the ends to attach them.

TORSION SPRINGS

that store mechanical energy and are loaded by a rotational movement. They consist of a spirally wound spring wire with two laterally protruding legs that absorb and transmit torques.

CONTACT SPRINGS

are specialized spring components that are used in electrical and electronic applications. They ensure a reliable electrical connection between two components and compensate for mechanical tolerances.

WAVE SPRINGS

are special spring components that are made from flat material and have a wavy or sinusoidal structure. They are used to absorb axial forces, but require less installation space than conventional compression springs.

MICRO SPRINGS

are extremely small spring components made from the thinnest wires (e.g. stainless steel, titanium, copper alloys or special materials). They can have different shapes, such as tension springs, compression springs or torsion springs, and are designed for high-precision applications.

CONSTANT FORCE SPRINGS

are a special type of strip spring. They consist of a flat, spirally wound strip that unrolls when force is applied and returns to its original position after being released. These springs store mechanical energy and are characterized by a uniform force-displacement curve.

POWER SPRINGS

are mechanical energy storage devices that are designed as helically wound strip springs. They store mechanical energy by winding or tensioning the spring and release it again in a controlled manner.

SPIRAL SPRINGS

are mechanical springs consisting of a flat strip of material wound in a spiral. They store and release mechanical energy through rotary motion and generate a restoring torque. Spiral springs are used as compensating springs for smaller angles of rotation.

SLEEVE SPRINGS

are special spring mechanisms that consist of a cylindrical or conical metal housing in which elastic elements are integrated. They store mechanical energy and are often used for damping, torque transmission or vibration reduction.

CLAMPING RINGS

are mechanical components that are used to secure, connect or fasten components in a specific position. They are usually made of metal (e.g. steel or spring steel) and are held in place by an elastic or positive clamping force. Our clamping rings are primarily used in steering systems in the automotive industry.

INDUCTION COILS

are electrical components consisting of a wound wire coil. When an electric current flows through the coil, a magnetic field is created. If this magnetic field is changed (e.g. by alternating current or movement of a magnetic core), a voltage is induced in the coil.

MULTI-WIRE SPRINGS

consist of wire strands with different strand structures. They are used as compression springs, torsion springs or bent wire parts. Multi-wire springs are mainly used when single-wire springs made of round or profiled wire fail due to high impact loads and high.

BENT WIRE PARTS

are components that are manufactured from wire material (e.g. steel, stainless steel, copper or aluminum) by bending, forming and sometimes cutting. They are individually shaped and can fulfill various functions such as holding, clamping, guiding or connecting.

CABLE MANAGEMENT SOLUTION

Adapted perfectly according to your wishes and requirements

Our cable management solutions provide reliable and space-efficient routing of cables and wires for industrial applications. Whether for automation, machinery, consumer products or OEM assemblies — we deliver precise, durable components designed for secure guidance, controlled movement and longterm operational stability.

WALLBOX RETRACTOR:

perfectly stowed away

Our Wallbox Retractor is an automatic cable management system for wallbox charging cables. It ensures that the charging cable is automatically rolled up or neatly stowed away after use. This makes it easy to avoid wear, tripping hazards and soiling.

ROPE RETRACTOR:

always under control

Our Rope Retractor 210 is a mechanical and easy-to-install cable retraction system for charging points. It ensures a tidy and safe environment by efficiently organizing the heavy charging cables. This prevents tripping hazards, keeps the cable clean and protects it from damage. Optimize the charging experience for your customers with our easy-to-install cable management system.

KERN LIEBERS

Intelligent. Precise. Essential.

OUR SPRING SHOP

the perfect spring:
fast, precise and made to fit.

When time matters, count on our extensive range of springs ready for immediate delivery. Our shop features over 6,000 high-quality wire springs, all rigorously tested and engineered with precision.

Find the perfect spring with just a few clicks:

www.federshop.de

simple, fast, reliable.

PROCESSES & TECHNOLOGIES

TECHNICAL STRENGTH AND EXPERIENCE FOR EXCELLENT QUALITY SPRINGS.

Spring Technologies
Tailored to your application - whether wire or strip-related.

Assemblies
Production at the highest level – from individual components to complete.

Laser Welding Technology
Focused energy gets straight to the point.

Heat Treatment
Improve the material properties of our springs, stamped parts and stamped-bent parts.

Customer-specific Packaging
Packaging for high-quality products that meet your requirements.

Measuring Equipment Technology
Highest precision for repeatable and reliable measurements.

Micro-turning
Perfect micro-turned parts made of all common machinable materials.

Stamping and Bending Technology
High-precision and technical strength.

Surface Treatment
To improve the functionality of all springs and components.

Engineering
Development expertise from concept to production.

Drawing and Rolling
You want smaller and finer dimensions? We can do it for you.

Quality Assurance
Exceeding your expectations!

KERN LIEBERS

SMART SPRINGS & SMART PARTS

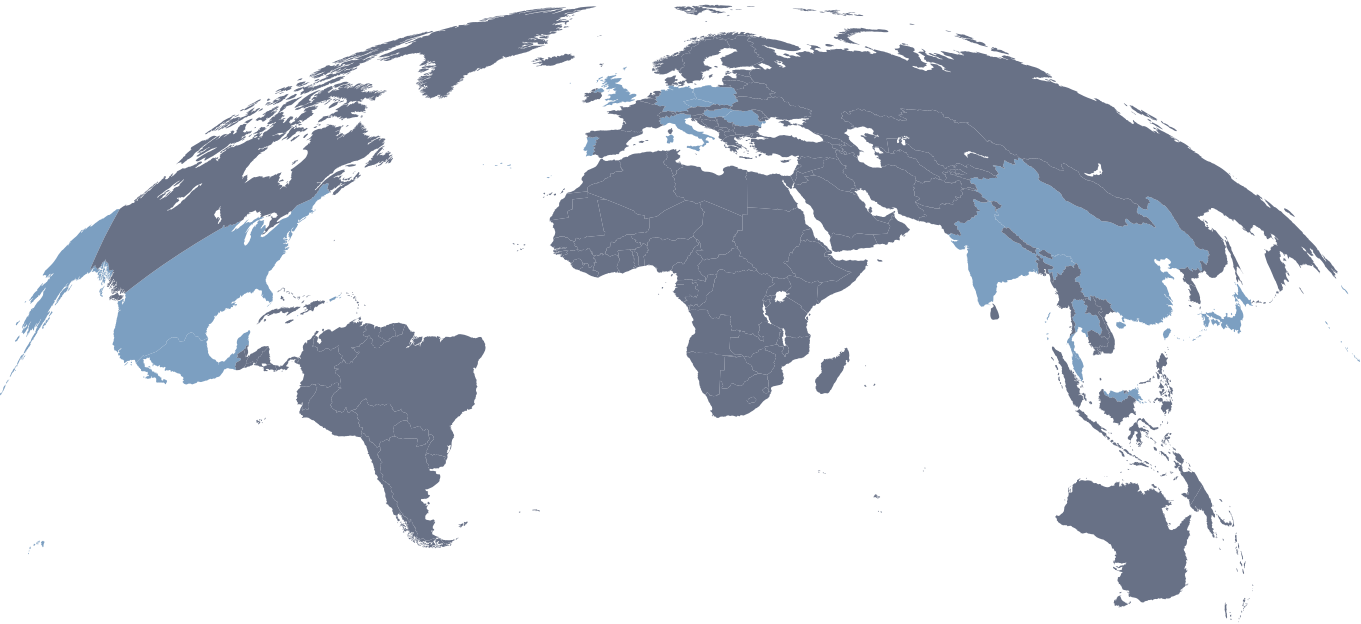
KERN LIEBERS GROUP – A SIZE THAT PAYS OFF.

When you put your trust in KERN LIEBERS, you benefit not only from the strength of an individual company, but from the unique expertise of a global group of companies that sets new standards every day. Standards in terms of quality, competence and performance.

MORE THAN 135 YEARS OF
EXPERIENCE

EMPLOYEES WORLDWIDE
>6130

COMPANIES WORLDWIDE
>40



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