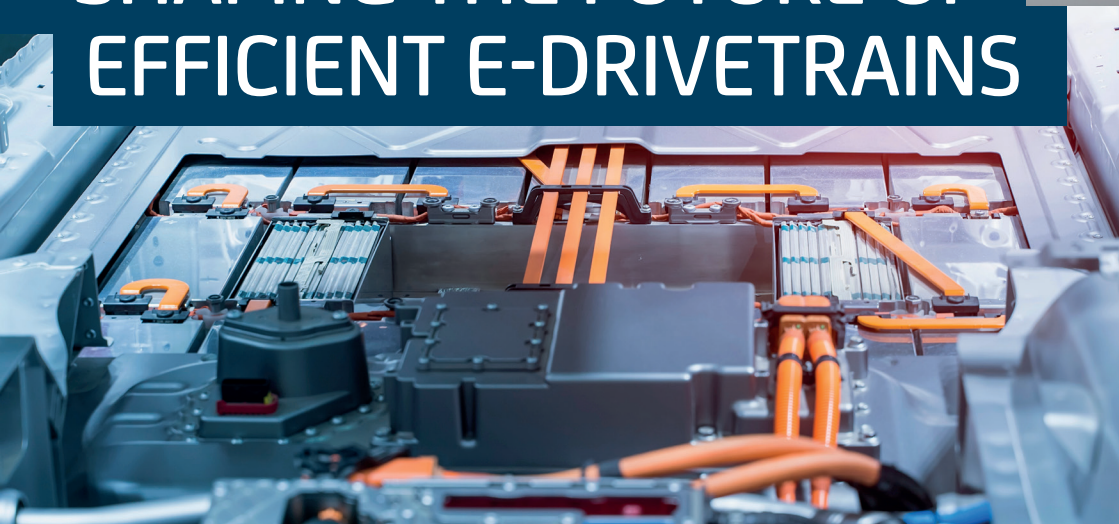
brandgroup

SHAPING THE FUTURE OF EFFICIENT E-DRIVETRAINS



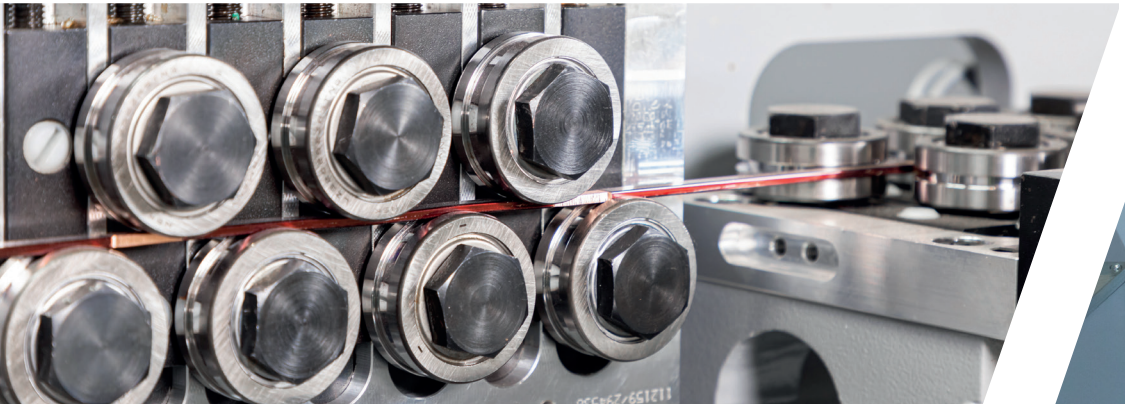
WIRE FORMING PARTS

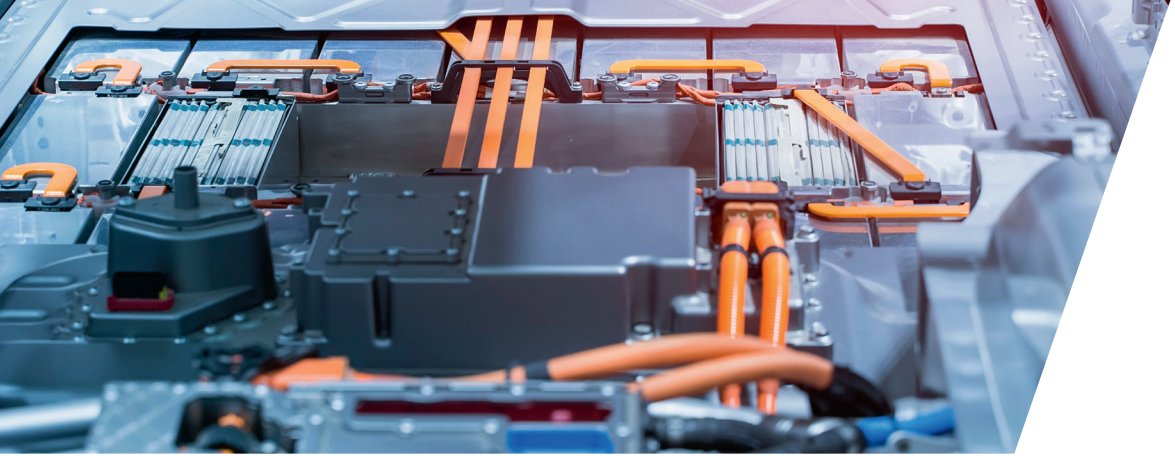
FOR E-MOBILITY

Our custom bending parts made of aluminum and copper are used in various electronic fields.
Special machines are used for the production and shaping of the wire according to the customer's requirements. The bending material can be made of different metals like copper or aluminum. Depending on the application, however, the parts can also be further refined, for example by a surface coating.

BRANDGROUP IS YOUR PARTNER FOR INDIVIDUAL BENDING SOLUTIONS

- **Flexible:** Production of customized parts, prototypes and assemblies for e-mobility
- **Fast:** Production of small and medium-sized batches of all common enamelled copper and aluminium wires possible
- **Reliable:** Equipped with an integrated system for mechanical coating stripping





RIGID HV-BUSBARS

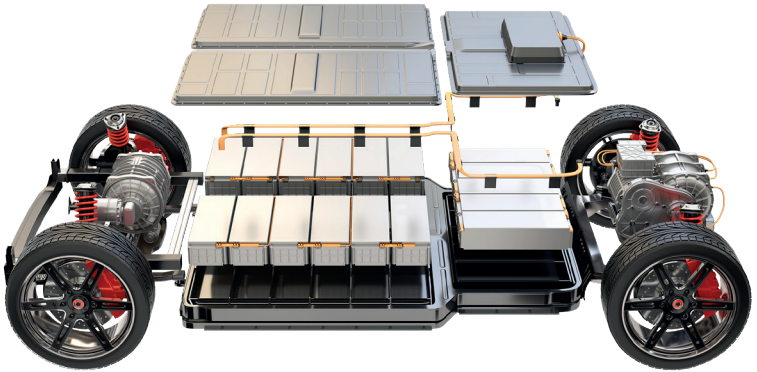
FOR ELECTRICAL POWER DISTRIBUTION

Busbars are electrical conductors used to transmit and distribute electrical power mainly used in industrial and commercial systems as well as in modern electric vehicles.

We process insulated copper and aluminum cross sections up to 300 mm^2 by using high precision CNC bending technologies for the production of rigid busbars.

Copper busbars are crucial for efficient power distribution due to their excellent conductivity and durability. Ideal for high-current applications, they provide effective heat dissipation and enhance system reliability, making them essential for robust electrical infrastructure.

Aluminum busbars are key for DC fast charging in electric vehicles, offering high conductivity and passive cooling to maximize performance and reduce costs. With increasing DC charging currents, their role in ensuring efficient and reliable charging becomes even more critical.



COMPARED TO CONVENTIONAL CABLES, BUSBARS CAN OFFER A VARIETY OF ADVANTAGES:

1. Because of their low overall height, these flat conductors fit perfectly into the architecture of modern e-vehicles
2. The larger surface area enables better heat dissipation
3. The rigid current lines are perfectly suited for automated assembly

Compared to the use of cables with the same cross-section, these flat conductors have a significant reduction in their overall height and are therefore ideally suited for space-saving integration into the architecture of modern e-vehicles. The larger surface area of the busbar also dissipates heat better than a comparable cable conductor.

Rigid busbars have a much better suitability for automatic assembly compared to the generally less stable cables, which is why they are often preferred for this purpose.
Thanks to our flexible manufacturing systems, we are able to produce complex 3D-bent busbars made from both pre-coated and non-coated copper or aluminum. Depending on customer requirements we can customize both cross-sections and geometries.

	ROUND FLEXIBLE CABLE	FLAT SOLID BUSBAR
PASSIVE COOLING BY HEAT DISSIPATION	-	+++
AUTOMATED PRODUCTION	--	+
BENDABILITY	++	+
CONTACTING	+	-
INSTALLATION SPACE	--	+
ELECTROMAGNETIC COMPATIBILITY (EMC)	--	++
WEIGHT SAVING	--	++
COST	--	+++
CONDUCTOR MATERIAL	Cu	Al

HAIRPINS & I-PINS

FOR STATOR MOTORS

The hairpin technology is an innovative winding technology developed for use in modern electric motors, hybrid vehicles, e-bikes and generators, where they replace the wound inductor coils of conventional stators.
Compared to other coiling methods, it offers higher efficiency and performance, especially for traction motors in electric vehicles. In addition to U-shaped hairpins, straight I-pins are also among the plug-in coil technologies.

In the production of flat conductor-based plug-in coils, the brandgroup relies on a particularly flexible technology that enables damage-free processing of all common enameled copper wires with a high number of variants. This manufacturing technology realizes the production of different hairpin designs with a constant material cross-section.

To guarantee optimally prepared copper wire ends, our system ist equipped with an integrated mechanical stripping of the coating layers. This enables safe contacting in the further process sequence.

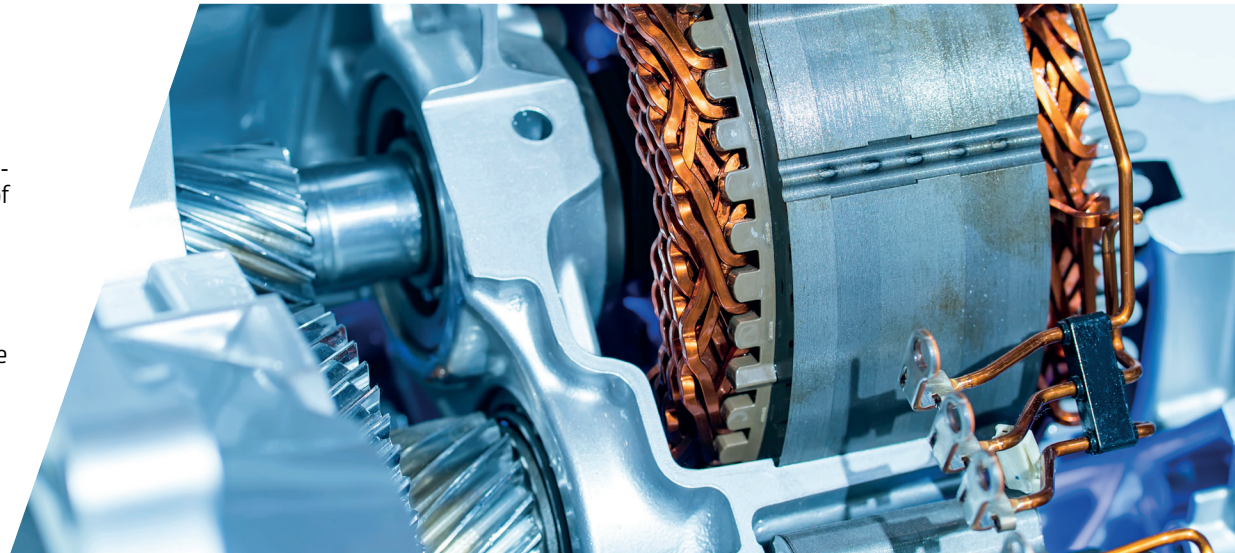
STATOR CONNECTORS

FOR ELECTRICAL CONNECTIONS

Stator connection assemblies are connection modules that are used on electric motors to make the electrical connections between the stator and other components, such as the power electronics or the control system.

Our production technology delivers bending parts based on insulated, enameled copper wire for this application.

Additional working steps on request, e.g.:
- assembly
- laser welding
- injection molding



COIL WINDINGS

FOR AXIAL FLUX MOTORS

The axial flux motor is characterized by the fact that its stator disc is arranged sandwich-like between two rotor discs. Axial flux motors are considered to be significantly more compact, lighter and more powerful than comparable radial motors.

The production of these edgewise bent coils for axial flux motors, is based on a flexible machine technology, which allows different coil designs with little tooling.

Our special machine technology is therefore ideally suited for small and medium batch sizes. Our edgewise bended coils guarantee a packaged optimized design and the special bending technology prevents increasing of the material thikness.

YOUR SPECIALIST

FOR TECHNICAL SPRINGS AND BENT WIRE PARTS

The brandgroup is a medium-sized, german family-owned company. We develop and manufacture innovative and efficient springs, spring assemblies and wire forming parts for our customers.

Our springs make an important contribution in the automotive supply industry, the construction industry and other industrial applications. The brandgroup has several production facilities both inside and outside the EU. These include sites in Germany, France, Poland, UK, China, Mexico and the USA.

Putting our long-standing expertise in the wire forming of springs, assemblies and bending components to new use, it now offers bespoke and made-to-order busbars, hairpins, I-Pins and Axialflux-motor coils for EVs.

FACTS & FIGURES

Founded:
- Wilhelm Brand KG in 1922 in Lippstadt/ Germany

Employees:
- approx 1.500 worldwide

Locations:
- Anröchte, Germany (Headquarter)
- Lüdenscheid, Germany
- Siemianowice, Poland
- Taicang, China
- Querétaro, Mexico

Sectors:
- Automotive industry
- Construction industry
- Home appliance industry
- Further industries

Turnover:
- 210 Mio. €

Steel/wire requirements:
- 30.000 tons

YOUR PERSONAL

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