

RIVSET® Automation EH

The best of two worlds for modern
multi-material designs

BÖLLHOFF

Energy-efficient, flexible, modular.

With our self-pierce riveting technology with RIVSET® semi tubular rivets, you are able to join mixed materials as well as high-strength steels in very short process times. Due to the modular design, the RIVSET® Automation EH is designated for applications in large-scale production. You also benefit from maximum flexibility during production planning.

A long life cycle at maximum availability and minimum maintenance are two of the keys to success.

The highlights of RIVSET® Automation EH at a glance:

- Smart: modular and comprehensive machine designs
- Quick: machine configuration via plug & play
- Flexible: remote access to the control software
- Powerful: high-performance CPU
- Plug & play: mobile panel for more than one control unit during commissioning



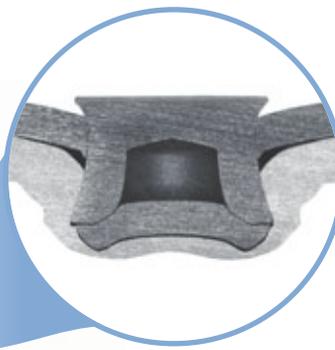


Joining in every way possible

Take the opportunity and use RIVSET® for a great variety of material combinations:

- Aluminium (die-cast, extruded profile, sheet metal)
- Deep-drawing steels with a tensile strength of up to 500 MPa
- High-strength steels with a tensile strength of up to 1,600 MPa
- Multiple-layer joints
- Adhesive as intermediate layer

A great number of varieties result from the many possibilities to use RIVSET® self-pierce rivets. They differ in geometry, hardness, surface, head shape, shank length and diameter. Your application defines the rivet type.



Example of high-strength applications with RIVSET® HDX rivet type:
1.5 mm high-strength steel,
2.0 mm aluminium





Nicht vor-
gang
nicht ohne
Werk-
stück
führen





TOOL

Setting tool

- Setting tools with 100 % electrical installation for setting forces 60 kN and 78 kN
- Pre-clamping force adjusted with pressure springs
- Various mounting points on the setting tool for perfect position on the robot
- C-frame throat depths up to 1,000 mm
- Modular die post (with/without die lock)

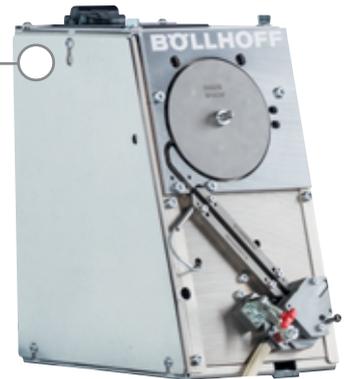
EH clamping device:
Built-in mechanical assembly



FEED

Rivet feeder

- Minimum maintenance at maximum availability
- Feeds approx. 45 rivets/minute
- Stockage of approx. 4,000 rivets (optionally expandable)
- Optional rivet length measurement precise to $\pm 0,25$ mm



POWER UNIT

Control unit

- "Embedded PC"-based control incl. servo controller
- Decentralised hardware configuration with centralised control of the individual modules via BUS system
- Open interface for different robot interfaces (ProfiNet, EtherNet/IP, etc.)

Visualisation variants (HMI)

- Manual control unit to visualise the process curves for commissioning (plug & play)
- Multi-visualisation* for up to 5 control units
- With a hard and software upgrade multi-visualisation* can be used as a control centre

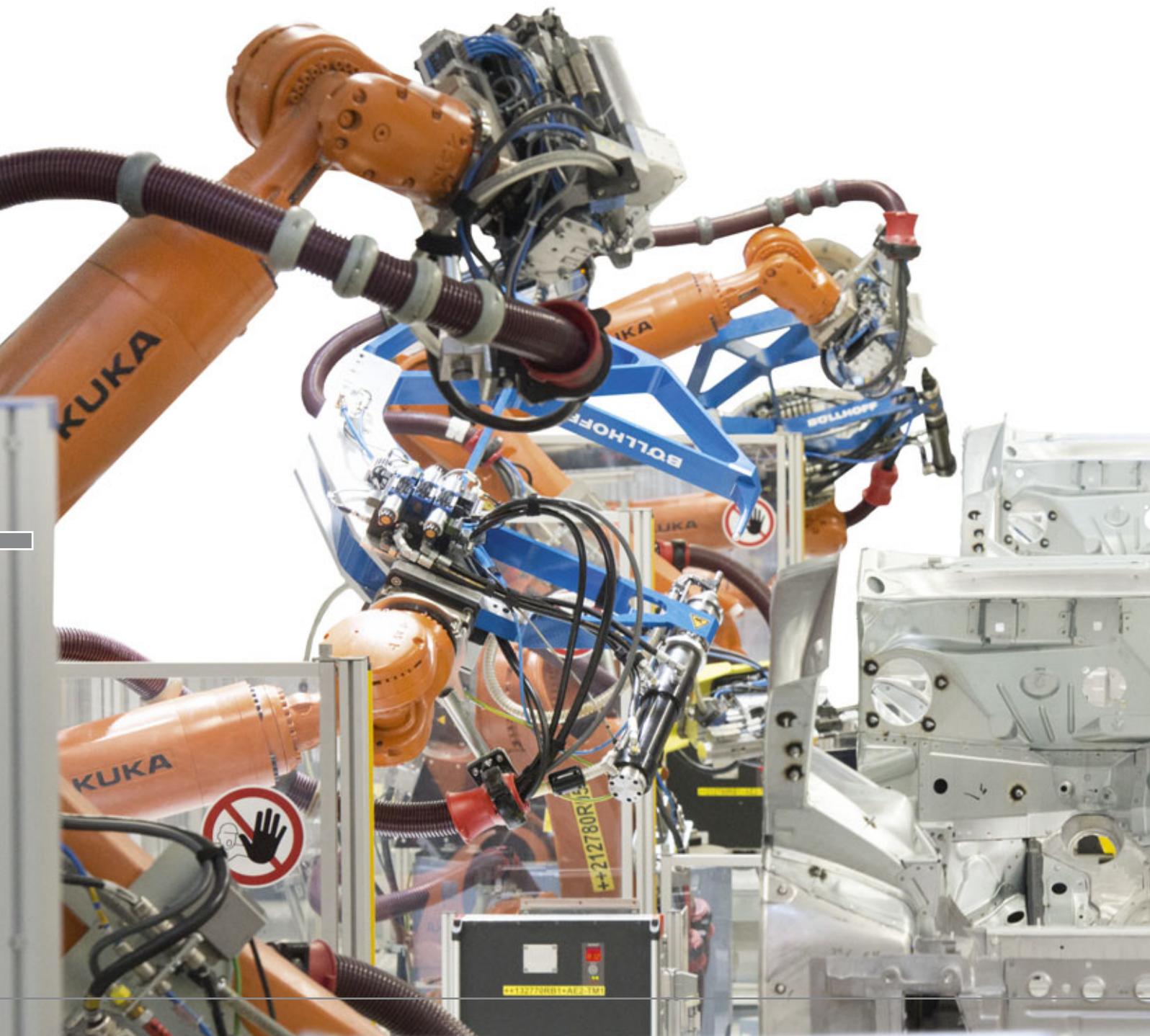
RIVSET® self-pierce riveting technology for modern body construction

Modern lightweight concepts: the automotive industry in particular cannot work without them. They not only considerably improve vehicle dynamics, they also help to reduce emissions. Lightweight design continues to be a key technology for future cars and is also important for e-mobility.

The green innovation capacity counts on the know-how in the battery and lightweight technology. While chasing ever greater reach, lightweight design is particularly essential to further promote electro-mobility.

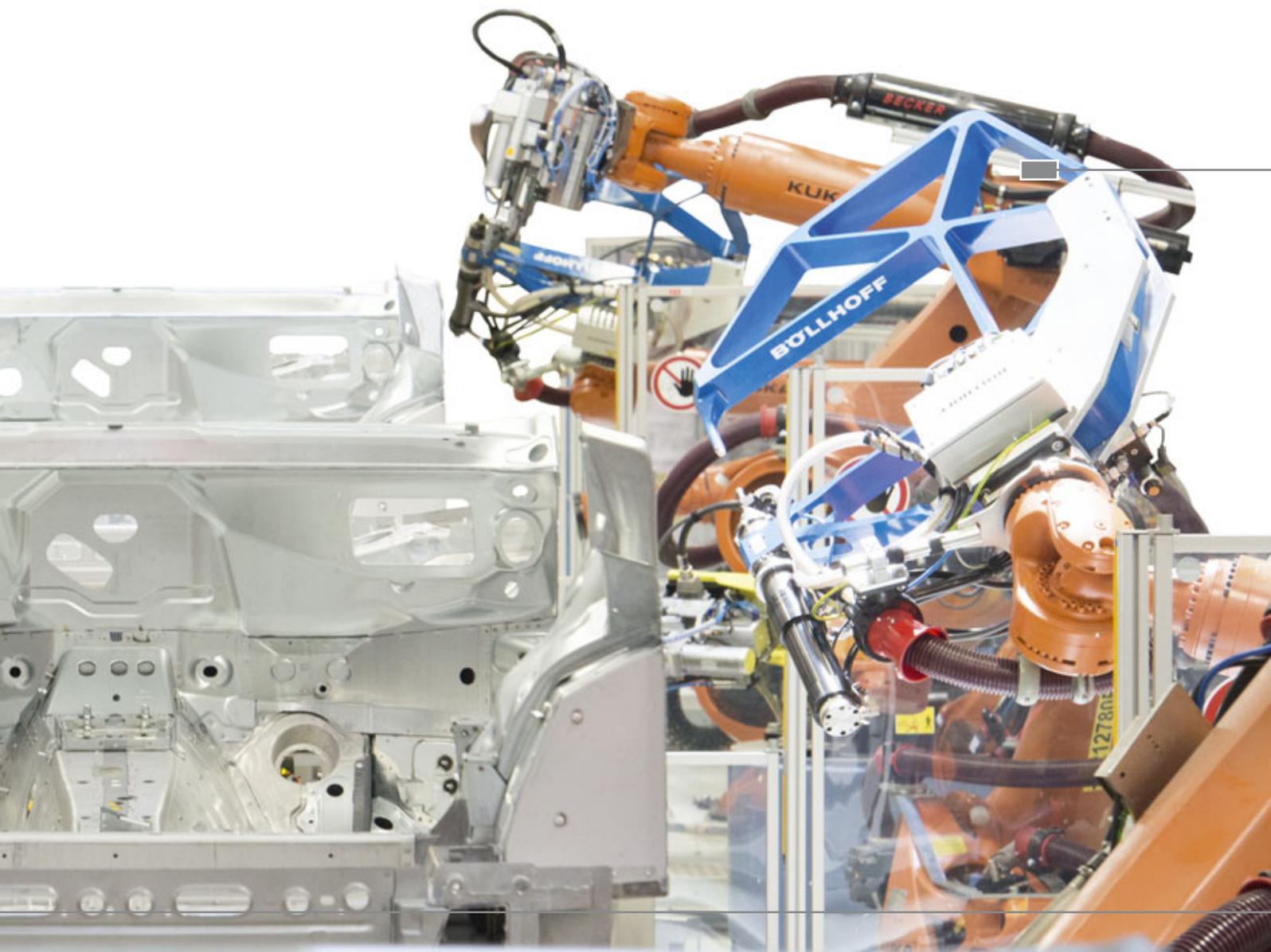
Efficient lightweight design also sets high standards thus requiring innovative fastening technology.

These developments have given a new impulse to the RIVSET® self-pierce riveting technology. It's time to shape the future.



The RIVSET® brand name comprises our entire know-how of self-pierce riveting technology with semi-tubular rivets. With the new Automation EH we offer even more advantages:

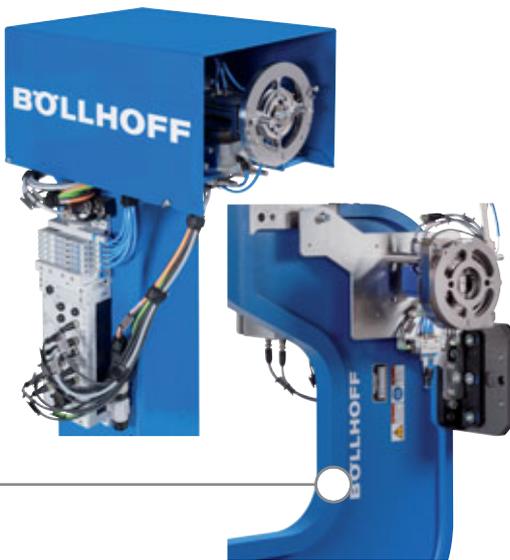
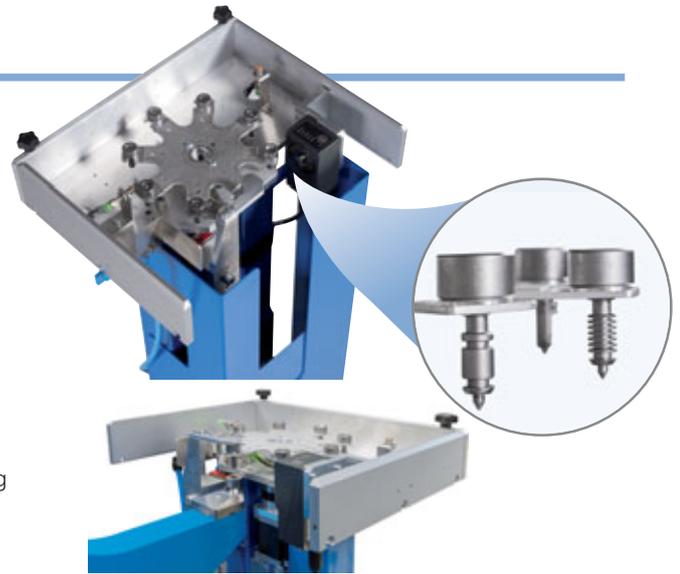
- 100 % electrical installation on robots — no hose coupling
- Cost-effective: long life cycle at maximum availability and minimum maintenance
- Compensation of impact forces (for high-strength steel applications with tensile strength up to 1600 MPa)
- 7th axis function included in control



Options

For prototyping, small series production and spare parts management – RIVSET® Die changers

- Takes up to eight dies
- Die change in ≤ 6.0 s
- Die identification at removal position and assignment of die ID for each joining point
- Die locking in the die post of the setting tool
- Camera sensor for automatic die identification through die shank coding



Alternative rivet feed – RIVSET® Magazine feed

- Consists of loading station and magazine holder on the setting tool
- Up to eight rivet lengths can be processed in a magazine
- Up to 49 rivets per magazine
- Quick magazine change in ≤ 4.0 s

NEW! Modularity in perfection

Different configurations for the production planning of tomorrow.

Rivet feeder, base frames and rivet junction in an extension kit.

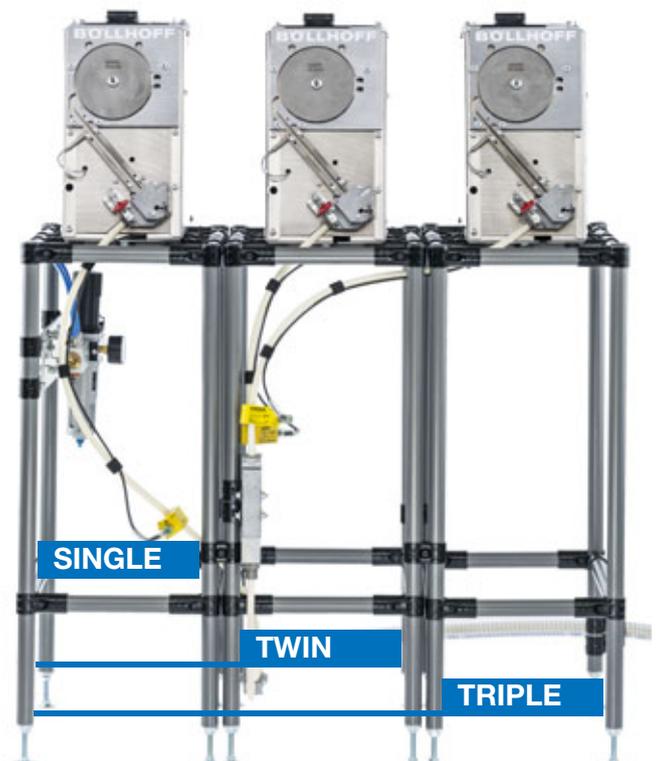
- Single** – One rivet diameter and one rivet length
- Twin** – One rivet diameter and two rivet lengths
- Triple** – One rivet diameter and three rivet lengths

You can configure our new modular base frames for the rivet feeder and the rivet junction on site.



Rivet junction – the highlight

- 100 % mechanical rivet junction for rivet feed – no sensors
- Flexible positioning



Sales

Innovative ability and technical potential are becoming increasingly important for a company's success.

Every customer has a special contact person who will be glad to discuss all wishes and requirements so you save precious time.

Our expertise and experience reflect in a worldwide distribution network. The headquarters of this family business, which has now been in the family for four generations, is located in Bielefeld, Germany. Böllhoff also has sales and production facilities in 24 countries. Outside these 24 countries, Böllhoff cooperates in close partnerships with representatives and merchants to serve international customers in further important industry markets.

Product and project management

We are satisfied whenever we can exceed your expectations.

The foundation of our competence is an efficient concept of counselling, development and support. The joint aim is to realise the technically optimal and economically most attractive solution. That is also the standard of our product and project management; they support you with management and product-specific expertise.

Our product and project management stands for interdisciplinary coordination of complex activities. That means planning, controlling and monitoring in all project phases.

We provide product and project management on three continents:

- Europe
- North America
- Asia

Design and development

The development of fasteners depends on the material trends of our customers. For the respective assembly systems, we focus on functionality, flexibility and design.

The main requirements for such systems are reproducible processes, industrial-quality availability and short process times.

The earlier we can contribute our competence, the greater the potential.

To make ideas reality, we employ modern CAD systems complying with today's requirements in the automotive sector. Data transfer is agreed with each customer individually.



Production

Our fasteners are exclusively manufactured at Böllhoff production facilities. They are subject to stringent quality checks in every single production step. This is the only way we can meet the high customer requirements for every product.

The manufacture of important mechanical components (know-how parts) is essential to our manufacturing expertise. Our know-how and machinery make us a competent partner when it comes to pre-development and development for the manufacture of prototypes and samples.

Another of our core competencies is the installation and functional testing of processing systems. All final assemblies and commissioning activities are in-house operations that are not subcontracted.

Joining laboratory and quality

Our focus is always on sophisticated production processes as well as modern measurement and monitoring technology. Good quality is no coincidence, but the result of systematic planning and implementation.

You define all the technical requirements – by request in cooperation with our qualified team – which are then tested for practicability.

You also benefit from process reliability and the avoidance of unnecessary costs.

Our certified laboratory, which fulfils the requirements of DIN EN ISO/IEC 17025, is also there to support you.

We evaluate the joint quality in mechanical joining, support you by applying numerical modeling procedures and also assess technical feasibility.

Service

We are pleased to help whenever you need our support. Located on three continents, at your service 24/7.

The Böllhoff Service Team specialises in helping you protect the value of your investment and ensuring the economic efficiency of your production. That is why we can offer service agreements to further extend the long life of our technically advanced machines.



Böllhoff International with companies in:

Argentina
Austria
Brazil
Canada
China
Czechia
France
Germany
Hungary
India
Italy
Japan
Mexico
Poland
Romania
Russia
Slovakia
South Korea
Spain
Switzerland
Thailand
Turkey
United Kingdom
USA

Apart from these 24 countries, Böllhoff supports its international customers in other important industrial markets in close partnership with agents and dealers.

Böllhoff Group
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or contact us under fasteningtechnology@boellhoff.com

