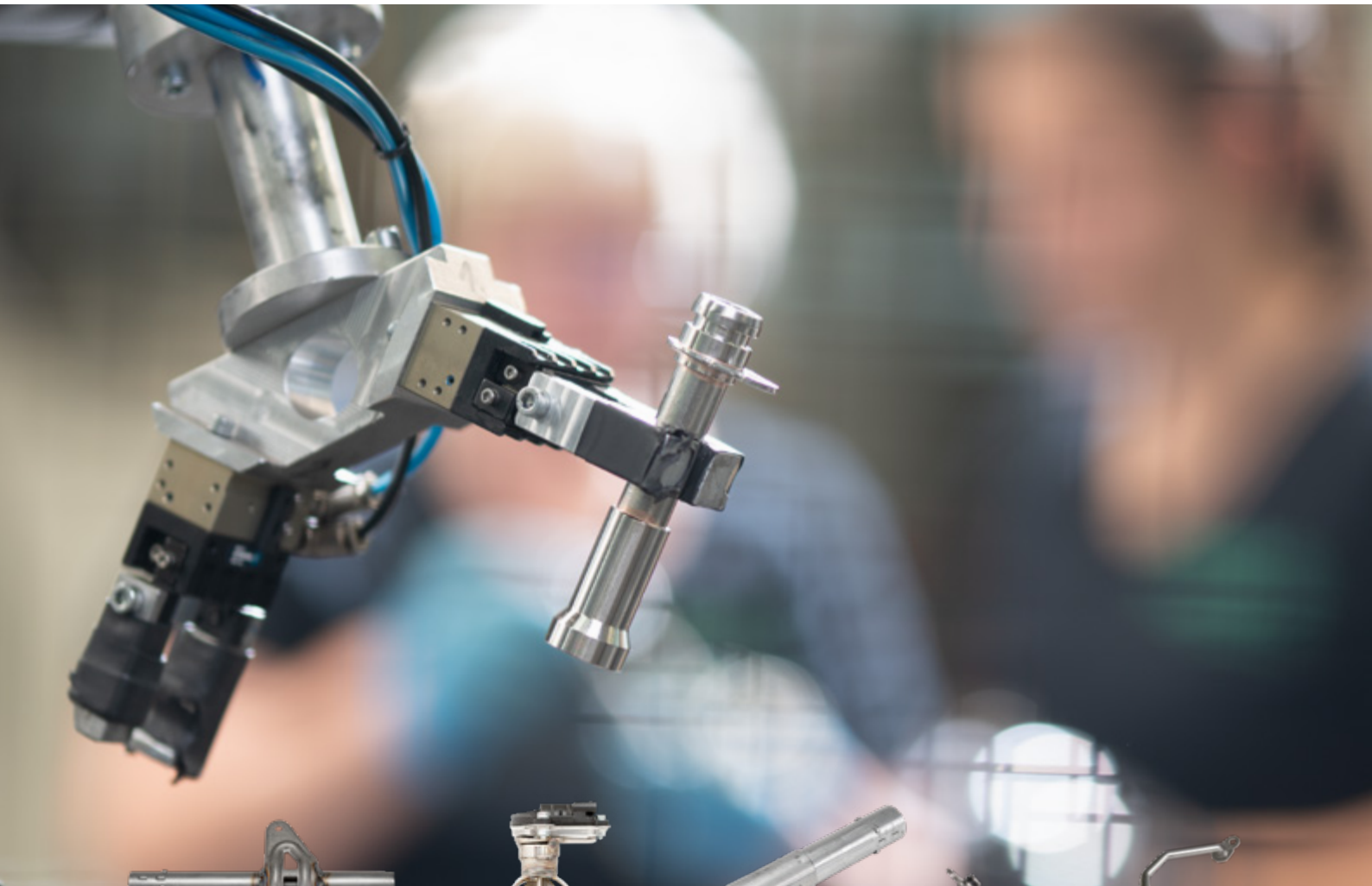


Functional assemblies made of tube



KOHLHAGE
Automotive

KOHLHAGE

Automotive

From the bent tube to the complex assembly

In the past, perhaps 20 years ago, **KOHLHAGE** was known for its ability to bend pipes. In the course of time **KOHLHAGE** engineers refined this production know-how continuously and well-known car manufacturers have become aware of the experts from Neuenrade. Today **KOHLHAGE** Automotive is known for its high level of consulting skills, speed in decision-making and flexibility in implementation. Here, **KOHLHAGE** technicians support the developer on the customer side in the run-up to a series product. Thanks to their experience, they can help to design the desired geometries with process reliability at an early stage in the project.

Safety related assemblies



Valve technology



Fluid & oil tubes

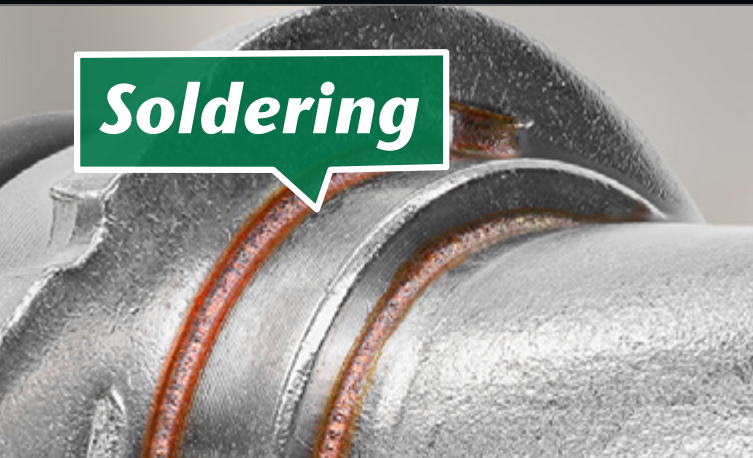




Soldered - tested - tight

Bent tubes are soldered at the ends. The heat of the soldering process can change the contour of the tube. **KOHLHAGE** designs the bending radii in order to fit 100% AFTER soldering.

Each soldering is checked. Pressure tests are carried out on request.



Soldering

Bending, upsetting, rolling

In **KOHLHAGE** production tubes are formed in many different ways. As these production processes are carried out without the addition of heat, they are called "cold forming". The spectrum of **KOHLHAGE** competences in the processing of tube ranges from bending and upsetting to expanding the pipe diameter and subsequent rolling. Especially the combination of these processes while maintaining tight customer-specific tolerances is a speciality of **KOHLHAGE** Automotive.

Cold forming



Precise

For automotive products, especially for safety-relevant assemblies, compliance with high quality standards is essential. For this reason, **KOHLHAGE** technicians pay particular attention to testing concepts that accompany series production. These are defined together with the customer and implemented in our own laboratory using metallurgical and tactile processes.

Checking





Necks create stability

KOHLHAGE uses the so-called T-Drill process. First a small hole is drilled at the point where the new pipe has to be attached later. Then, when the special drill is pulled out, the edge of the drill hole is pulled upwards by means of small hooks. This creates “neckouts” to which the new pipe can later be optimally attached during soldering or welding.

KOHLHAGE masters this process perfectly for pipes with a diameter of 8 – 108 mm with a neck diameter of 6 – 54 mm.

T-Drill



ZSB – Products made of more than just one piece

Today’s customers require that a supplier is able to realize ZSB assembly processes. This is also the case with **KOHLHAGE**. In addition, a trend has developed over the years which leads to manufactured assemblies becoming more and more complex.



Assembly

Can’t - doesn’t exist

KOHLHAGE can supply any common coating. Thanks to a network of regional and national partner companies, the company is able to respond to customer requirements quickly, flexibly and safely.

Coating





Not only clean, but pure

As a long-standing automotive supplier, **KOHLHAGE** knows the requirements for product cleanliness and has decided to develop in-house capacities for cleaning and degreasing. With the in-house DÜRR plants, customer-specific requirements can therefore be met quickly and efficiently. The **KOHLHAGE** experts know from their many years of experience which cleaning process is best for each product – for the benefit of the customer.



Cleaning

End-of-line Tests



KOHLHAGE measurement technology

At the end of every production process, it must be ensured that products are flawless. Such end-of-line tests range from checking for completeness and surface condition, to optical and tactile dimensional checks, to checking for leakage, especially in pipe assemblies.



1929

Founded as a trading company by Ernst Kohlhage

1950

Friedrich-Wilhelm Kohlhage takes over the management of the company

1953

KOHLHAGE becomes a turning shop with its own production facilities

1970

First production in Neuenrade Küntrop

1986

Division into trade (KOHLHAGE & Co. KG) and production (KOHLHAGE Verbindungstechnik GmbH)

The KOHLHAGE Group

Products for Automotive & Co.

KOHLHAGE is a medium-sized, owner-managed company, which has been successful in the market for more than 90 years and can build on this wealth of experience. More than 180 well-trained and committed employees make **KOHLHAGE** one of the first choices when it comes to finding solutions for demanding tasks in metal processing. Today **KOHLHAGE's** headquarters is still in Neuenrade. Three of the five sites are also located there. But **KOHLHAGE** operates worldwide. With the production site in Kunshan (China) founded in 2016, the purchasing office in Taiwan and the logistic and warehouse site in Mexico, the owner-managed company from the Sauerland region is a global player.

The production focus within the **KOHLHAGE** Group is still in the automotive sector. However, market developments in recent years have led to the re-organisation and repositioning of the **KOHLHAGE** Group as well. For example, the foreseeable changes with regard to e-mobility have led to the founding of **KOHLHAGE** E-Tech. However other companies in the group also serve other markets today, from the plastics industry to special machine construction.

KOHLHAGE Fasteners

High-Quality solutions for fastening technology

From the very beginning, dealing with fasteners was a central part of the **KOHLHAGE** business. The focus was on the sale of standard parts. Many trade contacts from that time still bear witness to this today. However, since 2007 **KOHLHAGE** Fasteners has experienced a fast-paced evolution. Since then **KOHLHAGE** Fasteners has become a sought-after specialist for complex tasks in the field of fastening technology with a special focus on application technology consulting. **KOHLHAGE** engineers and technicians specialized in screw technology develop individual solutions together with customers from different industries whenever complex and sometimes difficult to solve problems in fastening technology are involved. The **KOHLHAGE** specialists benefit from the fact that they are familiar with all common production processes. They can recommend the most favourable and efficient production variant to the customer in addition to the solution.

KOHLHAGE customers appreciate this.

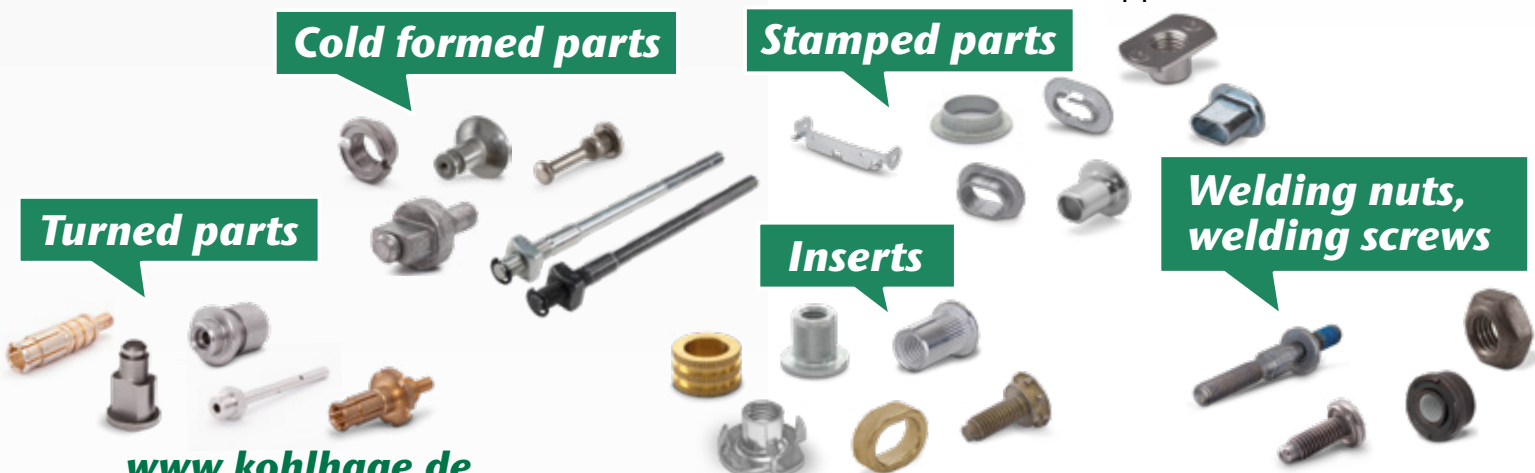
Cold formed parts

Stamped parts

Turned parts

Inserts

Welding nuts, welding screws



www.kohlhage.de



1997

Complete move to Neuenrade Küntrop

2012

Renaming to KOHLHAGE Automotive GmbH & Co. KG and KOHLHAGE Fasteners GmbH & Co. KG

2016

Foundation of KOHLHAGE Automotive Tubes (Kunshan) in China

2018

Foundation of KOHLHAGE E-Tech GmbH

2020

Maximilian Schreiber (member of the Kohlhage family) joins the management team

KOHLHAGE E-Tech

Solutions for e-mobility

Thanks to its experience in the reliable production of complex assemblies in series production, **KOHLHAGE** E-Tech can develop viable solutions for electrically powered vehicles. Core products are structural components and individually developed unit carriers to accommodate electric motors and their attachments.



Aggregate carrier



Structural components



KOHLHAGE Automotive Tubes (Kunshan)

For the Asian market

For the on-site-presence and in order to serve the rising demand of the automotive customers, **KOHLHAGE** decided in 2016 to open up a local production facility in Kunshan. Here, in East China, between the two metropolitan areas of Shanghai and Wuxi, one of the economic focus areas for the European automotive suppliers came into existence.

KOHLHAGE Kunshan operates a production facility of 450 m² with a total of eleven employees. All products manufactured in Kunshan bear the **KOHLHAGE** stamp of exceptional quality.



KOHLHAGE

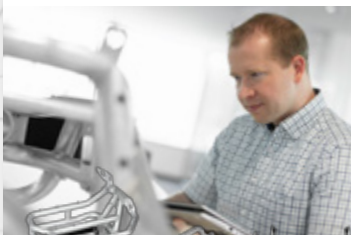


**Functional assemblies
made of tube**



KOHLHAGE
Automotive

**Solutions for
e-mobility**



KOHLHAGE
E-Tech

**High-Quality solutions
for fastening technology**



KOHLHAGE
Fasteners

KOHLHAGE Automotive GmbH & Co. KG

Hönnestraße 22
D-58809 Neuenrade-Küntrop
Tel. +49 2394 619-0
Fax +49 2394 619-94
vertrieb@kohlhage.de
www.kohlhage.de

KOHLHAGE
Automotive