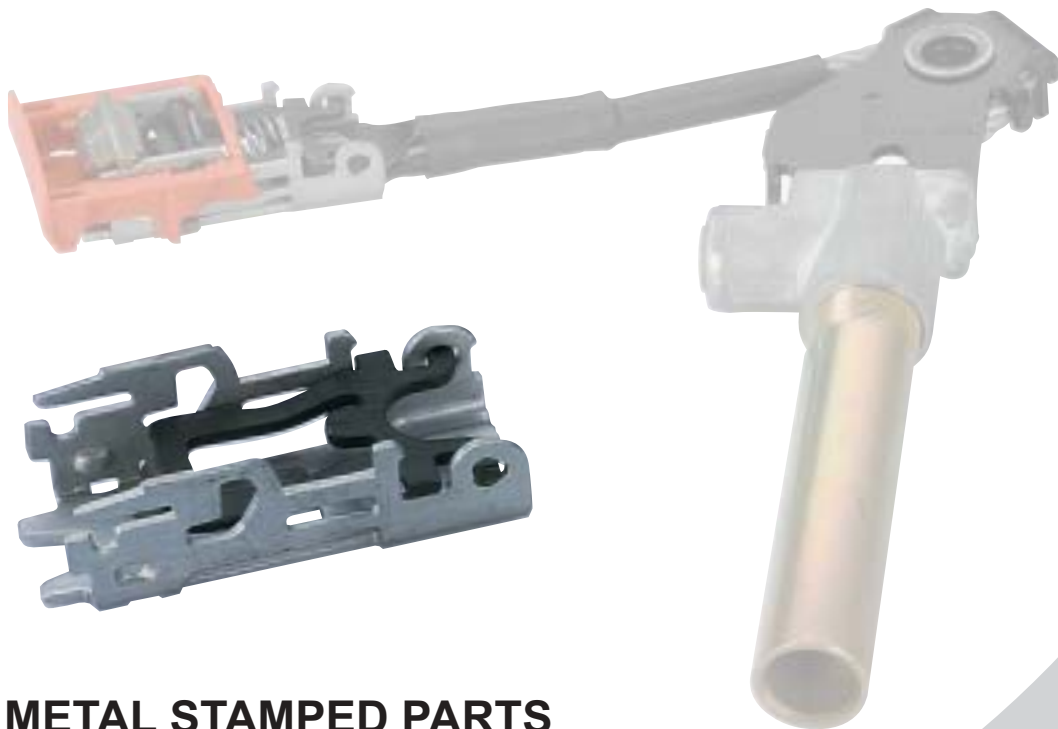




## TUBULAR PRODUCTS



## METAL STAMPED PARTS

## DESIGNED PARTS

### PRODUCT RANGE

 tubular products



 compression limiter<sup>®</sup>




 safety belt parts



 metal stamped parts



## tubular products

- ▶ The production of rolled tubular products is our core competence. Permanent system and process innovations combined with a decade-long experience afford excellent quality and function fulfilment. Furthermore they represent a cost-saving alternative to machined parts and offer innovative solutions for complex design engineering tasks.  
The range of applications for  tubular products is unlimited.

### Application Axle & Frames

- ▶ **Rear axle passenger car**

Tube retainers for rubber-metal connections are welded on the axle guide. The welding circle is about 185 degrees. The tube deforms up to 1.5mm to an oval shape due to physical welding stress.

Jörg Vogelsang has a cost effective alternative to cut tubes with post machined chamfers.

Our technology is using profiled strip metal to roll an axle bush tube with a clinched slot and defined oval shape. The elliptical shape allows, that the diameter meets the 0.2 mm tolerance after welding.

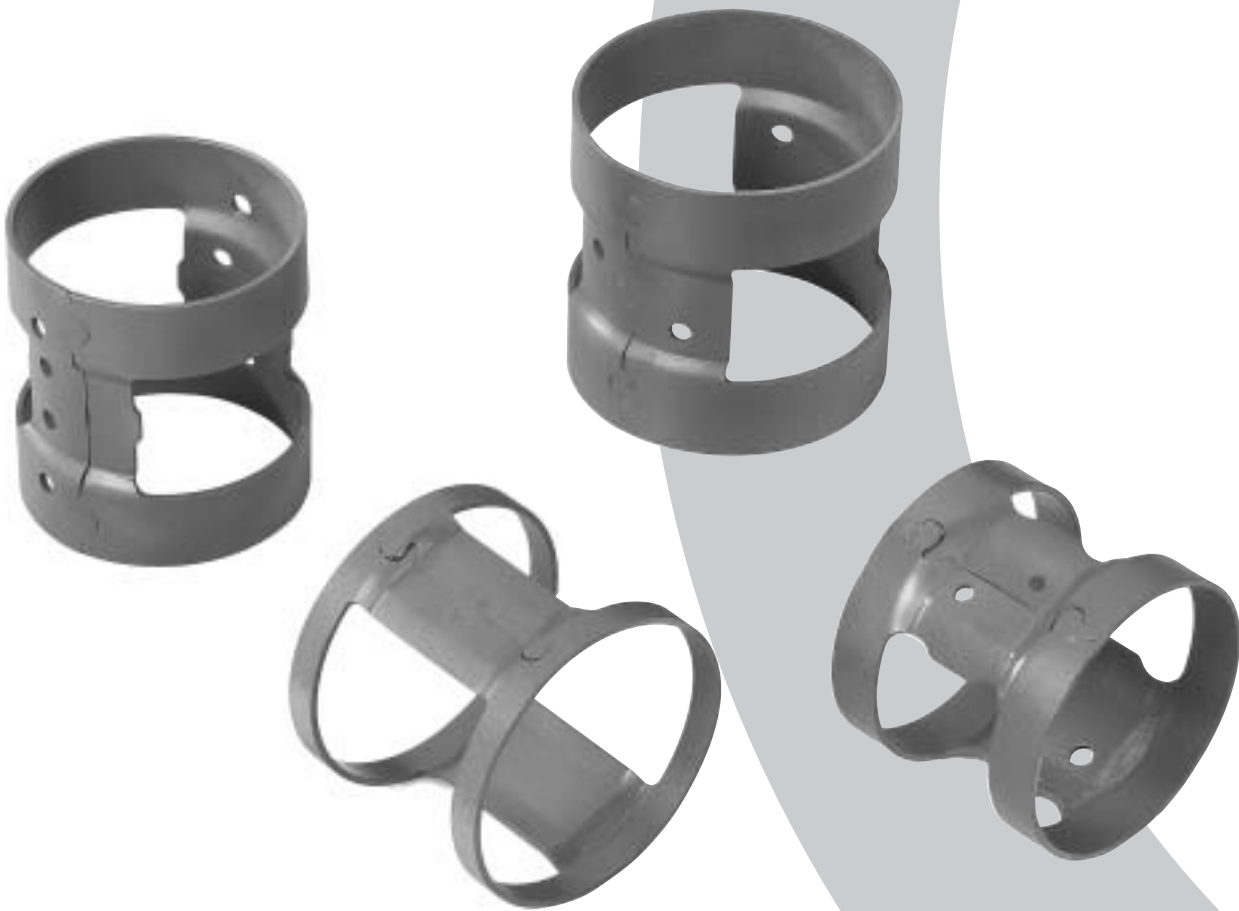
This is the way to reduce costs and improve quality.



## Anti Vibration Applications

### ► **Spot welded steel shell for Hydro Bearings**

These parts are manufactured in a rolled design with a clinched connection, complex shapes and additional holes. The connections are spot plasma welded to stabilise the part.




## Shock Absorber Applications

### ▶ **Welded Eye Rings**


These parts serve as collar for shock absorber bearings. Because of optimised series-production-processes we are able to afford lower-cost and reliably reproducible products.



### **spacer®**

- ▶ Jörg Vogelsang  **spacer®** (spacer sleeve) are used to create a defined spacing between or in different components or assemblies.

Using our experience and technology, we can manufacture almost any geometrical shape of the spacer.

The main requirement for the  **spacer®** is a low axial deformation because of axial loading. The main advantage of the Vogelsang Spacer is, that materials with a yield point up to 750 mPa can be used. This high yield point can only be reached by cold forming.



## **compression limiter®**

- ▶ The automotive industry uses a lot of injection molded parts because of light weight designs and cost savings. These parts are usually fastened on or in the vehicle.

The screwed joint exceeds the allowable axial surface pressure of the injection molded parts.

 **compression limiter®** made of non-ferrous metals and steel have to be used.

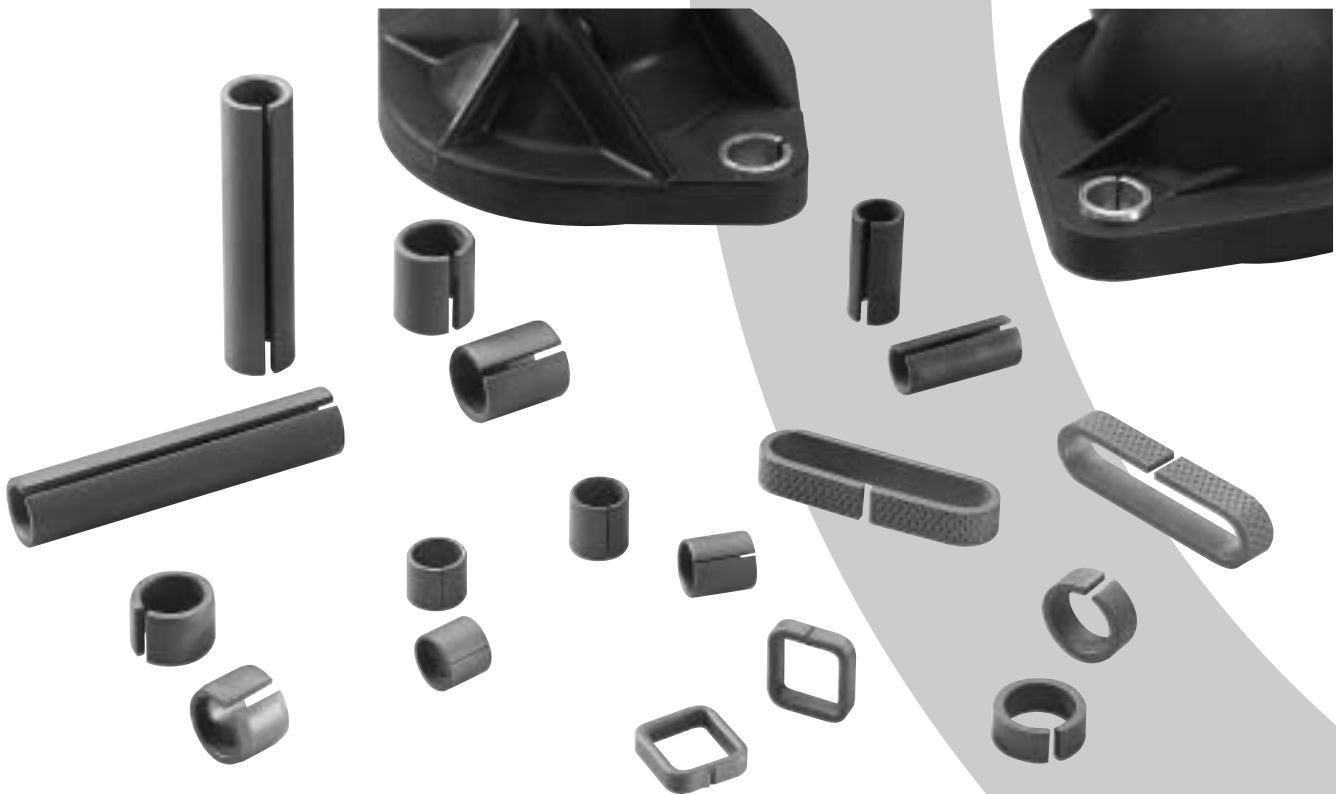
Jörg Vogelsang gives you the cost effective alternatives to the expensive machined part:

We agree with our customers on the design in consideration of

- measure of shrinkage
- flange thickness
- edge spacing
- screw size

The material and geometry of the  **compression limiter®** are calculated on:

- inner diameter
- thickness
- length
- assembly condition (joint chamfer)



## **safety belt parts**

### ▶ Safety Belt Technology

The security relevant safety products of this segment are manufactured in correlation with the legal regulations basing on the customers individual demands.

Jörg Vogelsang is known as a supplier for safety belt parts for the last 20 years.

Vogelsang meets the process capabilities and the requirements with special know how in material science, stamping technology and heat treatment.

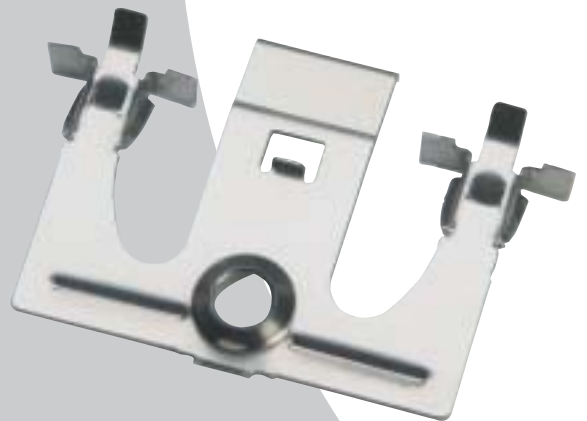


## metal stamped parts

- ▶ In the segment **metal stamped parts** we focus on coming up to the customers expectations by meeting their customised specific design and product needs.

These parts are used in different applications and meet the highest requirements of reliability and precision.

Our goal is to achieve the highest customer satisfaction in material, form and accuracy of the parts. We also strive to reach the market demand, safety reliability and process documentation.



BUSINESS UNIT

## FASTENERS

The JV Group is the world's largest manufacturer of tension pins and tension bushings with the largest delivery program and the best availability. Your special demands help us to extend our range of products.

### ► Tension Pins / Coiled Spring Pins

We manufacture tension pins according to DIN EN ISO 8752, DIN EN ISO 8752 stainless, DIN EN ISO 13337, coiled spring pins according to DIN EN ISO 8750, DIN EN ISO 8750 stainless and DIN EN ISO 8748. Tension pins can substitute different fasteners.

### ► Tension Bushings

We manufacture tension bushings according to DIN 1498 and DIN 1499 for different applications like construction machines, earthmover, hydraulic equipment, agricultural machines and railway wagons. The quality of our products is known all over the world.



## ABOUT US

Jörg Vogelsang is known as an innovative manufacturer of advanced metal forming products. We produce high technology parts made out of strip metal.

As part of an international group of companies, Jörg Vogelsang is the world market leader of tension pins and tension bushings. We are also leading development supplier of rolled tubular products.

The divisions **Tubular Products**, **Metal Stamped Parts** and **Fasteners** provide technical and commercial services to our customers. The creative dialog between the customers and our engineers is the basic foundation of our success. Our development programs have to meet the technical and economical requirements, but also the ecological aspects.

Customer satisfaction, zero defects and continuous improvement are the key elements of our company strategy. In order to best utilize our ideas and knowledge, you should consult with us at an early stage of the project.

**WE ARE ALWAYS LOOKING FOR A LOW COST SOLUTION FOR YOUR APPLICATION.**

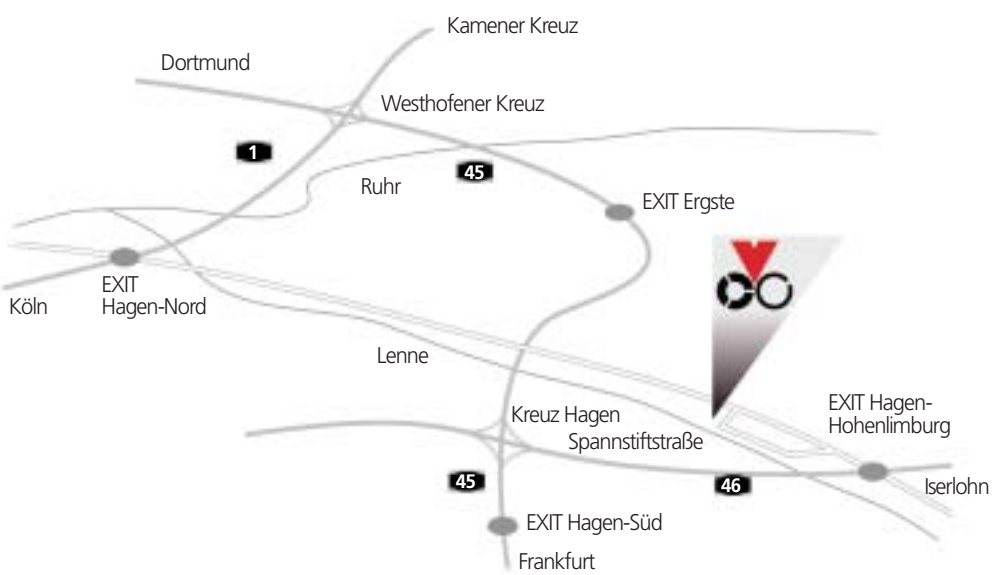
### ► PRODUCTION

PRODUCTION POSSIBILITIES	PRODUCTION EQUIPMENT
All steel material	Presses from 60 – 3500 KN
All non-ferrous metal materials	CNC-machines
Aluminium	Automatic-welding machines
Thickness of 0.2 – 8 mm	Vibratory grinders
Heat treatment (external)	Washing machines
Surface treatment (external)	Automated 100% check
	Automated packing

## OUR LOCATION



## LOCATION PLAN





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