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## **Hatebur HOT*matic***

### Servo-Hydraulic Bar Stop

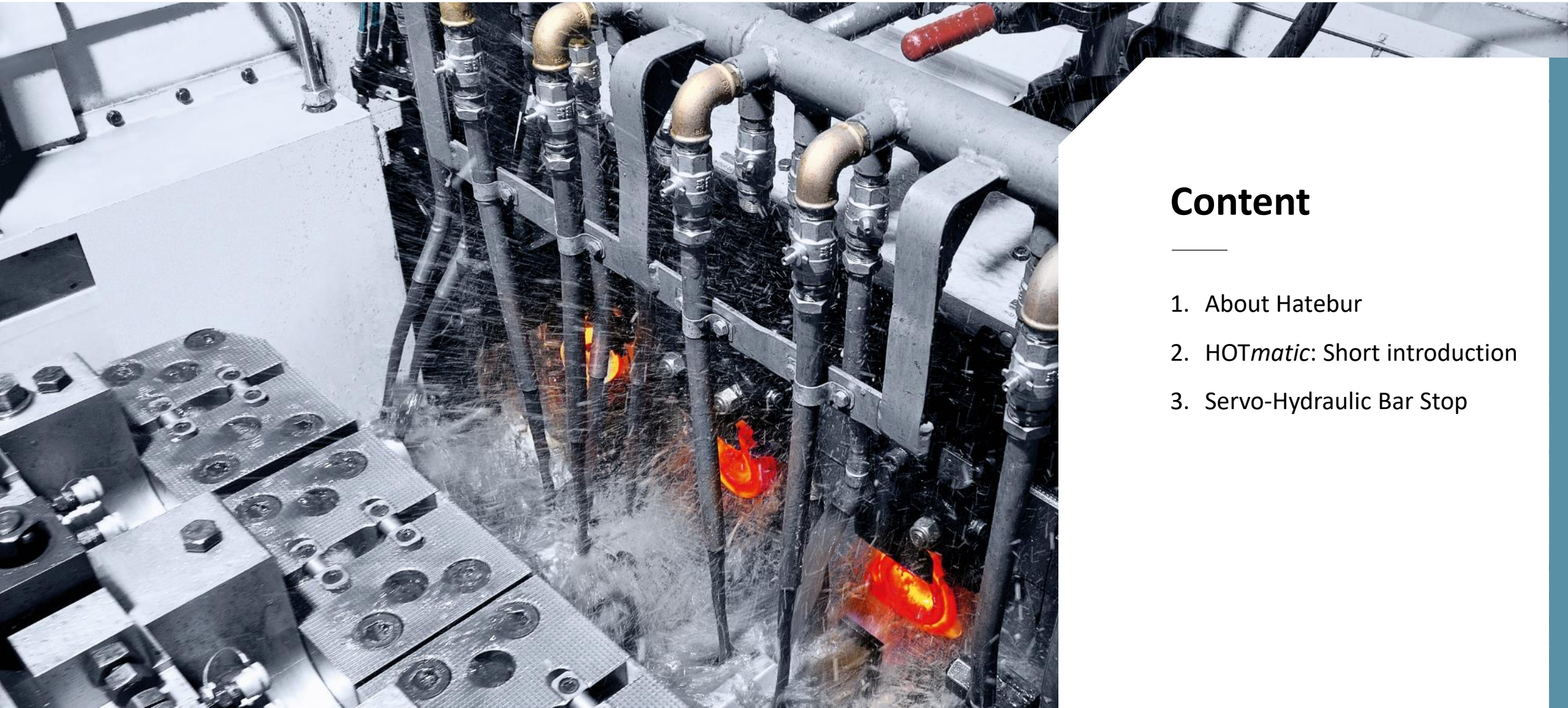
Innovative servo-hydraulic system for  
increased quality demands

**REB / 22.01.2020 – Bangalore, India**



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## Content

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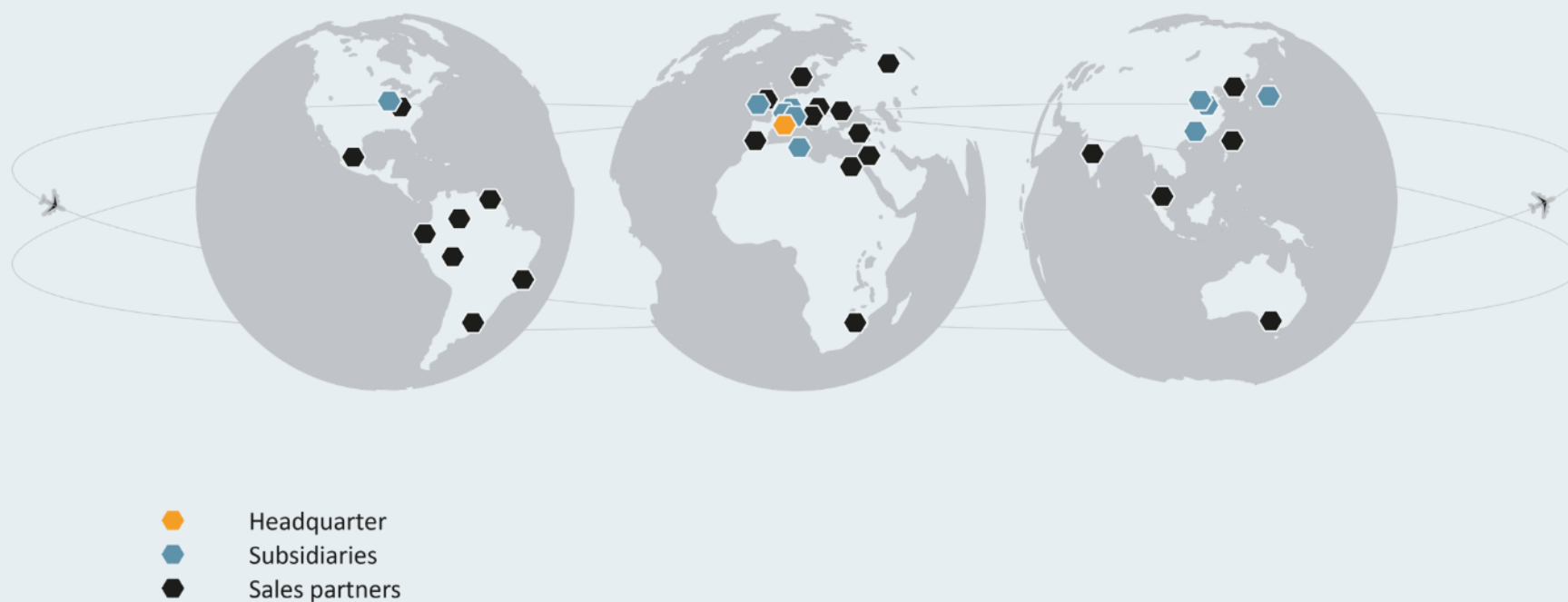
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## 1. About Hatebur

## Globally active

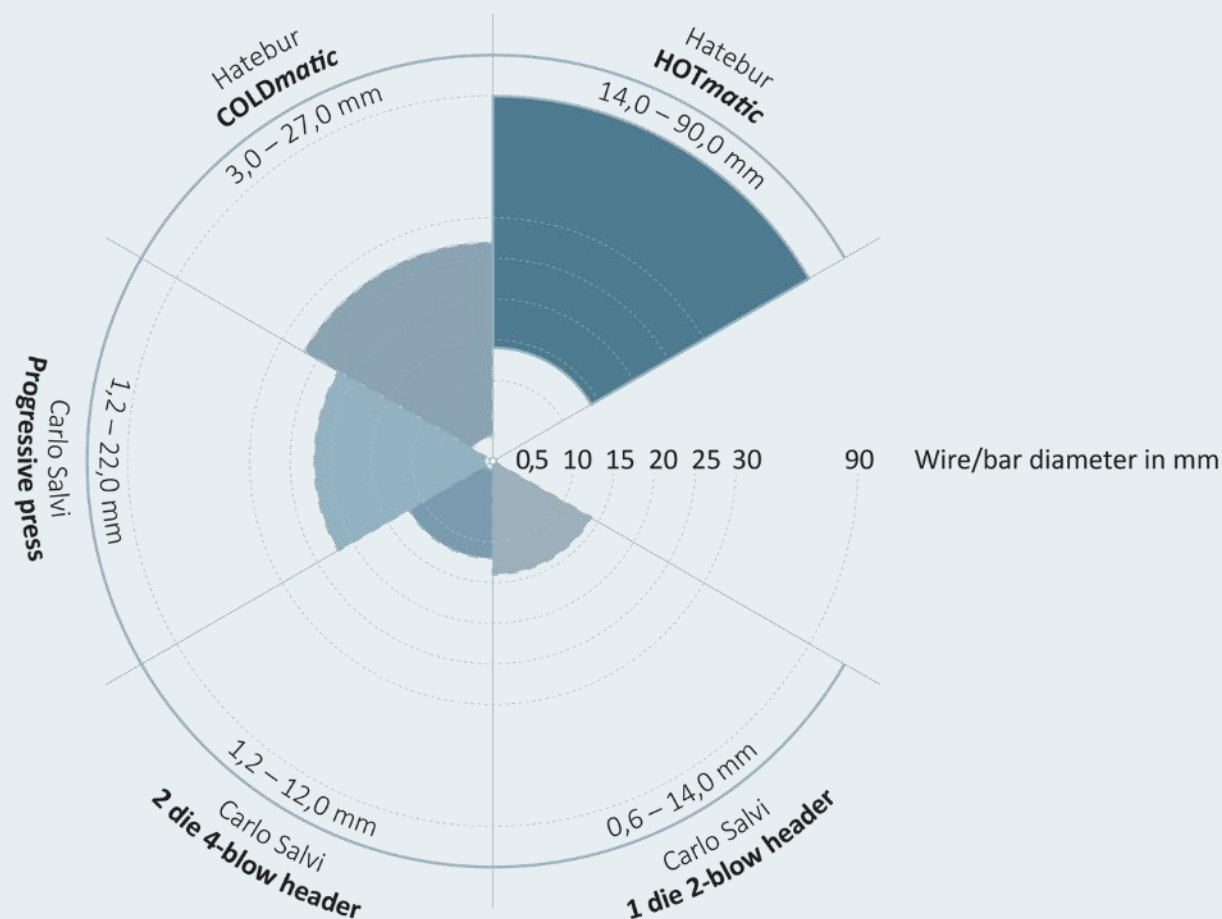
Thanks to a worldwide network of separate subsidiaries and sales partners, our customers benefit from expert consultation regarding machines, process technology and our services, in particular.



## Machine range

After an in-depth consultation and design process, Hatebur offers a machine solution which meets the customer's needs and requirements perfectly.

Whether for the automotive, rolling bearing, aviation or fastener industry.







## Hotformers

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The perfect choice for manufacturing precision forgings such as wheel flanges, gear wheels, rolling bearing rings and nuts, which need to be produced from the bar in a fully automated process.

### Your advantage

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- High precision and flexibility
- Extremely high production speed
- Advantages against the competitor with low life cycle costs
- Very high efficiency (economic efficiency)



## Coldformers

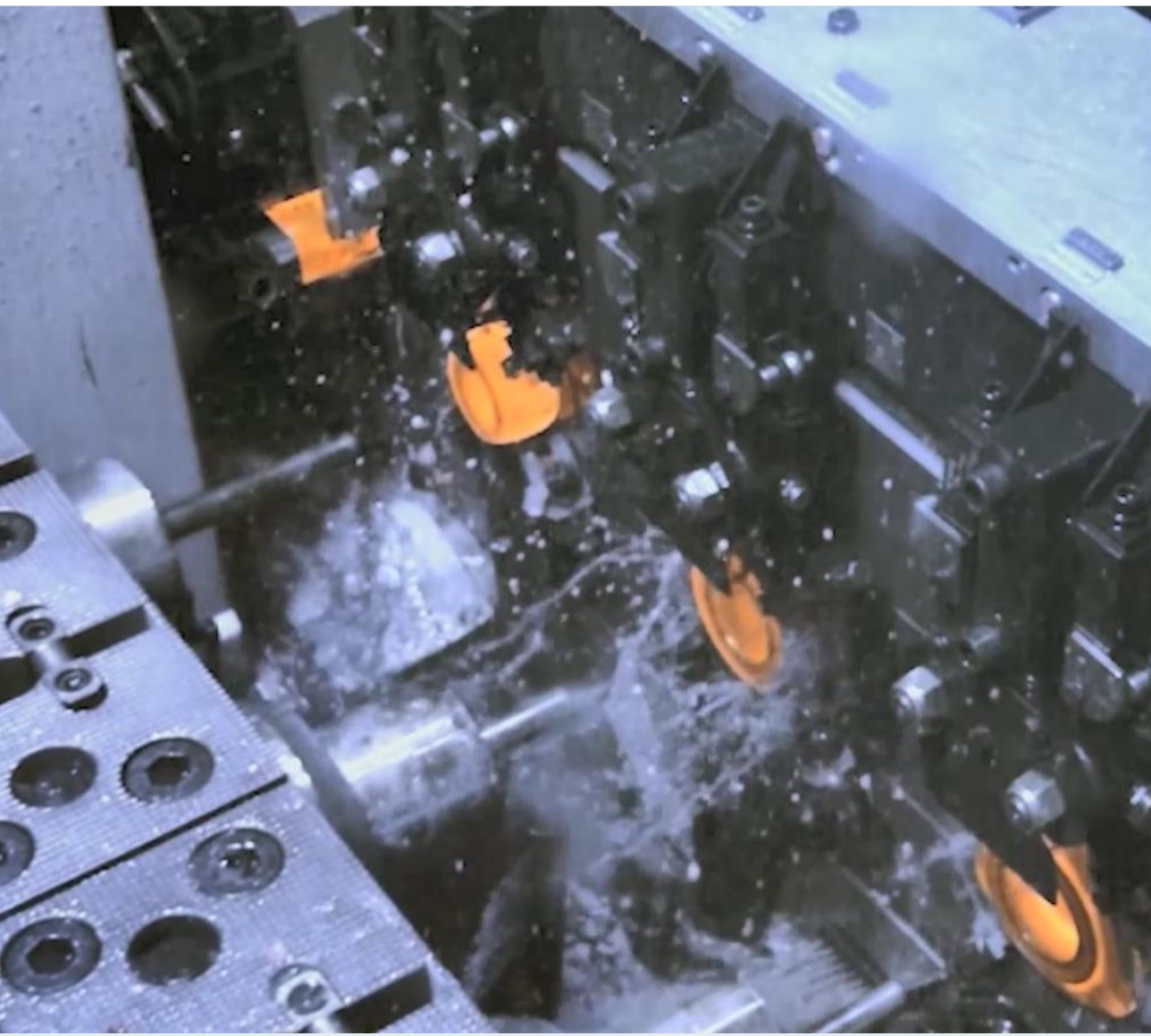
The top performers when it comes to producing extremely precise, complex formed parts with high accuracy, excellent surface quality and low tolerance directly from the wire. Netshape allows products to be manufactured true to the final contours.

### Your advantage

- High precision and high surface quality
- Narrow tolerances
- Extended product portfolio with Carlo Salvi
- Sustainable contribution to the value added chain

## 2. HOT*matic*: Short introduction



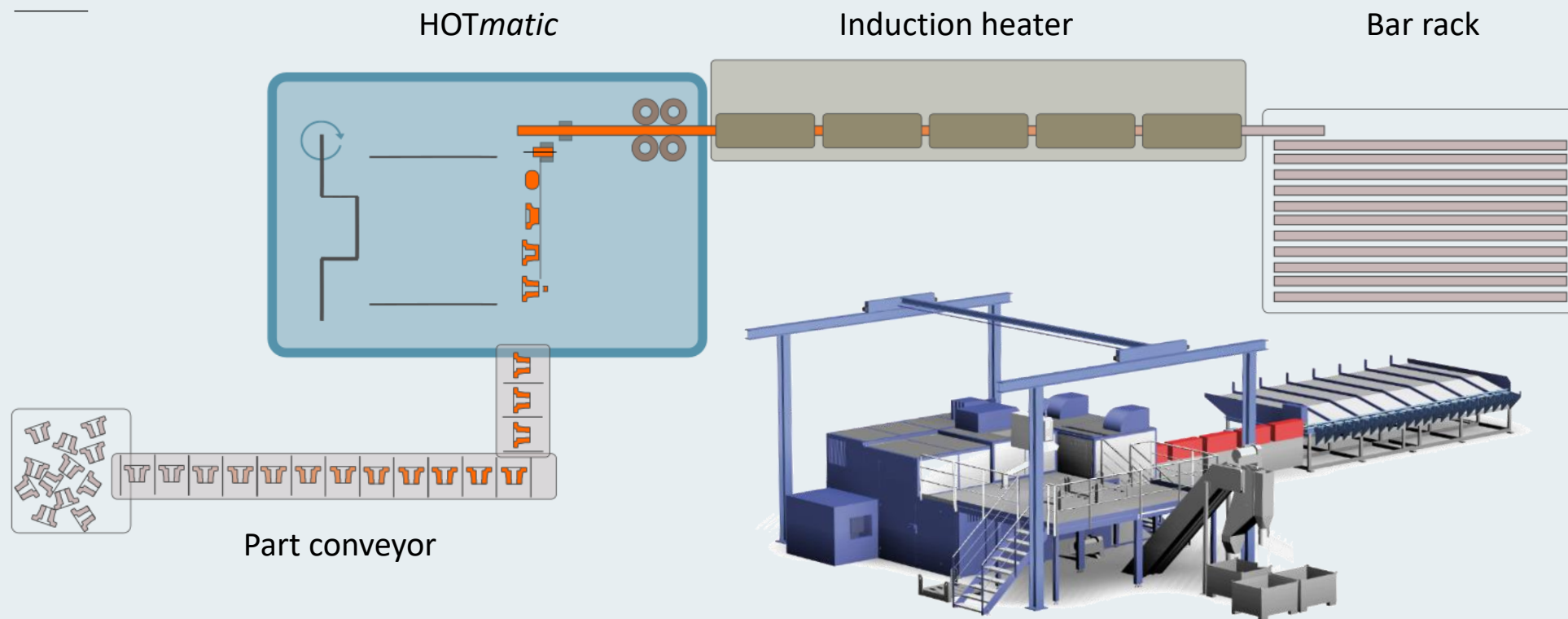


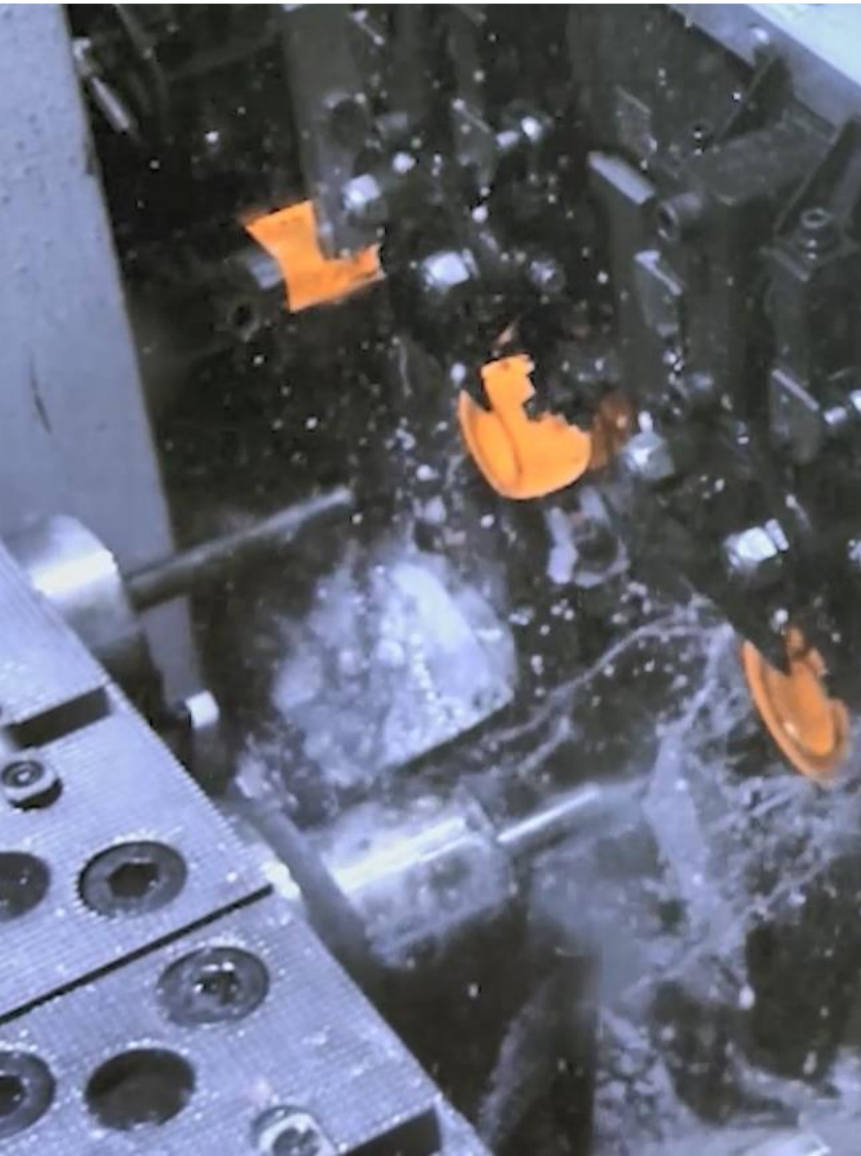
## **HOTmatic High-Speed Forging**

Horizontal forging on *HOTmatic* gives a wide range of advantages:

- High production rate
- Extended tool life due to short contact time
- Efficient cooling system with water
- High part quality with low machining allowance
- Fully integrated shearing process leading to less logistic and the possibility to amend the blank weight at any time during production

## Hatebur HOTmatic





## Horizontal Forming

Due to the inline shearing, highly demanding parts can be produced at high production speed – examples with up to 80 parts/minute:





The image shows a close-up of industrial machinery, likely a CNC machine, with a blue color overlay. The machinery features various metal components, including a large block with multiple circular holes and a long, flat metal plate. The word "HATEBUR" is prominently displayed in the center in a bold, white, sans-serif font.

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### 3. Servo-Hydraulic Bar Stop

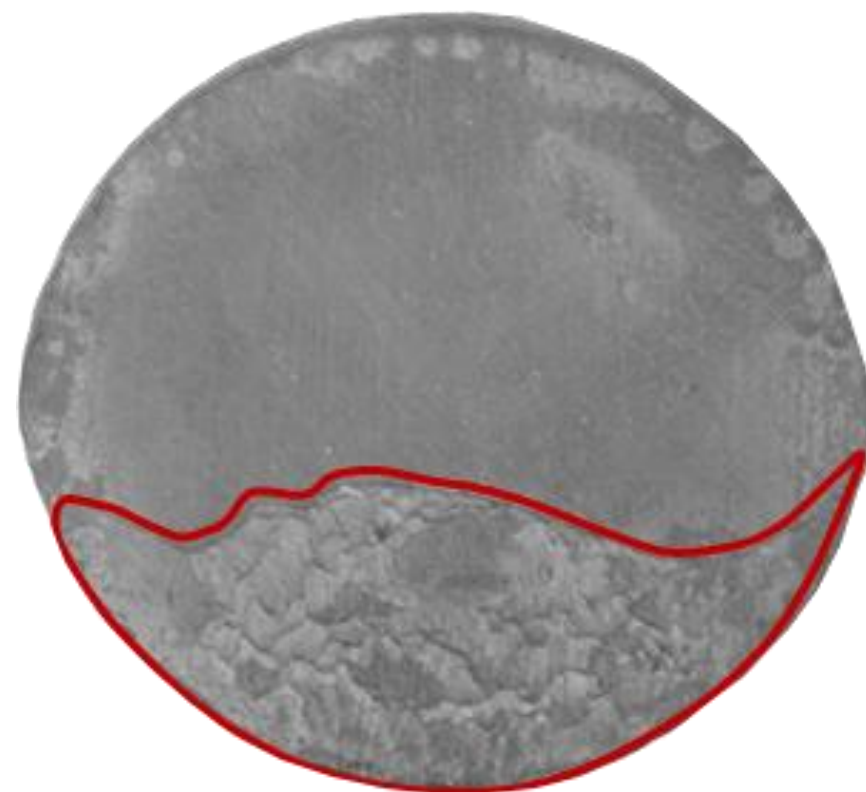
## Inline Hot Shearing

- The hot shearing process allows to produce at a high productivity level with reduced logistics
- Hot shearing increases the deformation of the cut-off and also causes an uneven cutting surface



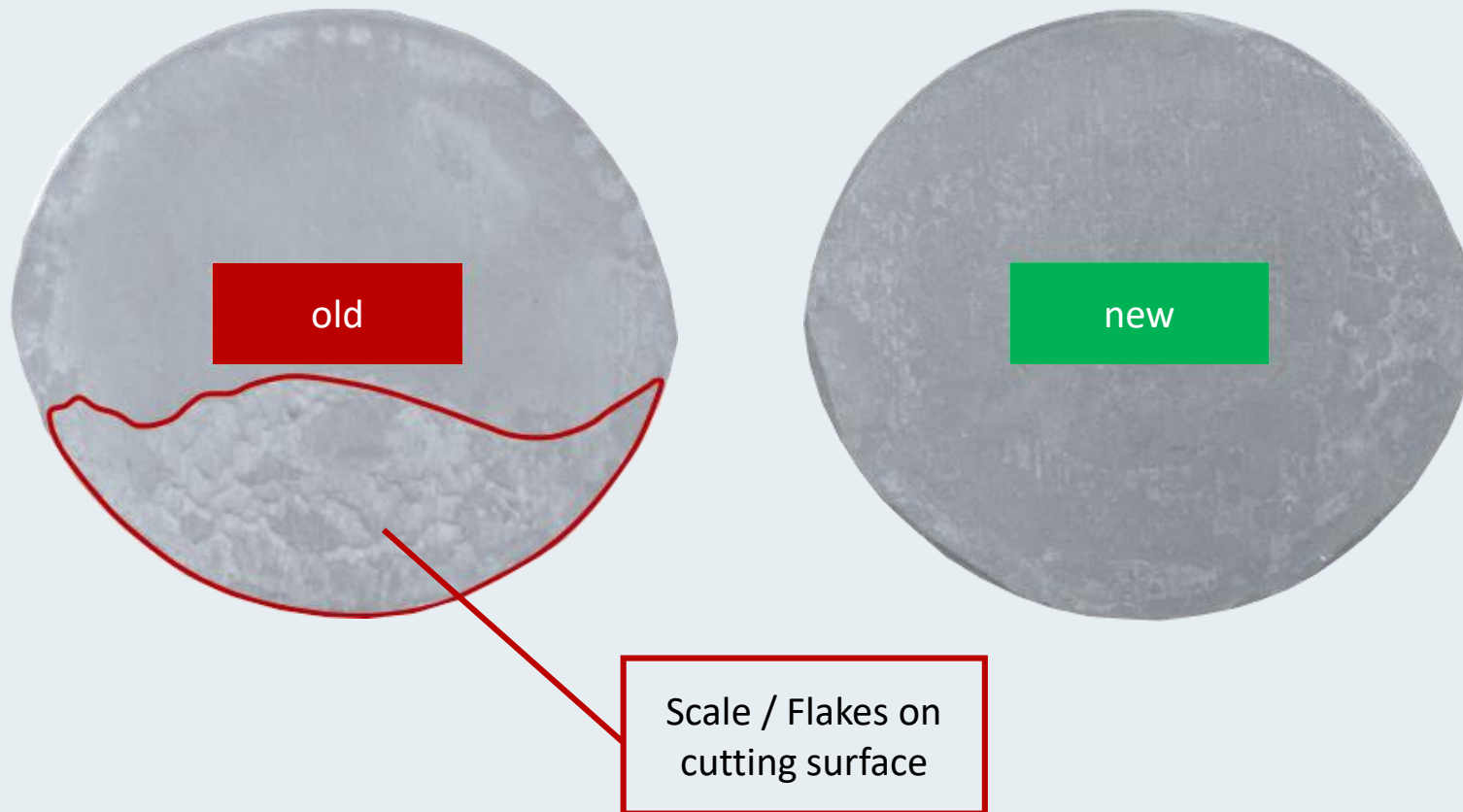
## Influence of flakes

- Flakes can generate small folds Flakes can loose themselves later from the finished part
- Simple flakes can be removed by sand blasting
- Flakes that are forged on top each other can only be removed by machining (depth up to 0.4mm)
- The hydraulic bar stop can minimize the generation of flakes significantly and thus avoids defective parts
- Defective surface are usually detected earliest during the following processes and are therefore expensive



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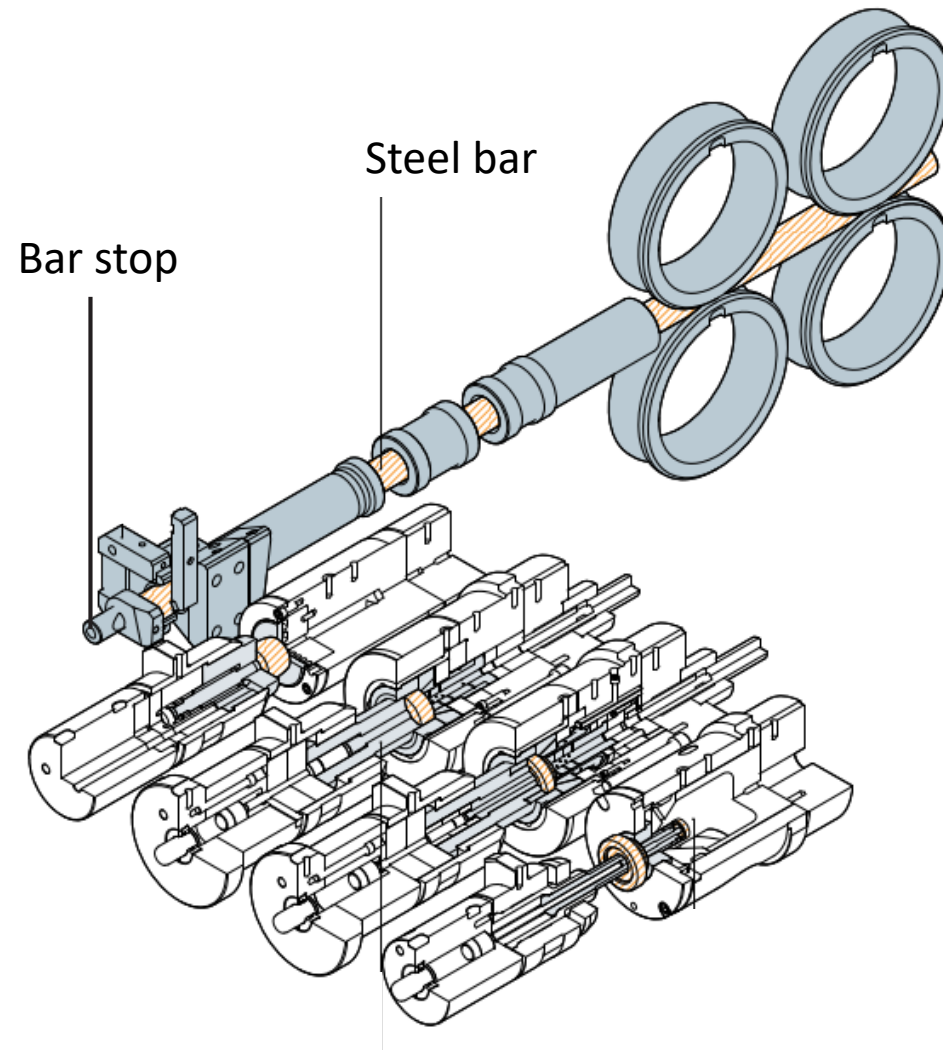
## Cutting surface

- \_ Material 100Cr6
- \_ Temperature 1180°C



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Servohydraulischer Anschlag

## Servo Hydraulic Bar Stop

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Innovative solution for increased quality demand,  
process safety and reduced quality cost

### Compact unit

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- \_ Compact and rigid design
- \_ Long time tested in real production environment
- \_ Very low maintenance requirements
- \_ Reliable operation
- \_ Retrofit for existing big *HOTmatic*





## Operating modes

The servo-hydraulic bar stop can be operated in two modes, depending on production parameters (material, temperature, etc.). The operation mode can be chosen at the operator panel:

- **Position control**

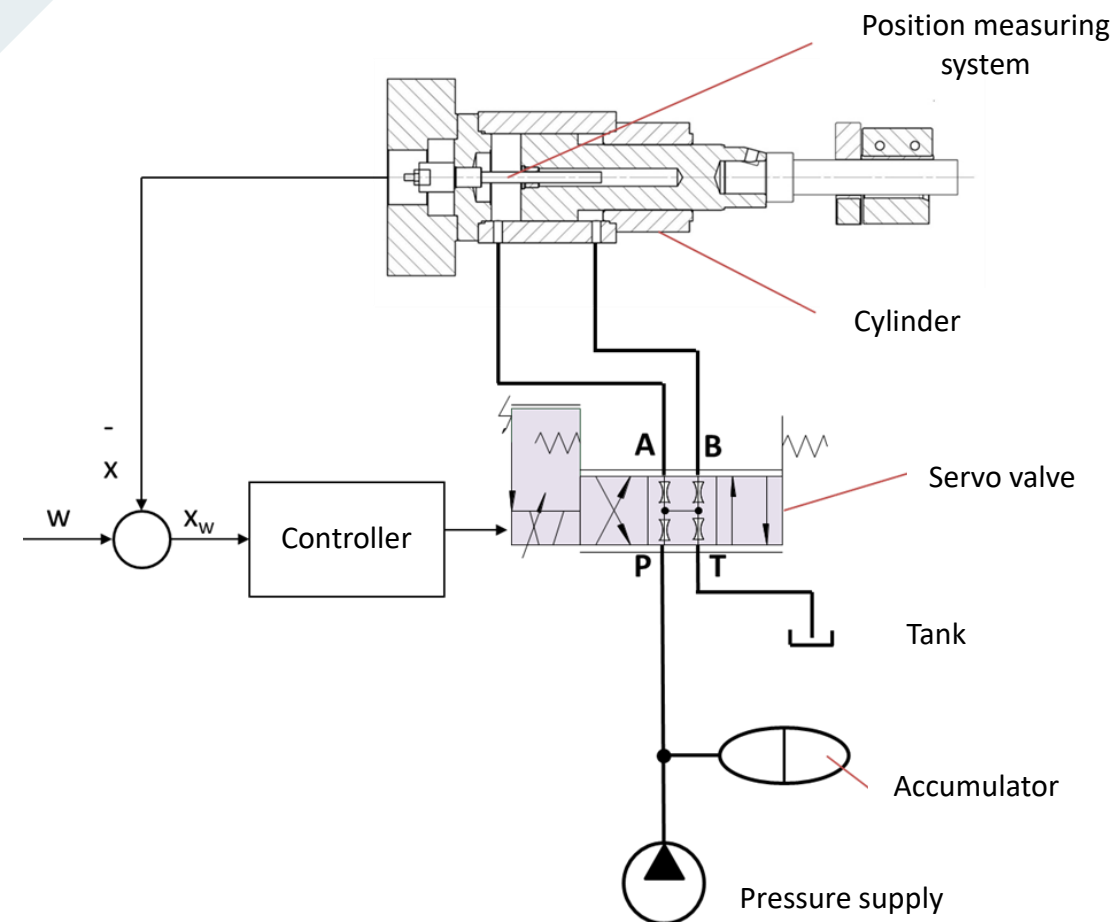
The bar stops slightly deflects during the bar impact. The rate of deflection will be detected and then be compensated by the system

- **Force control**

As soon as the shearing operation has started, the bar stop pushes onto the cut-off.

## Position control

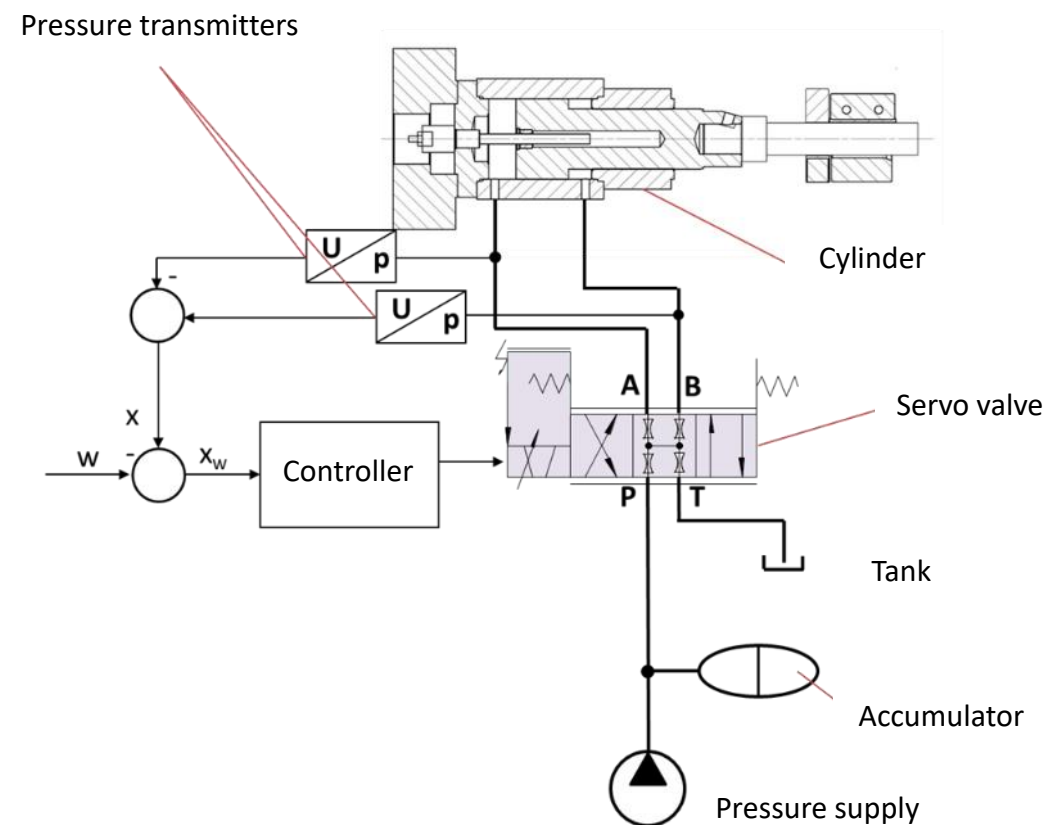
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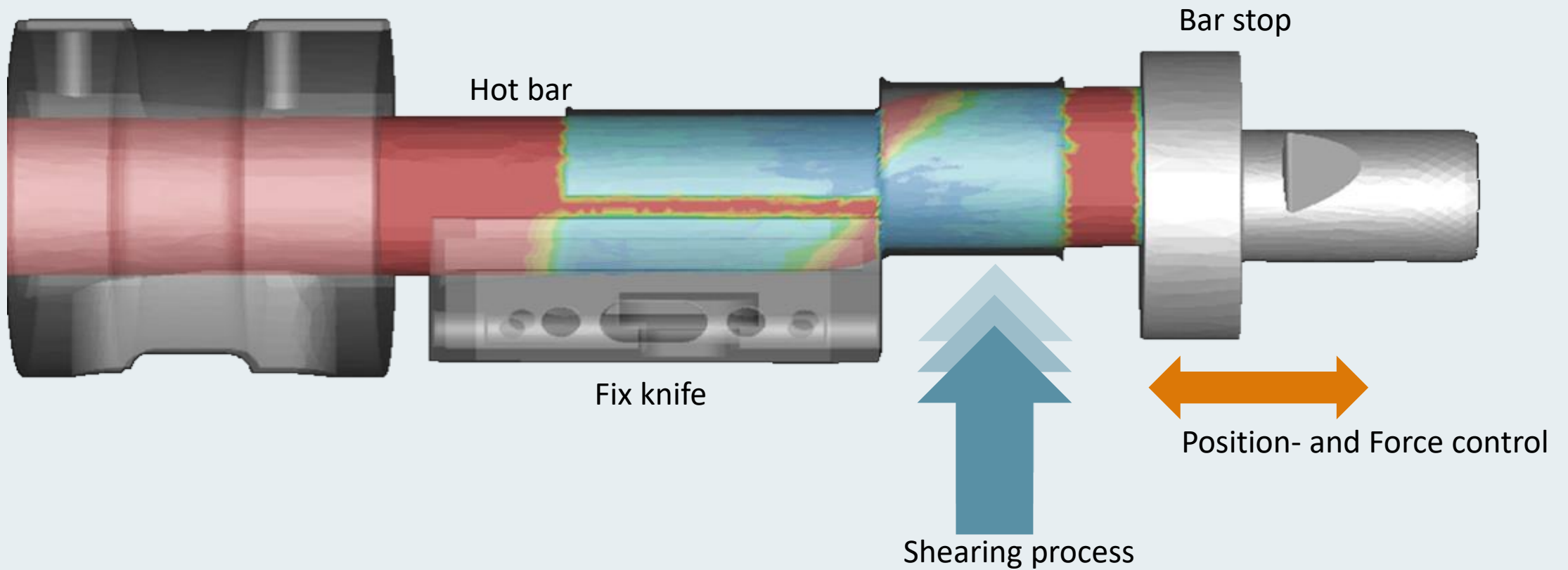
## Force control

As soon as the shearing operation has started, the bar stop pushes onto the cut-off.



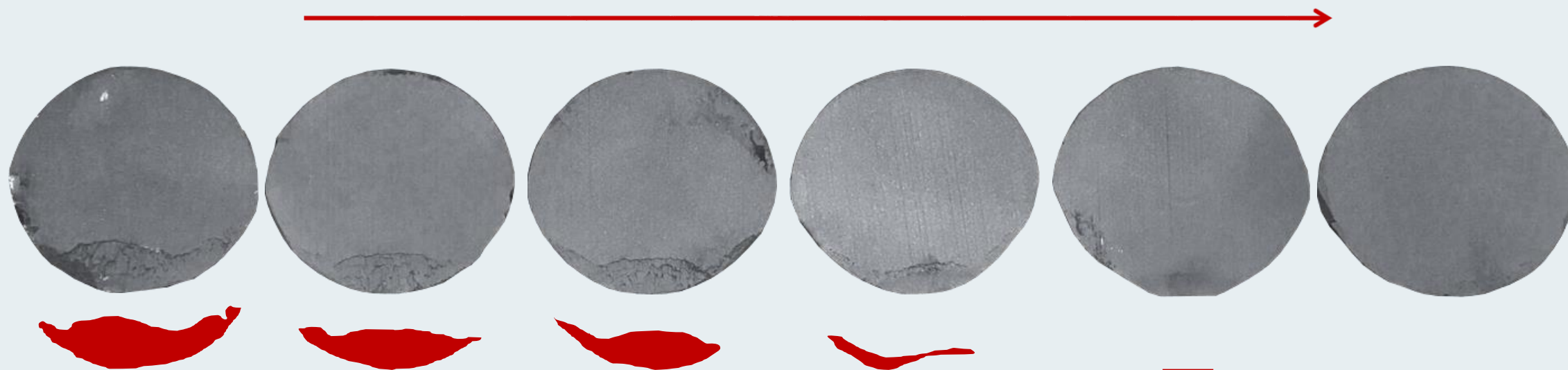
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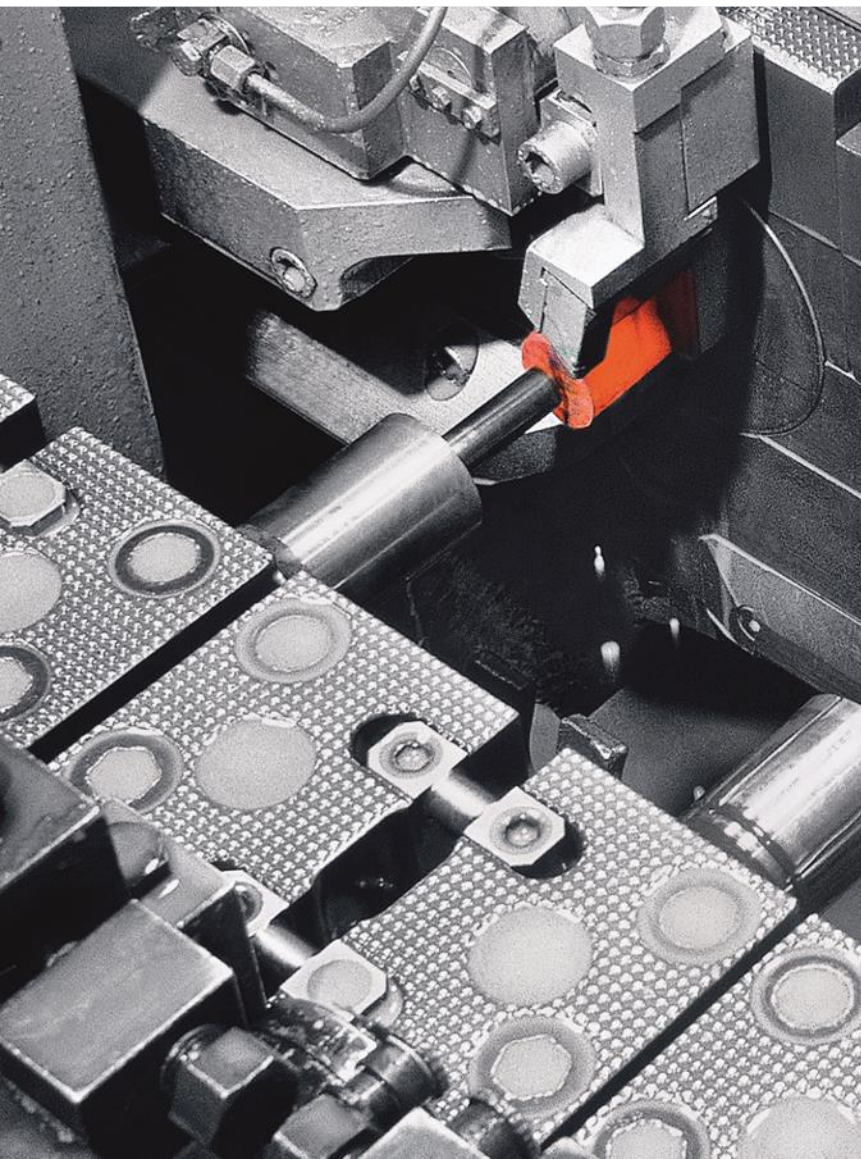


## Minimization of break out at the cutting surface by force control at the servo-hydraulic bar stop

Progressive increasing of the load during running production



\*Bar diameter: Ø65mm



## Your advantage

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- Improvement of cut-off quality as a basis for high-quality forging products
- Less machining costs at the finished part by avoiding flakes at the cut-off
- Surface defects on finished parts
- Savings in manual visual inspections of the finished forging blanks by avoiding flakes on the cut-off
- Robust bar stop signal for reliable monitoring of the cut-off volumes





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Thank you for your attention.