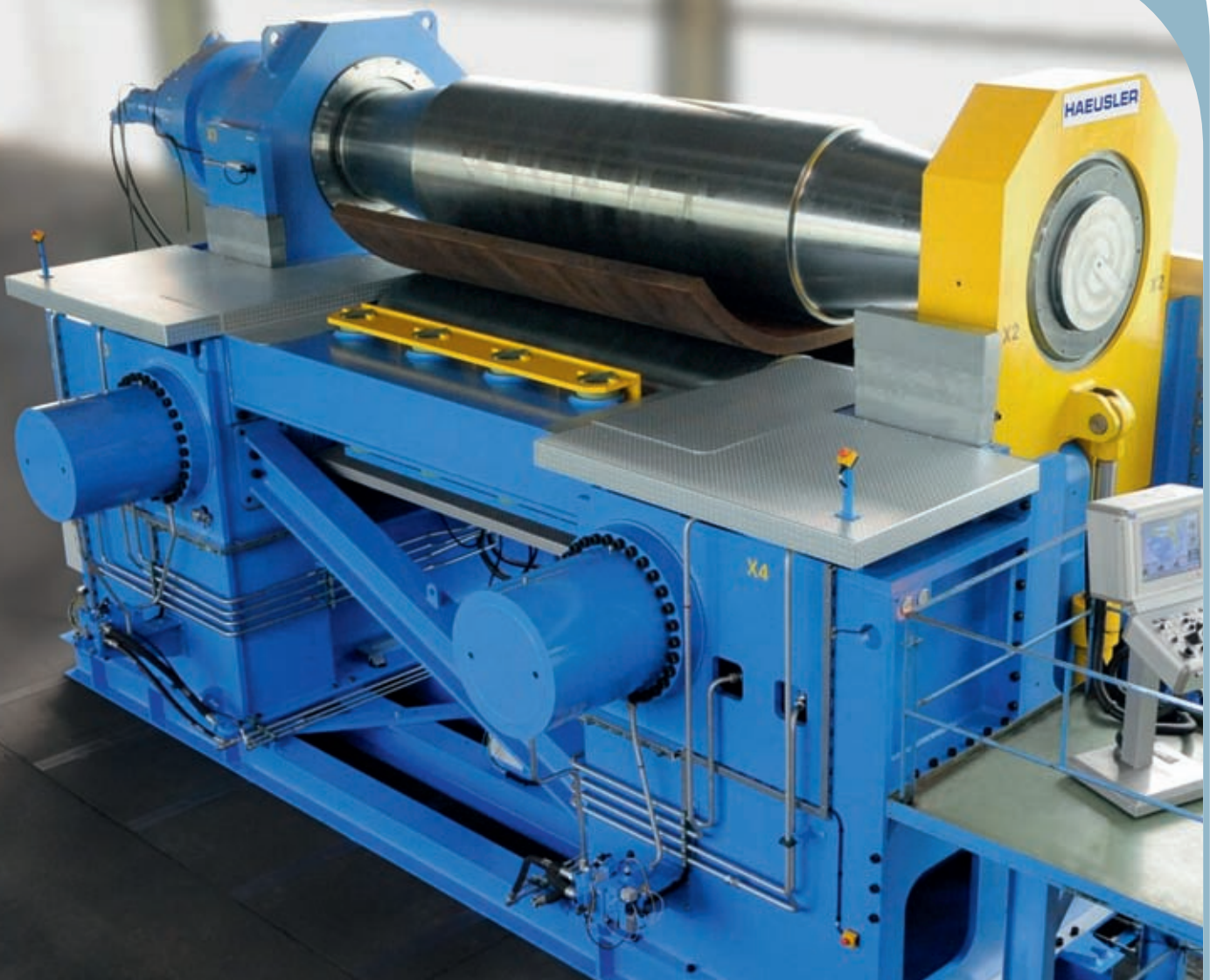


# HAEUSLER

the forming factory



3-Roller-  
Plate Bending Machine HDR



“Machine construction is our profession – using inventive talent and passion.”

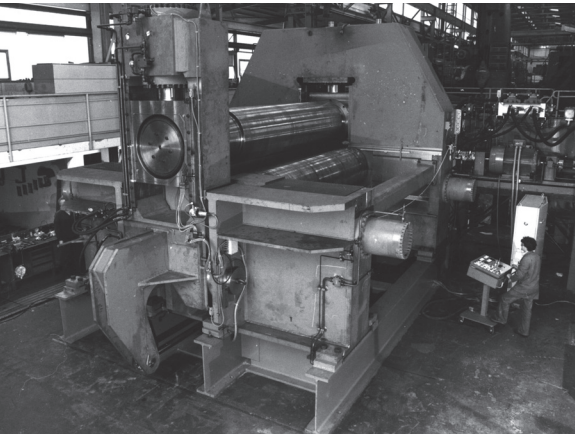
**We at HAEUSLER**

HAEUSLER is one of the world’s leading companies in the field of metal forming. With 70 years of experience we have always been and still are pioneers in developing innovative bending machines. What once started as a small locksmith’s shop in 1936 is now a successful, future-oriented family business in the field of metal bending, forming and general assembly technologies. Our goal is to provide our customers with first class one-off machines, innovative custom solutions and entire highly efficient production lines. All designed and manufactured at HAEUSLER.

**HAEUSLER Know-How**

Today’s HAEUSLER HDR type 3-roller plate bending machines are the result of 35 years of development. The biggest leap in technology was taken in 2008/09 when a revolutionary new design concept was realized (patent pending). This design eliminates many typical disadvantages found in our competitor’s more traditional machines: Improved operator view of the bending process, minimized foundation costs, and no pulling cylinders for bending roll positioning.

This design is yet another proof of HAEUSLER’s powerful innovations and our typically high quality standards which are the foundation of our world leadership in the field of bending machines.



First HAEUSLER HDR (Built in 1977)

**1947**  
Design and production of the first HAEUSLER plate bending machine

**1991**  
Delivery of world’s strongest 3-roller plate bending machine at that time

**1977**  
Design and production of the first HAEUSLER HDR type 3-roller plate bending machine

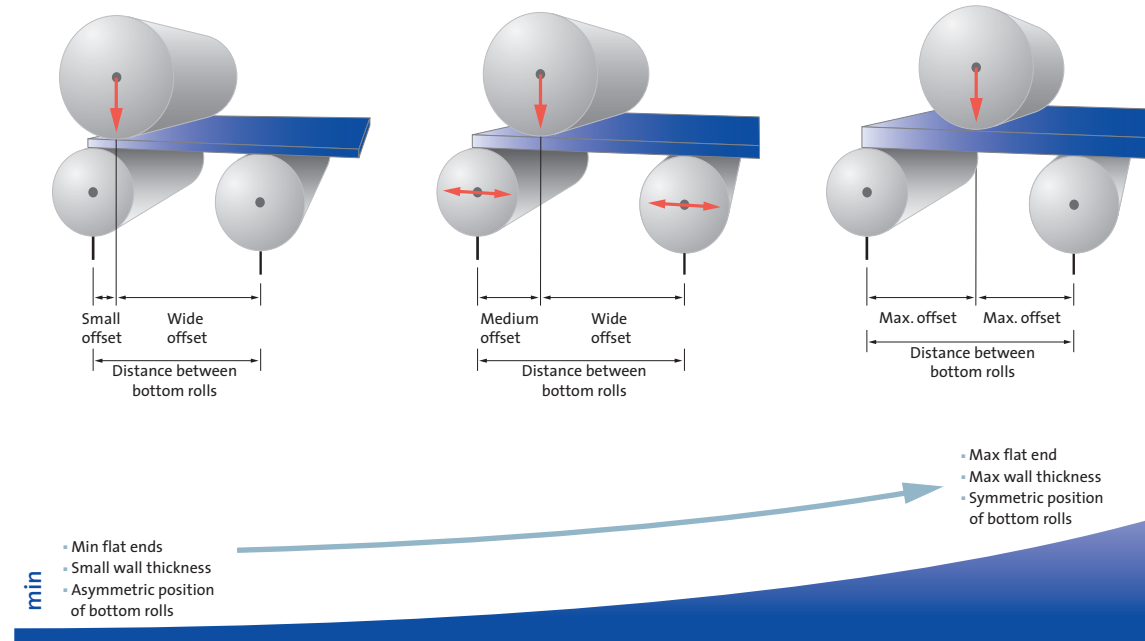
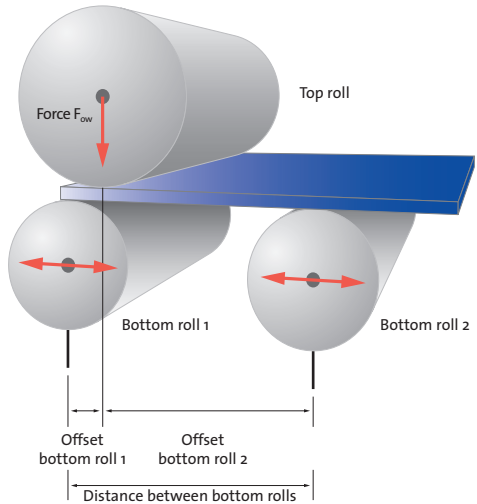
**3-Roller Plate Bending Machine**

The first criteria when choosing a 3-roller bending machine has to be the geometric alignment of it’s rolls. HAEUSLER’s HDR type machines allow individual, horizontal movement of both bottom rolls and vertical movement of the top roll.

All 3 rolls feature individual rotation drives and can be individually angled for cone bending. Compared to other solutions, this concept creates various advantages regarding minimization of flat ends, bending precision and work piece handling. There’s also maximum flexibility for the geometric setup which allows to adjust to machine to fit the geometric needs for a certain work piece.

Generally, a more symmetric bottom roller setup means higher bendable wall thicknesses but longer flat ends whereas higher asymmetric offsets will generate shorter flat ends. Maximum wall thicknesses can be bent with totally symmetric bottom roll positions.

Function principle of the HAEUSLER HDR



min  
• Min flat ends  
• Small wall thickness  
• Asymmetric position of bottom rolls

max  
• Max flat end  
• Max wall thickness  
• Symmetric position of bottom rolls

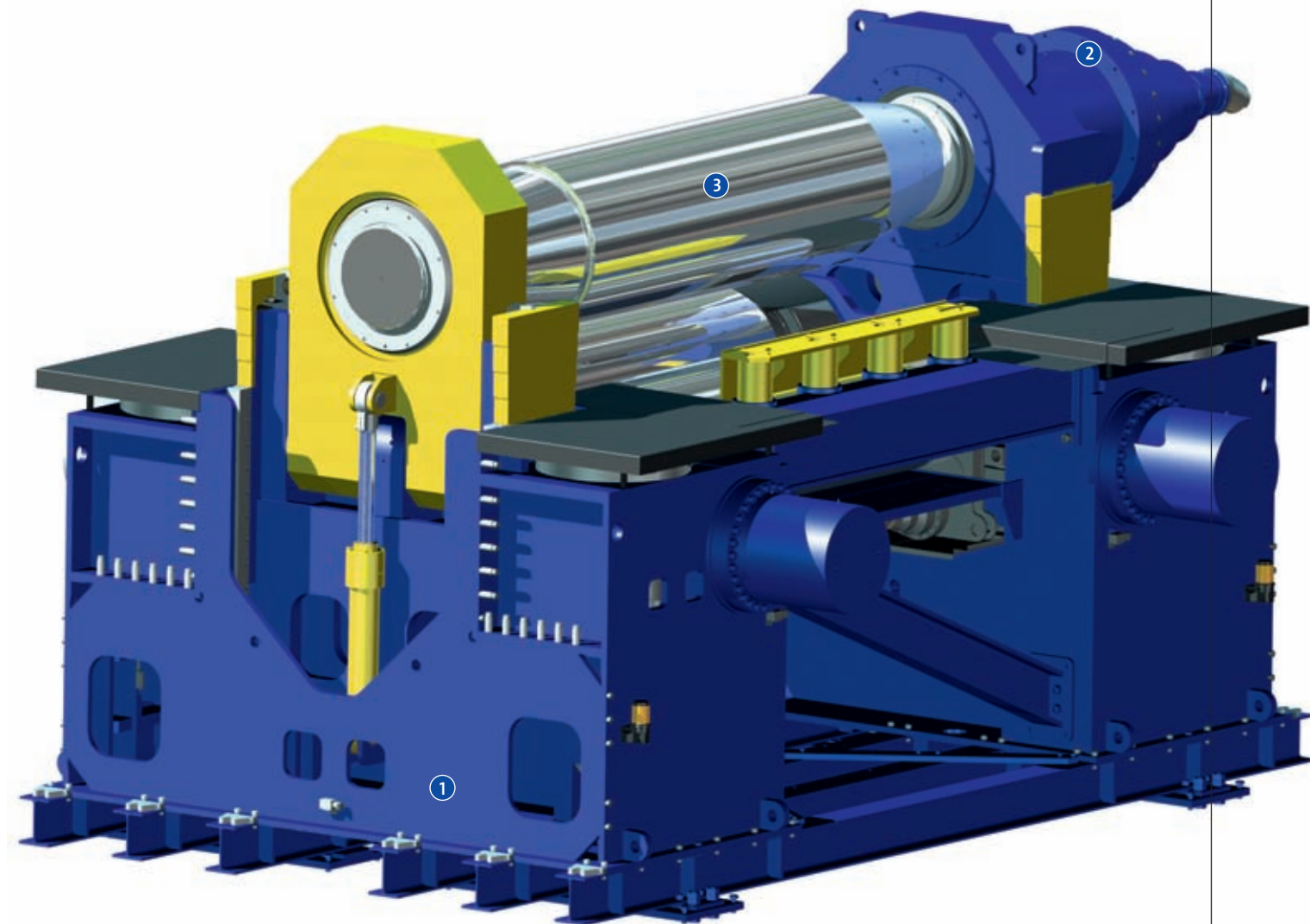
**2008**  
Start of R&D for new HDR design concept

**2010**  
Finalization and patenting of new HDR design concept

**2010**  
Delivery of the world’s currently biggest 3-roller plate bending machine for wall thicknesses of up to 300 mm

## Specific Characteristics of the HAEUSLER HDR type 3-Roller Plate Bending Machine

The mentioned conceptual advantages aside, numerous other design aspects, such as rigid machine frame design, symmetric load induction, completely covered guiding plates or robust spherical roller bearing dimensioning help our HDR achieve unique quality and longevity.



### 1 The Base Frame

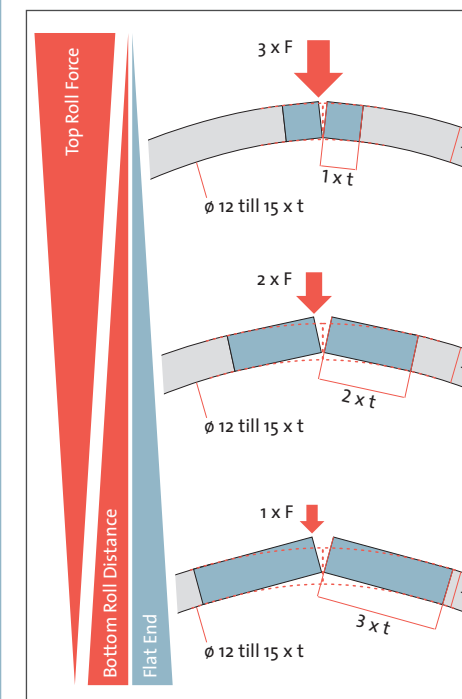
All machine frames are designed for maximum stability under bending forces, including asymmetric loads and torque. A very compact design and the fact that no dynamic process forces will be inducted into the foundations allow for minimal machine pit constructions costs.

### 2 Rotational Top and Bottom Roller Drives

**Roller drives** are defined by the installed maximum power and torque. The bigger **maximum torques** will be the bigger bending steps can be during roll bending which typically allows for shorter production times.

All drives feature **fast-reacting hydraulic brakes** to stop the rolls and avoid unexpected plate movement during pre-bending.

## Functionalities and Characteristics of HAEUSLER Rolls



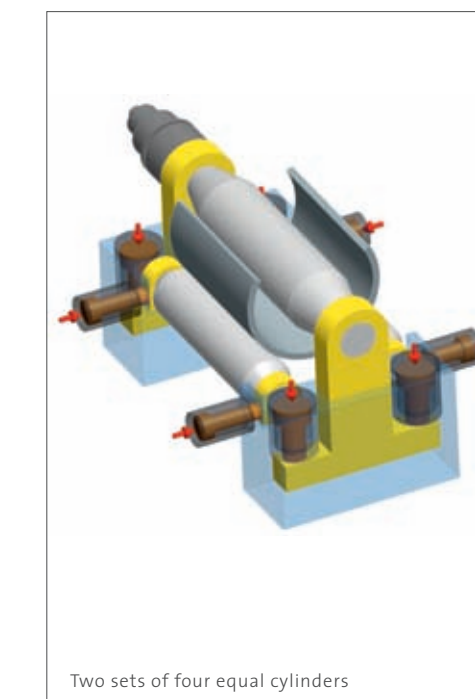
### The Rolls

Dimensions aside the roll material is a major quality factor: HAEUSLER uses **high alloy steels** which eliminates the danger of surface cracks which can be found on surface hardened rolls.

3 After setting the bottom roll setup, **top roll** adjustment will determine the final bending diameter. The **installed maximum top roller force** will determine maximum bendable wall thicknesses and the length of the achievable flat ends. The bigger the installed top roller force the shorter the flat ends and the bigger the bendable wall thicknesses.

Top roller force and achievable flat ends are the most important characteristics in determining the capacity of a plate

bending machine. Another important parameter is the top roll diameter which will determine both minimum bending diameter and roll deflection under load. A smaller roll will allow smaller bending diameters but also bigger roll deflection. Our standard HAEUSLER rolls are designed to fulfill an ideal compromise between both criteria.



### Roll Positioning

Like on all plate bending machines, accurate roll positioning and little wear are important for precise bending.

HAEUSLER is using a **patented concept** with extremely long guideways which guarantees highly precise positioning.

This is done using a **totally symmetric cylinder** alignment. Also, the top roll is adjusted by 4 totally identical cylinders which push from their piston side while bending. All of this enhances positioning and bending precision.

Furthermore cylinder accessibility for maintenance is easy and the operator's view of the work piece is improved as all cylinders are located below the machine's working level.



## HDR: Product-range

The HAEUSLER HDR series machine is available in more than 15 different sizes that cover a pre-bending range of wall thicknesses from 70 mm up to 320 mm. Standard sizes can be built with roll lengths of up to 4 500 mm. Special designs with roll lengths of up to 8 000 mm are feasible.

### HDR 4 000 - 3 000

Plate width: 4 000 mm

Nominal roll bending capacity: 180 mm



### HDR 4 000 - 5 000

Plate width: 4 000 mm

Nominal roll bending capacity: 270 mm



### HDR 4 000 - 6 000

Plate width: 4 000 mm

Nominal roll bending capacity: 300 mm



## HDR: Fields of Application

HAEUSLER offers a wide range of special solutions for various industries. A few of them are shown below.

### Power Plants

Leading power plant constructors and their suppliers purchase the HAEUSLER Plate Bending Machines for most of their roll-forming work up at reactor constructions.



### Petrol & Offshore

The HAEUSLER Plate Bending Machines cover the complete range of applications with their different machine dimensions e. g.

- Pressure vessel/Heat exchanger
- Storage tanks/Boilers
- Steel structure for platforms/ Monopiles



### Shipyard

The HAEUSLER Plate Bending Machines are used beside the special built Ship Plate Benders for all the remaining forming works on shipyard applications up to the production of submarine fuselages.



„Immer no e bitzeli besser wärde!“  
Jörg Häusler

# HAEUSLER

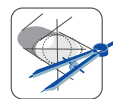
the forming factory



PLATE BENDING



PROFILE BENDING



SPECIAL FORMING



ASSEMBLING EQUIPMENT



PRODUCTION LINES

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