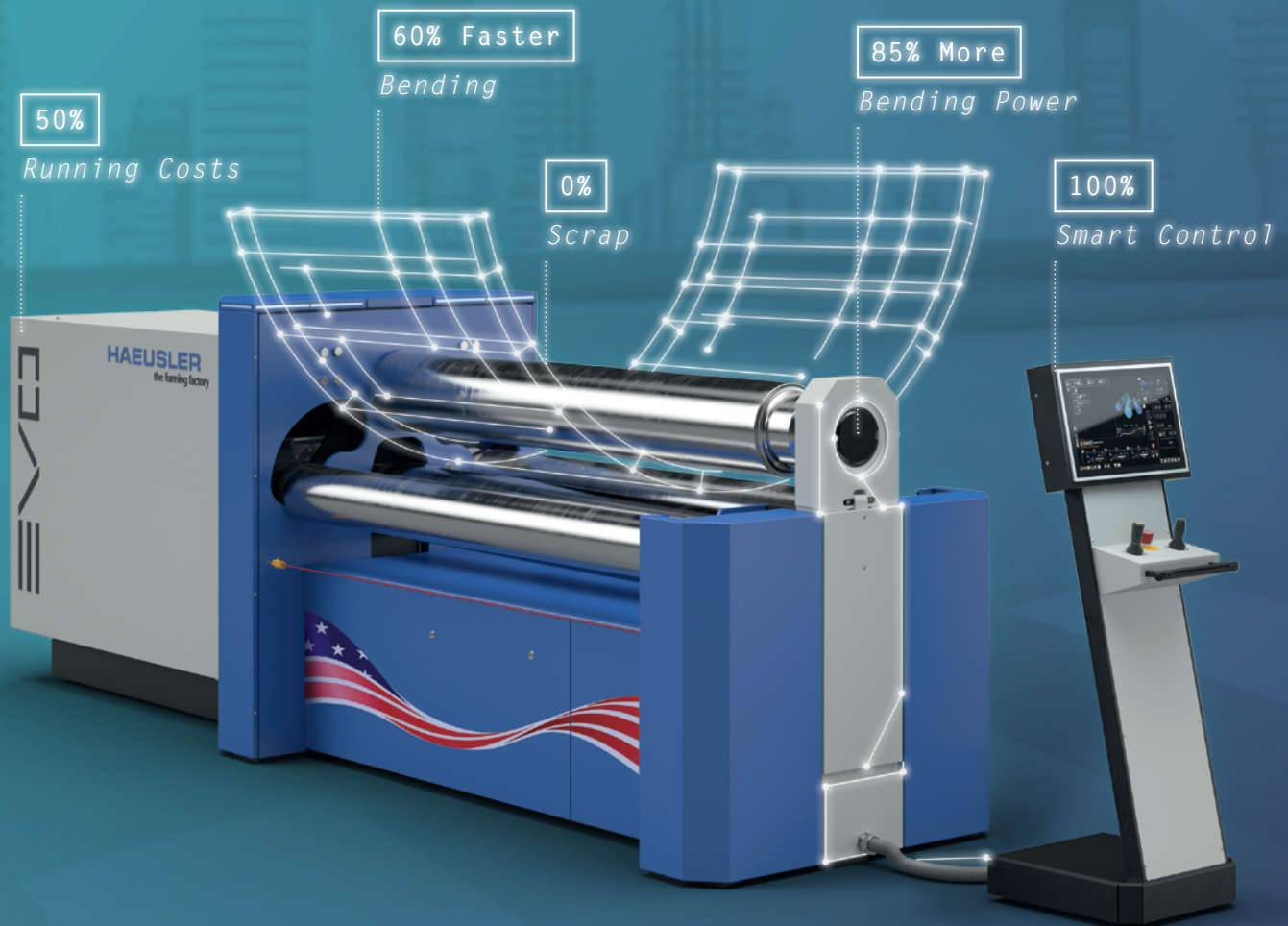


# EVCO

THE BENDING **EVOLUTION**...



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4 - ROLLER PLATE BENDING MACHINE

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## THE BENDING EVOLUTION *BEGINS NOW...*

In spring 2017 we started with the vision to create a bending machine, which is changing the way of bending, a machine which would not require any specific experience to reach perfect results, a machine which cuts the entire machine costs in half, a machine which is changing the market and a machine which deserves the name **HAEUSLER!**

In autumn 2018 we are now looking to the result of this intense and challenging research, developing and design period. Today we are extremely proud

to present our revolutionary new **4-ROLLER PLATE BENDING MACHINE EVO** – a machine that fulfills all our visionary goals, and even more – EVO is the worldwide first bending machine with integrated **ARTIFICIAL INTELLIGENCE** – of course protected by patents. What it means? Perfect bending results right from the first workpiece...!

We are looking forward to welcome you to the EVO-family...

Yours sincerely

Jürgen Freund, CEO of HAEUSLER

# EVO

*SUPERIOR TO EVERYTHING YOU KNOW*



*MOST INTELLIGENT CONTROL  
WIDEST BENDING RANGE  
BEST COST EFFICIENCY*



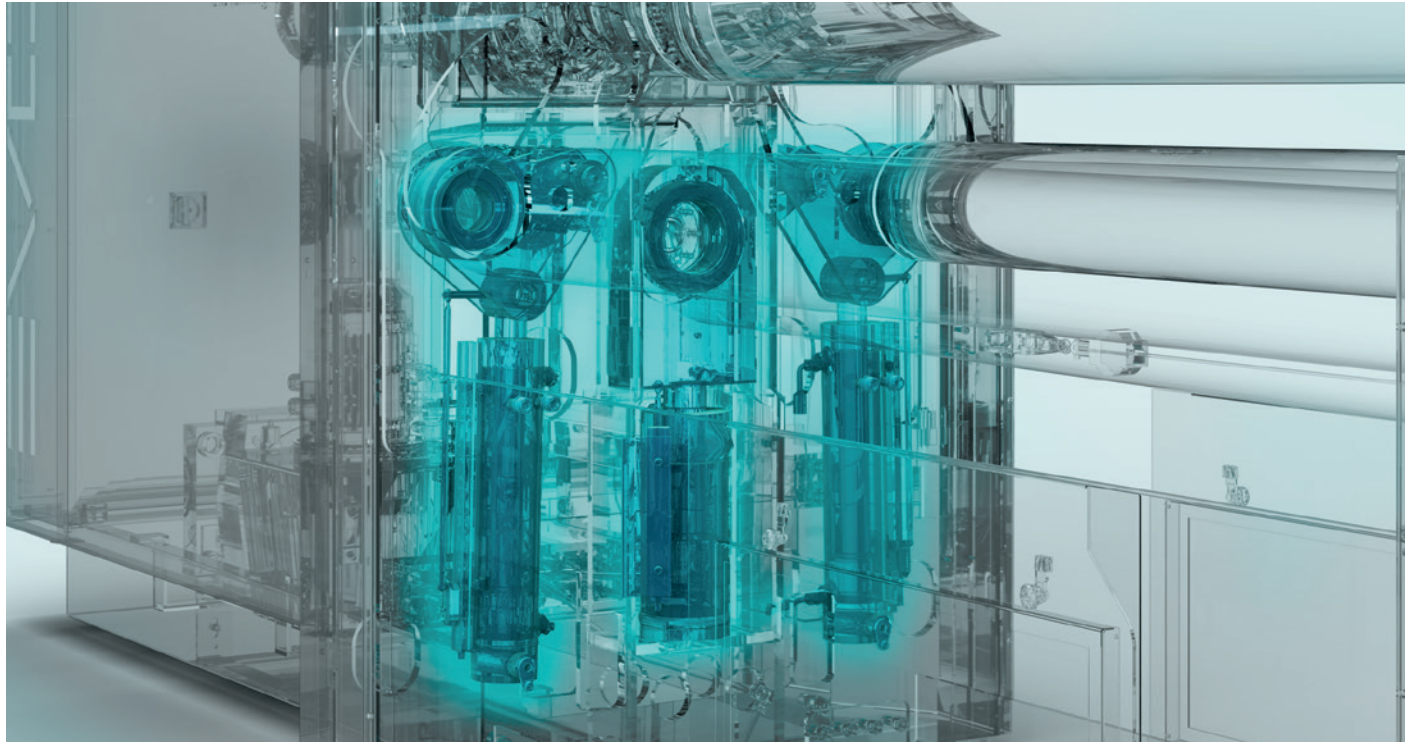
# ADVANTAGES AT A GLANCE

Reduced running costs, increase in productivity and super easy to use: EVO comes with a bunch of outstanding benefits.

• **THE EVO** is packed with several innovative and patented features that will **increase your production range** and productivity and at the same time offers you the **lowest Total Costs of Ownership**. In addition to the high-quality hardware that was used on this machine, we are very pleased to present the

latest control system BENDTRONIC which will be a standard on all EVO machines. This patented control system is the only one that uses **artificial intelligence** to **optimize your bending result** right from the beginning. At the same time, it is intuitive and extremely user-friendly.





# EVO IS RANGE EXTENSION

## MAXIMIZE YOUR BENDING RANGE

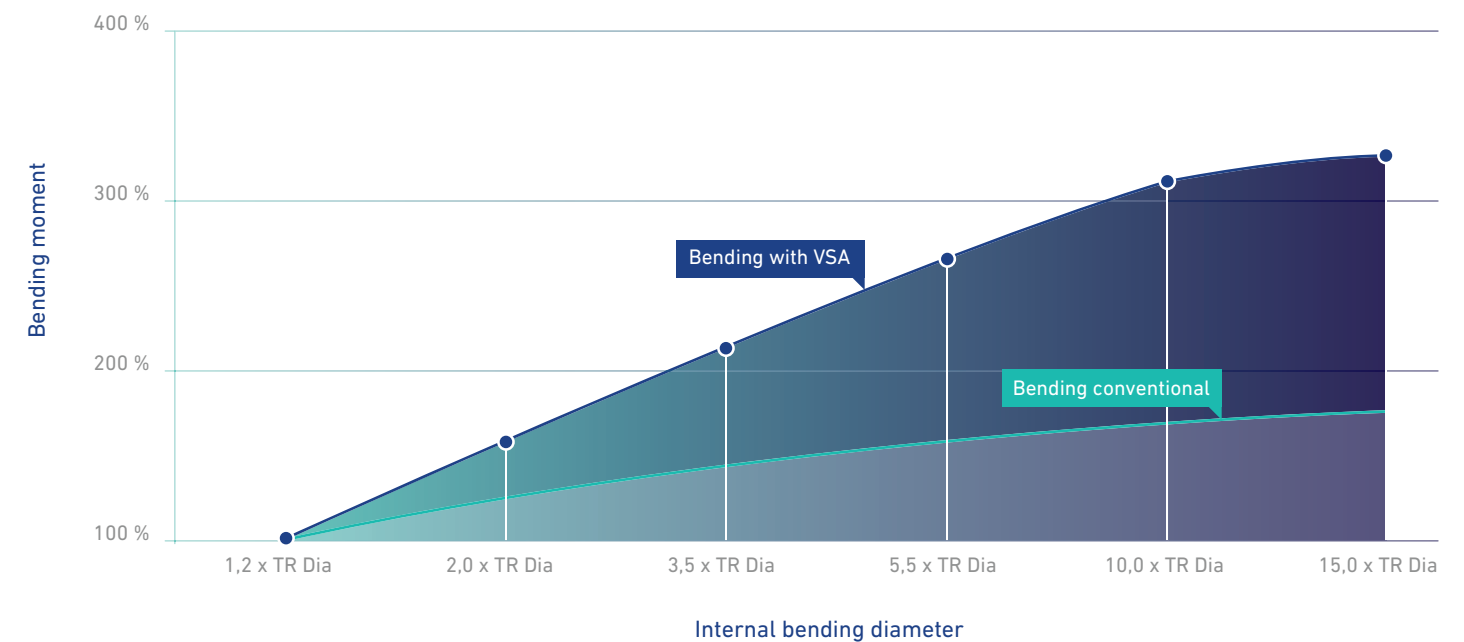
### VSA TECHNOLOGY | ALLOWS BENDING OF THICKER PLATES AND SMALLER DIAMETERS

The new and patent pending VSA® - technology allows the operator to bend either **very heavy wall thicknesses** or alternatively **very small diameters**. This can be realized by a unique adjustment of the bending geometry. The EVO is worldwide the only 4-roll plate bender with this unique feature.

For our clients it means that they are now in a position to get a machine with up to **85% more bending moment** compared to conventional bending machines. Additionally they get the possibility to use super small interchangeable top rolls for bending tight diameters.

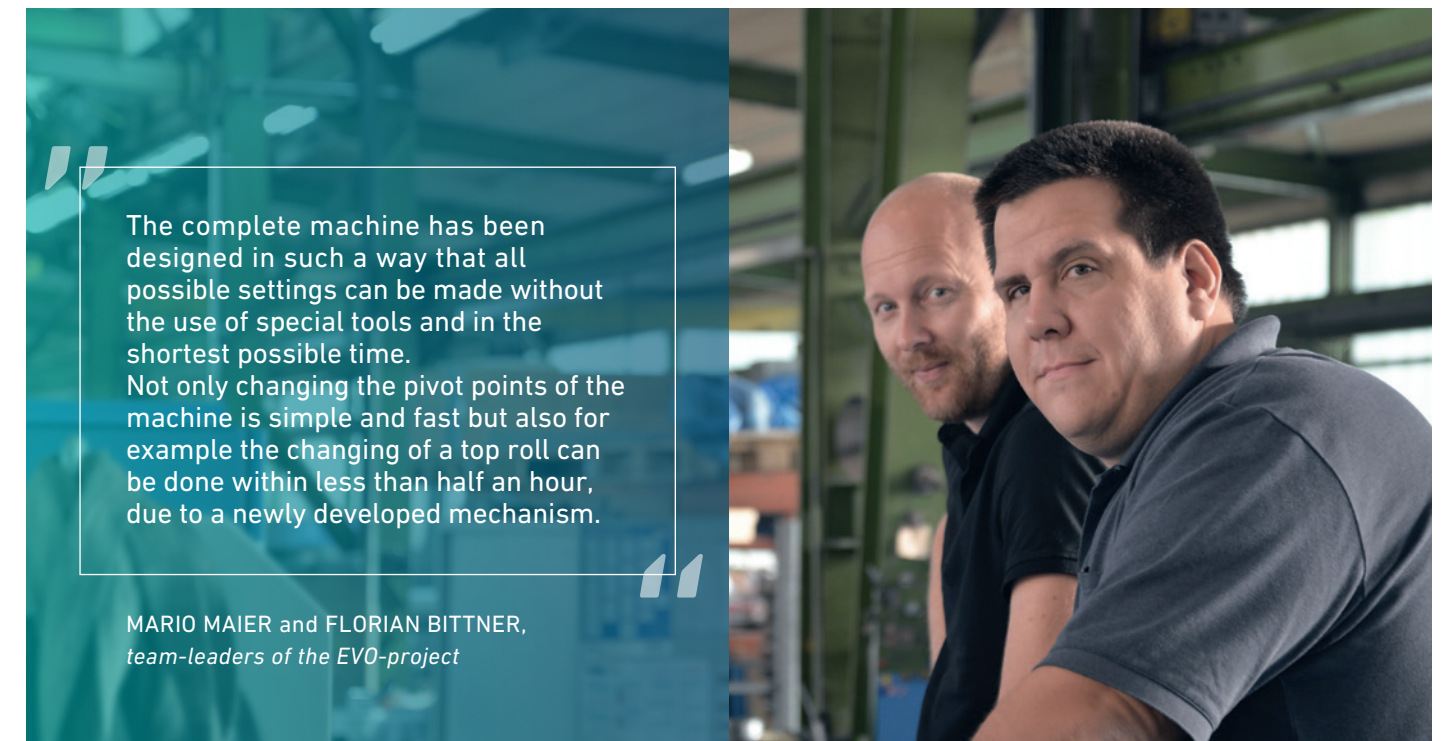


### HAEUSLER VSA – SHIFTING THE LIMITS – UP TO 85% MORE ROUNDING POWER

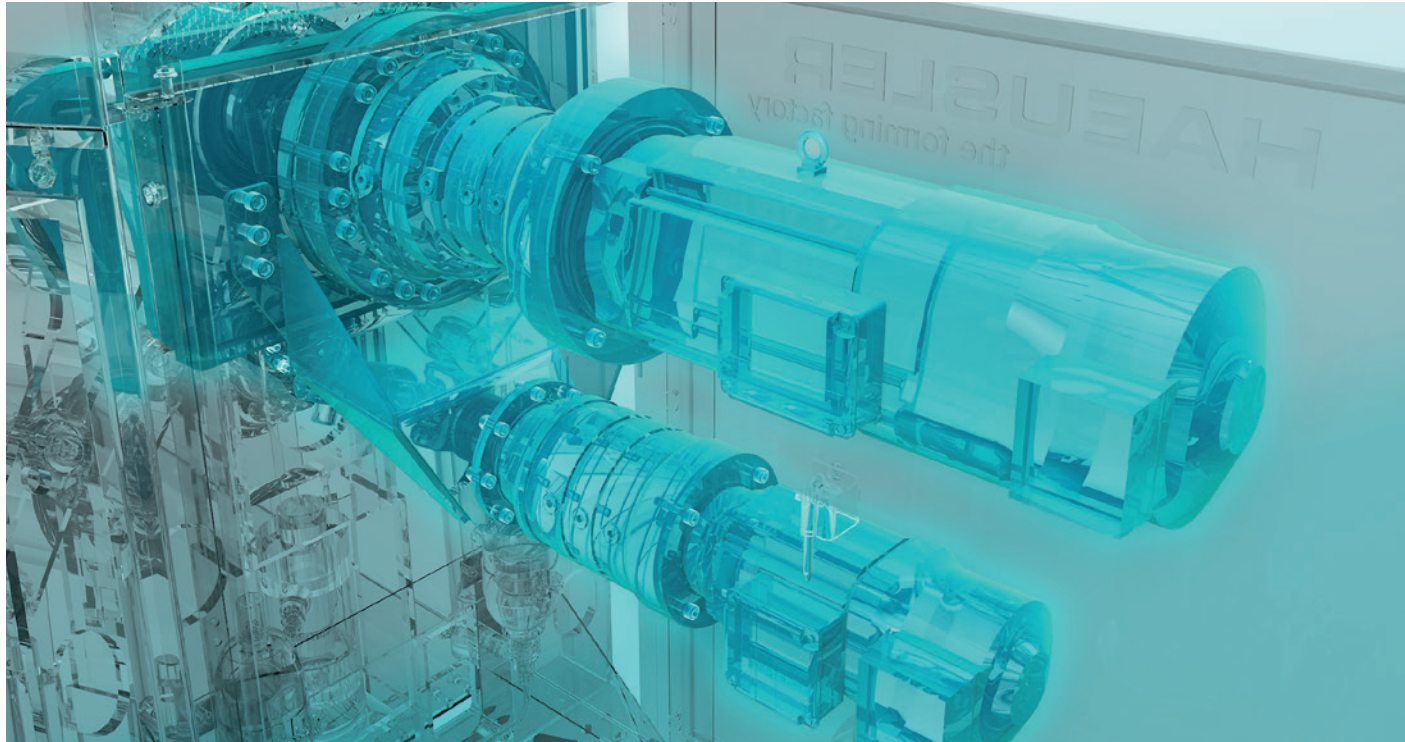


By using two instead of only one pivot point for each side roll swing arm fixation, the machine can individually be adjusted either to create a wide bending geometry for heavy wall thicknesses or a tight geometry if small diameters shall be bent.

The above shown graphic displays the increase in bending moment that can be achieved by this new technology compared to a conventional 4-Roll Plate Bending Machine.







# EVO IS *COST REDUCTION*

## MINIMIZE YOUR TOTAL COST OF OWNERSHIP

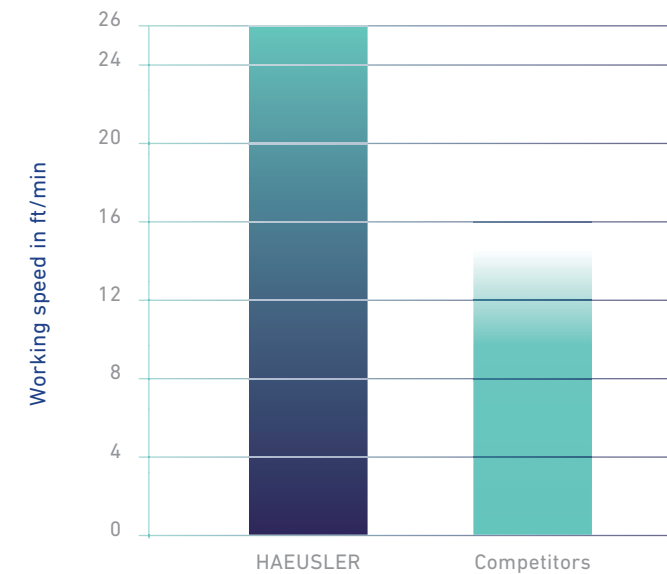
### HHDS – HAEUSLER HYBRID DRIVE SYSTEM |

HIGHEST EFFICIENCY COMBINED WITH SUPERIOR PRODUCTIVITY

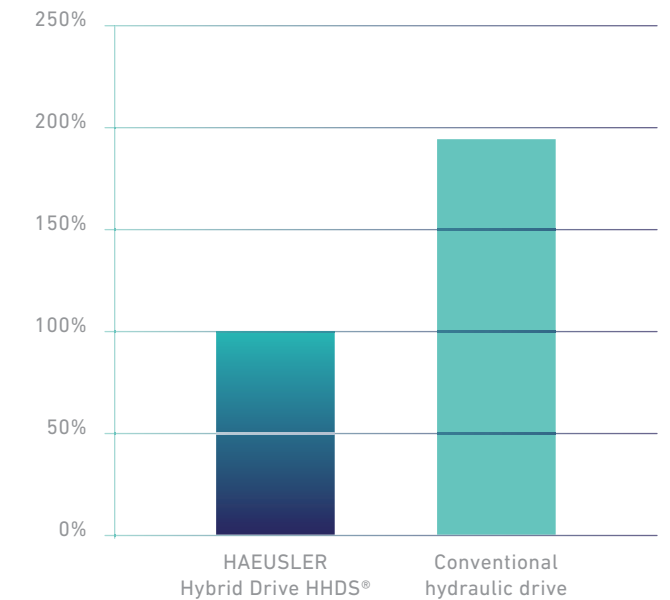
The HAEUSLER Hybrid Drive System HHDS® provides an unmatched efficiency due to the consequent usage of electrical motors in combination with planetary gearboxes. In practice this means savings of up to **50% of the running costs**. Additionally the

Hybrid Drive System allows a step-less adjustable rotation speed from 0-26 ft/min. This is, compared to other machines that are available on the market, an **increase of 60%** and the basis for a high productivity.

### WORKING SPEED IN COMPARISON



### ENERGY COSTS IN COMPARISON



The two graphs shown above illustrate the two major advantages of HAEUSLER's HYBRID-DRIVE-SYSTEM. 60% faster speed, which is particularly interesting for bending and calibrating large

diameter shells, as well as the huge savings potential in maintenance costs that can be achieved by using the HAEUSLER HYBRID DRIVE SYSTEM.







# EVO IS *PERFECT CONTROL*

## OUTSTANDING CONTROL SYSTEM WITH ARTIFICIAL INTELLIGENCE

### BENDTRONIC® | BENDING BECOMES CHILD'S PLAY

The revolutionary BENDtronic® of HAEUSLER enables everyone to control not only the movements of the machine but the bending result itself. The graphically supported software allows single-pass as well as multi-pass plate rolling and can be used for any kind

of product shape like cylinders and pipes, ovals, tanks or other more complex geometries even up to S-shaped workpieces. The BENDtronic® contains various auxiliary tools which optimally support the operator.

### SINGLE RADIUS *MULTI PASS*

automatically generates CNC programs to achieve a complete cylindrical workpiece even when multi pass bending is required

### MULTI-RADII *CALCULATOR*

automatically generates a full CNC program to achieve the desired multi radii workpiece even for multi pass bending applications

### APPLE *CALCULATOR*

calculates the different possibilities to achieve the usually desired "apple shape" of a cylindrical piece when pre-bending

### CAPACITY *CALCULATOR*

shows if the desired workpiece can be bent. Additionally, the tool shows the load applied on the machine as well as the remaining flat ends and spring back that can be expected

### BEND *CALCULATOR*

calculates the required positions of the rolls to achieve the desired radius

Our goal was to develop a simple and intuitive user interface leading the operator through highly complex plate bending processes. Thanks to our artificial intelligent BENDtronic system users can reliably deal with unknown materials and obtain perfect bending results.

DR. ALEXANDER ZWAHLEN,  
head of BENDtronic development team





# EVO IS CHOICE

## THE EVO MODEL RANGE



	15 series	31 series	49 series	71 series	102 series	139 series	196 series	283 series	385 series
plate width 82 inches	EVO 21015	EVO 21031	EVO 21049	EVO 21071	EVO 21102				
rounding capacity	5/8"	3/4"	7/8"	1 1/8"	1 5/8"				
pre-bending capacity	3/8"	5/8"	3/4"	7/8"	1 1/4"				
plate width 102 inches	EVO 26015	EVO 26031	EVO 26049	EVO 26071	EVO 26102	EVO 26139	EVO 26196	EVO 26283	EVO 26385
rounding capacity	1/2"	5/8"	3/4"	1"	1 3/8"	1 5/8"	2"	2 3/4"	3 1/2"
pre-bending capacity	3/8"	1/2"	5/8"	3/4"	1 1/8"	1 3/8"	1 5/8"	2 1/8"	2 5/8"
plate width 122 inches	EVO 31015	EVO 31031	EVO 31049	EVO 31071	EVO 31102	EVO 31139	EVO 31196	EVO 31283	EVO 31385
rounding capacity	3/8"	5/8"	3/4"	7/8"	1 1/4"	1 1/2"	1 3/4"	2 3/8"	2 3/4"
pre-bending capacity	5/16"	9/16"	5/8"	3/4"	1"	1 1/4"	1 3/8"	2"	2 3/8"
plate width 160 inches						EVO 41139	EVO 41196	EVO 41283	EVO 41385
rounding capacity						1 1/8"	1 5/8"	2 1/16"	2 5/8"
pre-bending capacity						1"	1 1/4"	1 3/4"	2 1/8"



### STANDARD FEATURES

- Variable planetary guiding system VSA®
- HAEUSLER Hybrid Drive System HHDS®
- Moveable 21.5" touch control panel including BENDtronic® control system
- Automatic pressure compensation between top and bottom roll
- Stepless adjustable rotation speed between 0-26 ft/min
- Installed remote service for online diagnostics
- Continuous pressure adjustment of bottom roll
- Electro-mechanic holding system for rotation of top roll
- Automatic identification of interchangeable top rolls
- Standard cooling system for ambient temperatures up to 95°F
- Automatic axes optimization
- Ultra-compact design to reduce or even avoid foundation costs
- Safety snap cord



### OPTIONAL FEATURES

- Cone bending device for bending of conical shaped parts
- Advanced cooling system for ambient temperatures up to 113°F
- Upper supporting device to support large diameter shells
- Lateral side supporting device to support large diameters shells
- Gas accumulator for calibration of already welded cylinders
- Machine prepared for usage of interchangeable top rolls
- Two roll drive
- Interchangeable top rolls with different diameters to bend small diameter shells
- Hardened rolls, if carbon and stainless material shall be bent
- Infeed roller table for easy infeed of the plates into the machine
- Centering device for infeed roller table, to automatically adjust the plates before bending
- Predictive maintenance plus package to reduce running costs and avoid downtimes



## HAEUSLER SERVICE

The highly professional HAEUSLER TECH service team takes immediate care of your needs; installation, commissioning, trainings and predictive maintenance - worldwide

## HAEUSLER KNOW-HOW

More than 80 years of technological experience in heavy plate rolling industry

**ASK OUR EXPERTS: +41 61 755 22 22**

## HAEUSLER QUALITY

100% made in Germany and Switzerland, quality management ISO 9001

## HAEUSLER PRODUCTS *IN USE* WORLDWIDE

### NORTH AMERICA

- General Electric, US
- Trinity Industries, US
- McDermott, US
- Berg Steel Pipe, US
- Caterpillar, US
- [ask for more...](#)

### WESTERN EUROPE

- Daimler, DE
- EADS, DE
- Liebherr, DE
- Dillinger Hütte GTS, DE
- Viessmann Werke, DE
- [ask for more...](#)

### EASTERN EUROPE/CIS

- TMK (Volzhsky Pipe Plant), RU
- Uralmash, RU
- KAMAZ, RU
- Energomash, RU
- [ask for more...](#)

### FAR EAST

- Hokkai Steel Works, JP
- Hyundai Heavy Industries, KR
- Seah, KR
- Samsung, KR
- [ask for more...](#)

### SOUTH AMERICA

- IMPSA, AR
- TenarisSiat, AR
- Voith Paper, BR
- Atlas Schindler, BR
- Alstom, BR
- [ask for more...](#)

### AFRICA

- Steinmüller, ZA
- Petrojet, EG
- Helwan Engineering Industries, EG
- Westcom Technologies & Energy, NG
- [ask for more...](#)

### MIDDLE EAST

- Ahvaz Pipe Mills, IR
- Safa Rolling And Pipe Mills, IR
- McDermott Middle East, AE
- NPCC – National Petroleum Construction Com, AE
- [ask for more...](#)

### AUSTRALIA/SEA

- Godrei & Boyce, IN
- Mazagon Dock, IN
- Canadoil Group, TH
- Vietsovetro, VN
- Rolco, AU
- [ask for more...](#)





THE BENDING **EVOLUTION...**



**GET LAUNCHED!**

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