4 - ROLLER PLATE BENDING MACHINE
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
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.

REDUCTION OF RUNNING COSTS
The Haeusler Hybrid Drive System HHDS reduces maintenance costs by 50% and enables an increase in rotation speed by 60%

AVOIDANCE OF DOWNTIMES
The use of optionally available special sensors enables predictive maintenance of the machine. This allows unscheduled downtime to be reduced

MAXIMIZATION OF BENDING RANGE
With the newly developed and patent pending VSA technology a performance increase of up to 85% is achieved

BENDING BECOMES CHILD’S PLAY
The latest generation of the patented HAEUSLER control system BENDtronic 2.0 with integrated artificial intelligence allows the operator to achieve perfect bending results right from the beginning

MODERN AND FUNCTIONAL DESIGN
Modern appearance, high protective function and at the same time optimum operability. These criteria were decisive in the development of the machine
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.

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 complete machine has been designed in such a way that all possible settings can be made without the use of special tools and in the shortest possible time.

Not only changing the pivot points of the machine is simple and fast but also for example the changing of a top roll can be done within less than half an hour, due to a newly developed mechanism.

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.

MARIO MAIER and FLORIAN BITTNER, team-leaders of the EVO-project
By decoupling the rotary drive from the roller adjustment, we have succeeded in tremendously decreasing the machine’s running costs. Not only the better efficiency of the electric motors plays a decisive role, but also the significant reduction of oil circulation in our system.

Long-term tests at well-known companies in Europe validate the fact that with this type of drive 50% savings in the maintenance costs can be achieved by using the HAEUSLER HYBRID DRIVE SYSTEM.

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.

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 – 8 m/min. This is, compared to other machines that are available on the market, an increase of 60% and the basis for a high productivity.

EVO IS COST REDUCTION
MINIMIZE YOUR TOTAL COST OF OWNERSHIP

HIGHEST EFFICIENCY COMBINED WITH SUPERIOR PRODUCTIVITY

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.
Dr. Alexander Zwaahlen, head of BENDtronic development team

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.

Evo is Perfect Control
Outstanding control system with artificial intelligence

BENDTRONIC® | BENDING BECOMES CHILD’S PLAY

The revolutionary BENDtronic® of HAUSLER 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.

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 Zwaahlen, head of BENDtronic development team
## EVO IS CHOICE

### THE EVO MODEL RANGE

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### 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 0-8 m/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 35°C
- 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 45°C
- 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 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
- Voestalpine Werke, DE
ask for more...

EASTERN EUROPE/CIS
- TMK (Volzhsky Pipe Plant), RU
- Uralkakh, RU
- KAMAZ, RU
- Energomash, RU
ask for more...

SOUTH AMERICA
- IMPSA, AR
- Tenaris Siat, AR
- Voith Paper, BR
- Atlas Schindler, BR
- Alstom, BR
ask for more...

AFRICA
- Steinmüller, ZA
- Petrojet, EG
- Holman 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 Co., AE
ask for more...

FAR EAST
- Hukai Steel Works, JP
- Hyundai Heavy Industries, KR
- Seah, KR
- Samsung, KR
ask for more...

ASIA

- Godrej & Boyce, IN
- Mazagon Dock, IN
- Canadéol Group, TH
- Vietsovpetro, VN
- Rolco, AU
ask for more...

HAEUSLER KNOW-HOW
More than 80 years of technological experience in heavy plate rolling industry

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

ASK OUR EXPERTS: +41 61 755 22 22
THE BENDING EVOLUTION...

GET LAUNCHED!

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