



4-ROLL BENDING MACHINE

# **EVO** – *THE BENDING EVOLUTION*

## EVO – 4-ROLL BENDING MACHINE

# BENDING BECOMES *CHILD'S PLAY*

The EVO is the latest innovation in sheet metal processing. It is equipped with numerous innovative and patented features that increase your production capacity and productivity, while having the lowest total cost of ownership. The high-quality components used in this machine and the latest version of the BENDtronic® control, which is installed as standard on all EVO machines, are particular highlights.

The integrated artificial intelligence (AI) in the BENDtronic® control enables an autonomous bending process\*. With the help of information feedback, a closed loop is created in the bending process. The workpieces can be bent autonomously – without the need for an operator. Reworking is thus ruled out. Sheet metal bending becomes child's play.

This innovative technology not only enables an increase in production efficiency and excellent repeatability of bending results, but also enormous independence in the choice of supplier, as material fluctuations are compensated for by the intelligent system.

With the EVO, you save time and money – and increase your flexibility and efficiency in production.

\* Autonomous bending is optional equipment.





## **AUTONOMOUS BENDING**

The integrated artificial intelligence in the BENDtronic® control enables an autonomous bending process.



## **OPERATOR INSIDE**

The intelligent control system acts as an integrated operator. The operators can concentrate on other tasks.



## **DESIGN FREEDOMS**

Complex shapes can be bent from any radius without edges, reliably and precisely.



01

**REDUCTION OF MAINTENANCE COSTS**

The HAEUSLER Hybrid Drive System HHDS® reduces maintenance costs by up to 50% and allows an increase of the rotation speed by 60% compared to other round bending machines.

02

**AVOIDANCE OF DOWNTIME**

The use of optionally available special sensors enables predictive maintenance of the machine. This can reduce unplanned downtime.

03

**MAXIMISING THE SHEET METAL BENDING RANGE**

With the VSA technology, a performance increase of up to 85% can be realised. And with a smaller diameter of the top rollers, smaller radii can be achieved without losing power.

04

**EASY HANDLING**

The complete machine is designed in such a way that all possible adjustments (incl. changing the bending geometry and changing the top roller) can be carried out without special tools and in the shortest possible time.

05

**BENDING BECOMES CHILD'S PLAY**

The latest generation of HAEUSLER's patented BENDtronic® 6.0 control system with integrated artificial intelligence enables the operator to achieve perfect bending results right from the start.

06

**BENDIT-OFFICE**

Thanks to BendIT-Office, work preparations can be optimally carried out on the PC. Individual steps or the entire bending process can be simulated and prepared on the PC.



## EVO – 4-ROLL BENDING MACHINE

# ADVANTAGES

## AT A GLANCE

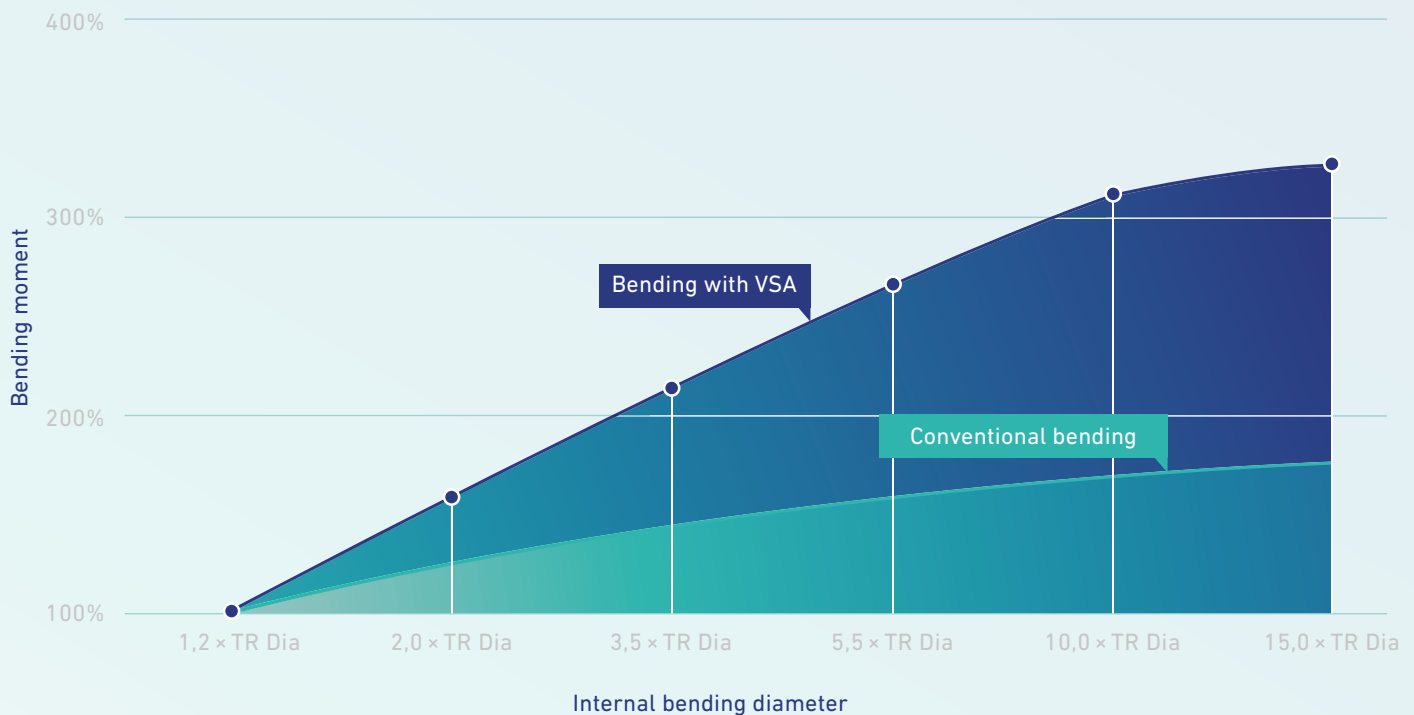
Low operating costs, increased productivity and easy to operate: the HAEUSLER EVO has a whole load of remarkable advantages under its belt. Of course in proven HAEUSLER quality.



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 to either create a wide bending geometry for heavy wall thicknesses or a tight geometry if small diameters are to be bent.



The graph above shows the increase in bending moment that can be achieved with this new technology compared to a conventional 4-roll bending machine.

## ACCESSORIES

# TAILOR-MADE ACCESSORIES



## UPPER SUPPORT

Upper supports simplify the bending of large diameters, as the plate to be bent can be held and supported at the 12 o'clock position during the bending process.



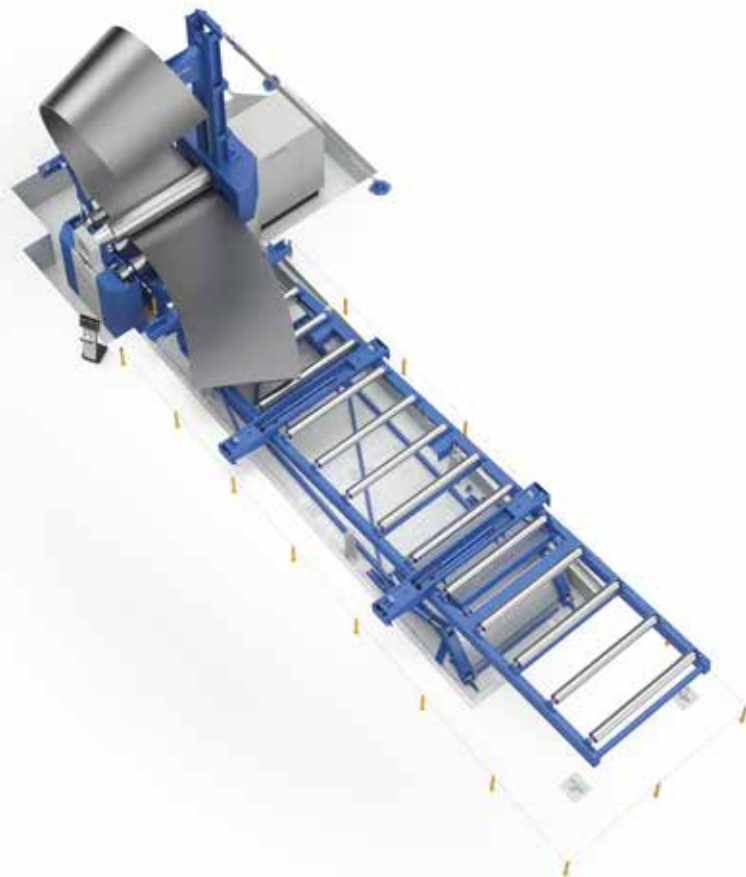
## LATERAL SUPPORT

Lateral supports can be fitted on both sides of the machine and support the operator when bending large diameters.



## ROLLER CONVEYORS

Infeed roller conveyors (optionally also with centring device) simplify the loading of the machine. Sheets are placed on the roller table and transported into the machine.





### **50% COST SAVINGS**

Lower operating costs through the use of electric motors in combination with planetary gearboxes.



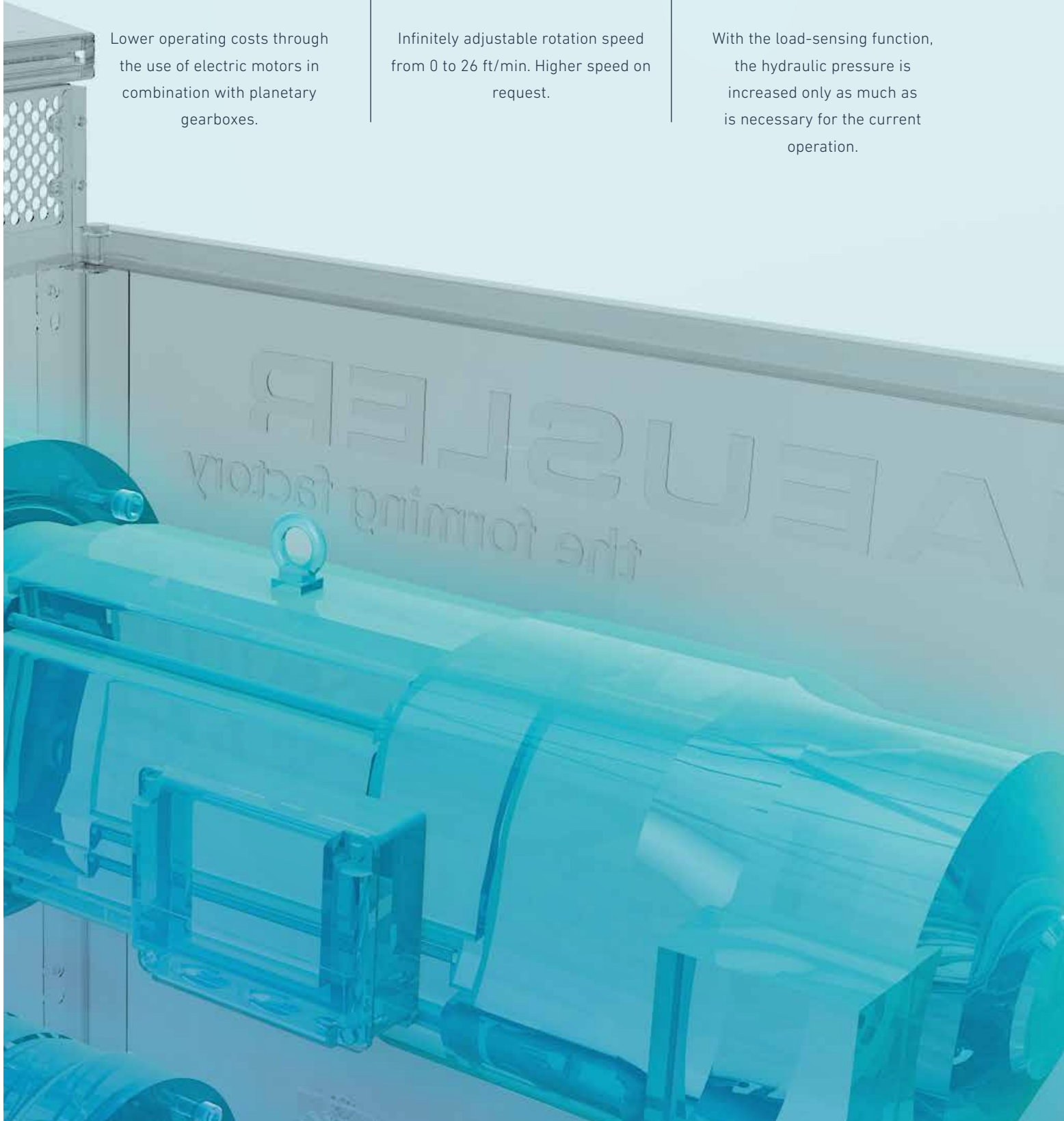
### **50% MORE PRODUCTIVITY**

Infinitely adjustable rotation speed from 0 to 26 ft/min. Higher speed on request.



### **25% ENERGY SAVINGS**

With the load-sensing function, the hydraulic pressure is increased only as much as is necessary for the current operation.





## ENERGY EFFICIENCY

# SAVE ENERGY

In the EVO model series, the rotation of the rollers is driven electrically. This has the advantage that hydraulic power is no longer required. In addition, the hydraulic unit for the position of the rollers switches off after some time when not in use. Both result in lower power consumption and thus cost savings.

As an option, HAEUSLER machines can be equipped with the innovative load-sensing function. This technology only builds up as much hydraulic pressure for the position of the rollers as is needed in the current operation. This results in an impressive energy saving of approximately 25%.

## AUTONOMOUS BENDING

# BENDTRONIC®

## PERFECT CONTROL

The HAEUSLER BENDtronic® control system with artificial intelligence makes it possible to control not only the movements of the machine, but also the bending result itself.

In order to be able to bend the desired product shapes and optimally support the operator, the BENDtronic® contains various tools:

### | CAPACITY CALCULATOR

Feasibility check of the tasks. In addition, the machine utilisation, the remaining straight ends and the expected springback are calculated.

→ *Optimal preparation*

### | APPLE CALCULATOR

Calculates the different possibilities to achieve the usually desired "apple shape" of a cylindrical part when rolling it.

→ *Options and time saving*

### | BEND CALCULATOR

Calculates the required positions of the rollers to achieve the desired radius.

→ *Simply round*

### | AUTONOMOUS BENDING

With the help of the system's intelligent information feedback, a fully autonomous bending process is possible from the first sheet with no scrap.

→ *No rejects, personnel efficiency*

### | SINGLE RADIUS MULTIPASS

Automatically generates a CNC programme, also applicable for bending in several passes.

→ *Time saving*

### | MULTI-RADII

Automatically generates a CNC programme for complex geometries, also applicable for bending in several passes.

→ *Complex geometries possible*

### | CONE CALCULATOR

Supports the operator actively when bending cones. The software calculates if and how an individual cone can be bent on the machine. Furthermore, the required inclination of the rolls and the required pinch pressures are calculated.

→ *Time saving, no unnecessary bending tests*

### | CALIBRATION CALCULATOR

Calculates in seconds the best recommended machine settings for calibration.

→ *No unnecessary bending tests*





## BENDIT-OFFICE

# BENDIT-OFFICE

## *PERFECT WORK PREPARATION*

BendIT-Office brings the in-house measures for preparing the production of sheet metal products to a new level.

With BendIT-Office, work preparation can be optimally carried out on the PC. The software provides exactly the same calculations as on the machine. Thus it is possible to test settings in advance and create variants for the optimum production process.

The programme is easy to use and the intuitive user interface is identical to the control panel of the EVO machine.



## SERVICES

# WORLDWIDE SUPPORT

To ensure your productivity, HAEUSLER offers a wide range of support solutions – in other words: "You are in good hands worldwide!"

→ [HAEUSLER.COM/GLOBAL-SERVICE](https://www.haeusler.com/global-service)

## GLOBAL SERVICES



### WORKSHOPS & TRAININGS

We train your operators and maintenance personnel at our premises or on your machines.



### REPAIR & MAINTENANCE

As part of regular maintenance, we replace wearing parts or carry out a revision of the machine.



### RETROFIT & MODERNISATION

Business management aspects often speak in favour of modernisation instead of purchasing a new machine.



### SPARE PART ORDER

If a component is defective, HAEUSLER Global Service delivers almost every spare part worldwide.



### KNOW-HOW & PERFORMANCE

Our knowledge in bending technology has been built up for over 85 years and passed on to subsequent generations.



### CUSTOMISED SERVICE PACKAGES

You will receive premium service packages individually tailored to your needs.

## THE EVO MODEL RANGE

EVO IS  
CHOICE

<b>15 SERIES</b>	<b>EVO 21015</b>	<b>EVO 26015</b>	<b>EVO 31015</b>
Rolls width (inches)	82	102	122
Rounding capacity (inches)	5/8	1/2	3/8
Pre-bending capacity (inches)	3/8	3/8	5/16
<b>31 SERIES</b>	<b>EVO 21031</b>	<b>EVO 26031</b>	<b>EVO 31031</b>
Rolls width (inches)	82	102	122
Rounding capacity (inches)	3/4	5/8	5/8
Pre-bending capacity (inches)	5/8	1/2	9/16
<b>49 SERIES</b>	<b>EVO 21049</b>	<b>EVO 26049</b>	<b>EVO 31049</b>
Rolls width (inches)	82	102	122
Rounding capacity (inches)	7/8	3/4	3/4
Pre-bending capacity (inches)	3/4	5/8	5/8
<b>71 SERIES</b>	<b>EVO 21071</b>	<b>EVO 26071</b>	<b>EVO 31071</b>
Rolls width (inches)	82	102	122
Rounding capacity (inches)	1 1/8	1	7/8
Pre-bending capacity (inches)	7/8	3/4	3/4
<b>102 SERIES</b>	<b>EVO 21102</b>	<b>EVO 26102</b>	<b>EVO 31102</b>
Rolls width (inches)	82	102	122
Rounding capacity (inches)	1 5/8	1 3/8	1 1/4
Pre-bending capacity (inches)	1 1/4	1 1/8	1
<b>139 SERIES</b>	<b>EVO 26139</b>	<b>EVO 31139</b>	<b>EVO 41139</b>
Rolls width (inches)	102	122	160
Rounding capacity (inches)	1 5/8	1 1/2	1 1/8
Pre-bending capacity (inches)	1 3/8	1 1/4	1
<b>196 SERIES</b>	<b>EVO 26196</b>	<b>EVO 31196</b>	<b>EVO 41196</b>
Rolls width (inches)	102	122	160
Rounding capacity (inches)	2	1 3/4	1 5/8
Pre-bending capacity (inches)	1 5/8	1 3/8	1 1/4

<b>283 SERIES</b>	<b>EVO 26283</b>	<b>EVO 31283</b>	<b>EVO 41283</b>
Rolls width (inches)	102	122	160
Rounding capacity (inches)	2 3/4	3 3/8	2 1/16
Pre-bending capacity (inches)	2 1/8	2	1 3/4
<b>385 SERIES</b>	<b>EVO 26385</b>	<b>EVO 31385</b>	<b>EVO 41385</b>
Rolls width (inches)	102	122	160
Rounding capacity (inches)	3 1/2	2 3/4	2 5/8
Pre-bending capacity (inches)	2 5/8	2 3/8	2 1/8
<b>513 SERIES</b>	<b>EVO 26513</b>	<b>EVO 31513</b>	<b>EVO 41513</b>
Rolls width (inches)	102	122	160
Rounding capacity (inches)	3 5/7	3 2/5	3
Pre-bending capacity (inches)	3	2 5/6	2 5/9
<b>680 SERIES</b>		<b>EVO 31680</b>	<b>EVO 41680</b>
Rolls width (inches)		122	160
Rounding capacity (inches)		4	3 1/2
Pre-bending capacity (inches)		3 3/8	3
<b>871 SERIES</b>		<b>EVO 31871</b>	<b>EVO 41871</b>
Rolls width (inches)		122	160
Rounding capacity (inches)		4 5/8	4 1/8
Pre-bending capacity (inches)		4	3 1/2

Round bending capacity calculated with a yield strength of 260 MPa at a sheet width of 79 inches, 98 inches, 118 inches or 157 inches.  
Bending capacity calculated with a yield strength of 260 MPa at a sheet width of 79 inches, 98 inches, 118 inches or 157 inches.

## STANDARD FEATURES

- Variable swing arm adjustment of the VSA® side rollers
- HAEUSLER Hybrid Drive System HHDS®
- Movable 21.5" touch control panel including high-end BENDtronic® control system
- Continuously adjustable rotation speed between 0 and 26 ft/min
- Machine prepared for remote maintenance
- Electro-mechanical holding system for the rotation of the top roller
- Automatic pressure readjustment of the bottom roller
- Automatic pressure compensation of the bottom roller cylinders
- Standard cooling system for ambient temperatures up to 95° F
- Automated axis optimisation
- Automatic switch-off of the hydraulics for the position of the rollers
- Ultra-compact design to reduce or even eliminate foundation costs
- Safety ripcord

## OPTIONAL FEATURES

- Two-roller drive of the top and bottom roller
- Cone bending device, for bending conically shaped workpieces
- Extended cooling system for ambient temperatures up to 113° F
- Upper support, for easier bending of large diameters
- Lateral support, for support when bending large diameters
- Gas pressure accumulator, for calibrating already welded cylinders
- BendIT-Office
- Autonomous bending
- Machine prepared for quick change of top rollers
- Interchangeable top rollers with different diameters, for bending small diameter wefts
- Hardened rollers if black and stainless material is to be bent
- Infeed roller conveyor for easy feeding of the sheets into the machine
- Centring device for the infeed roller table, for automatic centring of the sheets before bending

## **FOLLOW US!**

In order to keep you up to date on current topics, we are also present for you on the social web – follow us on our social media channels and get information about our company, products, career opportunities and trade fair events.



**HAEUSLER**.COM  
| the forming factory

**HAEUSLER AG Duggingen** | Baselstrasse 21 | 4202 Duggingen | Switzerland  
T +41 61 755 22 22 | F +41 61 755 22 00 | info@haeusler.com | www.haeusler.com