



4-ROLL BENDING MACHINE

**VRM NEO** – *MORE PRODUCTIVE,  
EFFICIENT, INTELLIGENT*

VRM NEO – 4-ROLL BENDING MACHINE

# PERFECTS YOUR PRODUCTION WITH SMART CONTROL

With the introduction of the VRM NEO, HAEUSLER AG, leading manufacturer of plate bending machines, is setting new standards in the metal bending industry. This 4-roll bending machine has been newly developed and integrates the latest technologies for a wide range of applications. Whether wind turbines in onshore or offshore operation, silo construction and mechanical engineering or container production - the VRM NEO masters the challenges of these industries like no other.

The VRM NEO sets new standards in bending technology by offering intelligent, flexible and energy-saving solutions for modern production lines. With the **intelligent BENDtronic® control system**, autonomous bending, an **innovative electric drive** and **energy-saving hydraulics**, the VRM NEO enables maximum efficiency and adaptability.

1

**BENDTRONIC® CONTROL SYSTEM**  
Thanks to the BENDtronic® control system, work preparations can be carried out optimally. Individual steps or the entire bending process can be simulated and prepared.

2

**ELECTRIC DRIVE**  
The electric drive of the VRM NEO is designed to drastically reduce energy consumption. Through the use of modern drive technologies the power consumption is optimized, which significantly reduces operating costs.

3

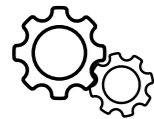
**ENERGY-SAVING HYDRAULICS**  
The integrated energy-saving hydraulic system uses demand-based pump control by means of load sensing, which precisely adjusts the energy input to the actual demand. In addition, the flow sharing technology ensures intelligent oil management for optimal use of the oil output.

4

**LINEAR GUIDANCE**  
The extended linear guidance of the side roller positioning offers exceptional flexibility in production by combining stability, durability and low downtime with minimal space requirements.

5

**FLEXIBLE ROLLER CHANGE**  
The ability to switch quickly between different roller diameters, significantly increases the flexibility of production and makes it possible to fulfill different order requirements.



## MORE PRODUCTIVE

The **extended, linear guidance** and the use of interchangeable rollers in combination with a constantly clamped plate provide maximum flexibility with maximum throughput.



## MORE EFFICIENT

The powerful electric direct drive and the **innovative energy-saving hydraulics** significantly reduce energy consumption.



## MORE INTELLIGENT

The **intelligent BENDtronic® control system** and the advanced autonomous bending function redefine the standard for precise and efficient production processes.



to VRM-NEO website

VRM NEO



EFFICIENCY

# MAXIMUM ENERGY EFFICIENCY

## THANKS TO THE HYBRID CONCEPT

The VRM NEO maximizes energy savings thanks to the hybrid concept with a powerful **electric direct drive** and the **energy-saving hydraulics** consisting of load sensing and flow sharing. Maintenance costs are also significantly lower thanks to the energy-saving operation.



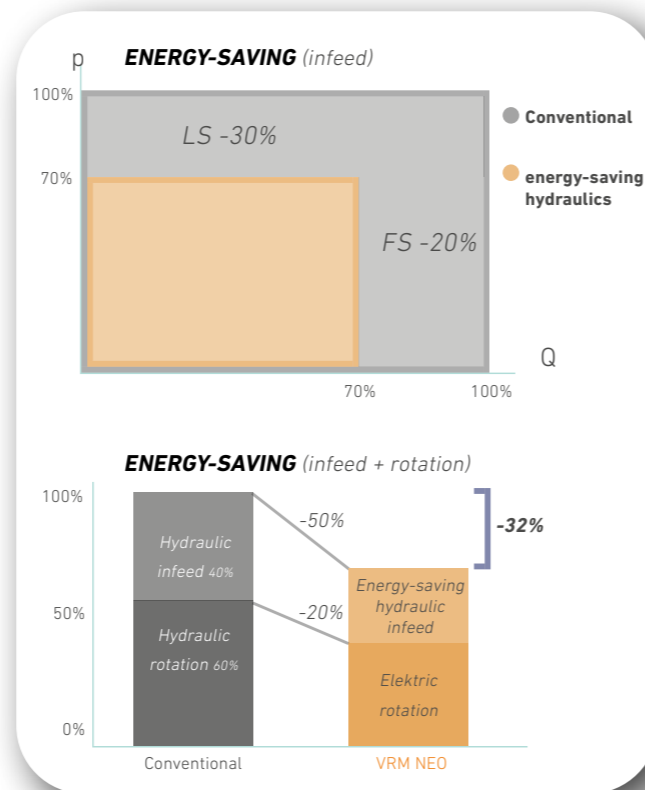
### 1/3 ENERGY-SAVINGS

**Load-Sensing (LS):** This technology means that only as much hydraulic pressure (p) is built up for the position of the rollers as is required in actual operation. This leads to impressive energy savings of 30% with load sensing, particularly at partial load.

**Flow Sharing (FS):** Thanks to this technology, the volume flow (Q) is adapted to the current operation. This saves a further 20% energy when the machine is running at partial load.

**Electric direct drive:** This is 20% more efficient than conventional hydraulic drives.

**Partial load:** In practice, hydraulic pressure (p) and volumetric flow (Q) are mainly used at a utilization of 70%.



### 40% COST-SAVINGS

Thanks to lower maintenance costs and energy efficiency, in practice after 5 years, **savings** of up to **40% of the operating costs** are possible, approx. 500,000 €.



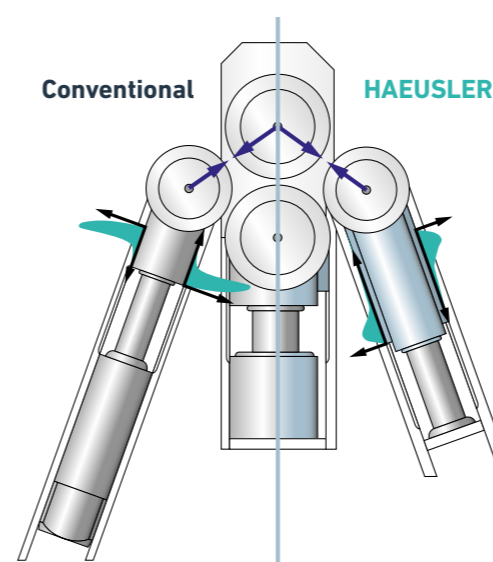
PRODUCTIVITY

# HIGH FLEXIBILITY WITH MAXIMUM THROUGHPUT

## THANKS TO ROTATION SPEED & 4-ROLLER CONCEPT WITH LINEAR GUIDANCE

The high productivity of the VRM NEO results from the consistent implementation of the 4-roll concept with **linear guidance of the side roll positioning** infeed and **fast electric rotary drive**. With the 4-roller concept, the plate is always clamped between two rollers, which facilitates handling and automation and thus enables time and material-saving bending.

The extended linear guides allow for extreme roll diameters and make the machine extremely flexible for bending cones, complex shapes with multiple radii and narrow cylinders. The flexibility of the 4-roll concept in combination **with the high rotation speed of 8 m/min** make the VRM NEO the most productive plate bending machine.



The **top roller** is used in all operating modes of the bending machine and absorbs the reaction forces resulting from the positioning of the bottom and side roller(s) and the deformation of the workpiece. Depending on the operating mode, the forces on the side roller act at right angles to the direction of movement and generate considerable forces in the guides. Due to the extended guide, the forces occurring are significantly lower than with conventional guides, which increases the service life.



to VRM-NEO website

## 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.



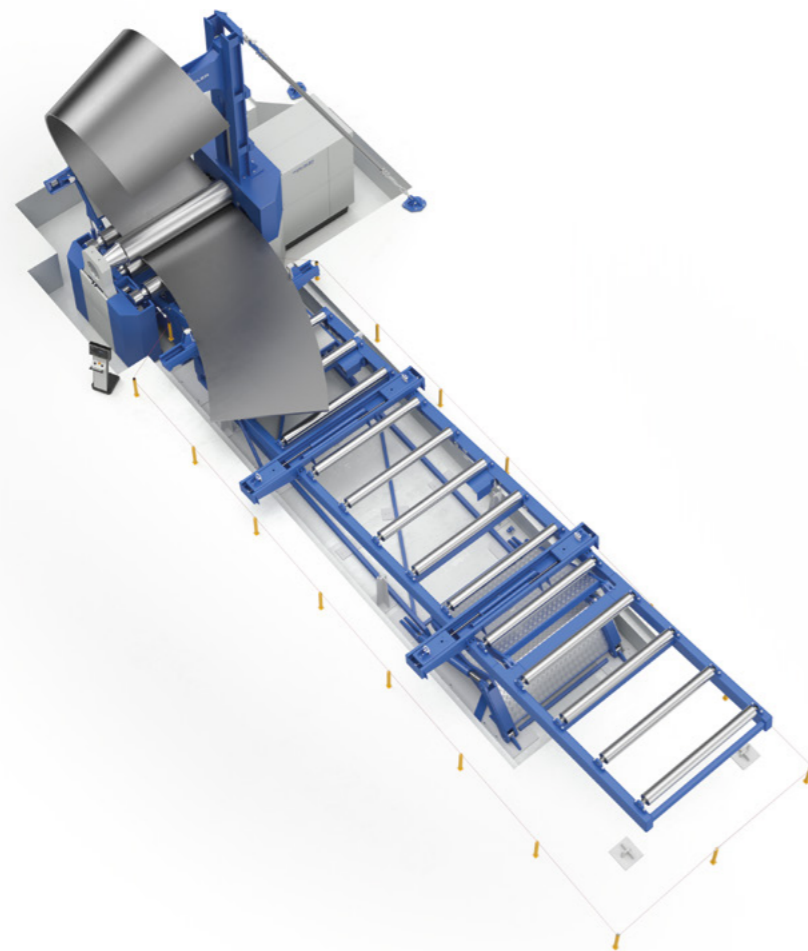
## LATERAL SUPPORT

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.



## INTELLIGENCE

# BENDTRONIC® PERFECTS YOUR PRODUCTION WITH SMART 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, repeatability*

### | 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*

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.

INDUSTRIES

# «SUITABLE FOR ALL INDUSTRIES» WORLDWIDE FOR EVERY APPLICATION

## Container

Large containers on trains or trucks for the transportation of raw materials.



## Silo construction

Silos in cylindrical design for the storage of various media.



## Boiler

This machine is ideal for boilers and water tanks.



## Wind towers

Towers for wind turbines can be manufactured with it.



## Excavator buckets

Excavator buckets can be produced with the utmost precision.



## Offshore

This system is ideal for the production of support pillars.



## CAPACITY CALCULATOR

**PRODUCT RANGE***SIZES AND WALL THICKNESSES*

The Haeusler VRM NEO is available in 12 different sizes as standard, covering a wall thickness range of up to 180 mm for round bending. The different sizes can be supplied in different roll lengths.

**Roll lengths deviating from the standard are available on request!**

To check your individual sizes and the feasibility of the tasks, you can use the **Capacity Calculator** available online or contact our sales team.

In addition, the machine utilization, the remaining straight ends and the expected springback are calculated.



more informations online

**VRM NEO IS SELECTION****680 SERIES**

Rolls width (mm)
Rounding capacity (mm)
Pre-bending capacity (mm)

**VRM NEO 3050-680**

3050
95
77

**VRM NEO 4050-680**

4050
85
68

**871 SERIES**

Rolls width (mm)
Rounding capacity (mm)
Pre-bending capacity (mm)

**VRM NEO 3050-871**

3050
113
91

**VRM NEO 4050-871**

4050
101
81

**1178 SERIES**

Rolls width (mm)
Rounding capacity (mm)
Pre-bending capacity (mm)

**VRM NEO 3050-1178**

3050
134
108

**VRM NEO 4050-1178**

4050
121
97

**1374 SERIES**

Rolls width (mm)
Rounding capacity (mm)
Pre-bending capacity (mm)

**VRM NEO 3050-1374**

3050
149
120

**VRM NEO 4050-1374**

4050
132
107

**1585 SERIES**

Rolls width (mm)
Rounding capacity (mm)
Pre-bending capacity (mm)

**VRM NEO 3050-1585**

3050
164
133

**VRM NEO 4050-1585**

4050
144
116

**1811 SERIES**

Rolls width (mm)
Rounding capacity (mm)
Pre-bending capacity (mm)

**VRM NEO 3050-1811**

3050
178
144

**VRM NEO 4050-1811**

4050
157
128

Round bending capacity calculated with a yield strength of 260 MPa at a sheet width of 2000 mm, 2500 mm, 3000 mm or 4000 mm.  
Bending capacity calculated with a yield strength of 260 MPa at a sheet width of 2000 mm, 2500 mm, 3000 mm or 4000 mm.

**✓ STANDARD FEATURES**

- HAEUSLER Hybrid Drive System HHDS®
- Movable 21.5" touch control panel including high-end BENDtronic® control system
- Continuously adjustable rotation speed between 0 and 8 m/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 35° C
- 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**

- Cone bending device, for bending conically shaped workpieces
- Extended cooling system for ambient temperatures up to 45° C
- 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

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