HRB SERIES
Plate Roll Bending

MRB & MRB-S SERIES
Motorised Plate Roll Bending

- Strong
- Precise
- Efficient
- Fast
- High Repeatability

The Winning Force
As a total supplier for sheet metal manufacturing with almost 60 years of experience, Durma understands and recognizes the challenges, requirements and expectations of the industry.

We strive to satisfy the ever higher demands of our customers by continuously improving our products and processes while researching and implementing the latest technologies.

In our three production plants with a total of 150,000 m², we dedicate 1,000 employees to delivering high quality manufacturing solutions at the best performance-to-price ratio in the market.

From the innovations developed at our Research & Development Center to the technical support given by our worldwide distributors, we all have one common mission: to be your preferred partner.

Present Durmazlar machines with **DURMA** name to the world.
HRB-4 Series Plate Rolls
“Fast, Accurate and Easy to Operate”

Four plate rolls are more precise, productive, versatile, faster, safer and easier to operate than three roll machines. They are less dependent on operator competence. Ideal for bending plates up to 200 mm thick.

- Fast and Reliable
- Efficient Cycle Times
- User Friendly, Easy to Operate
- Increased Productivity
- Up to 200 mm Bending Thickness
Finest Bending Performance

“Durma always strives to be your preferred partner”

Robust machine body and construction ensure long machine life and low maintenance. High torque drive system allows HRB to achieve shorter cycle times. User friendly control units makes it possible to be less dependant on operator competence.

General Specifications

- Up to 8000 mm Bending Lenghts
- Up to 200 mm Bending Thickness
- Accurate, Easy to Operate, Fast and Reliable
- Flat zone of the part is minimized
- Pre-bending, conical bending and ellipse bending can be done easily
- Double pre-bends (both ends) in one pass
- The sheet reference is maintained by tightening of top and bottom rolls
- Most desirable bending operation for CNC applications
- More efficient for cycle times
- Hydraulic and electrical systems have been safeguarded from overloading and require minimum maintenance.
- Hydraulic and electrical components are modual and designed according to world standards

HRB Series Standard Features

Robust Body Structure

Machine’s body is strengthened and lowered to minimise the twists and deformation. Machine body, frame and steel bar connections are stress relieved after the welding operation.

Planetary Swing Rolls System

Side rolls are guided by swing beds which allows them to act as 2 independent axes moving on curve shape orbits. Side rolls are approaches to the top roll on curve movement which allows to get perfect prebendings as well as spring back minimisation. (Rectilinear Rolls System designed for top roll dia more than 460 mm)

High Torque Drive System

High Torque Drive System enables Durma roller bending machines to bend metal sheets with less steps. HRB-4 machines has top and bottom rolls powered by planetary reducer, hydraulic motor and gear system. HRB-3 machines has top and side rolls powered by planetary reducer, hydraulic motor and gear system. Strong Hydraulic Brake system does not allow the sheet to slip back. Pressure safety valves are protecting the hydromotor and other components from overloads and peak pressures.

Hydraulic Opening

Hydraulic opening drop-end for easy remove completed the bending.
HRB Series Standard Features

Conical Bending System
Strong body and angular bottom and side rolls enables to easily conical bend materials. While machine machines in the market bends conical 3 times of top roll diameter, Durma HRB machines can bend 1.5 times easily.

Synchronized Rolls System
Side rolls triggered by 4 different strong hydraulic cylinders. Synchronization between. Thanks to high precision load holding valves. Bottom roll tightens different thickness of sheets without deformation and taking to the consideration of its parallelism by hydraulic adjustable pressure torsion bar.

Hardened Rolls And Crowning System
Highly durable carbon steel (C45) rolls are machined by CNC Lathes with high precision without creating notch effect. Working surfaces of the rolls are induction hardened to HRC 54±2. Rolls are machined as crowning shape to compensate the deflections on the rolls during the bending.

Strengthen Bearing System
Rolls are guided with spherical roller bearings and bronze housings. Guiding system requires less lubrication and keeps it precision in long term.

Hydraulic System
Rolls are positioned by hydraulic components. The precision of axes are maintained through the use of Bosch Rexroth valves. Pressure safety valves protect against peak pressures and overloads.

Electrical and Electronic System
Electrical system is designed compatible with CE safety regulations. The system consists of well known electrical components. The system is protected by current overloadings for its components, power supplies and motors.

User Friendly Control Unit
The standard control unit ensures that machine’s bottom and side rollers operate smoothly.
HRB Series Optional Features

**NC Control Unit (HRB-4)**

In addition to standard user friendly control unit, all bending steps are recorded for operator in teaching mode. All recorded movements can be repeated using automatic mode. NC control system has capacity to save 70 programs up to 100 steps each.

**CNC Control Unit (HRB-4)**

CNC control unit features a graphical control system that enables the operator to realize the bending step by step or automatically calculate bending process. It includes a bending library that features polysentric and ellipse bending shapes.

**Vertical and Side Support System**

Optional hydraulic side and vertical supports the sheet’s stretch and prevent deterioration of the bending form in big shaped bending.

Moveable gauges with hydraulic double cylinders are produced from St52 steel construction. Sheet is easy sliding movement on supports by support rollers which is housing by bearings.

Each support can be controlling from control panel separately. It is possible to vertical support’s capacity is to provide ø 2000 mm to ø6000mm sheet and 4 ton to 6 ton capacities. Vertical and side support system can be controlling automatically NC mod in CNC and NC machines.

Especially the during bendings of the large diameter and thin material ellipse, parallel corners and polysentic shaped may effect the precision and can cause deformation of the material, when there is not enough support from the standard sheet support systems the double knuckle side support system may interfere and provides a precise and perfect bendings, if need the sizes of these support can be build according to the customers request.
HRB Series Optional Features

- **Both Vertical and Horizontal Working**
  This option can be used when the large diameters bendings are not achieved with the support systems and the height is limited, it requires a pit and with this pit machine can be more useful as well as the height advantages.

- **Extended and Profile Bending Rolls**
  Extend top and side Rolls with the universal bending roll sets bar, profile, angle profile can be easily produced without needing any additional machinery. If needed special roll set can also be provided for customers requirements straightness or if needed conical bendings can be adjusted.

- **Special solution for corrugated sheet**

- **Automatic Sheet Extraction System**
HRB Series Special Features

Full automatic bending line with loading and unloading

Wind tower bending line

Angular Material Feeding System

Material Feeding and Lip Alignment System

With the long and large sizes of metal sheets there may always have difficulties to providing the accuracy, placing and keeping the control of the product. Robust Bearing and housing bearing will provide smooth movement towards the machine, motorized or manual feeding tables also ensures the reduction of time and easy process. Opposite hydraulic cylinders will provide correctioning and will also help with the straightness or if needed conical bendings can be adjusted.
Standard & Optional Equipment

Standard Equipments
- PLC control system
- Conical bending
- Induction hardened rolls
- Stress relieved steel construction body
- High tensile carbon steel rolls
- Sealed spherical roller bearings
- 2 rolls drive system (Upper roll Ø 200 mm - Ø 430 mm)
- 4 rolls drive system (Upper roll <Ø 430 mm)
- Fixed top roll (Upper roll Ø 200 mm - Ø 430 mm)
- Hydraulic opening cover
- Welding possibility on the machine
- Electronic synchronized rolls
- Mechanical synchronized bottom rolls
- Adjustable pinching pressure
- Overload protection
- Safety wire around the machine and emergency stop button on control panel
- Manual lubrication
- User manual
- CE

Optional Equipments
- NC Control Unit
- CNC Control Unit
- Polished rolls
- Adjustable turning speed (NC, CNC Standard)
- Vertical or horizontal working position
- Hydraulic vertical support preparation (Full / Mechanical)
- Hydraulic vertical support
- Side support preparation (Full / Mechanical)
- Hydraulic side supports
- Hydraulic side supports with double joint
- NC included side and vertical supports
- Interchangeable top roll
- Longer rolls for profile bending and special bending rolls
- Oil cooling
- Oil heating
- Automatic centralized lubrication system
- Hydraulic roll crowning system
- Plate feeding platform with alignment unit
- Special plate support systems
- Loading, unloading systems
- Separate power cabinet
- Special solutions for wind tower projects

HRB-4 Technical Specifications
HRB-3 Series Plate Rolls
“Fast, Accurate and Easy to Operate”

Hydraulics Plate 3-Roll Bending Machine
Flexibility of 3 roll for medium sizes by Durma technology
Prebending of both the leading and trailing edge

Standard Equipments
- Flexible machine for medium to thick material
- Cost effective solutions for large diameters
- Wide working range
- Excellent for rolling cones
- Great value for precision and reliability
- All rolls are driven with superior torque and speed

HRB-3 Technical Specifications

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Optional Equipments
- Polished rolls
- Adjustable turning speed
- Vertical or horizontal working position
- Hydraulic vertical support preparation (Full / Mechanical)
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- Hydraulic side supports
- Hydraulic side supports with double joint
- Interchangable top roll
- Longer rolls for profile bending and special bending rolls
- Oil cooling
- Oil heating
- Automatic centralized lubrication system
- Plate feeding platform with alignment unit
- Special plate support systems
- Loading, unloading systems
- Separate power cabinet
MRB-S Series Plate Rolls
Motorised Assymetrical 3 Roll Machine
Especially for thinner sheets with small lot sizes
Easy prebending thanks to top & bottom rolls tighten the workplace
Cost-oriented solutions for small and medium enterprises
Wide range of industrial usage

Standard Equipment
- CE
- Conical bending
- Motorised back roll
- Top & Bottom rolls gear driven
- Pendant command panel
- SAE 1050 steel rolls
- Induction hardened rolls
- Stress relieved steel construction
- Support on 2.5 and 3 m machines
- Brake system for precise bendings

Optional Equipment
- Digital readout
- Motorised bottom roll tightening
- Ground rolls
- Roll extention for profile bending
- Special rolls for profile bending
- Special packing for overseas shipments

Fast on Service and Spare Parts
DURMA provides the best level of service and spare parts with qualified personnel and spare parts in stock. Our experienced and professional service personnel are always ready at your service. Our professional training and application enriched courses will give you an advantage to use our machinery.

Consultancy
Spare Parts
R&D Center
After Sales Service
Flexible Solution
Software
Training

MRB Series Plate Rolls
Motorised 3 Roll Machine

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Today, Tomorrow, Forever...

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Plate Roll Bending

MRB & MRB-S SERIES
Motorised Plate Roll Bending

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