



**Plate Rolls**

**Angle Rolls**

**Head Lines**





# FACCIN

The Trusted Partner in Metal Forming Machines

"FACCIN SpA has been for years the undisputed world leader in designing, manufacturing and selling plate bending rolls, section bending rolls, dishing and flanging lines for large dome ends."





## Company Profile



# Quality Without Compromise

The company was founded in the late 60's, specializing in the manufacture of heavy duty bending rolls. A remarkable tendency towards technological innovation and continuous investment in research and development, rapidly brought **FACCIN** the reputation for offering outstanding quality, reliability and state of the art rolling solutions and in a short time **FACCIN** became the reference point for rolling technology. The production of machinery is centered in Visano (Brescia), in the Industrial North of Italy. Here the **FACCIN** S.p.A. factory covers an area of 70.000 sq.m. including 25,000 sq.m. covered space for construction and offices.



Quality System  
Certified OHSAS 18001



Quality System  
Certified ISO 9001

**FACCIN's** internal design office works on a modern network with the latest versions of 2D and 3D CAD software, using finite elements methods (FEM) for the structural dimensioning.

Continuous investment in new equipments, allows **FACCIN** to be involved in ALL aspects of production of their machines, not just assembly of outsourced component parts, but the construction of these parts. From the construction of the electro - welded structures and machining of these structures to the machining of the forged rolls. The management of production, orders, design, construction, machining, heat treatment, stock and assembly, is all fully computerized with a modern enterprise resource planning software (ERP2) installed on the whole company network. Such organization guarantees that **FACCIN** has direct control over all the production processes, monitoring each step 'in house' guaranteeing total quality assurance through registered procedures according to ISO 9000 rules.

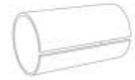




# Plate Rolls

“The *most technologically* advanced bending rolls for plate and profiles available today, Worldwide”





## Plate Rolls Series

The **FACCIN** product range represents what is considered to be the most technologically advanced bending rolls for plate and profiles available today, Worldwide.

A unique choice of plate rolls offers state of the art solutions to the most demanding problems associated with plate rolling.

For light plates initial pinch machines are available:

series **ASI** or the **HCU** models with urethane rolls for high production.

For heavier thickness the range includes the traditional three-roll machine, the three-roll machine with variable axis design and also the world famous **4HEL** four-roll series.

Ships frame roll presses and special machines complete the full range of machines to roll plates with thicknesses varying from less than 1mm to over 250mm with useful working lengths exceeding 18 meters.



### APPLICATIONS:

- Fabricating/Rolling;
- Boilers, Pressure Vessels;
- Rail/Road Tankers;
- Earth Moving Equipment;
- Storage Tanks, Silos;
- Tubes and Pipelines;
- Pumps, Burners and Filters;
- Heating and Ventilation;
- Wind Towers, Power Generation;
- Steel Structures, Construction;
- Shipbuilding & Repair, Offshore;



# Solution for Plate Rolls

## HCU

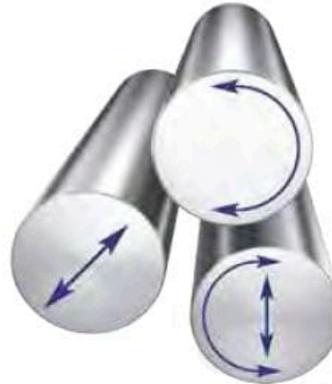
The **HCU** is a 2 roll machine of innovative design incorporating a special urethane forming roll to deliver the optimum in quality and performance with guaranteed accuracy and repeatability combined with super fast rolling speeds for working with thinner/lighter gauge material. Up to 180 pieces per hour are possible with the standard **HCU** machine, while the special version **HCU/S** with automated options can produce in excess of 300 pieces per hour. It is the ideal machine for lengths from 500mm to 2000mm with thicknesses ranging from 0.2mm to 5mm with the possibility of rolling down to diameters as small as 80mm in some cases.



Urethane Roll

## ASI

The **ASI** machine is a 3 roll initial pinch roll that offers and guarantees a superior quality of rolling and pre-bending due to the asymmetric geometry of the rolls. It is ideally suited and the economic affordable solution for the smaller workshop with lower production and lighter materials in the range 1000mm to 3000mm length and thicknesses from 1mm to 9mm.



Initial Pinch

## 3HEL

The **3HEL** is the latest evolution of the traditional 3 Roll double pinch plate bending machine with the capability of rolling/pre-bending and is ideally suited to satisfy the requirements of the typical medium capacity fabrication shop. It's user friendly, versatile and available in a range of sizes from 1500mm to 4000mm and thicknesses from 3mm to 30mm.



Double Pinch

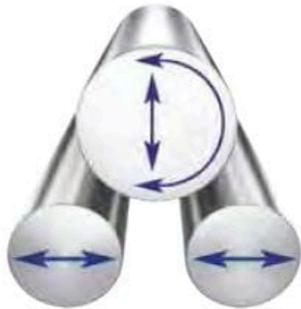


“Precision, Productivity, Long Term Reliability from Quality Controlled Manufacturing and Designs”



## HAV

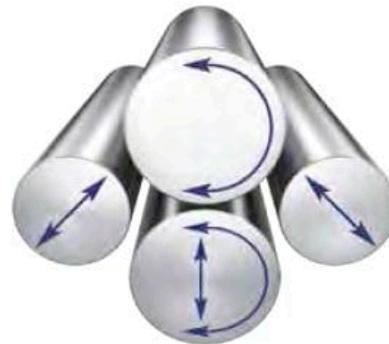
The **HAV** is a 3 roll machine that offers an unbeatable combination of rolling power with guaranteed pre-bending precision. It's variable roll geometry design makes it the preferred machine for all workshops with a need for rolling medium, heavy and super-heavy materials up to 300mm, associated with the manufacture of pressure vessels, off-shore platforms, reactors, heat exchangers and many other applications.



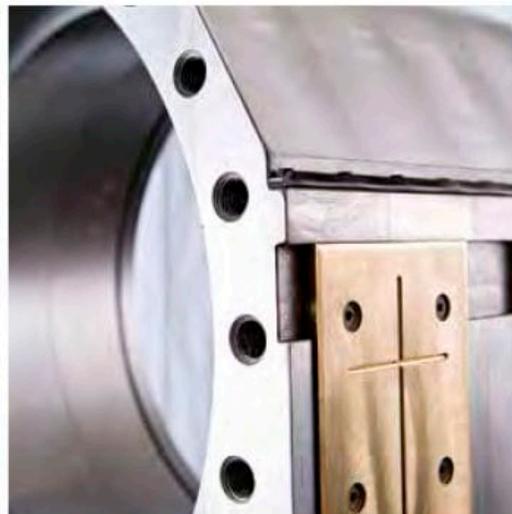
Variable Geometry

## 4HEL

The **4HEL** - 4 roll double pinch pyramid machine is considered the most versatile, precise and easy to use plate roll with the added advantage of higher production 3 to 4 times faster than a conventional pinch pyramid. Other benefits are the ability to feed material horizontally, and pre-bend both edges without removing the plate. It has found wide use with medium/heavy fabrication companies worldwide with a variety of applications such as in the manufacture of tanks, pressure vessels, wind towers and much more. It is available in a range of sizes from 1,500mm to 18,000mm and thicknesses ranging 5mm to 150mm and heavier on demand.



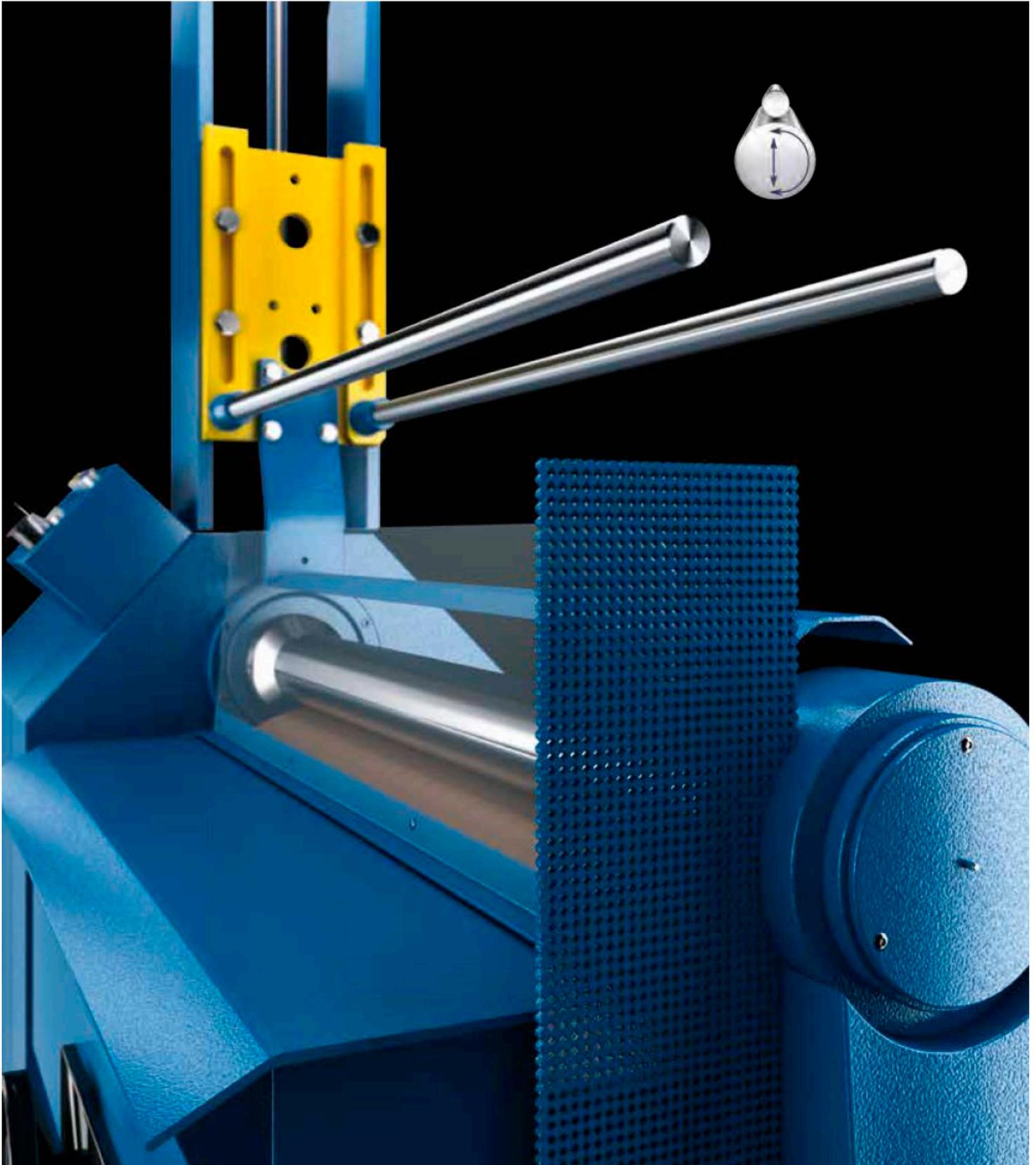
Four Roll





# HCU

HCU: Productivity and Precision





## 2 Rolls (Urethane) Fast Plate Rolls

The **HCU** version of plate roll guarantees optimum quality of the rolled product. Thanks to the urethane roll forming design, it is possible to achieve the best tolerances and super-fast rolling times.

The standard **HCU** machine can guarantee output levels of 180-200 pieces/hour while the special version **HCU/S** reaches output levels in excess of 300 pieces/hour.

**The flat ends** are eliminated from the pipes rolled with the HCU machine. The dynamic pressing force, resulting from the action of the urethane roll against the top roll, permits the complete forming of the plate along its entire length.

**The high speed and one-pass rolling** process of the HCU machine also eliminates the prebending - rolling - prebending procedures typical of traditional three and four rolls machines.

**Inexperienced operators** can easily operate the HCU.

The standard version is complete with a fully automatic rolling cell.

The only need for the operator is to load the plate and offload the cylinder.

**The Precision and Reliability** of the HCU series of plate roll is guaranteed by a special design combined with a solid oversized structure.

The exclusive hydro-mechanical roll lifting system (GHS) guarantees exact bending repeatability and constant forming pressure.

The **HCU** series of plate roll is the ideal solution for rolling **medium and large batches** of tubes with thickness up to 5mm and lengths up to 2 meters.



### STANDARD CONFIGURATION:

- Urethane Lower Roll for perfect prebending;
- Automatic rolling cycle (approx 20 sec/pc);
- Special lifting system for the bending roll (GHS);
- Top roll for the smallest diameter;
- Movable foot pedal control for cycle start;
- Automatic drop end opening;
- Lubrication circuit;
- Emergency stop button;
- Safety Guard cable around the machine;
- Machine CE certified for its safety;

### UPON REQUEST:

- Different size Mandrels;
- Mandrel Supports;
- Support for rolled cylinder;
- Automatic Pressure Adjustment;
- Digital display for rolls compression;
- Interchangeable rolls;
- Automatic plate lifter and loader;
- Automatic feed Tables;
- Programmable back gauges;
- Automatic shell ejector;
- Unloading tables;
- Auto-Welding Systems;

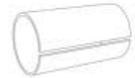


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ASI  
Affordable Rolling Power





## 3 Roll Initial Pinch Plate Bending Rolls

The **ASI** version of plate roll guarantees **superior quality of bending** thanks to the asymmetric geometry of the rolls movement.

**Optimal plate drive** is guaranteed by the two powered pinch rolls. It is ideal for avoiding any slipping even on very thin plate.

The side roll moves inside a linear slide which bends the material very near to the clamping point resulting in a **pre-bending quality** similar to the one achievable with the more expensive 4 rolls machines.

**Rolling of profiles** is possible thanks to the extended shafts provided as standard on all models.

It is possible to mount either standard profile or pipe dies.

Comfortable foot pedal controls allow **single man operation** for plate loading and pre-bending operations.

The reliability of the **ASI** series of plate rolls is guaranteed by a solid oversized full bodied structure assembled with heavy duty tie rods. A rigid base presents the opportunity to position the machine anywhere.

The **ASI** series of plate rolls is the **most convenient** way to roll your shells consistently with a minimum investment.



### STANDARD CONFIGURATION:

- Two powered rolls;
- Induction hardened rolls;
- Rolls surface polished;
- Motorized prebending and rolling;
- Tilttable bending roll;
- Extended shafts for profiles rolling;
- Movable foot pedal controls;
- Safety Guard cable around the machine;
- Machine CE certified for its safety;

### UPON REQUEST:

- Digital readouts for rolls positioning;
- Cone bending attachment;
- Special colours;
- Profile bending dies;
- Numerical Controls;
- Vertical rolls versions;
- Corrugated rolls versions;



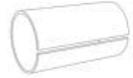
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# 3HEL

Low Cost Precision and Reliability





## 3 Roll Double Pinch Plate Bending Rolls

The **3HEL** is the **latest evolution** of the traditional three-roll double pinch plate bending machine.

It has been designed to cover the needs of the fabrication shop:

### **Strength, User Friendliness, and Versatility.**

FACCIN's experience in manufacturing heavy and **super-heavy duty** machines is applied to the design of the **3HEL** series of plate rolls.

The **3HEL** series is the most precise 3 rolls machine in its category. The RGS design reduces to a minimum the distance between the bending points guaranteeing higher bending accuracy.

The **MCS bearing system**, incorporating 4 independent bearings for each bending roll is a standard feature of the 3HEL.

It guarantees **higher reliability** (higher capacity of load absorption) and increases the range for tilting the side rolls, resulting in **more versatility**, when rolling cones.

The **Ultra wide roll support** with lubrication circuit are mounted within linear slides to prevent wear and tear.

Another important standard feature to increase the **versatility** of the machine is the roll **shaft extensions** to allow dies to be fitted to bend profiles and pipes.

The very **high rotation power** is a guarantee of the **3HEL's superior rolling torque and speed**, available without loss of energy as all three rolls are driven independently by hydro-motors and gearboxes directly coupled to the roll shafts.



### STANDARD CONFIGURATION:

- Linear Slides for roll movement (RGS);
- 4 Bearings supporting each bending roll (MCS);
- Ultra-wide bearing housings (WHS);
- Electronic Balancing System (EPS);
- Induction hardened and surface polished rolls;
- Digital readouts for rolls positioning;
- Three independently driven rolls;
- Control panel moveable on wheels;
- Cone bending attachment;
- Centralized Lube system (pump);
- Safety Guard cable around the machine;
- Machine CE certified for its safety;

### UPON REQUEST:

- Profile bending dies;
- Numerical Controls;
- Vertical rolls versions;
- Corrugated rolls versions;
- Side and Top plate supports;
- Machines designed for rolling hot plates;
- Lower Budget Swing Arms solution;
- Special colours;

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# HAV

## HAV Design: The Ideal 3 Roll Plate Roll





## Variable Geometry Plate Rolls

An unbeatable combination of **rolling power and pre-bending precision** is guaranteed by the HAV series of plate rolls.

**All three rolls move.** The top roll moves vertically while the two lower rolls can move horizontally, each one independent from the other.

This special design makes it possible to adjust the distance between the bending points according to production needs, the same principle as a press brake with variable V dies.

**Optimal plate drive** is guaranteed by the capability to reduce to a minimum the distance between the lower rolls.

Minimizing the roll centers also results in **optimum pre-bending capabilities**, with significantly reduced length of flat end.

Plate drive and pre-bending quality are equivalent to what is achievable with the most expensive four roll machines.

The bending power obtainable, when increasing the distance between the bending rolls, is enormous so that with a **minimum investment** it is possible to have heavy duty plate rolls.

The special design results in a **reduced working height** because the cylinders moving the lower rolls are positioned horizontally. Therefore **no foundations** are required even for machines with bending capacities over 40mm.

The pre-bending process with the **HAV series** is very **fast and safe**, the plate is inserted horizontally (not angled, as is typical with traditional three roll machines).

This allows the use of idle or motorized roller feed tables and plate centring systems.

The world famous **EPS electronic balancing system** is installed as standard on all the machines in the **HAV series**. This guarantees the rolls will always be parallel, with a **tolerance of 0.2mm** and will never be affected by mechanical wear and tear.

**Ideal for medium and heavy duty rolling** requirements, the **HAV** plate rolls are definitely the most advanced three roll bending machines available on the world market.



### STANDARD CONFIGURATION:

- Variable geometry with three moveable rolls;
- Linear Slides for roll movement (RGS);
- Induction hardened and surface polished rolls;
- Electronic Balancing System (EPS);
- Special Breaking System for optimal prebending;
- Cone bending attachment;
- Control console moveable on wheels;
- Centralized Lube system (pump);
- Siemens Numerical Control Unit;
- Safety Guard cable around the machine;
- Machine CE certified for its safety;

### UPON REQUEST:

- Automated loading and unloading systems;
- Motorized roller feed tables;
- Automatic ejectors;
- Side and Top plate supports;
- Machines designed for rolling hot plates;
- Lower Budget Swing Arms solution;
- Integrated welding systems;
- Special colours;

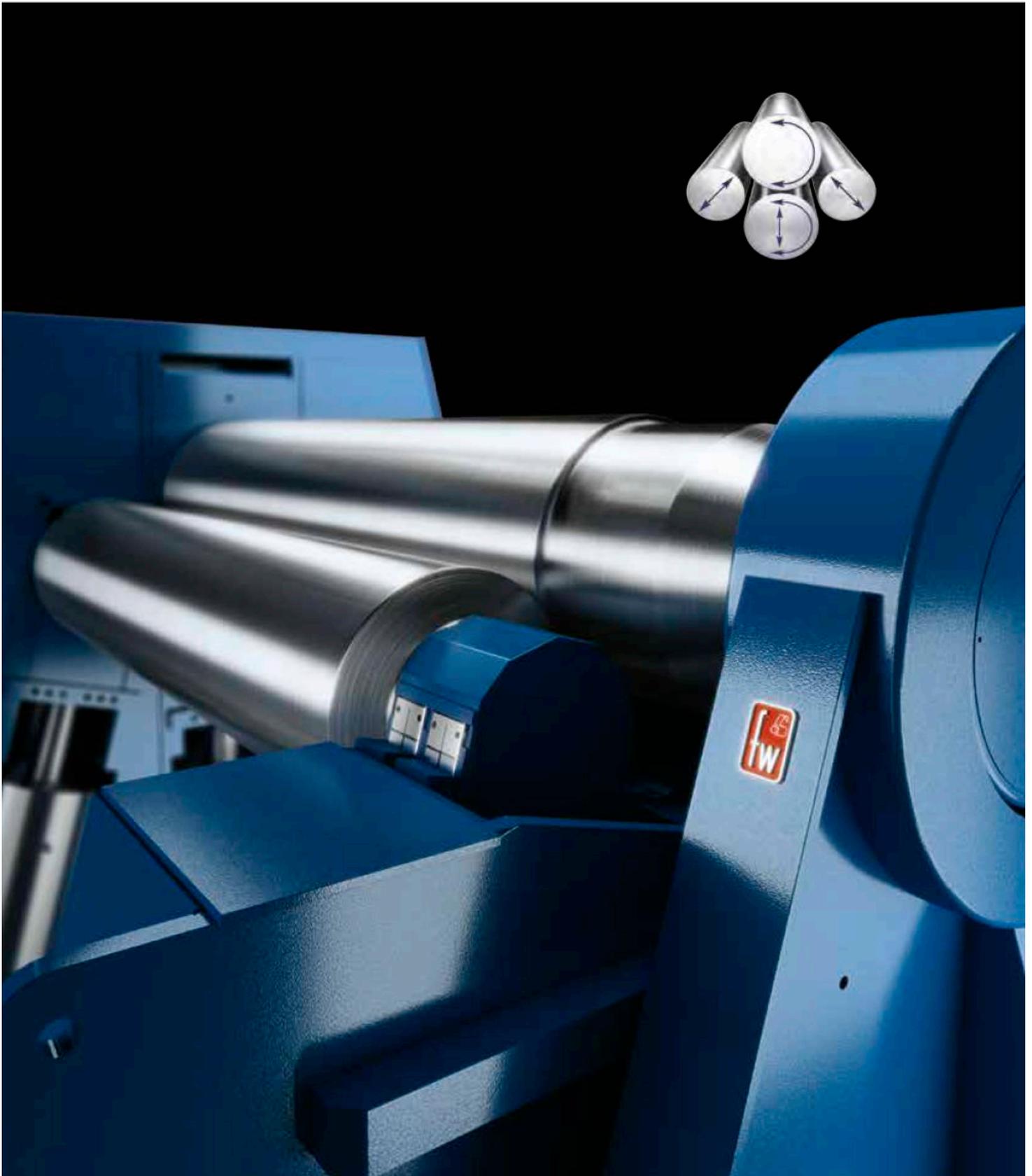
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# 4HEL

State of the Art in Rolling Technology





## 4 Roll Synchronized Plate Bending Rolls

Four roll plate bending machines are considered to be **the most versatile, precise and easy to use** plate roll.

The rear lateral roll, opposite to the feeding side, can be used as a back gauge for immediate plate squaring, resulting in very easy plate alignment and "one man operation".

After the plate is squared, it is always **securely clamped** between the top and bottom central pinch rolls, therefore pre-bending and rolling operations are **safe and precise** without the risk of the plate slipping. The pre-bending operation does not require the plate to tilt below the feeding level (as with traditional 3 roll machines), therefore horizontal motorized roller tables can be used to further improve the introduction of the plate between the rolls.

The cylinder can be rolled to the diameter needed, immediately after the pre-bending of the leading edge.

This means that the machine needs less valuable workshop space, as an area for plate feeding is on one side of the machine only.

The bending of the trailing edge is carried out after the **cylinder is rolled. Basically, cylinders can be rolled in one pass, in one direction. Cone rolling is much easier**, the side rolls are tilted to determine the cone angle and the central lower roll can also be tilted to clamp and drive the plate.

Because of the guaranteed clamping and driving of the plate during all phases of the rolling process, the four roll machine is the only plate rolling technology that can be controlled effectively through **NC and CNC systems**.

The perfect machine for plate up to 150mm thickness.



### STANDARD CONFIGURATION:

- Linear Slides for roll movement (RGS);
- 4 Bearings supporting each bending roll (MCS);
- Ultra-wide bearing housings (WHS);
- Electronic Balancing System (EPS);
- Induction hardened and surface polished rolls;
- Siemens Numerical Control Unit;
- Control panel moveable on wheels;
- Cone bending attachment;
- Centralized Lube system (pump);
- Safety Guard cable around the machine;
- Machine CE certified for its safety;

### UPON REQUEST:

- Side Rolls Extra Drive;
- Automated loading and unloading systems;
- Motorized roller feed tables;
- Automatic ejectors;
- Side and Top plate supports;
- Machines designed for rolling hot plates;
- Lower Budget Swing Arms solution;
- Integrated welding systems;
- Special colours;



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## Plate Rolls Case History



Graphic CNC four roll applications for automatic rolling of complex shapes. Faccin sets the industry standards since 1993.



Wind Mill Tower Production Lines guaranteeing highest productivity rates and superior rolling quality (no re-rolling).



Integrated Loaders, Feeders and Ejectors for complete automation of the rolling cycle. Ideal for the production of HVAC components.



Roll Presses for aerospace and shipbuilding applications up to 21 meters plate width.



Conical Rolls Verions for automated cone rolling lines (for cement mixers or for the food processing industry).



Special versions of four and three roll machines with preloaded top rolls for rolling thick walled long pipes (Oil & Gas Pipelines).



Faccin is the #1 selling variable geometry plate rolls in the world. HAV series is the preferred choice of super heavy pressure vessels manufacturers.



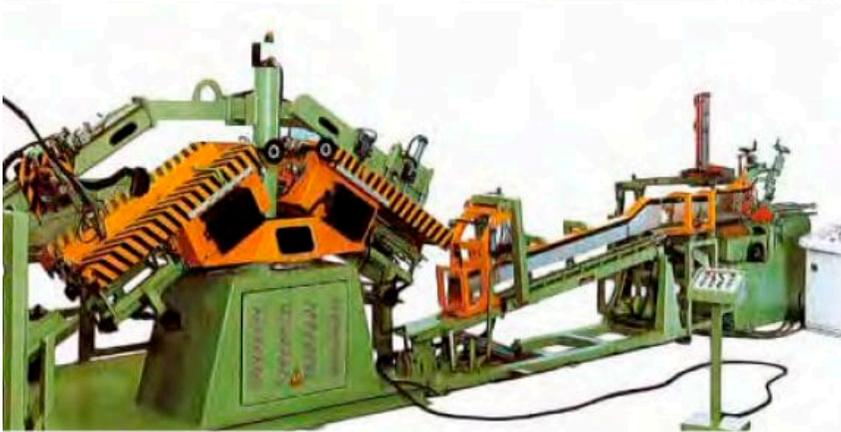
The highest rolling capacities (3500x280 in cold conditions) have been achieved in 2009 with the model HAV 15/S.



Custom made solutions are available for rolling and handling heavy corrugated plates.



Not only super-heavy but also super light duty fast rolling machines are available for exhaust pipes, water pumps, chimneys.



Turn-Key Solutions combining CNC plate rolling and welding automation are available for any requirement of high productivity fms lines.



Ask for any special requirement, Faccin can offer any solution that is technologically feasible.



# RCMI Series

“Expressly designed for rolling profiles with high resistance to the bending”





## Angle Rolls Series

### Advanced technology for profile rolling

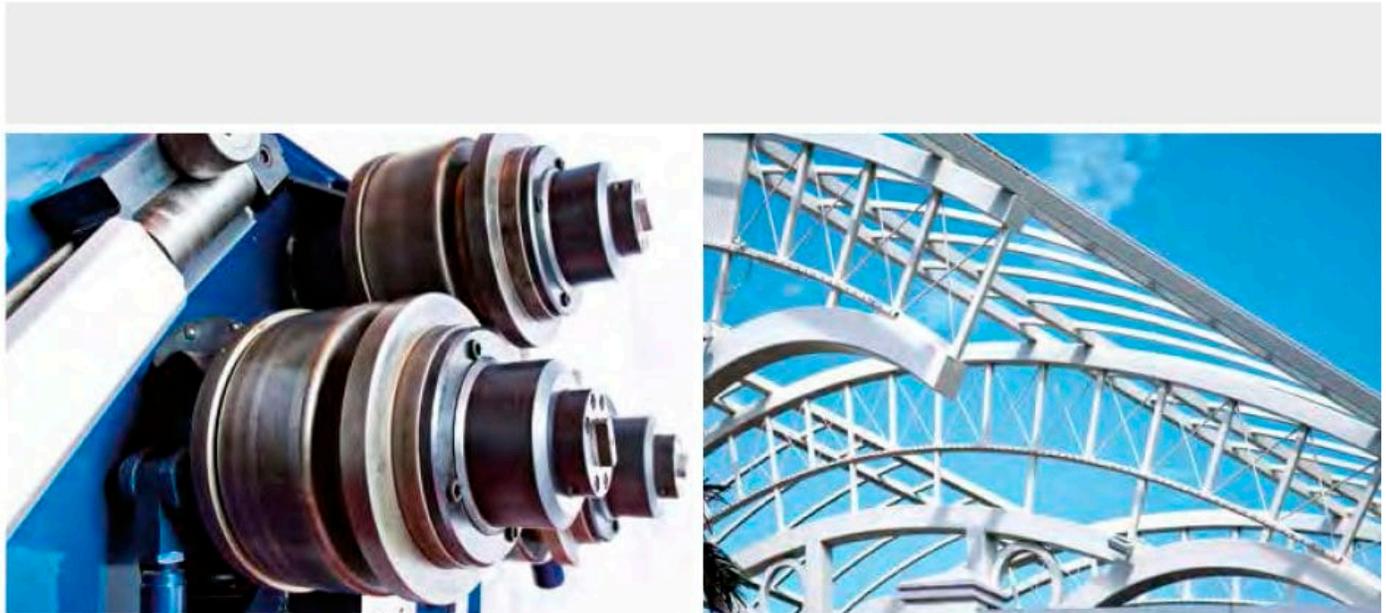
Series **RCMI "double pinch" angle rolls** are expressly designed for rolling profiles with high resistance to the bending. This is the reason why the structures are heavily dimensioned and are built with heavy thickness plates of certified quality steel. They are electro-welded and heat treated to release the internal stresses. The solidity of the structure is in fact an essential parameter to guarantee reliability and precision through the years. The **RCMI** series angle rolls offers **superior quality** and includes many accessories supplied as standard equipment.

### Superior rolling precision

The large series of rolls supplied as standard equipment allows all the standard profiles to be rolled (including beams, columns and channels rolled on edge).

The adaptability of the special modular system of bending rolls guarantees the best possible guide for the profile during the complete rolling process.

The 4 lateral guide rolls are, as standard, independently adjustable in 6 directions to guarantee the best control of the planarity of rolling, to calibrate diameters and to prevent twisting of asymmetrical sections.



### STANDARD CONFIGURATION:

- Universal rolls for rolling all the standard sections;
- Motorized fine adjustment for the universal rolls height;
- Independent adjustment of the two bending rolls (double pinch);
- External guide rolls independently adjustable in six directions;
- Simultaneous translating and rotating movements for the bending rolls;
- Infinitely variable rotation speed for interpolation between different radii;
- Automatic hydraulic compensation of rolls rotational speed;
- Three independently driven shafts with torque expander;
- Three hydraulic motors and three planetary gearboxes for rolls rotation;
- Special high resistance heat treated forged steel used for the rolls;
- Roll shafts made of NiCrMo alloy steel hardened and ground;
- High load over-dimensioned bearings;
- At your choice console on wheels or pendant type;
- Machine CE certified for its safety;

### UPON REQUEST:

- Pipe and RHS rolling dies;
- Hard way rolling units (push/pull devices);
- Spiralling device;
- Fast tool change kit;
- Automatic section feeding;
- Special asymmetrical versions;
- Electronic templates;
- Graphic Numerical Controls;



Solution for

# Angle Rolls

“Machines designed for extreme bending performance”



## Example from the range

larger, smaller, intermediate sizes, available

| RCMI            |  | 110              | 130          | 170          | 190           | 240           | 280           | 320           | 360           |
|-----------------|--|------------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|
| <b>Profiles</b> |  |                  |              |              |               |               |               |               |               |
| 1               |  | mm. 200x40 Ø1300 | 240x30 Ø1000 | 260x40 Ø1300 | 350x50 Ø1200  | 350x70 Ø2000  | 450x70 Ø2000  | 500x80 Ø1800  | 550x100 Ø2000 |
| 2               |  | mm. 100x25 Ø800  | 120x30 Ø1200 | 150x40 Ø1400 | 150x50 Ø1200  | 200x50 Ø2000  | 250x50 Ø2000  | 250x70 Ø2000  | 300x70 Ø2800  |
| 3               |  | mm. Ø80 Ø850     | Ø90 Ø1000    | Ø110 Ø1100   | Ø130 Ø1600    | Ø150 Ø2000    | Ø170 Ø1800    | Ø200 Ø2600    | Ø230 Ø2600    |
| 4               |  | mm. 70x70 Ø800   | 80x80 Ø900   | 90x90 Ø1200  | 115x115 Ø1600 | 130x130 Ø2000 | 145x145 Ø2000 | 170x170 Ø2800 | 200x200 Ø2200 |
| 5               |  | mm. 100x12 Ø1200 | 120x12 Ø1600 | 150x15 Ø2800 | 180x15 Ø2800  | 200x20 Ø3000  | 200x20 Ø2800  | 200x28 Ø2500  | 200x28 Ø2500  |
| 6               |  | mm. 100x12 Ø800  | 130x12 Ø1300 | 150x16 Ø1800 | 180x15 Ø2000  | 200x20 Ø2200  | 200x26 Ø2000  | 200x28 Ø1600  | 200x28 Ø1500  |
| 7               |  | mm. 130x13 Ø1300 | 140x15 Ø1400 | 150x15 Ø1500 | 160x20 Ø1500  | 200x20 Ø1800  | 200x28 Ø2000  | 200x28 Ø1600  | 200x28 Ø1600  |
| 8               |  | mm. 90x8         | 100x8        | 120x8        | 150x8         | 160x10        | 200x13        | 260x13        | 310x13        |
| 9               |  | mm. 110x12 Ø1100 | 130x15 Ø1500 | 150x16 Ø1500 | 180x16 Ø1800  | 200x20 Ø3000  | 200x28 Ø2500  | 200x28 Ø2000  | 200x28 Ø2000  |
| 10              |  | mm. 110x12 Ø1500 | 125x12 Ø1600 | 140x15 Ø1600 | 180x16 Ø3000  | 180x18 Ø4000  | 200x20 Ø2500  | 200x28 Ø2500  | 200x28 Ø2500  |
| 11              |  | mm. 200 Ø1000    | 220 Ø1000    | 320 Ø1600    | 400 Ø2000     | 400 Ø2500     | 500 Ø2000     | 550 Ø2000     | 600 Ø1500     |
| 12              |  | mm. 200 Ø1500    | 220 Ø1100    | 320 Ø1800    | 400 Ø2200     | 400 Ø1600     | 500 Ø2300     | 550 Ø2000     | 600 Ø1500     |
| 13              |  | mm. 200 Ø1000    | 220 Ø1000    | 320 Ø1600    | 400 Ø1500     | 450 Ø2500     | 500 Ø2500     | 550 Ø2000     | 600 Ø2200     |
| 14              |  | mm. 140 Ø1500    | 160 Ø1700    | 200 Ø2000    | 260 Ø2000     | 280 Ø2200     | 320 Ø2600     | 450 Ø3000     | 600 Ø3000     |
| 15              |  | mm. 120 Ø1500    | 140 Ø1700    | 180 Ø1600    | 220 Ø2000     | 240 Ø2200     | 280 Ø2200     | 320 Ø2100     | 550 Ø3200     |
| 16              |  | mm. Ø100x6 Ø1200 | Ø140x5 Ø1500 | 170x6 Ø1500  | 190x7 Ø2200   | 220x8 Ø3000   | 320x9 Ø4000   | 330x10 Ø6000  | 400x12 Ø8000  |
| 17              |  | mm. 80 Ø5000     | 120 Ø6000    | 160 Ø8000    | 200 Ø12000    | 240 Ø10000    | 260 Ø10000    | 300 Ø22000    | 320 Ø20000    |
| 18              |  | mm. 100 Ø2000    | 120 Ø2500    | 160 Ø3600    | 200 Ø6000     | 240 Ø12000    | 300 Ø13000    | 330 Ø20000    | 360 Ø22000    |
| 19              |  | mm. 100 Ø4000    | 100 Ø3500    | 140 Ø5000    | 180 Ø4500     | 200 Ø9000     | 220 Ø10000    | 240 Ø10000    | 300 Ø28000    |
| 20              |  | mm. 100 Ø6000    | 100 Ø4000    | 140 Ø3600    | 160 Ø4000     | 180 Ø5000     | 200 Ø6000     | 240 Ø7000     | 300 Ø9500     |
| W cm3           |  | 55               | 90           | 160          | 360           | 600           | 720           | 1100          | 1750          |

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## Angle Rolls Case History



Special versions and Special Tooling for rolling complex shapes and aluminium extrusions.



Variable Geometry Beam and Section Benders with capacities up to section modulus 17.000 cubic centimetres.



Spiral Rolling equipment and Spiral Supports for medium and heavy duty applications.



Rotating Table Ring Rolling Machines, ideal for flat and angle bars used as flanges and bearing housings. Capacities up to 70.000 square mm cross-section.



Ship frame and bulb benders for the shipbuilding industry.

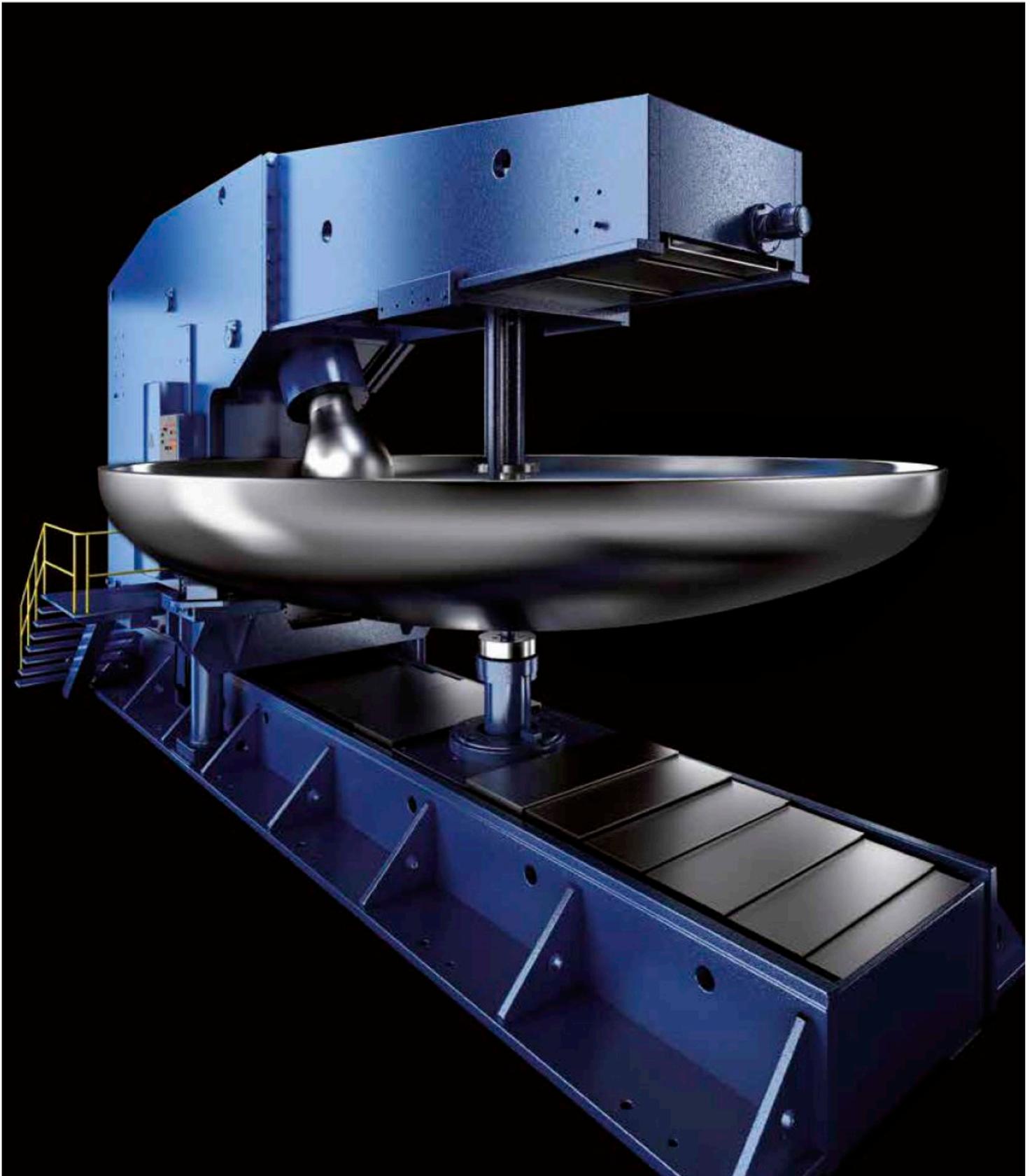


Ask for any special requirement, Faccin can offer any solution that is technologically feasible.



# Dished Heads

“State of the Art Production Equipment”



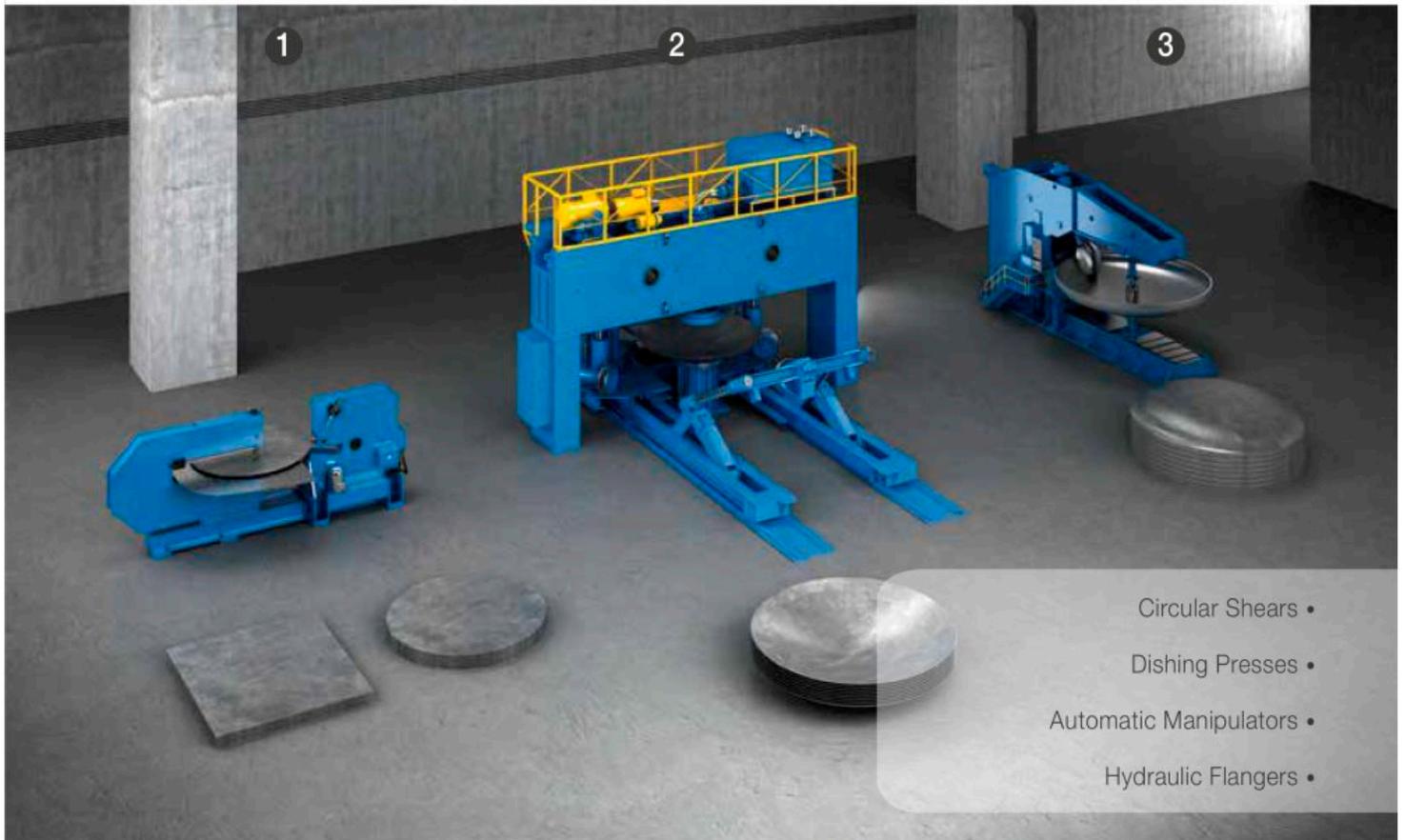


## The widest range of machines

FACCIN is the ideal partner for an investment in a modern dished ends fabrication line.

Over thirty years of experience in the field and a long list of satisfied customers are the guarantees for the total quality of the product and a source of new ideas for dedicated custom-made solutions. The range of automatic flangers goes from 6 mm to 45 mm in thickness of cold forming capacity (thicker heads can be manufactured with hot forming process).

The **PPM** Hydraulic Presses are manufactured with power up to 3.000 Tons and are suitable for dishing, straightening, and swaging. Automatic manipulators and global plate handling systems complete the range for a total automation of the whole manufacturing process.



- Circular Shears •
- Dishing Presses •
- Automatic Manipulators •
- Hydraulic Flangers •



Dished Heads

## CB Circular Shears

### From cutting to flanging

A fast and economical system to cut the blank from a square plate is represented by **FACCIN CB** series of circular shear.

These machines are available in different capacities up to 10 mm in thickness and 5 metres in diameter. Normally, for thicker plates, thermal cutting is preferred.

The circular shear can be supplied as a traditional machine with manual loading/unloading of the work-piece or in a fully automated cell. Flanging tools are available for the whole **FACCIN** range of circular shears so that it is possible to use it both for cutting the disks and flanging those thin walled stainless steel heads typically used in the food processing industry.





## PPM dishing presses

### Exclusive tie-rods design

In order to choose the right size of press, it is necessary to calculate the developed dimension of the largest head to be formed. Then it is possible to decide the distance between the columns. The power of the press is related to the resistance of the material to be processed and to the required cycle times.

Higher pressing power guarantees lower dishing times because it is possible to press the plate with larger dies minimizing the number of hits to form the head completely.

The **FACCIN PPM** series of hydraulic presses guarantees superior forming accuracy and the highest reliability because they are designed with the exclusive **HPT system** to minimize the deformation of the frame.

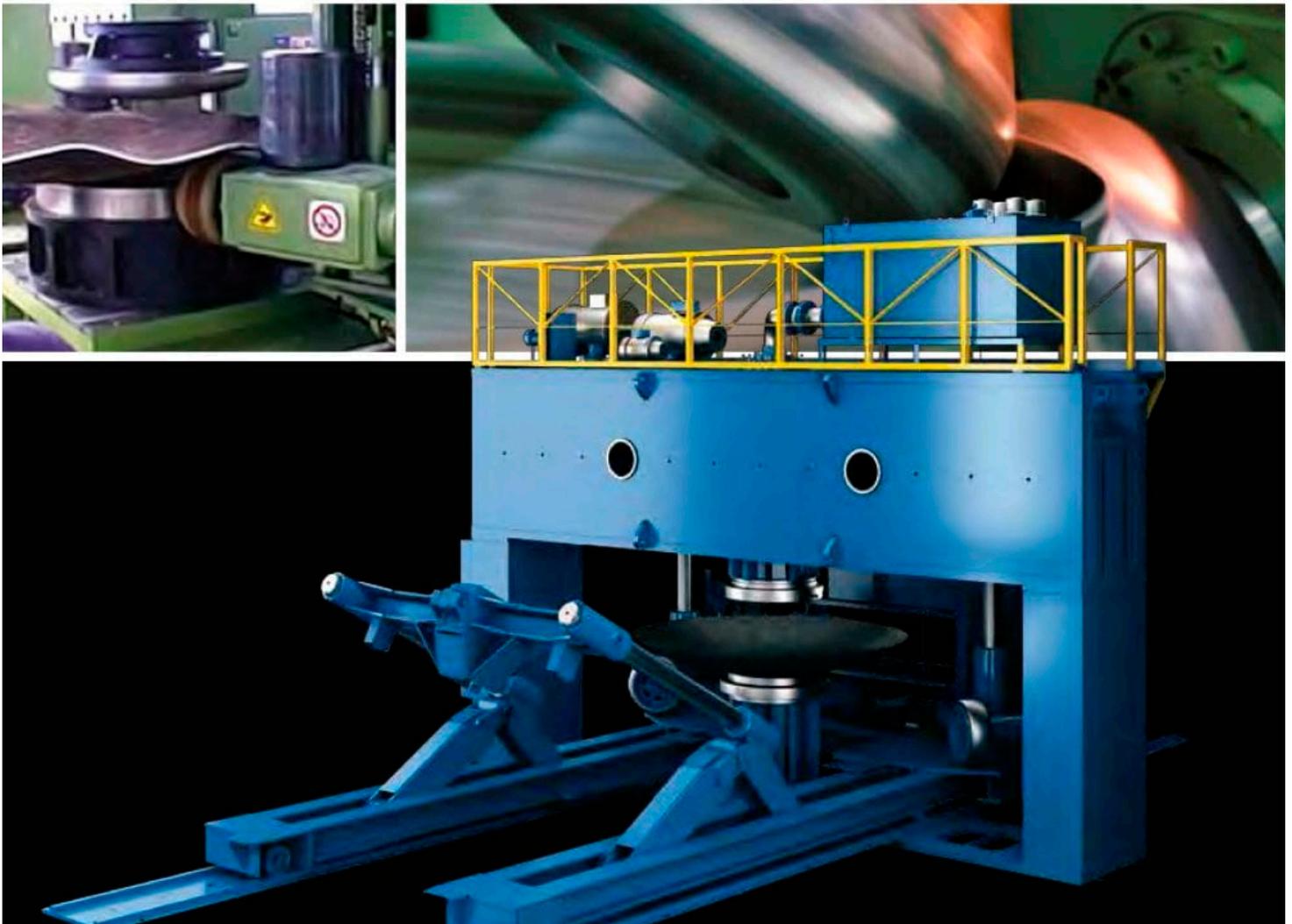
With this solution, two solid forged tie-rods are used to keep the base connected to the upper beam with a constant compression load. The tie-rods are permanently pre-stressed. There are cheaper alternatives in the construction of hydraulic presses for manufacturing tank heads. Usually, in the cheaper design, the base is connected to the upper beam with keyways machined on the frame or simply by welding the structure in a single monolithic piece.

**FACCIN** presses are all designed with **HPT** technology.

### HANDLING SYSTEMS:

Automatic manipulators can be used to accurately position the plates under the press dies.

This solution guarantees very high and consistent quality. An important advantage given by the MA series of manipulators is the reduced production times for dished ends and the additional benefit to press a number of plates together. The possibility of multiple plate forming means consideration should be given to increasing the size of press.





Dished Heads

## BF Hydraulic Flangers

### Automatic Flangers

With the widest range of flanging machines available on the market, **FACCIN** is the ideal supplier for those companies who need to improve the quality of their production and, in the meantime, reduce the production costs.

The **FACCIN BF** range of flanging machines is designed with a solid electro-welded and stress relieved C frame.

The movements are fully hydraulic and the whole system is protected from overload by safety valves.

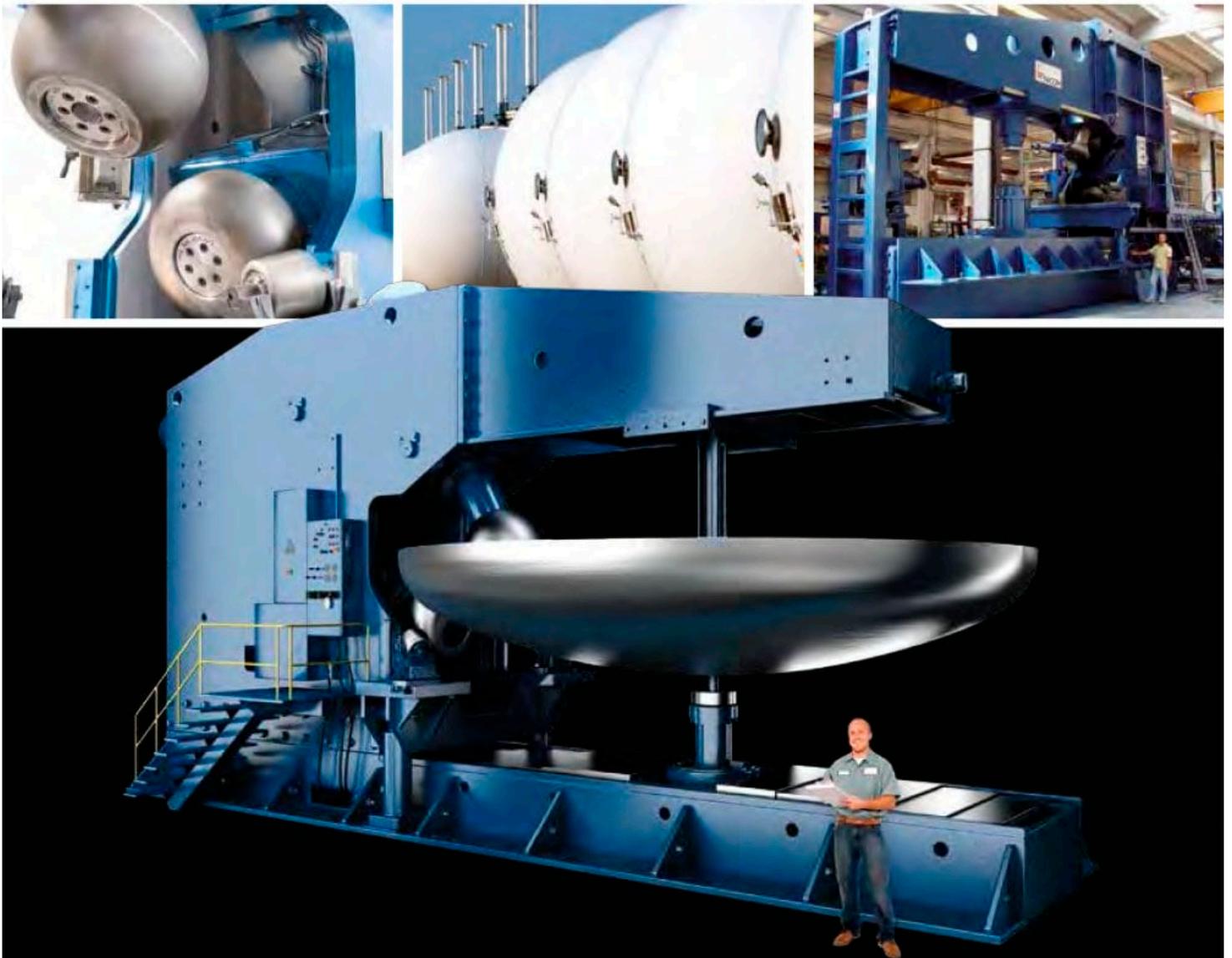
Every **BF** flanging machine is designed to be very easy to operate. It is supplied, in its standard configuration, with a fast automatic working cycle to help inexperienced operators during the flanging process.

The **BF** range of flanging machines is available in "with centre hole" or "without centre hole" design and goes up to 45mm capacity.

A comprehensive range of accessories is available like: automatic tool change systems, automatic loading/unloading systems for the work-piece, edge beveling, numerical control units with graphic programming, digital feedback system for diameters control and special design solution for specific applications.

Longer life of the tooling is guaranteed by the use of special alloy forged steel for manufacturing the flanging and shaping rolls.

The **FACCIN** special tooling can also be used as a substitute for the less reliable rolls originally supplied by other manufacturers.





## Dished Heads Case History



Dishing Presses and Manipulators are available in any size and capacity. Reliable and Modern Design provides maximum working speeds.



Automatic Flanging Machines are available in different design for heads with our without centre hole. Playback CNC controls are also available.



Dedicated Solutions are provided to optimize productivity, precision and ease of use in flanging of mild and stainless steel heads in any size and shape.



Hydraulic Presses are also designed specifically with movable tools for roll bending or straightening of plates. They are dedicated to general fabricators or shipbuilders.



Automatic Loading and Unloading Systems, Automatic Manipulators, Automatic Die Changing Systems, Advanced Numeric Controls complete the range of accessories.



Attention to the smallest details and continuous improvement of technological solution guarantee the highest reliability and efficiency of every Faccin Dishing and Flanging Unit.