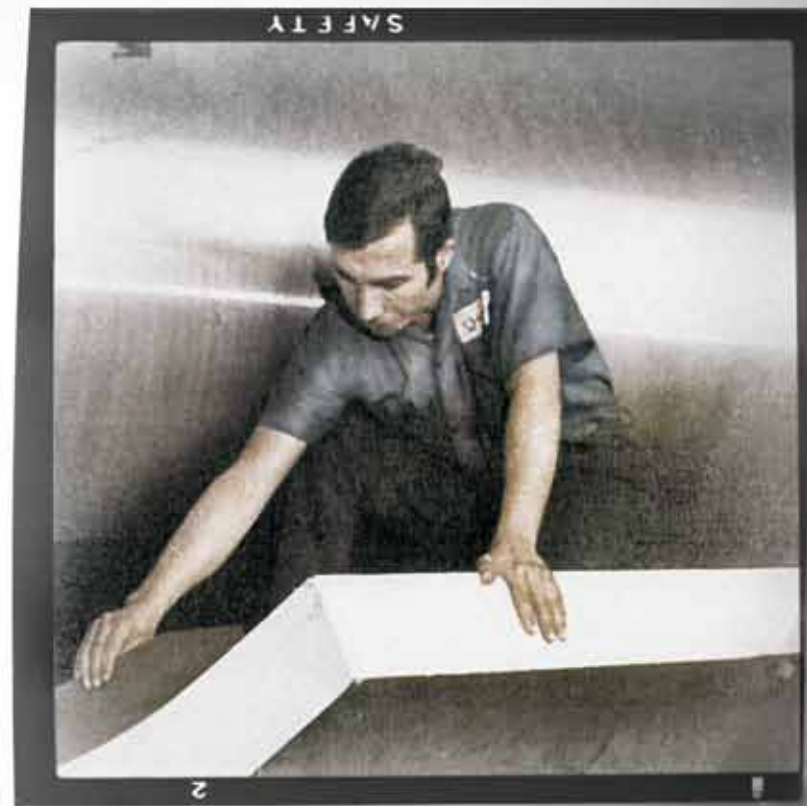


# BOLDRINI

Since 1905



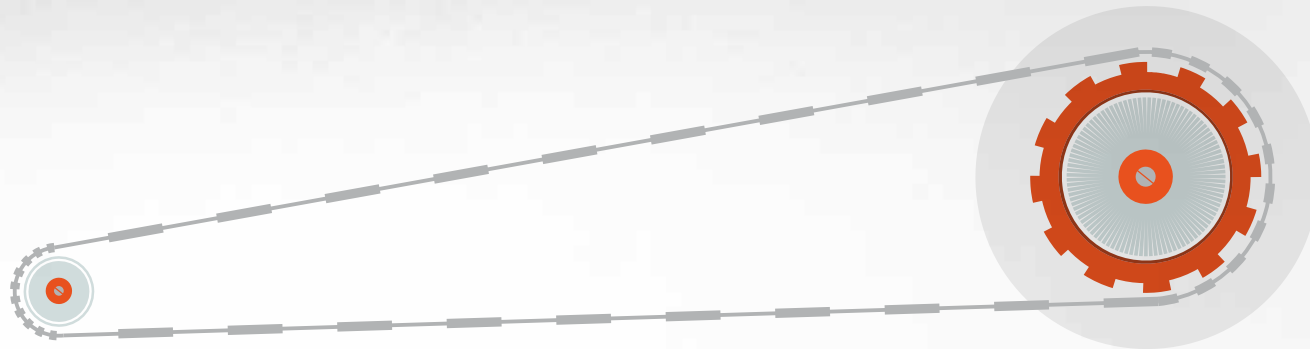
PROCESSING MACHINES  
FOR SHEETS AND PROFILES.  
METAL AND MECHANICAL CONSTRUCTIONS.



Checking pre-bending radius on a 200 mm thick plate. ⋮

# A TRADITION IN EXCELLENCE

{For more than a century  
on the cutting edge in metal  
work technology}



## 1905

The Boldrini company history started in 1905 when Francesco Boldrini, in the city of Ferrara, began the manufacture of piping and boilers for the sugar mill industry and for hydropower plants.



## 1930

By the beginning of the 1930s, Francesco's son, Prosperino Boldrini, had taken over the business and decided to start making section bending and plate rolling machinery. Boldrini was the first company in Italy entering into this industry.



## 1933

In 1933 the first of many machines for profile bending was produced.



## 1939

In 1939 the first of many plate rolling machines was produced.



## 1947

Nel 1947, dopo la seconda Guerra Mondiale, la Boldrini si spostò da Ferrara a Cremona. In 1953 un'ulteriore sede fu aperta a Milano.



## 1959

In 1959, year of the boldrini patent n° 830-647 for the modern design of flanging machines.



## 1969

In 1969 Boldrini manufactured, for an American customer, the largest capacity three roll plate bending machine in the US. This machine was dedicated to roll the heaviest of plates up to 18.5 inches hot for the nuclear industry.



## 1970

From the end of the 1970's, Boldrini became synonymous for top quality heavy and super-heavy duty special metalforming equipment.



**1975**

In 1975 a super-heavy duty plate bending roll was delivered to the company COCKERILL.

This variable geometry machine included many technological improvements which are still used by the best manufacturers today.

**1975**

Another milestone was achieved in 1975, with the ROTEX, a sophisticated machine now installed in AREVA, France, which has spun heads made from a single plate up to 44 Ton in weight and 190mm initial thickness (the largest hemisphere ever made in the world).

**1985**

In 1985, Boldrini enlarged its range of production, by acquiring VERRINA S.p.A., a company established in 1870 in Genova, manufacturing the world's largest plate rolls and plate straightening machines.

**1998**

In 1998 the world's largest dishing press, 10100mm span, 1000 Ton of force, with a 27 Ton manipulator CNC controlled, was delivered to Holland.

**1998**

In 1998 the double action hot forming Deep Drawing Press POC2500 was built to manufacture single heads up to 4500mm in diameter.

**2006**

New 21st Century Record 2006: The world's largest flanging machine for cold forming of heads up to 80mm in thickness.

**2008**

New 21st Century Record 2008: 6500 Ton Plate Bending Roll with a total weight in excess of 850 Ton was delivered to China. This machine is capable of hot rolling plates up to 400mm in thickness.

**2009**

New 21st Century Record 2009: The world's fastest heavy dishing unit Dual Use 1200 Ton for cold and hot pressing of heads up to 8600mm in diameter.



# PRODUCT RANGE:

**BOLDRINI**

Since 1905

Plate bending rolls

PAO presses

RIBO flanging machines

Special presses

Hot forming

Section bending rolls

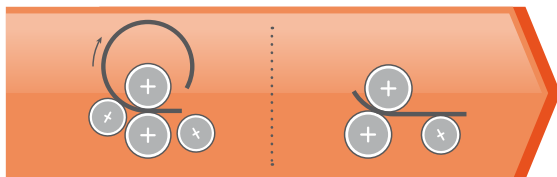
Plate straightening and edge milling machines

## Boldrini quality/technical standards:

All standard and custom BOLDRINI machines comply with CE Norms. Certified plates used for construction are supplied only by major Italian and German manufacturers. All plates undergo strict reticular ultrasonic testing before cutting. Only welding using MIG and/or submerge arc technology is used, which is then tested with non-destructive methods including ultrasonic devices and Magnaflux. Visual and dimensional inspections are carried out by our internal quality control department to ensure we comply with our policy to maintain extremely tight tolerances. All components used in our machine construction are major western European Brands eg. SKF bearings, STAR Linear Guides and Lead Screws and on hydraulics, Bosch Rexroth or Duplomatic. All standard BOLDRINI machines include PLC SIEMENS S7 hardware enabling controlled reliability and high speed program execution. Our innovative automatic playback system, based on SIEMENS controls, allows precise repetition of production. The SIEMENS PROFIBUS communication system installed also as a standard, reduces wiring and eases diagnostic procedures and set-up. This combined with a SIEMENS Touchscreen Operator Panel, enables the operator to gain all necessary data of the machine and to control all machine functions with a simple graphic interface. All machines are fully tested in our facility before shipment under client supervision.

# PLATE BENDING

three or four rolls



Since the 1950's, BOLDRINI has designed and produced the world's largest Plate Bending Rolls servicing the major worldwide manufacturers of pressure vessels for power generation and petrochemical industries.

BOLDRINI specializes in heavy duty plate rolling equipment which are available in several different options including 3 - 4 roll configuration, pyramidal, variable geometry and pre-stressed designs. The entire standard range includes the possibility of forming the shells in both cold and hot conditions up to 250mm cold or 450mm hot with a force of 9000 Ton.

Plate bending roll for cold rolling up to 6 inches of thickness :  
and 12 feet width: 370 Ton of weight. PSI 6"x12' :

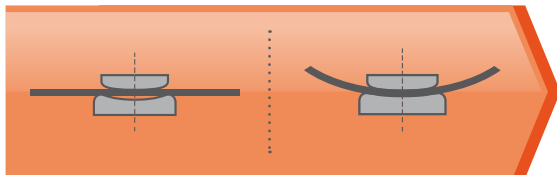
Plate bending roll for cold rolling up to 150 mm of :  
thickness and 3600 mm width: 560 Ton of weight and top :  
roll diameter of 1380 mm. PSI 3000x150 :





# PAO PRESSES

for large dished ends



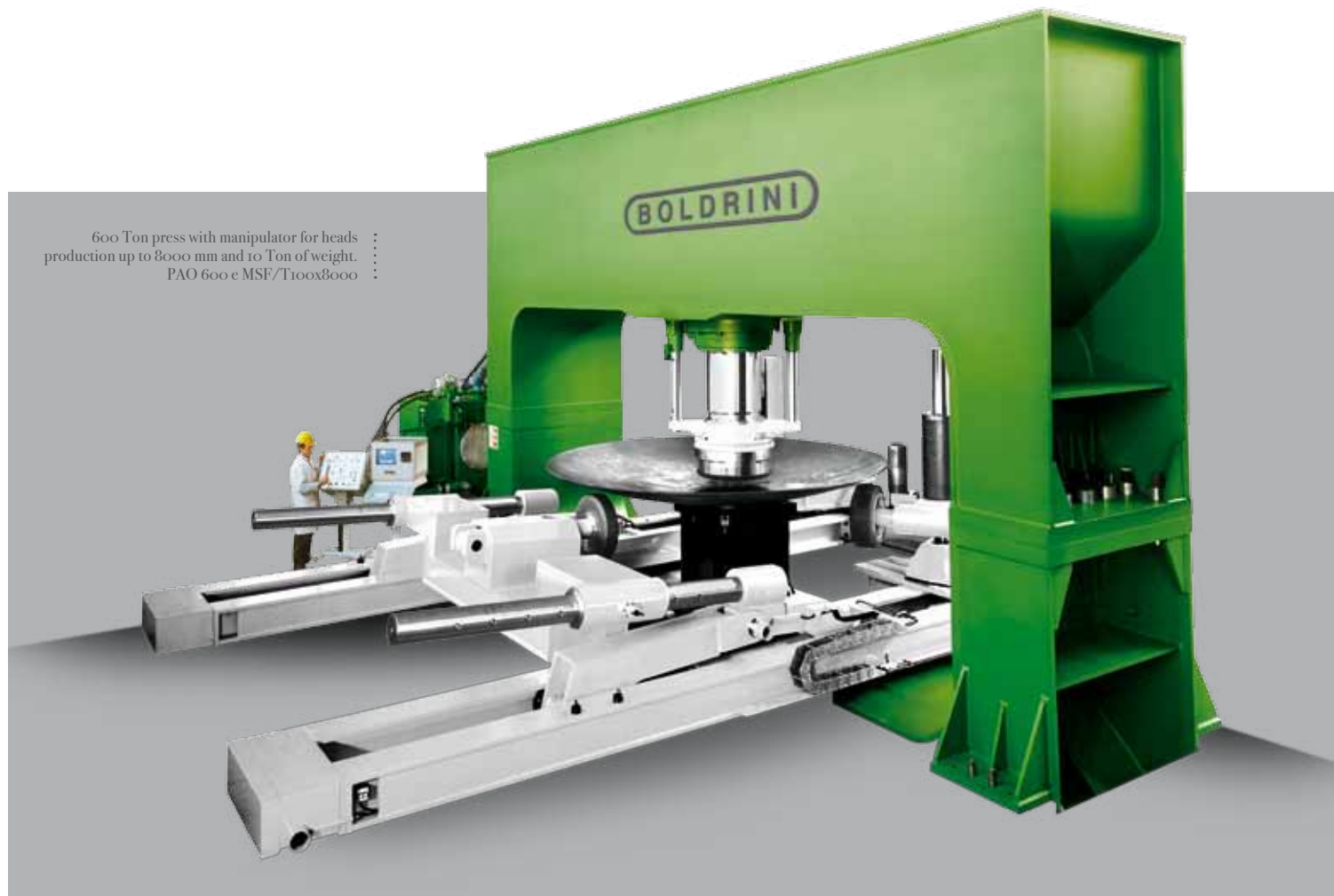
Heads of any size can be manufactured with our Portal Frame Presses which range from 150 to 5000 Ton. All BOLDRINI presses are equipped with state of the art handling devices for cold and hot manipulation of blanks up to 11000mm diameter and over 100mm in thickness.

Special equipment for automatic petal manipulation gives our customers the ability to produce hemispheres and extremely large heads by segments.

BOLDRINI'S unique and innovative automatic playback system enables precise and continuous repetition of large series head production: multiple presses can be run simultaneously by a single operator.

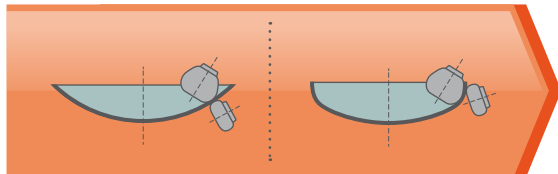
A BOLDRINI Press is known worldwide for its high speed, including approach, return and particularly, pressure build-up timing, resulting in a substantial increase in head production.

600 Ton press with manipulator for heads :  
production up to 8000 mm and 10 Ton of weight.  
PAO 600 e MSF/T100x8000



# RIBO FLANGING MACHINES

for large dished and flanged ends



The vast majority of large dished and flanged ends produced in the world today are manufactured with BOLDRINI equipment. BOLDRINI gained the leadership on this market, as heads dished and flanged with BOLDRINI machines can be produced according to worldwide standard specifications with very tight tolerances and perfectly smooth surfaces.

The machine design takes into account, simple operation and high productivity. BOLDRINI Flanging Machines are available with capacities in cold forming ranging from 2mm to 80mm, and hot forming up to 200mm: ASME 2:1 elliptical heads up to 8000mm in diameter.

The range of special flanging equipment, designed for cone production, has the capability of flanging ends up to 12000mm maximum diameter on the horizontal axis or up to 7000mm length in a tilted position.

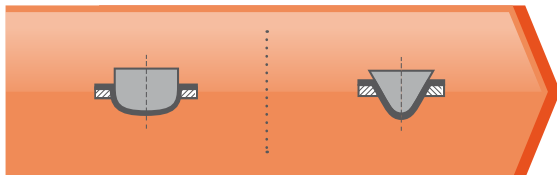
A BOLDRINI Press and Flanging Machine exceeds twice the maximum capacity of any other manufacturer.



Flanging machine for semi elliptical heads up to 40 mm in thickness and :  
6000 mm in diameter, RIBO 40/HY/SF/6000 :

# SPECIAL PRESSES

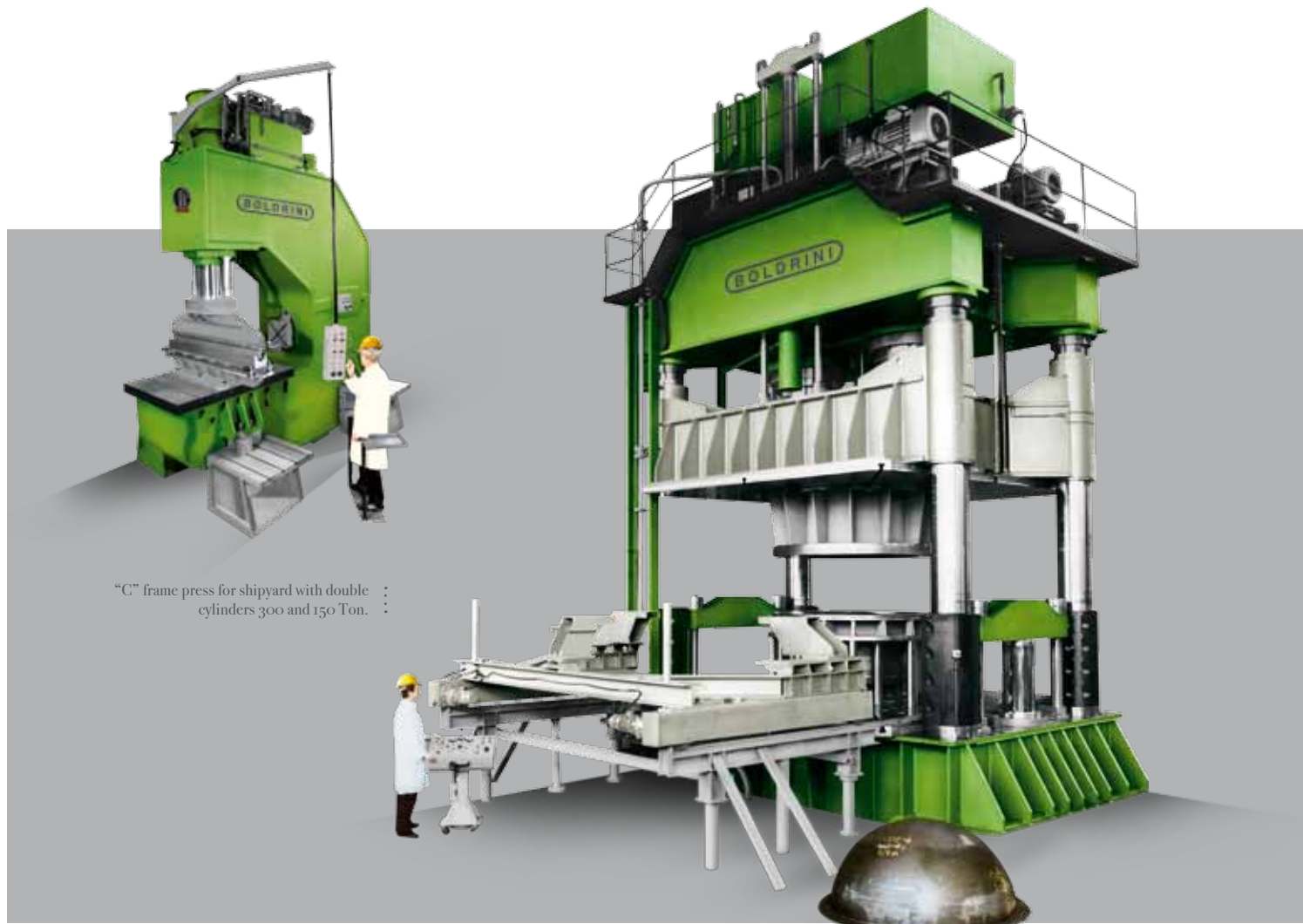
for deep drawing and hot forming



BOLDRINI'S manufacturing line includes specially designed hydraulic presses with one or more independent cylinders used for folding, straightening and accurate shaping of components for navy, aircraft and aerospace applications.

Hydroforming and/or Air Forming Presses, used for multiple purposes with extremely high productivity and quality standards, are also available. For shipyard manufacturing components, the C Frame Press with multiple cylinders is the best option. Portal Presses, where both upper and lower die holding tables are able to move along the "X" Axis and rotate on the "Y" Axis simultaneously and/or independently are also part of the unique BOLDRINI custom range.

Four columns press with 4300 mm capacity and 2500 :  
Ton of force, with 700 Ton blank holder :  
for cold hemispheres forming. :





# HOT FORMING

for plate bended rolls and ferrules

With decades of experience, BOLDRINI is synonymous with cold and hot metal forming for high pressure and nuclear vessels. Its heavy duty 4 column dual use Hydraulic Deep Drawing Press has a capacity up to 5000 Ton. Over a certain thickness, cold forming processes are no longer cost effective and generally not accepted by the norm, therefore, hot forming is the only process suitable to transform a flat blank into a finished head. The exclusive ROTEX design combines a hot forming press with a hot flanging machine capable of forming heads up to 200mm in thickness. This system uses inexpensive tooling compared to any other known current method.

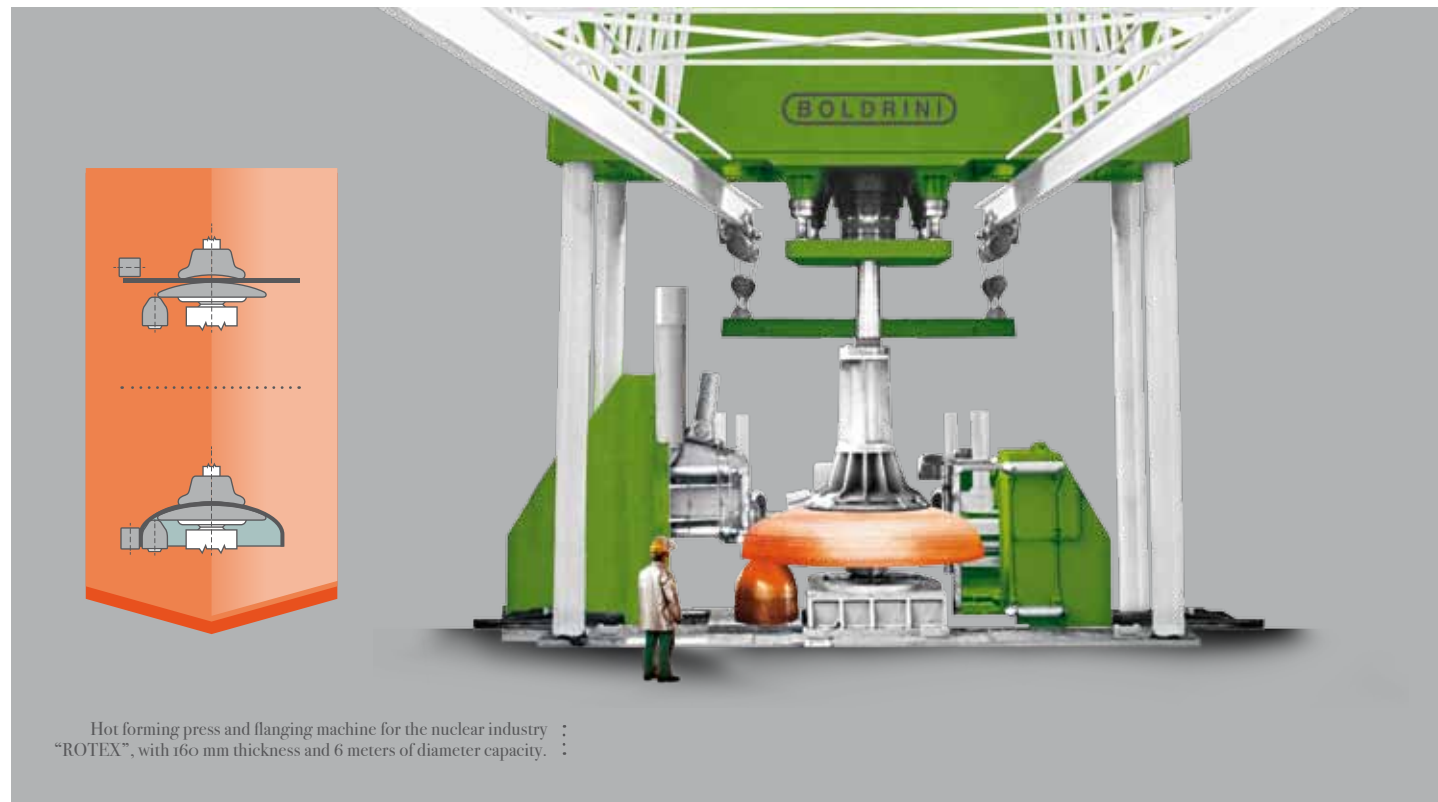
Hot rolling of a plate  
2000x120 on plate bending  
roll P<sub>4</sub>RY/T 3000x72



Head clamping and  
formation of the centre radius 1.

End  
flanging 2.

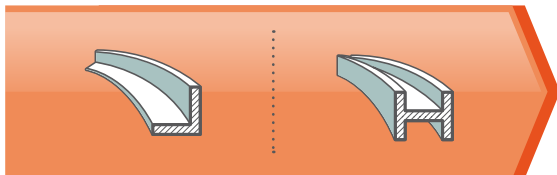
The finished  
head 3.



Hot forming press and flanging machine for the nuclear industry :  
“ROTEX”, with 160 mm thickness and 6 meters of diameter capacity. :

# SECTION BENDING

for flanged ends, centres and shipyard profiles



BOLDRINI'S initial expertise was in developing technology to provide this type of machine capable of handling varied section sizes and shapes.

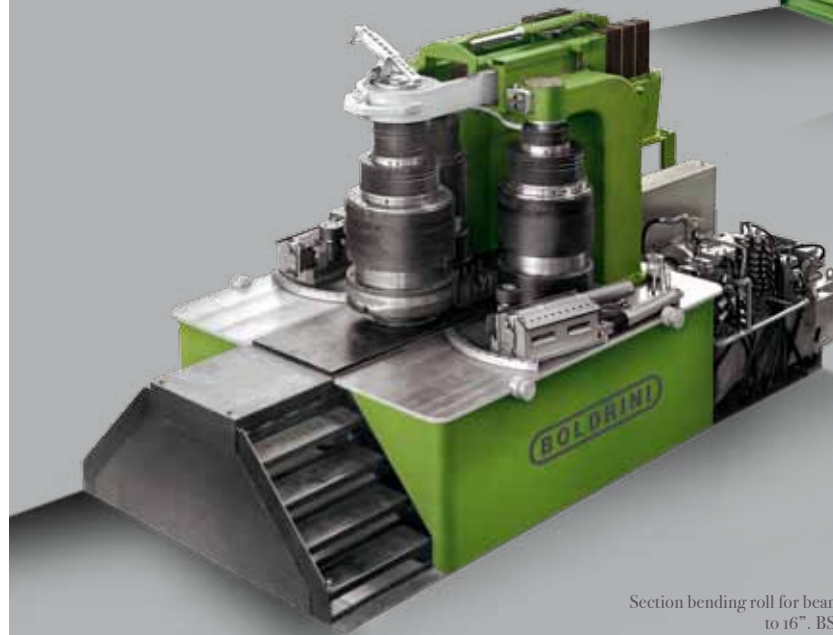
The entire range is equipped with telescopic rolls designed to reduce the amount of dedicated tooling needed and decrease the time necessary to change the required section shape.

The low/medium to high range can be equipped with a specially designed stabilizer attachment to avoid channel distortion and I /H beams bent on the hardway (X-X Axis).

Our standard capacity range includes: 250mm X 250mm angles, 250mm X 100mm flats hardway, 400mm I / H beams and piping up to 318mm diameter.

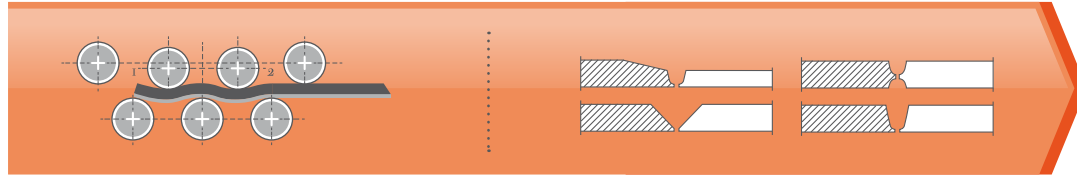
Specialized machines for shipyard manufacturing purposes are available where the application requires bending in both directions, single or pairs of bulbs or angles with varied web sizes.

Section bending roll for 8" pipes and beams :  
up to 12". BSA 40/HY :



Section bending roll for beams up :  
to 16". BSA 50 :

# PLATE STRIGHTENING AND EDGE MILLING MACHINES



BOLDRINI'S Plate Straightener Machine can work plates up to 4500mm width and 90mm of thickness with a range of 7 / 9 / 11 leveling rolls which are fully hydraulically operated. Optional feeding and de-scaling units are available on request. Edge Milling machines can operate on both flat or rolled shapes with ranges up to 18000mm in length and 3 milling heads.

Hydraulically retractable backstops assist plate alignment and reduce machine set-up time.

Tight straightness tolerances meet automatic welding requirement for high productivity.



Plate straightening machine with 3000 mm :  
width and 25 mm of thickness. SPL 3000x25 :



Plate chamfering machine with 12000 mm travel :  
length, for edges welding preparation. SAC 12000 :

# BOLDRINI

Since 1905



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