# Industriproduct catalog



# OUR KNOW-HOW

Rollforming
Tube and Tank Welding
Rollforming/Welding Lines
Poles and Masts Production
H and I-Beams Production
Special Machines and other Know-how
SPF and Hot-Forming Presses

**Additional Machines for Tubes and Reservoirs** 







# ROLLFORMING

Our well-known roll-bending machines have been used worldwide for more than 50 years. They have been proven in all the most demanding industrial sectors, both in terms of productivity and reliability, and for simplicity of use. This solid experience allows us to evolve our roll-bending machines towards ever more efficiency and towards sectors that until now were inaccessible to this process.



# Rollexpress

Rollexpress and its derivatives are adapted to most industrial situations; they give access to the range of high performance CMF rollformers. The main features are:

- Very simple use by all personnel after quick training
- Flat edges reduced to the minimum for good circularity of the rolled part
- One turn rolling: simplicity and speed
- Diameter changeover in 15 seconds without tool and significant productivity, up to 600 shells an hour
- Adapted to all types of material: construction steel, stainless steel, titanium, Inconel, aluminium, and all other materials on request and after testing
- Quenched and tempered rolls for outstanding service life (more than 10 years)

By integrating various options, Rollexpress becomes a high productivity automatic machine, able to produce all mass-production parts reliably.

### Technical Data for our range of products

- Shell diameter from 35 mm and Shell length up to 3 metres
- Sheet thickness between 3/10 and 10 mm according to models
- Productivity between 80 and 600 parts an hour according to models
- Possible shell forms: cylindrical, rectangular, oval, triangular, and any other complex form (to be validated according to the radii to be produced)
- In addition to our standard range, we examine every request to adapt our machines to the specifications of our customers

- Computer numerical control (CNC) for producing programs and parts with complex forms
- Orientation device of the joint to be welded, for connection to an automatic welder
- Automatic sheet picker and loader
- Thickness measurement with automatic correction of the rolls settings
- Devices for producing conical forms
- Manual or motorized shell support arms
- Automatic ejector
- Synchronized drive of all rolls
- Safety enclosure
- Software for aiding the definition of the rolls settings



- -Automotive Industry: exhaust silencer and catalytic converter, filtration components, etc.
- Motorcycle: Complex form exhaust silencer bodies
- •Utility vehicles, trucks and coaches: fuel tanks, exhaust silencer and catalytic converter, filtration components, compressed air reservoirs, etc.
- •Piping: fumes extraction, water downpipes, industrial ventilation, Various tubes for all industries
- Lighting reflectors
- Water heaters
- Fire-Extinguisher bodies
- Pump and compressor bodies
- Compressed air reservoirs
- Appliances
- Aeronautical parts and military components
- All other applications on request...

RT180 is the fruit of the latest CMF developments, it enables the limits of conventional rollforming to be pushed further and to obtain combinations of long tube lengths in very small diameters, including with thick sheets and materials with high mechanical characteristics.

### Technical Data for our range of products

- Shell diameter from 25 mm
- Shell length up to 6 metres
- Sheet thickness between 3/10 and 6 mm according to models
- Productivity between 80 and 300 parts an hour according to models
- Possible shell forms: cylindrical, rectangular, oval, triangular, and any other complex form (to be validated according to the radii to be made)
- In addition to our standard range, we examine every request to adapt our machines to the specifications of our customers
- Efficient for materials with high springback

- Computer numerical control (CNC) to carry out programs and parts with complex forms
- Orientation device of the joint to be welded, for connection to an automatic welder
- -Automatic sheet picker and loader
- Thickness measurement with automatic correction of the rolls settings
- Devices for producing conical forms
- Manual or motorized shell support arms
- Automatic ejector
- Synchronized drive of all rolls
- Safety enclosure
- Software for aiding the definition of the rolls settings
- Interchangeable toolings for producing several different size ranges
- Automatic tooling changer for producing several different size ranges



- •Aircraft Industry: tubes for fluids meeting the sector standards
- Fume extraction and ventilation tubes with small diameter and long length
- Long automobile parts
- Pump bodies
- Various tubes for all industries
- All other applications on request...

# Large Capacity Plate-bending Machines

CMF has been designing and manufacturing special large capacity plate-bending machines for more than 20 years and has developed particular skills in the aeronautical and shipyard sectors for very high added-value parts. The 9-rolls technology of our machines, added to micrometric adjusted bearings, enables perfect part bending, without defects due to deflections.

### Technical data for our range of machines

- Part radius from 20 mm
- Shell length up to 18 metres
- Sheet thickness between 3/10 and 40 mm according to models

### **Options**

- Interchangeable toolings for producing several different size ranges
- Sheet support tables at input and output
- Software for aiding the definition of rolls settings dedicated to the aeronautical or shipyard construction sectors, for all forms, from the simplest to the most complex

- Aircraft Industry: fuselage parts and leading edges
- Shipbuilding



# TUBE AND TANK WELDING

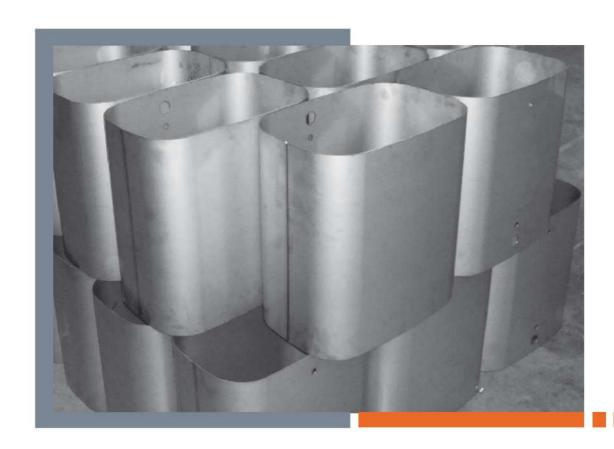
The different CMF seamwelder models for tubes and tanks enable the reliable and efficient production of longitudinal welds or circular welds of the shell ends with elliptical end-cap or any other type of closing piece.

All the processes can be integrated: TIG (with or without wire), MIG/MAG, plasma (with or without wire), submerged arc, laser (alone, with wire, hybrid).

Seam-tracking device can be integrated, with mechanical sensors, laser contactless sensors, or precision laser profilometer.

Our various machines are suited to:

varied production volumes (from prototyping to high speed mass production)
varied tube geometries: circular, square, rectangular, triangular, oval, etc.
varied size ranges: from the one-off product (one size) to a very wide range of products
produced on the same machine
very fast production changeover



# Seamclassic

Seamclassic is the most simple and practical complement to Rollexpress for small run productions. It features the same ease of use and reliability. After quick training, operators are ready to produce quality longitudinal welds on the shells from the roll-bending machine.

### **Technical Data for our range of products**

- Longitudinal seamwelding
- Automatic welding cycle and manual seam set-up
- Shell diameter from 35 mm Shell length up to 4 metres
- Sheet thickness between 3/10 and 10 mm according to models
- Productivity between 20 and 60 parts an hour according to models
- Possible shell forms: cylindrical, rectangular, oval, triangular, and any other complex form (to be validated according to the radii to be made)
- •Welding processes: MIG/MAG, TIG, Plasma, submerged arc, laser and hybrid laser
- In addition to our standard range, we examine every request to adapt our machines to the specifications of our customers

- Device for aiding loading and unloading, controlled by the operator
- Device for aiding the positioning of the edges to be welded, controlled by the operator



- \*Automotive Industry: exhaust silencer and catalytic converter, filtration components, etc.
- Motorcycle: Complex form exhaust silencer bodies
- "Utility vehicles, trucks and coaches: fuel tanks, exhaust silencer and catalytic converter, filtration components, compressed air reservoirs, etc.
- •Piping: fume extraction, water downpipes, industrial ventilation and various tubes for all industries
- Water heaters and extinguisher bodies
- Fire-Extinguisher bodies
- Pump and compressor bodies, compressed air reservoirs
- Appliances
- Aeronautical parts and Military components
- All other applications on request...

# Seamexpress

Seamexpress is the automatic version of Seamclassic; it simplifies the operator's task by automatically closing the shell before welding. Weld repeatability, quality, and productivity are considerably increased.

### Technical Data for our range of products

- Longitudinal seamwelding
- -Automatic cycle for positioning the edges to be welded, and for welding
- Shell diameter from 35 mm
- Shell length up to 6 metres
- Sheet thickness between 3/10 and 12 mm according to models
- Productivity between 40 and 100 parts an hour according to models
- Possible shell forms: cylindrical, rectangular, oval, triangular, and any other complex form (to be validated according to the radii to be made)
- •Welding processes: MIG/MAG (mono and twin), TIG, Plasma, submerged arc, laser and hybrid laser
- In addition to our standard range, we examine every request to adapt our machines to the specifications of our customers

- Automatic devices for loading and unloading
- Integration in a roll-bending station
- Automatic supply of run-off tabs



- -Automotive Industry: exhaust silencer and catalytic converter, filtration components, etc.
- Motorcycle: Complex form exhaust silencer bodies
- \*Utility vehicles, trucks and coaches: fuel tanks, exhaust silencer and catalytic converter, filtration components, compressed air reservoirs, etc.
- Piping: fume extraction, water downpipes, industrial ventilation, etc.
- Various tubes for all industries
- Water heaters
- Fire-Extinguisher bodies
- Pump and compressor bodies and compressed air reservoirs
- Appliances
- Aeronautical parts and Military components
- All other applications on request...

### Seamunit

Seamunit is simple to run and ideally integrates in production flows, since the welded product goes through the machine. Seamunit is fully automatic.

### **Technical Data for our range of products**

- Longitudinal seamwelding
- Automatic cycle for positioning the edges to be welded, and for welding
- Shell diameter from 50 mm
- Shell length up to 3 metres (or more on request)
- Sheet thickness between 1/10 and 5 mm according to models
- Productivity between 100 and 200 parts an hour according to models
- Possible shell forms: cylindrical, rectangular, oval, triangular, and any other complex form (to be validated according to the radii to be made)
- \*Welding processes: MIG/MAG (mono and twin), TIG, Plasma, submerged arc, laser and hybrid laser
- In its basic version, Seamunit requires specific tooling per tube size, but with the Flex- option no tooling is required
- In addition to our standard range, we examine every request to adapt our machines to the specifications of our customers

- Version without specific tooling Flex-Seamunit: the welding cage is numerically controlled and enables very fast production changeover times, less than a minute. A very wide production size range is possible.
- Integration in a roll-bending station



- -Automotive Industry: exhaust silencer and catalytic converter, filtration components, etc.
- Motorcycle: Complex form exhaust silencer bodies
- •Utility vehicles, trucks and coaches: fuel tanks, exhaust silencer and catalytic converter, filtration components, compressed air reservoirs, etc.
- Piping: fumes extraction, water downpipes, industrial ventilation, etc.
- Various tubes for all industries
- Water heaters
- Fire-Extinguisher bodies
- Pump and compressor bodies and compressed air reservoirs
- Appliances
- Aeronautical parts
- All other applications on request...

### Seamstar

Seamstar follows on from the Seamunit model; it enables higher production rates thanks to its continuous process.

### Technical Data for our range products

- Longitudinal seamwelding
- Automatic cycle for positioning the edges to be welded, and for welding
- Shell diameter from 50 mm
- Shell length up to 2 metres
- Sheet thickness between 6/10 and 5 mm according to models
- Productivity between 200 and 600 parts an hour according to models
- Possible shell forms: cylindrical, rectangular, oval, triangular, and any other complex form (to be validated according to the radii to be made)
- \*Welding processes: MIG/MAG (mono and twin), TIG, Plasma, submerged arc, laser and hybrid laser
- In its basic version, Seamstar requires specific tooling per tube size, but with the Flex- option no tooling is required
- In addition to our standard range, we examine every request to adapt our machines to the specifications of our customers

- Version without specific tooling Flex-Seamstar: the welding cage is numerically controlled and enables very fast production change times, less than a minute. A very wide production size range is possible.
- Integration in a roll-bending station



- -Automotive industry: exhaust silencer and catalytic converter, filtration components, etc.
- Fire-Extinguisher bodies
- Pump and compressor bodies
- Compressed air reservoirs
- Appliances
- Various tubes for all industries
- •All other applications on request...

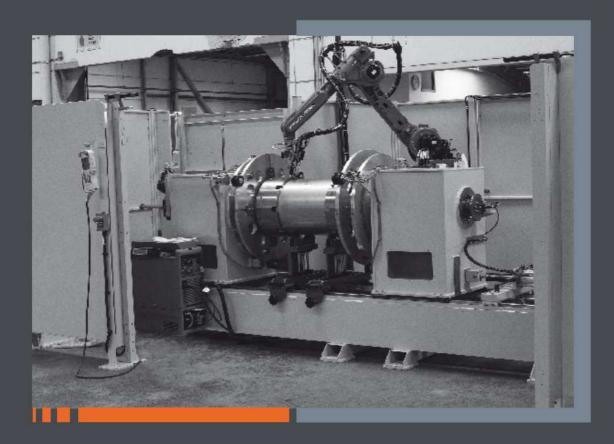
# Circular Welding

A logical complement of CMF longitudinal welders, circular seamwelders are for welding the enc parts on shells (elliptic end-caps, fittings, etc.), always with a goal of simplicity, reliability and productivity suited to the product.

### **Technical Data for our range of products**

- Automatic welding cycle
- Shell diameter from 100 mm
- Shell length up to 6 metres
- Sheet thickness between 3/10 and 12 mm according to models
- Productivity between 20 and 200 parts an hour according to models
- Possible shell forms: cylindrical, rectangular, oval, triangular, and any other complex form (to be validated according to the radii to be made)
- Welding processes: MIG/MAG (mono and twin), TIG, Plasma, submerged arc, laser and hybrid laser
- In addition to our standard range, we examine every request to adapt our machines to the specifications of our customers

- Devices for automatically loading and unloading the shells
- Devices for automatically loading and unloading the end parts
- Integration into a production line



- -Automotive Industry: exhaust silencer and catalytic converter, filtration components, etc.
- Motorcycle: Complex form exhaust silencer bodies
- •Utility vehicles, trucks and coaches: fuel tanks, exhaust silencer and catalytic converter, filtration components, compressed air reservoirs, etc.
- Water heaters
- Fire-Extinguisher bodies
- Pump and compressor bodies
- Compressed air reservoirs
- Various tubes for all industries
- •All other applications on request...

# ROLLFORMING/WELDING LINES

# JO Line

The JO Line includes a high rate rollforming machine and a Seamstar seamwelder, as well as an automatic sheet loader at the input in order to achieve a fully automatic and autonomous installation. It is particularly well suited to the mass-production parts such as catalytic converters, fire-extinguishers or compressors housings for conditioned air. Continuous welding provides for the highest possible performance levels.



# CR Line

The CR Line includes a high rate rollforming machine and a Seamexpress seamwelder, as well as an automatic sheet loader at the input in order to achieve a fully automatic and autonomous installation. It is well suited to the production of compressed air reservoirs up to large sizes, and any other type of medium run production. Large size parts with square or rectangular cross-section are also very easy to produce with this type of line.



# RT180 + Seamunit Line

This combination of machines combines the advantages of a very long, small diameter rollforming machine with a precise and fast seamwelder, producing part-by-part welding. This line is the ideal solution for the production of very long small diameter tubes, with the maximum product flexibility and geometric quality. It is an especially interesting alternative to a tube profiling line which in no way has the same qualities of flexibility and mobilises large stocks of tubes and coils.



# R160 + Seamunit Line

This line combines an efficient seamwelder in the usual size ranges with a precise and rapid welder, producing part-by-part welding. All the options available on the rollformer and the seamwelder can be combined here to achieve an efficient flexible line.







# POLES AND MASTS PRODUCTION

CMF has lengthy experience in the production of machines dedicated to the poles industry, whether for small and large size lighting poles or energy transport masts, up to the largest sizes.

By means of our complete range of machines, we support our customers for part or the whole of their manufacturing process before the galvanisation or paint phases, by taking into account the specific requirements of this demanding industry.

We offer a wide range of machines which can satisfy very varied production volumes while remaining within affordable budgets.

Welding processes that can be integrated: MIG/MAG (mono and twin), tri-plasma, single-wire submerged arc, (twin-wire and tandem also available), laser with wire, hybrid laser



# Longitudinal Seamwelders for Lighting Poles

As a crucial step in the manufacture of a lighting pole, longitudinal welding closes the pole, coming from a press-brake, in compliance with the recommended welding standards. CMF longitudinal seamwelders perform this operation efficiently and rapidly and come in several models according to the size of the poles and the target production.

### Technical Data for our range of products

- Pole base foot diameter from 100 mm to 1200 mm
- Pole top head diameter from 60 mm
- Pole length up to 16 metres
- Sheet thickness from 2 to 12 mm
- -Adjustable taper from 0 to 25 mm/m
- Cylindrical, cylindrical-tapered and polygonal forms
- •Welding processes that can be integrated: MIG/MAG (mono and twin), tri-plasma, single-wire submerged arc, (twin-wire and tandem also available), laser with wire, hybrid laser

- Tooling for producing different polygonal and round-tapered forms
- Devices for automatic or semi-automatic (aiding the operator) loading and unloading
- Counter heating system limiting welding deformations
- Tooling for producing masts in half-shells
- Automatic system for placing half-shells
- Storage ramps upstream and downstream of the machine



- Architectural and roadway poles
- Traffic light signal and traffic signs structures
- ■Poles for power transmission, small and medium size

# Longitudinal Seamwelders for Power transmission Masts

Large size masts require adapted machines. CMF controls the constraints specific to this process and offers welders thus: robust

### **Technical Data for our range of products**

- Maximum mast base diameter up to 2500 mm
- Mast top diameter from 300 mm
- Mast length up to 16 metres
- Sheet thickness from 4 to 20 mm
- Adjustable taper from 0 to 25 mm/m
- Cylindrical, round-tapered and polygonal forms
- •Welding processes that can be integrated: MIG/MAG (mono and twin), tri-plasma, submerged arc monofil (bifilar and tandem also available), laser with wire, hybrid laser

### **Options**

- Tooling for producing different polygonal and round-tapered forms
- Devices for semi-automatic (aiding the operator) loading and unloading
- Tooling for producing masts in half and quarter shells
- Device for aiding the handling of masts, tilting devices, etc.

- Masts for power transmission, large size
- Supports for mobile phone transmitters
- High-masts lighting (stadiums, etc.)



# OTHER MACHINES FOR POLES

Before and after the longitudinal seamwelding operation, CMF offers all the machines required in the production of the complete lighting pole or large mast.

All these machines, in addition to longitudinal seamwelders, can make up a complete production line.

We offer a wide range of machines which can satisfy very varied production volumes while remaining within affordable budgets.

# Decoiler and Straightener Leveller & Sheet Cut-to-length



# Trapeze Cutting

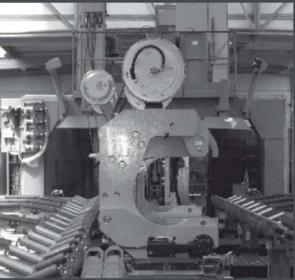
Trapeze cutting by circular shear is a reliable and economic process for creating sheet blanks intended for press-brake forming and producing lighting poles and masts. CMF controls this technique up to sheet thickness 8 mm and can integrate it into different devices for handling and feeding/clearing parts.



# Poles Straighteners & Door Cutting

For small and medium size poles, straightening is required, CMF offers simple manually controlled models as well as fully automatic models. Robotic plasma cutting of the pole door opening, with or without door collection.

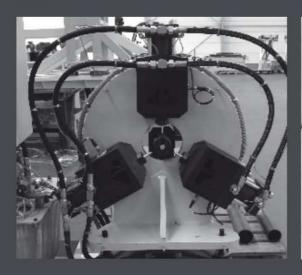




# Top-end Forming & Base Plate Welders

If shrinking or punching holes is required at the pole top-end, CMF can produce the adapted machine and integrate or not automatic functions.

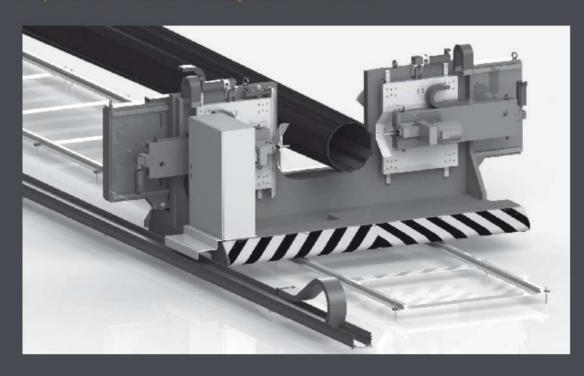
For welding fully automatically or semi-automatically the pole base plate. Different levels of options enable the required welds and production needed to be achieved.





# Drilling Machines

Drilling holes at the pole top-end for attaching different accessories. Different versions from the simple semi-automatic machine to fully automatic installations.



# Automatic Handling / Loading and Unloading

Conveyors, loading arms, handling gantries, and tilting & rotation functions, CMF designs all types of devices adapted to the needs of its customers and the configuration of their production flow.



# Complete Lines

From decoiling to finishing the pole, CMF knows how to employ reliable partners to complete its own range of products and to offer turnkey lines. Press-brakes and decoiling and cut-to-length lines all have their place in the process, under the direction and control of CMF engineering.

Project management, installation on site and commissioning, CMF takes on the whole project and ensures its success.







# H AND I-BEAMS PRODUCTION

Welded H and I-beams are essential to the steel construction sector. To produce them rationally and economically, adapted machines are required. CMF has developed a panel of machines required to meet all situations, whether in terms of sizes, productivity, or related functionality (e.g. special forms).



# I-PR0

Welding beams in vertical position and by making them pass through the welding head makes economic sense when production quantities are large and part sizes suit this process. The CMF I-PRO welder integrates all the equipment required for this welding technique, from the input to the output conveyors.

MIG welding processes and more often submerged arc, single-wire, twin-wire and tandem can be naturally integrated on different CMF I-PROs.

A device for automatically straightening flanges on leaving the welder ensures the geometry of the finished product.

### Technical Data for our range of products

According to different machine sizes, the I-PRO range enables:

- Web height from 160 to 5000 mm and flange width from 80 to 2500 mm
- •Web thickness from 4 to 50 mm and flange thickness from 5 to 120 mm
- Tapered angle up to 8° in one flange
- •Welding processes that can be integrated: MIG/MAG (mono and twin), single-wire submerged arc (twin-wire and tandem also available), hybrid laser

### **Options**

- Systems for unloading and/or tilting the beam
- System for automatic beam return at line entry after the first welding
- Putting two I-PROs in line for maximum productivity
- Hybrid laser welding

### **Main Applications**

Welded beams for building construction and small and medium-size structures



# H-PRS

For more flexibility than in the case of vertical welding, H-PRS is a good choice. It enables many slope variations on the beam, as well as variable flange thicknesses, and other construction particularities. The flanges and web are placed manually, then the clamping bench allows the operator to hold the set-up in place, and the welding boom ensures the simultaneous production of two quality beads.

### **Technical Data for our range of products**

According to different machine sizes, the H-PRS range enables:

- Web height from 160 to 5000 mm and flange width from 80 to 2500 mm
- •Web thickness from 4 to 50 mm and flange thickness from 5 to 120 mm
- One or several slopes, or varied forms
- •Welding processes that can be integrated: MIG/MAG (mono and twin), single-wire submerged arc (twin-wire and tandem also available), hybrid laser

### **Options**

- Systems for unloading and/or tilting the beam
- Clamping device for H-Beam
- -Putting two clamping devices in line for maximum productivity
- Hybrid laser welding

- Parts for large size structures or bridges
- Structural parts with special form and truck, trailer girders, etc.



# Sheets butt-welders

CMF sheets butt-welders enable joining of two sheets to create webs and flanges to the required length using shorter sheets. Conveying, clamping, automatic welding are provided.

### **Technical Data for our range of products**

According to different machine sizes, the sheets butt-welders range enables:

- Sheet width from 160 to 5000 mm
- Sheet thickness from 4 to 50 mm

### **Options**

Devices for aiding sheet handling

- •Welded beams for building construction
- "Small and medium-size structures or bridges



# SPECIAL MACHINES AND OTHER KNOW-HOW

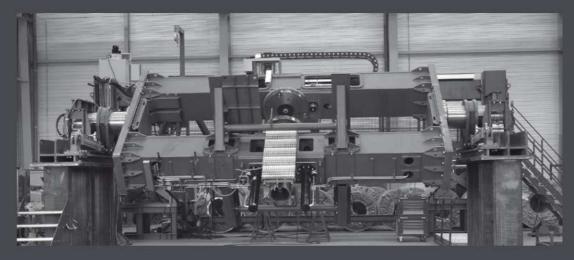
VARIOUS SPECIAL MACHINES, FOR ALL SECTORS

Many industrial sectors require automatic welding machines suited to their needs. When standard models are not sufficient, CMF is ready to respond and support its customers from defining the need to putting into production.

All welding processes can be integrated in this framework, and can be efficiently completed with equipment for handling, conveying, weighing, strapping, etc. for achieving a semi-finished or finished part.



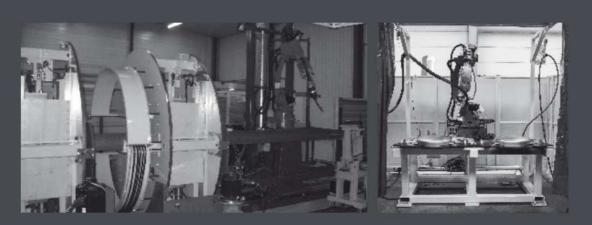
# Customized Welders







# Robotic Welding and Handling Stations



# SPF AND HOT-FORMING PRESSES

High temperature forming enables the production of complex parts using materials featuring a significant capacity for elongation reaching up to 2000% (titanium, Inconel, aluminium). CMF has developed presses dedicated to this manufacturing process as well as peripherals for increasing productivity and reliability

### Technical Data for our range of products

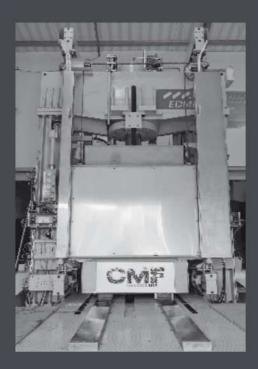
- Type of press: SPF, Hot Forming or DUAL SPF/HF
- Capacities: from 150 tonnes to 2000 tonnes (higher capacity possible)
- Plate sizes: from 1000 mm x 1000 mm to 2000 mm x 3000 mm (bigger sizes possible)
- Gas circuit
- Loading and unloading: manual or automatic with option
- Tool changing: manual or automatic with option (specific option for production change time of 2hr)
- Max temperature: 1000°C
- Lower tooling on shuttle
- •In addition to our standard range, we examine every request to adapt our machines to the specifications of our customers

### **Options**

- Manipulator for automatic loading and unloading of sheets and parts. Directly in the press without having to remove the tooling under the press (time and temperature gain)
- Automatic loading and unloading devices for hot tools with short production change time of 2 hours between the last part produced and the first part of the next reference

### **Main Applications**

Automobile, Aeronautics, Military



# ADDITIONAL MACHINES FOR TUBES, RESERVOIRS, AND OTHER PARTS

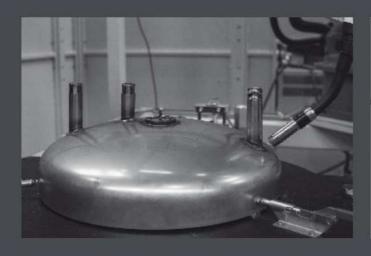
# Expanders

To achieve perfect shell circularity or for imprinting a particular form at its ends, the expander, when fitted with good forming tools, is practical and quick to use. In addition to its roll-benders and seamwelders, CMF offers this type of customized machine.





# Fittings Welding





# Beading Machines

Some forms are not achieved in expansion and require a beading machine. Here again CMF machines ideally complete the range of roll-benders and seamwelders. Different levels of automation are accessible in order to suit the edger to the productivity level of the other machines.



# Cutting Machines

Additionally, CMF can cut the long parts produced on its welders, either to obtain shorter parts, or to produce more complex cuts in the body of each shell.

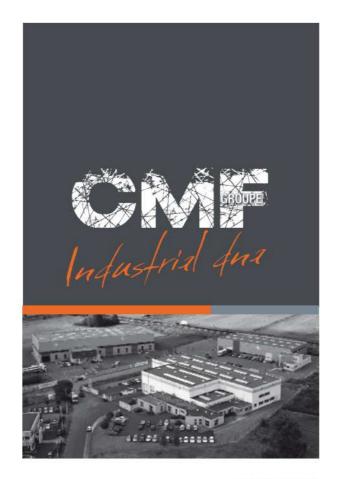
# Seam Planisher

TIG weld beads and to a lesser extent plasma are often made more reliable by undergoing a planishing operation after longitudinal welding. Worked in this way, the part better withstands the fatigue stresses that are strong in certain applications, for which CMF has proved itself.



# Handling

Naturally, CMF is qualified to design and manufacture all types of devices for handling to aid the operator's work, or to make the task fully automatic.



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