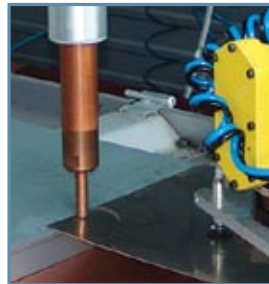


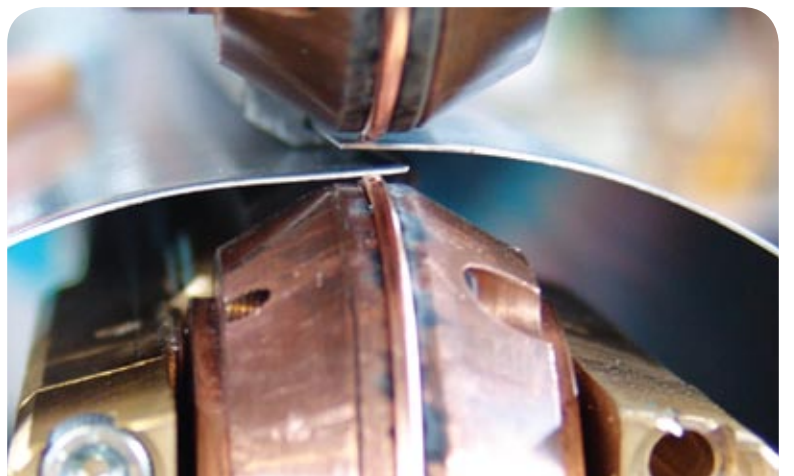
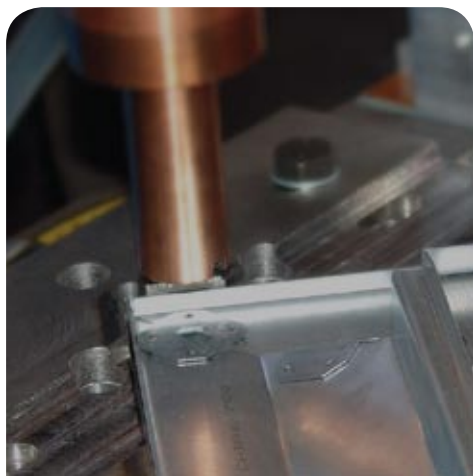


CEMSA

Saldatura a Resistenza & Elettro-Ricalcatura
Resistance Welding & Electrical-Upsetting



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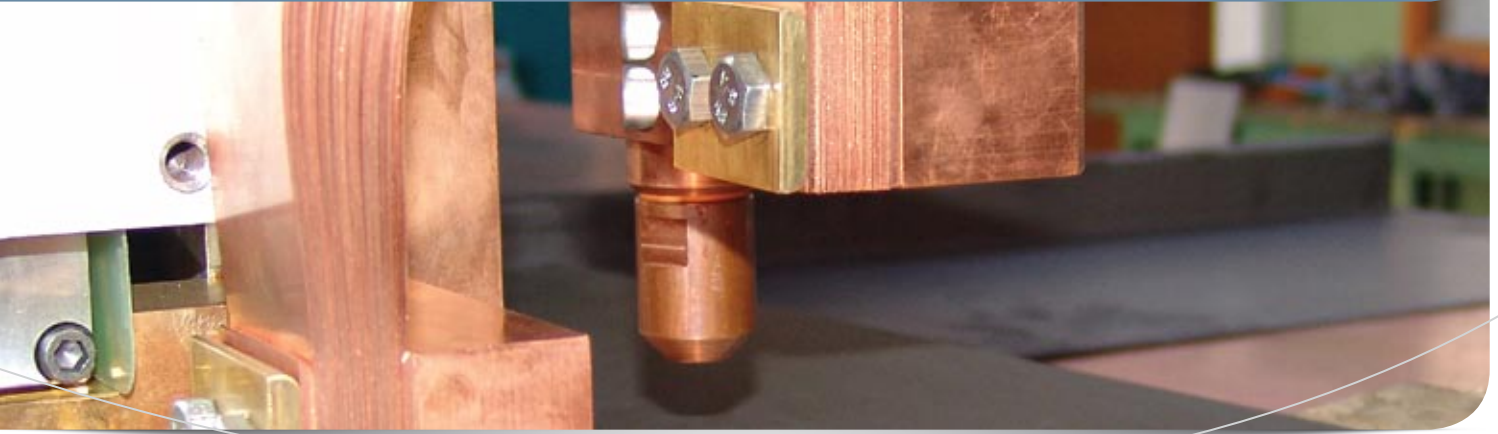
Saldatura a Resistenza & Elettro-Ricalcatura
Resistance Welding & Electrical-Upsetting

Always very attentive to the technology evolution, in '77 CEMSA began designing and manufacturing resistance welding special Robots and CNC machines.

Nowadays the Company with its team of professionals, as qualified technical engineers and skilled workers, is able to cope with the most sophisticated applications in Resistance Welding, Electrical Upsetting and Assembly Automation.

A Group of exclusive subcontractors is continuously selected to work under CEMSA's supervision and monitoring to guarantee the highest standards and performances as required by CEMSA's specifications and International requirements.

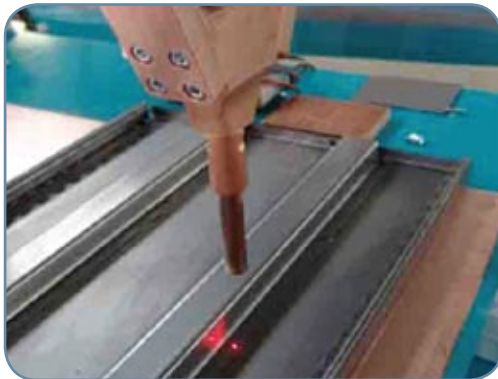
RESISTANCE WELDING



SPOT WELDING

The spot welding machines are built in strong tubular frames guaranteeing the best rigidity, as first requirement for achieving the best quality results in any welding process. CEMSA supply welders equipped with power packages in AC, DC rectifier, Medium frequency at any rates ranging between 15 KVA up to 1000 KVA.

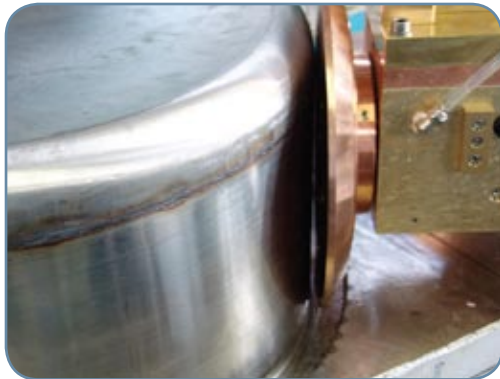
Solutions available are: standard column types; gantry types with multi- heads; CNC welding cells or with rotary tables; indexing multi stations welding cells served by robotic solution and/or automatic transfers. CEMSA works out customised solutions including specific tooling and fixtures guaranteeing the best flexibility at the highest productivity for e lean production including 4.0 factory demand.



In the attached picture, it is possible to see a welding head of a "ROOF" model, the most flexible solution for assembly and manufacturing metallic doors and cabinets of any kind, available as well in its automatic version "ROBOSIDE".

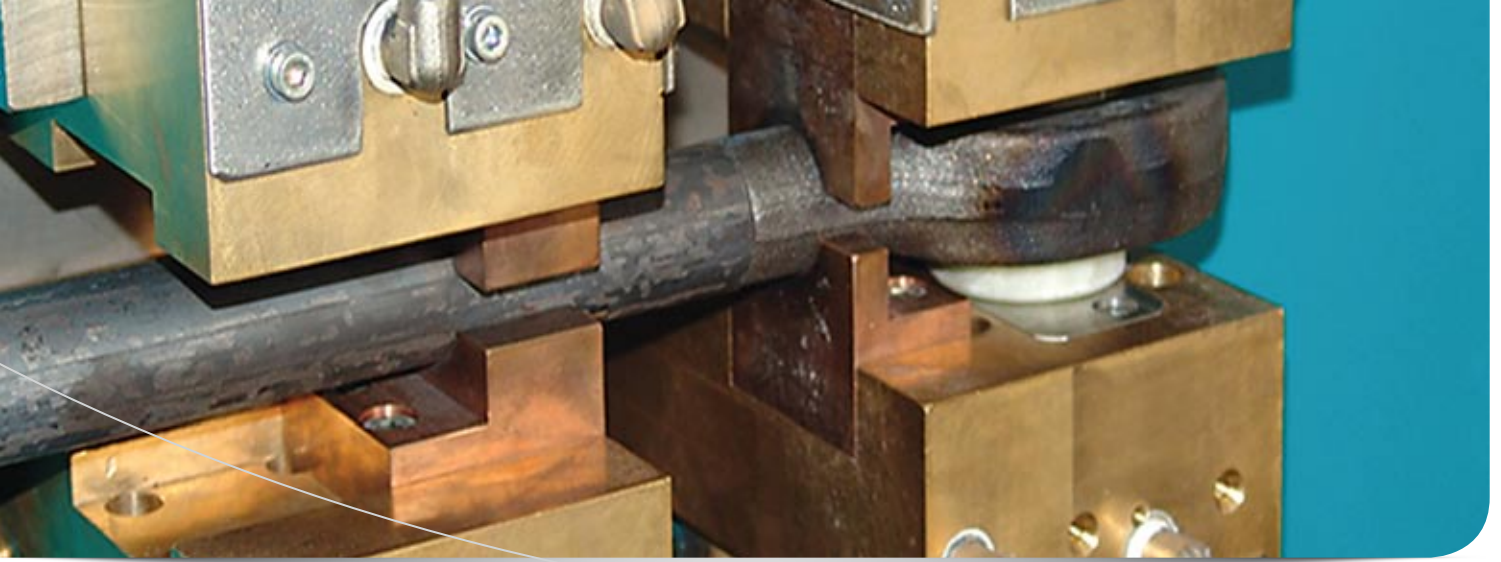
SEAM WELDING

CEMSA manufacture both seam welders series: transversal, or circumferential (MRT series) and longitudinal (MRL series), without or with copper wire (stitch welders). These welders too, can be equipped with different typologies of power packages (single phase AC, medium frequency 1-7KHz, inverter AC). CEMSA can design and build static or dynamic positioning tooling served by electric axis controlled by robotic applications, strictly in accordance with customers' specifications. Seam welding applications provided by CEMSA comply with the most restricted international standards, as requested in aerospace market sectors. The technology of copper wire, mandatory for seam welding tubes, drums, elbows and fittings made in galvanised, aluminium coated steels is standardized by CEMSA for more than 40 years.



CEMSA manufacture automatic seam welding solutions, like the "ROBOSEAM", for high quality welding, in a cooling water bath, delicate materials sensible at the overheating (stainless steel in different grades), on a working table with a copper plate of variable sizes up to cm 1000 x 2000 mm





BUTT / FLASH WELDING

The BUTT welders manufactured by CEMSA are versatile and easy to use. Such welders can work square or round profiles up to 200 mm²

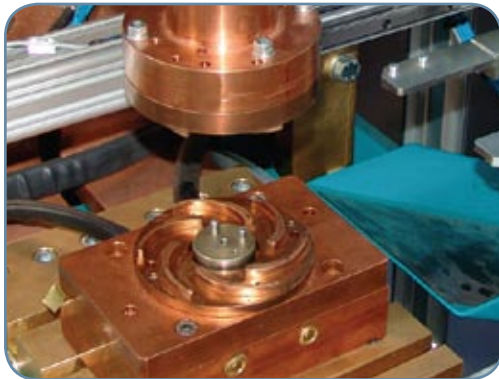
When the welding sections become larger and quality requirements mandatory for matching specific welding standards, CEMSA supply the models of the “STI” family, which are flash welder high performing, suitable for welding sections up to 6000 mm². These welders are available in single phase or 3-phase rectifier configuration and equipped with hydraulic oil station able to release pressures as requested by the specific process. These STI welders can be equipped with a standard simple control or with a more sophisticated control package named “EVO”



By this EVO control package installed on the STI welders, customers are able to program in details all variables and to detect and see in real time the applied forces, heat and speed variations, as well as to save data for certifications of the products.

PROJECTION WELDING

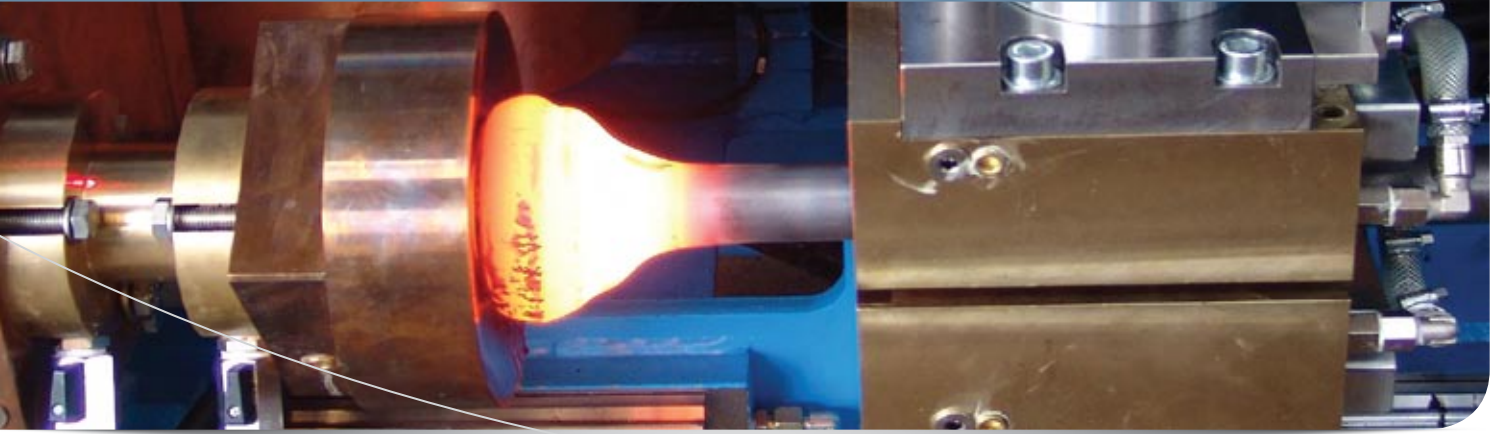
CEMSA design and manufacture projection welders for different tasks and with different power packages, as used for all other Resistance welders. The “follow up” is a dedicated device installed to ensure the constancy of the pressure applied all along the welding process. Projection welding requires a specific analysis on each request coming from end users, aimed at designing and manufacturing the most suitable application for positioning correctly the parts. One of the parts to weld must have few protrusions (tips) punched-in for concentrating the welding current. Higher heat in shorter time provide better aesthetic results on visible surfaces. Projection welding can be associated with automatic devices, indexing tables or robotic solutions to speed up the operations and while limiting the manpower.



Specifically for welding automotive parts, additional controls in real time on pressure, heating and penetration become essential for certifying the quality of each output. Collecting these data for each cycle makes possible a constant monitoring of the production process.

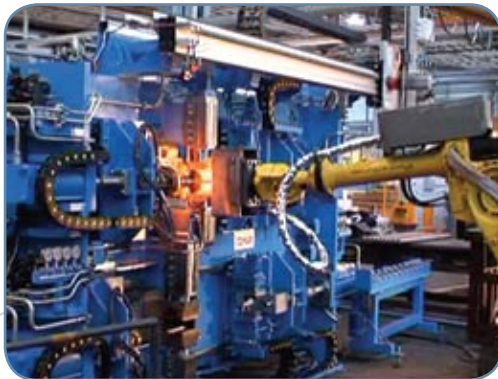


ELECTRICAL UPSETTING



FREE EL-UP

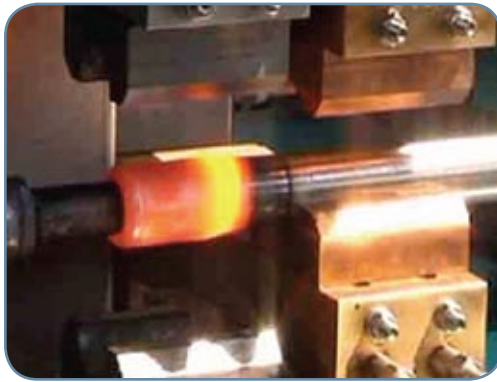
Electrical Upsetting is a kind of concentrated hot deformation usually followed by a forging press. Since the 2000's CEMSA design and manufacture these series of machines at different levels of automation to accomplish specific requests of productivity. Therefore, single or double in-built machines, working cells with automatic loading/unloading by manipulator or robot and presses. These EL-Up machines can be supplied AC or DC depending upon, cycle times, productivity, power availability. The EL-Up supplied by CEMSA can work bars up diameters of 120 mm² and with no lengths limitation. Main applications are in the automotive field like production of axles shafts, engine valves of any kind up to those for shipyards, as well as other special applications like tubes end deformations and high degrees of lifting hooks.



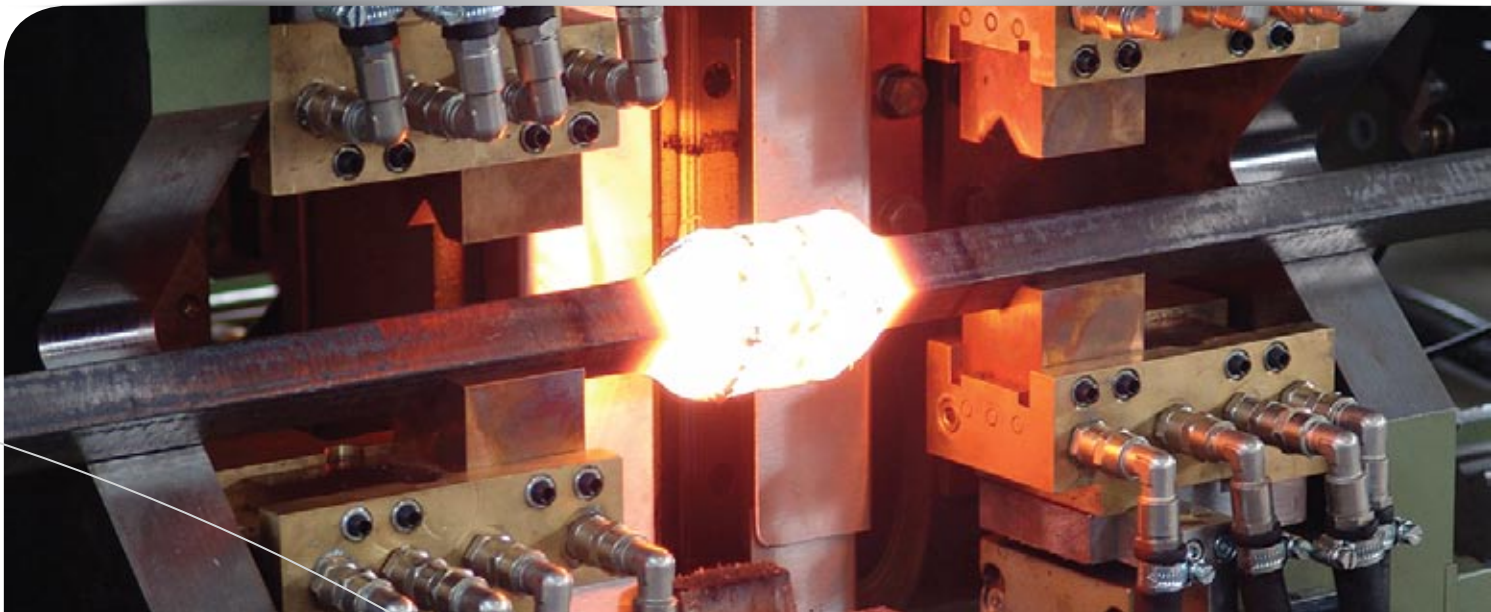
Throughout a specific examination of the pieces to manufacture and relevant drawings, CEMSA technologists can provide the most suitable solution along with details of the technical features and the productivity achievable.

IN-DIE EL-UP

Whenever the task is that of reaching a deformation close to the final required shape, the hot forging by press is not necessary, so making the "in-die" EL-UP the ideal solution. This is possible on each, or both tubes/bars ends, as well as in the middle and, if it will be the case, also keeping the inside diameter constant along the hot forming process by means of an additional special tool.



This technology enables the end user to carry on machining works just in the area where the deformation occurs, starting from a bar/tube of lower thickness and diameter, saving a great amount of material



MARKETS & APPLICATIONS



AERONAUTICAL RAYLWAY AND NAVAL INDUSTRY

- Machines for spot welding Aluminium frames, thickness up to 4+4 mm, according to international standards
- Seam roll-spot welding machines with quality certification for the welding of Aluminium frames, thickness up to 4+4 mm, according to international standards
- Welding machines for production of roofs and walls of train coaches and further components
- Butt-flash welding machines for naval portlights
- Electrical upsetting machines for helicopter tubular frames
- Electrical upsetting machines for naval engine valves

AUTOMOTIVE

- Automatic machines for brake-shoes welding
- Automatic machines for welding and assembly of oil and air filters
- Robotized cells for spot, projection and seam welding
- Machines for welding general automotive components including automatic feeders and data acquisition for final certification
- Electro-upsetting machines for the production of valves, shafts, gears, axles-shafts etc



HEATING VENTILATION AIR-CONDITIONING

- Machines for longitudinal welding of galvanized or stainless steel straight tubes (copper wire technology)
- Machines for welding galvanized or stainless steel elbows – manual, automatic version or robotized cells (copper wire technology)
- Automatic machines for the production of galvanized and stainless steel fittings starting from flat sheet or from coil (copper wire technology)
- Machines for the transversal welding of galvanized sector elbows (copper wire technology) and stainless steel sector elbows

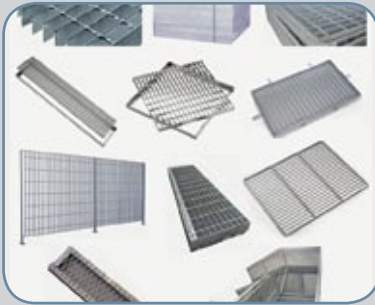
HOUSEHOLD APPLIANCE AND WHITE GOODS

- Automatic and manual machines for sinks welding
 - Welding machines for dish-washer tanks welding
 - Machines for assembly of pot bottoms and handles
- Bending and seam welding machines for washing machines drums
- Machines for the longitudinal welding of water heater inner body
- Machines for the longitudinal welding of water heater outer shell



GRATINGS AND MESH PANELS

- Automatic lines for production of fence and walkways gratings with automatic feeding of cross wires and steel plate
- Semi-automatic lines for the production of walkways gratings with feeding of the bars and of the pre-cut cross wires for limited productions. High flexibility and low installed power
- Semi-automatic and automatic machines for grating binding bars welding
- Semi-automatic lines for the welding of mesh panels or stretched sheet metal on tubular frames



METALLIC FURNITURES CABINETS AND SHELVES

- Machines for welding and assembly of office and garden metallic furniture
 - Machines for welding metallic components
 - Automatic machines for welding drawers sliding guides
- Automatic machines for welding cabinets and electrical boards
 - Machines for automatic welding of stiffeners on shelves
- Automatic machines for welding hinges for cabinets and windows or door casing



METAL DOORS

- Automatic and manual machines for assembly and welding reinforced metallic doors
- Manual machines and production lines for fire doors
- Automatic machines for welding hinges for cabinets and windows or door casing
- Machines for welding door locks, handles and safety keys





CEMSA

Saldatura a Resistenza & Elettro-Ricalcatura
Resistance Welding & Electrical-Upsetting

CEMSA, SYNONYMOUS OF “APPLIED TECHNOLOGY”

Spot and projection welders

Seam, and flash/butt welders

Special CN Robot, like Roborooft, Robobench, Roboside, Robocomb,
Roboseam as well as combined systems with multiple axis

Flexible production cells for Welding/Assembly and Factory Automation.

Electrical-Upsetting

CEMSA INTERNATIONAL S.r.l

Viale Piemonte. 25
20093 Cologno Monzese
Milano – ITALY
P.IVA 08457880964

Tel. +39 02 2544671
Fax. +39 02 2533307
info@cemsa.it