

MAROSO

IMPIANTI
SYSTEMS

AUTOCLAVI
AUTOCLAVES

MAROSO AUTOCLAVES COMPANY PRESENTATION



COMPOSITES



AUTOCLAVES FOR COMPOSITES POLYMERIZATION

MAROSO S.r.l was established in 1969, and, in the early 80s, specialized itself in the construction of pressure equipments, especially in the sector of AUTOCLAVES with rapid closings complete of all the auxiliaries services for their running, as: boilers, cooling towers, compressors, vacuum stations and systems for the material loading and unloading.

Then the production has been extended to the rubberizing of rollers sector, with the production of VULCANIZATION AUTOCLAVES with direct steam and hot air recirculation, complete of automated loading and unloading system.

The autoclaves above described are today positioned at the top of the world production for what concerns their technology, quality and cheapness of working.

Thanks to the experience gained over decades of activity and experimentation in the different industrial sectors, our autoclaves production has been extended to others industrial fields as:

- The glass sector using the autoclaves for the GLASS LAMINATION to produce LAMINATED, FLAT, CURVED AND SPECIAL GLASS, both tempered and toughened, addressed to the most different application fields: building, safety, interior design, windscreens, etc.;
- **The composites sector** using the autoclaves for **AUTOMOTIVE, MOTOCYCLES, VESSELS** and **SPORT** field, and in different others sectors for the composites materials polymerization;
- **The composites sector** for the **AEROSPACE-AERONAUTICAL** field, included the sectors using the autoclaves for the lamination of lightweight materials with carbon fiber, to obtain the maximum resistance and lightness.
- The IMPREGNATION sector, which uses the autoclaves for the drying and impregnation process of various materials and components as wood, metals, electric components, etc.;
- Autoclaves for special applications, according to the customer's requests.

MAROSO S.r.l, is supported not only by its technical group but also by external skilled collaborators, in order to be able to meet the production peaks and guarantee to the customers the respect of the contract terms.

Potential technical problems will be promptly solved together with the customer and in accordance with his real needs.

MAROSO S.r.l obtained the ISO 9001 certification, furthermore the material supplying is always accompanied by the CE₂ PED, or ASME STAMP certifications.

MAROSO S.r.l, thanks to the experiences gained working in the different above mentioned industrial sectors, can guarantee to its customers the best expertise in the engineering field for the projects design, according to the customers' specifications, especially referring to:

- Structural design in accordance with the pressures and temperatures required by the customer.
- Dimensional adjustment of the autoclave according to the expected load.
- Thermodynamic design of the plant in order to get the maximum performance depending on the ones required by customer.
- Dimensional construction, up to the portability limits of each monolithic component with its following welding and assembly.
- Study and design of personalized air recirculation systems to obtain the best heat transfer, temperature uniformity and optimal general performance.
- Flag door opening system
- Design, supplying and installation of all the services necessary to the plant running as:
 - Electrical border;
 - Dyatemic oil thermal plant, with the use of usual combustible.
 - Air compression plants, complete of tank.
 - Air pressurization systems and realization of the air-nitrogen mixture into the autoclave.
 - Cooling tower with open or closed circuit.
 - Vacuum groups with differentiated or regulated pressure.
 - Manual and automatic vacuum line batteries.
 - Static and dynamic vacuum control.
 - Fixed connection equipments for the periodic certification of the productive cycle.

- Optimization of the available energetic sources to reduce the cycle costs, choosing between: dyatermic oil, steam, electric and direct combustion.
- Simple or very sophisticated management systems of supervision and statistics, based on the control of the minimum and maximum piece temperature, comparing it with the temperature of the recirculation air, allowing the maximum heat transfer to the piece, within the tolerated range.
- Our management systems can interconnect with supervision and statistics systems, both simple and sophisticated, depending on the customer's needs.
- These systems can be made up of a traditional system on the front part of the display (programming/cycle control, Touch screen display and recorder) or of sophisticated management and statistics management systems, that, thanks to dedicated and personalized software, allows the management of the total productive cycle and the historical production data, and also the statistical analysis, if required by the customer.



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