

THOUGHT-LEADER IN STEEL PROCESSING AUTOMATION

SUPERIOR MACHINERY SYSTEMS GENERAL OVERVIEW OF CASTELLINI PRODUCTS FOR THE STEEL PROCESSING WORLD

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PLATE PROCESSING TECHNOLOGIES

Castellini's plate processing technologies represent the pinnacle of precision engineering and manufacturing innovation. Our laser cutting solutions, for instance, harness the power of high-energy lasers to achieve exceptionally precise cuts, allowing for intricate designs and complex geometries with unmatched accuracy. Similarly, our plasma cutting technologies utilise advanced plasma arcs to swiftly and precisely cut through a variety of materials, from mild steel to stainless steel and aluminum.

What sets Castellini apart is our commitment to advanced automation. Our plate processing systems are seamlessly integrated with state-of-the-art automation technologies, including robotic arms and automated material handling systems. This not only streamlines production workflows but also minimises the need for manual intervention, reducing labor costs and increasing overall productivity. Imagine a manufacturing floor where machines work in perfect harmony, optimising every step of the production process to deliver superior results in record time.

Moreover, Castellini's plate processing technologies are not limited to a single industry. We cater to a diverse range of applications, from automotive manufacturing and aerospace engineering to shipbuilding and structural steel fabrication. Whatever your production needs may be, our customisable solutions are designed to meet and exceed your expectations, ensuring optimal performance and maximum ROI.

Quality and reliability are at the core of everything we do at Castellini. Our plate processing technologies undergo rigorous testing and quality assurance measures to ensure consistent, reliable performance, even in the most demanding operating conditions. When you choose Castellini, you can trust that your production processes are in good hands, delivering superior results with unparalleled precision and efficiency.



TRANSVERSAL WELDING LINES (TWL) GENERAL OVERVIEW

Features at a glance

- Commercial plates to become extra long. Ideal for train and coach manufacturing.
- Material, thickness, characteristics changeable every plate.

Technical features

The TWL line has been automatised to reach the highest possible level of quality, flexibility and performances. The unit is designed for the automatic joining of different plates and automatic cutting of windows, doors, passages, ouvertures, without limitation in dimensions (especially in length).

The line can operate with different gradations and thicknesses of materials (Carbon Steel, Stainless Steel, HSS, Docol, Domex, Hardox...).

The welding process can be designed to be adapted to the customer needs and to the most common commercial plates.

The line can be equipped with different welding technology as Pure Laser Welding, Laser Cold Wire Welding, or Hybrid Laser Arc Welding (HLAW) Technology, depending by the characteristics of the material and the thickness to be welded.





SINS

LONGITUDINAL WELDING LINES (LWL) GENERAL OVERVIEW

Features at a glance

- Long plates to extend in width. Ideal application are telescopic booms, trucks, platforms.
- Material, thickness, characteristics changeable every plate.

Technical features

The LWL can longitudinally join sheets of different materials and thickness up to 15 metres in length. The typical system applications include longitudinal welding of high mechanical property sheets, such as high-resistance steel sheets.

This type of application requires pre and post-heating systems with cooling curve control to limit the hardness in the molten area and in the thermally altered area.





SUPERIOR

EXTRA LARGE WELDING LINES (XWL)

GENERAL OVERVIEW

Features at a glance

- Long plates to extend in width, without limits in length and width.
- Material, thickness, characteristics changeable every plate.

Technical features

The operative concept of the line is to supersede the limits due to the lamination of thin and medium thickness plates, allowing the production of long and large plates.

The line is combining the advantages of the TWL and LWL lines, creating a solution to weld longitudinally the plates, while leaving the possibility to enlarge the final width of the product without limitation.

The line can operate with different gradations and thicknesses of materials (Carbon Steel, Stainless Steel, HSS, Docol, Domex, Hardox...).

The line can be equipped with different welding technology as Pure Laser Welding, Laser Cold Wire Welding, or Hybrid Laser Arc Welding (HLAW) Technology, depending by the characteristics and the thickness to be welded.

The unit can be integrated with a laser cutting unit (bevel solution available) to process the large plate into the final dimension.



USTRALIA, NEW ZEALAND & SE ASIA

ONE SIDE WELDING FOR HIGH TK (OSW) GENERAL OVERVIEW

Features at a glance

- The evolution of the plate welding for shipbuilding.
- High Thickness(up to 20 mm without chamfer).
- High flexibility in material optimisation (thickness, material, shapes, design)

Technical features

Castellini's Hybrid Laser Arc Welding technology (HLAW) represents a groundbreaking advancement in welding technology, specifically designed to achieve exceptional quality in welded seams while joining long and thick plates.

One of the key advantages of HLAW is its ability to minimise thermal distortions in the welded panels. Traditional welding processes can often lead to significant distortions in the metal, especially when joining long or thick plates. However, with HLAW, the heat-affected zone is carefully controlled, ensuring that thermal distortions are reduced to a minimum. This not only preserves the structural integrity of the welded panels but also minimises the need for costly post-welding corrections or rework.

Furthermore, HLAW delivers consistently high-quality welded seams, meeting the stringent requirements of industries such as shipbuilding, aerospace, and heavy machinery manufacturing. The precise control over the welding process ensures uniformity and integrity in the welded joints, resulting in superior performance and reliability in the finished products.

ARW AND RVP (ROBOTIC SOLUTIONS) GENERAL OVERVIEW

Features at a glance

- Any shape, any direction, no limits.
- Developed for Rail Vehicle Production and for Shipbuilding Welding of stiffeners.

Technical features

The integration of advanced automation systems with precision mechanical work revolutionises welding, enabling seamless and fully automated welding of beams under any condition or position on a panel.

This transformative approach offers unprecedented flexibility, efficiency, and accuracy. Castellini's performing automation systems ensure the welding process is not only automated but also optimised for maximum efficiency, using sophisticated algorithms and control mechanisms to coordinate the movements of robotic arms and welding torches. This eliminates manual intervention, reducing labor costs and increasing productivity.

Additionally, Castellini's precise mechanical work guarantees the welding process is executed with unparalleled accuracy and consistency, controlling every aspect from beam positioning to torch alignment. This precision ensures high-quality welds meeting the stringent standards of industries such as construction, automotive manufacturing, and aerospace engineering.



WHY CHOOSE CASTELLINI

Founded in 1949 by Giuseppe Castellini as a mechanical workshop for reconverting warfare residues for industrial use, over the years the company has undergone several transformations depending on emerging industrial opportunities. By virtue of its continuous investments in human capital, production facilities, and research and development activities, as well as its clear-cut corporate policy, Castellini has evolved into a well-organised company with an expert design and production team, a modern mechanical workshop, and state-of-the-art assembly department.

Nowadays, Castellini is a trusted partner of major steel producers and steelworks constructors but also in the Energy, Hydroelectric, and Shipbuilding sectors.

Sustainability

"Our commitment is to leave to future generations a sustainable and innovative project centred on the ability to adapt itself to the continuous and the increasingly challenging changes."

Low-impact site

- 30% production area, 70% green area
- Geothermal conditioning
- 40% of energy needs self-generated with solar system 500 kW
- New solar system + 500 kW (end 2024)
- Workshop lighting with natural light
- Attention to work life balance

Social Responsibility

• Continuous support to no profit entities





HISTORY AND FUTURE 2022 WELDING LINES 1980 2001 for SSAB, GOECKE and FOUNDATION OF SPRAY NOZZLES FOR FINCANTIERI 2016 PELTON TURBINES TTM LASER COIL PREP. LINE 2020 WITH COIL-TO-LASER SCRIBING LINE COIL LASER WITH COIL-TO-COIL WELDER WELDER for Marcegaglia for NLMK 1995 1949 STEEL 2023 2018 2021 FOUNDATION 2015 2015 SECTOR SALES OF COIL PREP. LINE WITH LASER LASER ROBOT WELDING 1985 TTM LASER SCRIBING COIL-TO-COIL LASER SCRIBING **ITER STATION** for NLMK and to Bystronic WELDER NUCLEAR POWER for ThyssenKrupp for ASG APERAM for ARVEDI STATIONS 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1990 1998 2002 2021 1960 2010 PAPER TECH. CERN ACQUISITION MOTORS FOR ALLUMINIUM HSS SHEAR OF RESTELLINI THE LARGEST AND BINDING TUNNEL LAMINATION 2020 For PRIMETALS 2022 TELESCOPE **CREATION OF** TWIN SKIN PASSES IN THE WORLD 1970 2 BUSINESS For NUCOR (FIVES) 2000 UNITS: HYDROELECTRIC ACOUISITION SECTOR OF RONCONI MACHINING 2017 AND 2022 SOLUTION NEW PIPE RESIZER and MANUFACTURING PIPE SIZING MACH. CENTRE For TENARIS



CASTELLINI FACILITY

AREA	62.000 sqm + 10.000 sqm
WORKSHOP	22.000 sqm + 7.500 sqm
OFFICES	3.000 sqm + 800 sqm
MAX. HOISTING CAPACITY	250 tons
Hoisting Height	17 mt
MAX. BORING FIELD	24 mt
SPECIALTIES	Heavy boring and milling machines / Horizontal and vertical turning lathe / Hydraulic pressure testing rig





MACHINING AND SOLUTION

TWO SOULS, ONE IDENTITY

Machining and Solution are the complementary souls of Castellini that share the same identity, which has been constructed over years of work by virtue of shared experience, values, and objectives.





THE CASTELLINI SOLUTION APPROACH

DEEPEN INTO TECHNOLOGY FOR A CONTINUOUS IMPROVEMENT OF KNOW HOW

The customers' needs are the driving force of Castellini activities. Castellini solutions are developed in the knowledge that productivity and reliability are always the primary requisites, reachable only through a scientific path.

Following this continuous scientific research of the know how, exploiting the SOLUTION LAB, Castellini is daily developing innovative and performing processes intended for the steel manufacturing world.





PARTNERSHIPS

THE RIGHT PARTNER LEADS TO A COMMON SUCCESS

Castellini Solution, driven by a strong passion for innovative technologies, cooperates with customers, suppliers, universities and research institutes, conscious that sharing know how is the most important booster to reach successful innovations.

Castellini scientific and technologic main partners are:





CASTELLINI WORLDWIDE PRESENCE

C) More than 70% of Castellini turnover comes from international markets. Castellini products are installed in manufacturing plants located all over the world. 228 EUROPE SSAB **■**Tenaris ASG voestalpine DANIELI 28 OARC ASIA ② 沙钢集团 TATA STEEL P John Gockerill ISW MGDOCO 5 NORTH AMERICA PRIMETALS AcciaieriaArvedi RUMA (NLMK) fives r8: tesla ANSAL DO OHYDROALP FINCANTIERI Arcelor/Miltal CHINASTEEL AFRICA 9 SOUTH AMERICA







LOOKING TO BUY PRE-LOVED MACHINERY?

Specialist Machinery Sales offer second-hand or used structural steel processing machinery from Kaltenbach, Gietart, Haeusler, SLF and more.

Generally, the machines that SMS has access to are from trading for new machines offered from the machine tool builders to clients of SMS in Australia and New Zealand. Most machines are between 5 and 15 years of age with full-service history available. Some machines can be inspected under power or in their shipping packing ready for immediate delivery to Australasia.

LEARN MORE HERE









READY TO SELL YOUR PRE-LOVED MACHINERY?

Selling your pre-loved machinery may appear to be a simple process but it might be more complicated than you think. Selling pre-loved machinery involves equipment liens, resale certificates and financing a buyer. BUT DO NOT WORRY!

Used Structural Machinery (USM) is here to partner with you. At USM, we are your ideal channel to take your equipment and place it in the right hands, with the security and confidence that characterises us. Review our checklist below to help you understand when to retire your machine and how USM can help you sell it off efficiently and effectively.

LEARN MORE HERE





JOIN OUR EXCLUSIVE AND GROWING LINKEDIN GROUP

Join our growing and exclusive LinkedIn Group -Innovating Structural Steel Processing and Fabrication Group.

In this group, we bring in thought leadership content, topics, trends and challenges within the steel industry and steel processing automation. We encourage everyone to share your business challenges and solutions that you have encountered and how steel processing automation had helped achieved your business objectives.







HATE MISSING OUT?

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