

salvagnini

Press Kit

Lamiera 2008

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Contents:

- Pag. 2] *Over 3000 installations worldwide and 16 operating companies in more than 50 countries.*
It is our achievements that show where we have come from... and where we are going to
- Pag. 5] *Technoforum*
Salvagnini has opened its doors to present the new frontier in automation
- Pag. 6] *Salvagnini inaugurates 3 new operating companies.*
Brazil, Mexico, Russia: rolling back our frontiers
- Pag. 7] *1978-2008: 30 years of the Salvagnini S4.*
Previewing at Lamiera 2008: the new "X" version. Flexible automation and 100% lean production
- Pag. 10] L1.it: from Salvagnini, the best laser "solution"
- Pag. 12] L1.it: at Lamiera 2008, Salvagnini presents a number of exclusive new features
- Pag. 14] *The Salvagnini special WICE.*
L1.it: the perfect cut for a luxury product
- Pag. 15] *Salvagnini*
All the products, all the solutions

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Over 3000 installations worldwide and 16 operating companies in more than 50 countries.

It is our achievements that show where we have come from... and where we are going to



For over thirty years, Salvagnini has proved that excellence and innovation are not just concepts but concrete, ground-breaking achievements. Achievements which have made this company a leader in the flexible automation sector, thanks to sheet metal processing machines and systems that are so revolutionary they are capable of meeting the most ambitious demands of each and every customer. Excellent solutions that have led to other important milestones, such as those which Salvagnini reached in 2007: the 30th anniversary of its P4 panel forming systems and the 20th anniversary of its Maschinenbau plant in Austria, which is exclusively dedicated to manufacturing these systems. Plus an important new objective: that of entering new markets. A decision that has contributed to a 15% increase in annual turnover, which reached 200 million euros in the 2007 fiscal year. And the search for innovation continues with the new formula for showcasing Salvagnini's renewed range of machines: "Technoforum", the first edition of an original Open House concept, brought more than 500 visitors from all over

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the world to Salvagnini's show room in Sarego to view the company's latest achievements in automation in action.

The first few months of 2008 have seen a number of other important achievements: Salvagnini has launched the new "X" version of the S4 punch-shearing system, presented a new configuration of the Roboformer®G2 robotized bending cell, participated in the most important international fairs in the machine tool sector and continued to invest in new emerging markets.

These achievements are a tangible demonstration of Salvagnini, its history and its ability to produce state-of-the-art machinery that embodies two fundamental qualities: excellence and innovation.

Optimization: this is what makes a Salvagnini solution so very original

With its complete and diversified range of machines, Salvagnini is able to intervene in countless application sectors, providing secure and innovative answers for companies of all sizes. These solutions, recognized the world over as the state-of-the-art in sheet metal processing, currently comprise: the P4 abt® and PERformER+ abt® automatic Panel Benders; the S4X integrated punch-shearing systems; the S4+P4 complete panel production lines; the L1.it and L2 laser cutting systems; the S2 high-dynamic punching systems; the Roboformer®G2 robotic bending cells; automatic pack or tray store-towers and integrated systems for factory logistics.

But the Salvagnini talent for innovation comes into its own in the company's ability to satisfy a wide range of needs in an excellent and personalized manner: thanks to a highly qualified in-house Engineering Department, Salvagnini designs and builds systems that are customized for specific customer needs and focus on achieving precise objectives in terms of productivity, safety, reliability and quality optimization. Salvagnini's huge achievements in the flexible automation field have made the company famous worldwide: designed and built in-house, its modular systems – upgradeable, extremely flexible and highly productive – constitute one of the company's most distinctive strongpoints. Conscious of the value of a global response, Salvagnini also designs and offers its customers all the software needed to automatically program and numerically control its machines, committing itself to providing efficient and qualified support for every system sold in each of its subsidiaries.

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Our goal: the ideal system for each and every partner

At Salvagnini, the customized design and construction of each system are preceded by a painstaking analysis of the sector of application and the partner's objectives: a "feasibility study" which allows the company to offer the ideal solution in terms of efficiency, effectiveness and performance, while highlighting and solving any critical points associated with production. To optimize the production potential of each individual customer, with a view to guaranteeing an excellent time/quality ratio, Salvagnini has its own in-house Applications Department that can, for example, totally redesign a product, transforming it into a unique and advanced customized response.

Salvagnini's success in numbers

4 production facilities: in Italy (Sarego and Avellino), Austria (Ennsdorf) and America (Hamilton, OH). 16 operating companies for sales and technical support. An extensive network of first-class agents and support centres working around the clock. But, above all, Salvagnini's success can be measured by the number of systems built – more than 3000 installations in over 50 countries – and the names of the partners who share the same philosophy of excellence: small, medium and large companies in every corner of the globe.

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salvagnini*Technoforum***Salvagnini has opened its doors to present the new frontier in automation**

The first edition of Technoforum, Salvagnini's exclusive new Open House formula for presenting its machine base to the market, came to an end in February. Salvagnini's machines have been completely renewed and offer many new features from the worlds of technology and automation.

Organized over several days between November and February, Technoforum gave over 500 visitors from Brazil, Italy, Eastern Europe, the Iberian Peninsula, Germany, Switzerland and Holland an opportunity to see the company's latest achievements in the field of automation in action in its showroom at Sarego.

First and foremost, the new S4X, the latest model of Salvagnini's S4 punch-shear, was presented in line with the P4-2525 Panel Bender and equipped with the MC, the new Cartesian stacker for unloading punched and cut parts.

The appointment in Sarego was also an opportunity to see a new configuration of the Roboformer® G2 in action. In this robotic bending cell, the anthropomorphic robot runs along a movable bar which is positioned in front of the press-brake and acts as the seventh axis.

In its showroom, Salvagnini also presented the L2 and L1.it laser cutting systems, famous for their speed, accuracy, repeatability and extremely high degree of automation.

Visitors were also able to view the competitive advantages of the P4-1916 abt®: manufactured in Austria, like all the other models in the well-known P4 16 range of Panel Bender, this machine can bend panels up to 1950 mm long and make bends up to 165 mm high. The P4-1916 abt® has also recently been equipped with the BCS (bar-code scanner) option for optical bar code reading and the AZR (automatic Z-reference) option for automatically positioning the pre-centering table.

Salvagnini Italia s.p.a.**salvagnini***Salvagnini inaugurates 3 new operating companies.***Brazil, Mexico, Russia: rolling back our frontiers**

Brazil, Mexico and Russia: it is in these three countries that Salvagnini has chosen to open new subsidiaries this year. In addition to providing technical support by specialized staff trained within the company itself, these three operating companies will also offer customer service and sell spare parts from their own well-stocked warehouses. Salvagnini has decided to make a particularly important investment in these three markets in recognition of their strong potential for development. Starting with Brazil, a country in which Salvagnini has already enjoyed great success in sales terms and where it opened its new subsidiary, "Salvagnini do Brasil Ltda", in José dos Campos (SP) in March.



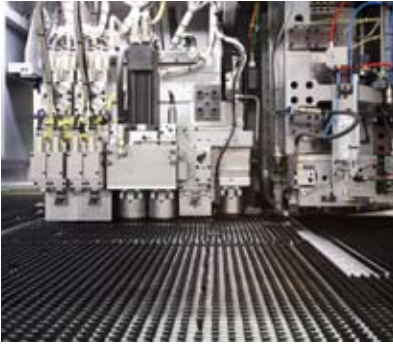
From the beginning of May onwards, Mexico, where Salvagnini has been present for the last ten years, selling and installing some forty systems, will also have its own subsidiary: "Salvagnini México S.A. de C.V." in Monterrey. "Salvagnini CIS", on the other hand, is the name of the Russian branch that Salvagnini opened in Moscow at the end of March to satisfy requests from all the countries in the Commonwealth of Independent States (ex Soviet Union) and to serve as a local point of reference for a market where Salvagnini has, in just a few years, sold over 50 installations.

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salvagnini*1978-2008: 30 years of the Salvagnini S4.***Previewing at Lamiera 2008: the new "X" version.
Flexible automation and 100% lean production**

Thirty years after it presented the first S4 system, Salvagnini now presents the exclusive new "X" version. Extremely competitive ever since its creation in 1978, the new S4X version of the S4 system features numerous consolidated technological innovations along with several brand new features that make it even more competitive in terms of productivity, consumption and accuracy.

In particular, the patented Salvagnini multi-press head is unlike that of traditional punching machines in that it does not require any in-cycle stops for tool changes, as all the tools needed for production are already present within the structure. This is because the S4 system has as many presses available as there are tools. As a result, each tool works independently of the others exactly where it is. This principle of a multi-press head, with hydraulic distribution of the punching force at the point of use, makes the S4 unbeatable when it comes to cycle times. Adjacent to the multi-press head there is the built-in shear:



an option consisting of two lower blades, placed at right angles to each other, and two independent upper blades, again at right angles, of the same length, which are movable and equipped with blankholders. This shear can make cuts of any length, in accordance with the instructions contained in the program, and thus creates an extremely compact high-performance multifunction system for even more innovative factory sheet metal handling logistics.

In the S4X, the manipulator has been completely redesigned to further enhance the performance of the system. The new manipulator features original and innovative architecture: it slides along guides linked to the lower part of the C frame and is equipped with two pairs of rotary electric motors on the X and Y axes. The first two motors, positioned at the sides of the structure, use revolutionary rack and pinion kinematics in accordance with the new *handover* control logic developed by Salvagnini; the second two push against two ball-bearing screws in accordance with gantry control logic. Thus configured, the new manipulator offers greatly increased dynamics and maximum speeds, reduced cycle times for greater machine productivity, improved processing accuracy thanks to the fully balanced thrust and enhanced performance even when processing high gauges or on type 40 machines.

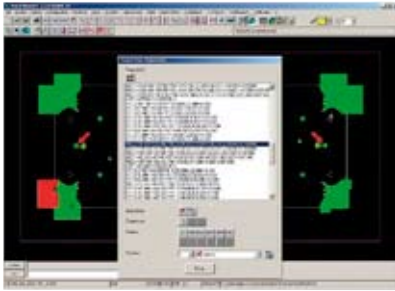


Totally redesigned, the hydraulic system too can now offer high performance in terms of consumption and running costs. In the new hydraulic power pack, the two pumps are commanded by a single motor, reducing consumption by more than 30%. The components are of the latest generation, guaranteeing high reliability, reduced component wear, maximum productivity (even in extreme operating conditions) and extremely low noise levels.

Designed and built in-house, the Salvagnini S4X punch-shearing centre – upgradeable, extremely flexible and highly productive – is an ideal solution for lean manufacturing. This

industrial philosophy, which aims to render the production system as simple as possible, minimizing wastage while maximizing all aspects of flexibility, is based on principles such as batch one production, few or no tool changes, optimum warehouse management, reduced WIP (work-in-progress) and JIT (just-in-time) production.

A pioneer in flexible automation and a precursor of lean production, Salvagnini has devised and designed the S4X punch-shearing centre with this aim: to improve the production procedure by carefully designing each and every detail of the handling process during the punching, shearing, programming, diagnostic and control phases. This objective has been reached, thanks also to the ability of the S4X punch-shearing centre to use different types of feeding connection: from pack destackers to automatic single-tower sheet stores and multi-

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tower tray storage systems. The machine offers its optimum performance when fed from a store tower, satisfying a wide range of storage needs and automating the transfer of material to the punch-shearing centre.. The MD store tower also makes it possible to produce kits of parts using different gauges and materials.

In addition to the IA universal stacker for unloading the parts that have been punched and cut on the S4X system, Salvagnini also offers the MC, a new Cartesian stacker that can be installed downstream of the punch-shear and is capable of managing production automatically by picking up the punched parts as they leave the S4X and stacking them on a surface located next to the connection. This comprises a floor-based structure and two suction-cup gripping devices that run along a carriage, can work separately and can stack the parts either oriented as they were when they left the S4X or rotated by 90° or 180°.

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The huge international success that Salvagnini has enjoyed with the L1.it is due to the numerous advantages that this laser machine offers: extremely reliable, extraordinarily high-performing and surprisingly competitive in terms of price, running costs and consumption, the L1.it guarantees high productivity, absolute safety and extreme simplicity of use. These are the winning characteristics of the L1.it high-performance laser machine, which joins the well-known L2 to complete the Salvagnini range for the laser market, taking up the design of the laser system with traditional dynamics and enhancing it with significant structural modifications, numerous technological innovations and important functional improvements.

The focusing head will accept both 5" and 7.5" lenses. The motorized balanced lens axis reduces cycle times while increasing cutting quality. The design of the head and the laminar gas flow management mean that the cutting pressure required is 1-1.5 bars lower than usual, resulting in a 10-15% drop in cutting gas consumption and a significant reduction in annual

running costs. The L1.it also features a high-performance fume extractor and a compact low-consumption chiller. The controlled external electronic air dryer guarantees extremely pure air in the optical path and excellent beam quality. The airplane-type structure with load-bearing beam guarantees easy access to the workpiece, reduced width and fast, accurate positioning.

The programming software is a winning feature of all Salvagnini laser machines, and the new L1.it is no exception, offering proprietary software packages which maximize the machine's mechanical and cutting potential, first-rate nesting with excellent scrap optimization and reduced elaboration times, automatic common cuts, robotic unloading and automated stacking of single finished parts, automatic calculation of production costs for each part (or list) and automatic generation of the machine programs from the production lists. The Salvagnini Console user interface software has been enhanced to offer improved visibility of laser values and parameters, with simple commands and settings for optimum production list management. The nesting software, with its honeycomb-type calculation algorithm, guarantees almost perfect starting sheet use, whilst common cut optimization minimizes scrap percentages.

The significant results that have been achieved in terms of performance, reliability, quality and productivity are also due to the proprietary Salvagnini SiX controller which has been designed using the most innovative technology available (CAN busses, distributed drives, etc.). The digital drives present in the system - the result of important technical cooperation between Moog, Comau and Salvagnini - represent the state-of-the-art in terms of performance. With its superlative functions, outstanding performance and stylish design, the L1.it represents the very best of Salvagnini's talent for innovation and proves itself to be a quite extraordinary laser machine.

L1.it: at Lamiera 2008, Salvagnini presents a number of exclusive new features

With a view to further enhancing the use of the laser machine, Salvagnini is previewing a number of important new features that make the L1.it even more easy-to-use and operator-friendly.

The first of these new features is the "LASER TRADJUST" function, which is incorporated in the proprietary SiX controller. It combines the CAMlaser data with the requirements of the cutting process, generating machine axis trajectories that optimize dynamic performance.

The definition of a number of cutting process models, which have been developed as functions on the axis control card, allows LASER TRADJUST to considerably simplify the cutting tables and drastically reduce the number of processing tools.

Different functions have been developed for small, medium and large gauges, and for cutting with oxygen and nitrogen, guaranteeing optimum results in terms of quality and performance.

These functions allow the optimum power modulation values to be determined automatically and in a manner which is transparent to the operator, as a function of direction of movement, speed and instantaneous acceleration: parameters that are usually determined empirically using the technological tables and dependent on operator experience, skill and know-how.

The algorithmic determination of the optimum values in the LASER TRADJUST function allows the L1.it system to significantly reduce consumption and processing cycle times whilst visibly enhancing cutting quality.



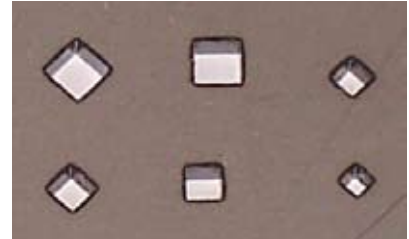
LASER TRADJUST features a new, simplified man-machine interface which graphically displays the significant parameters of the cutting process such as focus, nozzle and material, so as to make the operator immediately aware of the context.



At Lamiera 2008, Salvagnini is presenting a second important new feature: a 4kW laser source, capable of satisfying market demand for high power and improving machine performance in terms of speed and cutting quality on high gauges. Compared to the 3kW version, this new source considerably improves the performance of the L1.it laser system: with mild steel, it increases the speed and cutting quality on high gauges; with stainless steel, it enhances performance in terms of speed on medium-thick sheets and increases the maximum cutting thickness to 12 mm; with aluminium, it improves the cutting speed over the whole range, reaching a maximum cutting thickness of 8 mm.

The third new feature to have been introduced on the L1.it laser system is the "precision search sensor" (SRP) which is an alternative to the capacity sensor for aligning the edges of the workpiece. The SRP is fully integrated in the Salvagnini CAMlaser, sending it information about the alignment of the blank which is translated into an automatic rototranslation of the machine program should the sensor detect any misalignment. Moreover, by allowing the blank to be aligned on the holes made by a previous machining process (such as punching), the SRP guarantees a degree of quality that would not otherwise be possible.

The L1.it system exhibited at Lamiera 2008 is in a stand-alone configuration with manual loading/unloading. Not only the structure and the software but also the mechanics feature interesting Salvagnini innovations. During the pallet exchange phase, the table with the workpiece on it passes underneath the table bearing the next part to be cut: this has the advantage of preventing any cut parts or scrap from falling onto the blank to be processed and thus interrupting the unmanned process. This function is only present on the Salvagnini pallet exchange device and is not found in any other similar connection available on the market. The new pallet exchange device also features an improved extraction system. All the movable mechanical parts have been positioned on the outside to improve the reliability and solidity of the system.



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The Salvagnini special WICE.

L1.it: the perfect cut for a luxury product

The gold plate for the first WICE prototype was cut on the Salvagnini L1.it laser system in the company's showroom in Sarego. It was then bent, polished and set with precious stones manually by master craftsmen.

This bottle temperature regulator, devised to replace impractical ice buckets, brings the precious elegance of yellow gold and diamonds to the dining table.

A refined furnishing accessory, which is both versatile and functional, the deluxe version of the WICE was created for the 6th International Luxury Exhibition and is destined to quickly become a cult object.

The WICE has been designed to allow drinks, especially wine, to be served and savoured properly by fully exalting their flavour and aroma. The innovative shape of this original bottle holder also keeps the label clearly in view. The WICE is the fruit of the collaboration between Alberto Ferrari, the Managing Director of IMP, and Roberto Coin, the world-famous jewellery designer; it was created with the help of Salvagnini. The deluxe version defines an important new balance between design and technology, without losing sight of functionality.



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All the products, all the solutions



S4X:

integrated punch-shearing system. Excellent performance and reduced consumption.



P4 abt®:

range of automatic Panel Benders. More flexible, more versatile, more productive.



S4+P4:

flexible integrated panel production system. Perfect synchronization for unprecedented productivity.

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ROBOformER® G2:

automatic press-bending cell. More efficient, more autonomous, more highly performing.



L2 Lightning:

high-dynamic laser cutting machine. Faster, more accurate, more beautiful.



PERformER+ abt®:

compact Panel Bender. Extraordinarily versatile, extremely productive.



L1.it:

high-performance laser machine. More reliable, more competitive, more highly performing.