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STAMPER

The magazine for high-performance punching technology



Bruderer at EuroBlech 2010

Bruderer will be in Hanover to present new additions to its range: the BSTA 810-145B2 high-performance fully automated punching press as a complete unit and the BSV 500 servo feed. Come along and visit us at hall 27, booth H23.

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Galvanin: advanced processes and solutions

Italian company Galvanin Luigino S.p.a. has its own expert technical laboratory – the GalvaninLab – whose team of experts use efficient solutions to implement customer projects while providing a catalyst for in-house innovation.

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Landtwing – manufacture of lamination products

First-class products for a select group of customers – Landtwing Werkzeugbau AG, based in Zug in Central Switzerland, have forged a real reputation for the development and production of high-precision tools.

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Editorial



Light at the end of the tunnel

After a long barren spell, the machine industry is showing signs of a significant upward trend, not only in Asia but also in Europe and USA. This recovery is partly down to what are known as killer applications which are replacing existing technologies and thus leading to new capacity expansions.

A well known example of this is Apple with their new iPad and fourth-generation iPhones. These two gadgets alone have brought about significant investments in the respective supplier sectors, particularly – though not exclusively – in South-East Asia and China.

In Europe, developments in the clean energy sector are demonstrating promising growth rates, examples of this being hybrid technology and the new electric motors in the automotive industry. They require high-precision stamping applications for rotors and stators – a field where Bruderer already has a great deal of experience and which is illustrated by the fact that customers around the world are happy to rely on our tried and trusted technologies.

Meanwhile, a particular household appliance has set off a flurry of activity in a variety of industries: "Backlit TV" – the new generation of flat screens which use LED rather than LCD. To produce them, manufacturers generally require 50-tonne machines with a bed length of over 1000 millimeters. Bruderer is also well versed in applications of this kind, with our fully automated punching presses operating without a hitch 24 hours a day, 7 days a week in Taiwan and China.

In other news, EuroBlech 2010 will get under way on 26 October in Hanover and may well provide some first impressions as to how the new economic situation is panning out. This is the world's most important stamping trade fair, and the opportunity for Bruderer to showcase its new BSTA 810, the successor to the BSTA 800 and which is capable of producing the most complex of parts. The new Bruderer BSV 500 servo drive will also be on display, so please come along and pay us a visit at booth H23 in hall 27!

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Bruderer at EuroBlech 2010

Bruderer will be presenting two new models at this year's EuroBlech. The BSTA 810-145B2, which is the successor to the tried and tested BSTA 800, will be demonstrating live at the trade fair production of complex parts, while the new Bruderer BSV 500 servo feed will showcase the future of feeds for high-performance fully automated punching presses with 80 – 250 tonnes press capacity.



Bruderer presents two of its latest creations: the BSTA 810-145B2 high-performance fully automated punching press and the BSV 500 servo feed.

Like all Bruderer high-performance fully automated punching presses, the BSTA 810-145B2 is fitted with the new generation of feed system with angular cardan shafts which enable the various Bruderer feeds to be fitted without alterations having to be made to the casing of the different types of machines. The feeds themselves meanwhile can be implemented on all BSTAs with angular cardan shafts. This adaptation will improve the modularity of the fully automated punching presses and the feeds for Bruderer customers as it will ensure that only one version per servo type will be required, thus removing the need for servo-feed changes on the respective machines.

810 kN of performance

The BSTA 810 is a fully-automated precision punching press with over 800 kN maximum press capacity and an operating speed up to 1,000 strokes per minute. It is a high-performance machine with a very long die-window, and has safety doors which are now operated pneumatically as opposed to by hand, further increasing the ease of use. The safety doors are manufactured to the latest security standards. With the new B2 control system, which since May 2010 has been fitted as standard on all Bruderer fully automated punching presses, customers now have a user-friendly and reliable system which complements the overall service package.

The BSTA 810-145B2 with BSV 300 which is being exhibited at EuroBlech 2010 has all the equipment required of a complete stamping line. Using a tool made by Zetka, a complex stamped and formed part for use in the electrical engineering industry will be manufactured. The copper alloy sheet strip is 32 millimetres wide, 0.3 millimetres thick and is punched at over 500 strokes per minute. The coil winding technology is provided by Noxon / Schröder + Bauer, and the strip lubrication and cleaning of parts by SLE. A Fahrer protection cubicle will be used for sound absorption.



Stamping experts from around the world will be flocking to EuroBlech 2010.

Bruderer servo feeds – ideal for big jobs

The second Bruderer machine on display will be the BSV 500 servo feed which has been specially developed to operate with Bruderer's bigger high-performance fully automated punching presses (the BSTA 810, 1250, 1600 and 2500). This along with the introduction of the BSV 300 will further improve the servo technology on offer.

The BSV 500 is set up for strip width of up to 500 millimetres and strip thicknesses of up to 8 millimetres. This feed is ideal for applications where complex punched parts and high volume orders need to be combined. As is the case with all Bruderer servo feeds, it also has a variable feed angle and increased feed length, this information being linked to the machine control system which stores the tool data.

To find out more about what we are exhibiting and to see the machines for yourself, come to the EuroBlech in Hanover between 26 – 30 October 2010. Visitors to **hall 27, booth H23** will be treated to the legendary Bruderer stamping technology and of course hospitality.

www.bruderer-presses.com



Hall 27, booth H23

Bruderer at trade shows 2010/2011

Trade show	Country	Date
Micronora	France	28.09. – 01.10.2010
Vienna Tech	Austria	12.10. – 15.10.2010
TATEF	Turkey	12.10. – 17.10.2010
EuroBLECH	Germany	26.10. – 30.10.2010
DMP	China	17.11. – 20.11.2010
MTA Asia 2011	Singapore	23.03. – 26.03.2011
METPACK	Germany	10.05. – 14.05.2011
Die & Mould China	China	02.06. – 05.06.2011
BLECHEXPO 2011	Germany	06.06. – 09.06.2011

Kramski – productive, high-precision solutions

Wiestaw Kramski is visibly happy, and he has every right to be. After all, he has just returned from a golf tournament in Munich where he amazed experts and players alike with a putter of his own design. In the stamping world however, Kramski's reputation is not founded on being the "Pope of Putting" but as a manufacturer of highly complex and technologically demanding press tools and components.

The Kramski Group, headquartered in Pforzheim, first saw the light of day in 1978. That was when Wiestaw Kramski won a competition entitled "Go self-employed", organised by the German "Capital" magazine in conjunction with a savings bank. The 30,000 Deutschmarks in prize money were enough to enable him and his partner at the time to start Kramski GmbH, with the aim of being within 10 years one of the best press tool manufacturers on the market. Kramski certainly achieved this goal, as is usually the case with whatever he turns his hand to.



Kramski GmbH headquarters in Pforzheim, Germany

Anything is possible

Originally Kramski GmbH was purely a die manufacturer, and it was only later that they expanded their programme to include stamped components as well as other products and services. Nowadays Kramski is a one-stop shop for customers, who not only get their renowned world class precision and high-performance press tools, but also production of complex stamped and formed parts as well as composites using metal and plastic. Parts can also be riveted, laser-welded and labelled, micro-cleaned, measured to the closest of tolerances or reel-to-reel packed, all on request.

The constant search for new solutions is an integral part of the company's make-up. As Wiestaw Kramski himself says, "There is no such phrase as "not possible". His recipe for success is to constantly strive for perfection, and his persistence is also a decisive advantage when it comes to doing business in a fiercely competitive market. The company is always ready and willing to take on unusual orders, with the most recent example of this being the series of tests which they have almost completed for solderless plugs and sockets which will be a European standard from 2011 onwards.

The ultimate in precision and productivity

Precision and productivity are the constant watchwords for everything that is developed, constructed and machined at Kramski, enabling the company to manufacture for the global market at competitive prices from its base in Germany. This applies at the Kramski North America Inc. subsidiary which produces primarily for the domestic market but has its chief customer in China. Kramski Lanka Pvt. Ltd. in Sri Lanka also supplies companies in Europe, North America and Asia with progressive dies and plastic-metal composites, as well as simple and medium-complexity stamping tools since 2010.

This decentralised production strategy creates cost efficiencies which the customer can see reflected as fair market prices.

An important element in the company's success are the 500 trained employees who work for the various Kramski locations around the world, as is the modern and reliable machinery which fulfils the exacting requirements of the entire machining process.



Wiestaw Kramski and his team always find a solution for even the most difficult tasks.

As far as stamping is concerned, Kramski has relied on Bruderer high-performance automated punching presses right from the outset. This includes a BSTA 300-85B with two gripper feeds, delivered in February 2010, on which 0.1 mm-thick strips with sensitive surfaces are processed, and a BSTA 500-110B, on which multiple parts are produced in a single operation. This process consists of two different materials which are punched, joined and laser-welded within the stamping process.

Finally, the finished components are measured for quality assurance and labelled by laser. Multifunctional dies of this kind are part of Kramski's daily business – the company is constantly testing its own limits to see what works. Their approaches and solutions also have to be reasonably simple, otherwise it is productivity that suffers.



Bruderer automated punching presses play a crucial role in the high-precision Kramski production chain.



No such phrase as "not possible" – producing complex parts is one of Kramski GmbH's specialities.

95% of the high-performance dies which Kramski manufacture, are used in-house for the production of complex stamped plastic-metal composite parts. The company's high level of performance and durability keep production costs low and guarantee the precision for which Kramski have become famous around the world. Three-quarters of group turnover comes from produced components, the remaining 25% from press tools, equipment and replacement parts. They have around 300 customers from at least 20 different sectors, including famous names from the automotive, electronics and IT industries, medical engineering as well as solar and environmental technology.

Only the best is good enough

In the stamping department, strip widths of 0.025 to 2.0 mm are processed using press capacities of between 20 – 80 tonnes, with tolerances of around 5 micrometres. Bruderer high-precision automated punching presses are used to process stainless steel and non-ferrous metals, with strip widths up to 120 mm at 200 – 1,200 s.p.m. Kramski's in-house specialities include plug contacts, deep drawn follow-on parts, and components with welded silver or gold contacts plus riveted parts. In the plastic injection-moulding department, complex products are manufactured for a wide variety of uses and packed ready for shipment using an internally developed, fully-automated reel-to-reel solution. Another strength is micro-cleaning parts of all shapes and sizes – this is an additional service, with the result being – in the words of Wiestaw Kramski, "as clean as the instruments of a surgeon."

The CEO knows that to keep abreast of the constantly changing demands which customers make, only the best is good enough in terms of tools and machinery. Bruderer high-precision automated punching presses make it easier for Kramski to produce quality and have of course a reputation for durability and fast service. The irony is that they do not provide Kramski with a real competitive advantage – after all, the various other companies hoping to compete in this sector are also relying on Bruderer high-precision automated punching presses!

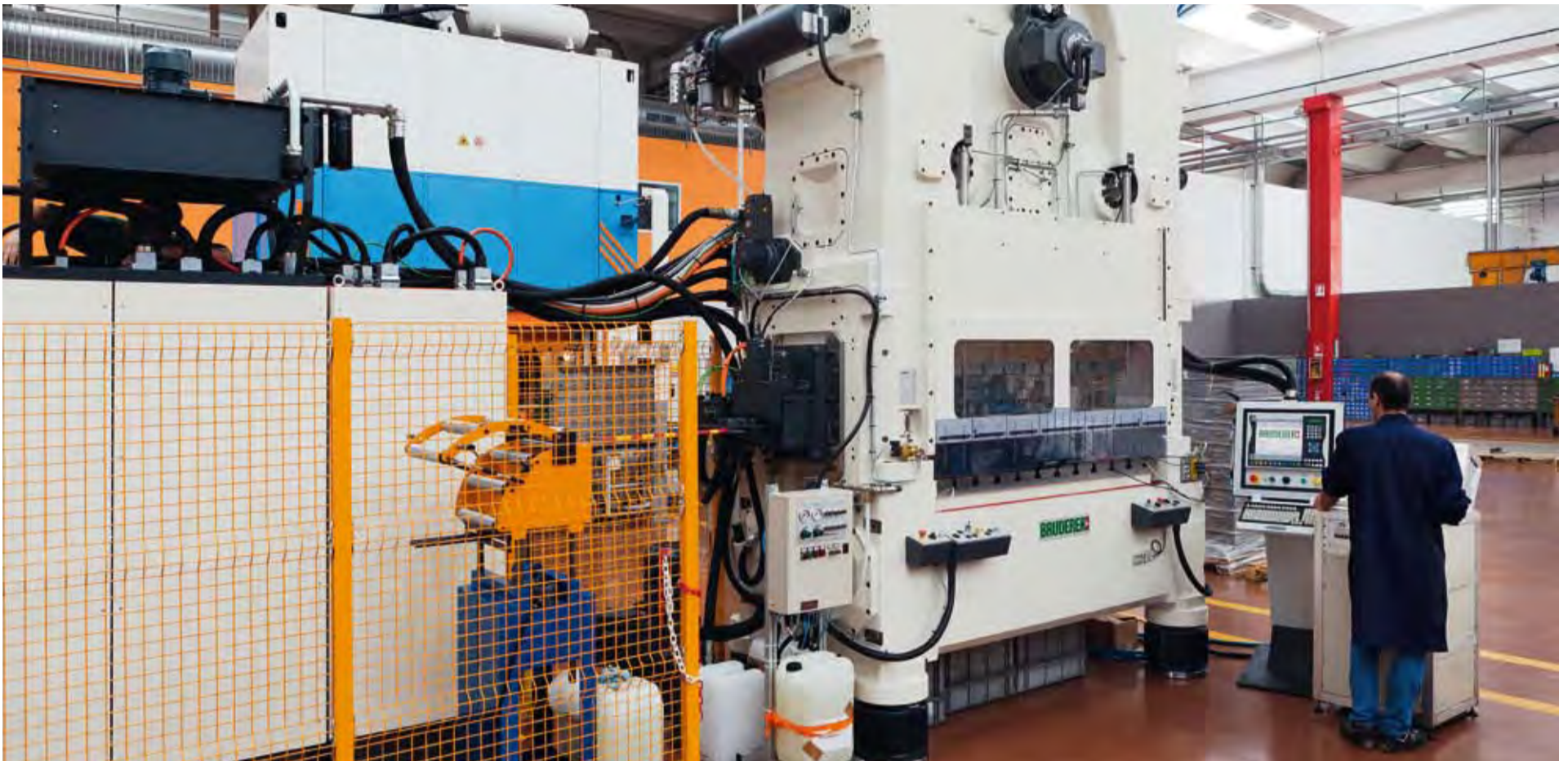
www.kramski.com



Kramski tools are reputed for their high performance and durability.

Galvanin S.p.a – “inside your success”

Galvanin Luigino S.p.a., based in Torri di Quartesolo in the north-eastern Italian province of Vicenza, has a clearly defined mission: to provide its customers with advanced technology and first-class services. The company has around 100 employees and provides products and technical support for a highly demanding customer base.



The New Bruderer BSTA 1600-181B is being implemented at Galvanin S.p.a.

Galvanin Luigino S.p.a. first saw the light of day in 1968 as a mechanical machining company and soon developed into one of the most reputable firms in Italy for the production of progression tools and punched parts. It was founded by Luigino Galvanin, a technical draughtsman, whose commitment and vision set the company on the right course from the outset, focusing on technological development and constant improvements in productivity.

Over the years, Galvanin S.p.a. followed in the footsteps of the majority of family-run businesses in this sector in North-East Italy and developed into a management company, relying on experienced professionals to take the reins in the key areas of the production, commercial, procurement and logistics departments.

Their current offer also includes conceptual planning of complete, fully automated production lines for stamping, assembling and welding parts to produce the kind of turnkey products that make a real difference in the mechanical engineering market. Galvanin's core competency however is internal tool manufacturing – producing progression tools which are at the cutting edge of technology when it comes to sheet-forming, deep-drawing and multiple stamping. These tools create significant value and are designed and constructed from scratch in-house.

The company has also focused its attentions on research and development in all areas of punched part production for the past 40 years, and has become a supplier to a number of leading sectors including chemicals, the automotive industry, household appliance manufacturers, hydraulic and pneumatic equipment, lighting technology and the gas and textile industries.

In 2009, a year which was marked by the recession which affected almost the entire sector, Galvanin manufactured around 640 million punched parts, with their main customers coming from the automotive industry, equipment manufacturers and the lighting sector. This workload helped the company to a turnover of some 20 million euros for that financial year. 2010 will likely see a slow but steady recovery, particularly in foreign sales markets where Galvanin export some 30% of their products.

« Our company's aim is to be 'inside your success' as far as customers are concerned. »

GalvaninLab – research and technology

In 2008, the company celebrated both its 40th anniversary and also a milestone in company policy, one which among other aspects will see the expansion of the manufacturing and administrative structures. On 24th of October that year, a brand new 13,000 square metre headquarters in Torri di Quartesolo was inaugurated, providing a new home for the

production methods which benefited a large international business. These include corporate responsibility guidelines, which set the course for the integration of social and environmentally relevant matters into company business and for continual further training for all employees. Equally important is the continued optimisation of the manufacturing cycles and unparalleled performance in terms of research and development. The centre-point of this strategy is the GalvaninLab, an expert technical laboratory which is accredited by the Italian ministry for education and research and can thus work in conjunction with a number of reputable national universities.

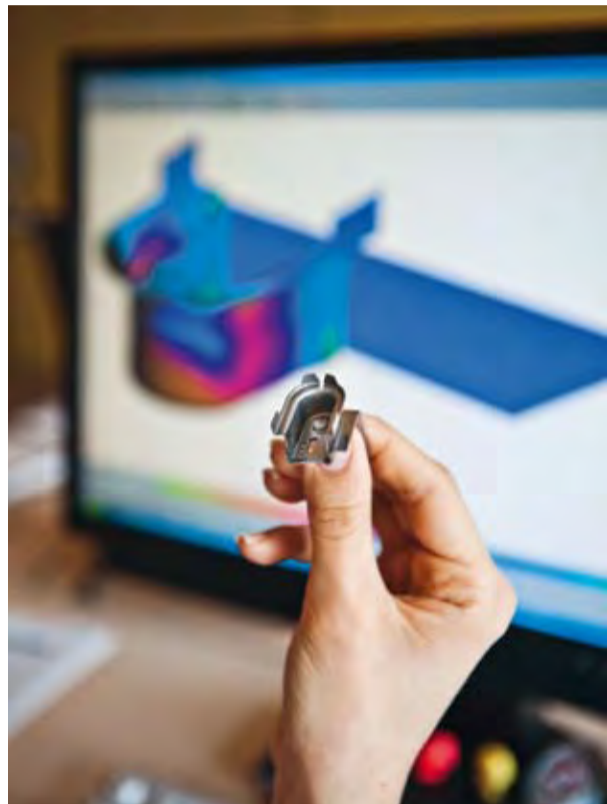
Dott. Monica Galvanin, CEO



Galvanin S.p.a.'s new company buildings in Torri di Quartesolo, Vicenza (Italy)



Contrary to what has become the norm with prototype building, the GalvaninLab offers Galvanin Luigino S.p.a. customers a unique service – a team of specialist engineers, designers, mechanics and technicians with comprehensive experience which they put to good use in various projects. Every development throughout the planning phase is closely followed and every element signed off after consultation with the project owner. This procedure encourages Galvanin customers to critically analyse their own ideas and adapt them where necessary. This kind of cooperation is a real catalyst for innovation and enables better optimisation, clearly defined properties and strengths and overall processes which become increasingly more efficient.



Studying parts using CAE AutoForm to get the basic production information

Advanced procedures and solutions

As well as efficient automated production facilities, the GalvaninLab also makes an important contribution to safeguarding the production process. Customers' research and development departments can thus make the most of genuine innovations in the shape of markedly reduced product production times and costs, stable manufacturing processes and consistently high quality. Galvanin use only the best tools to provide their services: CAE for process simulation, CAD 3D for construction and CAM for production. The package is rounded off with final inspection of the tools for serial production.

Galvanin have a clearly stated mission: they want to shape the future before the market does it for them. While their customers all keep a close eye on new technologies and techniques, they are rarely in a position to take a leading role. The Italian-based company have consequently set out to become the project and development partners of their own customers, not merely in terms of a commercial approach, but tackling requests which go beyond the usual planning tasks and which at first glance would appear to be unfeasible. They are happy to carry out intensive investigations and put a great deal of commitment into finding new technologies for a whole host of different industries.

Quality above all...

Investments in research, development and production are the basis of the company's high quality requirements – without them, it would be impossible to continually improve process and product standards. With this in mind, Galvanin S.p.a. recently acquired another Bruderer machine – a BSTA 1600-181B fully automated punching press with a press capacity between 50 – 160 tonnes equipped with a BSV 300 servo feed. It will be used solely for working on stamped parts for household goods and the automotive industry. The stamping room now has no fewer than 20 machines, covering press capacities between 50 – 415 tonnes.



3D projects run on CAD/CAM at the GalvaninLab are implemented for Galvanin S.p.a.'s toolmaking.

"Bruderer high-performance fully automated punching presses are another milestone on the way to implementing our strategy," explains Davide Zanatta, a qualified engineer and head of the GalvaninLab. "Regardless of what kind of parts are being punched, Bruderer machines are the ones to rely on when it comes to manufacturing. They provide the type of precision that customers demand nowadays, and they meet the exacting demands of the market in terms of ever more complex components which can carry out a whole variety of functions, while of course keeping to close tolerances to enable processing on automated production lines to be as cost-efficient as possible."

... and maximum flexibility

The GalvaninLab has acquired a great deal of experience over the years, and with it the proof that the company's high-performance tools will last longer and require less maintenance if they are used on Bruderer high-precision fully automated punching presses.

"Our company has built up a reputation when it comes to reshaping stamped parts combined with plastics or aluminium," Zanatta continues. "It enables us to manufacture components with a greater level of added value, and Bruderer's high-performance fully automated punching presses help us to keep developing new techniques in this field."

Galvanin S.p.a. aims to create partnerships as opposed to merely working with customers. They sit down together to discuss specific requirements, then set out the most technologically advanced approaches. A solution is finally implemented when it has been determined that it meets market needs in optimum fashion and will also be profitable for the customer.

Galvanin S.p.a.'s in-house machining facilities provide them with a high-level of efficiency. Prime examples of this are a manufacturing method for the lighting industry where parts made of two different metals are punched, galvanically treated and then laid on strips for further processing, and also the use of a wide variety of totally different production and stamping technologies to make finished hybrid parts out of stainless steel or brass with plastic or silver coatings.

« Bruderer high-performance fully automated punching presses help us to create more value for our customers. »

Davide Zanatta, engineer and head of GalvaninLab

"We are dealing with complex products and look for the best solution for shaping and assembly," explains CEO Monica Galvanin. "What we produce are not just top-notch stampings – they are high-class technological semi-manufactured goods. We have become a competitive supplier in

terms of these production processes and we enable our customers to reduce marketing costs sustainably."

Italian-quality services

Galvanin Luigino S.p.a. is more than just a mechanical production plant and over the years has made a name for itself as a service provider. "Our expertise, quality and reliability when it comes to producing tools and stamped parts mean that demand for our products is increasing, at home and internationally," Galvanin explains. "The products and the technical advice we provide mean that we can serve markets like Brazil and China which have developed around the world from emerging nations into solid markets in a whole host of sectors of production. And more and more, they are turned to Italian technology."



For a number of years now, Galvanin has been an operational research partner in mechanical engineering for the famous Italian universities of Padua and Trento. The projects which are designed, developed and concluded within these partnerships have seen Galvanin forge an industry-wide reputation as a genuine outsourcing lab.

"Our company's aim is to be 'inside your success' as far as customers are concerned," Galvanin concludes, "and the way we achieve this is by continuing to extend our areas of responsibility, providing a top-quality service on projects and working alongside the customer every step of the way – from the concept stage through to ideas for products – sharing in their success."

www.galvaninspa.com

Galvanin S.p.a.	
Headquarter:	Torri di Quartesolo (VI), Italy
Established:	1968
Certified:	ISO TS 16949 ISO 14001 SA 8000 OHSAS 18001
Customers:	Chemical Automotive Gas Lighting Household appliances Hydraulic & pneumatic industries Textile industry



Stamped parts for the gas industry

By the pros, for the pros: stacking tools from Landtwing

Landtwing Werkzeugbau AG, located in Zug in Switzerland, has been specialising in in-die stacking tools since 1984, carving out a niche in what is a tough market. It is a family-run business with 30 employees which has built up a select customer base by offering first-class products.

The company was founded in 1954 as a mechanics workshop, with Josef Landtwing taking over the helm from his father in 1999. Alongside him he has Bruno Fabbri as a fellow member of management responsible for construction and machining complex tools. Part of the company's business involves production orders of small series of components: Landtwing stamps the complex parts that high volume stamping companies do not want to do themselves since the lot sizes are too small.

Their main activity though is the development and manufacturing of in-die stacking tools, primarily for companies in Switzerland and Germany. Around a fifth of production is sold to other countries in Europe as well as India and China, with customers primarily in the automotive industry, followed by engineering, the construction industry and DIY.

Precision all along the production line

Fabbri has many years of experience to call on and knows exactly what it takes to construct a high quality in-die stacking tool. Regardless of how the rotor that the customer wants to produce looks, precision in every step of the process is the only thing that matters, with the measurements which the customer provides proving to be the biggest challenge. Most jobs kick off with a discussion with the customer to check the tolerances specified for the component and particularly whether they are applicable.

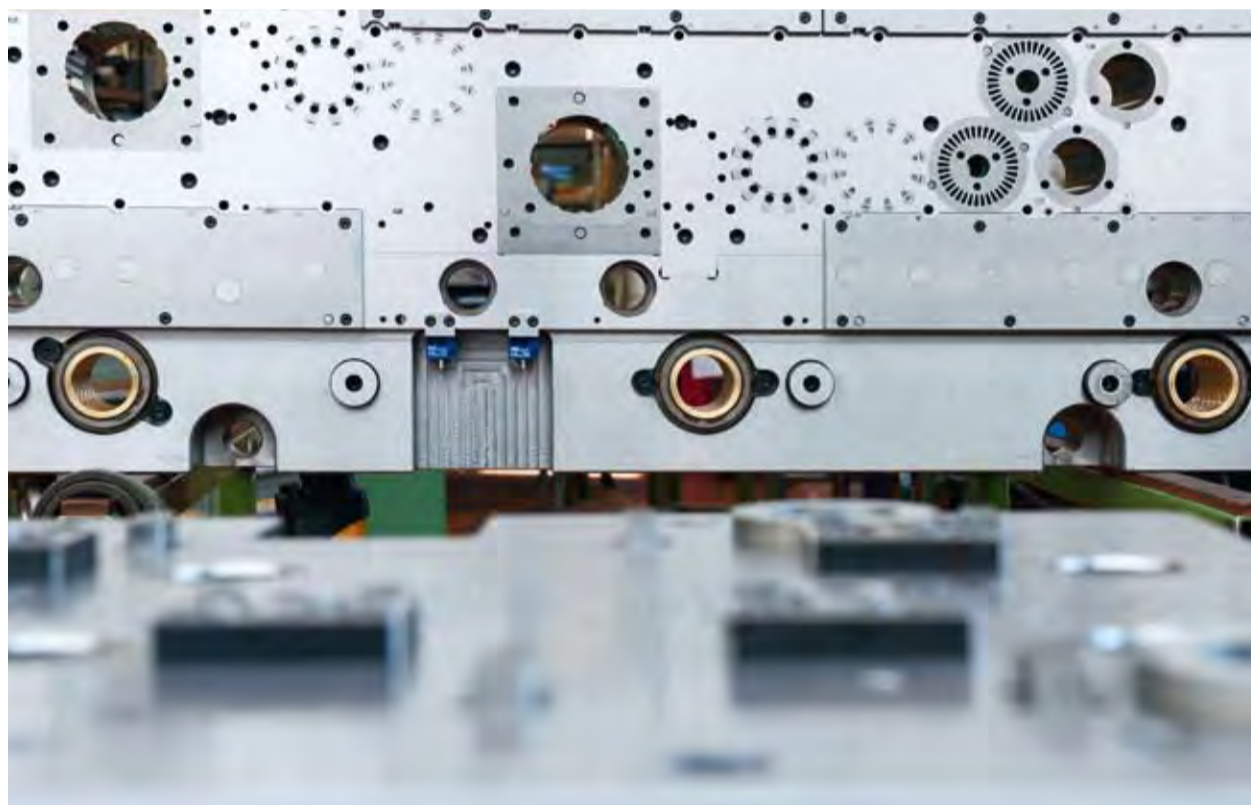
Once agreement has been reached, the actual development and construction work can begin. First of all, the sequence of the necessary process stages is defined; the design is then drawn up using CAD. The construction of the tools takes around 200 hours, and it can be up to six months before the first test stamping is carried out, depending on how complex the task is. A series of tests is then usually carried out at Landtwing and finally the customers give their acceptance, with a stamping speed of around 400 strokes per minute. In practice, each tool is individual, and only in rare cases do customers need a second identical one.



By professionals for professionals: Landtwing puts its expertise and accuracy to the test with every step of the process.

Knowledge is the key

First though, we need to go back to the construction of the tool. As Fabbri explains, mistakes – if any – tend to arise in the early design phase, as later in the project process, it is all about getting the fine-tuning right. Landtwing therefore chooses to rely on experts with practical production experience, who can be trained on the job internally where necessary. This knowledge gives them the requisite understanding of the feasibility of design ideas and of the actual work conditions in a production environment. It is also of immense value for the close collaboration required during the implementation phase. The CAD workspace and the workbench are only a few steps apart in this small family business, meaning that the necessary coordination during the building of the tool and the first test stamping can be carried out simply, directly and on demand.



Stacking tools made by Landtwing – a glimpse inside the tool factory.

Stacking is ideal for components which heat up during use, for example an electric motor in a machine, a window motor or a car's ignition coil. Rather than turning or casting these parts, which at first glance would appear to be the best processing method based on their shape, they are made up of several punched sheets which are flat stacked, enabling them to dissipate heat better. The stacking tool has to accurately stamp the required sheet metal parts in a single-step production process and link them together, which is why the active parts of the tool, i.e. the parts which are stamped, are made solely of carbide metal. To even out any variances in the raw material, the individual stamped parts of the tool are turned or interlocked before finally being linked together.

Tool and fully automated punching press – together in one package

According to where the finished components are going to be implemented, the sheets to be machined are of varying thickness, with most between 0.3 and 1 mm. Depending on the complexity of the part, up to 11 slides can be integrated into a tool nowadays to move and turn the stamped sheet during the machining. Regardless of how demanding the technical solution may be, the customer always expects it to be guaranteed that the tolerances have been observed for the tool, and also that it will be durable. The punching



Landtwing's Bruno Fabbri develops the right in-die stacking tool based on customer specifications.

press in which the in-die stacking tool is used obviously plays a critical role as well. Fabbri's many years in the business have taught him that Bruderer high-performance fully automated punching presses provide the best results and recommends this combination to his customer base. Landtwing themselves of course rely on the machines from Frasnacht, with finished stacking tools tested on a Bruderer 125HL fully automated punching press before they are shipped out to the customer. For job order production, the company uses a BSTA 25H and the long version of the BSTA 60H with 400 and 550 strokes respectively for stamping, drawing and bending.

The components to be machined are getting longer all the time, even for in-die stacking usage, which necessitates bigger die areas for the machines. There is also a trend towards thinner material, with sheet thicknesses of 0.3 mm now tending towards 0.2 mm. The catalyst for this development is chiefly the emerging hybrid motors in the automotive industry, and they are giving fresh impetus to the market leaders in the stamping sector such as Landtwing and Bruderer.

www.landtwing.com



For stripper plates, the notches for the various elements of the tool are milled out.

SCHEUERMANN + HEILIG GmbH: metal at its best



Scheuermann + Heilig GmbH, a family business headquartered in Buchen-Hainstadt in the Baden-Württemberg area of Germany, has been active in the metal-working sector ever since it was founded in 1957. The company has acquired a great deal of experience and expertise over the years and has come to be known as a recognized partner and one-stop shop for the development and production of tools, component groups, stamped and punched and formed parts, casings and springs.



Ultra-modern equipment to provide top-quality products

At their headquarters in Buchen-Hainstadt, which occupies a total area of some 30,000 square metres, 450 people are employed to make products for the automotive, electronics and electrical industries among others, and more recently for medical technology as well. Scheuermann + Heilig do far more than just machining however – they support their customers right from the initial planning phases of a project as well as with the finishing of components that have been ordered. The cornerstones of this comprehensive offer are the high-performance development department, and ultra-modern equipment and downstream processes which are tailored to individual customers' needs.

From hand-finishing to industry machining

Expertise in metal forming technology has always been the basis of the company, with founding fathers Anton Scheuermann and Günter Heilig both working in this field before deciding to start up their own business. Since then, Scheuermann + Heilig GmbH has developed into a modern medium-sized industry with automated production, with metal forming and in particular the production of complex component groups providing much of its turnover.



Scheuermann + Heilig do Brasil: an important supplier for industries who set great standards by their quality

The company is now in the hands of the second generation of the families, with Silke Heilig and Steffen Scheuermann leading side by side. Like their fathers before them, they are steering the company on a future-oriented path, tapping into new markets with interesting potential and relying on increasing capacity against the cycle and ultra-modern production technologies. Examples of this include their expansion into the highly demanding medical technology sector in 2007, which the company made a success thanks to their high-quality services and products, and the incredibly far-sighted decision at the time to open up a subsidiary in Brazil in 1979.

Brazil was already considered as the largest economic area in South America at the time with wide-ranging potential. The choice of Atibaia as a location also proved to be

spot on: over the years, many customers of Scheuermann + Heilig do Brasil have set up home in the greater Sao Paulo-Atibaia area. The autonomous subsidiary currently has 180 employees, and its modern machine park has machining technology and products at its disposal which are comparable with its German parent company. The two companies also exchange information and expertise on a regular basis.

Top quality thanks to ultra-modern equipment

The headquarters in Buchen-Hainstadt has an ultra-modern machine park with around 250 machines available, including 120 fully-automated punching and bending machines and eccentric presses in a load range of between 25 and 250 tonnes. Among these are 11 Bruderer fully-automated punching presses with between 30 and 80 tonnes of press capacity, the most recent made in 2009. Their robust design and high machine rigidity guarantee optimum downtimes, protect the tools and mean that they can be run at rapid cycle times. They can also be implemented very flexibly and are particularly well adapted to parts with high levels of product quality and precision, for example blister applications and components which are laser-welded.

Integrated, highly automated forming and assembly methods ensure that complex groups of components can be mass produced economically and based on processes. State-of-the-art machine technologies and ultra-modern production techniques offer almost unlimited machining possibilities.

Scheuermann + Heilig provide metal parts for almost every conceivable product for the automotive, electronics, electrical and medical technology sectors, with customers including such famous names as Bosch, Continental, Philips, Osram and Roche. Parts made by Scheuermann + Heilig are used in various applications, including locking systems, drive technology and automotive electronics for vehicles, in electrical goods such as shavers, DVD players and halogen lights and in the medical sector in blood glucose meters, insulin pens and hearing aids.



Customers are given development support right from the start of the project phase.

Customers are given all the support they need right from the development phase, including comprehensive software tools for FEM calculations and forming simulations for example. Intensive consultation and advice is then given in such areas as product design, tool layout and choice of material.

Customers can be provided almost immediately with working models and small batches during the product development and test phases using the ultra-modern laser and EDM technology in the in-house prototype and tool room.



The in-house prototype and tool room can provide working models and small batches without delay.

Systematic innovation

Scheuermann + Heilig's technology and innovations management department ensures that they can play a prominent role in the advancement of punching and forming technology. They are permanently working on tapping into forward-looking markets and products, with existing processes and products systematically optimised in a constant attempt at improving efficiency. Part of this strategy includes training and research partnerships with universities and research institutions.

Scheuermann + Heilig foresee a trend in the coming years towards even shorter product development times, quicker tooling times, increased use of laser technology and greater automation of tool-making in smaller quantities. And with their modern manufacturing infrastructure, forward-looking policies and highly qualified employees, the company is ideally set for the future.

www.sh-gmbh.com



Scheuermann + Heilig have an incredibly varied product portfolio.

New wet painting system for Bruderer

Ultra-modern technology ensuring the utmost in quality, precision and economy. These core values apply to Bruderer for their own products – namely their internationally reputed high-performance automated punching presses – as well as for their investments in manufacturing equipment. The new wet painting system at the company's Frasnacht location, which was developed by the Swiss-based equipment manufacturer e. Luterbach AG in close collaboration with Bruderer, fulfils these technological, economical and environmental demands.

Machine components for Bruderer fully automated punching presses can now be painted using cutting-edge technology thanks to the new partially automated equipment for components up to 2.5 tonnes. Before it was installed, an intricate planning phase was carried out to adapt it as closely as possible to all of the people and processes involved, with the aim of reducing business interruption for painting to the absolute minimum – something which the project team achieved to perfection. A complete refit of the existing workspace was done in four short months, running alongside the daily painting process using the old equipment. Disruption to product production was thus kept down to a mere three weeks.

The new equipment has brought with it any number of improvements. Primarily, the efficiency of the work processes, running times, paint use and maintenance have all been significantly increased. It has also made for improved working conditions for the employees, for example with better light conditions and greater ergonomic comfort.

Keeping on the rails...

An important element within the equipment is the fully automated "Power+Free" drive system. Parts weighing up to 2.5 tonnes and measuring up to 2000x1400x1000 mm can be moved on its massive rails. The one-piece cardan chain alone is 432 m.

Each component is attached with a product carrier to the drive system and led into the first station – the two-zone pre-treatment area, where the components are first degreased with alkali and then deep rinsed with fully desalinated water via high-pressure jets.

The entire pre-treatment process goes through several phases. As well as the two degreasing and three rinsing baths, the waste liquid also runs through draining and drying stations. During these processes, the chemicals required for the cleaning and the corrosion protection are automatically added in the right proportions. The pre-treatment is set out in such a way that only a minimum of chemicals and dirt are displaced and as little water as possible

is used. The levels of the cleaning baths which follow one after the other are maintained using the cascade technique.

After this pre-treatment, the components are dried at a temperature of around 140°C in a retained water dryer. Part of the warm air that is directed through the drying room is then sent back into the air circulation.

Knowing what to do

Depending on their specifications, the parts then go their separate ways: some components are taken first into the grinding and spackle room, while others go directly into the wet painting cabin. Here the components are lifted or lowered by 500 mm each, using the additional hub and lowering station which has been built into in this area, to improve the ergonomics of the workstation. The latest in equipment, materials and processes are then used for the actual spray process for the wet painting. The high-pressure primer that is used guarantees optimum layer thickness of the colours while keeping paint use down. In the built-on paint storage room, there is a permanent stock of Bruderer's five main colours. Any excess spray mist as well as the significant amount of solvent vapour which occurs during painting are removed as economically as possible, while the discharged air is controlled and fine filtered to remove paint particles.

After the painting process, the parts are ventilated at 40°C in the evaporation zone, and then dried in the automatic drying equipment which is adapted to each product, material and paint process to produce a high-quality surface. After the pre-defined retention times, the components leave the 80°C dryer and are automatically fed towards the cooling zone – the last link in the process chain.

The parts data of the components are entered via a barcode reader and saved on an RFID tag on the product carrier. After the employees have hung the parts on the product carrier using the hub and lowering station, they are independently driven through



Parts weighing up to 2.5 tonnes are fed via massive rails through the wet painting system.

the equipment using the above mentioned processes. There is an integrated sorting loop before the wet painting cabin in which the parts are divided up fully automatically based on colour – an intelligent sorting mechanism which eradicates superfluous and expensive colour changes.

Less is more

The main idea behind the design of the equipment was for it to be efficient but also environmentally friendly and energy-saving. The exhaust ducts in the various zones enable 72% heat recovery, while the rest of the waste heat is also used separately to heat a nearby goods shaft.

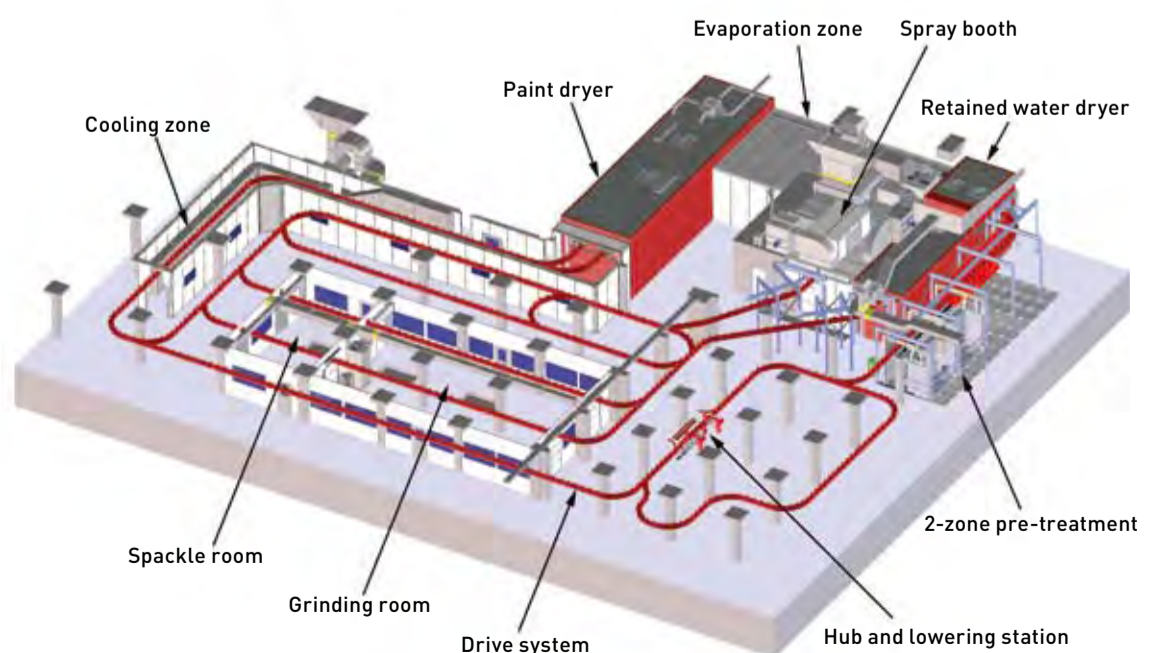
What is also noteworthy is the waste water treatment. The liquid waste processing system that has been implemented and works on vacuum distillation is both highly economical and environmentally friendly. 95% of the waste water is cleaned and goes back into circulation.

For Bruderer and for the equipment manufacturer's e. Luterbach AG, a healthy workplace for employees and a responsible policy towards the environment and natural resources are a matter of course. For both companies, these demands are just as important as those made in terms of technology.

www.luterbach-ag.ch
www.bruderer-presses.com



Components are fed through the equipment and processed according to their usage with the help of RFID data.



The new Bruderer wet painting system: efficient and economical thanks to ultra-modern technology