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# STAMPER

The magazine for high-performance punching technology



## Getting ready for the future

YIWU Easy Open End Industry Corp. is the largest local manufacturer of tinfoil easy open ends in China. The company uses BRUDERER cutting-edge punching technology to expand into new markets. Since 2010, the company has already invested in several lines for 206 and 202 aluminium easy open ends.

Pages 4 – 5



## Pushing performance

German family-run company HARTING is a global market leader in electrical and electronic joining technology. They are implementing an innovative new concept with the BSTA 810-145 in their stamping centre of competence in Espelkamp.

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## High speed and precision

The new BRUDERER BSTA 280 is top-class in every respect: 280 kN press force, punching part after part reliably and accurately at 2000 strokes per minute. This fully-automated punching press is the very definition of high performance.

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## Editorial



### Keeping the upswing under control

After a downswing 18 months ago which hit quickly and then persisted, we have now had an equally strong and spectacular upswing. Since mid-2010 we have gone back to recording high order intakes and the stamping industry is once again significantly increasing its production capacity.

We must take this opportunity to thank our employees for their flexibility and their incredible commitment, without which we would have struggled to meet the massive increase in demand.

After months of short-time work, they had to adapt to working overtime within the space of a few weeks. It may be somewhat unusual to do so in a customer magazine, but on behalf of management I would like to thank all of our employees for the extra commitment they have shown.

The downside of this achievement was quick to manifest itself however, in the form of delivery times which have already lengthened, and we are making every effort to get them back to normal for our customers. We also need to wait and see just how the effects of the current exchange rate situation and the strength of the Swiss franc will be felt.

In this issue of Stammer, we show an example of how our machines are used in the metal packaging industry with an in-depth article on the Chinese company YIWU Easy Open End Industry Corp. In a market which is still growing at a significant pace in Asia, stamping operations and high quantities are the priority. What is perhaps most interesting is that the client decided to invest in BRUDERER technology since it is possible to adjust the bottom dead centre of our ram – a feature missing from the equipment provided by Western manufacturers that they had previously exclusively used.

As well as articles about the world-famous German technology company HARTING and the French-based stamping company SOPIL, we are also delighted to feature the latest addition to the BRUDERER range – the BSTA 280-88 high-performance automatic punching press. This versatile machine was unveiled at the BLECHexpo 2011 sheet metal trade fair in Stuttgart from 6 – 9 June, attracting a great deal of interest.

Andreas Fischer, CEO

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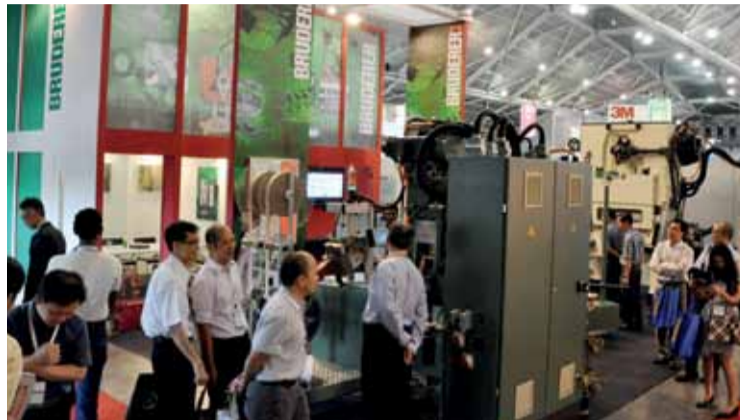
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## LED trends and technologies

Recently, the LED industry has garnered a great deal of attention, prompting a rapid expansion and substantial investment by LED-related equipment and material suppliers globally. BRUDERER addressed this important issue in a seminar at the MTA 2011 trade show in Singapore.



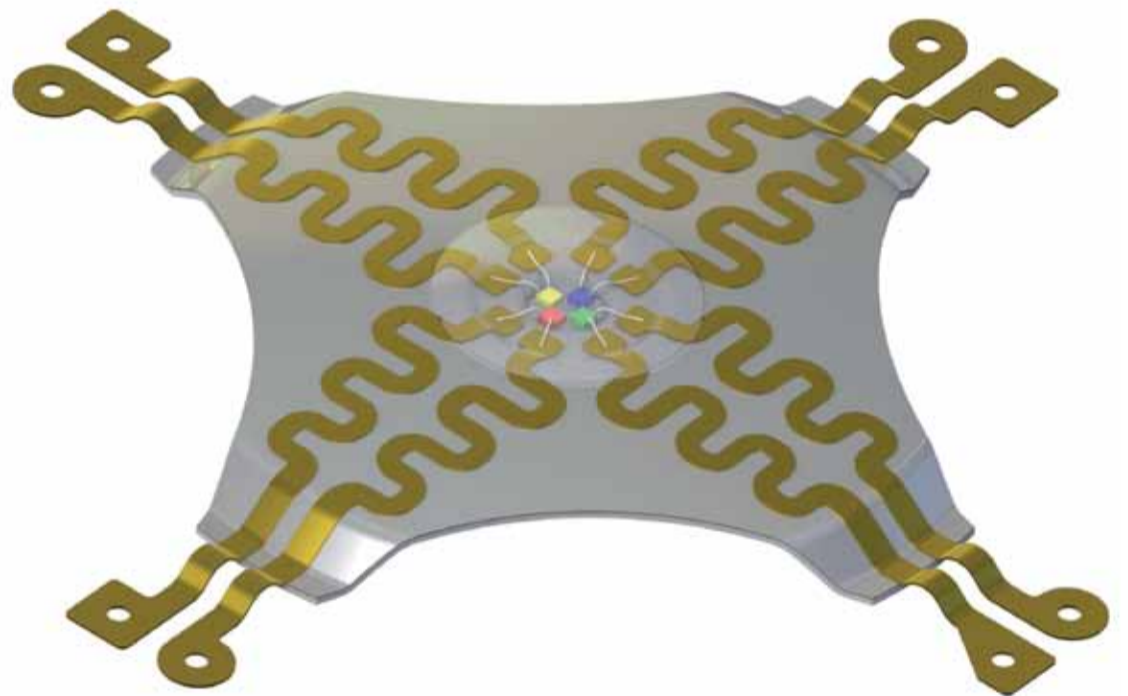
The BRUDERER stand at MTA 2011 in Singapore: a meeting point for stamping experts

LED expansion and new facility projects have sprung up all over the world, even during the economic downturn of 2009. High-brightness LEDs are becoming ubiquitous in our daily lives as companies, governments and consumers look for energy-efficient and long-lasting alternatives to conventional incandescent and fluorescent lighting sources.

### Sharing expertise on LED technology

A total of nine guest speakers from different fields and companies took part in a full-day seminar at the Singapore Expo Conference Hall, entitled "LED Trends and Manufacturing Technologies". It was also a great honour to have Dr Kenny Sun from Taiwan Industrial Technology Research Institute attend this event and speak about the latest LED trends. All guest speakers shared their expertise in their own fields and an impressive 90 participants from various manufacturing fields and countries were in attendance.

As well as an exchange of information and technology expertise, the seminar was also a great platform for the participants and speakers to network. BRUDERER plans to organise more seminars of this kind in other regions of Asia, to provide market and technology insight as well as value-added services for both existing and potential customers.



Snap dome used in LED technology (image: by courtesy of Kleiner GmbH)

### LED boosts technologies

High-brightness LEDs are critical semiconductor technologies for energy efficiency, safety and next generation displays. Improvements in the cost per lumen and the lighting quality of high-brightness light-emitting diodes (HB-LEDs) are set to create huge opportunities in solid state lighting, display backlighting and other high-brightness applications. In order to exploit the full potential of LEDs, the global manufacturing supply chain requires producers to collaborate on technology roadmaps and industry standards to reduce costs and improve LED performance through advances in manufacturing technology, processes and materials.

In light of the great potential and rapidly-growing market of the LED, BRUDERER Presses (Far East) Pte Ltd and AGIE Charmilles (SE Asia) Pte Ltd organized a seminar on LED in conjunction with the 18th International Exhibition on Precision Engineering, Machine Tools and Metalworking Technology MTA-Metal Asia, held in Singapore from 23 – 26 March 2011.

#### BRUDERER trade fair calendar:

##### Second half of 2011

MSV 2011	Czech Republic	03.10. – 07.10.2011
Corte & Conformaçao 2011	Brazil	18.10. – 21.10.2011
FABTECH 2011	USA	13.11. – 16.11.2011
Productronica 2011	Germany	15.11. – 18.11.2011
DMP 2011	China	16.11. – 19.11.2011

# Quality, price and delivery: You can rely on SOPIL

SOPIL is celebrating its 50th anniversary this year. Since its foundation in 1961, it has been specialising in tool and die, but things have certainly changed over the past five decades. The company has evolved and refined its activities to cater to the ever-increasing demands of its customers, with BRUDERER supporting it every step of the way for almost 25 years.



SOPIL CEO Thierry Lebaut (left) and commercial director Jérôme Deuschlé (right)

Thierry Lebaut, director of SOPIL, makes things quite clear right from the outset: "BRUDERER plays a considerable role in the relationship we have with our customers." Proof of this is that since buying their first BSTA 25H back in 1987, the Burgundy-based company have strengthened their ties year-on-year with the Swiss punching press manufacturer. Their stamping shop now numbers 16 BRUDERER presses, ranging from 25 to 110 tonnes. "I remember well back when we bought the BSTA 25H," he says. "It was more expensive than the other presses, but we opted for it because we were convinced that it was the right choice to make in terms of technology. We have never regretted this decision since we've carried on investing in this type of machine. BRUDERER has been our partner of choice for over 20 years now."

## 50th anniversary

The company dates back to 1961, when René Lebaut, a trained toolman, began manufacturing tools in a garage using a milling machine, a lathe and a jig-grinder. Business took off and in 1969, SOPIL moved to their current site in Pirey. At the time, they had around 600 m<sup>2</sup> available, and over the years they have expanded their competencies to meet customer demand for more global services. They initially concentrated on tool manufacturing, but decided to branch out into tooling small copper parts. They then expanded their range to include brass, bronze, beryllium and the various alloys used in the connector business. SOPIL also have a great deal of experience in tooling more specific materials such as stainless steel, titanium and non-ferrous metals which are primarily used for making parts for the medical and aeronautical sectors. The company employs 100 people, now has some 7,500 m<sup>2</sup> at its disposal, and makes all sorts of contact elements (either plugged or welded), with a range of 1,600 items using over 800 different primary materials.

## Integrated service provider

SOPIL's customers tend to come from the automotive and electrical industry as well as telephony, railways and the aeronautical, medical and household appliances sectors. 55% of their output is delivered to customers in France, with the rest going to Germany, Switzerland, Hungary, Iran, USA, Brazil and China. Lebaut describes their customers as "demanding when it comes to the complexity of the parts, and they also want high levels of quality and service". Reason enough for SOPIL to rely so heavily on BRUDERER presses in their stamping shop, and for them to integrate services which enable them to optimise processes. SOPIL provide a full range of services to their customers, from preliminary stud-

ies via tooling all the way through to the logistics of delivering the tooled, formed, die-cast and assembled parts which they manufacture. This all starts with the in-house development department with five members of staff who use 3D CAD programmes to design all types of progressive dies, particularly carbide tools, as well as integrating complementary functions such as die-tapping and assembly. Commercial director Jérôme Deuschlé explains that by working so closely hand-in-hand with their customers, the development department can provide the kind of innovative technology that can enable parts to be produced with increased functionalities and optimised costs.

## Punching presses keeping up with the growth curve

SOPIL provides customers with parts varying from 0.05 mm to 2 mm in thickness and 6 mm to 200 mm in width, delivered in reels which are either disposable or to be returned afterwards. SOPIL also call in subcontractors to enable them to offer complementary services on the parts such as heat treatment and surface treatment including silver-plating, gold-plating and either selective or non-selective tinning. Moreover, they produce bulk parts with automatic assembly directly on the cutting tool as well as bulk parts with different treatments.

The production workshop for high-speed precision stamping has 16 BRUDERER high-speed punching presses ranging from 25 to 110 tonnes, with 20 employees divided into two teams working on them. "The typology of the parts keeps increasing with time, and they are becoming ever-more complex," Lebaut explains. The ability to programme and memorise the different parameters reduces tool changing times whilst ensuring repeatability at the same time, which provide increased flexibility in terms of production.

## Minimising wear on tools

"SOPIL works at speeds of between 200 and 1'000 strokes per minute," Lebaut continues. "BRUDERER presses can operate at very high speeds, which means that we can achieve greater productivity and reduced manufacturing times. There really are only BRUDERER presses that we can do this with." BRUDERER's unique ram guidance guarantees a single fixing of the tools between two regrinds. Since the life-span of the tools is therefore longer and there are fewer regrinds to carry out, operating costs are reduced making the price per part more competitive. BRUDERER machines are also ahead of the pack when it comes to precision. "Their precision enables us to manufacture very technical parts with reduced tolerances. In particular we can implement progressive carbide dies with lower cutting margins. We chose BRUDERER initially and then chose to continue to work with them since the machines are accurate, multi-purpose and reliable over the long term," Lebaut says. "The repeatability of the



Beryllium copper part, 0.08 mm thick, for the aeronautical industry

precision never changes throughout the life-span of the machine." SOPIL can therefore swap the tools between different presses, even ones with different capacity without having to worry about the final geometry of the part, guaranteeing extra flexibility when it comes to production planning.

## Future-orientated

In a similar vein, SOPIL is looking to acquire a BSTA 810-145 to meet customers' increasing needs in terms of complexity. It has a larger die window meaning that it can take longer progressive dies – an invaluable asset due to the large number of procedural steps required by the complexity of the tools.

[www.sopil.fr](http://www.sopil.fr)



BRUDERER – SOPIL's technology partner since 1987



# New markets in sight for YIWU

With the design of a unique production line featuring two high-performance automatic punching presses BSTA 300-85 and BSTA 1250-117, BRUDERER has enabled one of its Chinese customers to corner one market and hopefully expand into another.



Finished Easy Open Ends on their way from the BSTA 1250-117 to the next production step.

YIWU Easy Open End Industry Corp. is the largest producer of tinfoil "easy-open ends" or "EOEs" in China. The company is based in Yiwu, in the central area of Zhejiang province, a little way southwest of Shanghai. It has more than a 65 percent share of the Chinese market, as well as supplying the products to customers across Southeast Asia and into Europe.

« We are impressed by the speed, accuracy and reliability of BRUDERER high-performance automatic punching presses. »

Jiangbo Lou, Technical Director and co-owner

In terms of markets, China is obviously one of BRUDERER's priorities, and is the country where it set up its third Asian-based competence centre in 2004, following in the footsteps of Japan and Singapore. China's influence on the world market was minimal until economic reforms in the 1980s began to unlock its potential. These reforms have been gradual but have been bearing fruit ever since they were implemented – indeed, the country has an average growth rate of 10 percent over the past three decades, making it the fastest-growing major economy in the world.

## Significant market coverage

By concentrating its focus purely on metal packaging for the food industry, YIWU Easy Open End Industry Corp. has carved a significant niche for itself and won the business of a number of highly-reputed companies, including Meilin Clear Packaging Products and Hangzhou-based COFCO – one of China's leading grain, oils and foodstuffs import and export groups. Within the food sector, YIWU Easy Open End Industry Corp. has certain key markets in which it specialises, providing 95 percent of EOEs for tomato sauce cans and 80 percent for luncheon meat cans in the Chinese market.



Jiangbo Lou, Technical Director and co-owner of YIWU Easy Open End Industry Corp., is looking forward to continuing the cooperation with BRUDERER.



The stacked shells are fed into the BSTA 1250-117 for the conversion with the tabs.

**Long-term sustainable development**

YIWU's management guidelines provide good quality, a friendly environment, occupational health and safety management. In order to achieve these sustainable goals, YIWU has decided to focus on achieving cutting-edge technology and creative management. The company's main priority is the development of its science and technology competencies and technical innovations, and as such it has invested 28 million Yuan (USD 4.3 million) in establishing the only technical centre in China for easy-open ends, as well as a science and technology building stretching over some 4,000 square metres. The centre devotes its energies to technical innovation and Research & Development, and has already



Stamping of the tab on the BSTA 300-85

obtained 25 national patents. It is home to more than 100 professionals, including 26 engineers (eight of them senior) and 16 technicians.

As part of this focus on technology and research and development, YIWU – which employs some 600 people worldwide – has set up a cooperative venture with China Jiliang University to train the specialists of the future and engage in an exchange of ideas and experiences with one of the foremost technical institutions in the country. In-house, the engineering department has around 100 employees, and there is a specific focus on rationalising and advancing the tooling structure, improving the precision of tooling components as well as working on their interchangeability. The overall priority is to improve the quality, stability and safety of the EOE's.

YIWU boasts 25 production lines for making EOE's with an annual capacity of three billion ends, and a further five production lines for DRD with an annual capacity of 200 million cans. The short-term outlook is one of growth, and the company has ambitious targets, intending to increase total sales to 5 billion ends in the next three years and 7 billion ends in the next five years. The production process is a complex one, involving shell making, lining, conversion, score repairing, anti-corrosion checking and packaging of the finished shells.

**Unique BRUDERER technology**

Having used other machines for a number of years for their traditional tin-plate EOE's, the company acquired its first BRUDERER machines in March 2010, with the specific aim of utilising new technology which only the Swiss-based manufacturer could provide. The engineers from YIWU and the BRUDERER team lined up the two high-performance automatic punching presses allowing an significantly increased stability for the production process – a quantum leap in terms of technology.

This innovation enables the EOE to be punched on the same line. The base shell, which is the raw end of a can, is punched beforehand. Then the panel end, the so-called tab that is used to tear open the can end, is stamped on the BSTA 300-85, before being fed into the second machine, the BSTA 1250-117 which is set up at an angle of 90 degrees to the first, where the tab is then riveted on to the base shell and the depth of score is pressed to an accuracy of only some two or three microns. "This is a real technological breakthrough," explained Andy Fischer who is CEO at BRUDERER in Switzerland. "It is what the customer wanted, so we came in and implemented it. We have separated the functions in order to get a more reliable process. We have increased the speed at which production can be carried out and further improved the repeatability. It has been a great success for cans that are destined for food use, and we are hoping that we will be able to help YIWU branch out into other sectors using the same technology."

« For us, combining the BSTA 300-85 and the BSTA 1250-117 on the same production line was a quantum leap in terms of technology. »

Jiangbo Luo, Technical Director and co-owner

"BRUDERER machines offer a ram adjustment according to different speeds, perfect stability of shut height, protection of press and tooling and stability of score depth," said Jiangbo Luo, Technical Director and co-owner of YIWU Easy Open End Industry Corp., of the two BRUDERER machines in use at YIWU. With the two presses of 30 and 125 tonnes, YIWU is stamping at thicknesses of 0.19 millimetres for ends with 30 millimetres stroke and 0.26 millimetres for tabs with 42 millimetres stroke. "It is easy to remove the material and they give a good precision on feeding. The lubrication system is well-designed and produces no oil pollution. Overall, we have been impressed by the speed, accuracy and reliability of these high-performance automatic punching presses."

Demand for aluminum easy open ends – used primarily for the beverage market – is much higher than for tin plate EOE's, and YIWU has already entered this market. Attacking a new sector is no easy task, but the company knows that it will be able to rely on BRUDERER's support and of course

its cutting-edge technology. "Thanks to the excellent and in-depth cooperation between the two companies, YIWU has already been able to successfully develop a four-lane tinplate EOE line, operating at speeds of 500 strokes per minutes, using a BRUDERER BSTA 1250-117 and a BSTA 300-85 press," Jiangbo Luo continued. "We hope that this cooperation will continue in the future, and in this regard we intend to use BRUDERER high-performance automatic punching presses to produce aluminium beverage-can ends."

YIWU is hoping to develop its own tooling system for manufacturing aluminium easy open ends, and is opting for BRUDERER presses, not only due to the success of the two-machine line for tin-plate cans, but also since they will have the potential to be fitted with a unique bottom dead-centre control (BDC) system. BRUDERER already has the capacity to build machines for a line which could run at 750 strokes per minute and YIWU has the tooling technology required to get into this lucrative new market. With YIWU's expertise stretching well into a third decade in the EOE market, and BRUDERER's legendary reliability and precision, the scope to expand into the aluminium beverage can market is much like China's overall economic potential – enormous.

[www.eoedrd.com](http://www.eoedrd.com)

YIWU EASY OPEN END INDUSTRY CORP.	
Headquarters	YIWU Zhejiang, China
Established	1988
Number of employees	600, thereof 100 in R&D
Certified	ISO 9001, ISO14001, OHSAS18001, BRC-IOP
Customers	Food industry, beverage industry
BRUDERER presses used	BSTA 1250-117, BSTA 300-85 with B-control



Easy Open Ends made by YIWU



Experienced YIWU engineers are researching innovations in EOE and DRD technology.

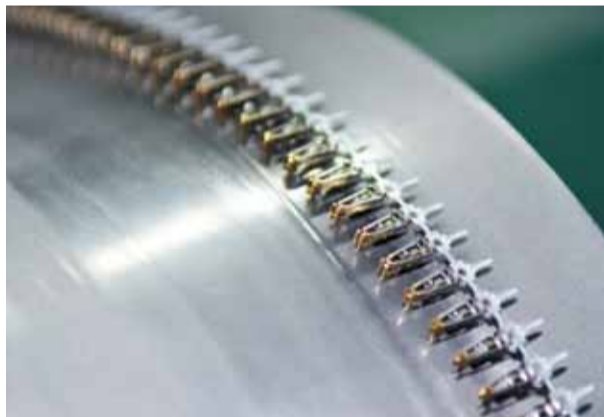
# HARTING – A global business on the road to success

The HARTING International Technology Group has chosen *Pushing performance* as its motto, and it is one which the company lives, breathes and implements down to the last detail. This is particularly the case in HARTING's stamping centre of competence in Espelkamp, Germany, which exclusively uses BRUDERER high-performance fully-automated punching presses.

The company, founded in 1945 by Wilhelm and Marie Harting, has developed from a small mechanical workshop for everyday tools into a global market leader for electrical and electronic joining technology. Along with various other board members, Dietmar Harting, son of the founder, his wife Margrit and their children Philip and Maresa run the Espelkamp-based company in the North Rhine Westphalia region of Germany which has remained a family business to this day.

The technology group has no fewer than 36 international subsidiaries and a total of 10 production sites, enabling it to serve customers in a whole host of different sectors, for example energy production, transportation, engineering and telecommunications to name but a few. These customers include some of the biggest names around the world in their various branches, while HARTING's Han® heavy connectors are leaders in the global market, as are plenty of other products which the company manufactures.

To be able to hold their own in what are fiercely competitive markets, HARTING has chosen to maintain close relations with customers. The company works with a deep vertical range which enables it to react quickly to customer requirements. The production locations in Germany, Great Britain, Romania, China and Switzerland are all similarly flexible, and produce some 3.6 billion contacts per year – enough to fit around the world twice – using 800 tonnes of material.



HARTING produces 3.6 billion contacts per year.

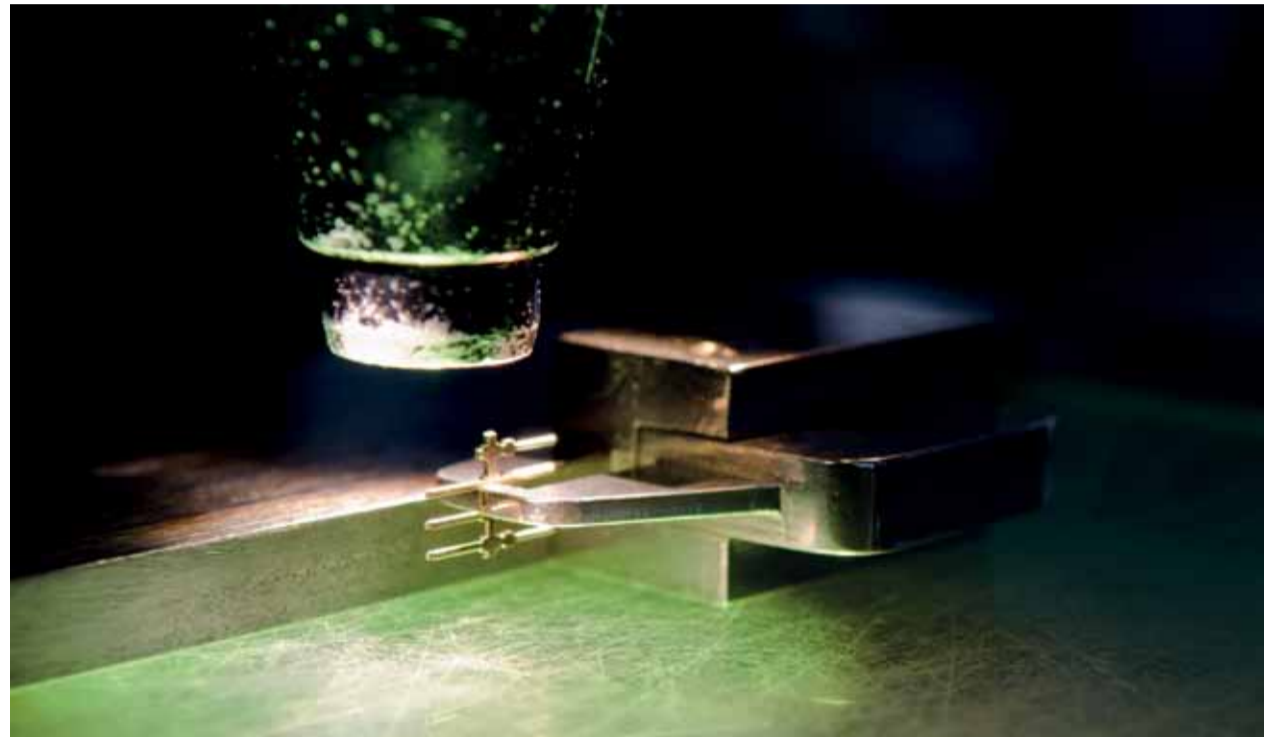
## Innovation made by HARTING

Having excellent products is half the battle for any successful company, but if you are looking to maintain an advantage in the face of well-known international competition, you have to move quickly. This means rapid reaction times and even shorter delivery times, which require intelligent solutions, systems and forms of work. This is where HARTING can rely on the wealth of ideas of their development team, featuring over four hundred engineers and scientists. It should come as no surprise therefore that the company is no stranger to innovation, having almost eight hundred patents and registered designs as well as over two hundred of its own brands.

The basis for innovation is the same as every aspect as far as HARTING is concerned – it involves pushing themselves to the limit. Trends are identified early thanks to intensive market research and the involvement of domestic and international trade associations. In many cases, this enables them to design products with specific markets in mind. A number of test series and experiments can also be carried out in-house thanks to the high-quality research and development equipment available there. HARTING has an officially recognised laboratory for the qualification of product characteristics for electro-

« Employees are the key to HARTING's success! »

Torsten Ratzmann, Senior Vice President Operations



Pushing performance – high-performance as far as the eye can see

mechanical and electronic transmission systems for the IT, automotive and automation sectors. This significantly reduces the time a product requires to reach market maturity and can provide a decisive advantage over the competition.

Customers are also important development partners as far as the HARTING Technology Group is concerned, and they offer them all the solutions they need. For example they can supply not just basic connectors but fully installable ones with cables of the right length, which can be tailored where necessary on-site at the customer's location by HARTING fitters.

It is not always easy to spot a HARTING product at first glance – some of them are built into modern railway technology, while others are used in the infrastructure for mobile telecommunications, for example in high-speed data transmission, industrial robots or wind power stations. And yet they are always in practical use. An example of this can be found in HARTING's own in-house machine shop. To equip it with simple connection technology, the company developed a connector which provides the manufacturing facilities with electricity, compressed air and signals at the same time. The Han-Modular® as this is called has since gone on to become a best-seller.

## Top-notch performances thanks to HARlis

Another reason for the company's success in terms of innovation is HARlis, the "HARTING learning & improvement system". This is an overriding set of guidelines developed by employees and management alike which were designed to take a critical look at workflows and improve them. Each person can bring their own specialist knowledge to a targeted area and help to improve the steps of the various procedures in a practically-orientated way. The system helps to create space for ideas, creativity and optimisation, all of which can be put to good use in the development phase.

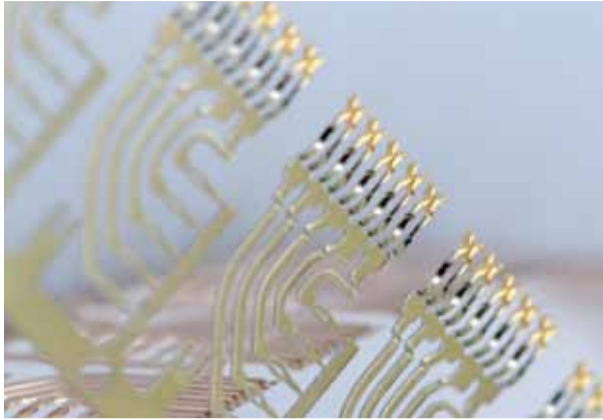
When asked what the key to HARTING's success is, the first thing that Torsten Ratzmann, Senior Vice President Operations, mentions is the employees. He sees them as the knowledge-bearers whose high levels of motivation lay the foundations for the company's excellent results. They

were also the basis, along with management, of HARTING Electronics GmbH winning the "Factory of the year / GEO 2010" award for "Outstanding large-scale production". The jury were impressed with the team spirit and real commitment shown by employees and management alike as well as the excellent HARlis HARTING learning & improvement system, which enabled a higher level of standardisation and comprehensive improvements to be implemented in terms of make-ready processes.

Something else of great significance for employees was when the HARTING Technology Group was given an award for being one of "Germany's best employers 2011" in the "Great Place to Work®" competition. A lengthy and anonymous survey was carried out to enable employees to evaluate topics such as management, cooperation, career development, salaries and job satisfaction amongst other topics. Margrit Harting, Senior Vice President and Partner of the HARTING Technology Group, sees this award as a



Torsten Ratzmann: The "Factory of the year/GEO 2010" award is a tribute to the whole team.



HARTING is a global market leader for electrical and electronic joining technology.

real achievement, saying: "We are very proud of the trust that our employees have in us as an employer, and that they have given us such a vote of confidence." The award is also a demonstration of how much the employees value the efforts which the company makes to create value for them.

Training and further education for the company's employees, most of whom hail from the surrounding region, has enhanced HARTING's local reputation. The New HARTING Training Centre (NAZHA) in Espelkamp has 81 young people training for the world of work in 16 different trades. At the same time the company offers places on a dual study programme in conjunction with the Oldenburg Private University for Finance and Technology (FHTW).



Han-Modular®: one of many HARTING best-sellers

metres in the stamping room, this trickiest of tasks was solved thanks to BRUDERER working in close collaboration with the producer of the noise protection cabin – now that certainly is pushing performance!

HARTING punches strip widths of between 8 - 75 millimetres and thicknesses of 0.12 - 1 millimetre with tolerances of up to 5 micrometres. They primarily work with bronze, brass and copper alloys at speeds of between 400 - 1,250 strokes per minute. One of the features of the stamping centre of competence is embossed points without corners or edges.



Thomas Meyer heads up the HARTING stamping centre of competence in Espelkamp.

teams to develop electric-powered racing cars before seeing how they measure up against working groups from all around the world at the Hockenheim circuit in Germany, in a competition which gives the industry valuable stimulus and insight.

Data communication between the various types of machine technology in the industry is also growing in importance, and with its decades of experience in this sector, the HARTING international technology group is very much at the forefront here as well.

[www.HARTING.com](http://www.HARTING.com)



HARTING is implementing an innovative new concept with the BSTA 810-145.

**Pushing performance with BRUDERER**

Stamping – one of HARTING's core competencies – is currently concentrated at the headquarters in Espelkamp, with employees working a three-shift system and five-to-seven days a week, depending on capacity utilisation. The press shop is exclusively stocked with BRUDERER high-performance fully-automated punching presses, some 26 of them in total with press capacity ranges of 20 - 30 tonnes. The latest acquisition however, a BSTA 810-145, is the first machine to go beyond these limits. The reasons behind the purchase were not merely the tonnage, but also the 1.450 millimetre die window which was necessary for producing a unique new concept. This project, which involves stamping with the usual levels of precision and delicacy yet at a high press capacity, has been one of the most demanding tasks of recent months. The experts at HARTING are playing things very close to their chests regarding the details however, with no secrets leaking out of Espelkamp...

BRUDERER have been a tried and trusted partner of the HARTING Technology Group since 1978. Back then, the group was unable to manufacture a contact with sufficient vertical range using its existing hydraulic presses, and so decided to order its first excentric press – a BRUDERER fully-automated punching press. The advantages that swung the original decision in favour of the company from Frasnacht in Switzerland are still very much applicable today: high precision, reliability of delivery and an efficient customer services department in the event that there was ever a malfunction. And when it came to adapting the latest BSTA 810 to a ceiling height of just four

« We only use BRUDERER in our stamping centre of competence. »

Thomas Meyer, Head of the Contact stamping department

BRUDERER high-performance fully-automated punching presses are also used for online assembly. They are complete systems which do away with the need for stocking materials for the machines and thus ensure rapid reaction times.

HARTING also relies on BRUDERER quality when it comes to feeds, using BRUDERER belt, gripper and servo feeds which are highly appreciated for their precision and reliability.

**Smaller is even more beautiful**

HARTING is expecting the future of stamping to involve developments towards ever smaller contacts, dimensions and tolerances and material that is more delicate. And as is the case in other areas, smaller batch sizes are also to be expected, which will reduce delivery times for customers and increase the availability of materials.

Various trends are emerging in HARTING's core segments. New energies are becoming an ever-more prominent topic and demand solutions which both meet the needs of clients whilst protecting the environment.

Another field of activity that is just as interesting is future-orientated electric mobility. HARTING is very much involved in this area via the HARTING Sponsoring Formula Student, a construction competition for students which is run every year. As a complement to their studies, they form



Working with the HARTING experts of the future: the new HARTING Training Centre (NAZHA)

The HARTING Group in facts and figures	
Headquarters	Espelkamp (Germany)
Founded	1945
Number of employees	around 3,200 worldwide
Sales	EUR 413 million (2009/2010)
Output	3.6 billion contacts per year

# BSTA 280 – Top class, top performance

The BSTA 280 follows on from the tried and trusted BSTA 300 and BSTA 250 machines and combines the positive qualities of its predecessors with the latest in technology.

The new BSTA 280, which was unveiled at the BLECHexpo 2011 sheet metal trade fair in Stuttgart, is an accurate and modern high-performance automatic punching press which can be implemented in a wide variety of fields of application. It has a nominal force of 280 kN, making it suitable for stamping jobs up to a maximum of 2,000 strokes per minute. One possible field of application would be the LED industry, which is a high-growth sector at the moment. The metal parts required to conduct the electricity can be punched accurately, quickly and reliably on the BSTA 280, or indeed on any other BRUDERER automatic punching press, which is one of the reasons why world-renowned manufacturers in LED production often rely exclusively on BRUDERER high-performance automatic punching presses.

### High performance from a compact machine

The priority during the development and construction of this model was to fully replicate, or indeed go beyond the performance range of the BSTA 300 and the BSTA 250 that it is replacing. Despite the BSTA 280 being only slightly larger than the BSTA 250, it has a die mounting window of either 750 or 880 millimetres (which the customer can choose), which is bigger than the BSTA 300 which had a maximum working area of 850 millimetres. This feature takes into account the current trend for longer die windows. Another important element is the widening of the span for the pressure columns, which provides good ram support and significantly increases the tilting rigidity.

A maximum number of strokes of 1500 per minute is attainable using the smallest stroke length, thanks to the adjustable stroke of between 13 – 47 millimetres which is fitted as standard. One option for the customer is to have an adjustable stroke of 6.5 mm – 40.5 mm which enables parts to be stamped at 2,000 strokes per minute in the smallest stroke length.

As is the case with all new generation BRUDERER high-performance automatic punching presses, the BSTA 280 is also laid out using the modular feed principal, which means that a variety of units can be added without modifications having to be made to the automatic punching press of the feed itself. The internal gear between the two cardan shafts serves as an interface for the BBV mechanical feeds. The BSV servo feed acts as the incremental encoder for the machine's crankshaft.

In standard specification, the BSTA 280 has a BBV 180 belt feed, but it can also be fitted with a BSV 75 servo feed or even the larger BSV 170 version. For metal strips with sensitive surfaces, the tried and tested BZV 61 gripper feed is recommended.

Technical data BSTA 280				75	88
Control system			B2	B2	
Press force		kN	280	280	
Tool loading area	L-R	mm	750	880	
Speed	min	spm	100	100	
	max	spm	1500*	1500*	
Shut height depending on stroke	min	mm	171	171	
	max	mm	239	239	
Bolster area	L-R	mm	740	870	
	F-B	mm	536	536	
	height	mm	1154	1154	
Ram area	L-R	mm	646	776	
	F-B	mm	360	360	
Strip inlet height	min	mm	50	50	
	max	mm	120	120	

\* Adjustable stroke machine with 2000 spm available as option

### Flexible implementation

With a maximum band pass width of 232 millimetres, the BSTA 280 can be used for a whole host of possible applications, while peripheral devices can be added on as and when the customer requires.

The tool and parts data that are part in the BRUDERER B2 controlling system are saved on a flash drive which has replaced the hard drive that was used in the original B controlling system. The new generation of B2 controlling has eliminated the moving parts altogether by adapting the construction, which thus reduces the number of breakdowns of this important element to a minimum.

### All the stamping world present in Stuttgart for the BLECHexpo 2011

This year's BLECHexpo, which was held from 6 - 9 June in Stuttgart, was a successful platform for BRUDERER. Plenty of customers and interested parties came to see the newly-designed stand in Hall 8 and check out the latest in trends and technology from the world of stamping.

Some 26,000 specialists from Germany, Switzerland and other nearby European countries attended the four days of the trade fair, which was spread over 70,000 square metres. More than 1,000 exhibitors from 31 different countries were on hand to showcase their products and services.

The highlight on the BRUDERER stand was the new high-performance BSTA 280-88 fully auto-

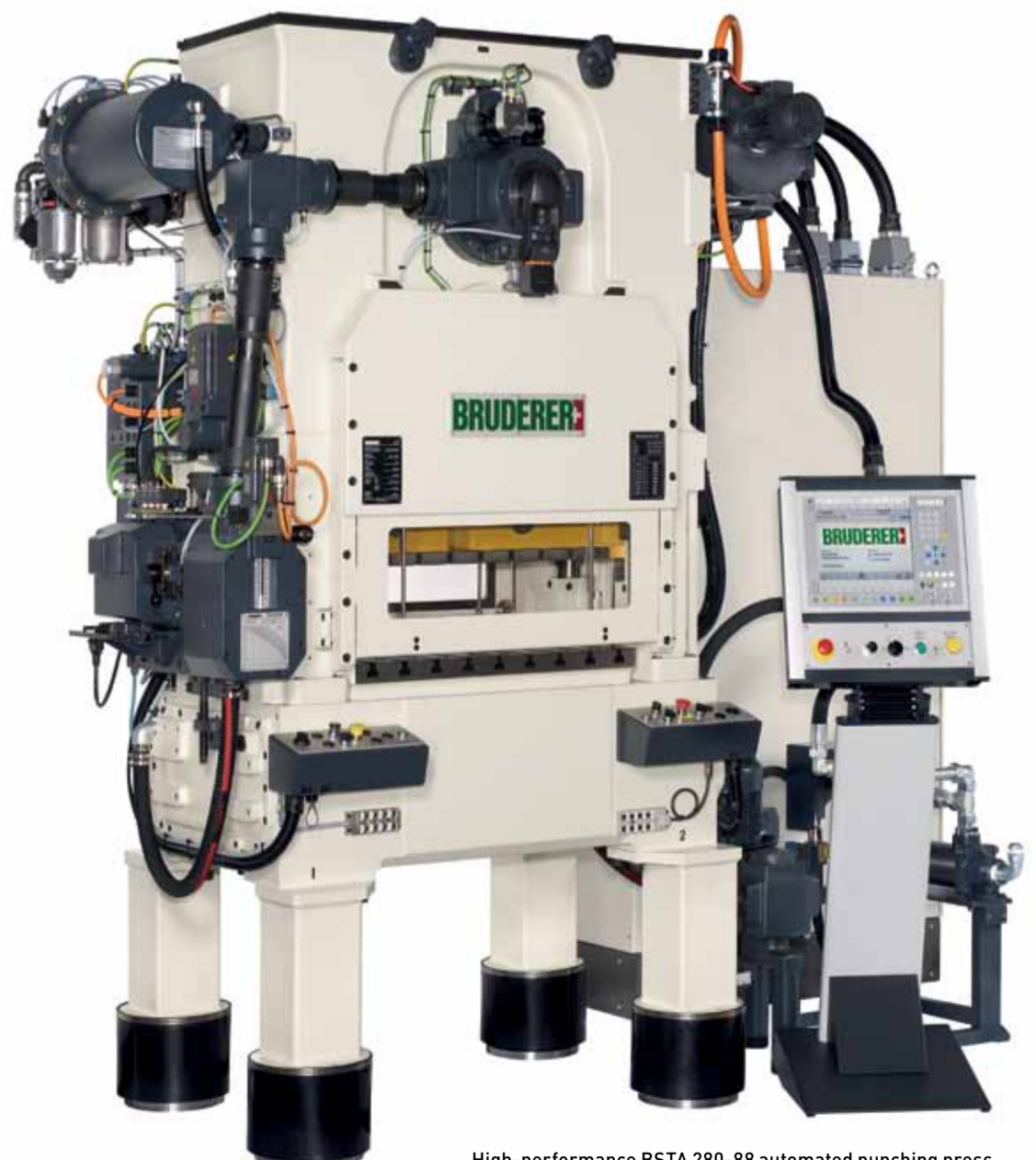


The new BRUDERER stand at the BLECHexpo 2011

mated punching press with B2 control system, seen in action with a STEPPER tool. It featured peripheral devices provided by trusted BRUDERER suppliers: SLE contributed the strip lubrication system, SCHROEDER + BAUER NOXON the tape winding technology and FAHRER the noise protection cabin.

A board-to-board connector that can be used in electronics, sensor technology and mobile telephony was stamped, with a bronze strip 0.25 millimetres thick, 17.5 millimetres wide and with 2,000 strokes per minute, decreasing sevenfold. This application certainly enabled the BSTA 280-88 to attract a crowd.

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High-performance BSTA 280-88 automated punching press with B2 control system