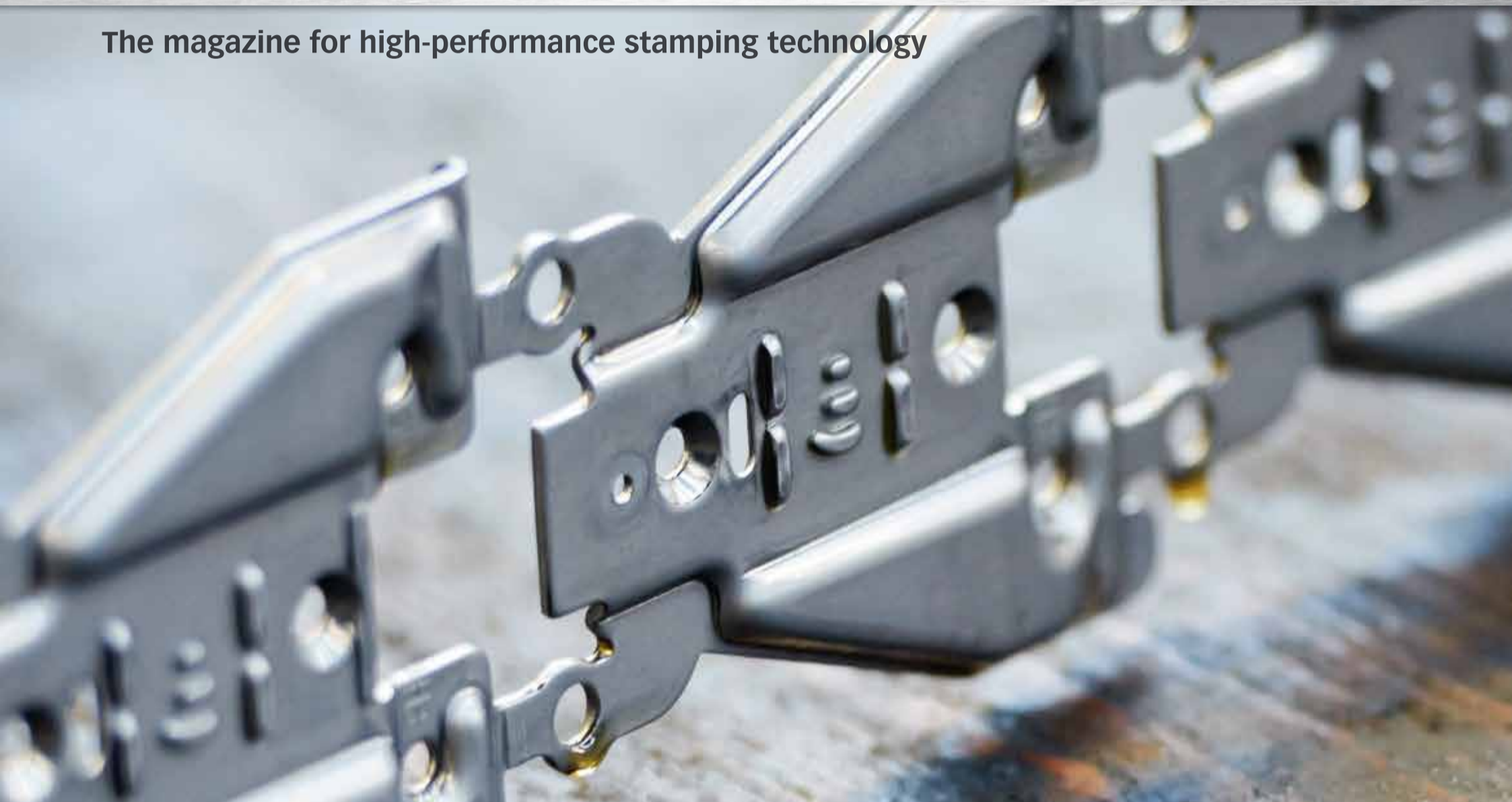


# STAMPER 1/14

The magazine for high-performance stamping technology



## **GRASS and BRUDERER: leading with precision.**

Precision and quality, a trademark of the hinges and fittings produced by the international company Grass, are also the attributes they look for in their production lines. The latest high tech hinge system Tiomos is produced on a BSTA 1600. A success story from the world of furniture fittings.

**P. 4/5**



## **BSTA 280-75 with BPG 22: HARWIN ready to tap into new market potential.**

The British company HARWIN is a successful player in the highly competitive electronic components market, not least since their production lines are being kept at the cutting edge of technology. Their latest acquisition is a BSTA 280-75 with BRUDERER planetary gearbox.

**P. 6**



## **BRUDERER in the Middle Kingdom.**

The first BRUDERER stamping presses were delivered to China in the early 1980s. Since then, business relationships have deepened such that today, more than 1,000 BSTA presses are operating in the Middle Kingdom. Customers benefit from expert local advice from the Competence Centre in Suzhou, which was opened in 2004. A portrait of BRUDERER Machinery Suzhou.

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# News from BRUDERER

## EDITORIAL



### BRUDERER in the Year of the Horse.

At first sight, this might seem a surprising headline for the editorial of our STAMPER magazine. However, a closer look shows that it makes sense considering the many points of reference between BRUDERER and the Year of the Horse. One is certainly the fact that China has been an important market for BRUDERER for many years already. It's now exactly ten years that we have opened one of our Asian competence centres in Suzhou, and we added another subsidiary in 2009 in Dongguan. With this ideal structure we can service the more than 850 stamping presses in operation today in this market.

Swissness has always been in demand in China and economic relations between the two countries have a long tradition. China's excellently qualified managers have a solid interest in technology and a distinct understanding for the latest production practices. You may ask yourself how that connects to the Year of the Horse. It is a year marked by dynamism and changes which requires a lot of flexibility and openness – two typical qualities of BRUDERER when working on the best stamping solution for its customers.

New products show proof of this commitment: a BSTA 510 with a tool loading area of 150 centimetres which we will show at EuroBLECH in Hanover from 21 to 25 October 2014. Other innovations are three feed units for wide strips and a new gripper feed unit. And also new and "hot off the press" is the STAMPER app for tablets allowing you to have our customer magazine at your fingertips anytime and anywhere.

The flexibility which characterises BRUDERER is equally important for our clientele and the same goes for vision and solid values. They rely on our high-performance stamping presses, benefit from the flexible fields of application and know that this investment pays off for many decades. Proof of this is GRASS, one of the leading international manufacturers of furniture fittings who rely on BRUDERER stamping presses in the production of its high-quality hinge systems. Other examples are HARWIN PLC, the British specialist for electronic components, and STOCKO CONTACT, one of the few competitive European contenders in the international market of connector systems. In closing this STAMPER issue, Freeman Huang, the General Manager of our subsidiary BRUDERER Machinery in Suzhou, will report from China where he and his team are experiencing the Year of the Horse first hand.

And before we will look back and know if this horse was a lucky charm for us, we will meet you at EuroBLECH in Hall 27 at stand G42 – and we look forward to it!

Wishing you interesting reading

Andreas Fischer, CEO

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When EuroBLECH 2014 opens its doors in Hanover on 21st October 2014, BRUDERER will be exhibiting a new extended version of the popular BSTA 510 stamping press with 1,500 millimetres tool loading area. Further new additions to the product range are the BSV 450, BSV 650 and BSV 850 servo feed units for wide strips as well as the BZV 80 gripper feed unit.

The world's leading technology exhibition for the stamping industry is in its 23rd year in 2014. On the 300 square metres BRUDERER stand G42 in hall 27, visitors will experience the World of BRUDERER stamping presses, discover the new BSTA 510-150 and in traditional BRUDERER style will be served regional Swiss specialities.

### BSTA 510-150: more room for efficient solutions.

The BSTA 510-150 is yet another addition to the BRUDERER product line embracing 51 ton press force. The tool loading area has been extended to 1,500 millimetres, offering an economic solution for applications where the press capacity is sufficient but more space is required for longer progression press tools. This high performance automatic stamping press is now able to offer a wide range of possible applications, whether it is to produce connectors for the automotive industry, laminations or any other pressed parts, and therefore represents excellent value for money.

This BSTA has a net machine weight of just 11 tons. The machine is fully dynamically balanced and is capable of speeds up to 1,050 spm without the need for special foundation.

The BSTA 510-150 has all the tried and tested features of the 510 series, for example the renowned BRUDERER mass balancing system together with the thermo neutral ram-guiding system located at strip level thus eliminating the tilting of the ram during the stamping operation. It is offered with a BBV 180 feed unit as standard. This is a mechanical roller feed unit suitable for many applications including feeding of thin strips. Thanks to the modular design of the BRUDERER feed systems, other types of BRUDERER feed units may also be used on this machine.

The new BSTA 510-150 is on show at the BRUDERER stand G42 in hall 27. It is also possible to view the same type of press with 1,250 millimetres bed size in action, equipped with a complex tool by Schröder+Bauer on the Noxon stand J40.

### Wide scope for BRUDERER feed technology.

Several solutions for the feeding of wide strip have been available on the market, but none were really satisfactory. All too often the feed unit limited the performance of the stamping press and consequently the productivity of the stamping line. BRUDERER decided to remedy this by developing their own feed units for wide strips, namely the BSV 450, BSV 650 and BSV 850.

Wide strips are utilized mainly in the production of perforated sheets, used for example in the automotive industry for sound absorbers and loudspeaker cover grills filters or in the building industry for noise protection walls or in roofing and cladding. Further areas of application are lamination stamping or the production of drink cans from aluminium sheets.

### BSTA 510-150 – Facts and figures:

- Press force: 510 kN
- Tool loading area: 1,500 mm
- Weight: 10,800 – 10,900 kg
- Speed: 100 – 1,050 1/min
- Adjustable stroke (standard): 16 – 51 mm
- Adjustable stroke (option): 19 – 64 mm

Customers expect feed units to be perfectly integrated with the stamping press, utilizing only one control system, and thus are easy to use and ensure long term reliability. BRUDERER offers exactly this combination from a single source – and can therefore fulfil the most varied needs and requirements of their customers.

### BRUDERER at trade shows 2014/2015



MICRONORA (France)	23.09. – 26.09.2014
MSV Brunn (Czech Republic)	29.09. – 03.10.2014
MAKTEK eurasia (Turkey)	14.10. – 19.10.2014
Vienna Tech (Austria)	14.10. – 17.10.2014
EuroBLECH (Germany)	21.10. – 25.10.2014
FABTECH (USA)	11.11. – 13.11.2014
IMTEX Forming (India)	22.01. – 28.01.2015
Southern Manufacturing (UK)	10.02. – 12.02.2015



# at EuroBLECH 2014.



## BZV 80 – Facts and figures:

- Feed angle: 180°
- Feed length: 0 – 80 mm
- Gripper width: 36 mm
- Strip inlet width: 80 mm
- Strip thickness: 4 mm
- Weight: 210 kg (app.)

The servo feed units BSV 450, BSV 650 and BSV 850 are synchronised via an absolute encoder driven from the crank shaft and thus offer the ultimate in flexibility: the feed start, feed angle and pilot release are able to be fully programmable, giving full control of the strip feeding operation as and when required. Thanks to the moveable feed roller shoes even radiator fins made of aluminium foil can be stamped to the highest quality. The new wide-strip servo feed units have all the advantages of the BRUDERER servo feed range: they are flexible and allow long feed pitches, the servo is supplied with oil via the stamping press's central lubrication system, which ensures an optimum lubrication and cooling. The servo feed units are therefore maintenance-free. A specialist from BRUDERER will be able to advise customers on the variety of attachment options on offer.

### BZV 80: gripping gently.


The feeding in and out of sensitive strip material frequently poses major challenges for suppliers of feed units. With the BZV 61, BRUDERER has for many years had an established solution for feed lengths up to 60 millimetres. The new BZV 80 now extends this range to 80 millimetres. Again, as in the case of the wide-strip feed units, the advantages are that press and feed unit are from the same source, and are precisely tuned to each other and run synchronously. The construction principle guarantees a harmonic pitch movement, leading to highest dynamics and optimum performance at speeds of up to 2,000 strokes per minute. And that is the requirement for the high-speed BRUDERER stamping presses. The design also facilitates an extremely accurate progression between clamp jaw and feed jaw.

The BZV 80 features manual or motorised feed length adjustment during operation, up to a maximum feed length of 80 millimetres. It also has automatic strip thickness adjustment with an additional fine adjustment possible using height-adjustable strip pressure pads. The strip clamping pressure can be adjusted manually by means of the adjustment spindle.

As with every BRUDERER feed unit, the BZV 80 is supplied with oil via the stamping press's central lubrication system, which ensures an optimum lubrication and cooling of the individual bearing zones. The BZV 80 is part of the modular BRUDERER feed unit concept and thus can be fitted to any press of the type BSTA 200, BSTA 280 or BSTA 510 without the need for modifications.

**“All these product innovations extend the range with market-oriented and efficient solutions.”**

The BSTA 510-150, the new BSV 450, BSV 650 and BSV 850 wide-strip feed units and the BZV 80: all these product innovations extend the BRUDERER range with market-oriented solutions which enable customers to make their production processes more

efficient. Those looking for the optimum approach for their stamping application will find it at BRUDERER. See you at EuroBLECH in Hanover! 

**BRUDERER: hall 27, stand G42**

**NOXON: hall 27, stand J40 (BSTA 510-125 in operation with tool and periphery)**

[www.euroblech.de](http://www.euroblech.de)

## BSV 450, BSV 650 and BSV 850 – Facts and figures:

Wide-strip servo feed units		BSV 450	BSV 650	BSV 850
Max. strip width	mm	450	650	850
Max. strip thickness	mm	2	2	2
Max. feed length	mm	1,000	1,000	1,000
Roller pressure	N	4,500	4,500	4,500
Max. speed	min <sup>-1</sup>	1,000	1,000	1,000
Pilot release		Variable	Variable	Variable
Feed angle		Variable	Variable	Variable
Weight	approx. kg	265	306	360
Attachable to		810 1250 1600	On request	On request

# It all hinges on BRUDERER precision for GRASS furniture.

For more than 60 years now, GRASS has been one of the world's leading manufacturers of furniture fittings and process machines. The company produces sophisticated movement systems for a whole host of premium furniture and kitchen manufacturers. At its Reinheim location in the Hessen area of Germany, GRASS focuses solely on the production of high-quality hinges, and when it comes to processing precision stamped parts, they rely on the high-performance automatic stamping presses from BRUDERER.

GRASS was founded in 1947 and currently employs over 2,000 people worldwide, generating sales of some 300 million Euros. The company's traditional headquarters are in Höchst in the Vorarlberg region of Austria. The GRASS Group has gone on to become a truly international one and established centres of competence at various locations which specialise in different movement systems. Focusing on specific competences was originally a historical development but it is one which now makes a great deal of economic sense.

2008 was an important year for GRASS: The company merged with Mepla-Alfit, a German firm with a long tradition of manufacturing furniture fittings, to form the GRASS Group. Both companies have been part of the Würth Group for a number of years, as is the new GRASS Group, and the merger laid the foundations for a truly global business. Furniture is not considered as merely unemotional fittings for a room but rather as individual design elements which enable end customers to bring a touch of personality to their homes. Innovation is very much the watchword, with the GRASS Group changing the market via new creations and products. To achieve this however, the technology with which the company is equipped needs to keep pace with its visions. After all, only with the right tools can ideas be turned into reality.

## A new generation of hinges.

While all this has been going on, Reinheim has continued to focus on the development and production of innovative hinge systems. An example of this came in 2004 with "Soft-Close" – the first damper system for doors. The current stand-out product in the extensive GRASS range in Reinheim is called Tiomos. One of the main features of this highly-developed hinge system is the use of a Soft-Close damper which can be regulated progressively. The complex interior

of the hi-tech hinge is totally hidden from view yet provides absolutely unique damping characteristics. The closing process is even during every phase of movement and is absolutely seamless, from opening angles as tight as 20°. The tool-free damper system means that the size and weight of the door make no difference, which is certainly an advantage in the furniture sector where there are so many different applications, all of which however have to close evenly and silently.

This is where Tiomos comes in, setting new standards in hinge technology while at the same time offering an optimum movement solution.

As well as all of these functional advantages, Tiomos is also aesthetically impressive – so much so that the expert red dot jury gave the new GRASS hinge system its internationally-recognised design award.



The new award-winning generation of hinges: Tiomos.

## New demands in terms of production.

Tiomos is not a conventional hinge – it is a complex movement system, and one which requires correspondingly difficult tasks when it comes to production and quality assurance. The process is made all the more complex by the lack of available space, with some 50 or so individual parts coming together to create this mini-masterpiece. "Watches no doubt have more parts to them, but their mechanics only have to move parts that weigh a few grams, if that," explains Helmut Kainrad, head of the hinge systems centre of competency in Reinheim. "Tiomos on the other hand is required to move doors weighing up to 10 kilogrammes, if not more, and in a way that is pleasant, haptic and kinematically harmonious for the consumer." "When it comes to quality, we have over 30 years of experience in the production of hinge systems across the GRASS Group," adds Andreas Wacker, head of production at GRASS in Reinheim. "The quality assurance departments in Höchst and Reinheim work together in close collaboration to achieve and maintain optimum levels of quality." For Wacker, GRASS hinge systems are produced to the same high standards as the automotive industry. "We have modelled our automatic production plants on their standards," he explains.

## GRASS – facts and figures:

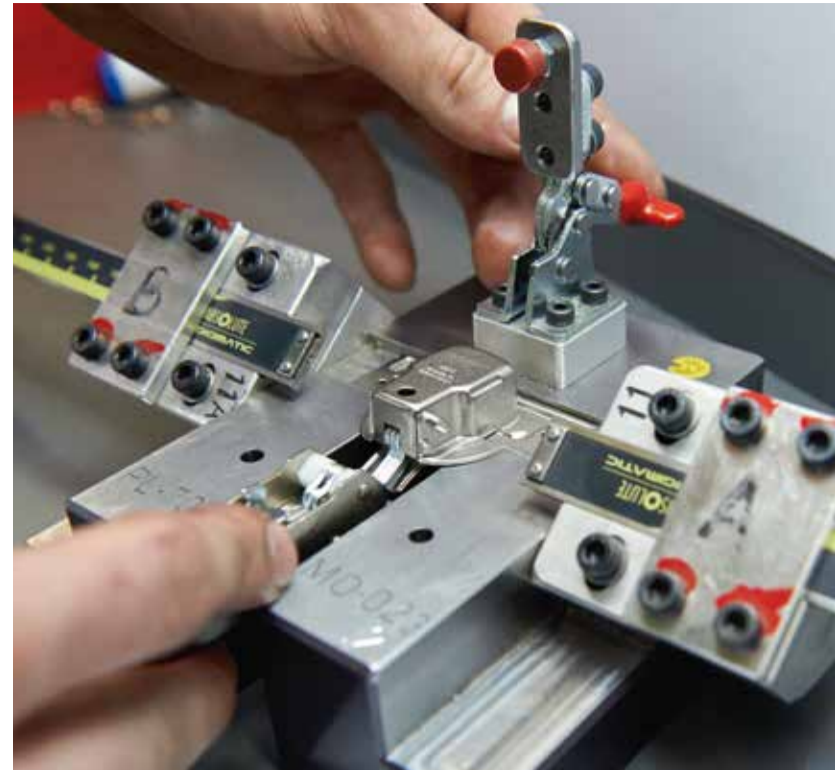
- Founded: 1947
- Headquarters: Höchst at Lake Constance
- 12 Locations worldwide
- 2,000 employees
- Award: red dot design award
- Sales 2013: 300 million Euros
- 2008 fusion with Mepla-Alfit
- DIN ISO 9001 and DIN ISO 14001 certification



The company headquarters in Reinheim.



Tool inspection.



Quality assurance is the highest priority.



Andreas Wacker, head of production at Reinheim.

**Significant investments and vertical range of manufacture as priorities.**

Anyone observing the manufacturing processes in Reinheim in any detail will quickly realise that there has been a great deal of investment over recent years. All of the assembly facilities and tools have been rebuilt and redesigned to work together perfectly. Tool-making is a particular focus for the GRASS Group. “We develop and manufacture almost all of our tools here in-house”, says Wacker. “For the Tiomos hinge system alone, that’s 100 different tools.

**“You cannot argue with top quality, top service and an extremely long service life of the tools implemented.”**

In general, the amount of in house manufactured components is extremely high compared with that of other producers. Other than a few plastic parts, rivets, pins and screws, we produce all the components for our products right here – it is the only way that we can truly ensure that we meet our own high standards of quality, particularly when you take into account the amounts that we produce here every year. The only way that we can achieve that is by having a correspondingly high utilisation of production means and a three-shift system throughout the week.”

**High precision courtesy of BRUDERER.**

As is the case with all GRASS movement systems, the highest priority is given to quality assurance. “This is also one of the reasons why we opted at an early stage for BRUDERER automatic stamping presses for our stamping technology,” says Wacker. “You cannot argue with top quality, top service and an extremely long service life of the tools implemented. When we

started using our first BRUDERER automatic stamping presses in progressive dies in 1996, we very soon realised that we would be investing further in this kind of stamping technology. Only last year, we added a BSTA 1600 to our stamping department. With its thermo-neutral ram guide system positioned at strip level to eliminate tilting, it guarantees incredibly high service life and optimum part quality. The precise mechanics and the truly unique BRUDERER drive and lever system ensure more reliability and durability in all steps of the process which is a real boost for our production. We originally did test stamping comparing the BRUDERER and other machines from the competition, but now there is no question as to using BRUDERER rather than someone else. Whenever we need a high-speed automatic stamping press, we know that there is no better choice, both in terms of the machine itself and also the service. If we encounter a ‘technical issue’, one of the BRUDERER service technicians will be here on site with us in the blink of an eye. We have also enjoyed an excellent replacement parts service for many years now. In our sector, we simply cannot afford to wait around for a service technician to arrive.”

“And of course the BRUDERER automatic stamping presses themselves provide decisive advantages for our production. Since the complexity of the tools is constantly increasing, i.e. they go through a lot more stamping and forming progressions, you need the right kind of technology to carry out these tasks. The BSTA 80 we had before was already being pushed to the limit in terms of tonnage capacity, and we could also no longer implement really large tools on it. The BSTA 1600 is therefore a logical consequence and a necessity for our new Tiomos hi-tech hinge system.”

**Maximum tool service life.**

The BSTA has made a name for itself in the sector primarily for its high stroke rates and speeds, meaning that it also has a glowing reputation in the field of connectors. This is an area where GRASS also has a need for speed, but the main priority for the customer was the precision of the stamping process and the service life of the tool. “The unique lever system on the BSTA automatic stamping press distributes the load generated by the stamping process across the system,” Wacker explains. “This load distribution, along with the minimal bearing clearances and the efficient lubrication system, are the main reasons behind the machine’s high levels of durability coupled with its precision. It was a real eureka moment when we did our first test stamping with a BRUDERER automatic stamping press. At the

time we already had a very good tool, but our old machine could not go beyond 100 – 120 strokes. With the BRUDERER, we got up to 400 strokes with the same tool, without having to change any aspect of it. The stroke rates are obviously not always the same, for example when we are producing plug connectors, but in our reshaping department, we have all sorts of different material thicknesses with anything up to 2 millimetres. And with batches of between half a million and a million, the tools can be in constant operation for three to four days. The precision of the BRUDERER high-performance automatic stamping press means that our tools last four times as long as before, even at speeds that are four times higher.



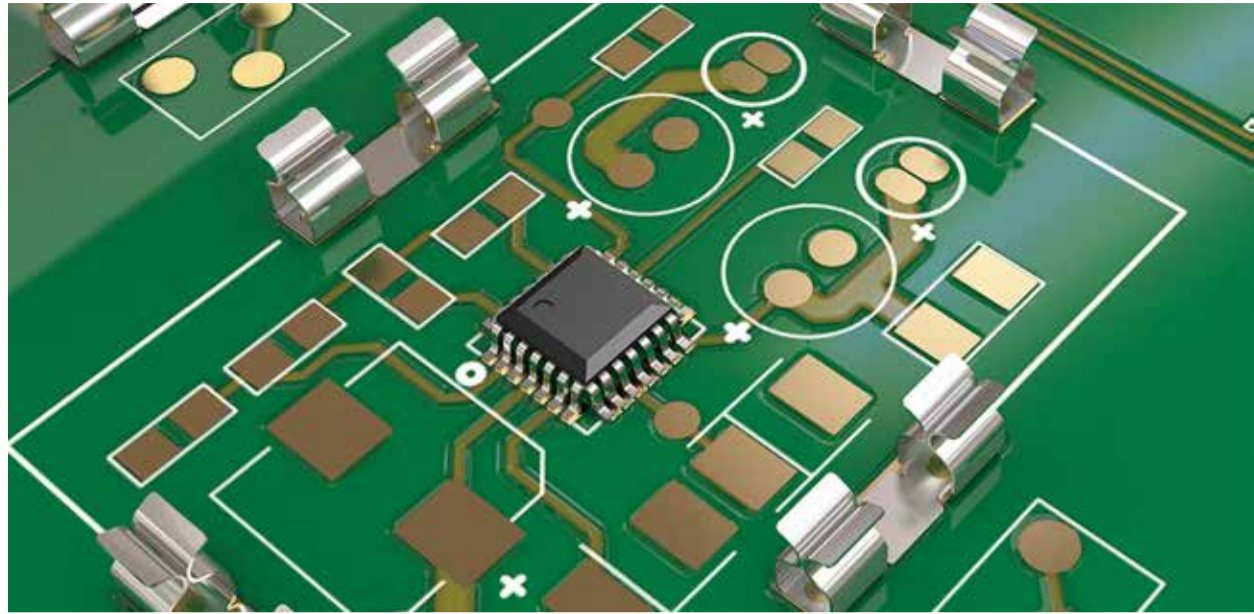
Reliability and longevity with the BSTA 1600-181 B2.

Otherwise we simply would not be able to achieve our production figures,” says Wacker. “In our sector, it’s not just about hinges, it’s about the whole programme, from the requisite mounting plates and the various fixing options and supports through to all the different opening angles. All of this combines to make a single hinge system incredibly complex. What is more, you cannot get a client to change to a new system nowadays unless you can offer them the whole deal from one source.

‘Market leader with flexibility’ is how our division describes itself, and for us this means giving clients what they want. This is exactly what we do here, courtesy of our expertise, quality and of course our reliability. And when it comes to stamping technology, BRUDERER certainly help us keep this promise.”



Close cooperation between Adrian Haller of BRUDERER UK and Paul McGuinness of HARWIN.



An example from HARWIN production.

# HARWIN – investing in machinery to stay at the cutting edge of technology.

**With half a billion stampings a year, HARWIN need to keep their finger on the pulse of the best that research and development has to offer. And with BRUDERER, they have found the ideal partner to support the company as it grows and adapts to the needs of expanding and ever more demanding markets.**

British company HARWIN was founded in 1952 by Patrick de Laszlo, a visionary who believed that components should be engineered to the highest possible standards. That goal is still very relevant today and it is why they invest heavily in keeping their plant and machinery ahead of the game in terms of technology.

HARWIN manufactures surface-mounted printed circuit board (SMT PCB) hardware, high-reliability interconnects for a wide range of safety critical applications, and industry-standard connectors. The company's sales and service offer extends around the world via offices and manufacturing facilities in the UK, USA, Germany, France and Singapore, coupled with a worldwide distribution network.

## BRUDERER world-first.

HARWIN is a vertically-integrated company which retains all manufacturing processes in-house and systematically puts 10 % of turnover back into the business. They invest heavily each year to keep their manufacturing capability abreast with the latest technology, replacing machinery on a five-year cycle throughout the manufacturing process.

A perfect example of this is the recent £500,000 investment in a BRUDERER high-performance automatic stamping press at its Portsmouth plant, to help it increase efficiency and conquer new market opportunities in the aerospace, military and medical sectors. The purchase of a brand new BSTA 280-75, with a BSV 75 high-speed servo feeder, further strengthens the company's 30-year relationship with the Swiss-based company in high-speed stamping technology. It has also created a world first, with the integration of a BRUDERER BPG 22 planetary gearbox into the shaft of the main motor which gives HARWIN's engineers full control of tooling development to produce test runs of new products.

The press works with 28 tonnes at from 1 up to 2,000 strokes per minute. Strips range from 0.01 millimetres to 3 millimetres in thickness and widths of 3 millimetres to 100 millimetres, and are produced in brass, stainless steel, foil, phosphor bronze and beryllium copper, to a tolerance of 0.001 millimetres. Tooling can be designed in either single or multi-stampings to increase capacity, while automated de-reeling and re-reeling also allows HARWIN to manufacture around the clock.

## Increased efficiency, reduced costs and streamlined logistics.

"BRUDERER has supported HARWIN in our vision of automation and offered a high level of technical support," explains Operations Director Richard Wild. "Throughout the HARWIN organisation there is a high level of confidence in BRUDERER's service and ability. The BSTA 280-75 with the high-speed servo feeder and planetary gearbox basically removes the need for a separate development press, as we can put new tools through at the lowest stroke rate and at full press capacity, allowing us to identify any issues before flicking a switch to launch full production. There are lots of advantages to this: increased efficiency reduced costs, less space required and even gains in terms of logistics, since tools now require less transport. We are continually investing in our new product development programme and this new acquisition will help us develop the next generation of connectors, EZ boardware, interconnectors, circular connects, spacers and terminals."

Ben Green, Technical and Marketing Communications Manager for HARWIN, underlines how the investment will help to strengthen the company's commitment towards being at the cutting edge of research and development. "A large part of our focus is on constantly developing high-reliability components that go into ground-breaking applications such as nano-satellites, blood gas measurement sensors and even the NASA Robonaut humanoid robotic development project which featured our off-the-shelf expertise," he explains. "This BRUDERER machine gives us the capability to continue to lead from the front, not to mention providing a host of efficiency and cost savings. We are now in a perfect position to supply our customer base of 40,000 clients across the world."

## "One of our most exciting projects ever".

HARWIN's order was secured by BRUDERER's UK operation, which employs 11 people at its technical and sales office in Luton, just north of London. It has been working with HARWIN for over three decades and held a number of discussions with the manufacturing team in 2013 to develop this innovative solution with the high-speed press, servo feeder and planetary gearbox which was unveiled in April at MACH 2014 – Britain's largest exhibition of manufacturing technologies.

"This is one of the most exciting projects we have ever undertaken, and we're delighted to bring a world first in machine technology to the UK which will help a forward-looking manufacturer like HARWIN to expand and create jobs," explained Adrian Haller, Managing Director at BRUDERER UK.

"BRUDERER listened to what we wanted, and by working with their experts, we came up with a solution that met our exact requirements. We will benefit from a high-speed press that offers us great versatility by catering both for the development of new tools and for full production," states Damon De Laszlo, Chairman at Harwin PLC.

In the years to come, HARWIN envisages stampings becoming ever smaller, in line with the general trend in electronics markets. Now more than ever, the company will be looking to leverage its engineering expertise and R&D to deliver customer value – hand-in-hand with BRUDERER. ■

- 1952: HARWIN founded by Patrick de Laszlo
- 1989: Becomes a PLC
- 1990: Opens offices and warehousing in Singapore
- 1990: ISO9001 certification achieved
- 1991: Opens offices and warehousing in USA
- 2012: Launches Gecko high-reliability connector range

Harwin has 200 employees, 140 of them based in Portsmouth with many working on stamping the EZ-BoardWare range of SMT PCB hardware products that improve assembly processes and reduce customer-installed costs, as well as components for their high-reliability connector families Datamate and Gecko. They also have an apprentice scheme to ensure that they always have the necessary skills to run the newest engineering and plating technology along with the design and tool-making skills necessary to manufacture products right from the raw materials. This avoids out-sourcing from supposed low-cost countries, which in turn reduces the time to market and increases the flexibility of the services offered to customers.

# STOCKO – all the right contacts.

**STOCKO is one of the few European companies that has proved itself in recent decades to be capable of thriving in the competitive cable, connector and contact market. Key to this success is high performance manufacturing and constant optimisation of the process in order to increase productivity – which is where BRUDERER high-precision automatic stamping presses have a role to play.**

The village of Andlau, near Strasbourg in the Alsace region of France, is best known for its wine production and trading. It is also home to STOCKO CONTACT Eurl, the French base of STOCKO, the leading European supplier of electro-mechanical components headquartered in Wuppertal, Germany. What began in 1957 as a way of entering the French market is now a area specialised in stamping technology. The factory in Andlau, which employs 170 staff, produces top quality electrical contacts and connector systems which are primarily used in domestic appliance technology, heating technology, industry and in the automotive sector. STOCKO's customer list reads like a "Who's who" of respective market leaders, with the company's products seen in many households and objects of daily use, such as washing machines, dish-washers and vehicle pre-heating systems.



Tools are developed and built in-house which leads to innovation at the highest level.

## Comprehensive expertise.

The tool making capability is one of STOCKO's secrets of its success. Most of the employees have been with the company for many years and are highly-trained specialists. Their expertise is an important commodity in a region where these skills are increasingly hard to find. All press and moulding tools are developed and built by STOCKO in-house. The parts produced are processed using state-of-the-art equipment and finished and assembled on specially designed and constructed processing systems. Quality and efficiency can thus be ensured from day one through to production completion, all in-house.

The machine shop for production contains 25 precise high-performance machines for grinding, milling and EDM in multiple shift operation. As technical director Jean-Bernard Herrbrech explains, 2,500 – 3,000 tonnes of metal, primarily steel, copper, brass and bronze, are processed every year in a production area stretching over 8,000 square metres. In Andlau alone, some 12 million parts are produced every day. The STOCKO range has around 5,000 products, with a third of them made in Andlau.

Sales manager Pascal Dell points out that STOCKO products from Andlau are sold in 47 different countries around the world directly

from the factory, with over 30 % of them going to the French market. The biggest purchasers are Germany, Turkey and increasingly China, with sales to the automotive sector increasing by 50 % in the past five to six years alone. In order to maintain the standards required by customers, the contacts that are produced undergo strict analysis in the company's own laboratory and are tested for homologation. Head of the laboratory Francine Mertz and her team in Andlau use a wide variety of measuring tools and equipment, including a climate chamber and an oven for temperatures of up to 300° Celsius. One of the main advantages of using processing systems and tools developed in-house is that it makes it easier to adhere to the strict UL standards. This equipment can be integrated by customers into existing machines, making STOCKO a UL-certified one-stop shop.

## Looking to the future with BRUDERER.

Stamping is one of the core competencies of the STOCKO factory in Andlau, which acquired its first BRUDERER automatic stamping press at the beginning of the 1970s. The CEO at the time was looking for a machine which could stamp more quickly than what they already had, in order to significantly improve manufacturing processes. Better production processes are still one of the secrets of STOCKO success and a catalyst for many of their internal innovations. There are currently 22 BRUDERER presses in the stamping department, with pressing forces ranging from 18 to 160 tonnes. Head of production Jean Weiss is particularly impressed by the reliability of the machines as well as their flexibility of implementation and their precision. The production centre in Hellenthal also has 12 machines from BRUDERER. Strips are processed in Andlau in a three-shift operation, with widths of 10 – 200 millimetres and thicknesses of 0.15 – 2.5 millimetres.

For white goods and in the automotive sector, there is a continued trend towards having more electronics and functions, which is expressed by increasingly large and more complex tools when it comes to stamping. The development of new products brings with it new demands in terms of manufacturing and leads to the acquisition of new machines and feeds. STOCKO thus purchased a Bruderer BSTA 810 with a BSV 300 servo-feed for Andlau two years ago. This high-performance automatic stamping press has a tool loading area of 145 centimetres and is capable of handling work processes with complex progressive tools. Just a few weeks ago, BRUDERER delivered a BSTA 1600 with a 181 centimetres bed length with a BSV 500. This machine is being used to produce connector's for new applications in electrical engineering, enabling STOCKO to tap into new markets and customer groups. At the same time, the company is looking to use this technology to anticipate future market demands, and opted to acquire one of the latest BRUDERER automatic stamping presses for its bed length, stamping force, speed and for the repeatable precision of the machine.

STOCKO has been happy to rely on the feed technology developed by Bruderer for many years and utilises every last ounce of the performance available. The latest generation of large BRUDERER servo feeds are particularly suited to these new applications. "The performance of all this equipment is very impressive," says head of production Jean Weiss.

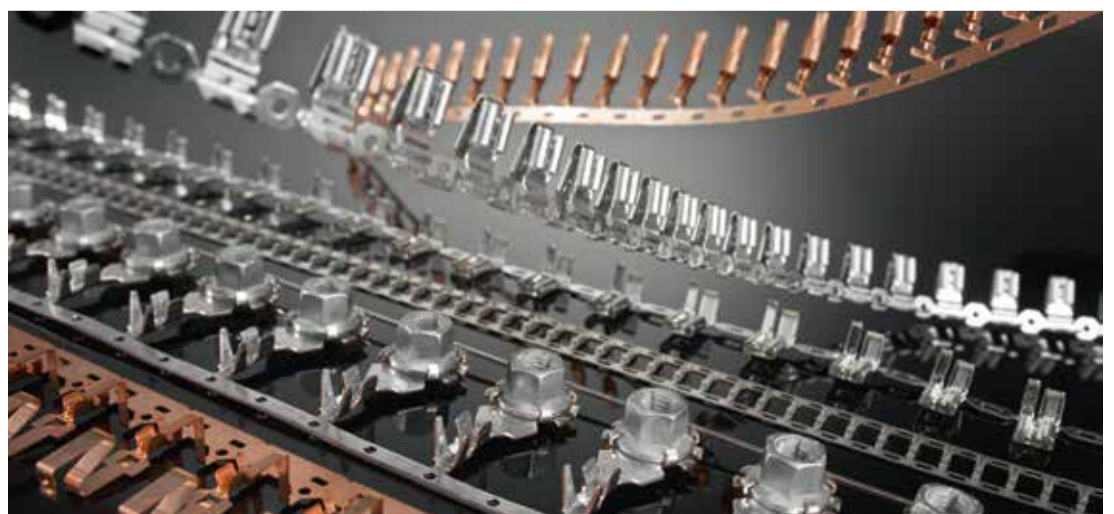
Building work is currently ongoing at STOCKO in Andlau to create more space for all departments, in particular for manufacturing and stamping. The overall floor space is being increased by about a third, and Herrbrech hopes that this will enable enough capacity to be created in the medium term to meet the ever-increasing demand. Quicker stamping and more complex components are what customers are seeking nowadays, with quality standards of course being maintained. The automotive industry is also seeing hybrid technology, e-cars and high-performance electronics creating new requirements and products. "Customers always want some sort of extra added value from their suppliers," Herrbrech explains, "and we can offer that courtesy of our high performance manufacture and the integration of a variety of different technologies. STOCKO contacts are versatile – just like the people who produce them." 🇫🇷



Jean-Bernard Herrbrech (Technical Director STOCKO CONTACT Eurl).



Many successful innovations have come out of improvements in production processes.



Consistent quality in connectors and contacts – thanks to the high-performance automatic stamping presses.

# BRUDERER in China: service to customers that is both excellent and local.

Since the introduction of market-based economic reforms in 1978, China has become the world's fastest growing major economy, with a growth rate of over 10% per year. At the same time, domestic demand for all kinds of products has also continued to increase. BRUDERER reacted to this situation a decade ago by establishing another location within the Asian market and building a centre of competence in Suzhou.

Up until recently, Chinese companies were often referred to as the "world's manufacturing plant" thanks to their inexpensive workforces and low-end production technology. Many of them however have transformed themselves virtually overnight into companies with high levels of efficiency and automation who are continuously investing in improved technology.

#### Anticipating increased demand.

BRUDERER high-precision stamping presses were introduced into the Chinese market in the 1980s, with the original customers primarily being state-owned enterprises in the microelectronics industry. As the country's industry has continued to develop, BRUDERER has managed to extend its sales of stamping presses to various other companies and sectors. Many international firms have either imported BRUDERER presses from abroad or purchased them locally for their Chinese subsidiaries, to meet the increasing demands of their customers. There are now well over 900 BRUDERER high-precision stamping presses of many different generations in operation in China, even some from the 1970s which are still putting in tireless service and creating added value for the customer. The machines are being used for a wide variety of applications in the electrical and electronics, communications, food and beverages, automotive, lighting, energy and coin minting industries.

#### Providing a local service.

In order to provide the Chinese market and its customers with fast and efficient service, BRUDERER decided to open up a new centre of competence in Suzhou in China back in 2004. This was the company's third competence center in Asia, following on from those set up in Singapore and Japan in 1996. BRUDERER Machinery Suzhou is located in a modern industrial zone which was co-developed by China and Singapore.



The highly motivated BRUDERER team at Suzhou.

The company has a 2,500 square metres building on land stretching over 8,000 square metres, giving them enough space for any further expansion. BRUDERER provides its Chinese customers with a full spectrum of services and solutions, ranging from machine installation, user training, technical support, a spare parts service and maintenance through to the repairing and rebuilding of older machines. On-site trial stamping for new projects is also part of the service available. To complement these services, a BSTA "Prima 200 AE" with two bed sizes of 600 millimetres and 700 millimetres is also being produced. All the requisite parts are imported from BRUDERER in Switzerland, while the PLC AE control system is purchased locally and supplied by the well-reputed manufacturer Schneider. The Prima range has established itself in the local market thanks to its excellent cost efficiency.



A worthwhile overhaul: BSTA 25 with C control.

#### Round-the-clock service.

The BRUDERER Machinery team in Suzhou has 19 employees, nine of whom are service engineers. Almost all of them were trained at BRUDERER in Switzerland or by technical experts at the BRUDERER subsidiary in Singapore, and have a great deal of experience in servicing and maintenance. The company keeps large amount of essential spare parts in stock for repairs and emergencies, including special components for specific customers. Thus it ensures that parts can be delivered as soon as possible whenever necessary. "24 hours after a customer places a call, our service technician will be on site with them – guaranteed!" is the proud comment of Freeman Huang, general manager of BRUDERER Suzhou. "The BRUDERER Suzhou service team is incredibly flexible – they are not just available during normal working hours but can also work overnight, at weekends or on public holidays to provide customers with support when they need it most."

#### Retrofitting – always a worthwhile investment.

BRUDERER automatic stamping presses have become legendary both for their quality and for their high re-sale value, even after decades of use. BRUDERER Suzhou has the capability to repair and fully retrofit even the oldest of machines and to adapt or upgrade them to ensure that they meet current demands. This involves changing not only the mechanical parts but also the electrical control system – for example swapping out an old hydraulic drive and replacing it with a modern system with a PLC control and electrical drives. A retrofit like this turns a used BRUDERER stamping press into a high-performance machine, making it the ideal investment for many a customer. ■



The BRUDERER Competence Centre at Suzhou: A clear commitment in a dynamic market.

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