



2|09

# STAMPER

Magazine for high-performance punching technology



## Networked solutions – an all-round solution

Philips is using new methods in its production of shaving caps for electric razors and changing over to a mechanical system. A networked unit containing Bruderer high-performance automated punching presses was able to provide strategic advantages.

Page 4-5



## Revving up the engines

MTA deliver electronic components to everyone who is anyone in the international automotive industry. Quality and reliability are therefore top priority at the production stage.

Page 3



## Providing systems from A – Z

Regardless of how complex the task in hand is, customers today always prefer having one single point of contact, and this is why German company Unimet GmbH have made a name for themselves as systems providers.

Page 6-7

Editorial



Promising networks

In this new edition of STAMPER, you can read all about an application with networked units which Philips uses, and this also gives us the opportunity to broach a subject which we are confronted with in our daily dealings with customers. Parts are becoming more complex and have to be produced ever more quickly, while the handling process has to include several functions and methods, from welding through to cleaning right up to quality control.

The obvious solution would appear to be longer tools with which more subsequent steps in the punching process can be carried out. The consequence of this would be that the die space would also have to be longer, making the automated punching press bigger and considerably more expensive in terms of machinery. Longer tools require more storage space and more room when it comes to handling. What seems to be an „ideal“ solution therefore often turns out to be a fallacy.

In cases like these, linking up several automated punching presses provides a sensible alternative, particularly in terms of costs and logistics. A solution was devised in close collaboration with Philips which provides optimum results for volume production. Creating networks of machines, peripheral devices and punching control units which all have Bruderer's hallmark quality is already bearing fruit. Close links to customers are equally as important. We are required to make sure that we are in part of a chain which includes their demands and expectations, and we work together to find the best and most adapted solutions for their tasks. The results of such collaboration are units which can hold their own among the stiffest competition. Tried and trusted partners – namely our suppliers and the producers of the top-quality peripheral equipment – are just as important and also contribute to the success of projects like these.

This edition of STAMPER features other companies from around Europe and Asia, and here the theme of teamwork is a recurring one – proving that great things can be achieved when people work together in an open and constructive fashion. The world of punching is full of variety and innovation – something that our customers prove every day with their new applications.

Happy reading!

Andreas Fischer  
CEO

JET – Shaping the future with modern technology

Joinsys Electronic Technology Co. Ltd (JET) uses high-performance Bruderer punching presses to produce precision plugs and mechanical parts for clients in the automotive and telecommunications industries, the electronic entertainment sector and medical technology.

JET was founded in 2003 in Hangzhou, the capital of the eastern Chinese province of Zhejiang. It all began with around 20 employees, a punching machine, two plastic injection machines and two manually operated grinding machines in a rented space of 200 square metres. Since then JET has transformed itself into a modern production business occupying two halls over a total of 16,000 square metres, 400 assembly employees and technicians and 4,000 square metres of accommodation for workers who live on company premises. The engineering department is equipped with top-class machines which are used to design and produce tools for precision stamping parts, plastic injections parts and for assembly lines.

The effects of the current economic crisis are also being felt in China's mechanical industry. The rhythmic tones of punching presses are heard all too rarely these days, and where once assembly lines were running at a hectic pace, reduced working hours are now the order of the day. Despite this, JET CEO Suhang Yang is fully aware of the fact that if the Chinese precision manufacturing industry is to stay in business and have a future, it is going to need both



Increased efficiency thanks to high-precision automated punching presses

well trained and motivated employees it can rely on, and modern technology and management methods. "It did not take us long to realise that precision machines are incredibly important for the production of high-quality tools," he says. "At the same time as we acquired our first 25-tonne punching press from Bruderer, we imported another machine from abroad for the factory in Changzhou. After a month of trial run, the results were unequivocal as far as our head of pressings was concerned – the reproducibility of the dimensions on the Bruderer punching press was significantly better and despite it being a complex tool, it only needed to be resharpened after seven days – an absolute record! Other important observations that we made were the fact that there is a significant increase in efficiency with precision machinery such as this, which makes us more competitive in terms of quality, costs and delivery times."

Although the general economic situation is still as precarious, JET has nevertheless invested some 10 million RMB into its precision machinery including two Bruderer 50-tonne punching presses. Six months after installation the two machines are still running at full capacity – a promising sign according to Mr Yang, who sees the Bruderer machines as heralding in a brighter economic future. The punching department is carrying out test production of new tools alongside normal assembly, and this variety of potential uses is more proof for JET why investing in Bruderer punching presses was the right decision.

The consistent and ongoing development of the business over the past six years has contributed to JET now finding itself on solid foundations, despite the current economic situation. Management is convinced that having the right conditions in place in all areas is what enables positive development. As Mr Yang himself sums up: "We are like a child, growing all the time and taking determined steps towards the future."

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



JET headquarters in Hangzhou

Stamping Day 2009 in Chengdu

Bruderer AG and the „Association of Industry Mould Chengdu“ organised a one-day seminar on 11 May 2009 in Chengdu, China entitled „High-speed stamping, tooling and related issues“. Experts from various sectors of stamping technology were available to provide insight and answers to over 100 participants.



High-performance punching presses are gaining in importance in China.

Attendees were welcomed by Hou Rongbin, vice-president of the Chengdu Investment Promotion Commission, which was followed by a presentation from Wen Chengyi, general secretary of the Chengdu Mould Industrial Association, during which he outlined the tool construction industry in Chengdu, capital of the south-west China province of Sichuan.

Andreas Fischer, CEO of Bruderer AG, detailed the rapid development and growing significance of high-performance stampers and tool construction in Western China in his welcome address, after which a number of interesting presentations highlighted the latest trends and technologies in the industry.

The discussion sessions which followed, moderated by Lim Tai Pong, CEO of Bruderer Far East Ltd., enabled the participants to raise a wide variety of technical questions with the experts present. By the end of the day, all of the attendees agreed that seminar had been of great value and had provided an opportunity – and one that is all too rare in Western China – to gain insight from specialists in high-performance stamping.

New partners in the Bruderer distribution network

Russia	Anton Ohlert, Moscow	Tel. +7 495 961 20 61	petrov@ohlert.ru
Turkey	Bilol Limited, Esenler – Istanbul	Tel. +90 212 438 43 40	toygar@bilol.com.tr
Vietnam	Patechtraco. Ltd., Ho Chi Minh City	Tel. +84 8 2216 7736	sales@patech.vn

# MTA – Electronics that bring motors to life

Based in Codogno in Italy, MTA is a leading manufacturer and producer of electronic components for the automotive sector, with some of the world's largest producers of cars, motorbikes and agricultural vehicles as their customers. The company relies on Bruderer's high-performance automated punching presses to provide the precision, reliability and performance they need.

The focal point of the company, which was established in 1954, is its head office in Codogno in the province of Lodi which borders on Milan. This modern building houses the highly specialised centre for research and development, the administration offices and the production halls, to which a new, modern punching department was added in 2009. This is the nerve centre for precision technology, occupying some 100,000 square metres, providing the life blood for 600 employees in six different locations and generating a turnover of around 90 million Euros.

MTA primarily supplies the automotive, agricultural and earth moving sectors and also motorbike manufacturers with fuses, fuse carriers, power distributors and plug and battery connecting posts – all punched products made from various materials including brass, copper, zinc and steel.

Continuous research and striving to achieve better performance over the years have led to partnerships being set up with some of the world's leading manufacturers, with Ferrari, Fiat, Ford, GM, Lamborghini, Volkswagen, Tata, the Same Deutz Fahr Group, Ducati and Yamaha just some of the names whose work is made easier by the reliability that MTA products provide.

## Bruderer part of the recipe for success

The punching department at MTA has 13 machines of various press capacities (from 25 – 200 tonnes), including 10 Bruderer high performance automated punching presses for working on coils with a bandwidth of 0.15 – 2.5 mm. Certain parts are manufactured with modular built-on follow-on composite tools to guarantee maximum flexibility during manufacturing, while others are produced with specific assembly and installation systems for clamped parts and thoroughly checked along the line by a camera system.

„The decision basically comes down to three criteria,” say MTA of the reason why Bruderer precision automated punching presses were chosen. „Primarily, high precision is of great importance as that

is the only way to achieve demanding standards of quality. Another important factor is a high level of reliability, which all of our Bruderer automated punching presses have shown on a consistent basis. The third point is emphasising that quick, reliable service is of real importance, particularly nowadays at a time when the complexity of the products and processes is continually increasing.” Choosing Bruderer also has an effect on the production process and is another significant plus point. „You can sum up the advantages in a few words,” MTA continue. „Excellent performance which is achieved by consistently high precision.”

The firm has recently added a BSTA 1600-181B with a press capacity of 160 tonnes and a left-mounted BBV 455 to its business park. „The decision was based on the manufacturing-based necessity to find a suitable unit to form battery connecting posts,” explains engineer Carlo Bolli. „Due to the complicated nature of the tool which is used to produce these components, an automated punching press was necessary to maintain a consistently high level of precision for the measuring position on the bottom dead centre. Total parallelism also needs to be guaranteed between the bolster plate and ram. The longer the tool is – which is our case – the more important these aspects are. Based on the excellent results which we had already had with Bruderer automated punching presses, we decided to think about acquiring a BSTA 1250-181B. This high-performance automated punching press fulfilled the first criterion, namely the right table length. The press capacity however was only 85% of the required amount. Taking into account the eventual future developments of this automated punching press, we turned our focus to the larger model – the BSTA 1600-181B. This machine fulfils both basic criteria and was also checked out in detail in terms of all other relevant aspects.”

„The perspectives that we envisage with the high-performance BSTA 1600-181B automated punching presses are highly promising to say the least,” adds Enrico Luison, himself also an engineer and production manager in Codogno. „To begin with we're expecting an increase in the number of units produced per hour thanks to the increased precision of the automated punching press which minimises the friction between the punch and the matrices. The consequence of this is that the heating of the parts is reduced, as is the risk that the tool seizes up.”

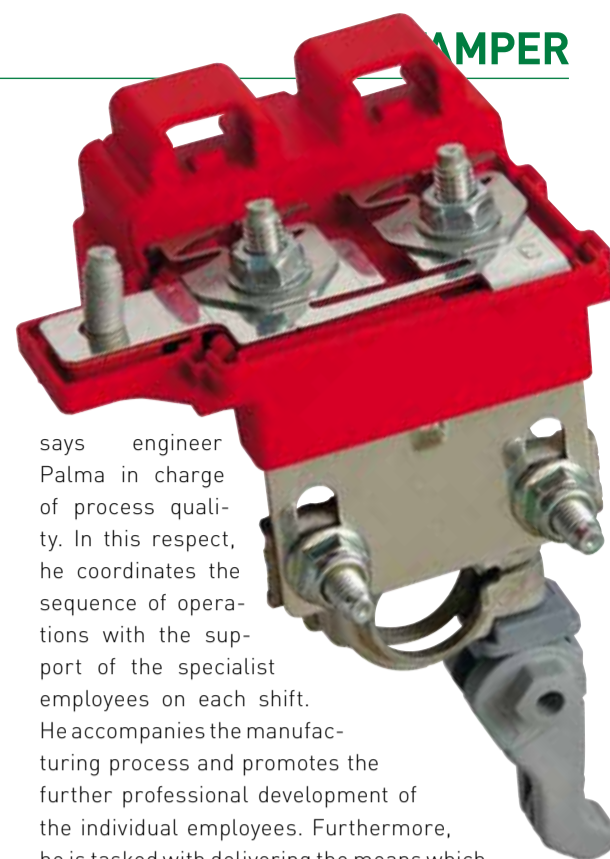
The precision that the Bruderer machines provide has yet more advantages. The time required for maintenance and setting up the tool goes down as a consequence of the reduced friction between the tool parts. MTA thus expects less erosion and also a reduced risk of breakage of the components.

The increase in product quality that is achieved with Bruderer is also significant. The increased precision of the automated punching presses means that MTA can expect an improvement in the stability of the product and consequently an improved reproducibility without wastage. „Furthermore we are also expecting fewer deviations in the dimension of the pieces thanks to the reduction of the component erosion and the work required for precision adjustment,” Luison explains.

Cost savings are more or less a certainty thanks to the acquisition of the high-performance automated punching press, while the Bruderer machine also reduces labour time, machine down-times due to retrofitting and re-commissioning, wastage and the required replacement parts.

## Quality a priority in punching and shaping technology

„Our customers are always requiring us to achieve 0 defect ppm and to eliminate the sources of errors that tend to arise in a normal handling process,”



says engineer Palma in charge of process quality. In this respect, he coordinates the sequence of operations with the support of the specialist employees on each shift. He accompanies the manufacturing process and promotes the further professional development of the individual employees. Furthermore, he is tasked with delivering the means which are deemed to be necessary in the product development phase, which are then implemented in the assembly and enable the individual employees to check that the components comply with the specific requirements of the customer. Before they join the department, employees are also supported and briefed by quality management personnel on how best to use the work tools – i.e. the test procedure and reading instruments. The Q-team also regularly checks the training levels of the employees. „Taking these factors into account and the excellent quality which customers in the automotive sector demand, process quality is a core competence which develops on a daily basis and becomes an important pillar of the business both internally and externally,” says Palma. „This has to be increasingly adapted to the individual customer's needs and market developments.”

„For the battery connecting posts, the component goes through all the important phases of punching, stamping, forming, labelling and bending and pull tests – all crucial steps which require accuracy and precision,” Palma continues.

## We can rely on Bruderer

„Continuing this relationship is primarily based on the results which we achieved in the past which we can guarantee and maintain by using Bruderer high-performance automated punching presses,” MTA explains. „These machines provide us with the possibility of using various manufacturing techniques and above all ensure reliability. The guaranteed flexibility in the relationship between press capacity and table length, which our forming and punching processes require is equally as important, and we know that we can rely on Bruderer in that we will get absolute precision and top quality at high speeds.”

[www.mta.it](http://www.mta.it)



Demanding electronic components for the automotive industry.



Bruderer automated punching presses provide maximum flexibility.

# Working in tandem with Philips

People are more used to hearing about networks when it comes to telephones or IT, but the Philips factory in Drachten (NL) has created a network of Bruderer high-performance automated punching presses. This is by no means a new idea, but it is an efficient one, particularly since Bruderer machines have all the qualities that a business requires – precision, productivity and also sustainability.



The Philips 3-head shaving system has taken on legendary status over the years, with millions of them still sold today. The main production centre is at Drachten in the Netherlands, one of the few high-tech locations that Philips has in Western Europe. In recent years, the main challenges have been increasing capacity throughout the value creation chain and improving sustainability, which is why Philips Shaving Systems have been looking for new, future-orientated ideas in terms of the cold-forming of the casings. And to help them achieve this, Philips decided to team up with Bruderer.

## Does bigger always mean better?

Networked units are nothing new at Philips – it has been aware of the advantages of this type of configuration for a good number of years now. There is a tendency in engineering and in particular in terms of automated punching presses to use ever bigger units and tools to deal with highly complex tasks and to maintain speed of work wherever possible. There are however drawbacks with this: the machine, tools and periphery are heavier, more expensive, more difficult to control thermally and therefore less accurate.

The networking of automated machines is thus a logical alternative – but one which demands the necessary expertise and suitable hardware from the producer. This is also the case when it comes to sustainability, and so it was

time to say goodbye to the traditional hydraulics and start relying on the new mechanical design of the Bruderer high-performance automated punching presses – a move where Philips has never looked back.

Team-work was the key word behind this project and it is of real credit to the various experts at Philips and Bruderer that everything ran like clockwork. Complex industrial manufacturing processes can only be carried

out when teams work together in an honest, constructive and reliable way towards a satisfying target, and Philips' assessment of the quality of the cooperation on this project was bordering on euphoria.

## Optimising the cold-forming line

What did the project entail exactly? The focus was on the cold-forming line for casings at Philips Shaving Systems which are used in men's shavers. Eight people from Philips made up the core of the project team, all of them proven specialists from the cold forming, process, machine, production and punching tool technology sectors as well as from parts cleaning. In total over 30 people worked on the project, including on infrastructure aspects such as power supply. Four stations were to be networked, with Bruderer high-performance automated punching presses in three

» I want more of these white machines that no-one ever hears and that just go on and on working. «

Onno Hoitinga, Director of R&D, Philips Drachten

of them and the fourth being the cleaning unit. The project team was part of the interface between engineering and production, with the development department only peripherally involved as the punching process remained the same – the issue here was expanding capacity.

Challenge number one was time – the machines had to be delivered within eight months and set up in a single day just before

Christmas. No easy task, but one that was well within the capabilities of Thomas Schmitz, Senior Engineer for Automated Assembly & Equipment in Philips' Consumer Lifestyle sector, and the Bruderer team. They needed to master the calibration of the feeding, the process safety in terms of rigidity and the spring characteristics of the automated punching presses and the transition from hydraulic to mechanic. Moreover, the two Bruderer BSTA 510-125B machines which are being used existed only on paper when the project began, with no prototype even available.

Despite all this, Thomas Schmitz and his team of employees from Philips and Bruderer did it. And not only did they do it, Schmitz admitted that he had never known a project be so free of hiccups as this one thanks to the cooperation with the Bruderer team and its project leader Wilfried Strolz – a team as reliable as a Swiss watch.



Networked automated punching presses provide maximum manufacturing efficiency for moderate costs.

Various casing specifications can be produced on the newly created and networked unit containing the three Bruderer high-performance automated punching presses. The unit is exclusively used for shaping and washing, with other processes such as hardening, electro-chemical processing and assembly carried out on other work stations.

There is a total of four Bruderer machines in Drachten – as well as the 40-tonne automated punching press which has been in service for 12 years already, there are now two BSTA 510-125Bs and a BSTA 800-124B, each fitted with a tried and tested Bruderer servo feeder.

Choosing Bruderer was based on a number of criteria. The new mechanical production system, which replaced the previous established hydraulic system, had many arguments in its favour. The positioning, rigidity and the tilting of the ram are way ahead of the competition. The unique BSV servo feeder was a particular trump card for Bruderer. Energy consumption came in at a mere tenth of the previous unit's, while the precision merely served to highlight why Bruderer enjoys such a fine reputation in the world of punching. Philips now has a unit which will enable them to adapt not only to higher demand but also to the changing requirements of the consumer in terms of the performance of the shavers, thus making it a two-fold investment in the future.

### Ultimate precision in shaving caps

Shaving systems have been manufactured in Drachten for decades now. A somewhat simplified version of how production is carried out is as follows: Firstly the blade and casing are cold formed then heat-treated and chemically processed. After that comes electro-chemical finishing, assembly and sharpening of the blade and finally the various elements are put together or „married“, as it is called.

The shaving caps have been made on networked presses since the 1970s – as mentioned before, linking machines is nothing new for Philips. The new Bruderer cold-forming line is a highly modern total unit which is

driven by solid and proven technology and is being used for the first time for the production of casings. The production stages are identical and can be taken over from the current procedures – even the punching tools have remained the same. There have been substantial changes however which give the new line in Drachten its unique characteristics.

The previously mentioned change-over from hydraulic to mechanical shaping provides impressive improvements in terms of energy consumption, speed, reliability and rigidity, and therefore also precision and accuracy when it comes to reproducibility. Controlling and handling are contributing to the improvements. The unit is handled by an operator, with two engineers having undergone basic training at Bruderer in Frasnacht.

The automated punching presses work so accurately that project manager Thomas Schmitz could hardly believe the readings. The ram on the machine was loaded up to calculate the parallelism of the bolster plate to the ram. The reading of five micrometres over 1,250 millimetres seemed too good to be true. It took a second measuring to remove any last lingering doubts.

The speed of the unit primarily comes from the performance of the servo feeds. To be able to carry on punching the high precision geometries in band steel in a fraction of a second and to the same level of quality, the feeds have to be fast and the positioning unfeasibly exact, otherwise it is not possible for the workflow to pass from one station in the chain to another at such high speeds for this application.

The enthusiasm which resulted from this was contagious. „I want more of these white machines that no-one ever hears and that just go on and on working,“ smiled Onno Hoitinga, Director of R&D at Philips in Drachten, referring to the white colouring of the Bruderer automated punching presses. „The networked Bruderer unit helps us to fulfil our strategic goals in terms of increased product quality and sustainability,“ says Rogier de Pau, Director NPI. „You could put a bracelet on it and wear the machine on your wrist – it's got the precision of a Rolex,“ added Schmitz.

The key to networking automated punching presses is the relationship between the strip feeder and the tool as well as the loop between the machines which determines the maximum speed of the overall unit. Bruderer and Philips decided on a simple but incredibly efficient tandem arrangement of the machines which enables networks of virtually any size. This system is very much symbolic of how the project achieved what it did. After all, it was the friendly cooperation between the teams of Philips and Bruderer experts who worked in tandem to make such a success of implementing this challenge.

» You could put a bracelet on it and wear the machine on your wrist – it's got the precision of a Rolex. «

Thomas Schmitz, Senior Engineer and project manager

### The awe-inspiring world of Philips

The Philips factory in Drachten was set up in 1950, developing and producing consumer lifestyle products which not only include shavers but also clothes irons, home biodynamic measuring systems, coffee machines, wake-up lights and vacuum cleaners. Drachten is a town of some 50,000 inhabitants in the north of the Netherlands, and is home to over 2,000 small and medium-sized businesses and a few bigger ones as well, such as Philips and Fenner Dunlop. The nearby state university of Groningen and the Leeuwarden technical college which is also in the area provide rich sources of qualified young employees. Plenty of graduates from these institutions get their first jobs here and many of them choose to stay longer.

1,500 people from 20 different countries are employed by Philips in Drachten, with 600 of them working in development alone. The factory occupies over 30,000 square metres with a comprehensive machine park which has a hundred processing machines, 40 of which are for cold forming. Dutch company Philips was founded in 1891, primarily

making light bulbs. The company now employs over 116,000 people in dozens of countries around the world and sells a million products worldwide every day. Philips concentrates on three core segments, namely healthcare, lighting and consumer lifestyle.

The healthcare sector has 35,000 employees and produces computer split-image and x-ray machines. 52,000 people work in the lighting segment producing lamps, LED and xenon lights for cars amongst others. The consumer lifestyle sector has 17,000 employees around the world and is devoted to the production of entertainment electronics and household apparatuses such as electric razors. Philips recently announced the acquisition of the established Italian brand Saeco – a strategic move designed to strengthen and develop the company's position in the international coffee market.

### Behind every successful project there is a strong team

The successfully completed Philips project which is now proving itself in practice is an ideal example of the advantages of networking high-performance automated punching presses as a perfect alternative to extending die windows. The desire to combine ever more processing steps in one machine may at first glance appear to be the best way to cover all steps in the manufacturing chain, but the bigger a machine is, the bulkier it obviously is which is a problem in terms of space and cost. Last but not least, larger, more complex tools also generate extra costs as they need to be adapted in terms of handling and logistics.

The key to networking automated punching presses is the relationship between the strip feeder and the tool as well as the loop between the machines which determines the maximum speed of the overall unit. Bruderer and Philips decided on a simple but incredibly efficient tandem arrangement of the machines which enables networks of virtually any size. This system is very much symbolic of how the project achieved what it did. After all, it was the friendly cooperation between the teams of Philips and Bruderer experts who worked in tandem to make such a success of implementing this challenge.

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



Thomas Schmitz headed the networking project at Philips.

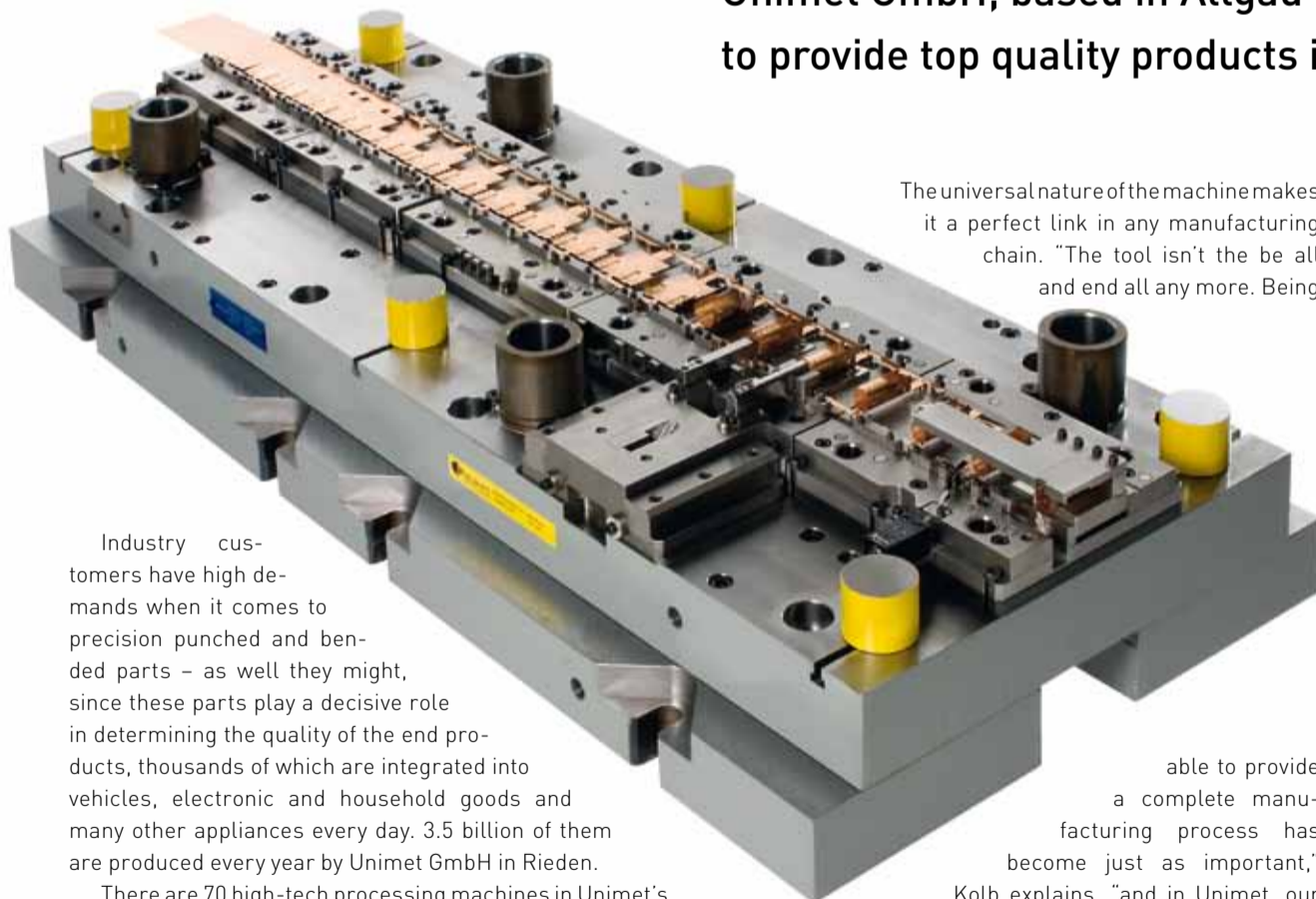


The start of a perfect shave.

# Optimising process chains the Unimet way



The ability to carry out all manufacturing processes from A to Z is as important in punching and bending technology as it is for tool-makers. Bruderer automatic punching presses enable Unimet GmbH, based in Allgäu in Southern Germany, to provide top quality products in both fields of use.



Industry customers have high demands when it comes to precision punched and bent parts – as well they might, since these parts play a decisive role in determining the quality of the end products, thousands of which are integrated into vehicles, electronic and household goods and many other appliances every day. 3.5 billion of them are produced every year by Unimet GmbH in Rieden.

There are 70 high-tech processing machines in Unimet's production hall, 31 coming from Bruderer which are used in the development, tool-manufacturing and production departments. A 21-shift system is in place which makes for a real challenge in terms of quality and reliability.

## Versatility is the key

"When it comes to the crunch, Bruderer machines work – simple as that," says Rudi Kolb, Unimet CEO and shareholder. Indeed, they are uncomplicated, robust, productive and highly accurate and operate around the clock. They are also incredibly versatile: the feeder can be either on the left or the right, at the front or the back, feeding in or out and can even work in reverse where necessary.

The universal nature of the machine makes it a perfect link in any manufacturing chain. "The tool isn't the be all and end all any more. Being

able to provide a complete manufacturing process has become just as important," Kolb explains, "and in Unimet, our clients have a partner with the necessary expertise and an optimum machine park."

## High-precision problem-solver

Unimet has the entire process chain covered, positioning itself as an expert high-precision problem-solver. Development, construction, tool-making, mechanical processing, machining with RFID-controlled robot technology, a machine park, fine-cut Laser technology, the various steps throughout the process all through to vibratory finishing are part of the comprehensive service. All punchable strip materials such as bronze, brass and stainless steel are processed and all different types of punching technology are

offered, while established external partners are brought in when special processes such as electroplating and plastics technology are required.

When complex customer applications are required, intelligent process and tool solutions are developed and then manufactured to high precision. For example the processing begins in the vibratory finishing room with a fully integrated robot system, then synchronised on a 500-range Bruderer. It is then punched, bent, welded and cleaned on the production line, checked by camera and packed by a fully automated machine within a robot-operated system.

There is also a Bruderer which acts as a test machine in the tool room – an ideal choice giving its long punching table, high die window and incredible precision. Kolb is convinced that the right decision has been made. The tools which were calibrated during the test period on the Bruderer automated punching press require significantly less adjustment – or indeed none at all – during the fixture process later in the production stage, thus keeping costs down.

The combination of high-performance tools and top-notch machinery provide production lines with 100% quality. The company has a zero error policy which has its own methodology and is based on ISO/TS 16949:2002 certification. The ISO 14001:2004 environmental audit ensures that none of the work carried out harms the environment.

Innovations come about on the one hand due to customer demands – since many challenges can only be met with new ideas – and on the other hand by Unimet, who are constantly working on ways to make the machining processes better in terms of quality and efficiency. Trends in the sector are monitored and integrated where they are deemed relevant.

## Comprehensive customer support

Customers are given comprehensive support throughout the entire process chain. Tools, parts and processes are developed and accompanied from every stage, from the

concept to prototype right through to mass production, and in most cases the customer is closely involved. Unimet has virtually no limitations as regards the demands on punching and bending technology, thanks to its four decades of expertise combined with ultra-modern technology – chiefly supplied by Bruderer. "Customers judge us on our technology park," says Chief Technical Officer Harald Wurster. "Having 31 Bruderer automatic punching presses in our production hall means that half of the work on every job is already well in hand."

Development as well as sample and tool manufacture form a major part of the Unimet range of services. Development is carried out and samples produced; there then follows a test phase with the customer, computer simulations are produced and finally tools ready for use are manufactured.

Unimet customers appreciate the high compatibility levels of the Bruderer machines which enable anything up to four different work steps to be integrated seamlessly into the process one after the other. The fact that Bruderer automatic punching presses are involved not only in the development phase and the manufacturing of samples and tools at Unimet but also in the production stage has further inherent advantages. Transferring prototypes into production can be done without any idle time, and everything runs smoothly right from the first moment since the machines and the feeders come from the same manufacturer and the same facilities are used in production. The tools which are developed usually stay in-house at Unimet to produce the parts for the customers under contract manufacture.

The Bruderer automatic punching presses also score highly when it comes to productivity, precision and reliability. With their tools developed in-house which can be implemented twice in a row at up to 2,000 strokes per minute, they can be worked in a shift system thus providing considerable output and high flexibility. Precision is to within a hundredth of a millimetre – due in no small part to the unique transmission system which the Bruderer machines have. This precision has a real effect on the reliability of the facilities and means that tool wear is considerably reduced thanks to the high degree of accuracy in terms of evenness and feeding.

Annual maintenance costs are under 0.2% of the turnover created by each machine, making these Bruderer heavyweights almost untouchable, particularly since their problem-free operability also leads to time-savings of around 15% when it comes to setting up and adapting.

### Making the complex look simple

All in all, Unimet has nothing but positive things to say about Bruderer machines, or as CEO Kolb so concisely puts it: "We are real Bruderer fans". The simple and clearly structured handling is much appreciated, as is the reliability. The control systems make the most of the functionality of the machines, with each element easy to use and program even in complex networks containing additional work steps such as camera monitoring and cleaning or welding equipment.

Around 45% of Unimet's orders come from the automotive industry, with 30% from the electronics sector,



Various work-steps integrated into one process: Bruderer automated punching presses at Unimet.

15% from environmental technology and the remaining 10% from other sectors of industry. The products include parts for catalytic converters, airbags, brakes, engine management systems, fuel injection, xenon lighting, cams, seat brackets and dashboard instruments as well as medical socket outlets, mobile telephony parts, photovoltaics and machine construction.

Unimet also plays a very important role as a systems provider, producing ready-to-assemble devices for the automotive, electronics and other industries which are not part of the standard socket outlet market and which are made of plastic and metal parts.

Rudi Kolb has been at the company, based in Rieden in the Eastern Allgäu region of Germany, almost since it was founded. Unimet has racked up 40 years worth of pressing and bending technology expertise and has grown to a size where it now employs some 230 people. The company acquired its first Bruderer machine back in the 1970s – a 30-tonne automated punching press – and has gone from strength to strength ever since, taking over Leukert GmbH in 2002 to help them penetrate the heavier

tonnage market. Nowadays, the Unimet Group handles a wide variety of orders and produces strips with thicknesses between 0.01 – 6 mm and widths of up to 400 mm.

### Healthy order book

Despite the current financial crisis, Unimet can boast a relatively healthy order book. It is a family business set out in the countryside with little in the way of industry in the surrounding area, meaning that the company trains its own skilled staff. There are currently 24 apprentices on site, most of whom are learning the various shop floor trades. There is enough room to develop the tool-making, assembly and maintenance departments in the modern industrial complex in Rieden spread over 8,700 square metres, and the company moved

into a new production hall in 2007. Half of all sales come from Europe with the rest from Asia and USA, though even in those regions most of the business is also generated by European clients.

Unimet and Bruderer have a long and successful history together. "Precision, cost effectiveness, service and expertise – all reasons why choosing Bruderer is an easy decision," explains Rudi Kolb. "It's nice to order a machine from Bruderer," he continues, with the healthy provisions of spare parts, rapid service, expertise in terms of special applications and in particular their good relationship with Bruderer employees all helping Unimet to meet their tough everyday demands. "Unimet is expanding all the time and this is why we need a reliable partner which is nevertheless always ready to jump in and help us implement a new project in a tight deadline," Kolb explains, "and Bruderer fulfils this role perfectly."

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



Unimet is in good hands (l to r): Rudi Kolb, Georg Lang, Harald Wurster.

» The tool isn't the be all and end all any more. Being able to provide a complete manufacturing process has become at least equally important. «

Rudi Kolb, CEO and shareholder



# Linking up the advantages – Bruderer press control



The linking of punching presses means that controlling takes on added importance, since it is there to ensure that all of the machines and equipment involved in the process run exactly and seamlessly, like a precision Swiss watch. At the same time it must be implemented in such a way that it facilitates the operating and monitoring of equipment which is spread out over a large space.

The Bruderer control technology team has developed a variation on the tried and tested B-control system which enables linked equipment to be operated in a familiar way that is precise and manageable. This press control gives customers a variety of advantages and enables them to work with a control which they already know and trust, provided that they already use other Bruderer punching presses for production.

### Ideal connections right along the line

The most important aspect of linking is having optimum connection between the machines, and for Bruderer press control, this connection is ensured using Profibus technology. This means that the relevant data from a punching press are available to all other equipment in the chain. This kind of integrated networking can also for example make sure that a punching press does not engage if another machine is not ready to operate. Seamless functioning also relies on optimum integration of the periphery units.

Standardised interfaces make it easy to include straightening equipment, coilers and lubricating and washing equipment to name but a few in the chain and to influence the overall process, for example by changing speed.

Bruderer press control is also configured in such a way that it can support any required number of participating units, be it punching presses or peripheral equipment. This enables a number of working stages to be carried out in a continuous process, with limitations due to the tool or the work space disappearing – a considerable advantage at a time when customers are making increased demands for ever bigger tool die windows.

### Simple remote operation

It is important for equipment to be easy and manageable to operate on a daily basis, as it is designed to shorten paths and support efficient work processes. It was therefore decided not to have a primary machine defined when the control was being configured, from which for example the equipment has to be engaged or the rotations defined. The user can control the processes from whichever punching press within the chain he or she desires, independent of how many machines are linked.

Supporting for example the threading and unthreading of the strip is just as easy. If material is threaded or unthreaded on one of the punching presses by inching, all other machines which already have a strip are engaged and disengaged depending on the condition of the loops. The customer therefore does not have to first fill up the strip loop

each time to thread the strip before inching on the following punching press – something which also saves processes for the user and usage time for the equipment.

Diagnosis of the equipment condition is also configured in a decentralised way. Users can call up linking information from any punching press, for example which emergency override switch has been pressed on which part of the equipment.

Further assistance is provided by Bruderer loop control to monitor loop lengths, which can be arranged between any desired units in the chain. The rotations are influenced completely automatically by the control, and the length of the loops maintained almost constant. The customer can also be sure of the fact that the process tolerances, which can lead to different loop speeds, will be evened out and the equipment will produce parts of a consistent quality.

Bruderer press control for linked equipment is configured in close cooperation with the customer to meet the specific needs of the particular installation. This creates solutions which are user-friendly and provide optimum efficiency in working processes – the kind of Bruderer solutions which customers around the world have come to trust.



Controlling is the key element to perfect networking.

### Imprint

Publisher: Bruderer AG Stanzautomaten  
CH-9320 Frasnacht, Phone (+41) 71 447 75 00, Fax (+41) 71 447 77 80,  
stamper@ch.bruderer-presses.com, www.bruderer-presses.com

Project: Jens Ellensohn Imaging Establishment, Industriestraße 32,  
FL-9491 Ruggell, Texts: Helmut Wiener, www.helmutwiener.com; Massimiliano  
Capitano; Claudia Gravino, Marketing Bruderer AG, Translation: Drew Lilley  
Graphics/Layout: Christoph Lenz, 47grad.eu  
Photography: Title, pages 2, 5, 6, 7, 8: Jens Ellensohn; page 2: JET; page 1, 3: MTA;  
pages 1, 4, 5: Philips; all other pictures: Bruderer AG

All articles of the STAMPER magazine are protected on copyright. The respective companies are liable for their articles and illustrations. The right for publication, translation and electronic storage go over the publisher by acceptance of the manuscript.