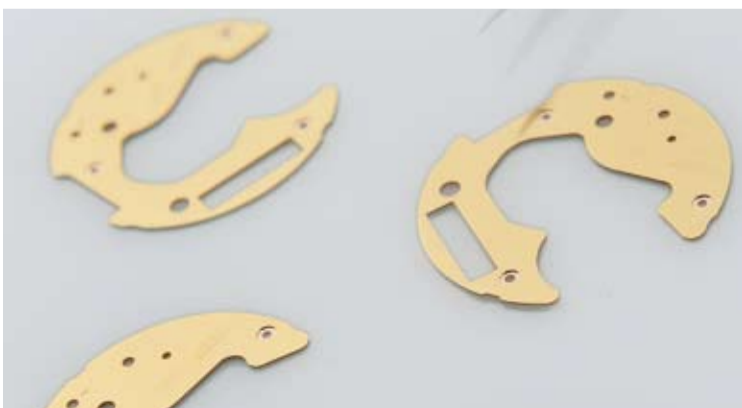




1|08

STAMPER

Magazine for high-performance punching technology



Ronda quartz movements tick with Bruderer precision

A chronograph watch consists of approximately 150 parts. One third of those are slugs. How accurate a watch is depends on the precision of these parts. Here, the Swiss manufacturer Ronda relies on precision automatic punching presses from Frasnacht.

Page 4-5



Where and how Bruderer presents innovations

Bruderer presents itself and its new innovations at the new trade fair in an inviting and forward-looking manner. The BSTA 510-125 will be the star of EuroBLECH in Hanover.

Page 2



Manufacturing that produces quality

Bruderer manufacturing has never been geared towards the average: Quality, precision and quick delivery times are closely linked to peak technological performance.

Page 8

Editorial



About time travelling and sensitive noses

Flying from Europe to China and back again still is a journey through time, despite today's modern trends and mobility. During this long flight, you have time to recapture conversations you had with customers over the past few days and you wonder in which direction you can fly faster than time.

What does the Asian customer want? What does he expect from us? Anyone who believes that everything in Asia has to be as cheap as possible and that only "toy production" happens there is misjudging the real development of this market. More than ever, customers from the Far East are explicitly demanding precision machines. However, the fact that half of all orders do not even originate from Asia should not surprise us. Swiss quality still enjoys a high standing around the world and is an important criterion if you have to decide about the investment in a machine that is admittedly not inexpensive. Our sales success proves it: Bruderer quality has an international reputation!

How accurately we meet the demands of our customers depends to a large extent on how closely we observe the market and how quickly we prepare ourselves to new developments and requirements. It is exactly this "very good nose" that has helped us identifying the trend in Western markets at an early stage. Our answer is the newest latest Bruderer stamping press, which we will present to the global public for the first time at EuroBLECH in Hanover. In a continually and rapidly changing market environment we put all our efforts into offering you, our customers, true benefits and optimum optimized production processes. We want to move forward by all means, be it in small or large steps, but above all with you on board.

So please be our guest and visit our booth at EuroBLECH. Let us see how we can join you on your time travel into the future. Embedded in our latest innovations, we are sure to get into the right creative mood in the twinkling of an eye.

Sincerely,
Andreas Fischer
 Managing Director

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 Ellensohn, clockwork: Ronda, Page 6: Batten & Allen,
 Page 7: J.V. Manufacturing, Page 8: Jens Ellensohn

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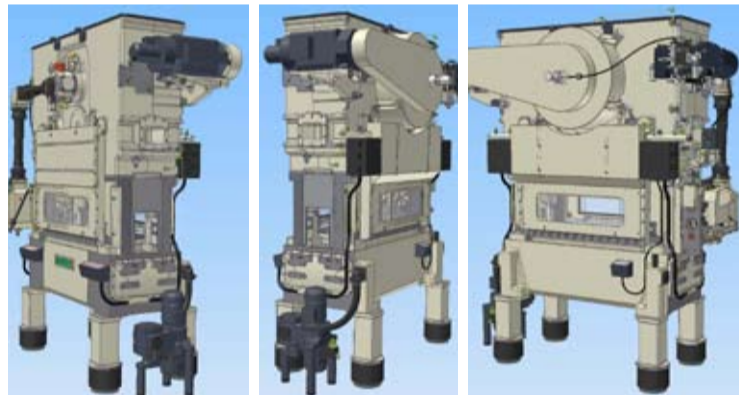
Development fulfils customer wishes

The new BSTA 510-125 is here. At EuroBLECH 2008, Bruderer will present its newest precision high-performance automatic stamping press, the BSTA 510-125, which, with its 150 mm longer tool loading area, will supplement the top end of the BSTA 500 series.

Ten years of success on the market – and still a huge potential for improvement: In any case, Bruderer customers have given a very positive response to the BSTA 500-95 and BSTA 500-110 stamping presses. One feature of the new machines is certainly the PC-based control.

A decisive plus of this practice is that the ram height can be adjusted during punching, a feature that is also available on all other modern BSTAs. This forward-looking development can have two effects. Firstly, precision can be increased, since being able to adjust the ram height during the process allows the change of insertion depth to be kept to a minimum. Secondly, the press load is reduced, which benefits durability. Users are familiar with this effect. If, during operation, you can reduce the extent to which the ram extends to fixed limit stops used or a fixed stamping depth, the load on the machine is significantly less – and, naturally, the product quality remains the same.

No doubt punching experts believe in the following principle: Setters must calibrate until good parts are output from the machine. With the Bruderer innovation, the following should be added: Flawless quality parts must be produced at the lowest possible press load. As a final consequence,



Makes a good impression from all sides: the new BSTA 510-125.

machine sensors and control permit even the forces in the fixed limit stops in the die to be regulated. For the BSTA 500 and BSTA 510, therefore, it can be argued that process forces are better controlled and influenced without production having to be stopped. This means that manufacturing can be more precise.

If the current BSTA models already offer easily accessible space for dies, the construction of the BSTA 510-125 answers yet another customer requirement: for an automatic punching press in the 500 kN load range with a useable tool loading area measuring 1.250 millimetres.

Completely new for EuroBLECH 2008: the BSTA 510-125 automatic stamping press

With 150 millimetres more installation space, i.e. 1.250 millimetres instead of 1.100 millimetres as on the BSTA 500-110, the new stamping press generates greater bending moments. In addition, higher moments of tilt can be initiated on the longer ram by the die.

Ultimately, the customer wants an automatic stamping press in which he can install one more working module and which still displays the same properties in the stamping process as the well-known BSTA 500. The task, therefore, was to minimize the bending strain, increase the ram's resistance against tilt, and design the mass counterbalance to the optimum despite the greater component weight.

The new tool area safety guard and modified feed drive were introduced during modularization of the feed unit, and are already known to aficionados because of other automatic punching presses in the Bruderer product line.

Despite the machine's bulky appearance due to the extension, we believe that the engineers have succeeded in creating an appealing new BSTA 510-125. The BSTA 510-125 offers Bruderer customers considerable added value for a financial outlay that has increased only modestly.

Trade fairs 2008



Bruderer will be exhibiting at a new booth at the leading trade fair for sheet metal workers, EuroBLECH in Hanover, from October 21 to 25. Open, communicative and innovative – the company invites customers and those that want to become customers. Innovative – the new automatic stamping press. Communicative – how the trade fair booth is subdivided.

Space for the technical presentation is ideally combined with an area for discussion. While the

On show here:

You can come and see us at the following trade fairs over the coming months:

BI-MU Italy	3.-7. October 2008	Hall 13 Booth B14
EuroBLECH Germany	21.-25. October 2008	Hall 27 Booth H23
JIMTOF Japan	30. October– 4. November 2008	Booth E1029
MetalForum Mexico	11.-13. November 2008	
Hybridica Germany	11.-14. November 2008	

exhibits, particularly the new BSTA 510-125, are openly presented to the public, the second booth level offers plenty of peace and quiet as well as the opportunity to communicate in depth.

EuroBLECH is definitely a highlight among the Bruderer machine factory's European appearances. But both nationally and internationally, at many other trade fairs, Bruderer is striving for close contact with customers from all sectors, who are cordially invited to visit the Bruderer trade fair booth.

SDI: Versatile – but always precise

Four principles have guided the company SDI since its formation – honesty, reliability, motivation and innovation. The ISO 9001 certified company has grown constantly in the office supplies and electronic components divisions and has developed from a typical Taiwanese company to an international organisation.

Chen Shui-Chin founded the company Shuen Der Manufacturing in 1953, long before any talk of paperless offices. You wrote with pencil and ink, and for as long as pencil was used, the lead had to be sharpened, over and over again.

This was a continual need that Chen Shui-Chin identified, producing blades for pencil sharpeners in his small company.

The dedicated company director remained customer and market-oriented, and it was not long before his company, now with many branches and various focuses, expanded for the first time.

Constant research and development throughout the entire product area – from paper knives and staplers to circuit board and punching technology – allowed SDI to build up successful partnerships with leading international organizations. At the same time, SDI set the goal of making a positive contribution to the community by means of its activities worldwide.

SDI's various activities have been and remain highly diverse: They relate to circuit board production and steel punching processing. To ensure that the individual tasks can be performed in a goal-oriented and technically-competent manner, company director Chen Shui-Chin has organized the activities in various organizations.

The company has been listed on the Taiwanese stock exchange since 1996. The more major investments in recent years include the construction of a new plant in Nan Tou, with which SDI expanded its capacity in circuit board production. As with

all undertakings, the same rule applied here: SDI satisfies its customers by means of support in production. "Quality awareness in production", SDI is convinced, is the basic principle of any organization.

Service readiness gives the company a long-term market presence. Therefore, we are not only concentrating on continually improving our product quality, but we are also providing our customers with first-class service."

Production of circuit boards is part of core competence

In 1983, SDI entered the business of semiconductors and system beams for structural elements, known as lead frames, and began to produce customer-specific printed circuit boards. Since that time, the company has developed a series of unique tool technologies. A speciality of SDI is high-quality lead frames made to an exact customer specification – and at competitive prices. Thanks to its proven and consistent quality, SDI can count numerous companies in the IDM sector and manufacturers of automotive components among its customers.

The constantly growing market in circuit boards for integrating circuits will, in future, dominate the semiconductor and electronic products industry.

SDI can offer its customers in this area extensive services – due in part to its pronounced R&D capabilities and a technical advisory service based on solid knowledge in the area of etching, punching and coating.

In expanding its technological position, SDI has advanced step by step. The company is proficient in every aspect of the development and production process. Self-sufficient in terms of competence, SDI has built up a large amount of know-how in development and certain production steps, and has a correspondingly high in-house production depth.

Production processes such as punching, including in stages, electroplating, coating and sanding are all under control. In addition, function tests are carried out using prototypes so that all functions and modifications have also been tested and sampled by production start.

Access to production data is a basic prerequisite for manufacturing efficiency and automated production.



Quality and service are the foundation for business at SDI.

For this reason, SDI introduced the In-Time Manufacturing System from 2005 to 2006. Since information can now be called up directly from any press, operating staff can control production visually and correct discrepancies immediately.

Using the information from the individual processes, production managers can make production more efficient, and improve both the rate of machine utilisation and the efficiency of the operating staff – as well as being able to monitor production in the workshop from their offices or another location.

At SDI, staff feel very strongly committed to high manufacturing quality: "We are pioneers in this field", they say. It is precisely in the area of high-accuracy tools that huge endeavours have been undertaken.

Multistage precision castings are also among the company's strengths, as are molds for injection molding machines or die casting molds. "We use highly developed technologies and the most modern processes in the manufacture of quality components", the company director confirms. This also includes a correspondingly well set up machine outfit, in which state of the art equipment is modestly referred to with regard to the top machines at SDI.

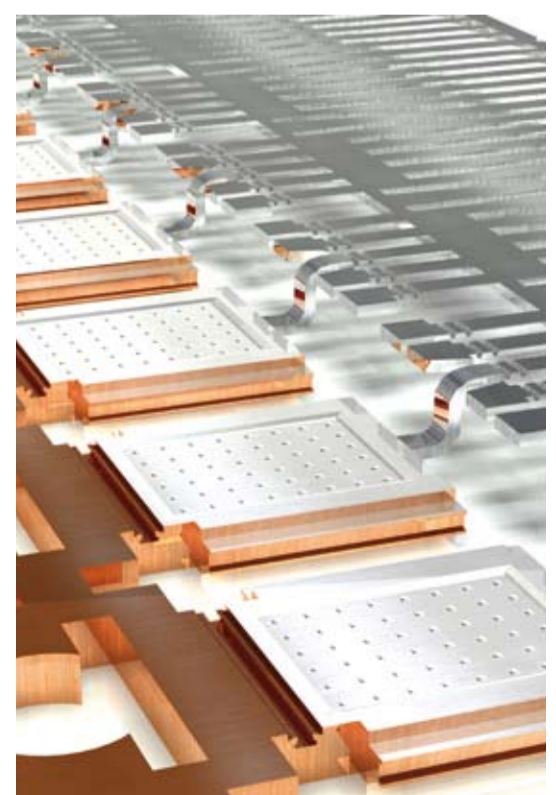
It almost goes without saying that the company is certified in line with ISO 9001, as well as a host of other quality standards.



Precise solutions in detail demonstrate SDI competence.



Company growth can be seen in the machine outfit just as from growth rings.



High-level series production.

a-Ronda the clock

Bruderer punching presses run like clockwork

The Swiss manufacturer of quartz watches, Ronda, has very successfully integrated a Bruderer high-performance punching press in its manufacturing. Ronda production engineers were searching for a compact machine that worked accurately on a long-term basis, was easy to operate and affordable.



What the high-performance punching presses in Lausen, near Basel, produce looks like plain old metal cuttings. But they are, in fact, miniature components, precisely accurate, manufactured from metal foil. Sometimes the components are not more than 15 µm thick, or rather, thin. They are parts for analogue quartz clocks such as those that Ronda manufactures with Swiss precision. In Lausen, Ronda produces 30 million quartz movements in 85 basic variants for watch manufacturers around the world. It is common in this industry for named manufacturers of watches to have the inner workings of their timepieces produced by a subcontractor irrespective of whether they make classic,



Martin Hainz, master of the automatic punching presses.

sporty, fashionable or luxury models. However, from simple design to the premium segment, there is one common feature: "Customers demand uncompromising quality", emphasises the chief department manager for production at Ronda, Martin Hainz. In the end, at least 50 to 60 individual parts have to work together perfectly in the ébauches, the raw movements; on chronographs, this figure may be as high as 140 to 150 parts. Hainz says: "For this, component tolerances of a few thousandths to a few hundredths of a millimetre are often required."

To be able to ensure this quality with justifiable outlay, well-grounded economical and technical knowledge is required - and these very aspects have led the production manager to the punching press manufacturer Bruderer in Frasnacht, Switzerland. At this juncture, you should be aware that punching plays a central role in watch manufacturing. The proportion of slugs in a movement is around one third, with slightly more than one third being occupied by so-called decolletage parts, i.e. turning parts. The remaining parts are those manufactured in line with different production processes. According to Martin Hainz, "When I took over responsibility for production a good six years ago, 25 punching machines were working here, 11 of which were Bruderer machines. This "team" was the backbone of production." This impression has only become more

deeply ingrained over the course of time: "If you make parts as precise as we do, there's pretty much no getting around Bruderer. Their automatic punching presses are somewhat more expensive than other brands, but with the highly-precise driving mechanics with automatic ram correction as well as the self-actuating ram positioning at temperature increases and speed changes alone, you get your money's worth. The machinery also has benefits in terms of control and peripherals. The bottom line is that by using highly-accurate punching presses, you can significantly reduce wear on your punching tool."

Because Hainz also values availability and service, the choice of manufacturer was not a hard one when investments in new production technology were required soon after he "took office". He decided on Bruderer as a replacement for older automatic punching presses. And when Ronda's machine outfit expanded to include three additional 180 kN automatic punching presses, these machines also contributed to the characteristic brand of the manufacturer from Frasnacht.

The most noteworthy occurrence, meanwhile, took place in April of this year: The first Bruderer 200 kN automatic punching press was installed at Ronda two months before this model premiered at the "Blechexpo" trade fair in Stuttgart, with the name "BSTA 200-60BE". Why did the



Synonyms for precision: clockwork.

Swiss machine builder launch this kind of machine onto the market in the first place? Thomas Hofmann, Bruderer technical consultant and salesman, answers: "Wherever precise miniscule parts are being punched in high numbers, for instance in the electronics, watch-making and automotive industries, the market has changed dramatically over the past five years." Increasing value is being placed on high machine flexibility and availability. At the same time, requirements in terms of component precision and price pressure are also increasing: "We have responded to this with an extensive market study, which involved speaking with our customers all over the world and asking them to specify their requirements." The results of this study are reflected not only in the draft for the new 200 kN machine, but also in new control and feed concepts. As a result, the "BE" (for B Essential) version developed on the basis of the well-known "B" high-performance control is said to be very easy to operate, by means of a touch screen, and still fulfils all current requirements. It apparently no longer has any rotating components such as a fan or hard disk, and the electrical cabinet has grown smaller. As far as the feed is concerned, users should be able to choose between a roller feed, pincer feeds and servo feeds. The standard feed is the new, mechanical roller feed BBV 180 by Bruderer: powerful, flexible, easy to operate and sensitive.

Hofmann describes the special feature of the overall concept as follows: "What is new is that a driving mechanism with two connecting rods is used on an automatic punching press with 200 kN press force. This gives rise to significantly higher stability and precision in the punching process than with our existing 200 kN machine with one connecting rod." In addition to this, the BSTA 200-60BE has dynamic ram adjustment, which automatically compensates for any displacements in the bottom dead centre area during the punching process. And, because die technology is growing increasingly complex and requiring increasing amounts of space, the tool loading area was enlarged from 410 to 600 mm or 700 mm. The automatic punching press is, incidentally, configured as a fixed stroke machine. A design with adjust-

able strokes is available as an option. In the smallest fixed stroke of 8 mm, the machine can be operated at 2,000 rpm.

Martin Hainz, chief department manager for production, admits: "When I heard that Bruderer was to include this kind of twenty-tonner in a two-rod design with a large working area in its program, I was quite certain when I said: I will buy that machine." In the end, he too had filed his request for this kind of machine type with Bruderer. Indeed, he claimed to always have worked well with the small BSTA 180 and large BSTA 300 machines, but it had gradually become clear that there was a gap in the machine spectrum: "The thirty-tonner with its powerful B control can indeed do a lot and is very precise, but this High Engineering is naturally reflected in the price of the machine. For us, there was no alternative, even due to the large working area alone, which we need for our complex dies."

Department manager Hainz does not conceal the fact that the reasonable acquisition costs were also a decisive factor in his investment. "You see, including the highly-accurate, very flexible BSV 75 servo feed, the total investment was around 200,000 francs less than it would have been for a thirty-tonner. In comparison with before, one could say that we have the same output at half the investment." Martin Hainz describes his previous experiences with the market newcomer as "consistently positive." "The set-up times are very short, and the repeat accuracy with the new sensor control is high." Because analogue measuring sensors are now used, measured values can be resolved to a few micrometres at ram control. It should now also be possible to measure movements as well as just states, as was the case with the sensors that were previously commonly used in production and reproduced up to eight hundredths of a millimetre. "That is a quantum leap for us", says the production

manager. The insertion depth of the punching press directly on the die, as well as die parallelism, can now be determined significantly more accurately than before.

Despite the high requirements, we at Ronda have decided not on the exacting adjustable stroke, but on the standard version: the fixed stroke. According to Martin Hainz, "It is entirely sufficient for us since almost all of our dies are operated at the same stroke length. The effective stroke can then be optimised further using the servo feed." Thus, Ronda has foregone the adjustable stroke option – and saved a few thousand francs. With regard to control, too, Ronda made use of the way in which the machine concept can be adapted to suit requirements. "The control is not called B Essential for nothing", Martin Hainz reasons. "Compared to the B design, certain functions have been left out that we mostly did not need."

One half of all interested parties does not come from Asia

The high demand since April 2007 makes us think that, with its new machine concept, Bruderer has closed a gap in demand for other companies as well as Ronda. Approximately 40 automatic punching presses have already been ordered by customers in the field of micromechanics – and these customers are based not only in Asia, the region on which Bruderer was initially focussed.

» If you make parts as precise as we do, there's pretty much no getting around Bruderer. «

Martin Hainz



Punches faster than the clock ticks: BSTA 200-60BE.

"A good half of the machines that have been ordered so far were requested by interested parties outside Asia", reports sales employee Thomas Hofmann. These users were searching for a working appliance that was affordable without foregoing well-known Bruderer quality, such as features like the lever system with transverse shaft alignment, ram position regulation or dynamic ram height control. Moreover, the distinctive flexibility of Bruderer machines sells again and again. Thomas Hofmann says: "The machine can be operated in a progressive die or the convenient direct die. You can store all relevant tool data in the control. You can use the machine with the servo feed as either a striking or pulling automatic punching press, and can work with automatic sequences or a spring pressure device. The bolster plate is also available in different variants. The possible applications are, therefore, very diverse."

Nevertheless, new requests frequently come from demanding customers such as Ronda. Martin Hainz gives one example: "We would like to be able to control the ram height in even smaller increments than is currently possible". Although control to one hundredth of a millimetre is very good, five thousandths would be even better for Ronda. The production manager's previous experience tells him that the punching press experts from Frasnacht will also integrate this feature in their machine concept. This can only be beneficial for the future relationship between the two organisations. "We will soon have to invest again" - Hainz has already written his wish list.

The article is based on a report by the magazine "Blech InForm", author: Frank Pfeiffer



With its touch screen, the BE control developed on the basis of the well-known high-performance control is a benefit for ease of operation (l.). The new sensor control helps with repeat accuracy. Nevertheless, parts are checked in line with the rules of the process control. The combination of control, sensors and ram control gives Ronda huge quality benefits. "A quantum leap", as it is known.

Multi-out is in

When it comes to precision,
Batten & Allen puts its money on Bruderer

It is a frequently recurring challenge: proving repeatedly, from one job to the next, how good manufacturing is and that production is not only quick but also outstanding in terms of quality. The British company Batten & Allen has invested in this. The company is known for its first class punching products. Since 2000, Batten & Allen has bought seven new high-speed automatic punching presses from Bruderer. All in all, the company operates 26 presses at its Cirencester plant.

The new machines have one thing in common. They are all equipped with long tables, as they are intended to be operated with multi-station dies. Currently, each press punch can manufacture up to 14 parts – some of which may have very complicated shapes and extremely narrow tolerances. As a rule, however, tools with 14 stations are used to manufacture flat, two-dimensional parts. Managing Director Shawn Batten explains: "The ability to use large multi-out multi-station dies on the tables of our newest presses has made us much more competitive. It allows us to keep our prices low."

These multi-out dies have virtually revolutionised productivity in the manufacturing of widely varied components in metal thicknesses of 50 micrometers to 1.2 mm. Consumers of this kind of part include the electrical, electronics, telecommunications and medical industries.

More than 95 percent of production is sold directly on the global market by representatives in numerous countries. The company also has its own product range of standard circuit boards for hybrid, thick film and printed circuit board technology. Its customers include such well-known names as Tyco, Molex, AVX, Bosch, Nokia, Siemens and Schneider Electric. It is precisely the products for this consumer group that show why the punching process is almost fully automated. Using the "coil to coil" production method is standard. All automatic punching presses have palette decoilers and automatic decoilers.

But no gold

By means of investments, Batten & Allen is trying to open up new consumer groups. The newest punching press is a Bruderer BSTA 300-85B, which was installed at the end of 2007. Like most existing presses, it has a capacity of 30 tonnes. Moreover, a similar number of machines with a nominal output of 20 or 25 tonnes is also available. In terms of power, the star in the machine outfit is a long-bed press purchased in 2006 with a press force of 50 tonnes.



The newest Bruderer punching press installed in Cirencester is a long-bed machine from the BSTA 300-85B series.



Manufacturing at Batten & Allen in Cirencester: Predominantly dies from internal die and mould construction are used on 24 Bruderer high-speed automatic punching presses. Every eighth employee performs testing functions on a random sample basis.

This acquisition allowed the British company to gain a foothold in the automotive supply industry.

Batten & Allen – founded in 1972 and family-owned – is in a special position. The company maintains its own coating plant with eight high-speed electroplating lines, of which the newest was set up in 2008. Only a very small proportion of the specialised work processes relating to gold and other precious metals are assigned to subcontractors.

Moreover, the company's range of products is completed by an internal design and the manufacturing of dies – mostly replaceable, module-based variants.

Chief Executive Shawn Batten sees the company's internal die manufacturing as a big plus: "Since we manufacture our own dies, we can make sure that they are cost effective and made to the highest quality standards. It is in our own interests to supply first-class manufacturing quality – good dies can be used for longer before having to be overhauled. This reduces costs and maximises the active operating time of Bruderer presses."

In Batten & Allen's experience, the calculation is relatively simple: These days, a punching die set can normally perform eight million punching processes. Only a few years ago, this figure was five million cycles at best. "This is not only evidence of the high precision and excellent surface finish of our dies, but also of the precision and rigidity of Bruderer automatic punching presses. Without them, the dies would still wear more quickly, despite their high quality" says Batten. He added that a further advantage of using high-quality dies is the fact that returns and rejects are kept to a minimum. In the last four years, the reject rate has been lowered by 30 percent.

Despite this high performance, company production engineers are still trying to increase productive capacity even further. The "anniversary machine", the 25th automatic punching press at Batten & Allen, a 40 tonne machine, is therefore also



Multi-station multi-out die as used at Batten & Allen on Bruderer automatic punching presses.

intended for testing purposes. New performance data is to be determined, without losing sight of the compromise between speed and quality.

More and more productive

The most important thing is to increase productivity, which, according to Shawn Batten, has risen by an incredible 40 percent since 2000. He puts this down to the combination of measures taken, such as the use of longer, high-precision multi-out dies, fewer die repairs and increased stroke rates.



Control screen of a Bruderer automatic punching press: clear, well laid out and user friendly.

The ability to set up presses more quickly between individual production runs is apparently a further factor, since the runs have become continually smaller over recent years. Now, an increasing number of customers is demanding more frequent, but smaller, just-in-time deliveries.

Nowadays it is not uncommon for an automatic punching press to have to be retooled after an operating time of 10 hours. With Bruderer's newest PC-based B control system, a complete set of modular dies can be replaced in 20 minutes. This is three times faster than on older machines. Press operation is continually monitored for double material thickness, spacing errors, or auxiliary equipment malfunctions. On the newest presses in the BSTA 300-85B series, the die is even monitored in real time. Software problems can be solved immediately using a complete diagnostics package and modem connection to the Bruderer headquarters in Switzerland.

Shawn Batten is loyal to his suppliers, just as he is to his company principles. He wants to continue obtaining his automatic punching presses exclusively from Bruderer. He has many reasons for this choice: reliability, short response times from the British subsidiary service centre and the high precision of the slugs produced by the machines. Moreover, he considers these presses to be durable. Some have been in use for over 20 years and still produce medium-sized parts on a daily basis.

In Pennsylvania, the following rule applies: BETTER is better

For many years, the American die manufacturer J.V. Manufacturing has grown together with Bruderer. From its very first machine, the company has remained loyal to its supplier – secure because of old ties, but equally because of the conviction that investments in a solid manufacturing technology pay off in quality products.



Idyllically situated, which commits to quality: J.V. operates high-performance die cutters.



In total, 14 Bruderer automatic punching presses are in operation.

J.V. Manufacturing and Bruderer sometimes yields impressive figures. For instance: 300,000,000,000 parts produced. This volume was achieved on an installation developed jointly by J.V. and Bruderer in 1981. The goal of the development was to solve production of slugs in large numbers and at high punching press speed. The system produces 22,000 coin blanks per minute. What is particularly special is that to this day, the original dies are still used for manufacturing on the original Bruderer punching press machines.

This kind of longevity was what John Vecchi and Samuel Gruber had in mind when they founded their company, J.V. Manufacturing, in 1975. The goal of the two entrepreneurs was to produce carbide tools – and, moreover, better ones than those available at the time.

Die cutting with Bruderer from the very start

They knew that such a lofty goal could only be achieved using the best equipment. For that reason, the decision to buy their first punching press was an easy one. On account of their precision and performance, as well as the option of varying stroke rate and press feed, the Bruderer machines were the only ones that fulfilled J.V.'s requirements and expectations.

Meanwhile, J.V. employs 100 workers in Natrona Heights, Pennsylvania, and has a modern factory that has recently been considerably expanded and

now has a production area of 5,200 m². Over the years, which have been shaped by continual growth, J.V. has exclusively owned and operated Bruderer punching equipment. J.V. was founded in 1975 with a Bruderer automatic punching press from the BSTA 60H series. Since that time, the machine outfit has grown to include fourteen punching presses of types BSTA 25L to BSTA 160.

With this machine outfit J.V. is optimally equipped to produce dies. This is rewarded by customers in all industries, across the world. Thus, these dies are now found in the automotive, electronics, consumer articles, cosmetics, pharmaceuticals, coin and commercial nuclear fuel industries. They are valued for their reliability in production, along with high punching speed. Moreover, they are stable, "supply" high output numbers and are also very economical, with their efficient utilisation of material. An amusing detail as an aside: On the company website (jvmfgco.com), a stylised die produces red buttons stroke for stroke, which line up neatly to list the company services.

The specialists from Pennsylvania offer their many customers all kinds of multi-station punching dies, but also conventional punching dies, drawing dies and moulding tools. In addition, they offer

» Know-how, one's own initiative and creativity are a part of internal activity. Just as important for our success are Bruderer machines. «

specialities such as laminating and package laminating dies. The first truly computer-operated, programmable multi-station die was constructed and patented in 1977 by J.V. The company continues to be a leader in this area today.

The trademarks of J.V. are precision, replaceability and prompt delivery of parts – both replacement components and components manufactured to a customer's drawing. The company is completely set up for this. For quality reasons, a high in-house production depth is relied on, and delivery dates are kept to more efficiently.

A decisive factor in the success of the BETTER carbide tools is the motivation of employees, who have set their sights on continual improvement and the success of customers. Due to this competition-oriented thinking, J.V. is an attentive partner for its customers, wishing to understand their problems, requirements and goals from the very beginning: "We will use our collective experience to find innovative and creative solutions for our customers."

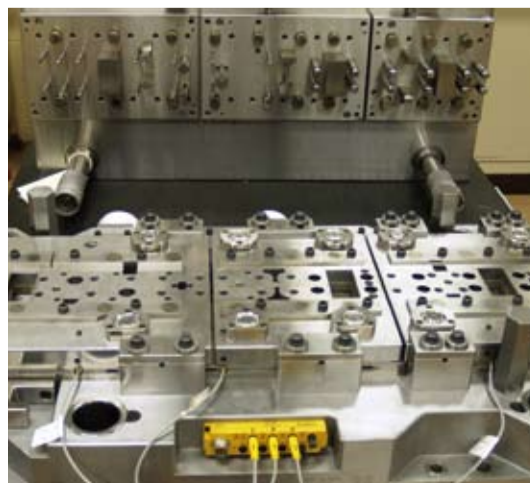
The newest trends in metals, materials and technology are constantly followed in order to manufacture the "better" tool, the BETTER carbide tool. It has, therefore, been part of the development process for some time now to involve material suppliers, for instance, in a project from the very start.

Management and employees know that the development of carbide tools must continue under the current competition-oriented market conditions. Progress has been made in in-tool-testing, assembly and safety monitoring. J.V. Manufacturing will, so they say, continue to work in partnership with both customers and suppliers in order to implement these productivity improvements.

Behind the American company's many years of success is a high level of internal know-how, initiative and creativity. But the two self-made entrepreneurs, Vecchi and Gruber, say: "We rate the extent to which Bruderer equipment and its competent employees have contributed to the success and performance of J.V., both in the plant and among customers, as very great."



Quality tools are good for business.



Perfect surfaces thanks to carbide bar tools.

An island that produces quality

High in-house production depth – extensive scope for customer requests



In terms of quality, Bruderer has glittering prospects: Bearing surfaces are gauged to the μm .

Whether the main priority is quality, precision or delivery times, the Bruderer machine factory has never been geared towards the average. Production in Frasnacht is arranged technically and logistically in such a way that unequalled processing times are possible even together with top technical performance. "Everything is a question of organisation", says Remo Ackermann, Production Manager at the Bruderer machine factory in Frasnacht and member of the management board.

At first glance, Remo Ackermann does not appear to have an enviable role. Together with his team, he has to be able to produce customer-specific automatic punching presses in only four months – the supplier of the unfinished castings for the machine housing allow themselves six to eight months.

At a second glance however, it quickly becomes clear how Mr. Ackermann solves this difficult task. Production in Frasnacht is geared toward the product range in such a consistent manner that the customer can be catered for significantly faster – and, what's more, with a machine that meets his or her requirements in full.

Off to the island

For many years now, Bruderer machine factory production has been concentrated in Frasnacht, the



Before trainees can participate actively in production, they receive varied basic training.

most economic site. This is proven true time and time again when the decision is reviewed at fairly regular intervals. Nowhere else has more advantageous basic conditions.

Production is organised as an island concept. In comparison with other models, it has the advantage of being less susceptible to fluctuations. Including assembly, the Frasnacht site has a total of five production islands. Each one is structured in such a way that a part required can be manufactured completely.

Remo Ackermann explains the idea behind this: "If a production island is self-sufficient, it can use the best production procedure in each case. If you combine suitable processes, the only issue remaining is optimum production, and not using a specific machine in all cases."

As a "dowry", the individual islands also received the optimum equipment. "Complete processing" is the key term here. Turning, milling, drilling – if need be, a tool change should be reflected in the budget as downtime between the individual operations. No new fixtures. No transportation costs. No unnecessary intermediate storage. Each island manufactures the assigned parts in full. This reduces the processing times and cuts down on costs for good measure.

At the Bruderer machine factory, production takes place in small to medium-sized batches, with an inspection of first items, which ensures consis-



Mihajlo Suica observes the measuring process on the measuring machine in a climate-controlled testing room.

tent quality. Remo Ackermann says with some pride: "We are focussed on individual, customer-oriented production. We are very strong in this area." From experience, therefore, bolster plates are only produced at the very end of the processing time. This may not be entirely ideal for manufacturing organization, but workers adapt to this and put everything into fulfilling the wishes of their customer.

Reliably quick

Short-notice delivery – and keeping to the agreed deadline. The ambitions of the Bruderer machine factory are thus reduced to the lowest common denominator. The company's island organization within production is essential here. "Speed is of the essence" is also Remo Ackermann's motto. Waiting and delivery times of ten or twelve months are currently the norm in the European machine tool market. If you take into account the delivery time alone for the unfinished casting for a machine housing, the promise of delivery within four months appears bold, if not utopian. "Hang on a minute," says Remo Ackermann, "not only do we promise such a short-term delivery. We actually do deliver that quickly."

Quality lasts

Sustainability is another keyword for Remo Ackermann, affecting various areas. As the voluntary President of the Production and Technology Group of Eastern Switzerland (PTV), environmentally-friendly production is an issue close to his heart: "With the implementation of new technologies and know-how, resources can be used in a long-term and environmentally-friendly manner, existing markets can be extended and workplaces developed further."

At the Bruderer machine factory, automatic punching presses were already being constructed in line with these maxims long before the topic had even been discussed in public. The goal was, and remains, to manufacture high-quality and durable



For Remo Ackermann, who is responsible for production, "only the best quality is economical."

products that themselves add value. This sustainable production has gradually become an interesting additional business area for the Bruderer machine factory. According to Ackermann, "Retrofitting has gained considerable importance for us in the last two or three years." Even 20-year old machines are a long way from the scrap heap. Converted to CNC technology, they provide valuable service for their operators far beyond their payback period.

The top priority at the Bruderer machine factory, however, is investment in new blood. Many professions in the organisation are trained internally at the Bruderer machine factory, mainly machinists and design engineers. The general rule here is that the path to assembly is through production. Moreover, team building is a high priority at each production island. As it turns out, this is also an important tool in shortening processing times: The individual teams are ambitious, and spur each other on to maximum performance.

At the Bruderer machine factory, therefore, "Off to the island" is not the call to "Dolce far niente", but the starting shot for the ultimate optimised production of high-quality, reliable automatic stamping presses.