NETSHAPE

Hatebur magazine for horizontal cold and hot forming – **1/2017**

The first joint exhibition booth for Hatebur and Carlo Salvi at MF-Tokyo in Japan.

CEO'S VOICE

Dear business friends,

It was over a year ago now that we announced at WIRE in Düsseldorf that Hatebur would be acquiring Carlo Salvi S.p.A., a company headquartered in Garlate, Italy. Although we are geographically very close and culturally very similar, there are differences between us: Our products have gained different sizes, operating temperature ranges and applications, while the staff at our various sites in Italy, Switzerland, England, China, Japan and the USA have gained new skills. Our goal is to work together to create added value for our customers by drawing on our different strengths and our distinct talents.

MF-Tokyo gave us the opportunity to exhibit together for the first time with our brand new look. We had been planning our trade fair appearance for a long time and were all extremely excited about it. We used our booth to demonstrate the production of fasteners for the aviation industry on our Carlo Salvi machine, the CS 246 E.

We were also able to showcase another Hatebur development: The Coldmatic CM 625/CM 725, a new line of coldformers for manufacturing highly complex formed parts using the very latest technology that is pointing the way forward for the industry. I am sure that we will be bringing you more news on this soon.

This issue brings you exciting reports about our smallest hotformer, the Hotmatic AMP 20 S, at Torun in Turkey and our larger Hotmatic HM 75 at Hirschvogel in Germany.

Netshape is only being published once this year, as we would like to provide you with detailed information about our trade fair appearance in Japan and our new look. I hope you enjoy reading this latest issue.

Thomas Christoffel
CEO

CONTENTS

COVER
Joint exhibition booth for Hatebur and Carlo Salvi at MF-Tokyo in Japan.

IMPRINT

NETSHAPE – Hatebur magazine for horizontal cold and hot forming

Published by:
Hatebur Umformmaschinen AG
Werbung/Kommunikation
General Guisan-Strasse 21, 4153 Reinach, Switzerland

Editing, layout, production:
Christine Steiner, Reinhard Bührer and Köpflipartners AG

Translations:
STAR AG, Ramsen, Switzerland

Printing, lithography:
Köpflipartners AG, Neuenhof, Switzerland

Paper/number of copies:
Claro Bulk/3000 copies

FSC
www.fsc.org
MIX
From responsible sources
FSC® C017106

CARLO SALVI – TRANSFORMATION TO A NEW MANAGEMENT TEAM

Thomas Christoffel Hatebur

The new management team, comprising members of both Hatebur and Carlo Salvi, has been extremely busy since the Swiss company acquired its Italian counterpart, with creating the company's first group-wide project team being just one example of the work they have been doing. Such close cooperation within the group will offer customers more and more benefits as time goes on.

It was on April 1st that we very happily and proudly announced to the forming world that Hatebur Umformmaschinen AG would be acquiring all the shares in Carlo Salvi S.p.A. owned by Sergio Ziotti. WIRE 2016, held shortly afterwards, then provided the perfect opportunity to share this news with the industry at its most important trade fair. The past year has been dominated by staff within the Hatebur Group getting to know each other and find out about each other's skills, expertise and facilities. An intense exchange of ideas between the manufacturing technology and process development departments has already begun, while collaboration between the sales and marketing departments is already starting to bear fruit and will soon be expanded to include other business units too. Our first ever group-wide project team has also been set up and has already begun to look into reworking future products.

Up until November 2016, we were able to call upon the services of Dr Sergio Ziotti, CEO and member of the Board of Directors at Carlo Salvi. He has now gone into well-deserved retirement, although he is still on hand to offer us help and advice should we need it. We will always look back on our close partnership fondly and we wish him every success in the next chapter of his life.

A management board comprising Marco Pizzi, Germano Pandiani, Renato Saglimbeni, Thomas Hiltmann and Thomas Christoffel has been steering the company during this transition.

Germano Pandiani is responsible for the operational areas of procurement, manufacture, assembly and customer services, while Marco Pizzi is heading up sales, marketing and other commercial ventures.

Pooling their strengths will help the two companies grow closer together, break down the barriers between sites and boost collaboration, to the benefit of our customers.

Top row, left to right: Marco Pizzi (Carlo Salvi), Thomas Christoffel (Hatebur). Bottom row, left to right: Renato Saglimbeni (Carlo Salvi), Germano Pandiani (Carlo Salvi), Thomas Hiltmann (Hatebur).

HATEBUR-LUMAG AG – TEN-YEAR ANNIVERSARY

Hansjörg Gebhard Hatebur/Lumag

A complete on-site service: From machine inspection to planning and all the way through to on-site mobile machining for all Hatebur forming systems. It was with this objective in mind that Hatebur-Lumag Services AG was founded ten years ago. The repair is carried out at the customer's production environment. Thanks to this flexible way of working, only short downtimes are incurred. The processing units can be fitted and removed quickly and easily, which allows a very high level of precision to be achieved. In addition, typically only a few machine parts have to be removed.

Back in 2007, Hatebur AG and Lumag AG decided to join forces and enter a business field that was new to them both – service. Their aim was to be able to offer a full range of inspection and repair-based service activities, not only at the customer's premises but from a single source too.

They quickly agreed to invest in the field of in-situ mobile machining directly on the systems concerned, for which they founded a joint venture, christened Hatebur-Lumag Services AG (HLS). Roland Luternauer became the Managing Director, while the Board of Directors comprised two members of staff from each company.

The headquarters of Hatebur-Lumag Services is where the reworking machines are stored and maintained, and where all the materials to be used at customers' premises are compiled before being shipped around the world in due course.

At the beginning, they very much focused on procuring the right machining systems for the work they intended to do, prioritizing requirements such as quality, safety, speed and flexibility at all times. To achieve optimum results, HLS commissioned an experienced machine tool developer who took all their manufacturing requirements into consideration in equal measure.

They started with the system primarily designed for machining the AMP 50/AMP 70 and HM 75. The priorities here were milling over the lay-on surface for the pressure plate and re-machining the threaded holes, boreholes and positioning keys in the body of the machine.

The next system, which had similar requirements but was for lay-on surfaces and bearing surfaces in the tool area, was designed for the AMP 20/AMP 30. Both systems made use of electronic drives to eliminate the need for a hydraulic unit.

European staff at Hatebur Lumag Services drive their own vehicles, which makes it possible for them to reach even remote production facilities quickly and easily in order to carry out the desired remachining work on-site.

From then on, it was a matter of getting orders and acquiring the experience needed to carry out these kinds of machining work basically on the fly. Staff often had to learn by doing and make continuous improvements.

The fleet of machines was successively expanded with the addition of:

– An expansion module for the AMP 50/ AMP 70 in order to rework the press-rams fitted both inside and outside the machine, including the adjusting wedge pockets.
– A system for turning the inside diameters of crankshafts (up to the size of the HM 75) and camshafts (for all machine sizes).
– A second system for the AMP 50/ AMP 70.
– A drilling system for lateral part discharge on the AMP 30.
– A second system for the AMP 20/ AMP 30, stationed in Asia.
– A universal lengthways milling system with hydraulic drive.

It goes without saying that ultimately carrying out the work then required a huge number of tools and the right transport crates to ensure safe transportation – all things considered, a big investment.

Today, on its tenth anniversary, Hatebur-Lumag Services AG is so well positioned that nearly all the required machining work can be done in-situ on Hatebur systems. What's more, the company has already been able to accept orders from other industries, such as the hydroelectric power and maritime shipping sectors in Switzerland.

Providing competitive quotations for outside Switzerland has proved quite a challenge, as competitors can offer different hourly rates. Yet the company has found a way to give custom quotations.

Flexibility has also been vastly improved once again, thus ultimately prioritizing high-quality, high-precision performance and putting Hatebur-Lumag Services by its customers' sides as a company they can always rely on.

CM725 – A FLEXIBLE 7-STATION COLD FORMER, DESIGNED FOR PRECISION AND PRODUCTIVITY

Reinhard Bührer Hatebur

The new Coldmatic CM 725, with seven forming stations, is designed for the production of complex parts with highest quality standards. With a part length from 8 mm to 125 mm and a wire diameter of up to 20 mm, the Coldmatic CM 725 is the ideal machine for automotive industry suppliers that produce engine or valve train parts, amongst others.

NEW TECHNOLOGY INTRODUCED AT MF TOKYO IN JULY 2017

The engineering team implemented several innovations to make the clients more efficient and productive: With up to 180 parts finished per minute, the CM 725 is up to 10% faster than previous machine generations. At the same time, Hatebur has installed servo motor technology in order to reduce changeover times. The innovative technologies were presented to the public the first time at the Metal Forming & Fabrication Fair MF-Tokyo from 12 to 15 July 2017.

The new Coldmatic CM 725 is designed for the forming of complex parts. Like the Coldmatic CM 4-5*ECO*, the CM 725 is installed on a baseplate, reducing installation and commissioning times. Changeover times can be minimized thanks to the QTC Quick Tool Change: It enables tool preparation during the production as a background task. Hatebur's new precise linear infeed system and the high speed shearing sets the benchmark in the industry when it comes to the cut-off quality for precise finished parts. This is very important for an effective, high-quality forming process. The forming can start from the first station.

UNIQUE PROCESS AND KINEMATIC

One of the advantages of the Coldmatic technology is definitely the same forming capability in punches and dies. In addition, optimized ejection and gripping of parts are

Speed, flexibility, precision: the brand new Hatebur Coldmatic CM 725 boosts the efficiency of part production.

possible, without complicate and unreliable part turning units as known in other concepts.

With the Hatebur process, the material flow can be improved and tooling can be simplified, resulting in lower tool costs. A further plus is the better cooling of the tools, resulting in a better tool life duration.

HYBRIDE DRIVE TRAIN
Thanks to the use of servo motor technology, the drive train has been simplified. The modern drive system has less process and setting restrictions and due to the simplified mechanical drive shafts (only pressram, shearing, die and punch side ejectors), customers can benefit from reduced maintenance and fast setting.

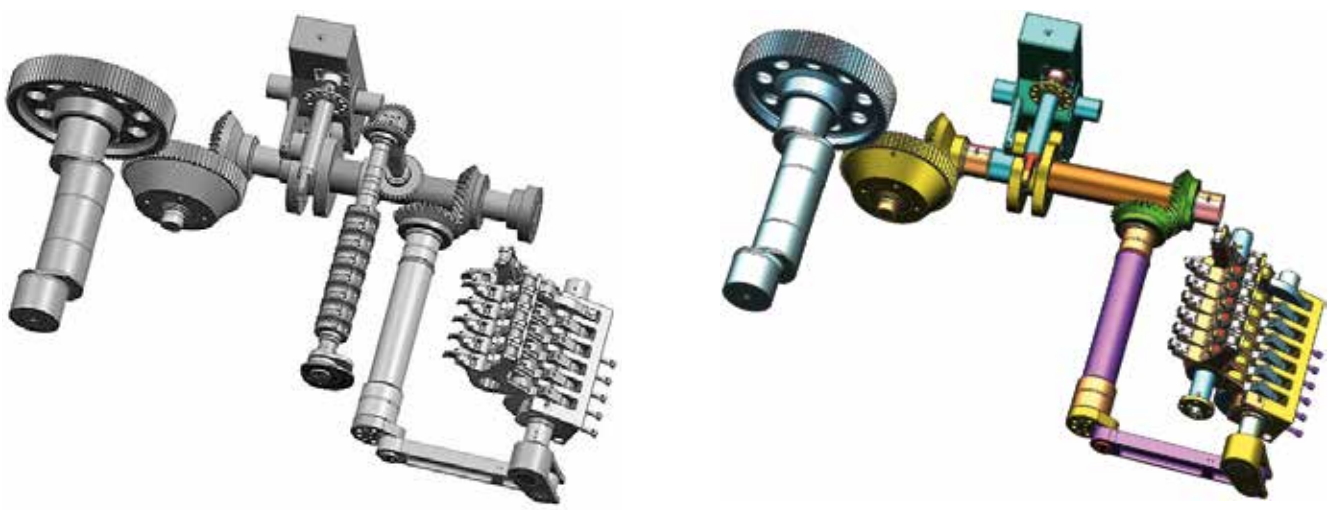
FORMING STAINLESS STEEL AND HIGH-ALLOYED MATERIALS
The Hatebur Coldmatic CM 725 is also available as a 'warm series' version, including an efficient inductive heating system that allows the forming of stainless steel or high-alloyed materials. These materials are increasingly being used in the automotive and aerospace industries.

The induction heater is installed close to the shearing system and is able to heat the material up to 900 °C. Thanks to the short distance between the induction coil and shearing station there is little loss of temperature and less energy required.

COMPATIBILITY
There is no need to worry about new processes, tools or grippers. The new machine comprises the well-known tooling concept from the predecessor AKP versions. The dies, punches, shearing tool and grippers have the same dimensions and are fully compatible.

The new medium-sized coldformer with well-proven COLDmatic technologies and cutting-edge new features for top perfomance – contact us for even more details!

Left: Crankshaft of Hatebur Coldmatic AKP 4-6 S; right: Crankshaft on new Hatebur Coldmatic CM 725. A simplified drive thanks to the use of servo motor, with less process and setting restrictions and reduced maintenance.



The group photo was the perfect end to an exciting visit to Reinach by the cantonal government.

VISIT FROM THE CANTONAL GOVERNMENT – INTERNATIONAL CHALLENGES

Hatebur Hatebur

During its visit to the company on June 13th, 2017, the government of the canton of Basel-Landschaft discussed the general situation of and challenges faced by internationally operating manufacturing companies with the members of Hatebur's management team. Councilors got to hear about Hatebur's experiences first-hand, which are especially pertinent given that the company employs staff at seven different sites.

The cantonal government regularly visits important companies in the Basel area. Visiting Hatebur enabled six politicians to get a better insight into another innovative key player in the Basel region, while the members of the Hatebur management board took the opportunity to voice their concerns directly to local politicians. The councilors and board members discussed, among other things, the challenges faced by Swiss small/medium-sized enterprises in the international market. Topics included the euro exchange rate, the international political situation and free trade.

The factory tour gave cantonal councilors an understanding of the world of forming technology that they did not have before.

Discussions also dealt with local issues such as the facility in Reinach with regard to traffic and the labor market, staff recruitment and electronic services of the cantonal authorities.

PRODUCTION IN THE DEMO CENTER

A factory tour was provided, which included a look into the Hatebur demo center to explain how forgings are produced on horizontal cold- and hot-forming machines and to describe the sequence of forming stages needed to produce parts.

MF TOKYO 2017 – MARKET INTRODUCTION OF NEW COLD FORMER CM 725

R. Bührer Hatebur

Hatebur made visiting their booth at MF-Tokyo 2017 rewarding. Visitors showed great interest in the new Hatebur Coldmatic CM 725 and the Carlo Salvi CS 246 E WS, a 2-die 4-blow header with integrated induction heating system, which was showcased for the first time in Japan.

MF-Tokyo is a fair focusing on metal forming and fabricating technologies and takes place every odd year. In recent years, more than 30 000 visitors have been welcomed by more than 1500 companies exhibiting their products and services. The sub-theme of MF-Tokyo 2017 was 'Connecting to the Future and Beyond'. Hatebur has taken part in this important exhibition three times.

This year, Hatebur announced the presentation of the new, cutting-edge Coldmatic CM 725, a flexible seven-station cold former designed for the utmost precision and ultimate productivity for complex part geometries. With a part length of 8 mm to 125 mm and a wire diameter of up to 22 mm, the new Coldmatic is ideal for suppliers of the automotive industry, producing complex shaped and precise parts (read more about the latest innovation on page 6).

In addition, Carlo Salvi, which was acquired by Hatebur in April 2016 and is now represented in the Japanese market through Hatebur Japan K.K, showcased their CS 246 E WS with life production of a pre-heated titanium application. Carlo Salvi machines target the fastener, aerospace, automotive and electronic industries. Compared to Hatebur Coldmatic presses (wire diameter 14–27 mm), much smaller parts can be formed economically at high production rates on Carlo Salvi machines (wire diameter 0.8–22 mm). The 2-die 4-blow header machine 246 E WS is designed for a wire diameter of 6 mm. In each of the two dies, the part can be formed twice, resulting in four possible forming processes for complex shaped parts. The machine has been especially developed to minimize changeover times and is equipped with a pre-heating induction system to allow the use of materials like titanium and super alloys, which require pre-heating to be formed.

The inclusion and introduction of these two machines have been a great success for Hatebur. The booth of the Swiss company was visited by many customers and interested companies, not only from Japan but also from other Asian countries.

Visitors also had the opportunity to experience the new appearance of the two specialists for hot- and coldforming machines, Hatebur and Carlo Salvi, as one group. The new design has been developed to express the competence of the two brands, their first-class metalforming machines and their decades of application know-how. All of these support our new motto:

Our performance. **Your advantage.**

HATEBUR
carlo salvi
A HATEBUR COMPANY

TORUN IN GEBZE/KOCAELI – EXPANDING COMPANY INVESTED IN SECOND HOTMATIC AMP 20 S

Hatebur Torun

Torun, a modern subcontracting company of hot forged and machined brass items, manufactures items according to customers' drawings. With the Hatebur Hotmatic AMP 20 S, bought in 2014, and the start of production in 2016 the Turkish company increased their yearly volume as well as their range of different (and complex) parts.

The company was founded in 2000. It does not have a standard product range; instead, the team is dedicated to meeting the challenges of continuously increasing the product range from different sectors. Therefore, parts for sanitary, cooling and heating systems, automotive, security, medical appliances, fluid control and testing equipment are produced. With almost all parts (more than 90%) for export, the company has major global customers in 34 countries, mainly in Europe and US, for each sector. Their aim is to become the solution-oriented supplier and cost leader and therefore the preferred global strategic business partner for customers.

An annual turnover of 47 million euros in 2016 was achieved, with 464 employees. Head of the Board is Ahmet Torun, assisted by Ömer Faruk Öz (General Manager) and Dr.-Ing. Volkan Güley (Production Manager and responsible for the Business Unit Hatebur). Their most important customers are Honeywell, Danfoss, Hansgrohe and Bosch.

HATEBUR HOTMATIC AMP 20

Torun runs 13 vertical presses and one Hatebur Hotmatic AMP 20 S. The Swiss machine was bought to manage high-volume products and to increase the range of new and special products. During an exhibition Torun learnt about the Hotmatic series of Hatebur and made contact with the Hatebur engineering team in Switzerland. When the decision was taken to invest in a new hot forging press in autumn 2014, the high output on Hatebur Hotmatics turned the balance in favour of the AMP 20 S. As such, the project started in

The first Hatebur Hotmatic machine (AMP 20 S) in the Torun production hall.

Left to right: Nafiz Ulukan (Production), Barış Timur (Production), Barış Yıldırım, Maintenance Chief, Ahmet Torun (Head of the Board), Dr.-Ing.Volkan Güley (Production Manager)

spring 2015 after the final order. First there were discussions at the Bosporus, followed by a planning meeting and visits to companies in Germany already producing with an AMP 20 S. These dates were followed by training for the tool manufacturing and the machine operators in Switzerland.

After a short commissioning time, the machine was ready, together with the bar heating equipment, the conveyor belt and the tool cooling water equipment.

Having produced brass parts on this machine for more than a year now, the speed of production and the high reliability are the advantages that are most appreciated.

With the investment in the AMP 20 S, the product range has been enlarged and the number of parts has been increased by 35 million.

QUALITY AT THE FOREFRONT

The Hatebur machine has led to a change in processes. Machining is now also adapted to cover high-volume products of small dimensions. Customers have been informed about the new machine and have welcomed the expansion, as have the employees of Torun.

Excellent quality plays a big role at Torun and is reflected with several certificates, including ISO 9001:2008 Management System, Quality Management System, ISO 14001:2004, Environmental Management System, ISO/IEC 27001:2013, Security Management System, ISO 10002:2014 Customer Complains Management System and full traceability through electronically stored records. Torun handles quality not only as a controlling process but also as a value produced. This means that it is continuosusly making improvements, with all units involved throughout the whole production process.

Materials used on the AMP 20 S are brass alloys like CW617N, CW614N, CW511L, CW713R and Ecobrass. The results are parts such as union nuts, nut flares, nipples and balls. They are used for fasteners and components for several brass assemblies. As further downstream production processes, sand blasting, machining, and coating are installed. However, sometimes the parts are delivered as forged.

STRONG INCREASE IN PRODUCTION WITH THE HOTMATIC AMP 20 S

Depending on the series/production run, which ranges from 20 000 to one million pieces, the changeover to other parts needs to be done from one to two times a day to only once a week. The tool change time is between two and four hours. This results in a production of approx. three mil-

Part series vary from 20 000 up to one million. Not only hot forging machines but also machining, a forging die shop, a cutting tool shop, a metallurgy laboratory and a big warehouse are housed in the 15 000 m² space which Torun occupies in Gebze.

There is still space available for further expansion at Torun Headquarter.

lion parts per month on the Hotmatic AMP 20 S. With 50% of the total quantity produced by the Swiss machine it is now an important part of Toruns machine range. This is also reflected in the training of three Torun employees who are now operating the AMP 20 S.

Torun staff play an important role in fulfilling customers' expectations. The company sees itself as a distinctive business in the sector that is making a difference, increasing competitive activity and has achieved sustainable success.

READY FOR FURTHER EXPANSION

The headquarters of the Turkish enterprise is in Gebze/Kocaeli. The production site in Gebze, formerly 5000 m² has been increased to 15 000 m² in 2016 and further 16 000 m² are available. With subsidiaries in Istanbul, Czech Republic and Italy, the company is pushing the internationalisation to places such as China and Eastern Europe, especially the Czech Republic. This will also help to win new customers against their competitors.

In the hot forging department (press shop), Torun has a wide range of robotic, automated line presses with different tonnages. Various parts with different weights and shapes are produced with the aim of sustaining cost-optimization with stabilized forging processes and guaranteed sustained quality. Dies and fixtures needed in production are done in-house in their die shop, which is self-sufficient with a wide range of machinery and equipment. As all maintenance and sparing for forging dies is carried out by Torun, a non-interrupted production can be achieved.

And the future of Torun still looks bright. They predict that 30 to 40 million pieces will be produced in 2017 and a second AMP 20 S is already ordered and will be installed in 2018. The space for further expansion is also available, so Hatebur is looking forward to hearing more about the dynamic company from Turkey!

TORUN

HIRSCHVOGEL, GERMANY – 14 MILLION PARTS A YEAR ON A HATEBUR HOTMATIC HM 75

Hatebur Hirschvogel

Hirschvogel Umformtechnik GmbH is one of the industry's leading producers of cold, semi-hot and hot formed forgings. This is why Hatebur is delighted that this top German company is using its largest horizontal hot-forming machine to mass manufacture complex parts.

Hirschvogel Holding GmbH has called Denklingen in Germany home for 54 years. Since its foundation over 75 years ago, the village forging works has grown into an enterprise that trades around the globe. The company now employs 4000 members of staff in Europe and another 1000 staff in the rest of the world. The legally and economically independent family company has relied on loyal long-term business partners and employees for many years, working together with them to tackle the changes that recent years have brought. This is reflected in an annual turnover of 500 million euros and consolidated turnover of one billion euros in 2016. This makes Hirschvogel one of the largest globally operating automotive suppliers in the field of massive forming of steel and aluminum, as well as subsequent machining.

Various facilities in Germany, Poland, China, India and the USA contributed to these impressive figures. Hirschvogel is currently expanding its global presence by building a new facility in Mexico, which will go into production later this year. Hirschvogel works in all areas of the automotive industry, making components for engines, gearboxes, drivetrains, chassis, e-drives, and even for the "off-highway" sector. The company's products are shipped all over the world, as its major clients like Bosch, ZF, Daimler, BMW, VW and others are active worldwide too.

FIRST HATEBUR HOT-FORMING MACHINE

Until Hirschvogel broke with tradition to purchase an HM 75 Hotmatic machine from Hatebur, the company had primarily been working on vertical formers. The processes were able to be successfully adapted to the Swiss horizontal forming machine. The largest of the Hatebur machines now accounts for almost a third of the company's output in hot forging. The components made on the HM 75 are used for wheel hubs and gear parts, which in turn are used in wheel mounts, gear wheels, drive shafts

The system is operated via a touchscreen panel with an integrated pressing force monitoring system and various setting options.

The bar feeding device with measuring wheel, in combination with the electronic bar end eliminator, optimizes the removal of bar ends.

and parking brakes. The machine's high precision and high reliability guarantee high quality in places where component failure could prove fatal.

MILLIONS OF LINEAR METERS

Hirschvogel produces between 12 and 14 million parts per year, or around a million parts per month. After being manufactured on the Hatebur HM 75, they are then machined – both on the inside and on the outside. All kinds of carbon steel are used for production.

Oliver Maurer, Plant Manager at Hirschvogel Umformtechnik GmbH.

The production process of the Hotmatic machine works according to the "flow principle", meaning that the process steps of feeding, forming, blasting and inspection prior to shipping all take place one after the other.

The type of part being produced changes every day, and Hirschvogel staff typically retool the HM 75 1.5 times a day. Hirschvogel has been producing between three and five million parts a year using vertical hot-forming machines. With the Hatebur HM, by contrast, the company was able to produce 14 million parts in 2016 – real cause to celebrate with employees!

SWISS WATCH

The Hatebur Hotmatic HM 75 is the only forming press from Switzerland to be operated by Hirschvogel. It is located in the Denklingen facility and is operated in 15 shifts a week, which is its maximum output. The investment is intended to enable complex parts to be forged at high stroke speeds. The decisive factor in favor of the Hatebur machine was its high speed in combination with reliability and absolute precision. It is therefore no surprise that Oliver Maurer, Plant Manager at Hirschvogel, calls it a "Swiss watch", the stability and repeatability of which is making a huge contribution to the company's success in hot forming. The Swiss machine has now become instrumental in production at Hirschvogel.

STAFF TRAINING

The installation of the horizontal machine also necessitated training the operating staff, who had been used to using vertical machines. Hatebur was on hand to offer help and support, answering specific questions and offering training sessions. The horizontally produced parts were well received by customers, the new manufacturing process having been officially sampled by the company's customers and approved without a hitch.

INSIGHT INTO THE FUTURE

Hirschvogel is planning to continuously expand, optimize and stabilize the facility in the long-term. These are some of the highlight's of Oliver Maurer's job. The opportunity to innovate every single day motivates staff and gives them a sense of pride in what they do. From Hirschvogel's point of view, the forging market will continue to grow over the next five to eight years. Since there are still numerous unanswered questions in the e-mobility sector, nothing much will change in the applications for the time being. This means Hirschvogel has a good chance of continuing to operate successfully in the market. It will not be easy, however, as competitors in Asia are forcing their way into Hirschvogel's estab-

The Swiss system takes up a huge amount of space in the production facility.

lished markets, which is why all of them are needed. Yet the primary objective is to secure the site through continuous optimization of each and every workflow. This plus the expert knowledge of staff in combination with traditional values will enable the Hirschvogel Automotive Group to carry on growing.

Output on the Hatebur Hotmatic HM 75 enables usable parts and scrap to be separated reliably.

Hirschvogel Automotive Group

CARLO SALVI ITALY – PROGRESSIVE MACHINES

Hatebur Carlo Salvi

Developed to propose various technical solutions, the progressive headers are able to produce parts with very complex shape, tight tolerances and high requirements. The right choice to produce special screws, bolts, solid, semi tubular and fully tubular components.

Over 3000 Carlo Salvi headers are installed throughout the world. This has helped the company become a leading supplier of machines for the fasteners industry. Carlo Salvi offers a large range of high precision and fast cold forming machines, from wire diameters between 0.6 to 22 mm. The machines are suitable for many applications in several domains, including aerospace, automotive, electronics…

In former articles the focus was laid on two types of machines: the 1 die 2-blow header (as for example the CS 005) and the 2 die 4-blow header (with the CS 248 E).

Today, we will complete the range with information about the progressive headers.

Progressive header for the cold forming of complex shapes.

Carlo Salvi progressive machine CS 613.

NEW INNOVATIVE COLD FORMING SOLUTIONS

Between 1998 and 2010, Carlo Salvi put the emphasis on the technological upgrading of its machines range. In these years, machines were equipped with further innovative accessories including: the touch screen, the linear wire feed, the electronic motorized adjustments and the quick change system; this to make the Carlo Salvi machines more attractive and competitive.

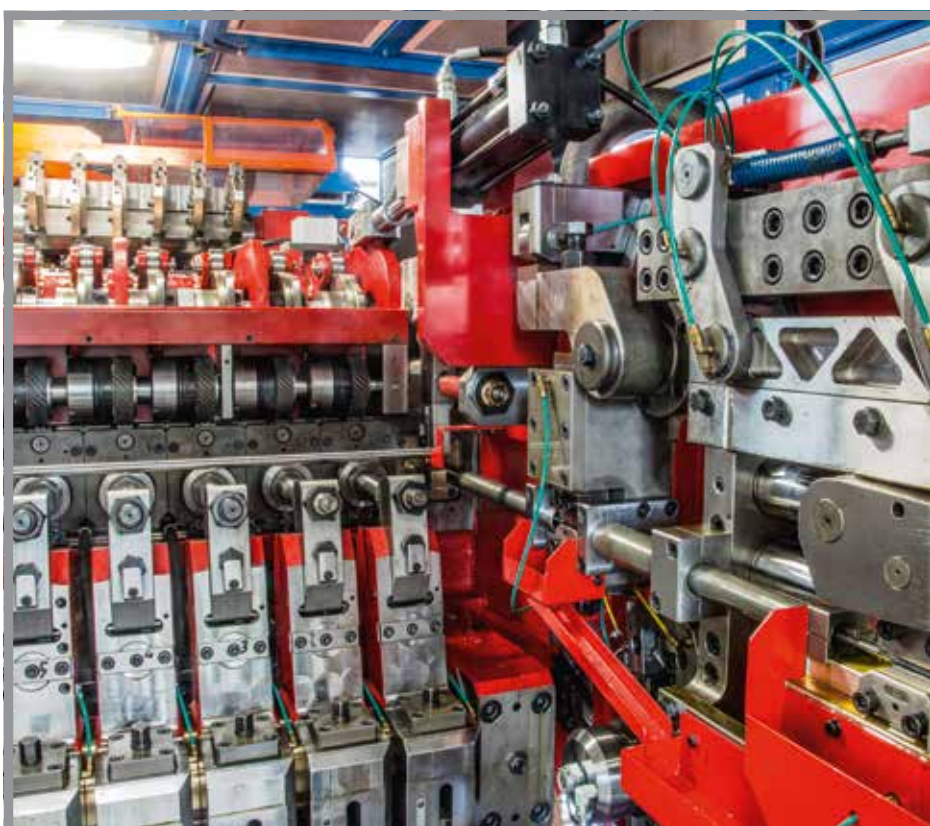
In 2003, Carlo Salvi acquired Multipress S.r.l., a manufacturer of progressive headers with 5 and 6 stations, operating with a wire diameter from 12 mm and 22 mm. This acquisition completed the products range of Carlo Salvi with complementary machines requested by customers.

In addition, Carlo Salvi launched new innovative cold forming solutions requested by the market and new customers, in particular the CS 002, CS 003, CS 246 E, CS 663 E, CS 005, CS 513, CS 613, CS 516, CS 616, CS 520 and CS 620.

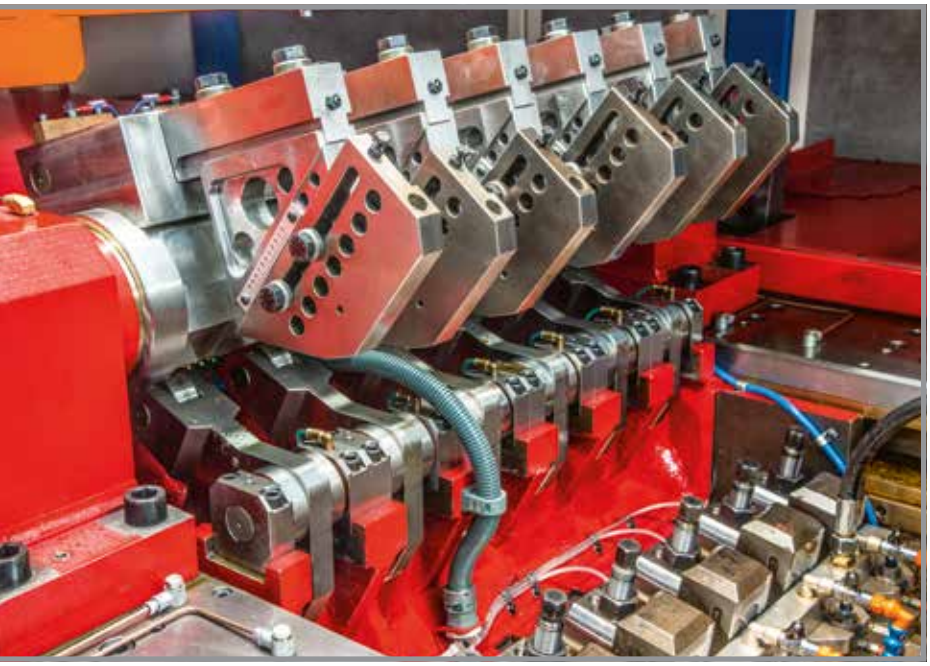
SOLUTION FOR TITANIUM AND OTHER SPECIAL ALLOYS

In 2015, Carlo Salvi started the development of the new CS 668 E. In the same decade, the warm serie (WS) using hot forming technology has been launched:

Die kick-out and linear infeed.



the innovative induction process making possible the preheating of the wire up to 900 °C. This technology opened new potential markets in the aerospace industry and for medical applications, thanks to the possibility to form special materials, which cannot be formed at the cold state, like titanium and other special alloys.



Punch kick-out.

The small and medium range of Carlo Salvi progressive headers are also driven by the Toggle Action. Besides the well-known advantages given by the toggle to the finished part, operator setting tasks are made easier by the fact that in the last portion of the stroke, there is much more time available for opening and closing fingers. This is a great advantage when very short components are being manufactured.

The Carlo Salvi progressive headers can also be equipped with a trimming operation on the two last stations.

Additionally, the following quick set-up aids are available:

– individual transfer fingers set-up out of machine
– motorized set-up of wire feed length and wire stop length. Values are shown on an LCD display and minor adjustments are possible while machine is running.
– motorized or manual adjustment of K.O. units:
  1) In the motorized version actual position of K.O. pins inside dies is displayed on a LCD screen.
  2) In the manual version, mechanical encoders assembled on each K.O. unit will show the position of K.O. pins inside dies.

Progressive header CS 668 E for the cold forming.

FOURTH FORMING TECHNOLOGY SYMPOSIUM IN RUSSIA – LECTURES FOR SPECIALISTS FROM THE METAL FORMING INDUSTRY

Hatebur Hatebur

The machine market in the Russian forging sector is not exactly developing rapidly. Joint projects with international companies could help in this regard by giving the industry a push and bolstering specialists in the field of forging. This is why Hatebur has been working with partners to run symposiums that promote cooperation since 2011.

What is now the fourth forming technology symposium took place on May 16th, 2017 during the Metalloobrabotka international exhibition in Moscow, Russia. Once again working with its representative LLC Ferrostaal Moskau, Hatebur organized the one-day event in the Sky Hall of the Moscow exhibition center.

The symposium was attended by eight European sponsoring companies and addressed "Factors in success and trends in development for the forging industry". In simultaneously interpreted talks, sponsors provided detailed information about the big issues in the Russian forging industry, including everything from steel manufacture (forging steel by heating it and reshaping it horizontally and vertically), transportation and coating technology, through to simulation, lubricants and financing opportunities for investment projects.

The event enabled the 60 or so visitors to exchange ideas and get to know representatives from companies in Switzerland and Germany. It also provided ample networking opportunities for future joint ventures.

The following companies attended as sponsors:
GMH Group, SMS Elotherm GmbH, Lasco Umformtechnik GmbH, Fröhlich Sortiertechnik GmbH, Carl Bechem Lubrication Technology, simufact engineering gmbh, LLC Ferrostaal Moskau.

The symposium provoked animated discussion among participants and speakers, thus demonstrating the great success of the biennial event.

"Exchanging experiences at an international level is absolutely essential if we are to make progress."

Aleksandr Prokopenko, Deputy Head Technologist at the Chernyshov plant

TRADE FAIRS/EVENTS

ACTIVITIES IN GERMANY

Our subsidiary Carlo Salvi S.p.A. had its own booth at Fastener Fair Stuttgart, the world's leading exhibition for the fastener and fixing industry, which was held between March 28th and 30th, 2017.

ACTIVITIES IN THE USA

The biennial Forge Fair took place from April 4th to 6th, 2017 in Cleveland, Ohio. Together with Forging Equipment Solutions, our North American representative, we offered advice to customers from the USA and gave them information about the new Coldmatic CM 725, as well as about the products offered by our Italian subsidiary Carlo Salvi.

ACTIVITIES IN GERMANY

At the Hannover Messe from April 24th to 28th, 2017, Hatebur shared an exhibition booth with other members of the Industrieverband Massivumformung e.V. [Industrial Association for Massive Forming]. The main theme of this year's event was "Integrated Industry – Creating Value".

May 16th to 17th, 2017 saw the international conference "New developments in massive forming", run by the Institut für Umformtechnik [Institute for Forming Technology] and the Forschungsgesellschaft Umformtechnik mbH Stuttgart [Research Association for Forming Technology], take place in Fellbach. Hatebur has attended in previous years and did so again this year.

ACTIVITIES IN RUSSIA

Hatebur shared a booth with other representatives of the Swiss machine industry at the Metalloobrabotka international exhibition, which ran from May 15th to 19th, 2017. Hatebur also organized the fourth technology symposium in Russia – with the theme "Factors in success and trends in development for the forging industry" – together with its representative LLC Ferrostaal.

ACTIVITIES IN CHINA

Carlo Salvi S.p.A. welcomed a great many customers and visitors to its booth at the Fastener Expo Shanghai in China from June 22nd to 24th, 2017.

ACTIVITIES IN JAPAN

You can find the report on our experience at MF-Tokyo on page 10.

ACTIVITIES IN BRAZIL

From June 20th to 24th, 2017, Hatebur attended this year's FEIMAFE in Brazil together with its representative EINS Soluçoes em Engenharia.

VISIT HATEBUR

■ IN CHINA

September 19th to 22nd, 2017 will see MetalForm China take place in Shanghai at the same time as the China Forge Fair (CFF) is being held. Hatebur (Shanghai) Technology Co. Ltd. will be represented with its own booth on-site.

■ IN THAILAND

Metalex Bangkok, the largest international machine tool and metalworking technology trade exhibition, will take place from November 22nd to 25th, 2017 in Thailand. Munger Machine Tool, Hatebur's official representative, will be there with its own booth.

Come and visit us at our booth in one of these trade fairs – we look forward to seeing you there!