



decomagazine

THINK PARTS THINK TORNOS

53 02/10 ENGLISH



Increased
machining options
deliver increased
productivity...

Close to
the customers...

From idea to
implementation...

It's the little
innovations
that make
the difference...

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597, avenue du Mont Blanc, FR-74460 Mamaz
Téléphone +33 4 50 96 36 30, Téléfax +33 4 50 96 37 93
contact@utilis.com, www.utilis.com

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Model of excellence at Titanium Racing

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Better performance for the manufacture of precision turned parts with Motorex Ortho NF-X

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TORNOS S.A.
Rue Industrielle 111
CH-2740 Moutier
www.tornos.com
Phone ++41 (0)32 494 44 44
Fax ++41 (0)32 494 49 07

Editing Manager:
Willi Nef
nef.w@tornos.com

Publishing advisor:
Pierre-Yves Kohler
pykohler@eurotec-bi.com
Graphic & Desktop Publishing:
Claude Mayerat
CH-2852 Courtételle
Phone ++41 (0)79 689 28 45

Printer: AVD GOLDACH
CH-9403 Goldach
Phone ++41 (0)71 844 94 44

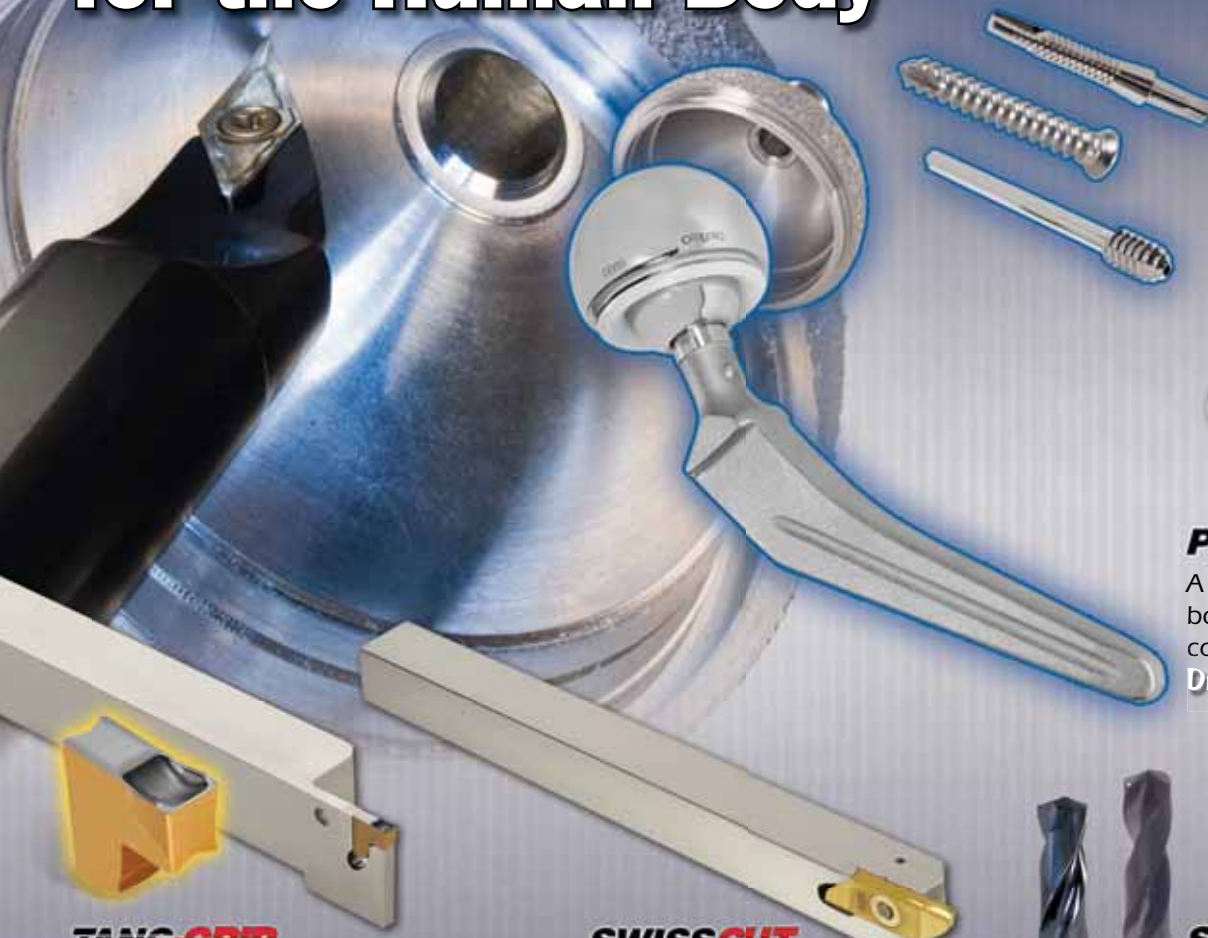
Contact:
redaction@decomag.ch
www.decomag.ch

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DECOMAGAZINE: A TOOL AS FANTASTIC AS A TORNOS MACHINE

**Have you already taken a look at the decomag section on the Tornos website?
Or visited www.decomag.ch?**

For me, it was this section of the Tornos site that guided me in my first steps towards understanding the company, its products and most importantly, its environment. A true snapshot of the life of the company over the years, decomag, just like Tornos, has been weathering crises and supporting its customers for more than 12 years. These twelve years of innovation and technological development for our company and our partners can be followed via the decomag archives, providing a window on the past and future of our profession.

Using this resource, it is possible to retrace the development of a product. For example, it moves from the first Deco 10 machine that could be programmed on a PC using TB-Deco to the latest development in the Deco platform, the EvoDECO 16, which had its world premiere at Simodec recently. The same is true for multi-spindle turning machines and for the Almac machining centres that became part of the Tornos family quite recently. One of our current initiatives is the improvement of our service using our extranet, which allows customers to order and query stock online from our spare parts service (see the article on page 14). You can also discover the rapid progress CFAO software has made over time, or even the introduction and perfecting of machining processes such as thread-whirling, which has made Tornos' reputation, particularly in the medical sector over the last few years.

Not content just to be a simple advertising aid, Decomag has always stood out as a magazine that aims to provide real added value to Tornos customers.



A large amount of space has always been dedicated to our partners and we remain wholly focused on bar turning. Without a doubt, it would've been easier to extend our scope to include other companies, but this would have gone against the editorial line set when the magazine was founded in 1997. An editorial position that has always been maintained with the Deco magazine. The value provided to customers is the principle that has guided decomagazine's development throughout the years, ensuring that only articles and adverts that our customers find useful are published, since these are firmly focused on our market and only on our market. This specialist magazine aimed at turning specialists, showcases companies working in the bar turning industry that have a link to Tornos and their machines.

At Tornos, we believe that decomag is an effective tool worth developing for the future. To ensure we are on the right track, we have decided to ask our customers, employees and partners to help us evaluate it. As we always say, your opinion really counts, so please visit www.decomag.ch and fill in the online satisfaction questionnaire. It will only take a few minutes.

Many thanks to our customers, employees, partners and suppliers for your support!

I would like to take this opportunity to invite you all to SIAMS 2010, which will take place from the 4th to the 8th May 2010 in Moutier, the home of Tornos, microtechnics and decomagazine.

*Brice Renggli
New Marketing and
Communications Manager at
Tornos*

MICROTECHNICS FROM A TO Z

From the 4th to the 8th May, Moutier will welcome the Siams fair for the twelfth time. Over the years, this event has successfully targeted its visitors and gained an important place in the world of microtechnics. The now 'must attend' fair is unique in that it brings together all those involved in the micro manufacturing industry under one roof. Deco Magazine meets with Pierre-Yves Schmid; director of Siams SA, to discuss the event.



The organisers are currently very happy, exhibitor numbers are just below that of last year's event, the entire area is hired out and there is even a waiting list of participants. The show really has the wind in its sails. Mr. Schmid tells us: *"The 2010 event is on the right track, but what really guarantees the success of an exhibition is visitor attendance. For 2010, we are expecting attendance equalling or slightly exceeding that of last year's event."* During this period of arduous economic recovery, optimism has been put to one side in Moutier, and Siams has been communicating on a massive scale to ensure a large number of visitors.

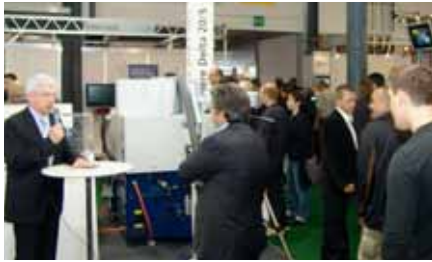
Small stands, maximum effect

In 1989, the aim of the first ever Siams show was to enable the regions businesses to promote themselves at little expense. Over 21 years later and this concept

remains the same. Mr. Schmid tells us: *"The average surface area of the stands is 17 m², so even with a small surface area; an exhibitor is bound to look good. We provide a high-quality service and that ensures high-quality displays."* The founding fathers of Siams would be proud of their creation. Certainly, the concept has evolved and the solutions initially used are no longer suitable with marquees giving way to fixed exhibition areas. However, this year once again, a rigid marquee will be set up as an additional space.

Is it regional event?

Siams remains a regional event, firmly anchored in the home of micro manufacture. The arc of the Jura Mountains, which stretches from Geneva to the South of Germany, is the heart of the microtechnics world, and Siams is its capital. So, is Siams the centre of this world or a local trade fair? *"A little of both"* replies



SIAMS IN FIGURES

- Number of exhibitors in 2010: 447
- Proportion of new exhibitors: approximately 25 %
- Exhibitors' country of origin: Switzerland 92 %, France 4 %, Germany 3 %, other 1 %
- Number of visitors in 2008: approximately 16,000
- Distinctive feature: offers a complete range to companies working in the microtechnics industry.
- The event will be opened by Swiss federal Councillor Mrs Doris Leuthard.



Mr. Schmid, adding: *"We are providing solutions to real problems regarding knowledge and information in the microtechnics industry. Being located in the heart of the microtechnics region, Siams is understandably very well integrated locally, but we go beyond a fair based solely on the vocation of the area."*

Complete panorama of microtechnics

Siams is an event where visitors can find the full range of products relating to the microtechnics sector. So, a manufacturer can not only discover the machines that would allow him to machine workpieces, but also all the peripherals required for processing chips, or checking and cleaning workpieces. The event is also an opportunity to find out about managing or programming systems, oils, tools or even material. Furthermore, customers can also come and meet

the producers of microtechnical parts. Mr. Schmid tells us: *"Siams is the only trade fair dedicated to microtechnics that offers a complete panorama from production equipment to subcontracting. Thanks to our 'small stands' concept, the visitor can find all the answers they are looking for in just one day; Siams remains a friendly, manageable exhibition"*.

If you are looking to visit a trade fair dedicated to the microtechnics industry in 2010, then a trip to Moutier is a must.

www.siams.ch

TORNOS AT SIAMS 2010

The Tornos stand will have 6 machines covering 4 different areas at Siams; automotive, medical, electronics and watchmaking.



AUTOMOTIVE, SUBCONTRACTING

Gamma 20/6

For the first time in Switzerland, Tornos will present the Gamma 20/6 that was born from its collaboration with Precision manufacturer Tsugami. This machine is simple, economical and extremely versatile. For example, the Gamma is able to carry out high added value complex operations such as thread whirling or incline milling. The strength of the Gamma turning machine resides in its ability to adapt to a variety of different parts.



WATCHMAKING

Micro 7

The Micro 7 has been specially designed for watch-making operations. At Siams Tornos will present a new application enabling the tangential cutting of parts.

Almac CU1007

The CU1007 from Almac has seen increased success in the watchmaking and medical sectors since its launch last year. It will be presented at Siams with a watchmaking application being demonstrated.



MEDICAL

Almac FB1005

The FB1005 bar milling centre will once again prove itself in the production of dental implants and brackets in the medical field.

DECO 20a

The Deco 20a will make a bone screw and will have a counter spindle equipped with a wide chuck allowing it to grip the part from underneath the screw head.



ELECTRONICS

Delta 12/5 III

Thanks to the addition of two HF spindles (see page 13), this entry-level machine will prove its versatility by machining a complex connector on the stand. With this machine, Tornos can present effective solutions to the budgetary pressures experienced by its customers in this highly competitive market.



INCREASED MACHINING OPTIONS DELIVER INCREASED PRODUCTIVITY...

Tornos offers machines adapted to suit every possible turning need. When manufacturing high quality, relatively straightforward workpieces with small diameters, the delta line can offer undeniable benefits. But what should you do if you occasionally need to carry out eccentric machining work or if you need more tool positions, but investing in a completely new product isn't justified?

The answer is simple: just add some high frequency spindles.

At Siams, Tornos will have a Delta machine on show equipped with this kind of spindle both in main operation and in secondary operation. A meeting with Meyrat SA's marketing manager, Mireille Barras, and CEO Christian Walther, and Brice Renggli, marketing manager at Tornos explains.



Available in different sizes and power, the MHF 22, 25 and 30 HF spindle allow users to schedule a high volume of operations and really boost productivity.

Incomparable assets

High frequency spindles (MHF) are small compact, low energy consuming, fast spindles that are very accurate and operate without any vibration. The spindles are available in different sizes and it is usually possible to fit the spindles in diameters of 22, 25 and 30 mm on Tornos machines.

HF spindles are mainly used in the following three situations. Firstly, when high speed machining is required up to 120,000 rpm. In this most common case, there is simply no efficient alternative. The second possibility is when space is lacking. Machine tools are becoming more and more compact, so spindles cannot be

Presentation

bulky. Having no mechanical connections like belts, these spindles can be mounted anywhere with ease. In the third case, changing technology brings huge assets in terms of productivity and tool life.

Ideal machining conditions

Not using any mechanical coupling ensures smooth operation without any shock or vibration. This obviously improves tool life and the surface finish of the machined parts. A higher rotating speed gives rise to the option of increasing the feed rate and thereby improving productivity.

Tornos machines' rigidity and quality as well as tool resistance allow users to produce faster and faster. HF spindles allow customers to realise the full potential of the spindles.

Extraordinary gains

Let's see why some manufacturers have become HF spindle zealots. Our first example is in the medical field.

Operation: Milling the Torx shape in a screw head

In this application the challenge was that the old method of machining the Torx shape in counter-operation demanded more time than machining in main operation. Clearly the fact of having the milling time reduced directly affected the outcome of production. Machining time was halved and tool life was drastically improved as it is now possible to mill 2,000 heads without replacing the tool.



Screws with Torx heads are being used more and more in the medical industry because of their greater resistance while being screwed. Milling the shape with a HF spindle removes any constraints linked to broaching technology (space for chips at the bottom of the pre-hole and the forces that the part and the machine have to bear for instance) and provides consistently high quality parts.



When spindles are added to a machine already in service; the spindle, its converter, the lubrication system and the wiring are supplied as a set for quick installation and commissioning.

The second example is the watch making industry.

Operation: Complex shape milling and thread whirling.

When machining a balance, HF spindles are used to mill complex geometries and create balancing holes. These operations are not possible on the machine without such spindles. Thread whirling of S03 threads with HF spindles demonstrated the spindles effectiveness. In this example, the previous technology allowed production for a half day without any tooling issues. The new machining operation not only enables a full week of machining with the same tools and



It is now possible to completely machine these kinds of parts on an automatic lathe equipped with HF spindles. Removing the need to finish the part on another means of production means a drastically reduced rate of unsatisfactory parts.

high quality but also cuts machining time by 50%. In addition, this technology provides perfect management of chips for difficult materials.

News and Developments

Since EMO, Meyrat has announced two important pieces of news regarding HF spindles. Firstly, the product range has been complemented with the \varnothing 30 mm spindle. Mr Walther says: *"We have decided to produce this new spindle following requests from our customers. They wanted a more powerful and faster spindle than the \varnothing 25 mm (MHF25). Advantages in terms of space and ease of use; the new \varnothing 30 mm is the same as for the \varnothing 22 and \varnothing 25 mm spindles."* Still on the subject of simplicity, the second piece of news announced by the manufacturer is the universal converter. This new generation of converter allows any of the company's spindles to be controlled without any manipulation. This device also brings additional functions like speed braking of the spindles, change in the rotation direction or even remote troubleshooting.

Expertise and attentiveness

The company's expertise can be noted in its HF spindles; at 120,000 rpm balancing precision of a few tenths of a milligram is a key factor for the life of the tool and the spindle. The engineers at Tornos work in close collaboration with their counterparts at Meyrat to ensure they can always offer the spindle most closely suited to customer requirements.

More than 1,200 HF spindles delivered

For seven years, Meyrat has sold more than 1,200 HF spindles. Even though the external appearance has not changed, they have evolved drastically. To illustrate these changes, Mr Walther tells us this funny story: *"When we receive a spindle to be reconditioned, we integrate the latest improvements and thus the customer always has an up to date product. The customer calls me to say that their newly reconditioned spindle doesn't work. Actually it was turning at very high speed; but the retrofit we conducted on the spindle reduced its noise drastically... to such an extent that he thought it wasn't working."*

Demonstrated Capacities

At Siams, Tornos will display this type of spindle fitted for the first time to a Delta machine. Mr Renggli tells us: *"Tornos has been using high frequency spindles for a long time on the most advanced machines in its ranges. We are now offering these on Delta machines for the first time. Our goal is to be able to offer a solution. So, if it does not replace a more advanced machine it will allow more machining options."*



Up to 80,000 rpm is standard, 120,000 in special applications, the HF spindles of the Swiss company are very quiet as they do not exceed 74 dB (to give a few examples, a human discussion reaches 60 decibels and a car horn 100. We must emphasise that a difference of 10 dB is perceived as a doubling of the sound volume).

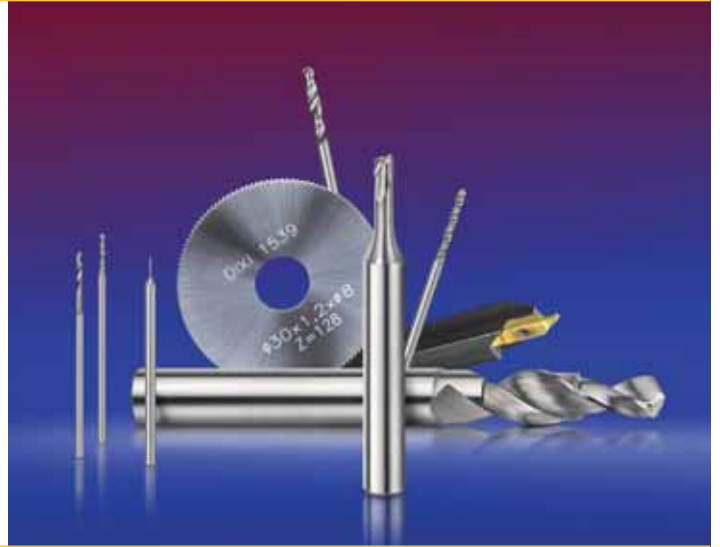
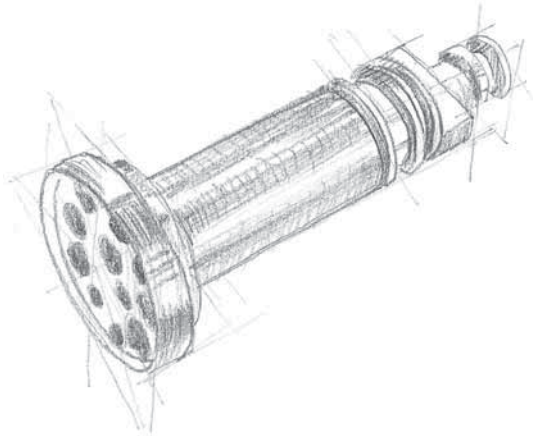


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Capacité de serrage	0.5–5 mm
Oscillation	0.25 mm

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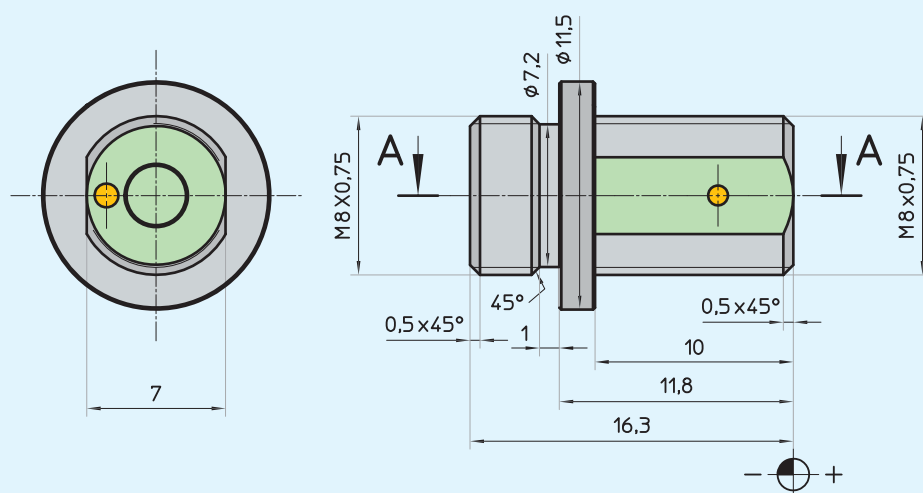
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HF SPINDLES ON THE DELTA AT SIAMS

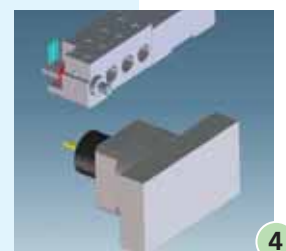


The High Frequency (HF) spindles and their various attachments make it possible to increase the number of tools present on the Tornos Delta turning machine. Thanks to this equipment, it is possible to add up to two additional rotating tools to the machine, increasing its machining capabilities. During operation there are three possibilities for installation via a transverse mounting, making it possible to mount a HF spindle and via a horn, the ability to accommodate up to two HF spindles (1+2). It is also possible to work at the front in secondary operation by means of this horn (2).

On machines with 5 axes that have the 4-position block for counter operation it is possible to mount an axial spindle (4+5) and a transverse spindle (3+5) for counter operation in concurrent operation time. For technical reasons, only two HF spindles can be simultaneously mounted to the same machine.

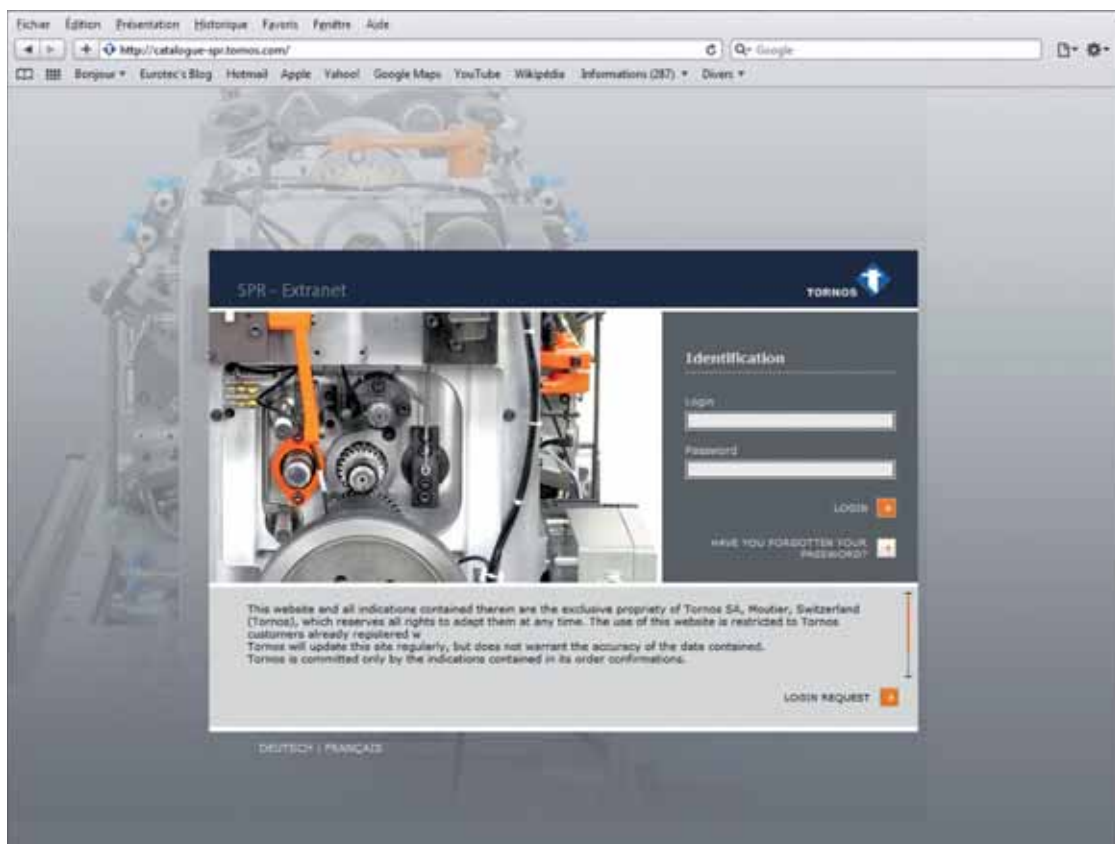
With a rotation speed of up to 80,000 rpm, the HF spindles allow Delta to be equipped with tools that until now were not available, and therefore makes machining operations possible that were previously only possible on machines of a higher category. Using this equipment it is possible to perform axial micro drilling, slitting or even eccentric drilling. HF spindles for the Delta turning machine are used in many areas including the connectors and micromechanics and in particular the watchmaking and jewelry industries. This is an advantage in the machining of noble materials such as gold that require high rotational speeds.

Many customers are already highly satisfied with the developments in HF spindle attachments designed for Delta machines. In order to allow its customers to discover the possibilities available with the Delta machine and the specific attachments developed by Tornos, the company is inviting its customers to Siams from the 4th to the 8th of May 2010.



IDENTIFY, ORDER AND PRODUCE...

In a modern production facility that often works under extraordinary constraints, a need for spare parts often becomes apparent. And should this happen, time is of course of the essence. In the event of machine downtime it is vital to be able to restart production as quickly as possible. Any error in identification or delivery can cost dearly. Jérôme Gafner, the spare parts sales manager at Tornos, tells us about the tool that proves the perfect solution for this situation.



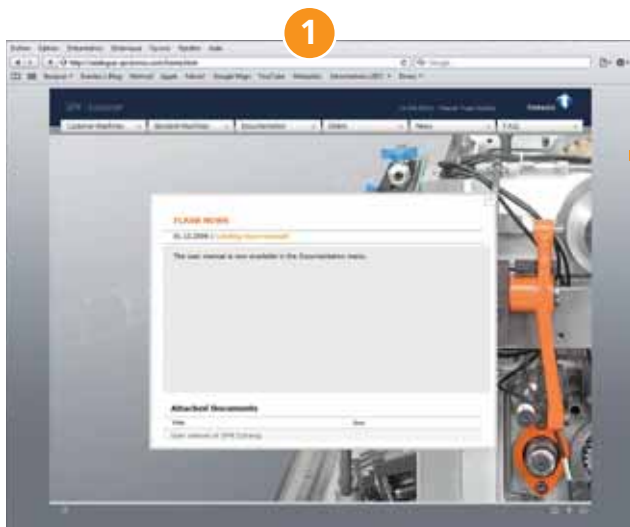
Homepage for the site <http://catalogue-spr.tornos.com>. Login is customised and the user sees "their machines".

Early stages

For years Tornos had been looking to create a system that could be made available to its customers that would centralise and categorise the numbers of all the spare parts for the machines they produced. After a detailed conceptual design process, the system was set up. The first users were Tornos employees throughout the world. After intensive use of this system by professionals speaking different languages and thinking differently, the company then improved the system to make it even more efficient and "universal".

Online publication

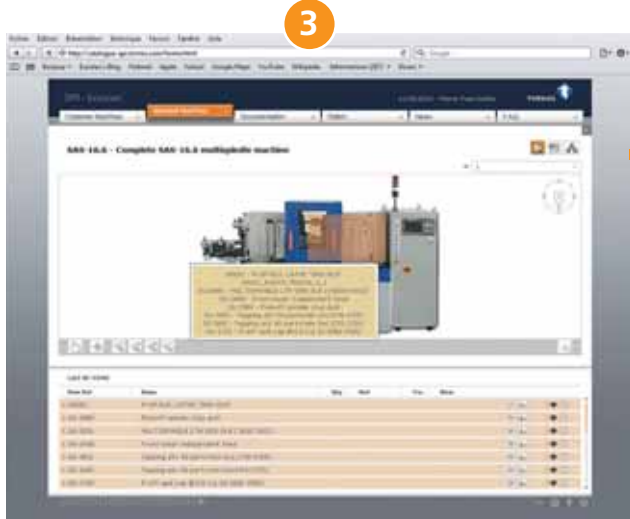
Once this second version had been validated, a test group of customers with large machine varieties that would therefore use this system intensively, was formed. After several months, minor alterations were made and this new tool went public at the start of 2010. In order to benefit from this new free service, all customers owning Tornos machine tools need to do, is download the site access request form <http://catalogue-spr.tornos.com>



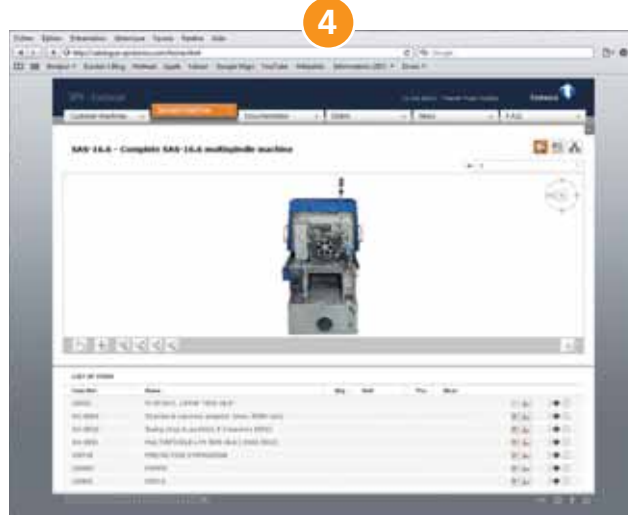
A windows gives visitors information on new features.



The customer can look up spare parts using parts lists (right-hand side of the image)



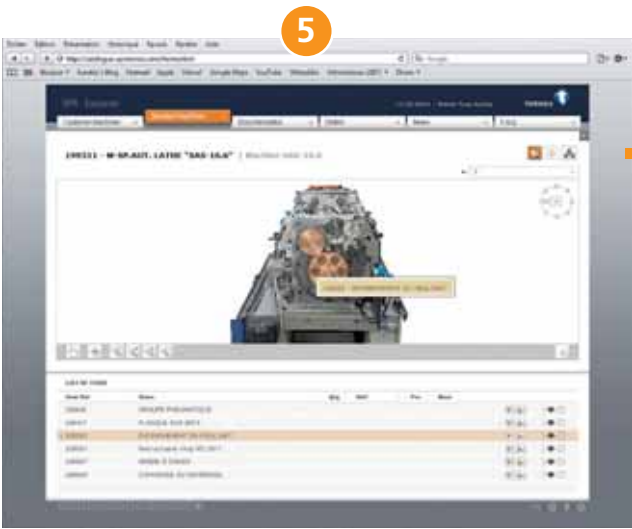
It is also possible to browse inside the machine using interactive images. When the mouse hovers over the image, the groups are highlighted.



The visitor can also move around the machines.

Knowledge base

The database system includes all the machines supplied by Tornos for which the service is still provided. Almac machines are currently being incorporated. The system includes 13,500 installed machines. So, a customer who requests an access right will have the exact image of the component for his products at Tornos. Of course, if other devices have been added, the system can be updated to ensure it is fully comprehensive.



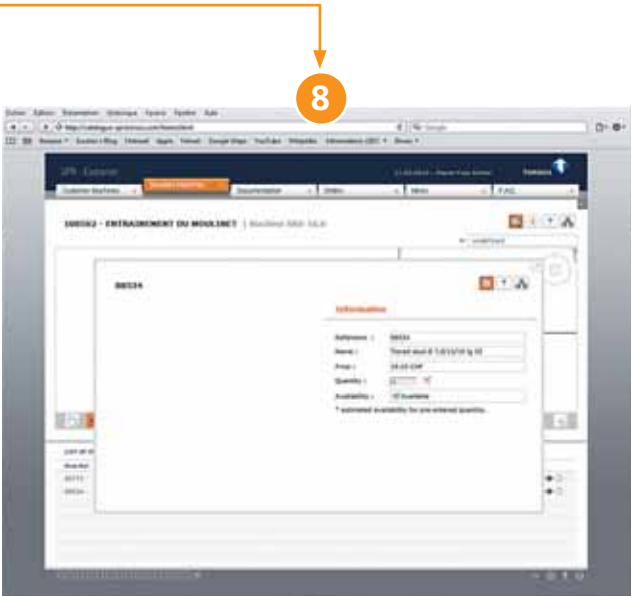
Select and zoom in...



... to access the illustration which includes the part for replacement.



It is also possible to zoom into the illustration. Then the part number which is in colour in the list will also appear on the illustration.



Once selected, information on price and availability are displayed. Orders can then be placed directly!

ADVANTAGES OF THE SYSTEM

- Speed and reliability of identification
- Tool updated in step with the customer's machine base
- Available 24 hours a day, 7 days a week
- Price and availability directly visible
- Online ordering
- Total transparency
- Maximum security
- No constraint or obligation to use the service

Always up to date

Even better! If the machine has benefited from a retrofit or delivery of new-generation spare parts, everything is there on the system. On the subject of updated parts, Mr Gafner tells us: *"Machines evolve and spare parts change accordingly. We always have the latest parts, so a customer ordering a component as a standard exchange will not necessarily receive exactly the same part, but one benefiting from the latest improvements. Our customers can therefore use our database as a management, tracking or statistical tool."*

Live information

The site unveiled by Tornos is not a diagnostic tool, but an online identification and ordering system. The user can search for the parts required in several ways. He can simply use the part names or choose to browse through the parts list (technical groups) or even make a visual search using intuitive image-based navigation. Once the part has been identified, its availability and price are instantly displayed and the user can place an order, at any time!

Online ordering

As we saw earlier, the system allows customers to order spare parts directly. Since connection is secure and personal, there is no danger of unauthorised orders. On this subject Mr Gafner tells us: *"Since access is linked to individual customers, each customer benefits from the same trade conditions as when using any other method. We are currently not offering the option of online payment. Our customers usually prefer to receive an invoice. If there was to be a demand for this, we would consider it."* The License granted to the customer allows several different user levels. So, if he wishes he can determine who in the company can view the interactive database and who can place orders.

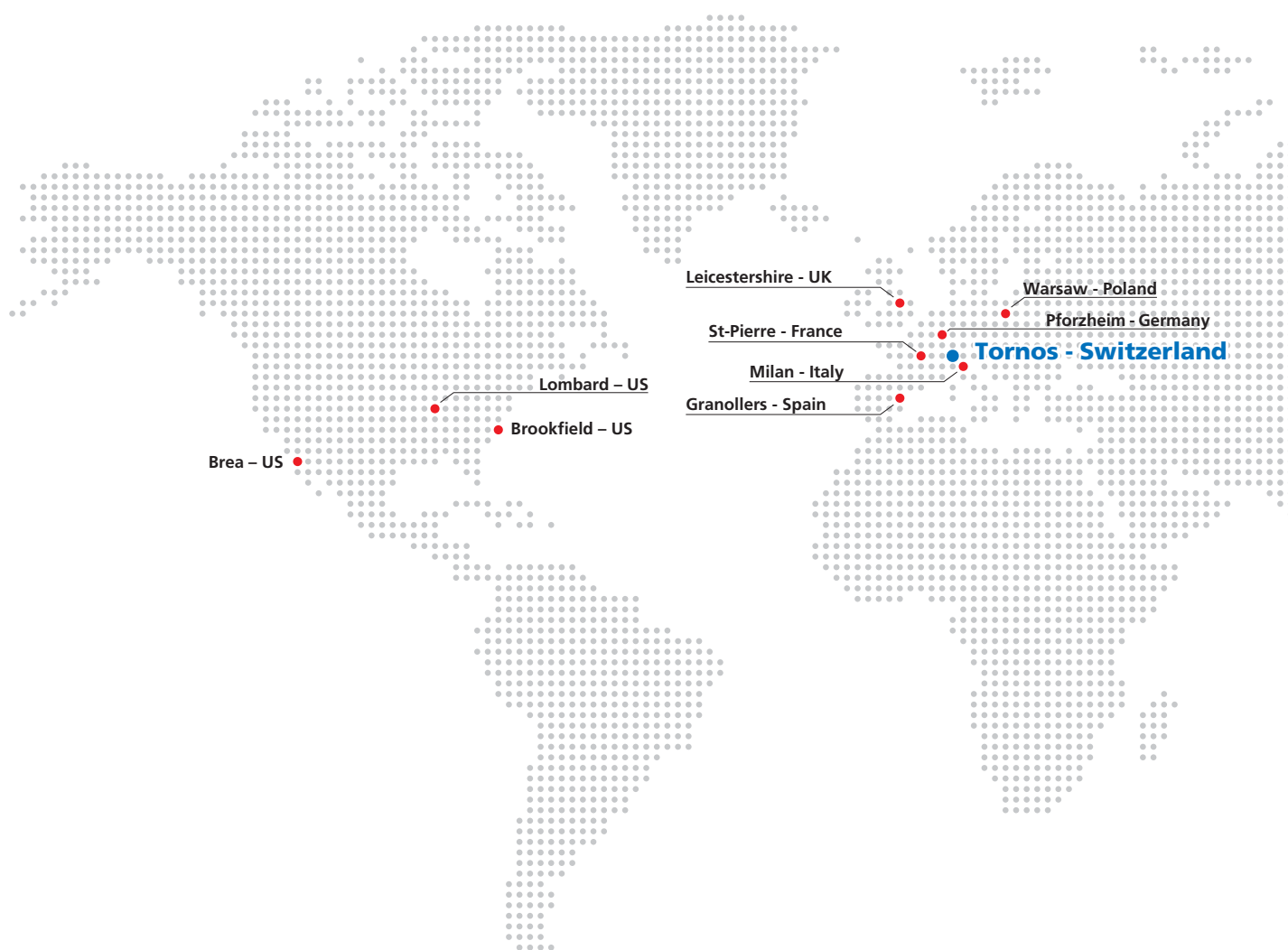
A computer and internet access are a must

This system needs a computer connected to the internet in order to operate, but users who prefer to carry on working as before need not worry, this service is entirely complementary to the other methods for ordering spare parts. It is simply more efficient, quicker and easier. To conclude, Mr Gafner tells us: *"Out of all our test customers, not one wanted to revert to the previous method. The simplicity of the interface and the speed of operation quickly gained everyone's approval."*

Would you like to try the system? Download the request form from the following address: <http://catalogue-spr.tornos.com>

CLOSE TO THE CUSTOMERS...

When you talk to technicians about the rationale behind the purchase of investments - typically machine-tools - very often only the technical aspects are discussed. These are, of course, very important, however many other factors also come into play.



Take for example the French subcontractor which has seen its prime contractor relocate to China, and has likewise been “forced” to internationalise to remain competitive. Needless to say, the expectations in terms of the quality of its services remain the same. It’s more than a simple matter of having an efficient machine; it’s also the guarantee that it can rely on a contact with sound knowledge of the “local” market and conditions, and which can assist it in

implementing its “process”, that have made the difference. The element of proximity, as well as direct contact, are determining factors.

Think global, act local

Because Tornos has always sold highly sophisticated machining solutions which, by their nature, require customised support, the company has adopted an

outward-looking and support-based approach. As far back as the early 1960s, the Swiss manufacturer was opening offices in France and the USA and developing globally to establish a worldwide presence. Another component of the company's culture is the availability of local, highly-skilled staff and an additional "task

force" of technical/sales support staff. Thus, wherever in the world you may be, you are guaranteed a response that is not only perfectly tailored to the local culture and working methods, but also ensures a high level of technical proficiency.

A pragmatic approach

Today, using an automatic lathe should be becoming increasingly straightforward. Developing a worldwide presence involves working with operators with significantly varying degrees of skill, which means that, sometimes, the most sophisticated and comprehensive machines may prove too complex to use. The niche machine designed to produce highly complex parts is still one of Tornos' priorities, however the company remains loyal to its values and is making this widely available by providing programming and setup support. Another arm of its development is dedicated to the production of more straightforward machines (Delta and Gamma) which are easier to set up and use.

Providing solutions

With 13 product lines, Tornos offers a wide range of solutions perfectly adapted to a multitude of diverse needs. From the simplest to the most complex part, from a diameter of 1 mm to 32 mm and for all standard dimensions, the company can supply one or more suitable machines.

So, how do you choose from such an offering?

Squaring the circle

The answer to this question is simple: you just need to be able to rely on a well-developed local commercial network with perfect knowledge of the markets, and on technical experts who can fine-tune the offering. Once the machine has been sold, the local support network comes into its own and can provide the necessary consultancy, training or services to develop a partnership with the customer.

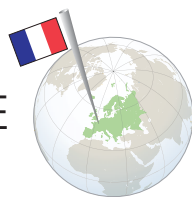
A worldwide presence

Tornos has sales subsidiaries in Germany, China, France, Spain, USA, UK, Italy, Malaysia, Poland and Thailand. 2010 will also see the company open a subsidiary in Brazil and another in India (more about this in a future issue of *decomagazine*). In other countries, the company can rely on highly qualified agents. These agents can also engage the services of technical/sales experts.

Let's see the Group's various subsidiaries in detail.



TORNOS FRANCE



Location

Tornos France is located in the Les Jourdiés industrial zone in Saint-Pierre en Faucigny, a 10-minute drive from Cluses, the French bar turning capital.

The premises are situated close to a motorway exit for quick and easy access, halfway between Geneva and Chamonix.



"Tornos: now more than ever an essential bar turning partner in France."

Patrice Armeni, Sales Director of Tornos France

Number of employees:

The TTF team comprises 25 members.

15 of these make up the technical department, whose job is to install new machines and maintain Tornos machines, some of which have been operating for over 50 years!

How long has the subsidiary existed?

Tornos has had a presence in France since 1945 via its sales representative.

The French Tornos subsidiary was established in 1962 at Rue de l'Annexion in Annemasse.

In 1987, at the behest of Mr. Tappaz, the subsidiary relocated to Saint-Pierre en Faucigny in the Arve Valley.

How does the subsidiary ensure customers receive full support?

The French market is covered by TTF, and consists of 4 key geographic areas. The first area, which covers Haute-Savoie and includes almost 500 companies, is managed directly by the subsidiary.

Next comes Franche-Comté, which is expertly covered by a sales representative.

Northern France is covered by a Tornos sales representative based in Paris managing 5 agents, and the

South is also managed by a Tornos sales representative with 5 agents based in Perpignan.

Subsidiary manager Patrice Armeni explains: "Our customers can benefit from technical studies and machining tests within our subsidiary, which includes a showroom with 5 or 6 machines available. In 2009 we carried out 150 time studies and 20 machining tests at Tornos France. We can also count on the recognised experience of Tornos Moutier and the technical support of our 20 partners specialising in tooling, raw materials, cutting oil and peripherals.

Our technical and sales personnel benefit from extensive technical knowledge of Tornos single- and multi-spindle screw machines".

In all areas, from maintenance, through after-sales, setup, testing, training and sales, they all receive regular training in Moutier to further build on their experience and ensure they remain responsive to our

customers' demands. This performance also contributes to the constancy of our personnel's technical and sales expertise. The constant dialogue between these two departments, which extends to the various departments in Moutier, guarantees this durability and is a sure way to safeguard the future.

48-hr turnaround, guaranteed

"Our responsiveness is a daily obsession for us, and to guarantee it we have implemented an increasingly efficient structure at Tornos France. Our after-sales reception will direct you to the most suitable department.

For technical issues, two technicians man the hotline to identify the problem and provide a solution over the phone where possible. If the nature of the prob-

lem makes troubleshooting more complex, a specialist technician will be sent out to fix the fault within 48 hours.

The proximity of our parent company means we have the fastest possible access to spare parts. For example, a component ordered before 4pm will be delivered to the customer the following morning. In some cases, the part is available from the subsidiary itself.

Because we want to offer more than just technical solutions, we consider this type of service a major priority. It's no coincidence that our "calculation" and "machining applications" services are in demand all year round for ever more complex projects which fully meet the requirements imposed by the medical and automotive sectors, for example", concludes Patrice Armeni.



TORNOS ITALY



Location

The subsidiary is located in the Zerbo industrial zone in Opera. Close to the western orbital exit in Milan. Tornos can be accessed quickly and directly from the motorway.

Number of employees:

12 employees.

How long has the subsidiary existed?

Since 1962, as the Bechler subsidiary; as Tornos Technologies Italia since 1992.

How does the subsidiary ensure customers receive full support?

Most of the customers are subcontractors in the medical/dental, oil-dynamic, automotive and pneumatic sectors.

The market is supported by a sales representative covering the whole of Italy, an area coordinator, a technical/sales agent specialising in single-spindle automatic lathes, another in multi-spindle lathes, and a back office. A highly-specialised team of six

technicians trained to work on all Tornos and Almac products completes the line-up. The market is serviced directly with the help of specialist agents.

Subsidiary manager Barbara Stivan explains: "We are renowned for our cutting-edge technical advice.





"A small team handling big projects for its customers."

Barbara Stivan, Operations Director, Tornos Italy

We have a wide range, and our skilled staff are able to precisely identify the machine best suited to the customer's needs. Another feature of Tornos Italy is our extensive experience in providing setup and support services for the production of high-tech parts".

Close to the customers

"Our technicians are highly-specialised in setting up and commissioning single-spindle and multi-spindle machines. We also have an efficient hotline to provide rapid solutions to problems. Our technical training sales agents are known to most of our customers. These are backed by our technical/sales agents, who support a comprehensive sales network throughout the territory. Formed of agencies working together with Tornos for decades, the network enables us to provide finely-tuned, customised support across the entire market". Barbara Stivan.



TORNOS SPAIN



Location

The Tornos subsidiary in Spain is located north of Barcelona in the *El Congost* industrial estate in Granollers.

Number of employees

The TT Iberica team comprises 11 employees. The Tornos Spain staff is very loyal and have built up tremendous experience.

How long has the subsidiary existed?

With over twenty years in business, the Tornos subsidiary is probably the oldest subsidiary of a non-Spanish machine tool manufacturer in Spain.



The current facility in Granollers was opened for business in 1991.

How does the subsidiary ensure customers receive full support?

Tornos Spain covers the whole of the Iberian Peninsula, Spain and Portugal, with its own sales representatives and sales agents. The employees at the Tornos subsidiary in Spain are highly experienced in their respective positions thanks to their excellent training and their many years of experience gained through working at TTIB.

Be it with multi-spindle or single spindle machines, Tornos Spain is able to do 'almost' everything in-house: production studies, tailored quotes, provide training, carry out the installation of different machines, retrofitting and coaching.

The main speciality of Tornos Spain is the medical and dental field where the company has installed over

try's industrial sector for its complete range of services and its presence in the market. Tornos provides:

- Hotline, with a highly qualified specialist available at all times at the customer's disposal and speaking the customer's language.
- 300 m² showroom, where customers and visitors are able to see the latest Tornos machines in production. At the moment Sigma 20 II, Delta 20 and the Gamma 20/6B.
- Open days and demonstration days throughout the year.
- Complete retrofitting of Deco machines. At the moment we are in the process of retrofitting a Deco 20 from 1998.
- Production calculations.
- Feasibility studies for complex parts on our machines.
- Preventive maintenance.
- Part delivery service within 24 hours.

"At Tornos Spain, experience, ingenuity and technology are combined to provide a high-value solution to the customer"

Isaac Acrich, General Manager Tornos Iberica



100 machines for their extremely satisfied customers. With its expertise in setting up machines for the manufacture of implants, angular titanium abutments and different types of bone screws, Tornos Iberica stands out with its expertise.

A genuine partnership

When a customer orders a Tornos machine in Spain, a genuine partnership is formed between the customer and the Tornos subsidiary. The 600 m² Tornos Technologies Ibérica facility is well known in the coun-

Mr Acrich adds: "Training is probably the most important thing to us here. We systematically offer training courses every month of the year. Courses on TB-Deco basics, on advanced programming, specifically tailored courses upon request and continued development are all available with the purpose of meeting the requirements of all businesses and users. To do this we use our spacious and well-equipped training room with which we can provide friendly and effective training programmes".

TORNOS GERMANY



Localisation

Pforzheim world-famous/renowned for its jewellery and watch industries, is the portal to the Black Forest, home to high precision, medical and micromechanical technologies. Close to Pforzheim, with a large metal supply industry.

Number of employees:

With a staff of 41, Tornos Germany is the largest subsidiary. It covers all areas of support and service and also has a testing and setup centre.

How long has the subsidiary existed?

Tornos has been present in Germany since 1965, the year it had its first representative. Its offices are still located in Pforzheim.

How does the subsidiary ensure customers receive full support?

The markets covered are mainly automotive, medical, electronics and watchmaking in Germany and Austria. The main goals of the subsidiary are to meet the requirements of customers. To achieve this, the organization is based around professional technical consulting and excellent support.

Short-term, reliable spare parts supply, responsive customer service and a hotline complete the range of services available to customers on a daily basis.

All kinds of request

"In turning, we offer our customers a product range covering all kind of requests. Helped by our responsive team, we can supply the machine the most tailored to our customers' need and help them run them efficiently" says Jens Kuettner, head of the subsidiary.



"Every day our team works hard to ensure that you, our customers, can say of us: 'For me, Tornos is the technologically most professional of our partners who supply us with machine parts. They are the most reliable in performance and the most friendly as far as customer contact is concerned.'"

Jens Kuettner, General Manager Tornos Germany

TORNOS UK



Localisation

Tornos UK is based in Coalville, in the UK Midlands, an area long renowned for manufacturing.



"At Tornos UK our team is dedicated to providing the tools for your success in today's challenging environment."

John Mc Bride, General Manager – Northern Europe – North

Number of employees:

7 staff are based at Tornos UK

How long has the subsidiary existed?

Tornos UK has been a Tornos subsidiary for over 20 years

How does the subsidiary ensure customers receive full support?

Tornos UK works directly with customers in England, Scotland, Wales, the Isle of Man, the Channel Islands and South Africa. In addition it also provides sales & service support for their partners, Premier Machine Tools, who cover the Republic of Ireland and Northern Ireland.

Since 2008, Tornos UK has also been providing pre-sales support to their partners, Ehn & Land (Scandinavia) and Esmeijer (Benelux).

The main market sectors supplied by Tornos UK are aerospace/avionics, oil, gas, medical, automotive/motorsport and electronics.

John Mc Bride responsible for the subsidiary says: *"The whole purpose & focus of Tornos UK's existence is to provide customers with the high level of sales and after-sales support that is demanded today. This ranges from providing next day delivery of spare parts, service engineer visits, Hotline support for both service & applications, cycle time estimates and other information to base the justification of machine purchases on and, of course, machine*

cutting demonstrations. As our customers' market places become more competitive as each year goes by, so it's vitally important that we provide them with the correct tools for the job. Our sales support is provided by John Mc Bride & Gerry Cook, who would like the opportunity to offer customers solutions to their new projects, or even just help with solutions to make existing projects more profitable".

Stability and expertise at the service of customers

Tornos UK has a long-established team, with all except 1 member having served between 15 and 20 years. This stability brings great strengths in:

- Product knowledge,
- Company & Systems knowledge
- Market knowledge
- Long-standing customer relationships.
- In addition, with the operational systems in place with Tornos Moutier, Tornos UK is able to provide fast and effective customer support.

TORNOS POLAND



Location

Located in the Polish capital Warsaw, right in the centre of the country, the subsidiary is ideally situated to service the entire market.

Number of employees:

3 staff and an external service provider

How long has the subsidiary existed?

Since November 2007, and the subsidiary has had to grow to keep pace with the market.

How does the subsidiary ensure customers receive full support?

3 highly motivated members of staff work for the subsidiary - two in Warsaw and one in Wroclaw, in the south of Poland. In the Warsaw office, Joanna and Aneta manage the entire operation in terms of spare parts, service and marketing. Jacek, our sales engineer, is based in Wroclaw. An external department managed by an independent company assists the subsidiary in solving customers' technical problems.

A member of the European Union since 2004, the country has 38 million inhabitants and an economy to rival most others in the Union. Machine-tool consumption is growing, with specialist trade fairs flourishing in both Poznan and Krakow, allowing Tornos to strengthen its position here.



A genuine partnership

"The operation of a small concern such as Tornos Poland depends to a large extent on its ability to work together with its customers and partners. In this respect, our cooperation with Moutier is a prime example of efficiency and harmony. We are a small team which is part of a much larger team, and we work very closely with our parent company in Switzerland. The result of the cooperation and efficiency is passed on to customers, who enjoy a close relationship with the manufacturer. This allows information to circulate quickly". Joanna Skudniewska, administrative manager at Tornos Poland.

"The pleasure we get from working with Tornos Moutier translates to the services we provide to our customers, and we hope they in turn are equally happy to work with us."

Joanna Skudniewska, Administrative Manager Tornos Poland



TORNOS USA



Location

Tornos US has three Centers of Excellence in North America.



1 Tornos (West)
1400 Pioneer Street
Brea, CA 92821
Phone: 630.812.2040
Fax: 630.812.2039

2 Tornos (Midwest)
840 Parkview Boulevard
Lombard, IL 60148
Phone: 630.812.2040
Fax: 630.812.2039

3 Tornos (Northeast)
1 Parklawn Drive
Bethel, CT 06801
Phone: 203.775.4319
Fax: 203.775.4281

The TTUS headquarters is in Lombard, Illinois, situated 15 miles from Chicago's O'Hare International Airport and 25 miles from Midway International Airport. This prime address, in the heart of the Midwest logistics corridor, is centrally located on the continent (for speedy spare parts delivery) and convenient to the largest concentration of Tornos US customers.

The TTUS northeast Center of Excellence is located in Bethel, Connecticut between New York City and Hartford. The West Coast Center of Excellence is located in the foothills of Orange County, just 17 miles from Orange County Airport, and 48 miles from Los Angeles International Airport (LAX).



"The Tornos US team is stronger than ever. We have the best people in place and the best machines in our line up. Our operations and logistics are streamlined across the US – we're running like a well-oiled machine. We have strong sales and strong allies. Our new partnerships will enhance our brand and enrich our customers' experience. We're reorganized, optimized, and poised for the future!"

Scott Kowalski, General Manager Tornos USA

Number of employees:

Across the US, Tornos employs 20 people.

In North America, Tornos is also represented by sixteen independent sales distributor companies adding an additional 120 individuals to the company's sales force with regional territories (which are overseen by Tornos' Regional Sales Managers).

How long has the subsidiary existed?

TTUS has been a Tornos subsidiary since 1959. North American operations began in Connecticut; and in 2006, the TTUS headquarters were moved to the more centrally-located state of Illinois.

How does the subsidiary ensure customers receive full support?

In terms of market segments, in North America, Tornos has unparalleled expertise in the medical arena. In fact, 70% of Tornos' US business is in the medical parts sector. Tornos Swiss-turning offers a great combination of precision and repeatability for bone screws, implants, instruments and more. *"We serve the world's top medical parts manufacturers, Hammil Medical, Johnson & Johnson Dupuy, Medtronic, Nobel Biocare, Remmele, Smith &*

Nephew, Stryker, Zimmer, just to name a few. In fact, in North America, we have developed a special machine for medical applications: the Deco Sigma 20 BioPak" says Scott Kowalski. This variant of the Sigma 20 is outfitted with all the attachments and accessories that a customer might need to make parts for the medical industries and make it easier than ever to break into this profitable market. With the BioPak, customers can easily make a machine purchase and move into medical much more quickly.

Other world-renown industry hubs that TTUS has dominated for years: Silicone Valley in California – the hub for high tech electronics development; and the aerospace industry in the southwest. Every plane has from 6,000 to 7,000 connectors. And every connector can have up to 300 contacts. *"Contacts are vital to the operation of modern aircraft – and TTUS is vital to the aerospace industry. Our aerospace customers have made contacts for the International Space Station – including a connector between solar batteries – and the space shuttle"* – Scott Kowalski.

Automotive parts manufacture is also very strong in the North American Midwest, home to the Detroit Big Three: General Motors, Ford, and Chrysler. TTUS has served this industry well over the years and looks forward to continuing innovation in the coming years.

"TTUS offers the best Swiss turning machines in North America, hands down. North American customers appreciate Tornos' 50-year build quality, Swiss precision, and world-class local service. Though Tornos equipment often has a higher price tag than our competitors here in North America, these key differentiators enable us to beat out the competition time and time again". Scott Kowalski

To the service of customers

"We have dedicated the last three years to developing the best Swiss turn customer service in North America. With our three Centers of Excellence we can guarantee faster delivery times; convenient showroom demos; and easy access to our sales, service, applications experts, and state-of-the-art training facilities. Our unique, online DirectConnect service puts our customers in touch with the Tornos support staff 24/7. No matter what time of day or night, with

DirectConnect, the TTUS service team is standing by. With DirectConnect, Tornos guarantees a call back from a certified technician within the hour. A simple online form lets customer enter their support request with ease. And the message is electronically sent to the Tornos team member on call.

Tornos is preparing for IMTS 2010, the International Manufacturing Technology Show held in Chicago every two years. With a large 60x40' booth space, TTUS will showcase our breadth of line and draw visitors from all over the world into the booth with an all-new virtual tour!

Another strength of the TTUS subsidiary is the breadth of our line – from our top-of-the-line Decos, to our entry-level Deltas, to our Almac milling machines, to our Esco by Tornos coil-fed systems".

TORNOS ASIA

Tornos' presence in Asia and India is assured by 4 subsidiaries: Shanghai (China), Bangkok (Thailand), Penang (Malaysia) and Hong Kong and an office (Beijing). A subsidiary will soon open in India (more about this in a future issue of decomagazine).



"Be global but act local, to better serve our customers wherever they are we need to be close to them, speak the same language and understand their culture, so we can better understand their need and better serve them!"

Daniel Hess, General Manager Tornos Asia

SHANGHAI



Shanghai is the largest city in China, and one of the largest metropolitan areas in the world, with over 20 million people. Located on China's central eastern coast just at the mouth of the Yangtze River, the city is administered as a municipality of the People's Republic of China with province-level status. It is the largest center of commerce and finance in mainland China, and has been described as the "showpiece" of the world's fastest-growing major economy.

Shanghai will also hold the World Expo 2010, the largest event in China since the 2008 Olympics. It has the first commercial high speed Maglev railway in the world which operates at a speed of 431 km/h.

Number of employees:

The Shanghai subsidiary has a staff of 13, allowing it to offer a complete service, from sales to servicing and spare parts (Beijing 3 people).

How long has the subsidiary existed?

April 2004. The market was originally serviced directly from Moutier (Beijing: 2007).

How does the subsidiary ensure customers receive full support?

The subsidiary covers the sales, services and applications for China (excluding South China) and Japan.

The fields of activity include the 4 mains Tornos fields, i.e. medical, automotive, electronics, microtechnics (aerospace and watchmaking for instance), and the field and application engineers are specialised in all the single- and multi-spindle models.

Being closer to the customer with the same culture, plus superior technical expertise in the medical, dental and micromechanics parts, have helped to develop

"The convenient location also allows us to serve our customers in a very short response time.

Customers enjoy our top-class service support which guarantees them non-stop production"

Yves Joliat, Technical Responsible North Asia

this young office into a full capabilities test cut house, not only for China but also Asia. The presence of Tornos Swiss Application Manager since the office first opened has been the backbone of the success.

Top-class service support

Tornos Shanghai began as a representative office in April 2004, and officially registered as a licensed limited company in November 2008. The company is situated in the Xuhui area, a very convenient location for customers to visit our showroom to attend training or conduct the final inspection of the test cut.

HONG KONG



Hong Kong is one of the special administrative regions of the People's Republic of China. It is one of the world's leading international financial centres, with a major capitalist service economy characterised by low taxation, free trade and minimum government intervention. Situated on China's south coast and enclosed by the Pearl River Delta, it is one of the largest and most competitive CNC lathe machine markets in China. The main markets in this region are watchmaking, electronics and automotive.

Number of employees:

The Hong Kong subsidiary is based on the same model as the Shanghai subsidiary. 10 members of staff provide customers with a complete service, including support, sales, servicing and spare parts.

How long has the subsidiary existed?

June 2005.

How does the subsidiary ensure customers receive full support?

The subsidiary covers sales, service and applications for Hong Kong, South China, Taiwan, Korea and the Philippines. The fields of activity include the 4 main Tornos fields, i.e. medical, automotive, electronics and watchmaking.

The capability to perform time studies and test cuts locally with fast turnaround times has yielded positive results over competitors. The strength of the application is clearly vital for the success of this subsidiary and its customers.

"Tornos Technologies Asia Limited was officially registered in June 2005. Having set up a spare parts inventory, services, applications and sales support, we are able to provide timely support for customer production needs throughout North Asia. We have therefore designed half of the office space for performing test cuts and storage of spare parts". Daniel Hess



"Capabilities of performing time study and test cut locally with fast turnaround time have yielded positive results over the competitors"

Terence Chau, Sales Director North Asia



BANGKOK



Tornos SA's Thailand representative office was opened in 2007 to provide local support to its customers, particularly in terms of the support provided to companies when choosing turning solutions most suited to their needs, and the technical assistance provided by its After-Sales Service.

Number of employees:

4 of the 5 staff in Tornos' Thailand office are technicians.

How long has the subsidiary existed?

Since July 2007

How does the subsidiary ensure customers receive full support?

The office is based in Bangkok, and has one Applications Manager and 4 Applications/Service Engineers. This highly-qualified team of engineers provides professional support to customers in Thailand, and in addition provides technical support for Australia and India.

We can do it

"The main strength of Tornos Thailand is our application experience with both multi-spindle and single-spindle machines. Although we have only 4 technicians, we have over 40 years of cumulative experience on automatic lathes and we all come from a produc-



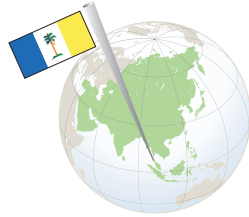
tion background. Typical parts that we encounter are made from exotic materials or have difficult-to-machine features. We are prepared to think 'outside the box' and have a 'can do' attitude". – Darren Way

"For Tornos Thailand, difficult components are our speciality"

Darren Way, Application Manager South Asia



PENANG



Tornos Malaysia's representative office is located near the industrial area of Penang Island, on the north-west coast of Malaysia. Penang, also called the "Pearl of the Orient", is a well-known tourist destination. Its capital and largest city, Georgetown, is situated on the north-east corner of Penang Island. The southern part of the island is highly industrialised with high-tech electronics plants (such as Dell, Intel, AMD, Altera, Motorola, Agilent, Hitachi, Osram, Plexus, Bosch and Seagate) located within the Bayan Lepas Free Industrial Zone.

Number of employees:

5 staff servicing customers.

When did representation begin?

November 2007

How does the subsidiary ensure customers receive full support?

The subsidiary covers Malaysia, Singapore, Indonesia, Vietnam, and Pakistan. The fields of activity include the 4 main Tornos fields, i.e. medical, automotive, electronics and watchmaking. Field engineers are specialised in all single-spindle models. Applications mainly cover the medical and electronics sectors.

Providing the opportunity to discover how machines work

"In 2009 we moved closer to the industrial area and set up a showroom with the capacity for at least 3 single-spindle machines. In order to serve customers, these 3 machines are fully equipped and functioning. Tornos Malaysia can perform test cuts on Sigma 20, Deco 10a and Delta 5/III machines.



"Our Service/Application engineers perform test cuts and demonstrations for local customers. Our proximity to our customers is our main strength".

Gerald Musy, Service Manager Asia

This attracts the attention of existing and potential customers who frequently visit the showroom." – Gerald Musy

Conclusion

Tornos' strategic development objectives up to 2012 have already been published on numerous occasions in the course of communication with shareholders.

They comprise the following elements: primarily organic growth of the core business, expansion of geographic coverage in Asia, America and Eastern Europe, extension of the product range and the launch of new, innovative products, and finally, the

supply of products enabling customers to reduce their costs.

As we have seen in this article, these wide-ranging objectives are in evidence on a daily basis, both in the field and in the products and services offered by the specialists of Tornos' sales network.

Please do get in touch.



HAROLD HABEGGER

Canons de guidage Führungsbüchsen Guide bushes



Type / Typ CNC

- Canon non tournant, à galets en métal dur
- Evite le grippage axial
- Nicht drehende Führungsbüchse, mit Hartmetallrollen
- Vermeidet das axiale Festsitzen
- Non revolving bush, with carbide rollers
- Avoids any axial seizing-up

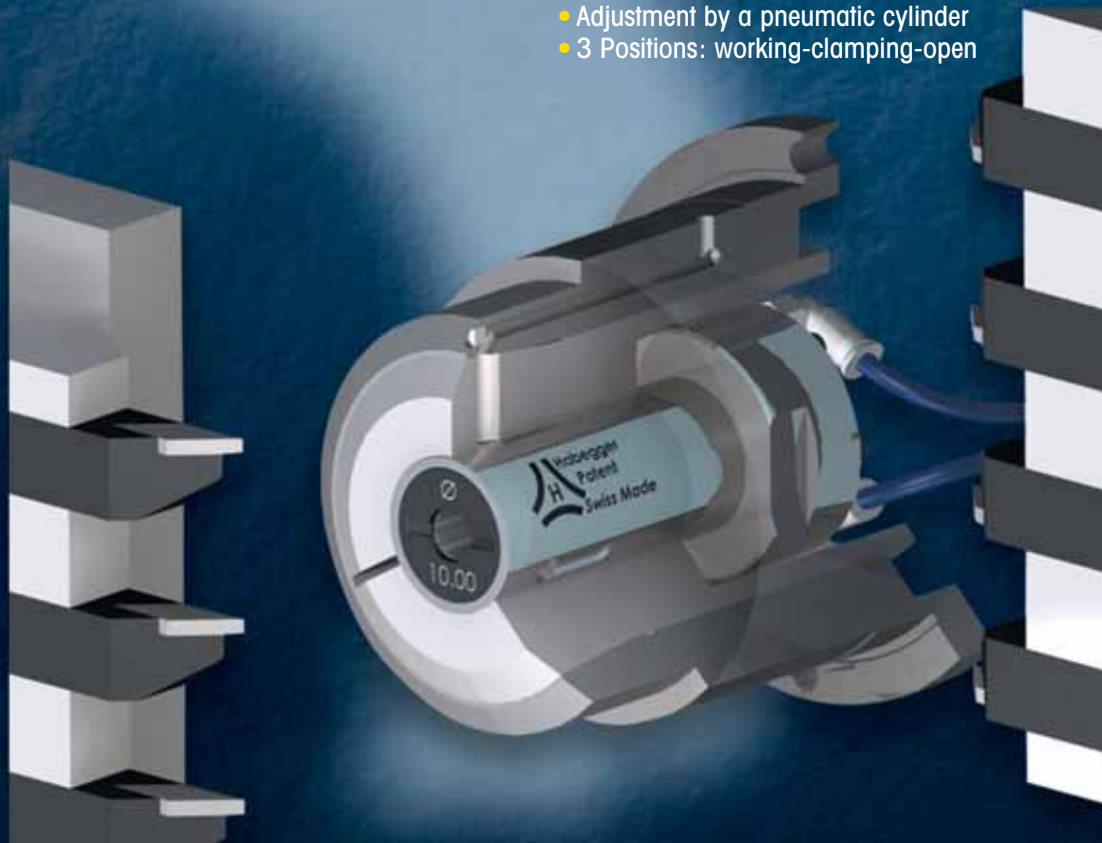


Type / Typ C

- Réglable par l'avant, version courte
- Longueur de chute réduite
- Von vorne eingestellt, kurze Version
- Verkürzte Reststücke
- Adjusted from the front side, short version
- Reduced end piece

Type / Typ TP

- Réglage par un vérin pneumatique
- 3 positions: travail-serrage-ouverte
- Einstellung durch einen pneumatischen Zylinder
- 3 Positionen: Arbeitsposition-Spannposition-offene Position
- Adjustment by a pneumatic cylinder
- 3 Positions: working-clamping-open



▶▶▶ 1 Porte-canon: 3 types de canon Habegger!
▶▶▶ 1 Büchsenhalter: 3 Habegger Büchsentypen!
▶▶▶ 1 Bushholder: 3 Habegger guide bush types!

WHEN UTOPIA AND TECHNOLOGY ARE PERFECTLY IN STEP

Tornos recently contributed to the new world record for hot air balloon flight duration by sponsoring this bold project along with other high-tech companies in French-speaking Switzerland. To find out how a high-tech machine manufacturer got involved in such a project, we talked to Remy Degen, communication manager at Tornos.



A world record in the bag

To the uninitiated, flying a hot air balloon might look like the easiest thing, yet it is a technological feat that faces the same problems as other high-level sports, and indeed industry. It is a constant struggle to obtain better performance, an ideal point/resistance ratio, new materials or even reduced energy consumption. The Balloon Concept team rose to the challenge brilliantly and most appropriately in this Olympic season, broke the world record.

SOME PARALLEL SCENARIOS

Energy management

It's easy to forget, but as far back as 1996, Tornos was already focusing on optimising the energy consumption of its machines. The programming system enables intelligent axis motion control, so that tools not only arrive at the part "just in time" but with optimised consumption, since no energy is wasted in accelerat-

ing and braking. Similarly, the technological advances used on the balloon have reduced energy consumption by a third compared with older-generation models, yet achieve the same level of performance. Remy Degen told us: *"I may be a bit of a dreamer, but it wouldn't surprise me if the burners contained little nozzles that could have been machined on Tornos machinery"*.

Teamwork

The Balloon Concept team worked closely with its suppliers to create an exceptional aircraft. Redesigned from top to toe, it required the application of nanotechnology for the envelope, the use of titanium, aluminium, carbon and Kevlar for the basket and a revolutionary burner. Constantly questioning and working as a team towards a common goal that endlessly and innovating to achieve the optimum solution are all



values Tornos encourages. In these troubled times, marrying aspiration with a rigorous approach allows us to find ever increasing solutions for our customers.

Understanding the wind

Just as companies are buffeted by financial storms, a balloon is affected by currents. If piloted by a novice balloonist with no meteorological expertise, it is in great danger and the flight is highly unlikely to end happily.

Knowing the marketplace is the economic equivalent of understanding the weather; it is essential to listen and to have a feeling for the market and one's customers in order to offer them a solution that meets their needs.



Precision

This concept is certainly not the first that comes to mind when talking about balloons and yet...

It was precision at the preparation and development stage that ensured the world record was beaten, and also the precision of the pilot's actions during the attempt.

It's not enough to have a high-performance machine; you have to get the most out of it. Tornos provides locally-based service and training that allows customers to work effectively and with confidence.

A world away from the situation of a balloonist – once airborne, he has no-one to rely on but himself.

Utopia and passion in equal measure

It may be more than 225 years since the Montgolfier brothers first flew a balloon containing passengers (a sheep, a cockerel and a duck), but in 2010, dreams and innovations in hot air balloon technology are still possible. This desire that motivates the Balloon Concept team is exactly the same as that found at Tornos. To conclude, Mr Degen tells us: *"It is this driving passion that allows us to constantly offer new solutions to the market and always go the extra mile for our customers"*.

To find out more about this world record, visit www.balloonconcept.ch



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Your success in focus

FROM IDEA TO IMPLEMENTATION...

Northern Germany is known mainly for shipbuilding and tourism, but rather less for micromechanics. There is little tradition in the production of small precision-made parts, little expertise in the manufacture of parts for medical equipment – and yet we have discovered a company that operates in micromechanics, especially in dental technology. We talked to the founders and directors of primec, Mr Frank John and Uwe Koch.

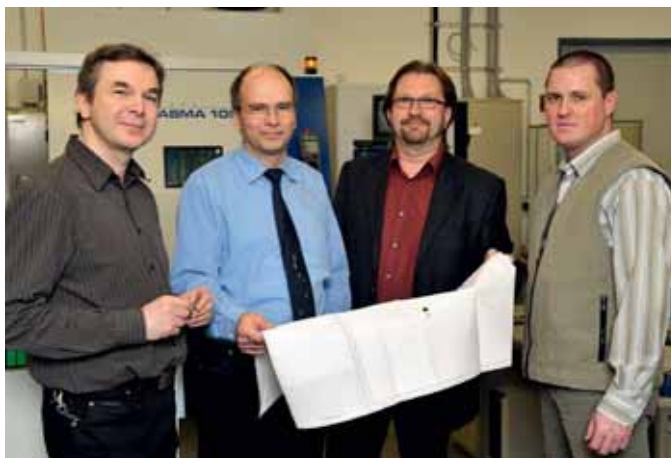


Many years of experience

The company was founded in November 2009. The founders have many years of experience in the production of parts for medical equipment and took the decision to set up their own business, in particular to provide solutions for dentists and dental laboratories. primec has ISO:13485 certification and is therefore able to do work for this extremely demanding sector. In collaboration with a company specialising in laser machining, primec is able to produce parts that satisfy all requirements in this area.

Flexible means of production

The founders considered a variety of different means of production with the aim of having a universal machine that could turn and mill extremely high-precision parts while requiring as little space as possible. They soon came to the choice of a CU1007 machining centre made by Almac. John and Koch needed a machine that exactly matched their requirements. In this regard, they negotiated with the Swiss machine manufacturer who adapted the machine accordingly.



First orders delivered

After six months, it was possible to see a pleasing growth in the company, in keeping with the business plan. All orders were able to be processed successfully and the Almac machine kept all its promises in production. Koch says: *"The machine works perfectly. In addition, we received an exhaustive training programme that allows us to make the best possible use of the machine capacities."* John adds: *"We are very satisfied with the speed of Almac's reaction time and*

the service they provide. Our experience has shown us that we can rely on a contact partner who is extremely professional and flexible."

Customised development...

The good reputation primec is building up is based on a company that works closely with its customers in order to be able to produce extremely complex parts. The experience that the owners of the company have





AN EXTREMELY FLEXIBLE RANGE OF PRODUCTS

Production machinery for today must be rational, evolutionary and modular, because machines are no longer sought that can do “everything” but ones that are designed for specific purposes. The need to provide specific products at competitive prices represents a big challenge for machine manufacturers. One solution is to build machines based on existing tried and tested elements. Gutknecht, the Director of Almac, explains: *“Our range of products is very flexible. We offer five product ranges on which we can fit three different types of carriage. In actual fact, we are equipped with virtually all existing features to meet the needs of our customers. Our task is to take advantage of the modularity of our products in order to assemble the suitable machine.”*



And he adds: *“In the process, it is very important to cater for the customer’s requirements. In the case of primec, we adapted a standard machine until it exactly met the requirements of the customer.”* The CU1007 machining centre is available in four basic versions: with 3 axes, 4 ½ axes, 5 axes (4 simultaneous axes) and 5 simultaneous axes. This means that a configuration that corresponds most closely to the types of parts to be made can be selected. The machine can also be extended by adding a system for loading and unloading the workpiece in the form of a robot with 6 axes.



amassed during a great number of years in the medical equipment industry and the powerful machine, allows them to offer customers a genuine bonus. They add: *"We are not simply a company that carries out turning and milling work; we move in the same world as our customers and as a result can provide them with technological solutions perfectly customised according to requirements."*

... and comprehensive solutions

primec primarily manufactures parts for the dental and medical equipment sector. In addition to part development and machining the company, in collaboration with its partner firms, has expertise in machining material by laser, in cleaning and also in packaging and labelling. The company works according to the most stringent of medical standards and can therefore guarantee complete traceability on the whole of its production. Every part delivered can be provided with a corresponding certificate.

And what about the future?

primec's vision is clear: The company aims to occupy a privileged position as a specialist in the development and production of parts in the medical equipment industry. What are its strengths? Extensive experience and a depth of expertise in this sector as well as a flexible and powerful means of production.

Almac

A COMPANY OF THE TORNOS GROUP

Almac SA
Boulevard des Eplatures 39
CH-2300 La Chaux-de-Fonds
Tel. +41 (0)32 925 35 50
Fax +41 (0)32 925 35 60
info@almac.ch
www.almac.ch

-primec
FEINMECHANIK

primec GmbH
Hansestrasse 21
D-18182 Bentwisch
Tel. +49 381 6302 590
Fax +49 381 6302 591
www.primec-gmbh.de

Photographs: Werk3.de

MODEL OF EXCELLENCE AT TITANIUM RACING

Norwich-based Titanium Racing Ltd (www.titaniumracing.com) is reporting continued and growing orders for its range of specially designed scaled parts for model racing cars. Machined in volume to micron tolerances, the metalcutting excellence behind the operation is provided by a recently installed Tornos Sigma 20 CNC automatic sliding headstock lathe, which joins an existing Tornos Deco 20a model, both supplied by Tornos UK.



Making scaled racing components for model cars may not sound like critical part manufacturing, but the uninitiated will be more than surprised regarding the level of precision and eye for detail demanded by a hobbyist sector that in the words of company founder and managing director, Darren White, can border on obsession.

"These are not toys," he states resolutely, "the parts we make are used by many of the world's top drivers and racing enthusiasts where hundredths of a second can make the difference between a winning car and an also-ran."

Titanium of course has many virtues, and its success in Formula One and other motorsport disciplines is driving demand in the model car racing sector where its lightweight yet high strength properties are highly desirable.

Himself a racing enthusiast, Mr White started Titanium Racing Ltd in 2001 upon noticing a lack of resource for scaled titanium racing parts. In less than a decade the company has grown to fill two adjoining industrial units in Norwich from where it exports components around the world to countries that include the USA, Japan, Malaysia and Thailand.

"A large part of our success can be attributed to the Tornos machines," he says. "Their repetition is fantastic – if you can make one, you can make thousands. They are also built very sturdily, which is vital when we need to hold tolerances in titanium in the region of 3-4 microns."

Fasteners, spools, drive shafts, axles, constant velocity drives and pinion gears are among the many part ranges offered by Titanium Racing. While materials such as Inconel and 7075 T6 high strength aluminium

are used in some instances, the majority of parts are manufactured from Ti6AL4V aerospace grade titanium alloy. Often containing complex features, each part is programmed offline, with the Tornos TB Deco software singled out for special praise.

"The ease of programming is principally why we use Tornos," says Mr White. "The software breaks the part down into individual boxes that make everything very clear and straightforward."



The two Tornos machines at Titanium Racing are served by Tornos's own Robobar SBF-532 feeders that help deliver batches in the realm of 200 – 5000. Component sizes range up from 0.2 mm thick shims, up to 450 mm in length at the other extreme.

"The new Sigma 20 came recommended by Tornos," he adds. "It's not quite as high specification as the Deco 20a, but it's very precise and well suited to the simpler parts in our range. Being able to complete three or four operations in a single set-up provides us with an advantage over the competition as our cycle times can be minimised in all cases."

During times of economic hardship, Mr White says that people increasingly look to their hobbies as a form of escapism.

Titanium Racing makes parts for 1:8, 1:10 and 1:12 scale model racing cars. There is a governing body

The present



(www.brca.org) and a world championship race series. Similar to Formula One, each race consists of qualifying laps to determine starting grid order. Racing then commences at speeds of around 80 mph (straight line world record is 161 mph) with most races lasting around five minutes. Races are fast, aggressive and extremely technical – the smallest error of judgement can spell disaster.

"Model car racing is probably a \$1 billion industry worldwide and we want to get as much of that as we can," he says. "Many car manufacturers have moved production to the Far East so it has become difficult for racing enthusiasts to get more advanced racing parts, which is where we come in."

Forming a smaller, yet no less important part of revenue for Titanium Racing is the Formula One sector. From November 2008 through to January 2009, the company supplied around 75,000 products to Formula One race teams.

"There is no reason why we cannot continue to make progress in Formula One," he says. "We have the required expertise, quality, flexibility and machining technology to meet the demands of this challenging sector."

Diversification is something that the company does not fear. For example, it has just launched a new range of titanium parts aimed at the racing cycle and motorbike sector – see www.trbolts.com for further information.

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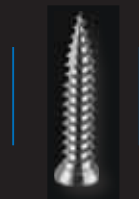
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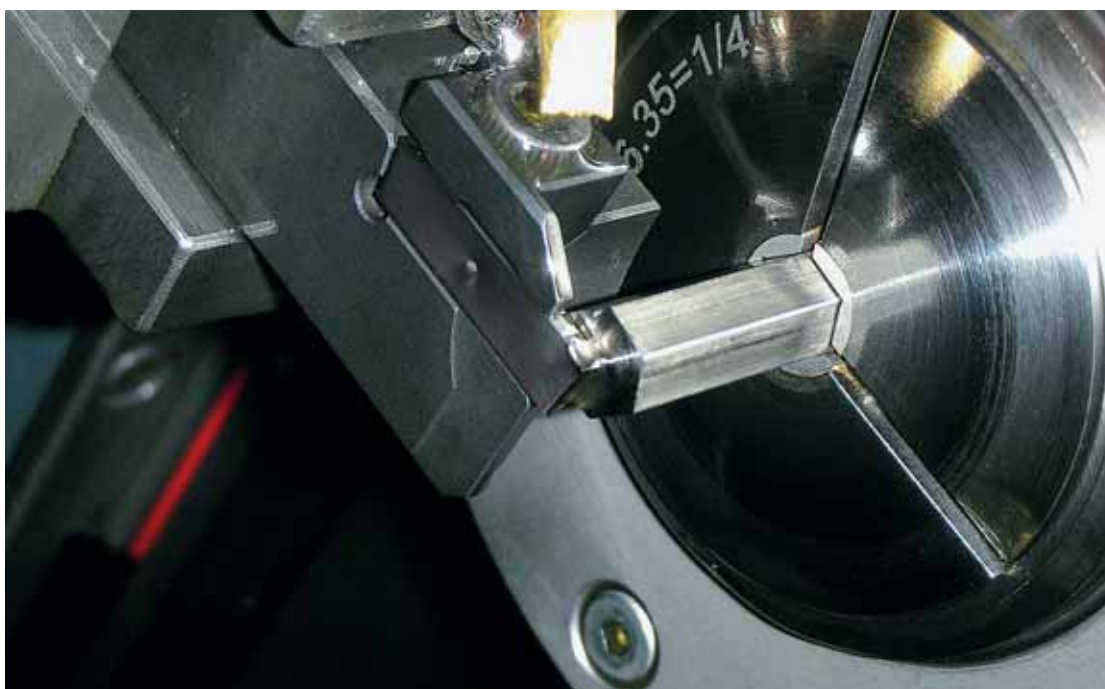
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SWITZERLAND

Tel. +41 (0)32 494 44 44
Fax +41 (0)32 494 49 03
Email contact@tornos.com

www.tornos.com

IT'S THE LITTLE INNOVATIONS THAT MAKE THE DIFFERENCE...

To discover how the bar turning centre at Décovi, based in Vicques (Switzerland), uses the new Applitec Cut-Line inserts; we set up a meeting with Clovis Chételat, head of bar turning at Décovi and Pascal Kohler, Applitec's technical manager.



Working together for better solutions

The first thing that hits you during this meeting is the perfect understanding between these two as they talk technical matters and problem solving without waffling. The aim has always been to find the best solution. The meeting itself serves to illustrate the way in which Applitec works, always on hand for its customers and ready to find the answer.

Applitec - The bar turning tool specialist...

With thousands of solutions for the bar turning industry, Applitec is often contacted by Décovi either to order standard bar turning tools, or for special requests that lead the two partners to work closely together to achieve their goal.

... but that's not all!

Décovi starting using the Cut-Line inserts almost by chance, Mr Chételat tells us: *"For example, we're producing relatively large component runs of approximately 200,000. When cutting these workpieces,*

JUST A FEW MILLIMETERS...

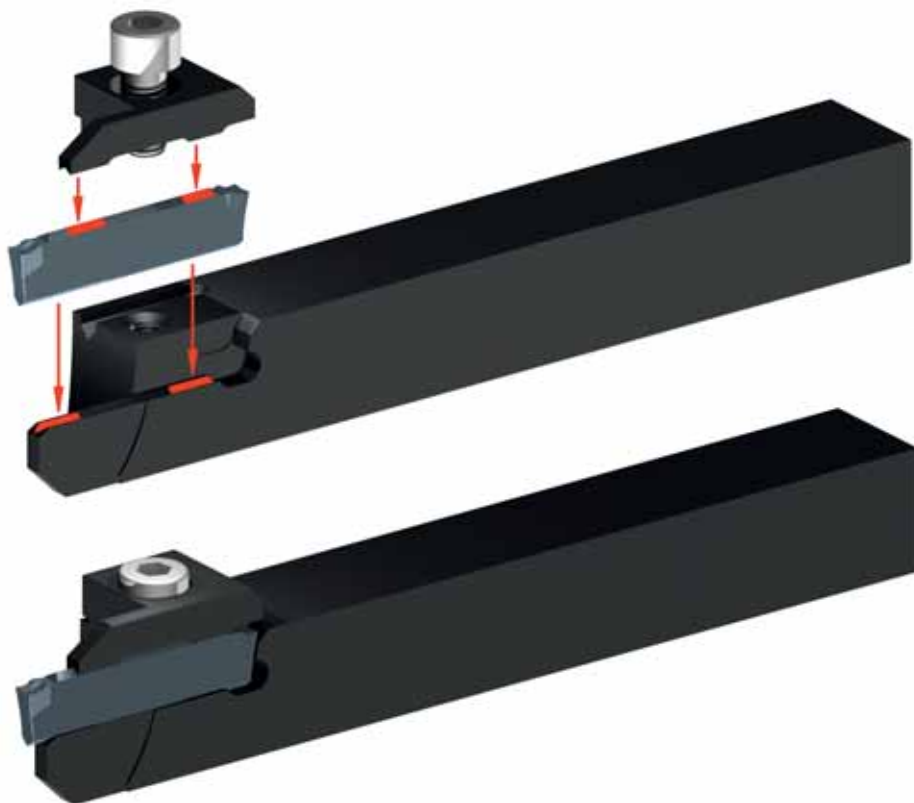
The difference between a 1,6 mm insert and a 3,1 mm insert is not just 1,5 mm: multiplied by 200,000 workpieces, it adds up to 100, three meter bars! With very costly materials such as titanium, at approximately 100CHF per kg, the savings very soon add up.



there is an inevitable loss of material. Our aim is to minimise the impact of this whilst guaranteeing productivity and quality. It was during a discussion with Mr Kohler that he suggested the 1,6 mm thick Cut-Line inserts to us. We immediately tested and adopted it".

Undeniable advantages

The calculation above shows how important a thin insert can be, but this does not mean any weakness or loss of rigidity. Mr Chételat explains: "When we decided to test this new insert, we started our trials with the parameters that we had been using previously; the results showed us that the Cut-Line is highly rigid and allows a larger number of machining operations to be carried out with a single insert".





Mr Chételat adds: *"If you are looking for standard straightforward tools, the choice on the market is vast, but if you need products which require a particular kind of expertise, there is much less on offer".*

Pascal Kohler states: *"The service life and the quality of the machining operations carried out depend largely on the design of flange used to clamp the insert over a considerable distance".*



DÉCOVI IN BRIEF

Founded:	1947
Number of machines:	28: sliding headstocks, fixed headstocks, milling/turning centers and secondary operation machines
Usual diameters:	from 2-3 to 65 mm
Type of workpieces:	technological workpieces that set new challenges every day
Employees:	40, including 5 apprentices
Areas of activity:	watchmaking industry, approximately 40% Medical/dental Aerospace/Aeronautical Micro-motors Equipment
Certifications:	ISO:9001, ISO:14001 and ISO:13485
Auxiliary equipment:	Latest generation measuring system

We will revisit Décovi and their technical skills in a later issue of decomagazine.

Presentation

Mr Chételat: "We manufacture workpieces from hexagonal bars (see photo), and the interrupted cut always tends to make the insert "jump out". The fixing system offered by Applitec allows us to avoid all these problems".

Cutting is not just for bar turning!

This highly rigid cutting insert obviously permits cutting, but it can also be used for shuttling with chamfers. "We have been completely satisfied when working with this insert. We feel that Applitec have used their skills to the benefit of the cutting industry in general, not just for bar turning". – Mr Chételat says.

Applitec is not generally known for creating this type of tool, but this is changing. Pascal Kohler tells us: "Above all, we are solution providers; our customers contact us because they always want to move forward, whether in terms of profitability, productivity or options. With the Cut-Line range, we are offering a series of inserts that will benefit them in all three areas".



Applitec Moutier SA
Chemin Nicolas-Junker 2
CH-2740 Moutier
Tel.: +41 (0)32 494 60 20
Fax: +41 (0)32 493 42 60
info@applitec-tools.com



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Daniel Schär
Product Manager, Mechanical Engineer Dipl. Ing. FH

Tool wear

Tool life [m]	Standard product Wear vb [mm]	Blaser Swisslube Wear vb [mm]
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10	0.25	0.15
15	0.30	0.20
20	0.35	0.25

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BETTER PERFORMANCE FOR THE MANUFACTURE OF PRECISION TURNED PARTS WITH MOTOREX ORTHO NF-X

UND SAS is a company with around 70 trained members of staff based close to Besançon, the French capital of microtechnics, which produces exceptionally efficient turned parts with diameters from 0.3 to 42 mm.

Their customer portfolio is very broad, covering everything from aeronautics to the manufacture of parts for spectacles and the medical engineering industry. The production experts at UND are extremely open to innovation, which has paved the way for the unique Motorex Ortho NF-X universal cutting oil. For several years, more than half of the 200 turning machines have been running using high-tech machining fluid from Motorex, which has greatly increased performance.



Dental-Medical technical parts from UND. From the left: Post and screw for dental implants in titanium 6 V, threaded anchors for dental implants in stainless steel 316 L and a forged drill in stainless steel 420F.

UND offers its customer a complete manufacturing process from prototypes to series production. The bar-turning company values this as the most direct way of reaching their set goal. For this reason, the production professionals from Franois-Besançon decided several years ago to test the high-tech Motorex Ortho NF-X cutting oil. Using certain materials (stainless steel and Cr-Ni), the aim was to eliminate the need for additional machining operations in each process, through the highest quality standards. In this way, extremely low R_a -values were able to be achieved with Ortho NF-X after turning at increased production speeds, making operations such as polishing redundant.

This saving was able to be passed directly on to the customer and ensured UND had a real competitive advantage!

Speciality parts for the dental sector

In addition to its many areas of production; UND is increasingly working with renowned medical industry suppliers. This includes the particular domains of implants and orthodontic parts. Economical production of these parts places the highest possible demands on the manufacturer in all processes. The precision parts displayed on the front cover vary



Skilled CNC programming takes place – the part shown was programmed for series production by Bui Manh-Hung in less than 2 days, yet another outstanding achievement.

greatly in terms of size, material and machining process. Amongst other issues, the aim when starting production of a new part is to avoid having to fill the most suitable machine with the correct cutting oil every time. The universal Ortho NF-X provides the ideal solution for these specifications.

Searching for even better performance

Always looking for ways to improve, Bui Manh-Hung, a Tornos Deco 13a machine operator, started carrying

out some tests with the cutting oil in Switzerland. The turning machine specialist wanted to put the Motorex Vmax-Technology's capacity for enhancing feeds, speeds and extending tool service into practice. In different production runs and under strict supervision, parts that are already established are used to gradually enhance the machining parameters. Improvements in performance of up to 60% and a marked increase in tool service life were achieved in all operations, such as turning, milling, boring and sectioning.

Posts for dental implants in titanium

To produce a dental prosthesis anchor post from titanium TA6V on a Tornos Deco 13, Bui Manh-Hung achieved outstanding results at just under 3,000 rpm, instead of at the specified 1,800 rpm. The part is made from a 9 mm bar diameter.

So, UND can produce this part not only much quicker, but also with around a 90% increase in tool life. With the standard cutting oil previously used, the tool was worn after 50 parts and the finish was poor. Now, almost 100 parts can be manufactured with the specified finish of R_a 0.8.

Finishing operations and tempering processes

An increasing number of customers want their parts to receive a surface treatment after the conventional machining process. Here, UND comes into its own by carrying out operations on request such as sanding, deburring, abrasive/electrochemical polishing,

"I LOVE COMPLEX PARTS!"

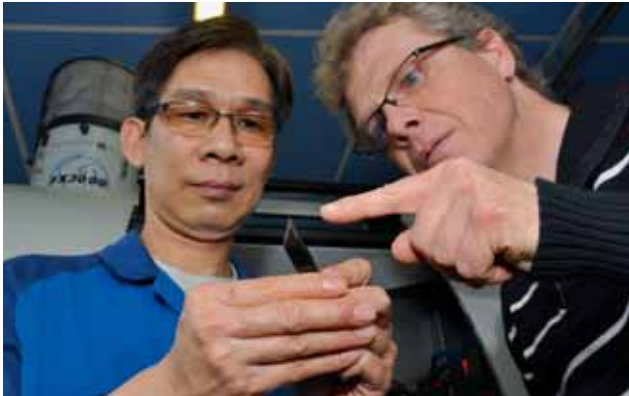
"With Motorex Ortho, I can carry out highly-efficient machining operations on anything from stainless steel to non-ferrous metal with the same cutting oil, which has lowered our logistics costs and increased our production output."

Bui Manh-Hung

Tornos Deco 13a machine operator

The Vietnamese-born operator has been working for UND for over 20 years and is a master of his craft. He is keen on getting the highest performance and has a reputation in the company as the "Discoverer of Motorex Ortho NF-X".





After the test run with Ortho NF-X, the staff at UND and a specialist from Motorex AG appraised the condition of the tool blade. The difference was immediately noticeable.



It is now reality for production to be faster, more precise and more cost-effective than ever before. Thanks in part to the Ortho NF-X success factor; this complex fluid technology took several decades to reach the advanced development status it has now achieved.

degreasing and annealing in a special workshop. This adds a further added value step to the production process. Parts manufactured by UND can be accurately checked using modern control methods up to 1µ. The company is compliant with certifications such as ISO:9001, ISO:14001, OHSAS 18001 and ISO:13485.

Openness to innovation increases the competitive edge

It is a well known maxim that progress does not appear out of thin air - it also calls for entrepreneurs willing to embrace change and the right technology to come together at just the right moment. With the changeover to Motorex Ortho NF-X on all CNC machining centres, UND has really seen a return on their investment in terms of the potential for innovation. This improvement will be translated into Euros and cents per manufactured part and will contribute to achieving competitive levels of performance.



For more than 30 years, UND has maintained its position in the French bar-turning industry. Around 70% of production is for the home market with 30% for export.

We would be delighted to provide you with information about the current generation of Motorex Ortho cutting oils and the scope for optimisation within your area of application:

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After-sales service
Postfach
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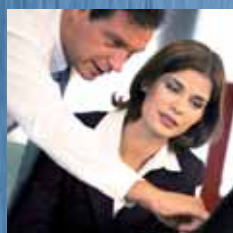
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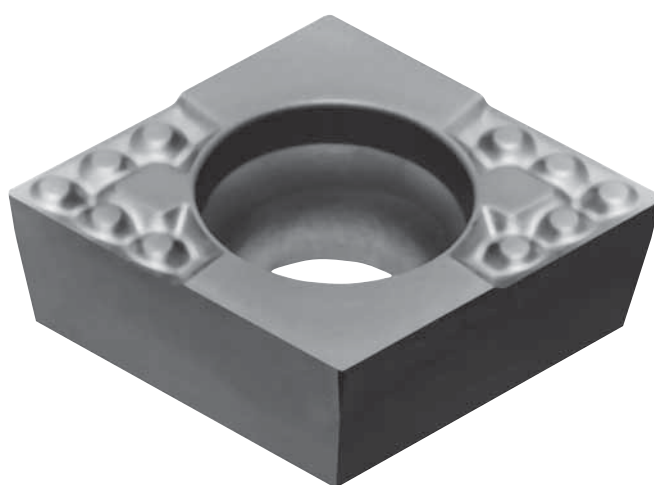
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BIMU SA IS EXPANDING ITS OFFERING ON THE SWISS MARKET THANKS TO ITS QUALITY PARTNERS

In its catalogue, Bimu offers a vast range of standard bar turning inserts and accessories for turning machines, all designed and developed in-house. However, certain customers have very specific requirements that cannot be met by this range. This is why Bimu has chosen to team up with various partners and become the Swiss representative for numerous companies with extremely successful and established products.



Iso-line, the new range of inserts from Bimu

For automatic turning machines or cutting tools, various products already have a proven track record in many countries yet remain little-known on the Swiss market. Convinced by the quality of these products, Bimu has chosen to expand its offering by representing the companies.

1. ISO inserts from NTK

Among the tooling demands, more and more customers require ISO inserts. To respond to this need, Bimu has approached one of the world leaders in this field - NTK Technical Ceramics - to add the ISO line of inserts to its catalogue.

Although NTK offers a huge range of tooling, the decision was made to concentrate solely on inserts designed for bar turning. This range includes CCGT, DCGT and VCGT inserts. Corresponding tool holders are also available. The geometries used are equipped with the latest-generation chip breaker that offers excellent chip management. The high-quality composition of the inserts is coupled with the QM3 coating to guarantee exceptional tool life.

These benefits make the ISO range the perfect solution for a multitude of applications, from rough machining of medical workpieces to finishing operations in the watchmaking sector, and all at a very attractive price.

ISO line

NTK
www.ngkntk.de

2. Müller Hydraulik pumps

Many areas of the bar turning sector are seeing a growing trend for new materials that can be difficult to machine. The use of a high-pressure coolant spray considerably improves production conditions. The high pressure not only helps to effectively break up the chip, but also ensures a much longer tool service life and improves the finish on the machined workpiece.



The Combi-loop CL2 high-pressure pump is a compact solution that can be adapted to meet specific requirements.

Bimu's partnership with German company Müller Hydraulik means it can offer its Swiss customers the option to purchase high-pressure equipment. Combi-loop pumps enable a pressure of 200 bar to be reached, making them ideal for milling and drilling operations and in particular deep drilling. The systems are equipped with innovative filtering technology that ensures optimal cleaning of the lubricant for internal spray tools.

An interesting feature of these pumps is their flexibility. Equipment can be customised according to the specific needs of each customer. Compact and portable, they can also be used on a variety of different machines.

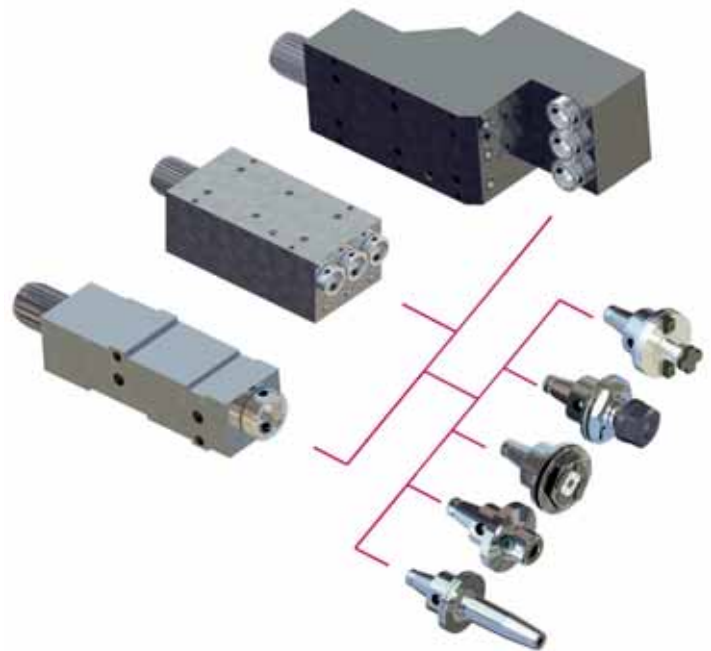


www.muellerhydraulik.de

3. W&F modular clamping system for single-spindle turning machines

The modular clamping system for single-spindle turning machines developed by W&F is available for Tornos, Star and Citizen turning machines. This universal system can be used on both fixed and rotary tool holders as well as on other machines such as CN machining and milling centres. This system is distinguished primarily by its excellent modularity. It is designed to offer a choice of clamping methods including Weldon, ER grippers and bracing. The innovative system is also highly economical, reducing the need to add additional monoblock devices to the machine.

Its design ensures concentricity and repeatability accurate down to 2 µm and removes play between the assembled components.



The WFB system developed by W&F is a flexible, completely modular solution accurate to 2 µm.

The system can be preset outside the machine, reducing downtime and increasing productivity.



www.wf-werkzeugtechnik.de

4. Rapid change system for Göltzenbodt multi-spindle turning machine

Working closely with machine-tool producers and tooling users, Göltzenbodt is continually perfecting its products and offering innovative solutions. Its customers come from a variety of sectors including precision bar turning, automotive, plumbing, medical technology and electronics.



Göltzenbodt products offer a solution to every tooling problem.

GWS tooling systems for multi-spindle turning machines are a great example of products developed as a result of dialogue with users. Accurate, with rapid changeover times and easy to use. The systems enable all presetting to be done from outside the machine, eliminating unproductive downtime and long, costly tool changes. GWS systems are robust, wear-resistant and dirt-proof to guarantee reliability.



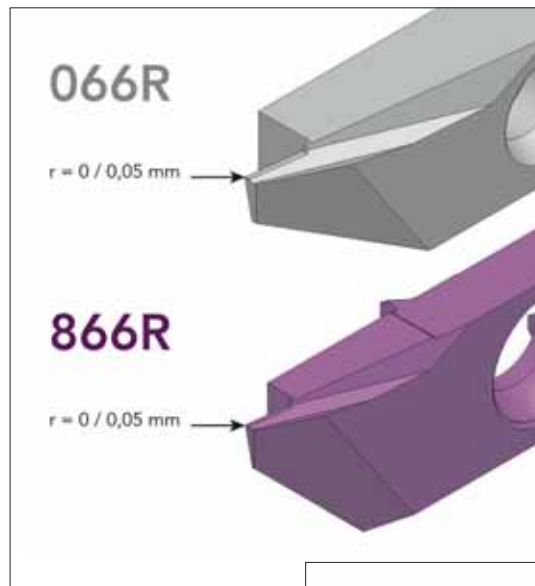
Thanks to their standardisation, GWS systems are available for practically all machine types, in particular for Tornos, Gildemeister, Index, Mori and Wickman machines.



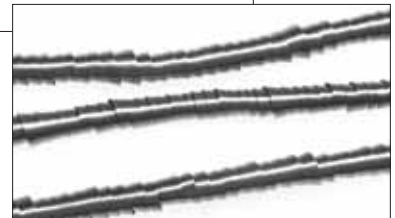
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5. Inserts with "W" chip roller

Alongside the products it represents, Bimu continues to produce its own tools. Two new products on offer are the 066R and 866R back turning inserts. These are distinguished by their "W" chip roller, which ensures improved chip management compared to "Parisian cut type" chip breakers. The minimum thickness of this geometry allows a large range of workpieces to be machined. This is ideal for watchmaking and medical applications.



The "W" chip roller for 066R (040-line) and 866R (800-line) inserts provides excellent chip management. This geometry is available with or without radius.



These inserts are available with a sharp angle or a 0.05 mm radius. They are part of Bimu's 040-line (tool holders with cross-sections from 8x8 mm) and 800-line (tool holders with cross-sections from 10x10 mm) ranges respectively. Customer experience has already shown that this geometry – combined with Bimu's new "ALL" coating – produces superb machining results. Please do not hesitate to contact us for more information or to test out these inserts.



Rue du Quai 10
CH-2710 Tavannes
t. +41 32 482 60 50
f. +41 32 482 60 59
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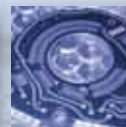


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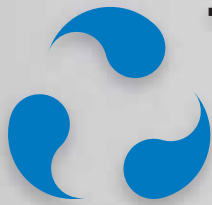
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TECHNICAL SYNERGIES

... de l'idée à la pièce usinée

... von der Idee zum gefertigten Teil

SIAMS

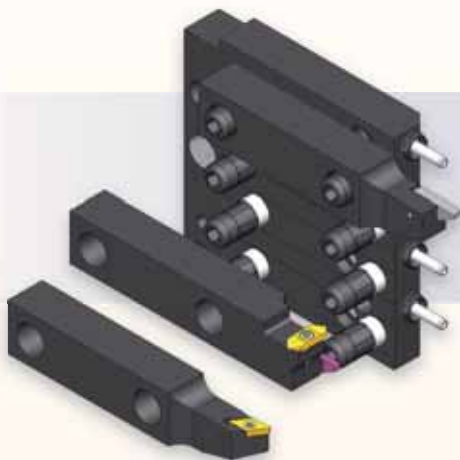
04-08 | 05 | 2010

Hall
Halle
Hall

1.2

Booth
Stand
Stand

C-16



Tecko

Modular tooling change system for automatic lathes
For Tornos, Star, Maier | New catalogue !

Modulares-Werkzeugsystem für Drehautomaten
Für Tornos, Star, Maier | Neuer Katalog !

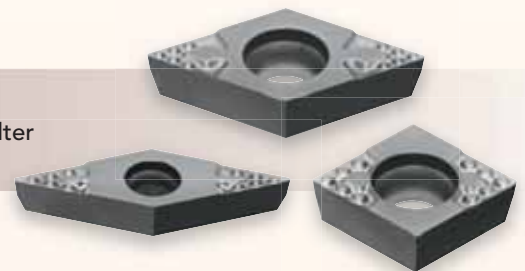
Système d'outils modulaire pour tours automatiques
Pour Tornos, Star, Maier | Nouveau catalogue !

ISO line

ISO inserts and tool-holders

ISO Wendepplatten und Werkzeughalter

Plaquettes et porte-outils ISO



Sline

Special adaptable inserts

Spezielle Wendepplatten auf Anfrage

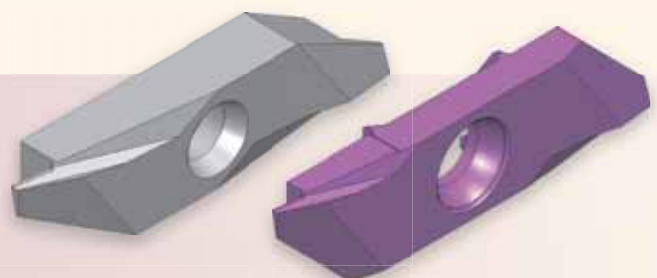
Plaquettes spéciales sur mesure

066 / 866

Back turning inserts with "W" chiproller
Excellent chip control !

Hinten Drehplatten mit "W" Spanroller
Sehr gute Spankontrolle !

Plaquettes de tournage arrière avec roule-copeau "W"
Très bonne maîtrise du copeau !



Bimu SA
cutting tools
& accessories

case postale 50
rue du Quai 10
CH-2710 Tavannes

e. info@bimu.ch
i. www.bimu.ch

t. +41 32 482 60 50
f. +41 32 482 60 59

APPLITEC SWISS TOOLING



Applitec Moutier SA
 ch. Nicolas-Junker 2
 CH-2740 Moutier - Switzerland
 Tel. +41 32 494 60 20 Fax +41 32 493 42 60
 info@applitec-tools.com www.applitec-tools.com

