

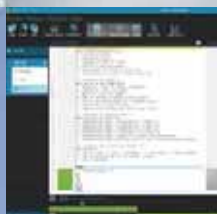
decomagazine

THINK PARTS THINK TORNOS

71 04/14 ENGLISH



Deco machines...
as good as new



TISIS 1.4,
new developments for
the end of the year



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simple, quick,
efficient



A hundred years
of success

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Manufacturing the smallest, most precise parts in the world and removing them from the machine

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The after-sales service is moving to a new site

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Applitec – New 2015-2017 catalogue

47



Tornos celebrates sales success at UK Open House

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In recent months, Tornos has been committed to promoting the development of the two automatic turning machines CT 20 and Swiss GT 26. These entry-level Tornos machines, which are produced in-house in Asia, were launched on the market this summer. They complement the high-end products produced in Switzerland. In Asia and at the IMTS trade show in Chicago (USA), interest in this area showed that these easy-to-use machines have caught the attention of users. At the AMB in Stuttgart (Germany) and the BIMU in Milan (Italy) they also met with great interest, as has been confirmed through the receipt of orders.

Have you already seen these new Tornos products?

In recent months, Tornos has also developed many new solutions for the well-established SwissNano, EvoDeco and MultiSwiss products, which promise even more success for your daily work.

We recently delivered the 100th MultiSwiss. In the past few months, this product has been supplied to a large number of customers world-wide and from entirely different market segments, i.e. also outside of automotive, micromechanical and medical technology.

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We would of course also be delighted to welcome you to our factory or to one of our in-house exhibitions either at home or abroad.

I hope you enjoy reading this comprehensive edition of decomag magazine. Perhaps you will soon tell our large and loyal readership a bit more about your expertise with an interesting article about yourself?

*Bruno Allemand
Head of Sales and Marketing*

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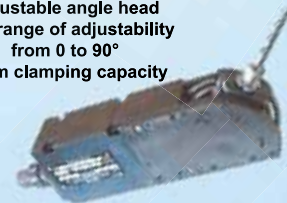


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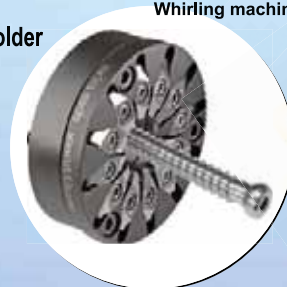


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DECO MACHINES... AS GOOD AS NEW

For several months, Tornos has been offering a complete overhaul service for its Deco machines. It's an interesting alternative for those who don't want to invest in a new machine. We met with Manfred Laubscher, technical director at the Laubscher company, which was the first customer to take advantage of this service.



After 15 years of intensive operation, overhauling repairs the damage that occurs over time, leaving Deco 10 machines looking like they have been imported directly from 1997.

Founded in 1846, Laubscher Präzision AG is now the largest independent bar turning company in Switzerland, with over 500 production machines. The company has 240 employees and produces over 2 million workpieces per day (not including secondary operation machines). With a machine inventory of this size, maintenance and overhauls are important. Every year, the company invests in new CNC production equipment, as well as overhauling a dozen cam-type machines.

"Prehistoric" Decos

Laubscher and Tornos have been working together almost since Tornos was formed (certainly for over 100 years!), and so, in 1996, it was the natural choice for Laubscher to purchase Deco machines

in 1996. Early on, it acquired 10 of the very first machines of this type. And while the machines have aged very well, having clocked up over 60,000 hours, the time eventually came to address the issue of their replacement.

More than just machines - a whole environment

"We took our time to really think about it, because the machine is only the tip of the iceberg; all of the equipment, tooling, presetting systems and even the training (in particular the programming) are additional factors, and if you replace a machine, you are starting from scratch," explains the technical director. It's an important decision as it concerns the replacement of ten Deco 10 machines.

The original or nothing

The analyses carried out by Mr. Laubscher and his team led to a number of possible solutions: either purchase new machines or have the existing ones overhauled by Tornos, but not by a third party. When asked about this possibility, the manager explains: *"There are several companies that offer an overhaul service, and in the past we have had some bad experiences with the cam-type machines due to service providers using parts from non-guaranteed sources, which adversely affected the overhauls. From that point, we were very clear. In terms of overhauling the Decos, it would be the original or nothing."*

Expertise, original parts, comprehensive knowledge

The company contacted Tornos and Mr. Aebi, the service manager, to analyse these options. Tornos still does not offer complete overhauls as standard, and Laubscher is helping to clarify the methods and the offer. *"The advantage is that the Tornos technicians have perfect knowledge of the Deco machines, and we can quickly reach agreement, particularly in terms of not replacing the numerical control,"* reveals Mr. Laubscher. In fact, replacing the NC involves redesigning the machine, and doesn't make financial sense. According to



COMPLETE OVERHAULS

Tornos has been offering servicing and maintenance to its customers for a long time, but the complete overhaul service for Deco (all types) and MultiDeco machines has only been available since the start of this year. Mr. Aebi explains: *"We work in a transparent way. We put together an offer and, based on discussions with our customers, we incorporate certain actions, either compulsory or optional (e.g. replacement of motors). We undertake to replace whatever is necessary and offer a warranty. For customers who do not want to invest in a new machine, it's an interesting option."*

Full machine servicing generally also includes:

- Complete dismantling
- Cleaning
- Replacing the guides and ballscrews
- Replacing the wiring and electronic components depending on their condition
- Repainting the machine and its components
- Machine assembly and adjustment of geometries
- Restoring the machine to service with function and geometry testing

Mr. Laubscher, the control's calculation speed parameter is not all that important for Deco machines, and an "old control" is still valid. On the other hand, it is obviously very important that the NC spare parts continue to be available. The company contacted Fanuc, who agreed to supply the parts for several years. According to Mr. Aebi, they have guaranteed the supply until 2023. The order was finally placed for an overhaul of an initial test machine.

An overhaul with visible results

The machine is completely dismantled and all wear parts, ballscrews, slides, cables and motors are replaced; everything is cleaned and the casing is repainted. The SBF bar feeder also undergoes the same process. The collaboration between the two companies is intense, and has also led to the Deco 10 being equipped with cyclical central lubrication. Mr. Aebi explains: *"We wanted this system to be perfectly integrated and managed by the machine's numerical control."* A solution to this apparent incompatibility was found by Tornos engineers. Once the machine has been overhauled, completely repainted and labelled, a "new" machine is delivered to the customer. This was specifically requested by Mr. Laubscher: if the machine is going to be completely overhauled mechanically, why not go

the whole nine yards and have a complete service, including the appearance.

One-year warranty

"We wanted machines delivered as new and with a warranty on parts and any operations carried out," adds Mr. Laubscher. The first machine underwent a complete overhaul, including the replacement of all motors, and this operation took no more than 5 weeks, much to the surprise of the customer, who took speedy delivery of an "as new" machine. Once reinstalled at the customer's premises, the Deco 10 immediately resumed its normal production rate (24 hours a day, 6 days a week). After a few weeks of operation, Laubscher was satisfied with the work done and placed an order for the rest of its machine inventory to be overhauled.

Back after a year

After a year, the company had five of its Deco machines overhauled and was completely satisfied with the results. No after-sales operations were necessary following the overhauls. Five machines still require an overhaul, and the schedule for this depends largely on the possibility of interrupting production to shut down the machines for five weeks. On the subject of lead times, Mr. Aebi





explains: *"Each situation is specific, and depends on the type of overhaul. A complete overhaul including painting takes a good five to six weeks, but this obviously depends on the time of year, and on our technicians' workload."* The after-sales technicians are responsible for carrying out these operations.

Satisfied specialists

During the discussion on overhauling, Mr. Laubscher tells us: *"The machine's appearance is also very important. A nice, clean machine is a source of motivation and satisfaction for our employees."* Stepping into the Tauffelen workshop, the difference hits you immediately; the Deco machines overhauled in Moutier look like they've been directly imported from 1996-1997.

A valuable operation?

Depending on the overhaul level, restoring a Deco machine can cost from 80'000 CHF to over 100'000 CHF. Individual companies then use their own parameters to decide whether the benefit is worth the outlay. At Laubscher, the choice is clear: *"As I said earlier in our discussion, we carefully considered a range of options and, with hindsight, we're confident we made the right choice. We have 'as new' machines for a price that enables us to supply parts to our customers' satisfaction and at the right price for them."* The Laubscher case has been emulated, with Tornos overhauling a dozen machines and offering the service for Deco 10, Deco 13 and Deco 20 machines.



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The present



ROBOBAR SBF 326e: ENTRY-LEVEL BAR FEEDER

Hitherto, Tornos Delta and Gamma machines were fed by Tornos SBF 320 feeders. Capable of covering a diameter range from 3 to 20 mm, these feeders gave customers using these machines a quality loader offering an excellent price-performance ratio.



Since the release of the new Swiss ST 26 and Swiss GT 26 machines, SBF 320 feeders could no longer cover the range of diameters required by these new products, with a bar capacity of 25.4 mm. This is what gave rise to the Robobar SBF 326e feeder, and decomag wanted to find out more.

An ultra-versatile feeder

The Robobar SBF 326e feeder is certainly one of the most versatile in terms of the range of machines covered; it can actually be fitted on Swiss GT 26, Swiss ST 26 and CT 20 machines, and can efficiently cover the full diameter range of these machines.

A large industrial lathe machine, specifically a Swiss ST 26 model. The machine is primarily white with a prominent blue vertical stripe on the side. On this stripe, there is a white diamond-shaped logo containing a stylized cross, and the text "Swiss ST 26" is printed vertically. A control panel is mounted on the right side, featuring a large digital display showing numerical data and various control buttons. A safety light tower with red, yellow, and green lights is positioned on top of the machine. The base is black and includes several access panels and warning symbols.

Featuring an easy-to-use external control system, the feeder has a manual adjustment scope and an anti-vibration device on the rear of the spindle, capable of taking up to 26 bars 10 mm in diameter. The Robobar SBF 326e also provides good working autonomy, enabling users to complete a full 8 hours' production. The new Robobar SBF 326 is now available in 3 versions, 3 metres, 12 feet and 4 metres.



TECHNICAL CHARACTERISTICS OF THE SBF 326e

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MANUFACTURING THE SMALLEST, MOST PRECISE PARTS IN THE WORLD AND REMOVING THEM FROM THE MACHINE

How do you produce the smallest parts in the world without losing, marking or deforming them? How can these small parts be distinguished from the swarf created during machining? That is the daily challenge faced by the users of the SwissNano, and there are a wide number of solutions available, whether manual or using a vacuum system. Most people generally agree that the vacuum system is the best solution for removing parts, although it is also generally the most expensive to implement. This is now no longer the case, thanks to the new vacuum system developed by Tornos for SwissNano.



Two methods for removing parts

The new vacuum option is delivered with two supports: the first allows the ejection of parts in back operation mode, whilst the second allows parts to be picked up by the guide bush; the second support is fixed beneath the back spindle, and as it is mounted at three points it can be positioned very

precisely, and allows each part to be properly and efficiently collected.

Extremely simple to use

The vacuum system is very easy to control using the M function on the CNC.



Double buckets, double function

The new vacuum system is equipped with two buckets to recover the parts, positioned in the SwissNano's current housing where the parts exit. These buckets are moved manually. The buckets are made from a synthetic material and are designed to maintain a certain level of oil to soften the impact of the part as it arrives into the bucket, and are also equipped to receive parts using a sieve system with two different possible levels of filtration (60 microns or 250 microns). The material they are made from is resistant to benzene and solvents, so they can also be used for cleaning parts.

The SwissNano vacuum system will be available from January 2015, and can be retrofitted to machines that are already in service. For more information, please don't hesitate to contact your nearest Tornos representative.



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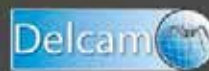
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The present

TISIS 1.4, NEW DEVELOPMENTS FOR THE END OF THE YEAR

The first immediately noticeable change is in the name of the product: from now on, the software suite will be called "TISIS" which stands for "Tornos ISO Swiss Integrated Solution".



But there is much more to discover in this latest issue of decomagazine – see the menu for the latest developments. For further information on TISIS and how it is being used by our customers, see the "TISIS success story" on page 21.

TISIS-Screen

The TISIS software suite features a new TISIS-Screen application for monitoring the machine inventory. This Windows application is an add-on supplied

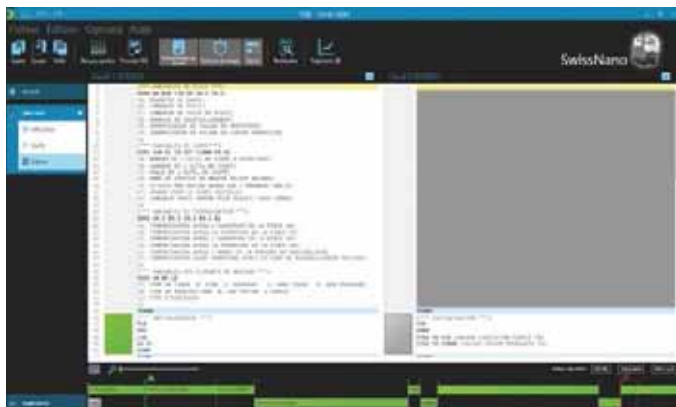
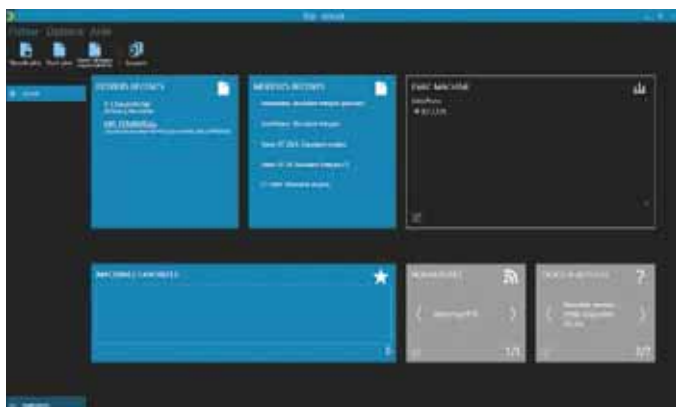
with the connectivity pack and also enables machine tool support catalogues or workpiece programs to be transferred or recovered.


Swiss GT 26 & CT 20

With the arrival of two new machines to the Tornos product range – the Swiss GT 26 & CT 20 – TISIS is the perfect addition for programming workpieces on these machines. Moreover, TISIS now offers program models in inches.



The present



The name of the operation is entered using the following keywords placed at the start of the line: (***) name of operation (***) or using the following function  available from the taskbar: (F12 key).

Workpiece time

One of the key new developments in TISIS version 1.4 is the calculation of the workpiece time. This value is actually calculated automatically when the workpiece is programmed. The following values are displayed: Workpiece time in seconds [s], Number of workpieces per minute [p/min] and Number of workpieces per hour [p/h].

Time diagram

In addition to automatically calculating the workpiece time, TISIS displays a time diagram based on the operations and the synchronisations between them. This is in the form of a Gantt chart, as this also enables the critical path to be displayed, giving a visual representation of the operations influencing workpiece time. The diagram is also refreshed automatically. It is also possible to display the time columns directly alongside the workpiece program.

TISIS WebStore

The design and features of the TISIS website have been updated: the new graphic design links to the official Tornos site. Its interface is now available in multiple languages (FR, DE, EN etc.) and customers have secure access to activate and manage their TISIS licences, or even subscribe to the newsletter (to stay up-to-date on the available upgrades and new developments, etc.).

If you have yet to purchase the TISIS software, it can be downloaded from the Tornos WebStore for a free 30-day trial here: <http://store.tornos.com>

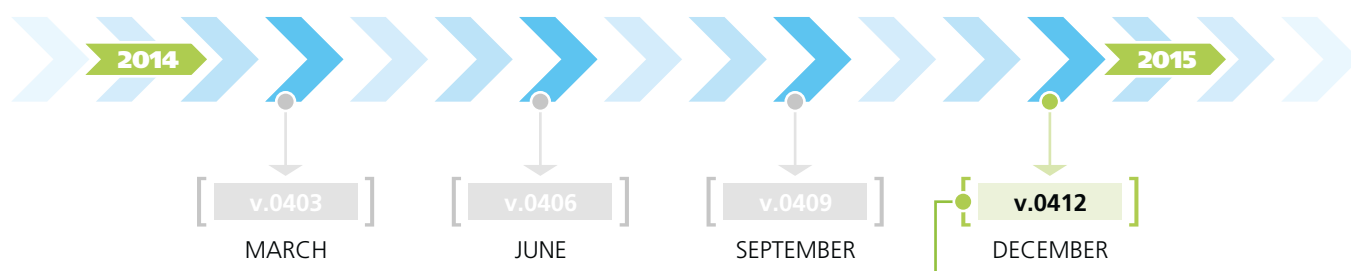


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MACHINE CONTROL SOFTWARE: CONTINUOUS DEVELOPMENT AND IMPROVEMENT

In December, Tornos unveiled the latest update to its machine control software for 2014: v.0412. This version includes fixes and improvements requested by customers. The new functions developed in 2014 have now all stabilised.

MACHINE CONTROL SOFTWARE RELEASE SCHEDULE



Tornos software version:

- Machine Control: 0412.00
- TB-Deco: 8.02.055
- TISIS: 1.4.3
- Connectivity kit: 1.4.1

New on version 0412.00:

- Micro-engineering option on the SwissNano.
- Back operation rotary axis on the SwissNano.
- New event management in the workpiece programme on EvoDeco machines.
- Fixes for various bugs.

New developments for 2015:

- Automatic axis lubrication on the SwissNano.
- Connectivity pack for EvoDeco machines
- Vacuum system management for the SwissNano
- Help page in TMI.
- New TMI item management.
- Improved production management for the SwissNano.
- And much more.

For the latest news, or to ask questions or make suggestions, contact us at www.tornos.com/softwarecontrol

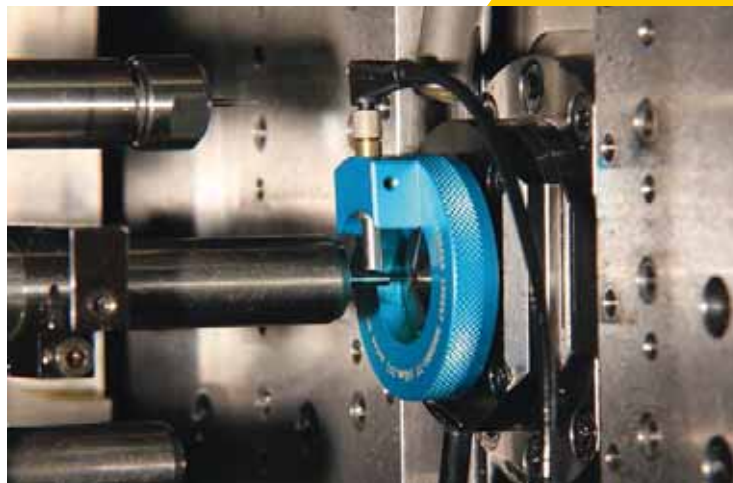


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A NEW ERA: SIMPLE, QUICK, EFFICIENT

For some time now you will have been seeing information about TISIS in Decomagazine. To find out more about the use of this software, we met up with an experienced user, Christophe Goullier, watch movement production manager at watchmakers Bandi SA (Courtételle, Switzerland).



Bandi is impressive both for its size, and for the quality of its workshops (see images). It is with almost 200 automatic turning machines that this specialist in high-end watchmaking parts continues to cement its place in the market. Today, a SwissNano is currently being used in production and Mr. Goullier is very satisfied with the TISIS system.

A system that avoids errors.

"We carry out a lot of cutting operations, so the SwissNano is very well equipped. With the TISIS system we are able to implement this equipment virtually and the programme immediately shows us the possibilities, for example, it's impossible to set up tool holders that incompatible with each other".



So, as the set up is accomplished virtually through TISIS before manually setting up the machine, isn't that wasting time?

... and within everyone's reach

The department manager continues: *"The machine can't be configured incorrectly, even a new operator will quickly and easily come to understand it. It really saves time setting up the equipment in this way"*. One the configuration is set up in TISIS, the programming is done in the traditional way in ISO. *"It uses ISO programming, but the system is packed with good ideas, particularly when it comes to syn-*

chronisations and the use of colours that allows the lines of programming to be managed more easily". The specialist also cites the simulator that allows parts of the programme to be carried out and the trajectories to be controlled.

Everything is documented and centralised

"Another highly interesting element is that the system allows us to add to add information of all types to the programme itself, including plans, photos or other textual information" Mr. Goullier adds. Once the programme has been transferred to the machine over the wifi network or by USB key,



adjustments can still be made; for example, the parts programmes can be saved with offsets. If the programme is re-used for a new setup, the operator will immediately have all the information and settings at their disposal.

An easy way to monitor production

What does our interviewee think of the real time display of machine information on a tablet or smart-phone? *"We've truly entered into a new era, TISIS allows us to quickly and simply view all the necessary information to properly plan production, which is a real plus for a production manager."*



The production manager particularly likes the simple TISIS interface.

Presentation



The programming of the SwissNano machine is greatly simplified through the use of TISIS, and according to Mr. Goullier, it's one of the machine's strong points.

Intuitive and rapid

When asked about how the programme handles, Mr. Goullier is full of praise: *"This programme is very instinctive and the aids are incredibly well designed. After just a few days you wouldn't be without it!"*

Anyone interested in trying out the programme can download a 30 day trial edition from the Tornos webstore. To find out more about the latest version of the software, read the article "TISIS 1.4, new developments for the end of the year" on page 17.



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THE AFTER-SALES SERVICE IS MOVING TO A NEW SITE

In order to better serve its customers, Tornos will soon be moving its after-sales service to a new site in Moutier, Switzerland. To find out more, we met with Matthias Damman, the new head of the Customer Services department, and Simon Aebi, the head of the spare parts and machine servicing department.



dm: Mr. Damman, you're the new Customer Services manager at Tornos. What are you hoping to achieve?

Matthias Damman: The Tornos service already performs very well; we have a highly motivated team that really responds to the needs of our customers. Of course, there is always scope for improvement, particularly in terms of our responsiveness. The high quality of our services are a key deciding factor for our customers. They will only purchase a machine backed by a good after-sales service, so we need to offer the very best; to reach this objective, we need to gradually lay down a framework, and that is what I will be concentrating on over the next few months. In the coming months, we will also be developing new services to help our customers remain competitive.

dm: So this relocation is part of a global plan aimed at improving the quality of your services?

MD: Yes, because we have really outgrown our current, scattered premises, our new site will provide us with greater storage capacity and a central location.

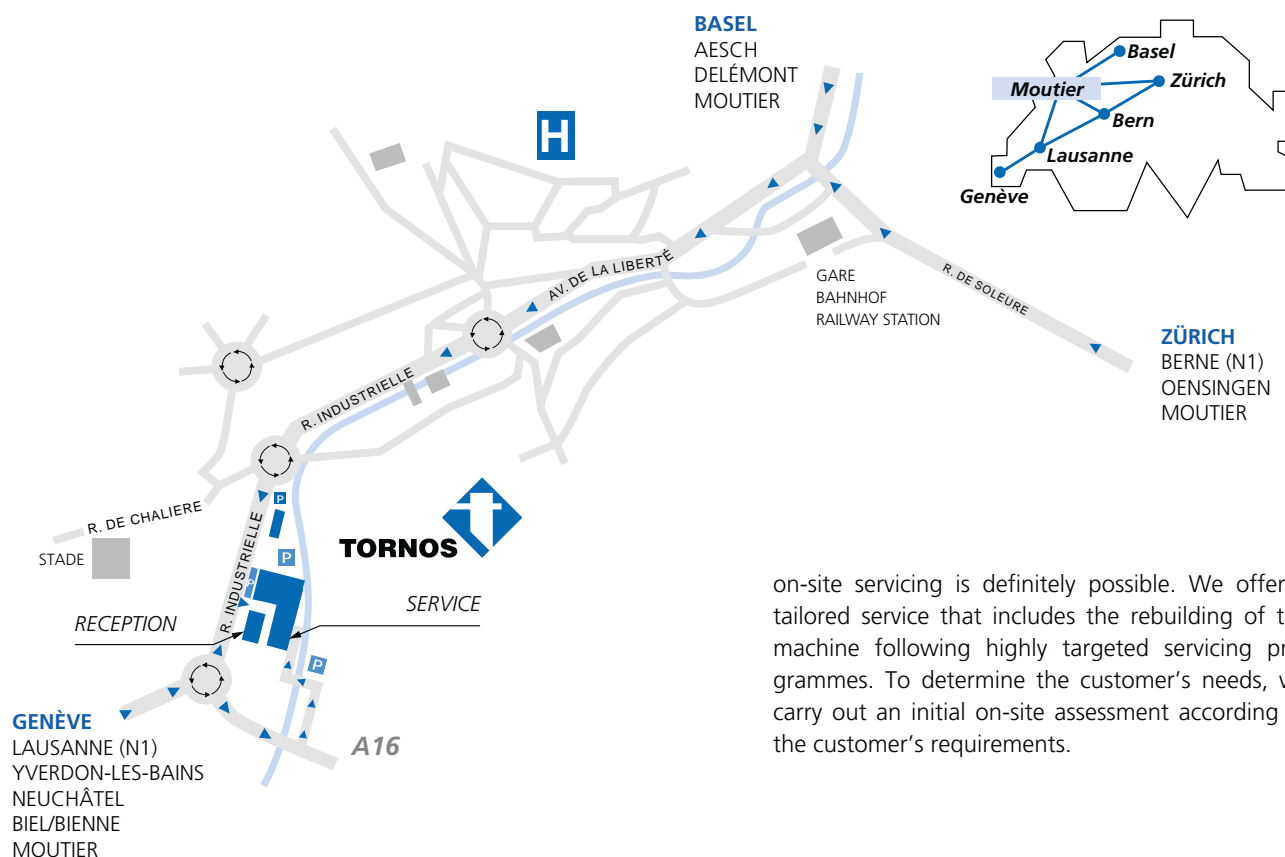
All our spare parts stock will be stored much more efficiently, which will allow us to optimise the flow. All our activities will be under a single roof!

dm: Exactly what advantages will this give customers?

MD: Our spare parts storage capacity will be increased, we have invested in new storage equipment that will allow us to be more responsive; our aim is to improve our delivery times and our response times to our customers, and these new buildings will be an essential part of meeting this challenge. Our online order system requires flawless responsiveness and organisation. In addition, the expansion of the machine servicing that we offer requires more space in order to meet demand. Customers that visit us will benefit from a better reception at our premises, and the pick up service for local customers will also be more efficient.

We will also be able to locate our machine servicing department in new buildings that are perfectly adapted for it, and this will allow us to service machines even more quickly and in larger quantities. Our stock of spare parts is larger, closer and better organised, so it's a clear advantage for the customer

The present



on-site servicing is definitely possible. We offer a tailored service that includes the rebuilding of the machine following highly targeted servicing programmes. To determine the customer's needs, we carry out an initial on-site assessment according to the customer's requirements.

dm: You talked about your new online spare parts order system, something we've previously covered in Decomag, how has it been received by customers?

MD: Very positively! It's a real success now the majority of our customers are using it and have said they are very satisfied, they can immediately find out if their parts are in stock, their price and how long it will take to be delivered. In addition, they also benefit from special trade conditions. I would also like to invite anyone who isn't using it yet to sign up right now using the online form at <http://catalogue-spr.tornos.com>.

dm: Could you tell us more about the machine servicing you offer, as this will be an integral part of your new location?

Simon Aebi: Of course. We already began offering this service last year, with a capacity of around 12 machines per year, although we soon realised that this would be insufficient to meet demand, particularly for the Deco 10 machines. The first customers have been very pleased, as you can see on page 7 of this magazine. Alongside the reorganisation of our stock, we have decided to place more emphasis on this service at our new location. We are now able to service several machines at once on work stations that boast all the necessary equipment.

dm: So the customer needs to move their machine to Moutier to have it serviced?

SA: No, we also offer this service through our subsidiaries, and depending on the amount of work,

The new address of the Tornos service from 05.01.2015 is as follows:



TORNOS
Tornos SA
Service Dept.
Rue Industrielle 119
CH-2740 Moutier

Machine hotline
SwissType machines
T +41 32 494 43 45
F +41 32 494 49 14
savmono@tornos.com

Multispindle machines, latin countries, incl. CH
T +41 32 494 42 49
F +41 32 494 49 14
servicemulti@tornos.com

Multispindle machines, non latin countries
T +41 32 494 42 49
F +41 32 494 49 14
germiquet.p@tornos.com

Spare parts
T +41 32 494 43 38
F +41 32 494 49 01
spr@tornos.com





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

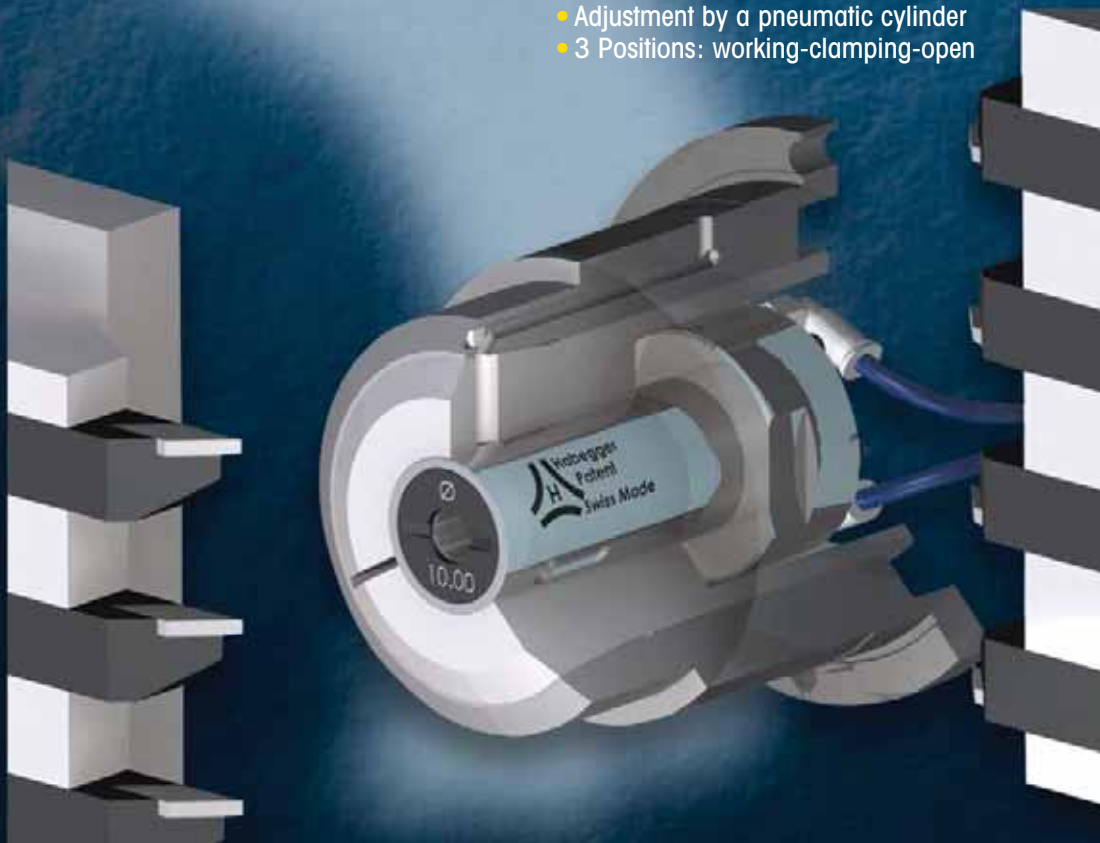


Type / Typ C

- 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



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CONNECTICUT SHOP BECOMES PROUD OWNER
OF THE FIRST TWO SWISSNANOS IN THE US

PETRON AUTOMATION – READY FOR THE US MANUFACTURING RENAISSANCE

Decomagazine recently caught up with Petron Automation, Inc. a successful and growing Swiss-type and CNC machine shop located on the United States' East Coast. Participating in the discussion were two father and son teams and two other members of the Petron Automation "family": Mike Petro Sr., President; Mike Petro Jr., Operations Manager; Gary Boehringer, Applications Engineer; Jesse Boehringer, Swiss Department Supervisor; Joe Guerrero, Plant Manager; and Luis Santolamazza, VP Sales & Marketing.



Petron's CNC Manager and Plant Manager fixing a 7-degree angle block in one of the new SwissNanos to manufacture a custom part for the Medical and Electronics industries.

19 new machines

Last November, Petron Automation, Inc. held a ribbon cutting ceremony marking its facility expansion at 65 Mountain View Drive in Watertown, CT, USA. Tornos CEO, Michael Hauser, was there to witness the event. The company, established 34 years ago, added 9,000 square feet to make room for 19 new machines – more than doubling the company's capacity in 17,000 square feet total. Petron already

owns 11 high precision Tornos machines which have been working hard for them for years – those machines will stay in their original space. The new space, which was built on a "Going Green" initiative, will be dedicated 100% to new technology. *"The addition wasn't built to move existing machinery,"* Explains Mike Petro Jr., Operations Manager for Petron. *"It's a state-of-the-art addition and it*



Quality Control engineers using a digital micrometer to check tight tolerances for a part made in one of the SwissNanos.



Quality Control engineers using a Profilometer to check ID finish for a part made in one of the EvoDeco 32.

will be occupied strictly by the new, state-of-the-art Tornos machines. We're making a real effort to go green with high efficiency LED lighting and centralized air filtration system. Our electrical is all underground."

Odorless – the smell of success!

"In anticipation of moving deeper into medical and electronics, we think the green initiative will be important," Mike Jr. continues. When visitors see the new space, Joe Guerrero, Petron Plant Manager, says, "They're awe-struck. We had a steel supplier come in yesterday and they couldn't believe how clean the facility was. They said it didn't smell like any other shop they'd been in. It was very clean from top to bottom, front to back."

19 state-of-the-art, new Tornos machines

This year, Petron Automation has taken delivery of three of the planned 19 state-of-the-art, new Tornos machines which will occupy the new space. They purchased the first two SwissNanos to hit North America, plus an EvoDeco 32. Like a well-oiled machine (or a close-knit family), the team at Petron Automation, explains their growth plans by finishing each other's sentences. *"We are very strong within the medical, aerospace, firearms, electronics, connectors, fittings, and tooling industries,"* explains Mike Jr. *"These new machines will help us expand our operations and sales further into electronics, connectors... and micro parts, which we see as having huge growth potential,"* Luis Santolamazza, VP Sales & Marketing continues. *"We felt it was the right time to invest in nanotechnology,"* Mike Petro Sr., President, adds. *"We've got an awful lot of interest in it already. We're waiting for some tooling... before you know it, we're going to have a line of SwissNanos."* Says Jesse Boehringer, Swiss Department Supervisor, laughing, *"All the colors... like a big rainbow!"*

Awesome colors

Petron's first and second SwissNanos are actually the most mainstream of the colors offered by Tornos: Black. But that wasn't Petron's choice – it was just the color they could get fastest. *"They look great out there,"* says Gary Boehringer, Applications Engineer. *"As a former art teacher, I think the colors are awesome,"* Gary continues. *"Color helps the mood of the company!"* The team at Petron thinks the SwissNano color palette could have important productivity benefits as well – making their future expanding line up of SwissNanos easier to differentiate. *"It makes it simple for anybody in the shop to*

know where they're going and which machine is which," explains Gary. "We can say: 'Put it on the purple one!'"

Big Steps. Small Machines

But they didn't buy the SwissNanos for the color. They bought them for the precision and 4 mm diameter capability. They bought them to grow their business into the micro parts sector. Explains Gary: "One of the SwissNanos will be running an ordnance part with critical tolerances. Another will be running a high precision stainless steel part for a customer in France. The future looks bright for the Nano." "Getting the first two SwissNanos in the country, shows our President's commitment for the latest technology," says Luis. "That has always been part of the strategy here and having these new machines supports the point that we invest very regularly in the newest technology (we turn over our machines every 5 years). It's important to mention that these first two SwissNanos in the country were proven reliable making precision parts for the watch industry in Switzerland... and the purchase of these machines shows that we are trying to step ahead of technology."

Very easy to learn

"So far I enjoy the ease of use of the machine," explains Jesse. "It's a lot simpler than a standard ISO machine. The TMI Tornos Machine Interface is definitely a good point between an ISO machine and the full EVO interface. It's significantly different but everything is organized so it's very easy to learn." Joe adds: "As far as installing them, they don't take up much room out there on the floor. Originally we laid the drop down for the Deco 13/Deco 16 size machine; so we're actually going to be saving ourselves a lot of space." "The SwissNanos have great ergonomics," says Gary. "They are accessible from all sides. I could see setup times going down because of that. And I've noticed the ejection looks very efficient. I believe that that will be an advantage."

New business with SwissNanos

So, where does Petron expect new business to grow first with their SwissNanos?

"I think they have great potential in attracting customers in the dental industry," Gary offers. "And for small turbines, it looks proficient. I think there's great potential in that area. Micro machining is becoming more and more popular. And the



One of Petron's 4 Quality Control engineers using a Laser Vision System to check a part's dimensions from a part made in the EvoDeco 32.

SwissNanos will give us the capability to do much, much smaller work and hold extremely tight tolerances. We've got the right guys here to run the machines, program them, and set them up."

Big brother EvoDeco 32 runs lights out

The SwissNano's big brother, the Tornos EvoDeco 32, on the other hand, was purchased for its ability to run larger diameter precision parts around the clock. The Petron group estimates that 75% of the parts they manufacture are cut during the 12 hours (average) that the machines are minimally manned. "We have someone come out for an hour or two to make sure there are no issues," Jesse explains. "They might change tools, load some bars, and that's about it. So we're saving a lot of time and money by not running full crews." "The ability to run around the clock with these machines has allowed us to be competitive," adds Mike Jr. "It's opened up a lot more high volume work. These machines run so well that you don't need to have a crew during the night to watch them." "We pass that savings on to the customer and it's a win-win for both of us," adds Mike Sr.

Big improvements

"I can't wait to turn in the PTOs to get a couple more EvoDeco 32s," says Joe. "It's a big improvement over previous models – more solid, quieter, vibration-free. And of course, bright, which makes it easier to work on. The LED strip inside the machine is nice. We're very pro LED." "I'd like to emphasize

the quietness of the main spindles," Jesse adds. "That's a big improvement too. It was jaw-dropping how much of a difference it made. Plus they look cool. With the bigger window in the front, you can really see everything inside the machine now. And the EvoDeco 32 has a significantly improved door. It's a lot easier to get in there; so we're probably able to shave a couple minutes off setup now. These are little things but they make it more comfortable. You know once you work on these machines for a long time those little ergonomic changes really do matter."

Standard complicated part

Right now, the EvoDeco 32 is running one of Petron's standard parts. But "standard" for Petron does not mean "simple". *"It's a very complicated part,"* Mike Jr. explains. *"The QC record includes 60 different checks. It's 2" long and includes a lot of deep hole drilling, angled milling, reaming, burnishing. It's a simple part for us, but it's not a simple part."* And Petron is dropping these parts complete with no secondary operations needed thanks to their highly capable Tornos equipment and their in-house expertise. Jesse and Gary were charged with eliminating secondary operations on the part back when it was still being cut on the older Tornos equipment. *"For years and years we did secondaries on it,"* explains Mike Jr. *"Then Jesse and Gary got their heads together and 'voila!'...they dropped it complete. They saved us a lot of time and money in not doing those secondaries and quality greatly improved too."*



Petron's CNC Manager and one of the CNC Operators analyzing dimensions of a part for the firearms industry made in the new EvoDeco 32.

Working together, side by side, ready to take on the future

Father and son dynamic duos are only part of the picture at Petron. The team has grown and thrived thanks to one-time "outsiders" too. The group explains their hiring formula, in Petron's unified voice that unfolds as a threaded discussion. *"As a supervisor,"* begins Jesse. *"I can say that we really have a talented group of guys. And one thing that Petron likes to do is to take guys who have never been in the industry before and train them up."* Gary adds: *"What we're looking for are employees that are capable and motivated."* *"Whether they knock on the door, or it's a friend of a friend,"* Mike Jr. continues, *"if they want to work and they have the willingness to learn, we can train anybody. Basically anyone who is motivated and wants to work... we can train them."* Mike Sr. adds: *"Don't get us wrong. We don't take 100%. For every person that comes in here you have 5 or 6 that have no interest and aren't qualified."* Gary finishes, laughing: *"What Mike is saying is that we kiss a lot of frogs before we get a prince!"* Then he gets serious again, *"But at the same time, I believe if you set up the right environment, then you attract the right kind of people. And I believe Petron has that environment."*

Complex parts few other shops would touch

"You can have all the machinery in the world... but if you don't have the support staff, it's useless. So you've got to have a combination," explains Gary. *"We've gotten to the point where we're taking parts that other companies avoid. Other companies print the part and throw it in the garbage. Those are the jobs we're quoting and we're running."* According to Luis, Petron is known for being reliable both for excellent and consistent quality, and also for timely delivery of intricate parts from brass, steel, bronze, aluminum, and titanium, among other materials, for everything from aircraft to medical devices. *"Word of mouth" has been their main reason for growth over the years. They have the technical capabilities and resources to manufacture primary and secondary operation parts (often helping customers' engineers optimize manufacturing processes – as their slogan says "from prototype to production").* *"We do have some very complex parts that require maximum operator attention,"* adds Mike Sr. *"One example is a military part... an aerospace helicopter. It's a difficult material."* Jesse continues, *"It has two thread whirling operations. It's a part that a lot of shops won't touch. It's also what they call a strategic metal... it's controlled by the US government. "Usually we get them in lots of 100 and 50. But it's*

a continuous thing where there's a family of parts... It might add up to 2500 pieces a year; but that's going to take all year to run. That part is actually being done on our 13 mm machine. The 13 mm Tornos is probably running our most complex part in the facility." And now the SwissNanos will be running the smallest parts in the facility.

When Petron took delivery of their SwissNanos, it was clear to them that they were going to need new equipment to measure the parts that would come off those machines. As good as their old QC equipment was at measuring the helicoil parts, the new QC equipment needed to be better.

The "Tornos" of vision systems

Mike Jr. begins, "We needed the best equipment to check the SwissNano parts... we needed state-of-the-art QC." Luis continues, "As part of this growth with the new building and new machinery, we have invested in and strengthened our quality control department to make sure that the parts coming off our machines are to our customers' expectations or better. Our QC department has its own area now which is enclosed, temperature controlled, and state-of-the-art, including our Nikon vision system." "The new QC equipment will probably do the work of a couple inspectors (and more accurately) in 1 hour where it would normally take inspectors 5 hours," says Gary. "And the Nikon is always right. We don't have to write down the results... just print them out or export into an Excel spreadsheet or whatever the QC documentation requires." "I could be wrong," says Mike Sr., "but I think we've had zero rejects since they've been here. Am I right?" The others in the room agree. He's right.

Big plans for the future

It's clear that the Petron team has big plans for the future. They are growing methodically and confidently. "Petron is on the forefront of the Renaissance in American Manufacturing," summarizes Jesse. "The American consumer is slowly getting back to the idea of American made. And manufacturers care a lot more about their branding these days; especially with the use of social media and general public opinion about outsourcing overseas. I think there's going to be a lot of work coming back here to us."

And Petron Automation will be ready to make ultra-precise parts, large and small, of superior quality. The green initiative, coupled with an expanding line up of colorful SwissNanos, an EvoDeco 32, eleven other workhorse Tornos machines, and a united



November 25, 2013, Petron Automation, Inc. held a ribbon cutting ceremony marking its expansion to its facility at 65 Mountain View Drive, Watertown. The company added 9,000 square feet to make room for 19 new machines. The new facility triples the company's capacity and potentially adds five jobs next year and another 10 in the next 2-3 years. Left to right, Waterbury Regional Chamber Manufacturers Council Chair Rich DuPont, Vice President Pat Petro, President Mike Petro, Sr., Town of Watertown Economic Development Coordinator Joseph Seacrist, Manufacturing Engineer Chris Petro, Vice President of Sales Mike Petro, Jr., Waterbury Regional Chamber President & CEO Lynn Ward and Tornos CEO Michael Hauser.

family of motivated and highly capable machinists and support staff, is sure to help this American company see green (money) for years to come!



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OPERA PERFETTA

Swiss company TS Décolletage SA has its headquarters in Bedano in the canton of Ticino and specialises in special turned parts (TS = Torniture Speciali). It is an SME that has carved itself out a reputation for excellence. Making the absolutely impossible possible is the motto by which the two company owners, Cifà and Pedretti, run their business. And the only way this is possible is in partnership with companies who really deliver, such as Tornos and Motorex. Once again, the kind of machining fluid used is crucial to production results, as the success story with Ortho NF-X 15 goes to show.



TS Décolletage SA is ISO 9001-2000 certified and has been run by its owners ever since it was founded. The company boasts all the latest equipment and stops at nothing to offer its exacting customers just that little bit extra.

Specialist bar-turning companies are relatively thin on the ground in Ticino, despite the presence in Switzerland's southernmost canton of a number of production facilities belonging to manufacturers of international renown representing a wide range of technology sectors. TS Décolletage SA has therefore been able to establish working relationships with well-known customers from the medical and dental industries, the electronics industry and the aerospace industry, as well as other industries such as the micromotor-construction industry. TS Décolletage SA was founded in 1996 by its two owners, Silvano Cifà and Eric Pedretti, with the aim of producing high-quality parts turned on automatic lathes. Right from the outset, they chose to

use CNC machines from Tornos in the production of these parts. This allows them to machine bars with a diameter of 2 to 32 mm and a length of up to 200 mm. The company currently employs nine workers who apply their skills and expertise on 13 machining centres of widely differing generations (Tornos Deco 10, 13, 26 and a few ENCs) to meet the customers' requirements. Often, they must work to short deadlines over three shifts.

CNC has opened up whole new dimensions

The decision to work with CNC machines from the very beginning was made in line with TS Décolletage's mission to produce complex parts

machined using various processes in small to medium production runs. *"At the time – which was almost 30 years ago – this was a fairly innovative philosophy for a start-up company. To this day, we haven't had cause to regret our decision and it is without a doubt one of the reasons behind the continuous, long-term growth of the company,"* explains Eric Pedretti. Programming and developing holistic production solutions are and have always been a top priority at TS Décolletage SA. The specially designed CAM software is particularly useful when it comes to programming workpieces so complex that they verge on the impossible. As extreme flexibility is one of the company's core principles, on occasion, it may be necessary to stop a machine during a relatively large production run and set it up again. However, this is a very rare occurrence as there are always a sufficient number of other production options. Machines are started up on average once or twice a day, although this may happen more often depending on deadlines and the scope of the production runs.

Precisely controlled, full air conditioning

With the acquisition of the new fully air-conditioned premises in 2007 and the investment in a new generation of machinery, the company has been systematically buying into the latest technology. As a result of this, incredibly sophisticated and complex applications are implemented from beginning to end in Bedano. Along with superfinish grinding techniques and complex internal machining operations on a wide variety of materials (titanium, stainless steel, CrNi, non-ferrous heavy metals and noble metals), the kind of machining fluid that is used also has a significant influence on production success. What finally made the entire company switch over to the universal high-performance cutting oil Ortho NF-X by Motorex was a 200 mm deep-drilled hole in a part intended for use in the medical industry which was made from 1.4472 stainless steel with a high base hardness. It had been unable to achieve satisfactory results in terms of dimensional accuracy and part machining times with the cutting oil that it had been using until that point. Since machine manufacturer Tornos uses Motorex machining and



Testing on a 200 mm deep-drilled hole drew the attention of TS Décolletage SA's managers to the beneficial properties of Motorex Ortho NF-X. Today, the entire production facility uses this oil.



The quality checks are a time-consuming but very important step on the way to a perfect end result. TS Décolletage in Bedano (Switzerland) uses testing procedures tailored to the specific requirements of its various different customers.



Motorex Ortho NF-X is ideally suited to all of the machining centres used by TS Décolletage SA. The collaboration between Tornos and Motorex has brought about an additional, invaluable benefit for the user.



Because Ortho NF-X does not contain any of the problematic substances, and due to its low misting tendency, a very high working environment quality can be achieved.



The premises, which are air conditioned to precisely 23° C and are optimally ventilated, provide a particularly pleasant working environment, and under the same, constant climatic conditions, the complicated machining processes are always guaranteed to be reproducible.

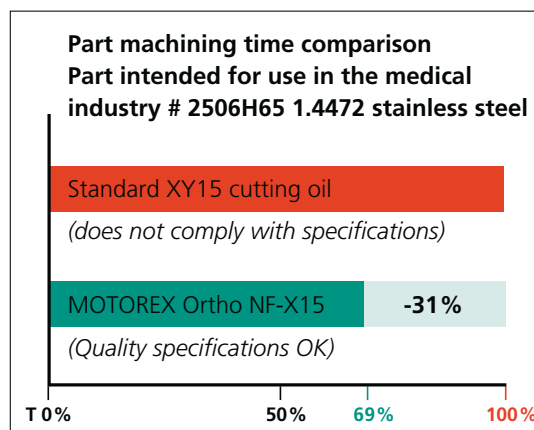
operating fluids in the development and commissioning of its machines, it has first-hand experience with this suitable Motorex product and solved the problem admirably.

“Perfetto” with Motorex Ortho NF-X

After their experiences with products from other lubricant suppliers, the value of using the optimal machining fluid really hit home with the company's owners. At first glance, one type of cutting oil may appear to be very much the same as another, but it is when they are used for demanding applications that the differences really start to show in terms of the dimensional accuracy, finish (average peak-to-valley height), tool life and part-machining time that can be achieved. It was at this point that the universal high-performance cutting oil Ortho NF-X from Motorex revealed its intrinsic qualities, demonstrating a significant reduction in the time it took to machine the part intended for use in the medical industry mentioned above – an unbelievable 31% when put to the test! It goes without saying that this feat was achieved whilst still complying with the strict tolerances and required finish. With Swissscut Ortho NF-X machining fluid, which is free from chlorine and heavy metals, Motorex has, using this very same cutting oil, succeeded in perfectly machining high-alloy steel grades or implant steels, as well as non-ferrous heavy metals and aluminium. This is an



Depending on the materials and processes, the machines are cleaned after precisely defined intervals; as part of this process, the cutting oil is very finely filtered and topped up. This takes place individually, as there is no central supply system.



Presentation



Small but perfectly formed: Under the leadership of Silvano Cifà (back row, first from left) and Eric Pedretti (second from left), the motivated team in Bedano is able to turn out impressive results time and again.

absolute first in modern manufacturing technology, and ensures a maximum of latitude for the user. It allows the machining fluid to be used throughout the whole company without restrictions, for all machines and machining processes. This is also extremely beneficial from a logistical point of view, and means that it certainly pays off from a financial point of view.

Exclusive dental implant components

An exclusive partnership with a dental-implant manufacturer in Italy, along with its other regular customers, ensures that the company's production capacities are exploited at a good base level. TS Décolletage SA is tasked with designing and producing the entire project range for this customer, from the prototypes through to the specific tool for dental technicians and dentists. Titanium alloys and austenitic surgical steels are very often processed for this industry. Modern titanium alloys, in particular, are challenging materials to work with, and require a great deal of skill and expertise on the part of the metalworker. Tough demands are placed

on the cutting oil when processing titanium. During this process, extremely high temperatures generally occur at the tool's cutting edge, whereas the temperature tends to be significantly lower in the material. This is why the cutting oil has both a lubricating and, most importantly, a cooling function to perform at the cutting edge and also over the entire titanium workpiece, which is at risk of catching fire. In the past, certain chemical reactions were achieved by adding problematic substances such as chlorine. Motorex Swisscut Ortho NF-X is completely free of chlorine and heavy metals, which reduces the risks to workers' health and the environment.

Primary objective: Satisfied customers

Continuous process optimisation, rigorous quality checks using state-of-the-art measuring tools, coupled with collaboration with competent partners, provide the optimal conditions for achieving 100% customer satisfaction. No less important than these technological success factors are the human success factors: For the small, close-knit team, flexibility is not just a buzz word but a reality. Word travels fast, and not just in the Sottoceneri...



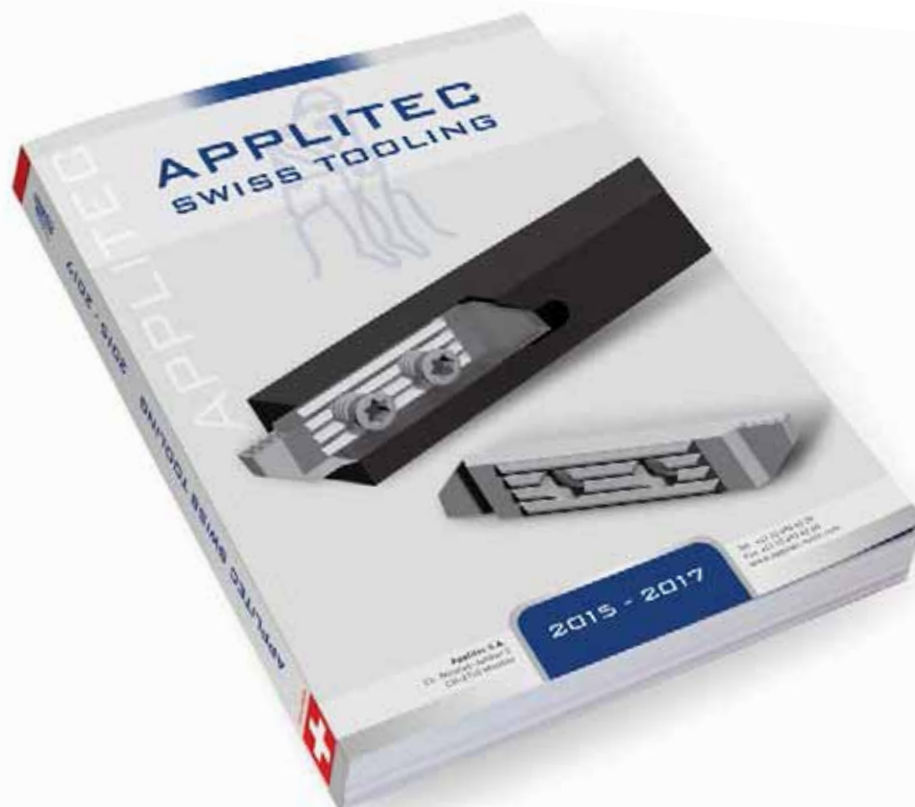
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APPLITEC – NEW 2015-2017 CATALOGUE

The new Applitec catalogue has been completely revised, both in the design and presentation of the items.
Interview with Patrick Hirschi, sales and marketing specialist.



The many new features offered by Applitec, a company at the cutting edge of technology, to its dealership network and customers are now given a perfect showcase by this new catalogue issued by this manufacturer of cutting tools for bar turning and micro-mechanics. All the stops have been pulled out to facilitate searches by users. *"The aim is for them to quickly find the item they are searching for,"* explains Mr. Hirschi by way of introduction.

decomagazine: We have browsed through the new catalogue, and were surprised not to see the new feature from Siams 2014. Did you leave out the IN-Line range deliberately?

Patrick Hirschi: Yes, we didn't want our new catalogue to take up more than 400 pages (laughs).

More seriously, our new IN-Line range (boring bars and supports) presented at SIAMS in May 2014 was

deliberately left out of our 2015-2017 edition. Firstly this is because we are at the start of an all-new programme, which will evolve very quickly by virtue of its success. Our R&D department is working on complementarities based on our customers' requests. Secondly, we still need to finalise the distribution on certain markets. The IN-Line range features over 2 pages at the very start of our new catalogue. A complete brochure of the current IN-Line program is available for download from our website.

dm: the cover design is very sober and similar to the old one. Did you not fancy changing it?

PH: If we have opted for a sober cover design similar to the previous edition for our catalogue 2015-2017, it is because the content is the main thing, contributing much more than "pretty fashion images". The design and page formatting of our



new catalogue is the result of close collaboration with a resource outside the company, specialising in typography. Our flagship product TOP-Line, No.1 on the market for more than 15 years, had to be on the cover page. The photo shows our 2-screw clamping system with 100% rigid offset teeth by Applitec.

The ZXT insert depicted is one of the reference inserts of the TOP-Line range. It is a two-way swarf-breaking insert, providing exceptional swarf control, with even the most elaborate materials. The back of the cover, with its bouquet of Applitec tools, rounds

off the "high performance" signature of the reference tools for bar turning, conveying the message that there are specific separate brochures for practically every product range.

dm: At the very start, on cover page 2, Applitec unveils for the first time in its general catalogue a view of one of the production workshops, as well as an overview of some of the stock containing thousands of ready-for-use items. Why start the new catalogue with photos, with the Applitec thinker in translucent form?

PH: First of all, the thinker is an integral part of the brand. I would say that it symbolises the conscientiousness, constant creativity and innovation of its staff. The 3 photos have the objective of sharing, above all with our distant customers, an aerial view of our main site in Moutier, an overview of the environment and cutting-edge technology of the production equipment used for manufacturing our tools, as well as a picture of the importance we place on packing and storing our items. More than 9700 types of items can be delivered from our stock.

dm: In total, 9 product ranges are presented in the new 2015-2017 catalogue. Can you tell us a bit more?

PH: Of course! First of all I have to remark that this catalogue has 3 more ranges than our old catalogue.





TOP-Watch – Chapter 1

This complements the TOP-Line range. The TOP-Watch programme is constantly evolving, and developing in collaboration with our customers, watchmaking manufactures and watchmaking subcontractors. The specific geometries and coatings of the TOP-Watch range enabling machining of very small parts ($D < 0.05 \text{ mm}$) made from the new materials used in watchmaking. TOP-Watch is a major range on the Swiss market.

AN INDISPENSABLE WORK TOOL

Mission accomplished for the marketing team, since the new catalogue has been on-line and downloadable since 20.10.2014 on the website www.applitec-tools.com, and is available for worldwide distribution from 10.11.2014.

Some figures about the new Applitec 2015-2017 catalogue, in comparison to the old edition:

- > 80% volume (pages)
- 384 pages
- 3 new chapters (No.1 TOP-Watch suite, No.3 -TRIO-Line and No. 8 MICRO-Line)
- > 1000 additional items

TRIO-Line – Chapter 2

The TRIO-Line range is a set of tool holders and 3-cut inserts, based on a Y teeth seat concept, which guarantees rigidity and positioning with one-screw clamping.

The TX geometry of TRIO-Line is a set of groove inserts for circlips, as per standards DIN6799 and DIN471.

MICRO-Line – Chapter 8

The dynamic range of hard metal tools with Alfatool cylindrical tails. A mirror polish finish, more precise straightness and concentricity than the standard mean that micro-mills, micro-drills, centring devices, engraving cutters and finishing end cutters mounted on MICRO-Line are particularly appreciated in very high-precision micro-milling. MICRO-Line has opened up the way for Applitec into the micro-mechanics sector.

There are several new items supplementing our other product ranges already familiar from our previous catalogues, a brief recap of which below:

ECO-Line – Chapter 3

The high-quality economic range from Applitec.

ISO-Line – Chapter 4

Complementing the Applitec tool holders and inserts, offering a host of cutting geometries and grades. All the items have had their references redesignated based on the standard.

The present



CUT-Line – Chapter 5

Excellence in precision sectioning. Tool holders with perfect seating, for optimum clamping of the insert, with solutions that can cut to diameters of 65 mm. This range has opened up for Applitec sectors of activity beyond bar turning.

MODU-Line – Chapter 6

Nine pages of our new catalogue are devoted to base supports and insert holders for Tornos machines. Four of which for SwissNano, and one for Swiss ST26.

TOOLING-Line – Chapter 7

A complementary set for MICRO-Line, including knurl holders and left and right-handed MD knurls, D 8.00 to 20.00 mm.

CIRCO-Line – Chapter 9

Extra-fine, fine, coarse and special teeth, for the Applitec hard metal circular milling cutters programme. From Ø 8 mm to Ø 160 mm, with front or rear-clamped mill holding chucks. CIRCO-Line is a productive and reliable reference for our customers.

dm: Mr. Hirschi, thank you for this comprehensive presentation. What would you say to decomagazine readers in conclusion?

PH: The new Applitec 2015-2017 catalogue and its separate brochures are essential information tools for our customers and dealers. They enable them to go further, and get more from their Tornos machines. If they are interested in our solutions and the paper catalogue, I would invite them to contact us at the address below, or via their usual dealer.



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TORNOS UNLOCKS PRODUCTIVITY BY RETROFITTING HPC SYSTEM

Over the last five years, Southco, a manufacturer of quick access fasteners has seen demand for its product range increase and evolve with more stainless steel products requested.



Three Tornos Deco at Southco.

For the Surrey manufacturer that has turned its parts on two Tornos Deco 20a and a Deco 26a machines for over ten years, the material change delivered poor swarf control, excessive machine downtime and the loss of full production on an unmanned nightshift – until the Tornos Engineers retrofitted a HPC system.

Stainless steel, titanium and aluminum alloys

As a production facility that produces over a 1000 variations of its fasteners for the aerospace, automotive, medical and rail sectors, Southco witnessed swarf wrapping around tools. With swarf wrapping on each stainless job, the work envelope had to be manually cleared of swarf after each part. Dealing with this unacceptable scenario, Team leader Joe Dessent brought in the expert support of tooling suppliers such as Iscar, Sandvik and Dormer as well as cutting oil specialists Jemtech. *"Five years ago stain-*

less steel, titanium and other aluminium alloys were only 5% of our production with everything else being mild steel. This 5% has grown to 30% in five years and continues to grow, so finding a solution was a matter of urgency."

High pressure coolant...

Whilst the tooling and oil combination doubled the productivity, the company was still falling behind its production schedules as it couldn't run unmanned on night shifts, as was previously the case. The new tooling and cutting oil eliminated the rapid 'End of life' of tooling and thus reduced the tooling costs and extended tool life. It was the intervention of the cutting tool engineers that suggested the three Tornos machines were retrofitted with high pressure coolant (HPC) pumps particularly for its deep hole drilling and heavy turning operations.



Tornos Decos at Southco.



HPC pump retrofitted to Tornos Deco.



HPC piping fitted to tooling platens.

... retrofitted by Tornos

As Mr. Dessent continues: *"Following the advice from tooling engineers, we approached Tornos about retrofitting a HPC pump and nozzles to each of the four tooling platens. They immediately sent two engineers to investigate our predicament. Whilst new machines can be specified with HPC and have the coolant supplied through the back-end of the tooling, this wasn't considered with the Tornos machines when purchased over ten years ago. So, the engineers developed a solution whereby the manifold and piping could be mounted to X1, X2, X3 and X4 positions and fed from a 120 bar HPC pump that sits under the machines. The Tornos engineers developed all the fixturing and manifolds, that were then manufactured locally. Solenoids were integrated, so oil flow to each of the four positions could be controlled with the machine M-Codes. Flexibility was the key, as the tool platens are constantly moving."*

Trouble with swarf solved

At Southco, the Deco 26a is dedicated to turning four families of product that are produced in batches from 1500 to 3000 with up to 80% stock removal from the 304 and 316 stainless steel bars. Alongside the Deco 26a, the two Deco 20a machines are producing shafts in four variations that correspond with the products produced on the Deco 26a. With housings, caps and shafts being produced on the two Deco 20a machines, the swarf control issue was noted when drilling at great depths, boring, heavy rough turning, and screw cutting. The drilling required excessive pecking cycles to remove swarf whilst the boring operations created ribbon swarf that would wrap around tools and drop onto the main spindle during simultaneous operation.

The retro-fitting of the HPC systems to the three Tornos machines has enabled the 120 employee facility to increase its productivity on the Tornos



Selection of parts produced on Decos.



Barrel components.

sliding head turning centres, A productivity improvement of 120%. As Mr. Dessent continues: *"When we first started machining stainless steel and encountered the swarf issues, the problem was so disruptive that our goal was to run the machines for just one hour unmanned. We couldn't even contemplate re-starting our ghost shift from 11pm till 6am where the machines were largely unattended – a shift we lost when we started machining stainless."*

To try any complex part

"Now, the ghost shift has returned and we are running the Deco's 24/5 with hourly checks on the machines. Our core products are now machined in 304 and 316 with no issues and exceptional productivity levels. Additionally, the Deco's can support new product development projects that were previously done externally due to time pressure. The capability levels of the Deco machines afford us the confidence to try any complex part, which is increasingly the norm. We have also brought eight batch components in-house that were previously subbed out – adding another financial saving" says Mr. Dessent.



Quick change fastener produced by Southco.

Improved surface finishes, tool life and ability to produce complex parts

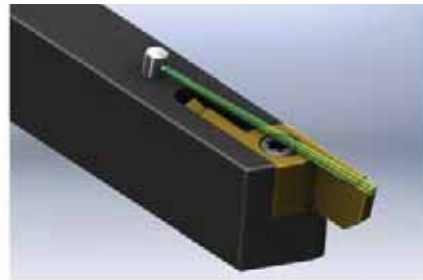
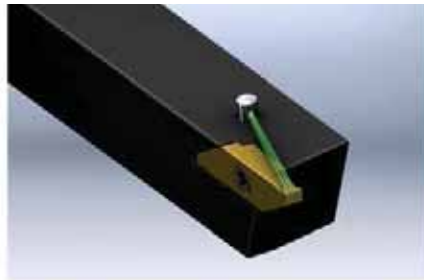
"Thanks to the Tornos Engineers being able to retrofit the HPC system, we have overcome the swarf issue from machining stainless. We have improved our hourly productivity rates as well as regaining the previously lost ghost shift. Additionally, we have improved our surface finishes, tool life and our ability to produce complex parts. We now have the confidence to run any part regardless of complexity, and what's more, we can do it unmanned. Our next step is to implement quick change tooling such as the Sandvik QS system to improve our tool changeover times whilst operating through coolant tooling systems," concludes Mr. Dessent.

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COMPLETE TURNING RANGE

Presentation of SSXA and SSXC tool systems, tested for use on sliding headstock turning machines in the Dieterle tool manufacturer's range.



The SSXA and SSXC tool systems from the Dieterle tool manufacturer's range are technically perfected and tested. They are designed for use on automatic turning machines, in particular sliding headstock versions, and offer excellent day-to-day performance thanks to their wide range of applications and practicality. The SSXA and SSXC tool systems share the same applications; their difference lies in their design and their systems for mounting turning inserts on the tool holder.

Two complementary systems

The dual cutting edge inserts used on the SSXA system are fixed laterally in the perfectly-formed housing in the tool holder. The dual cutting edge insert on the SSXC system is fixed from the top in the tool holder. The two tool systems can always be used "in reverse" and are, if necessary, also available with internal coolant supply.

Guaranteeing efficiency

The coolant jet can be precisely directed and fixed on heavily used points. This has a particularly beneficial effect on the service life of turning inserts. The various turning inserts, which are classified in the catalogue according to the type of application, are available in stock for all machining operations. The formation of edges, which very often determine the dimensional accuracy of the machined workpiece, is avoided thanks to corresponding relief and cutting angles. The carbide grades and specially tested coatings bring an added guarantee of continuous smooth production.

For all applications...

During the design stage, particular care was taken to ensure that the tool holders do not exert excessive force on the two turning systems. This enables the tool holders to be changed quickly. Following extensive testing, the tool systems have proved highly economical, with a single tool holder able to accommodate a system's entire range of turning inserts.

... and all needs

This is precisely why Dieterle makes sure it remains fully aware of its customers' specific needs, as each tool system is re-adapted to suit new customer requirements as and when they arise. Like many of Dieterle's other systems, the two tool systems are the fruit of long-term collaboration with customers, and benefit from ongoing refinements based on wide-ranging feedback from Dieterle customers.



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TORNOS CELEBRATES SALES SUCCESS AT UK OPEN HOUSE

The recent THINK: Production 2014 event that was co-hosted by Tornos and Matsuura proved a resounding success for the Swiss sliding head lathe manufacturer.



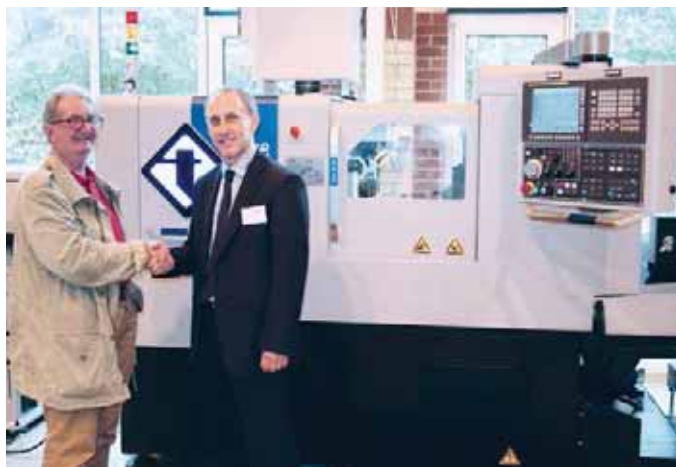
The three day event in Coalville, drew over 200 high calibre visitors with one of the Tornos highlights being the sale of an ST 26 turning centre to Hullmatic.

Balancing operations

The acquisition of the Tornos ST 26 comes off the back of a successful ST 26 installation in September. The first ST 26 was installed at Hullmatic as a direct replacement for an ageing Deco 20 machine. Capable of balanced turning, milling and drilling, the ST 26 can also provide material savings with its ability to run with/without a guide bush.

Tailored solution

The order for a second ST 26 is the result of Tornos expediting the process with a solution that was tailored to the needs of the end user. With a shop full of CNC sliding head technology from Tornos and CNC lathes from Mazak, Hullmatic is deeply imbued in the production of automotive components, boasting household names like Caterpillar, Dunlop, Perkins and Delphi as customers. Producing over 15 million parts each year, Essex based Hullmatic had been utilising their Tornos Deco machine for long production runs. However, the ability of the ST 26 to maintain these long production runs whilst



offering improved flexibility and reduced changeover times when compared to the ageing Deco was overwhelming. The immediate impact of the ST 26 is why the company brought forward its plans for a second machine.

Precision, capability and flexibility

Commenting upon the purchase, Tornos UK's Head of Subsidiary, Mr. John McBride comments: *"he innovative tooling configuration on the ST 26 enables Hullmatic to leave many fixed and live tooling stations set-up for a variety of jobs, drastically cutting job changeover times. Furthermore, the guidebush/bushless system can be changed over in 15 minutes compared to upward of 2 hours on alternate sliding head machines. These factors give a high quality and quantity manufacturer like Hullmatic the precision, capability and above all, the flexibility they need."*

Constant stream of innovation

Whilst this acquisition was a highlight for Tornos, the event visitors were also drawn by the new CT 20 and GT 26 turning centres that arrived fresh from their world premiere at AMB. Tornos also gave its UK debut to the SwissNano turning centre that has been causing a stir in the micro manufacturing industry. Alongside these new innovations was the robust and powerful Almac CU 3007 machining centre with a 5-axis Lehmann table set up. The new machines boasted a host of new technology and the extremely powerful 11 kW spindles of the GT 26 drew interest, but a clear crowd pleaser was the Tornos TISIS machine monitoring software. Linked to the CT 20 and GT 26 turning centres at the event, TISIS enabled the visitors to see the benefits of monitoring and programming one or many machines and their production status from one work terminal or mobile device.

To complement these leading products, Motorex, Delcam, Lehmann, Edgecam, Floyd Automatic, Rainford Precision, Arno Tooling, Baty and Iscar all demonstrated complimentary product ranging from cutting tools and workholding through to machine monitoring, finance and surface treatments.



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A HUNDRED YEARS OF SUCCESS

Utilis AG in Müllheim will be celebrating its 100-year anniversary in 2015, with a variety of events for customers, partners and employees. The prelude to the celebration was provided by this year's PRODEX trade fair.



2015 will be the time. Utilis AG in Müllheim will then celebrate a big anniversary: An eventful 100 years will then have passed. These years have made Utilis what it is today: A Swiss company with more than 70 employees, ISO-certification and international operations. But, as anyone running a business knows: What history displays on the surface, underneath, can conceal a lot of hard work. Because commercial success doesn't just happen overnight. What is required is a keen awareness of what is happening on the market, an active sense of curiosity, a creative spirit and committed specialists who are all pulling together. Only these elements can produce products as marketable as those manufactured by Utilis.

Swiss quality products

Utilis AG is a Swiss company that has specialised in the tools used in the metal-cutting manufacturing processes employed in micromachining. Together with the manufacturer of Ovomaltine, Utilis devel-

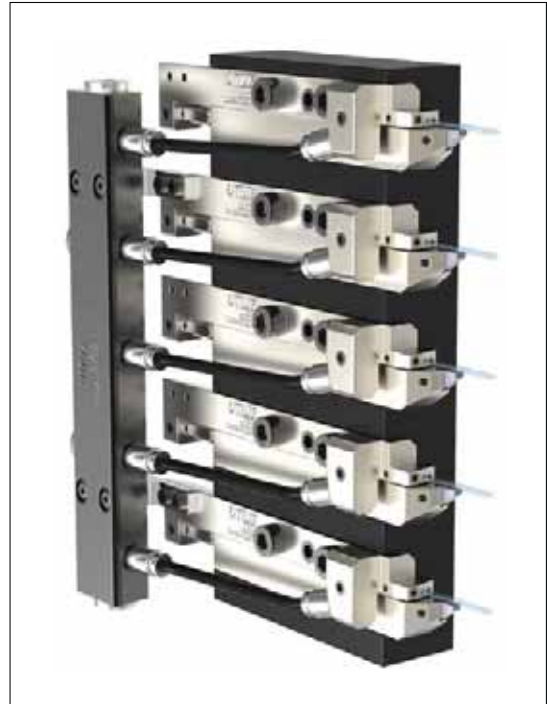
oped a mixer for producing mixed beverages in 1939. It can still be found today here and there in cafés and restaurants. The product line Multidec® that the company developed itself is also widely known. Like every company, Utilis has also been following the requirement of delivering Swiss quality, in accordance with ISO 9001 since 1994. The company management are convinced: Customers are not always looking for the lowest-priced product, but for trust, precision and continuity.

A celebration will be held in 2015

"So many years of success can only be achieved thanks to professional employees and loyal customers," says Managing Director Mario Macario. Our anniversary will therefore be celebrated together with customers and employees, at a variety of events, scheduled over the year. *"In this way, we can express our thanks for the trust we have enjoyed and drink a toast to a shared future,"* says Macario.

THE CORNERSTONES OF A CENTURY

The Ernst brothers founded a mechanical workshop in Müllheim in 1868. It was converted into a limited company in 1915, under the name Utilis AG. From that point on, progress was made step by step, with continuity, innovation and commitment: In 1925, the launch of ENDFIX, a product for machining bars, wire and tube ends. In 1939, the legendary Ovomaltine mixer. In 1952, the takeover of the Swiss agency of Metallwerke Plansee GmbH (known today as CERATIZIT AG). In 1992, the launch of the company's own product line Multidec®. In 2002, the founding of the subsidiary company Utilis France in the Haute Savoie. In 2013, the opening of the sales office in Shanghai. www.utilis.com.



Into the future with the youth of today

Utilis is more than prepared to share some of its success. In the anniversary year, the company is therefore supporting the ROKJ Thurgau-Konstanz project in order to help disabled children and poor families in Switzerland. That means enabling children to develop their potential and talent, improving their future chances from the start and integrating them into society. Thanks to ROKJ, an orphaned 12-year old girl who lives in a children's home will be able to go to camp. Thanks to ROKJ, a single mother will be able to send her son to guitar lessons. What is often underestimated: Even today, 590,000 people live in poverty in Switzerland, 250,000 of whom are children. *"We have decided to support this pro-*

ject because we would like to invest in our youth, because they are our future," says Macario.

Marketable product range

In the last few years, the products manufactured by Utilis themselves have experienced a remarkable change. At the start, water wheels were included in the production programme, and with the growth in mobility, business activity was expanded with the addition of bicycles, motorcycles and cars. Dynamos, for example, the production of which was even protected by a patent. The classic was definitely ENDFIX, which was introduced in 1925. This can be used to form wire ends into different shapes.





A highlight was certainly the Ovomaltine mixer, which Utilis developed in collaboration with Dr. Wander AG in 1939. Today, it can occasionally still be seen in cafés that possess a slight air of nostalgia. Multidec® is one of the most successful tool systems. This product line combines the benefits of the classic turning tools with the requirements of the Swiss-type lathe.

In addition to manufacturing and marketing its own products, the offering is rounded off with domestic and foreign brand products for metal-cutting machining.

Further information: Utilis AG, Müllheim, Germany, tel.: +41 (0) 52 762 62 62, info@utilis.com

The new chip guide step for even better performance: Multidec® Cut 3000

This indexable insert with the "GS" chip guide step was developed by applying a new, revolutionary production technology. Geometry, carbide and coating are ideally matched for parting-off unalloyed and low- to high-alloyed steels. The result is an indexable insert that promises an enormous increase in productivity.



Integrated internal cooling reinvented: Multidec® Lube

For a considerable time, users have been looking for a solution to bring the coolant as close as possible to the cutting edge, at the very spot where the chips are created. Utilis has discovered it: The Multidec Lube system guides the coolant directly through the clamping wedge to the cutting edge. That provides the user with safety and keeps the space in the machine room clear.

UTILIS®
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