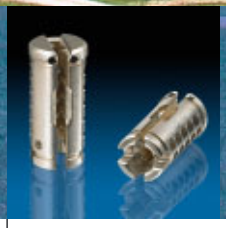
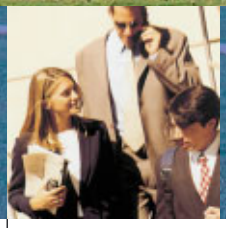
decomagazine

THINK PARTS **THINK TORNOS** 41 02/07 ENGLISH

An Italian world leader in dental implants.



Flexibility: The key to success.



Customers are the fortune of the company.

New from Habegger SA, a guide bush that will get people talking!

18

These days, identification is a way of rationalising movement…

26

Sweden & Martina is the company that made the first implant system designed and produced entirely in Italy.

30

At TESA, a series of workpieces are changed 15 times a day on a Tornos MULTIDECO!

51

Tornos relentlessley continues to develop its product range…

IMPRESSUM

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SUMMARY

A WONDERFUL WORLD !

Fascinating encounters, motivating projects, extraordinary people… the machine tooling sector is full of surprises and rewards!

Dear Readers,

Producing the decomagazine is a constant source of surprises! With encounters and discoveries that are looking for that piece of information to help you learn about or understand the latest data and technology, the spectrum of experiences is genuinely motivating. Will we find THE TOPIC that will enlighten you with regards to the latest market trends? Giving you the information and answers before the others? Is it the one to open the doors to a new market; or more simply, provide a good read?

Once again, this issue is packed with new discoveries. In particular, you will find out how TESA changes their production run fifteen times a day on MULTIDECO and how Swiss tool manufacturers are uniting to increase their contribution to the market. Also in this magazine, identify issues behind the replacement of parts and many more articles.

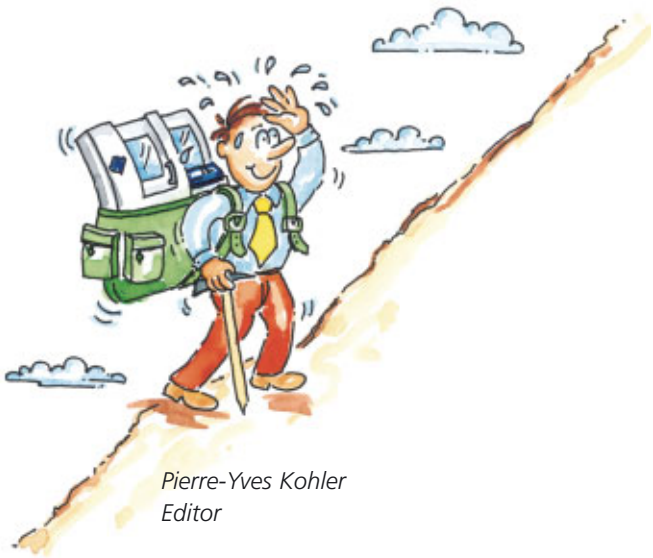
At times, when compiling an article we encounter different players and an issue comes to the fore all of a sudden. Putting together this issue, I started thinking about the brand; sign of recognition and identification and what of it within the machine tool sector.

To digress: a few days ago, I was talking backpacks with my son. We were discussing my latest «no name» acquisition: very practical and just what I needed. He said, «You know, for the same price, you could have got a Dakine, a hundred times better»… without mentioning anything about quality or value, this conversation was very revealing of a very common mindset these days. The consumer wants to buy a product, but at the same time the emotional aspect is ever present, all the history that «comes with a name.»

At Tornos, a «brand» workshop is underway, and I wanted to find out more, understand what the agenda and the thinking behind it was. I have heard that the «brand» project was part of the company development programme and that brand values would eventually become «rules» that will have an impact on the entire organisation. Asked about the reasons behind the programme, the person responsible highlighted the importance of having a consistent set of values, internally as well as externally. In other words, this consistent approach is the only way to reflect the mindset expressed by my son. The message needs to be clear, understood and experienced by the whole company. Additionally, it has to correspond to elements that clients or future clients can identify and feel comfortable with.

We have investigated in order to try and answer the question of how important brand is in the sector of machine tools. You will be able to see the results in our next issue.

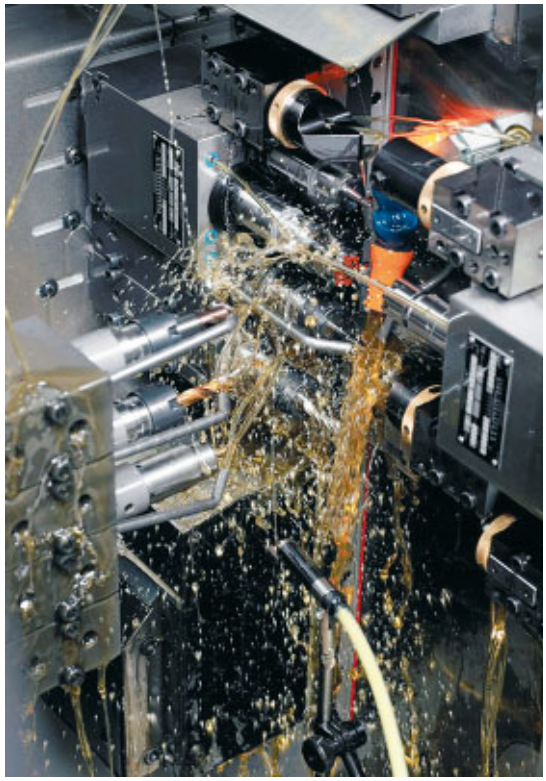
Any comments, ideas or remarks on this issue or on an article inside this issue? Don't hesitate to get in touch. We look forward to receiving your messages at the following address: redaction@decomag.ch



Pierre-Yves Kohler
Editor

DECO SLIDING HEAD CUTS 40% FROM CYCLE TIMES

Since acquiring its DECO 20a multi-axis sliding head auto from Tornos, Ely-based subcontract machinist Paragon Precision Engineering Ltd says it has cut cycle times for certain components by an average of 40% in comparison with those achieved using its existing 'conventional' CNC lathes.



"On our CNC lathes certain turned components would take two operations initially plus a further one or two operations to complete drilling and tapping cycles," explains Paragon's managing director, John Kent. "Now, using the DECO 20a, we can complete parts with turned features on both ends (and with high prismatic machining content) in a single set-up. In my estimation we have cut cycle times by an average of 40 %."

"We originally acquired the DECO 20a to serve a particular customer who was unhappy with his existing supplier," continues Mr Kent. "We investigated the market and chose the Tornos ahead of two Japanese models, primarily because the machine offered much better access to the working area. Some of the competitor machines were restrictive with regards to space availability for operators' hands."

Mr Kent has since had no cause to regret the decision and the machine now plays a pivotal role in the continued success of the company. At the time of visit, the machine was busy producing a batch of 350 complex medical components for an established customer.

"So far it's been a fantastic machine for us," continues Mr Kent. "Its reliability record in comparison with our other machine tools is exemplary. For a small company like ours we need to have machines working around the clock. Downtime is simply not an option."

To this end Paragon often leaves its DECO 20a and accompanying Tornos Robobar barfeed to run unattended overnight.

"We regularly load up the barfeed and leave the machine running overnight," he confirms. "Sure enough it's still going strong at 6am the next morning, typically producing batches up to 1000-off but sometimes up to 5000. We can leave it to run in the knowledge that it will stop safely in the event of an unforeseen difficulty, however, this situation occurs rarely. When programming, the software will highlight any potentially critical errors before the component gets anywhere near the machine. And if we do have trouble programming a particularly complex part, the applications team at Tornos always provides an extremely helpful and responsive service."

Producing parts from a range of materials that include 303 and 316 stainless steel, the Tornos DECO 20a is also adept at holding tight tolerances. Mr Kent says the machine can hold 0.006 mm comfortably, even over long lengths.

"Accuracy and reliability are everything to a growing company," he concludes. "In the past 12 months we have been very busy and there is little doubt in my mind that the DECO 20a has helped attract some of this work. The machine has definitely increased turnover and revenue into the company."

Since its launch just 10 years ago Paragon Precision has achieved impressive growth. Today the company employs 25 people and generates a turnover in the region of £1.8 million, serving industries such as medical, scientific, quality hi-fi, vacuum engineering and specialist telecoms. Paragon is also doing more export work to countries such as Germany, Austria and the US.

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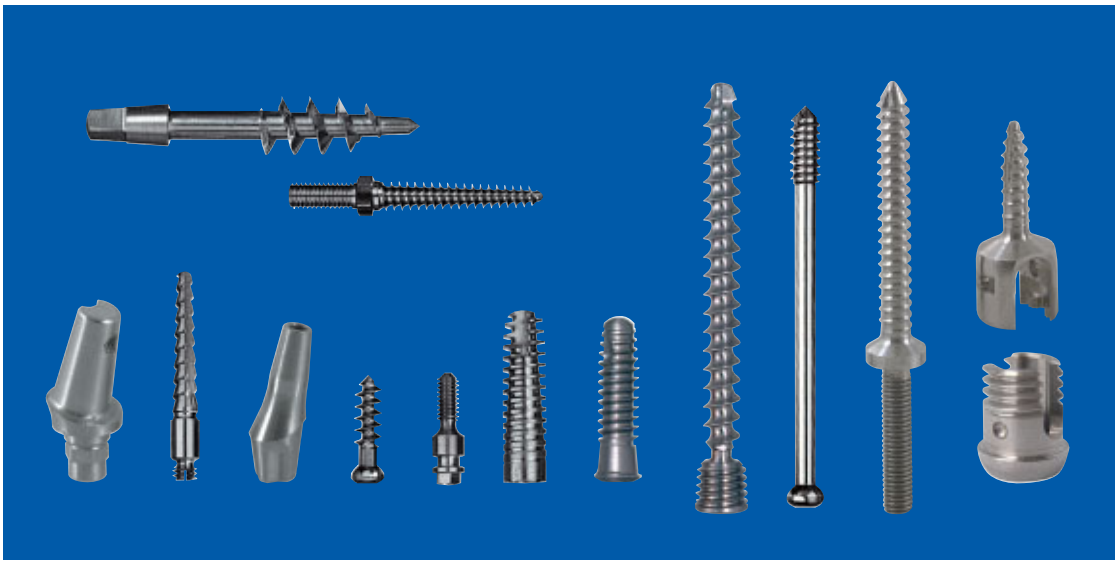
PX TOOLS, A DECIDEDLY MEDICAL FOCUS

PX Tools is a benchmark in the search for carbide tools for machining surgical screws (bone fastening screws). In-depth expertise has been developed and is available to companies operating in various manufacturing sectors, especially the medical sector. decomagazine has conducted a survey to find out more.

"Stamping, drilling, milling, combing and thread-whirling are the machining solutions we can offer you, working in either stainless steel or titanium. Are you looking for superlative quality in terms of precision, surface finish and a complete absence of burrs? Thanks to the continuous improvement in our products and our skill as innovators, we have developed appropriate solutions to meet your every need."

Mr. Auderset, Director of PX Tools



The components produced for the medical sector call for machining solutions well beyond normal parameters and capable of assuring a high quality of workpiece manufactured from very challenging materials.

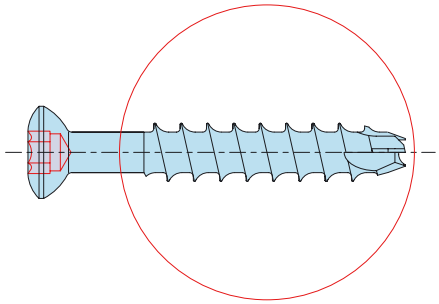
In the medical sector, PX Tools also manufactures machining tools for:

- dental implants
- bone repair implants
- ocular implants
- internal prosthesies
- internal mountings

Customers have direct access to the technical specialists who work in the company. Indeed, company specialists are always pleased to go out and visit their customers to give them advice and to help them resolve any difficulties they may face with their machining operations. PX Tools are present throughout Europe (customs clearance and invoicing in € assured by PX Tools France), Asia and the USA.

To enable us to present a few specific examples, we asked PX Tools to provide us with some typical illustrations of the kind of machining involved in a medical component. We received an explanation for the manufacture of a medical screw, involving operations on the screw head (Torx) and on the actual thread.

Machining the thread

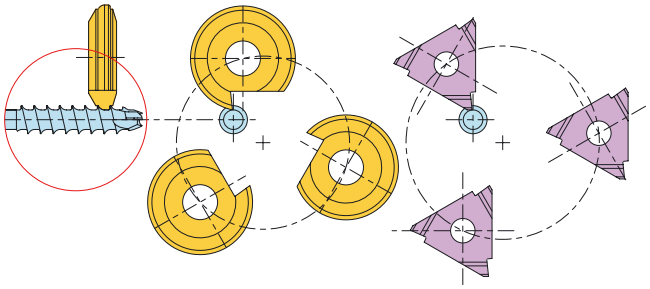


Thread-whirling blades or plates

More cost-effective and more precise than traditional methods, the manufacture of an external thread by means of the thread-whirling process with rotating blades or plates has become an essential aspect of all modern machining processes. These inserts, manufactured by PX Tools enable very small threads to be produced to a very high-quality surface finish.

The minimum possible concave radius is 0.02 mm.

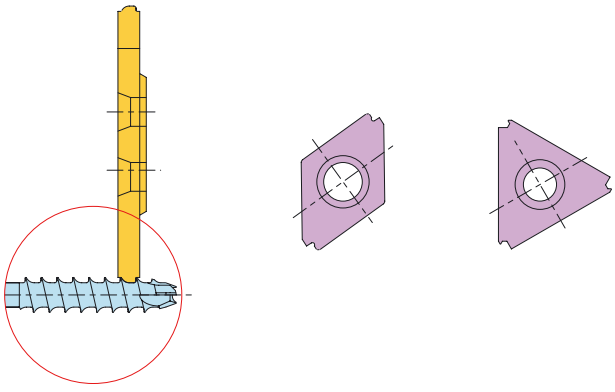
Since rough blanks for rotating blades and plates are stocked in pre-machined condition, PX Tools is able to manufacture these tools to very tight deadlines.



Combing plates

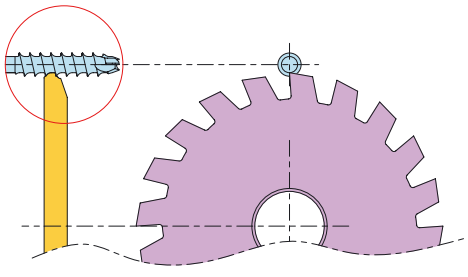
Starting on the basis of all existing standard plates, PX Tools are able to shape forms in accordance with customer wishes. These plates can either be purchased by PX Tools or supplied by the customer.

The shaping operations, known as 'profiling' are performed on ultra-precise machines operating solely with diamond-coated grinding wheels, enabling them to achieve precision levels of 0.005 mm on the shapes created without any alteration in substrate.

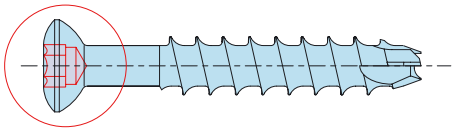


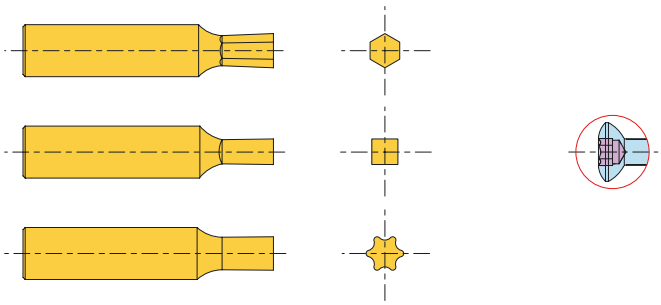
Shaping millers with logarithmic progression

As soon as tool service life becomes a determining factor, you need to opt for a tool featuring a logarithmic progression to its wearing characteristics. This is effectively the only technology answer available, allowing multiple sharpening operations to take place without altering the geometric parameters of the tool.



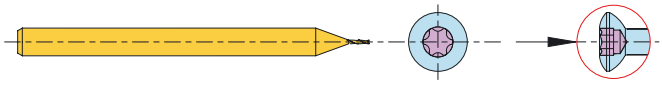
Stamp-machining of screw head





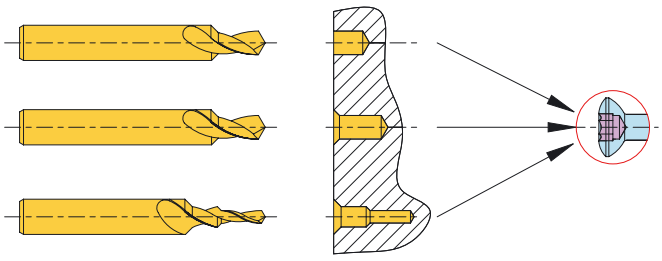
Broaching tools

All shapes and sizes of broaching tools and dies in the PX Tools range are characterized by high levels of precision and long service lives. The company offers three basic materials for its tools, with the choice determined by the material being machined, the dimension of the stamp and the strength of the machine. This is due to thrust forces reaching very high levels.



TORX micro-millers

Specially developed for the milling of Torx stamps, the series 12052 range of micro-millers are adapted for milling operations with a high-frequency spindle. Their optimized geometry and coating enable very good results to be obtained, both in terms of service life and in terms of surface finishes when milling medical grades of stainless steel. Titanium products can be milled using the same tools as it is well-known that this material presents fewer problems than the machining of stainless steel.



Micro-drills

In series 1116 or 1118, or in special manufacturing runs the drills produced by PX Tools have been perfectly adapted to suit the drilling of materials traditionally employed in the medical sector.

The vast range of experience this company has in the manufacture of stepped drills enables their users to achieve optimum levels of cost-effectiveness.

From left to right: Dr Michel Biedermann, Mr François Simonin, the man in charge of design and applications for customer-specific components at TORNOS, Didier Auderset and Richard Allheilly.

Expertise generously communicated!

PX Tools is a tooling specialist, but the company goes further than this, wishing to deliver genuine expertise, dedicated to the needs of its customers. Coming from this background, what could be more normal than to construct a «medical» product range?

An interview between decomagazine and Mr. Didier Auderset, CEO of PX Tools.

decomagazine (dm): Mr Auderset, the medical sector would appear to be well aware of the quality of the tools you produce: what do you do to get your message across?

Didier Auderset (DA): We work very diligently on the communication front. For example, on 15 September, we organized a «medical day» for our customers. This day gave us an opportunity to demonstrate our expertise in the field of cutting tools for medical applications.

dm: A «medical day»? How was an event of this kind presented?

DA: We invited Dr Michel Biedermann, deputy medical head of the surgical orthopaedic and traumatology department at La Chaux-de-Fonds hospital to address this forum, at a conference by the name of:

«The daily life of a traumatology orthopaedics specialist. From fracture to implant. From arthritis to prosthetic».

This high calibre presentation was followed by a presentation of our products given by Mr. Richard Allheilly, the man in charge of the medical market at PX Tools.

dm: Was a conference of this kind not a bit too «medical», i.e. somewhat «far removed from practical issues»?

DA: Not at all: this conference established a link between the concerns of the world of medicine and the world of machining. The specific nature of tools intended for use in prosthetics and implants was described and explained to enable our visitors to see the implication of these, and their link with surgical work.

This day was accompanied by a visit around our workshops, which enabled us to demonstrate to our customers that PX Tools is confident of its position as the leading specialist in the manufacture of top-of-the-range tools.

dm: How about customers who were unable to attend: will there be an opportunity for them to catch up on things?

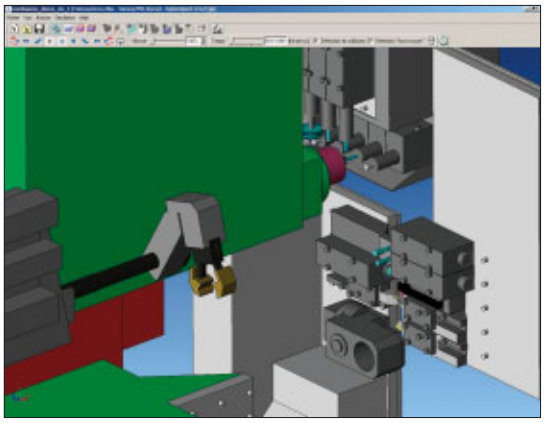
DA: Yes indeed, we are always more than happy to meet interested parties and to demonstrate the solutions we have to offer to them. If there should be further interest from the medical sector, we would invite interested customers to send in their address details so that we can keep them abreast of every new development in this fascinating sector.

SylvieXpert – SWISS SOFTWARE DESIGNED FOR AUTOMATIC TURNING MACHINES AND THEIR KINEMATIC FEATURES, TOOLS AND TYPES OF OPERATION

Today, SylvieXpert has established itself as a software designed for turning machines by accounting for kinematic specific features and programming which is very different from other CNC machines like milling machines, wire erosion process machines or even turning machines. While operating the Tornos automatic turning machine series using the TB-DECO control since 2005, several clients now program the new Tornos Sigma range with SylvieXpert while working in ISO code.

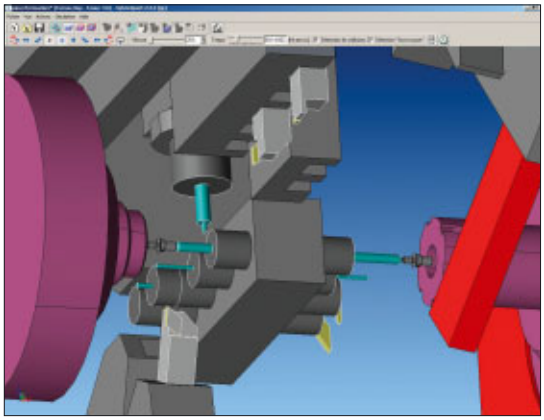
A customized software for the DECO a-Line and Sigma turning machines

SylvieXpert is edited by Jurasoft SA, a Swiss company close to manufacturers and users of automatic turning machines and digitally operated tooling machines designed for microtechnology, the watch making industry and the medical and dentistry sectors.



Machining simulation on the DECO 20a

Standard software currently available on the market is unsuitable for programming modern turning machines, especially because of the number of simultaneous operations and handling of work-pieces.

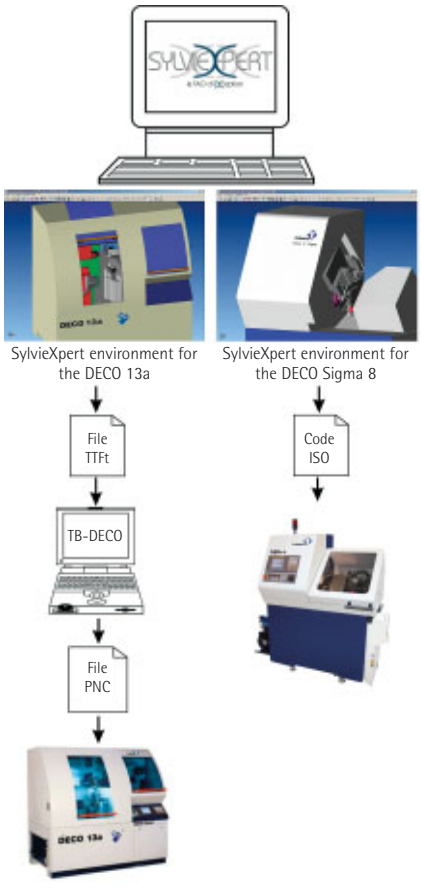


Simultaneous machining on the DECO Sigma 8

With SylvieXpert, the user programs as if he was in front of his machine. Throughout the work process, he remains in his 3D production environment.

In addition to the machine's complete set of kinematics, he has a range of nearly 2000 cutting tools and tool supports at his disposal. Standard Tornos tooling, adapted to each machine, as well as various independently branded tool supports, regularly used by turning machine operators are reproduced in 3D.

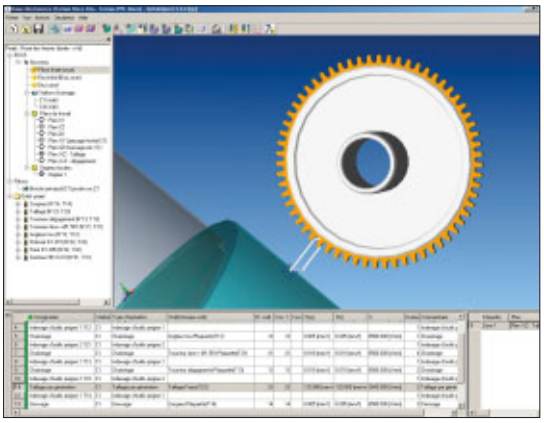
Naturally, SylvieXpert also allows in-house tools to be used. The software has been designed to provide a single way of working with whatever type of



machine is being used. ISO, TB-DECO and other proprietary languages are all handled by SylvieXpert, which also perfectly manages synchronizations and restrictions. After operating automatic turning machines with sliding headstocks, SylvieXpert is now capable of operating simple and complex turning machines with fixed headstock.

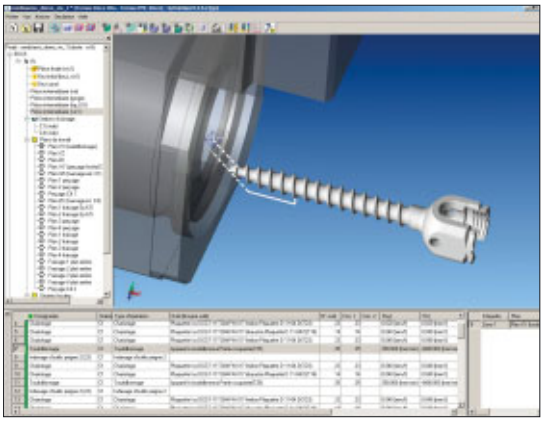
SylvieXpert and specific types of operations for bar turning

In addition to the particular kinematics for bar turning, the tools and types of operations are equally specific to this type of work. Editor of the software, Jurasoft SA has developed these tailored functions precisely and in collaboration with users. As an example, the system is capable of polygon cutting, mortice cutting, thread whirling and generation trimming.



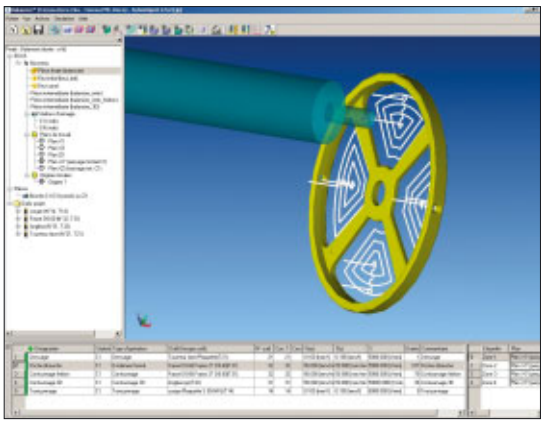
Gear hobbing on the DECO 10a

These functions are particularly suited to machining parts for the watchmaking industry, the connectivity business and the medical and dental sectors.



Thread-whirling on a screw in the medical sector with a DECO 20a

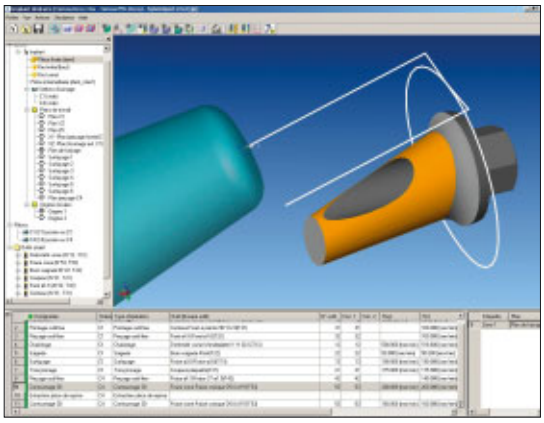
Other types of operation are also developed like routing, hollowing out holes or shuttle action with several tool correctors.



Machined part at Atokalpa SA in Alle (Switzerland) on a DECO10a

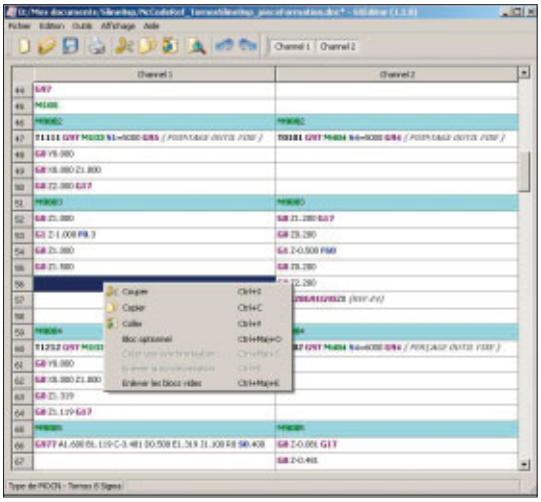
SylvieXpert – well suited to machining workpieces in 3D on turning machines

Since the commercial launch of SylvieXpert, companies working in the medical and dental sector have been impressed by the performances of this software. Indeed, the complex shapes which are common when programming these workpieces cannot easily be done manually, such as 3D profiling and machining offset surfaces.



3D profiling for implant on DECO 13a

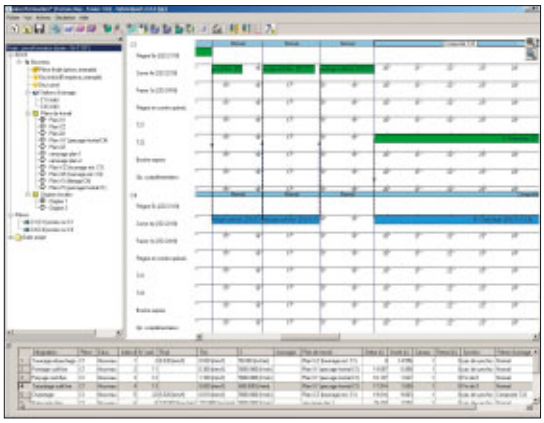
With SylvieXpert, productivity is enhanced when running a small series of simple or complex workpieces. Multiple tools are at the disposal of the programmer in order to rationalize his work for example: model operational lines, complete recovery of tools with their holders and their positions on the machine. It is also possible to recover an existing machining project and apply a new workpiece model.



SX-Editor - the new multichannel editor

Optimization of the program.

When machining operations are described, simply position the synchronizations on a Gantt diagram to organize simultaneous operations very easily.



Organization of simultaneous operations

New modules

The latest version of SylvieXpert is available in four language versions (F, D, E, I) with the ability to work in the metric or imperial system. To respond to the demand from SylvieXpert users, two new models have been launched since beginning of 2007. The first of these is an easy to learn volumetric and surface-based CAD 3D concept module capable of very high standards of precision and performance. This module enables the bar turning specialist to edit or modify the geometry to be machined. Once these geometric modifications have been made, the model can be updated in the machining project. The second module, the SX-Editor, is an ISO code editor with multichannel display and program management functions.

This development is based on the same philosophy as SylvieXpert and takes into account the special synchronization features of each turning machine thanks to the customized machine modules. In addition, the next version will offer various new features including a tool tracking editor which will enable operators to customize their machining operations.

For more information

www.sylviexpert.com

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Forthcoming exhibition

CH - mediSIAMS and BIMO, 25-28 April 2007

in Moutier and Delémont

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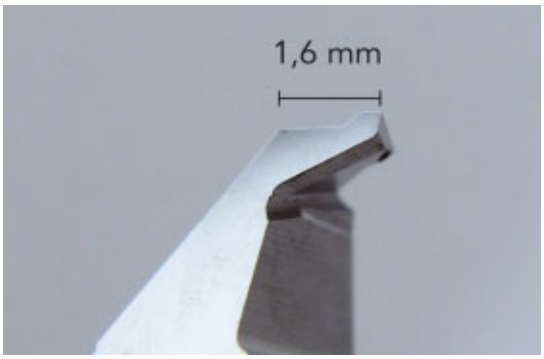
NEW MACHINING FACILITIES FOR THE MEDICAL AND DENTAL SECTORS

Bimu has been producing cutting tools and accessories for automatic turning machines for the Swiss market and for 30 other countries from its Tavannes facility since 2004 with its tradition and experience stretching back to 1993. To meet the demands of a growing market, Bimu designs and machines different tools specifically for machining parts such as dental implants.

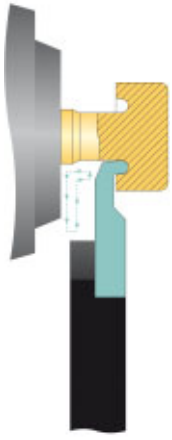
1. Back trepan tool

The advancement in the field of dental implants now requires a trepanning process on one side of the implants.



Bimu has therefore added the back trepan tool to its range of products, an insert with a profile that can be tailored to meet specific customer requirements.

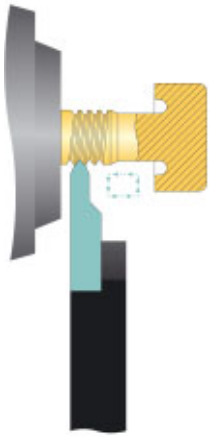
This very rigid tool is machined on 040 and X-Centering 400 type inserts. For a machine equipped with clockwise rotation, tool holders are used on the left.



2. External thread cutting burr for dental implants

External dental implant burring is normally performed by a thread-whirling process or by a thread cutting burr. Bimu is a market leading specialist in the manufacturing of thread cutting burrs with complex profiled inserts, something particularly well-suited to techniques used in the dental sector.

These inserts are fully profiled in order to avoid all burrs on the external diameter of the thread and are available in 040 and XCentering 400 programs.



3. Double insert holder with the Tecko TTS system for Tornos DECO 10a and DECO 13a machines

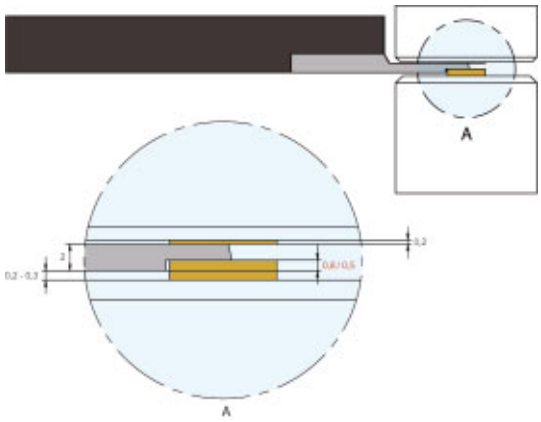
Medical and dental parts have increasingly elaborate designs. It's for this reason that bar turning machines are often equipped with an insufficient number of burrs. On the Tornos DECO 10a and DECO 13a, Bimu has designed a double insert tool holder system with double inserts, with independant fittings on platen 1 or 2. Two additional benefits are the

integrated lubrication unit and the Tecko TTS rapid changeover system. It is important to note that repeated changing of the insert and tool holder holds a tolerance of ± 0.01mm. Therefore, the fitting of a pre-controller onto the tool holder is unnecessary.

4. Cutter for Tornos DECO Sigma 8

The particularity of this tool is its ability to section without the use of an extended tip collet.

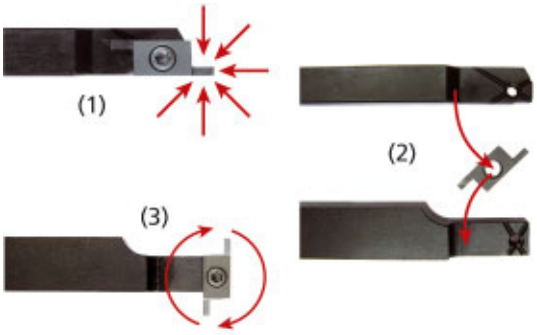
In actual fact, the DECO Sigma 8 type machines operate without arbor, which means that the workpiece is machined in a collet. For workpieces with a low external diameter requiring second operations where workpiece is clamped into position, the workpiece often has to be cut-off at a distance from the collet in order for it to be gripped. This machining at a distance from the collet is likely to cause vibrations and surface quality problems. The Bimu type 953 cutting tool allows the workpiece to be cut near the collet, thereby avoiding these disadvantages. The inserts are available in thicknesses of 1.2 and 1.5mm with an TiAlN coating.



5. Tool holder with pawl and insert

To compensate for the disadvantages of brazed cutting tools, Bimu is presenting, for the first time, a new pawl tool with removable insert and two cutting edges. The insert is pre-machined along its length and polished, available with or without coating. It is fitted on left or right-hand-side of the

tool holders with 8x8, 10x10 or 12x12 dimensions. In contrast to brazed pawl tools, shaping operations can be done on a conventional sharpening machine, such as Agathon, Clottu, Doebeli, Star or Cincinnati, for example, thanks to its sharpening tool holder (1). The insert is then transferred on to the machining tool holder (2). It should be noted that the insert is reversible (3).



Further information is available at **www.bimu.ch**

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PASSPORT FOR SUCCESS

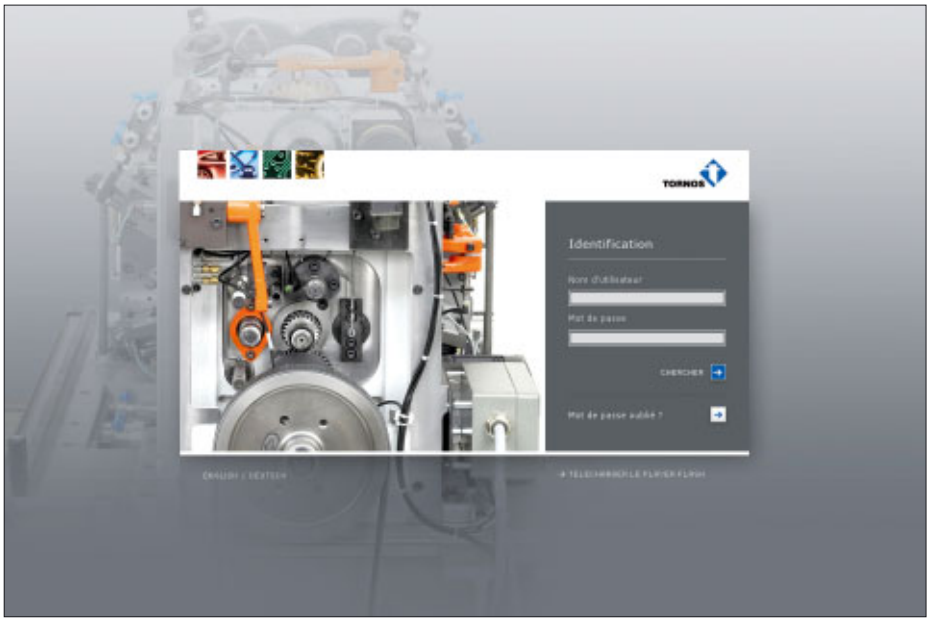
These days, identification is a way of rationalising movement (of people via passports and identity cards or endangered species via electronic tags for example) and commercial transactions (consumer goods via bar codes or credit card transactions). The flow of people and goods is supported by ever more detailed and accurate flows of information.

As far as machine manufacturers are concerned, once the machine is installed at the client's location, identification of spare parts is essential in this process of rationalisation. While machine downtime is undesirable, in cases where it is unavoidable, downtime must be kept to a minimum. The first phase of a repair is more often than not the supply of a spare part. From which it follows that identification of the part is essential and needs to be done as quickly as possible.

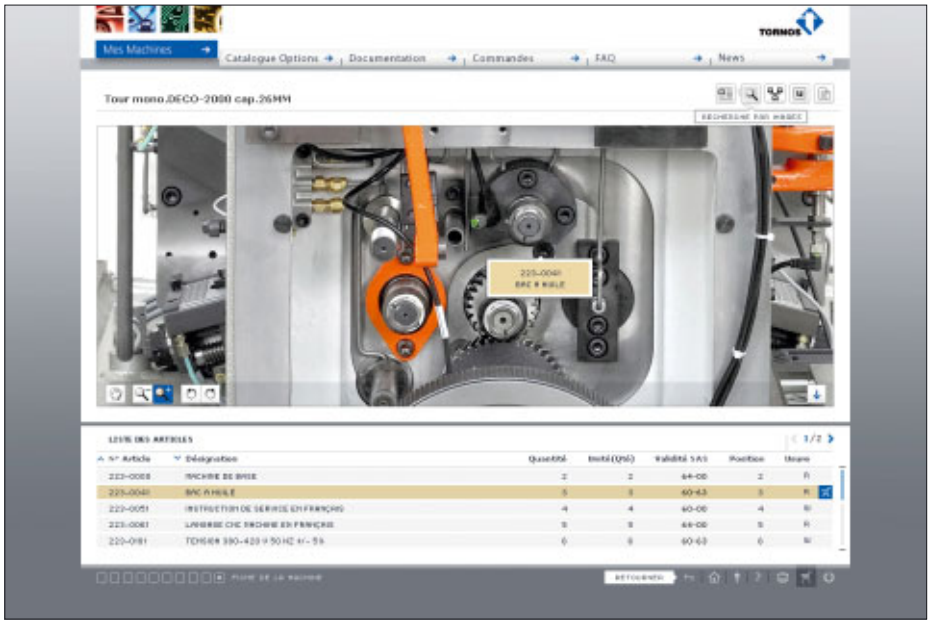
With this problem in mind, Tornos is committed to innovation… decomagazine talked to Mme Liliana Buforn, 'Identification' Project Leader from the spare parts division at Tornos and M. Sandor Sipos, head of the Spare Parts and After-Sales departments.

decomagazine: In the previous issue of decomagazine, we reported that standards of service at Tornos are measured continuously. Is your project on the identification of spare parts a direct result of these continuous analyses?

Sandor Sipos: Identifying spare parts is always a key factor. You have to identify them correctly, as well as quickly. Yes, this point was a focal aspect of our development work, having been highlighted by our analysis work.



The system's home page. The user logs in with the password issued by Tornos (this can be changed later) and arrives at his personalised page.



View of the navigation via image and zoom page. A large amount of very high quality photographs make the system very user-friendly.

Liliana Buforn: This project, like all our other projects for that matter, was designed with the same goal in mind - to offer our customers optimum solutions to the problems they face. We are going to set up a tool on the internet that will enable our customers to visually identify the defective parts for which they need to order spare parts for their machines.

dm: You intend to use internet, won't there be an overload of information that will render the process too complicated?

LB: No. Our project is designed to allow our customers to access information on their own machines via the internet and to order spare or defective parts. It consists of a search system linked up to our SAP system which only shows precise, personalised customer information. This program enables the customer to find information on the availability and price of the parts and then to order them. It also means you can set up a dialogue with members of the spare parts division (SPR) at Tornos.

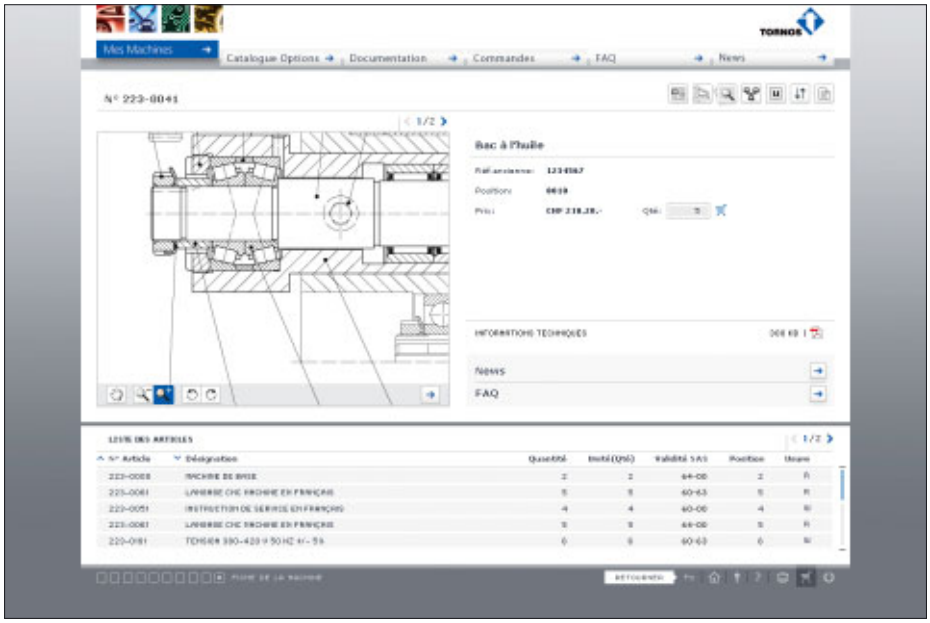
dm: In concrete terms, how is it going to work?

LB: After logging in with a password, the customer will be able to select a machine from his own range. Each machine matches exactly, the same model and options. Once the right machine has been selected, navigation becomes visual and intuitive. It works like a map where you 'zoom in' until you get to your destination. With this zoom function, our customer focuses on the part of the machine that he needs information for.

Through successive enlargements (photographs and drawings) the user will be able to easily identify the defective part he or she is looking for. With the picture of the identified part on the screen, he or she will have the option of ordering it directly or contacting one person of the SPR team at Tornos. He or she will be able to call up the same information as the client on the screen. This way, both the customer and the SPR expert will be able to communicate clearly and about the same subject because they will be looking at the same images simultaneously.

dm: How does the project work in detail? What are the waymarkers?

LB: The keys to achieving this project are IT based. We have developed databases which enable us to manage nomenclatures [lists of named parts], ranges of operations and to connect up with all useful information within the company. For example, to create this database we had to gather data from all computerised publications of our tool, options and spare



Next step: drawings and diagrams give the user a detailed view of the assembly position and all relative information concerning the parts being searched.

parts catalogues used in the past. In terms of deadlines, we started with two machines, SAS-16.6 and DECO 20a. We are going on line after the summer break with these two machines.

dm: I can imagine this project being of titanic proportions. Why did you embark on it? Isn't it a bit heavy just to improve identification of parts?

LB: We strive to offer our customers tailored solutions that are genuinely optimised for their own machines. Such a system enables us to offer a dedicated personal service. We calculated that the rewards would be high enough to throw ourselves into this challenge which is a major one. The rest is just a question of using our great expertise, and is an illustration of our commitment to partnering and supporting our customers.

dm: Why did you choose these two machines to begin with? And did you proceed in phases?

SS: The choice of these machines was based on an analysis of the stock and of the state of our technology. For the SAS-16.6, the decision was taken quickly. We have a range of several thousand machines in the market and the technology does not change very rapidly. For the second one, we also definitely wanted to use a DECO product and we chose the 20a because so many units are now in service out at customers'. The phases came about quite naturally because we are talking about a substantial amount of work and we really wanted a stable and adapted solution.

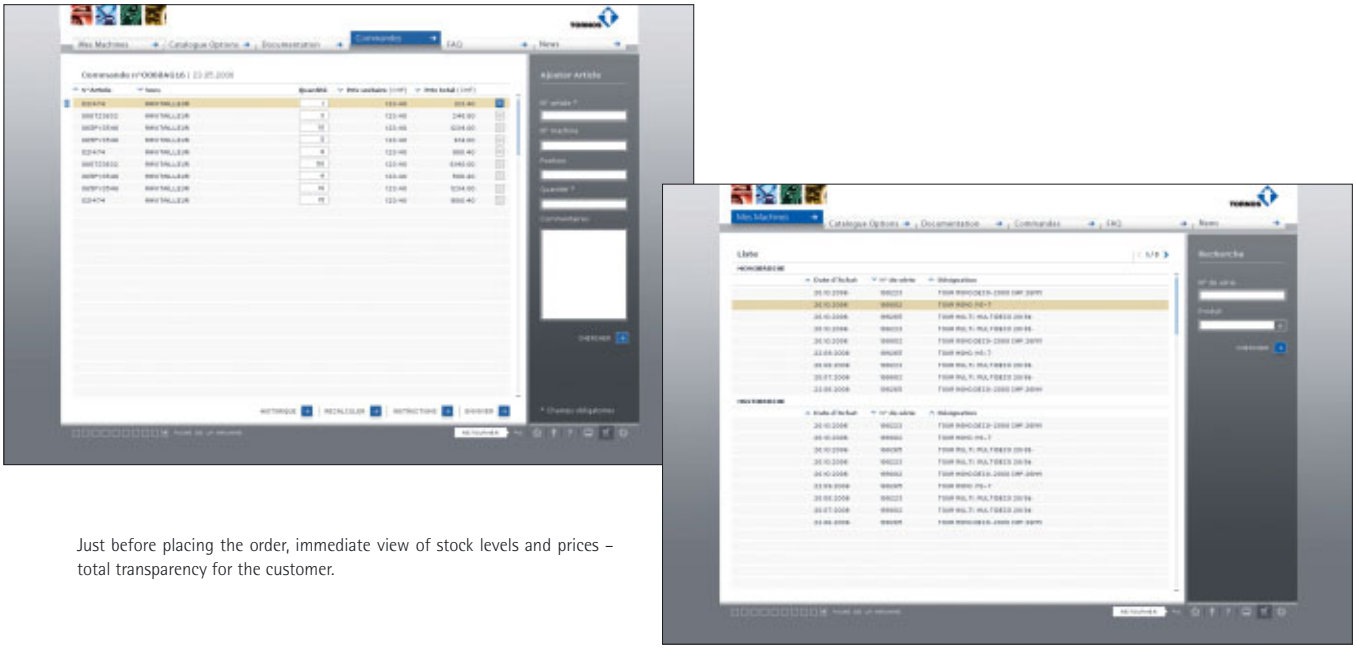
dm: In a way, can it be considered as a test?

SS: Yes. Even though the system has major benefits, we don't know how the market will react. Will there be any regional differences? Will the concept be enhanced? Anything's possible!

dm: You mentioned benefits, what advantage is there for the client in doing the identification and 'doing your work'?

LB: There are many benefits. First, the system is available 24 hours a day, 7 days a week! This means there are no restrictions as to when our customers can order spare parts. Our stock levels are continuously updated, so our customers know exactly where they stand at all times. This way they can manage their parts and any buffer stocks more effectively.

SS: Another considerable benefit is the enhancement of the level of available information and documents. For example, if a part susceptible to wearing can be replaced by another higher performance part, the system informs the customers, contrary to the printed instructions they have been using for years. We provide real added value.



Just before placing the order, immediate view of stock levels and prices – total transparency for the customer.

dm: Sure, but does one of your clients' perfectly-trained operators need this system? Isn't it a waste of time?

LB: For reasons we've already mentioned, the system is also valid for this category of operator, but it is clearly more effective for less experienced operators. You have to bear in mind that apart from being an ordering system, it's really an identification process. If you know exactly which part you have to order, you can use the system to place that order (with the benefit of knowing immediately if the part is available and being able to do this at any time). Also, in a lot of companies we have noticed that knowledge and know-how are passed on through word of mouth and that unfortunately, some of this information is lost.

Every time somebody leaves the company or goes into retirement, performance decreases. This is valid everywhere. It's one of the reasons for the success of the ISO 9000 quality standard which enables processes to be written down and to preserve know-how. Generally, if identification is carried out quickly and correctly, lengths of shutdowns are reduced because the response time is also reduced.

dm: You mentioned know-how and durability of solutions at your customers' locations. Is it the same thing at Tornos?

LB: Of course! Like everywhere else, we have knowledge that is at risk of disappearing. Putting this system into place enables us to preserve them and to be able to offer optimum solutions to our customers and give them a «helping hands» from our specialists. This system will also assist with training as it is very visual and straightforward.

dm: What's going to happen after the identification of parts from these two machines has been put in place?

SS: We will allocate some time to establish any areas of improvement and if the market gives us a positive response, we will run the system for the entire Tornos range.

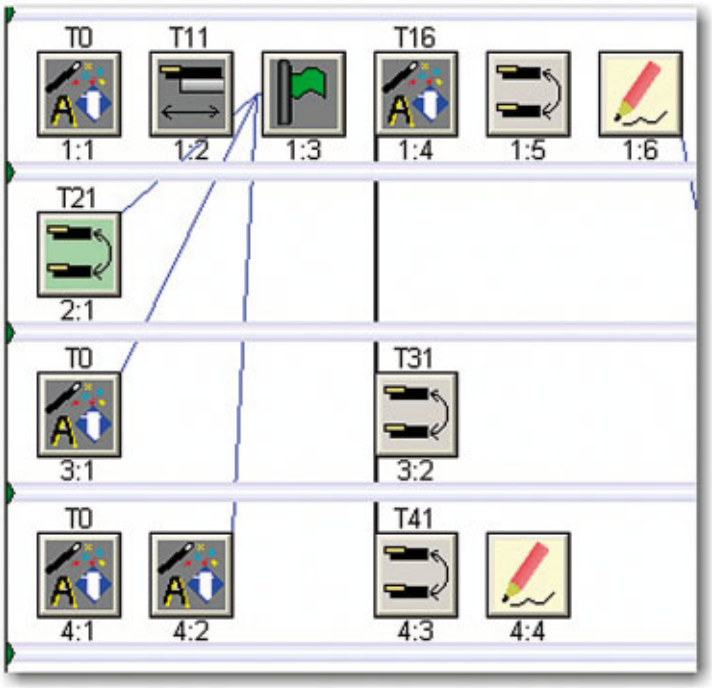
dm: We will have the opportunity to return to this project in a later issue of decomagazine.

NEW MODELS TB-DECO ADV 2007

The TB-DECO ADV 2007 version has a range of new functions that will greatly enhance the presentation of programs. The models for the DECO and DECO Sigma machines have been adapted to be compatible with these new functions.

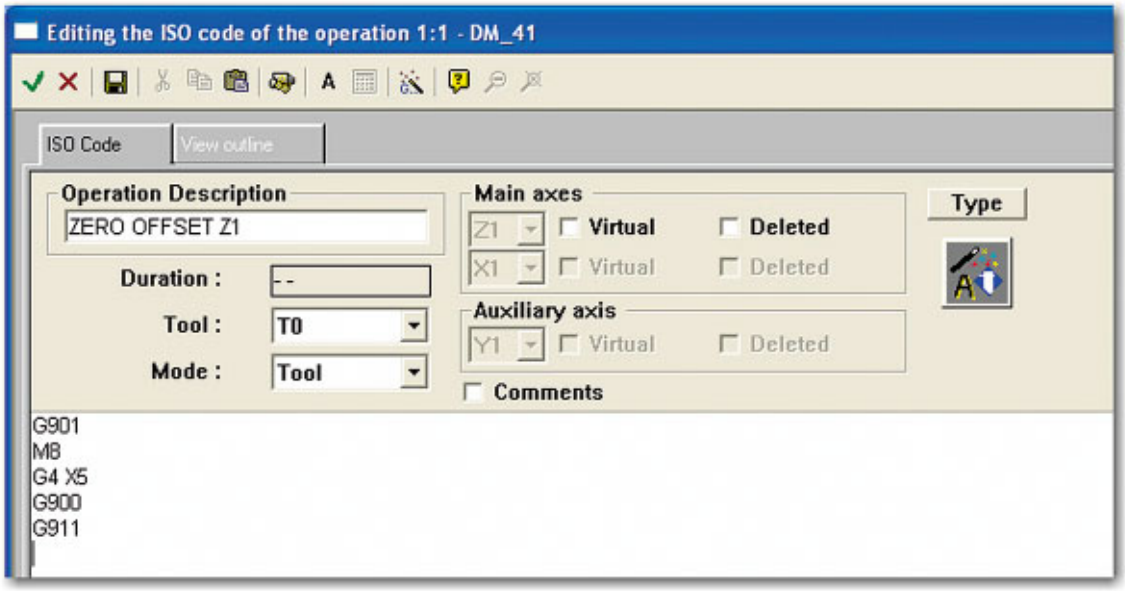
Separating Tornos operations from customer operations

Tornos operations are displayed in a slightly darker colour than for customer operations. Tornos operations must never been modified.



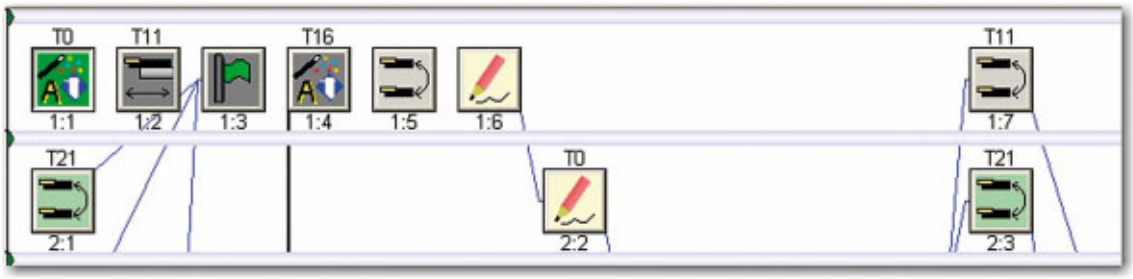
Clearer commentary and graphics for operations

The commentary for each operation has been adapted to be user friendly and to standardize terms between different types of models and machines. The operations symbols enable the operator to identify the exact contents of the operation immediately.



Looping assured by operations linked on the operating line, containing no loop management flags

Operations 2:1 and 2:3 are linked, which avoids warning signal «Looping error (G13-G113) on axis…».
For more information about linked operations, please refer to HELP.



Specific operations for cutting and end of cutting

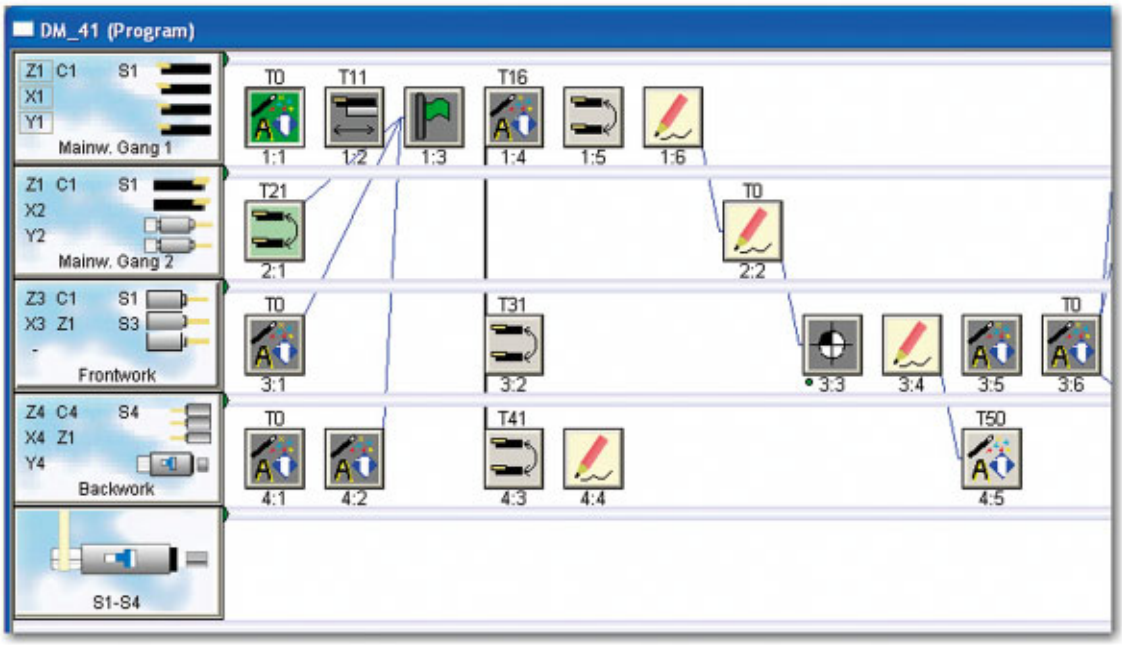
Operations 1:8 and 1:9 are represented by the «cutting into sections» symbol.

Extension of resources

The extension of resources function allows you to increase the limit to the number of axis available on each operation line to more than three.

Consequences:

- The C1 and C4 axes can be programmed directly on operating lines paten 1 and 2. Z1-X3 end machining can be programmed entirely on end machining operations line. The G915 cycle can be programmed directly in the end machining operations line. A new symbol showing a change in component position is available. (op. 3:3).



Programming is clearer and more effective for operations requiring a C axis.

The reduction in the amount of operating lines simplifies the viewing of the program.

All these improvements are available in the TB-DECO ADV 2007 (8.01) version.

AN ITALIAN WORLD LEADER IN DENTAL IMPLANTS A PORTRAIT OF SUCCESS

For a better understanding of the position of Sweden & Martina within the very specialised sector of dental implants, certain details of this company located in the North-Eastern province of Padova in Italy, needed to be looked at more closely.

Based in DUE CARRARE, Sweden & Martina is the company that made the first implant system designed and produced entirely in Italy: 'Premium', a system that fended off foreign competition and establish a pre-eminent position in international markets.

In the last five years, Sweden & Martina has recorded an increase in its turnover of more than 20% per annum. The basis of this success lies in human resources in research, innovation, application of technologies and production methods that are at the cutting edge.

In the early nineties, the company started out with its own dental implantology systems production department and has now become the leading Italian producer of such systems.

For the Italian market alone, figures relating to Sweden & Martina implantology show production has exceeded 130, 000 implants which are delivered to more than 8,000 users. Implantology systems are

manufactured in a building with a surface area of 40 000 square metres.

E.P.: When asked how Sweden & Martina came to use and collaborate with Tornos technology, M. Sandro Martina answered:

"Tornos was our first step along the road of purely mechanical production of the implants. It was a first step, small perhaps – in the whole production process but very important as far as ensuring a starting point along the way to working quality and efficiency into our implantology systems was concerned. Several meetings with Tornos engineers and sales representatives were needed in order to form the synergy required to set up a very important partnership. In actual fact, Sweden & Martina are convinced that even the process of looking for a partner contributes to certain types of development and research, which have up to now, shaped the continuous improvement and reliability of our products."

"Technological methods and collaborations with very specialised suppliers are one of the keys for success of a company such as ours that is used to selecting its own methods of production very carefully. Collaboration with the most prestigious universities, the ongoing relations we have with skilled professionals and specialists within the sector have led us to develop unique, innovative and reliable products."

Next to the Head Office is the Medical Bioengineering and Production Building where implant systems are produced. The collaboration with Tornos has brought the most advanced technical and production structures available in the world today into this building .

The continuous search for optimum production quality is a strategic choice made by Sweden & Martina and has also been a key factor in its success. As far as quality is concerned, Sweden & Martina production is compliant with UNI EN ISO 9001 – 2000 and is in accordance with UNI CEI EN ISO 13485.

Raw materials used in production are very carefully selected and are totally biocompatible to produce components for implantology systems that conform to very tight tolerances. This is why Tornos DECO 13a machines are used and play an equally important part during the first operation in sequence, i.e. turning.

M. Sandro Martina, director and owner of Sweden & Martina.

Sweden & Martina, an increase in turnover of over 20% per year for the last 5 years.

Production on Tornos machines, a base for a quality implant.

E.P.: I also put another question to M. Martina, necessary to have a better understanding of the importance of Sweden & Martina on a global scale. What and how much are the resources you allocate to research and to specific development?

Dr. Martina: "The cost of research and development, support for universities, research centres and associations for developments within the dentistry sector is the item on our balance sheet which rises year on year by the largest amount. Currently, more than 10% of turnover is reserved for investment in research and development."

"As far as our relationship with Tornos is concerned, for specific cases we are in constant contact for research on methodological improvement of production of new projects assisted by the latest production-related systems on the market."

E.P.: What made you contact our company?

Dr. Martina: "Mechanical production is the first and smallest step on the long journey through a production process that culminates in the final product. Once the process has started, Sweden & Martina have a quality control procedure equipped with sophisticated appliances and profile projectors, OGP measuring machines and an electronic microscope for inspecting surface areas. Our Biomedical Production department also uses probes for the chemical analysis of titanium, as well as other instruments that are too numerous to list. Before the last operation which consists of decontamination in a plasma reactor with inert argon as the gas and a final Beta-ray sterilisation."

"Afterwards, the product is assembled in a dual sterility class 1000 level white room (the strictest American FDA standards) so as to prevent any possibility of surface recontamination. This is why the first small step of turning becomes the basis for the positive development of a very long and complex production process. At the beginning, the implant should be produced with very tight tolerances and with an extremely precise initial shape."

E.P.: Do you feel that implantology has now reached the limit in terms of technology?

Dr. Martina: "No, I don't. Actually, our Research & Development department is pursuing further ambitious objectives in terms of materials and production methods. As one of our many partners with whom we enjoy close relationships in the fields of research, consulting and trials, we hope that Tornos, with the help of its new creations, can also continue making an effective contribution to reach ever greater success."

"Sweden & Martina and Tornos are both world leaders in the sector and as far as Tornos is concerned, I can confirm that companies at the cutting edge such as Sweden & Martina, are and will continue to be amongst the most important partners in the field with whom we will make progress in close collaboration. Not only in terms of production instruments but also to produce ever improving high performance and cost efficient systems."

This is the logical progression which originates from a common interest.

Tornos Technologies Italia
E. Pitton

FLEXIBILITY: THE KEY TO SUCCESS

At TESA, series of workpieces are changed 15 times a day on a Tornos MULTIDECO!

To find out more about this incredible fact, deco-magazine went on site to investigate.

An international group

Four people and five centimetres of freshly fallen snow welcomed us to TESA, a company that is part of the ASSA ABLOY group. Working in the security business, the company's main advantage is being able to provide a complete set of services and products and always keeping pace with the technology required to achieve their objectives. In other words, the company invents security solutions and then develops or learns how to master the technology needed to turn these challenges they have created for themselves into reality. TESA has four production units in Spain, where they manufacture lock cylinders under their own brand and for other manufacturers, security doors and many other security systems for the private and public sectors.

We visited the production unit in Irun (Spain), where lock cylinders and electronic locks are manufactured. Our welcome party consisted of Mr. Fernando Santos, head of the cylinder operations centre,

Mr. Imanol Dadie, head of cylinder assembly and the bar turning workshop, Mr. David Pérez, R&D cylinders project manager and Mrs Béatriz Serrat Collar, head of communications.

Production equipment: Flexibility is the key word

decomagazine (dm): You have a very diverse fleet of machines to manufacture your parts…

M. Fernando Santos: Not that many, actually. We have several different machines from several manufacturers but for one particular technology, we feel that having one close partner we can count on is more important than being 'spread out' over a range of different manufacturers.

dm: For bar turning, single spindle as well as multispindle, you have chosen Tornos… for which reasons?

FS: The choice of Tornos machines goes back a long way at TESA. In 1999, we belonged to the English Williams group and all purchasing decisions went through them. We already new at the time that Tornos products and solutions would be the best for us… but our English partner turned down our investment plan seven times. We tried and tried again, convinced that this solution was the best for our customers (a second company value, we will come back to this later). Now, eight years later, TESA's history and success have demonstrated that our tenacity was totally justified!

dm: Such a conviction is not so commonplace. What was based on?

FS: That's easy. It was a question of being the only machine on the market capable of finishing our parts in a reasonable time.

dm: You mentioned parts. In lock manufacturing, what kind of parts do you make and what sort of challenges do you face?

M. Imanol Dadie: They are cylinder parts that mainly require capacity for a large number of operations. As security is becoming a more and more sensitive subject, it should be noted that parts are also becoming more and more complex. Every year, we have to devise ever more ingenious solutions, to be able to continue manufacturing these parts from start to finish on our production equipment.

Left to right: Messrs. Fernando Santos, head of cylinders business unit, Imanol Dadie, head of the bar turning workshop and José Luis Arsuaga, MULTIDECO specialist.

Overview of the bar turning workshop... cleanliness and tidiness are everywhere.

dm: How have you managed to keep up with this development on your machines?

ID: We started working with Tornos DECO turning machines and I have to say that at the beginning we were not using the machines to their full capacity. Tool positions would remain empty. Today, it's a 'juggling act' to get parts finished.

dm: How is your workshop set up? What types of part do you machine on single-spindle and multispindle?

ID: We have a very active research and development department and as our philosophy entails working closely with our customers to find highly specific solutions, we must have machines on which we can change production set ups very easily. For this type of requirement, we work with DECO single-spindle turning machines. Each new series is prepared while we are working on the previous one. This way, when we finish a machining process, the operator can immediately change the tools and the program (which has also been predefined to save time) and start production up again. This approach can be applied on series of up to 4000 parts. For larger series runs, we have two solutions, the subcontract part of production or the switch to our multispindle operation.

dm: So you subcontract part of your production?

ID: In actual fact we started looking for subcontractors when we used to work four shifts on the DECO machines… as we were severely short of capacity for manufacturing prototypes and small series for our customers or our own R&D department. These days we still produce 90 % of our parts in-house.

dm: Before moving on to multispindles, how did you feel about the flexibility of DECO machines?

FS: Flexibility is a difficult topic because you always have to take into account the size of the job lots, productivity and the time needed for changeovers. In our case, where series are very short, we prefer machines with more tools, even if cycle times are a little longer because changeovers are a lot shorter if tools don't have to be changed!

As far as our processes are concerned, we actually have two parallel flows. Special parts require several separate and different operations per series. Today, we have about 150 DECO programs at our disposal. This enables us to look for genuinely optimised solutions borne out of our considerable experience. Larger, more «classical» production runs are manufactured on MULTIDECO.

dm: Do you ever change category and move from one process to another?

M. Santos et M. Dadie: Yes that can happen. Manufacturing processes are validated on mono and can be transferred to multi if necessary.

dm: How do you ensure flexibility on multispindles? Changing production set ups so often doesn't seem possible.

ID: I agree. We don't change set ups. We have another strategy… (Editor's note: Dear reader, we are about to be told a secret!)

In general we work by families where each part has more or less the same diameter. Then the machine is equipped to maximum capacity, always with standard tools. To carry out these changeovers, we simply change the program and can start a new part which requires the same tools already in position.

dm: Aren't there any technical limitations?

ID: We have had to develop a new bar stop, which is more suited to our requirements in terms of production times, but apart from that, no. The TB-DECO can work miracles in the hands of our engineers.

dm: And what do you do if you have to integrate a new part?

ID: We have roughly 100 MULTIDECO programs ready for use at our disposal, but it's true that for a completely new part, production has to be in line with the set up on the machine. It's not always fastest in terms of cycle times, but the time saved during the production changeover is, in our case much more significant.

Just in time?

dm: Does this flexibility allow you to work «just in time»?

FS: Our philosophy is definitely not to have a large stock of finished parts. So we work with minimum stocks in certain sectors. In particular within the automotive sector where it's not possible to ensure zero stock.

The difference between single spindle and multispindle machines is such that just in time is easier on the multispindles. The single spindle workshop tends more towards special manufacturing and it's harder to ensure just in time. This is, however, all part of our

«internal goings on» because if necessary, we can produce small stocks to guarantee a just in time delivery which is very important in our customer relations.

dm: Flexibility, in particular with Tornos products, seems to be one of your selling points today. How do you integrate it into your daily business?

Mme Serrat Collar: Flexibility is actually a tool of one of our core values which is «the interest in our customer and his challenges». Whether it's a question of technical development or very tight delivery times, we have to be flexible.

Strong values working for the company

dm: Before going into more detail about this value, can you give us some others?

SC: We have three core values that guide everything we do. It's called the ASSA ABLOY group's Diamond strategy. These are exactly the same values which have guided us since the creation of TESA. They are innovation, customer proximity and appropriacy of the proposed solution as well as cost efficiency and return on investment.

dm: Aren't they fairly commonplace?

SC: They may be simple values, but they are applied throughout the whole company and believe me, these are formidable levers. TESA is genuinely customer focused. All employees of the company have a responsibility and actively collaborate towards the best strategy to adopt in order to reach their goals.

dm: Like when you invested in the DECO as M. Santos was saying?

SC: Exactly! Our colleagues and the management all feel at home within the company and there is no impenetrable bureaucracy to hold back the good ideas.

ID: Recently, we were faced with a technical challenge when we had to produce a small ring with a wall thickness of 0.3mm diameter. And in this case, there's no point giving up, and trying to allocate blame. The job just has to be done. This is all part of our culture… and we know that every one of the employees will find what it takes to succeed.

dm: You must have highly skilled personnel in your organization. How do you provide training?

FS: As far as training is concerned, we are in an area where the population is very technically minded

DECO production unit. The equipment and tools ready to be fitted for machining the next series can be seen in the foreground.

(Editor's note: for that matter, this region is also known as «little Switzerland») and we deliver an advanced level of training. In fact, for single spindles, the operators are also the programmers and they are experts on all aspects of the machines. They receive part of their training in Moutier and a part in Granollers in the Tornos subsidiary in Spain. For multispindles, we separated the tasks between programming and operating the machine. Because we don't change tools between production set ups, we have specialists by sector.

For machining, materials and other technologies, we work closely with technical educational institutions and universities. Our strong desire is to be at the cutting edge of technology to be able to find the right answers to the ever increasing demands of our customers.

dm: We have talked at length about customer relations because it is one of your core values. We have highlighted the value of quality personnel and their drive to find the «perfect» solution for their customers … can it be said that it is people who make the difference rather than machines?

ID: Of course machines are important. Ingenuity has to be based on effective tools. Once machines are taken out of the equation, that's when the human element can make the difference. In this context our culture and our history are important.

This brings us to the subject of training and putting it into practice. When the DECO machines were

The «Bechler unit» consisting of two DECO 20a machines.

TESA in numbers

Foundation of TESA: 1941

Number of employees: 750

Irun plant

Creation: 1970

Number of employees: 393

«Bar turning» section: 100% Tornos machines

Annual production capacity:

- Locks: 4 million
- Cylinders: 10 million
- Electronic locks: 250'000

Certifications: ISO 9001, ISO 14001

Assa Abloy in brief

Strategic plan: Diamond 2010: 3 keys to growth:

- Innovation
- Customer proximity and appropriacy of proposed solution
- Efficiency and return on investment

World leader in the security sector

100 companies in 40 countries

Over 30 000 employees

Kaizen. What is meant by this strange term?

In Japanese, the word «KAIZEN» means improvement, without big investments, by involving everyone from directors to operators and above all using collective common sense. The Japanese principle is based on small improvements, made day after day but continuously. It is a gradual and gentle process.

Kaizen is not a revolutionary method. Much more a state of mind that is put in place and kept alive by the involvement of all the personnel.

installed, some of our colleagues were on alternate hours, four hours in production and four hours in training (and vice versa). This was to ensure an immediate and most possible efficient transfer.

dm: The second value is innovation. What can you tell us about that?

SC: The world is always changing. The requirements of ever more intelligent and complex security systems drive us on to continuously improve everything we do if we want to remain at the cutting edge. For this reason, our engineering and design department is always looking for new solutions, original ideas and can rely on DECO to convert these ideas into real products in an instant.

M. David Pérez: On a R&D level, it's highly motivating because we are always having to improve!

dm: And as far as efficient investments are concerned?

FS: For us, everything is based on flexibility and rational industrial organisation. We do a lot of work on added valued. Finally, the first value – innovation – is the only one that can guarantee the second – the turn key solution. The third is an element which is vital if we want to ensure the company's long-term future.

SC: We introduced «Kaizen» (Editor's note: see paragraph at end of article) as a tool from the diamond strategy (applying the values). This enabled us to identify all our processes in even more detail and to really focus the company on the customer. It has to be said that this was done in a way to always maintain our colleagues' flexibility and proactivity when putting forward their ideas.

dm: We saw a little earlier that you produce roughly 10% externally. What about the assembly of finished products?

ID: Assembly takes place, for the most part, externally then the products return to TESA for everything to do with commercialisation and distribution.

A customer oriented future

dm: Coming back to production and DECO machines, how do you envisage the future?

M. Santos, M. Dadie and M. Pérez: For TESA, flexibility is the key word. A machine with 40 or 50 tools would be our dream. We would be able to

The production site in Irun is the head office of TESA in Spain.

apply the same strategy on single spindle and this way, be even more flexible for our customers.

For us, floor space is not really an issue. Such a machine could be bigger. A well-ventilated machining area would be more important. For TESA, the future is today an integral part of our values and we will continue applying them.

dm: To conclude, 8 years after this investment in Tornos machines, what are your feelings on the subject?

FS: As I said before, this investment has proved extremely valuable and is in fact at the foundation of TESA's success today. Tornos machines are a risk free investment!

dm: After three hours of interview and company visit (see photos), TESA leaves you with an impression of great professionalism and of a company that really listens and has a genuine concern for its customers. I am a simple journalist and I felt like I was being treated like an important customer. It's definitely one of the company's strengths… Unfortunately I was not in a position to test the second, I did not have a technical challenge to put to them… but you can bet that if that was the case, I would have had the same positive impression.

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Tel.: +34 943 669 100
Fax: +34 943 633 221
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http://www.tesa.es

CUSTOMERS ARE THE FORTUNE OF THE COMPANY

This truth is often forgotten and to have a glimpse on what's happening at Tornos in terms of customer relations, decomagazine met Mr Urs Hirsiger, Vice President, Head of Sales & Marketing.

decomagazine (dm): We've heard that Tornos is about to upgrade its organisational structure for service and sales. An organisation basically has to deal with several aspects such as people, finance and equipment, and obtaining a good mix of these aspects is what will create a good organisation. Can you tell us what changes have taken place within Tornos?

Urs Hirsiger (UH): "Customer needs and Market requirement" must not only be seen as a slogan in our company presentation, in fact we have to live it. As expectations of customers vary in different parts of the world, our sales and service organisation has to be built in a way to accommodate this.

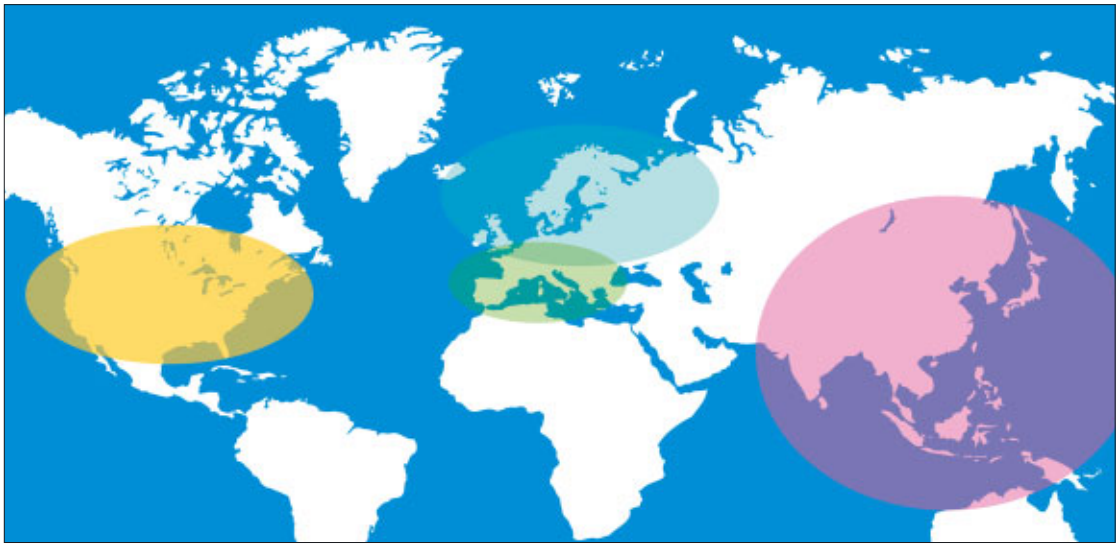
"Think global – Act local" describes well in short words the guideline of what we have to accomplish. An important first step is already well under progress, to localize services and to build application and process know how in the 4 areas, covering Asia, Northern Europe, Southern Europe and America. I am very pleased that I did find in Sandor Sipos, VP Head of Service world wide, a partner who enthusiastically works along the same line.

dm: Before going into detail about these aspects, can you tell us why you implemented these changes?

UH: The keyword is proximity! We want to be close to our customers, in terms of geographical distance and in terms of language and culture We support our customers from various Techno Hub centres, such as out of a Europe Northern base, where English and German is widely used and out of a Southern base where French dominates. In Asia and in America we are also using a variety of Centres for the obvious reasons

dm: Techno Hubs? Or just a sales area?

UH: Not at all! As you pointed out with your first statement, in an organisation there are not only people but also material, goods and money. With the undergoing changes of the organisation we're opening four main techno Hubs, in St-Pierre (France) for South Europe, in Pforzheim (Germany) for North Europe, in Shanghai for Asia and in Chicago for Americas. These centres are developed as application (process know how) and training bases to serve regional needs.



4 sales and service zones: excellent customer proximity guaranteed.

dm: Will you be reducing the numbers of subsidiaries?

UH: Not at all, establishing the Techno Hub for example in Chicago does not mean we will close our Brookfield subsidiaries. The same is for Hong Kong, opening Shanghai as a Techno Hub does definitely not mean to close Hong Kong as a sales, service and logistic base. As I explained, we want to be closer to our customers, therefore we need our staff to be in the neighbourhood and to achieve what we need, i.e., small and dynamic teams, which are based within reaching distance of our customers.

dm: What will be the exact purpose of these Techno hubs?

UH: A customer who buys a Tornos lathe does not only buy a machine but he often wishes to work with us to improve his machining processes to stay competitive. And as we always drive for new applications, we can show to a potential buyer with a test cut that Tornos does share developments with customers. Important for many of our customers is a solid training of their operators. It is a win – win situation, the customer increases his competitiveness and satisfied his own customers too.

dm: Does it mean you will have new people and new services?

UH: Absolutely, we are investing money – the third point of your first initial statement – to hire, train and support competent people and to invest in equipment to offer tailored solutions worldwide. The aim is to benefit from every contact with our customers to support them in one way or another.

dm: You insist on the tailored solutions…

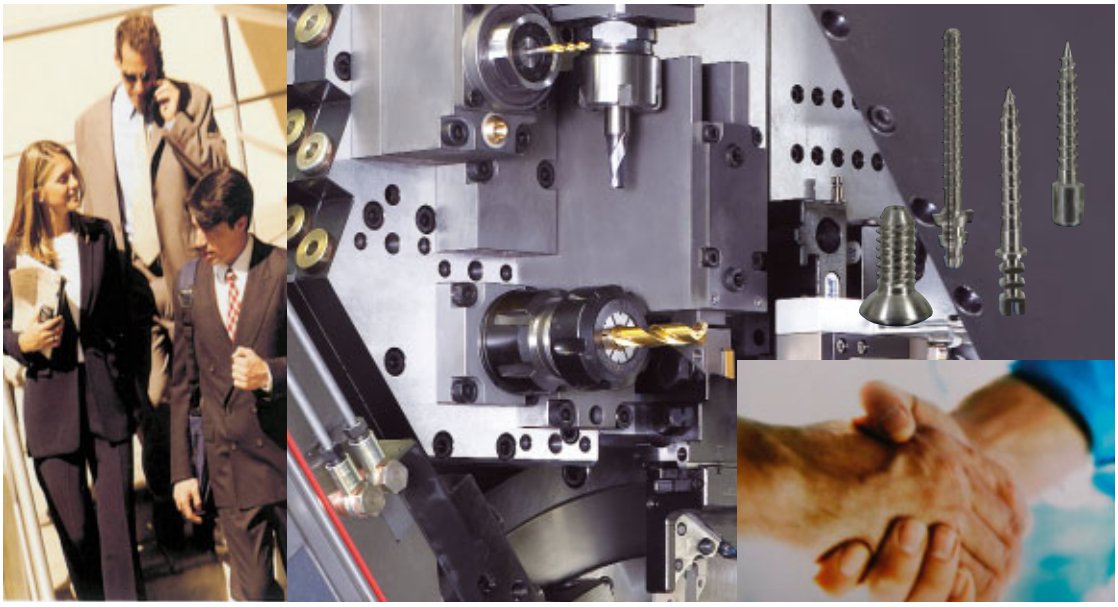
UH: Yes, customer needs are not the same worldwide and having local Tornos employees or employees of our partners who are training or servicing their local customers is really important. This not only guarantees that we understand our customers but enables us to offer added value services.

dm: As a customer, I can come to a techno-hub and ask for the impossible?

UH: Obviously we cannot do miracles (at least, not every day), but customers contacting a techno-hub can be sure that our staff will understand their needs and "go the extra mile". We are also building a knowledge database that will link all the techno-hubs as well as the headquarters. In the system we will have all the knowledge and solutions we have provided worldwide, that's a very powerful tool.

dm: How do you protect customer data?

UH: To this database Tornos selected staff only will have access and sensitive and confidential information will not show up in this database. The aim is to help our customers worldwide, not to unveil their "secrets".



Customer research carried out by Tornos proves that good relations are key to success.

The type of challenge the techno hubs are equipped to face. An intelligent combination of machine cinematics and IT strength enabled this implant to be manufactured in only one chucking operation: considerable time savings for the customer.

dm: If I am challenged to produce a new part for which I do not yet have the optimal setting, can I work with one of the Techno Hubs?

UH: Yes and you don't have to wait until the next show to see a Tornos machine or a Tornos representative, they will always be there to work with you to find the best solution.

dm: You are new with Tornos since October 2006, but what will be the changes for the customers with this new 4-zone sales and service organisation?

UH: The aim is that customers see the difference! We want to be close to them, to respond faster and competently and to further develop good working relationships with them.

dm: Thank you. Any comment to your customers to close this first article?

UH: Yes, I'm very excited about making a difference in customer orientation within the sales and service organisation. We have excellent staff and partners, with their support customers will see further improvements. I invite every customer to let me know, should we not live up to our commitments. Thank you for your help.

Urs Hirsiger

Head of Sales and Marketing appointed in 2006, M. Hirsiger previously worked for a number of machine tool companies worldwide. He has a great experience of cultural aspects and "the importance of the customer".

decomagazine readers will have the opportunity to meet him on some of the worldwide shows.

Any feedback on the Techno Hubs or any queries on any of the other points stated in this article? Feel free to send your feedback to Ms Hirtzlin who is Urs Hirsiger's assistant. Hirtzlin.a@tornos.com

mediSIAMS: AN EXHIBITION DEDICATED TO SUB-CONTRACTING IN THE "MEDICAL" AND "DENTAL" MARKETS

The majority of decomagazine readers already know the SIAMS exhibition, which takes place every even-numbered year in Moutier (Switzerland). The 2006 event was the 10th exhibition and it gave 530 exhibitors the opportunity to present their products and expertise to approximately 15,000 trade visitors. The organisers of this increasingly successful event have decided to take on the organisation of another exhibition: mediSIAMS.

What is the objective of the mediSIAMS exhibition?

The aim of the first mediSIAMS exhibition, that will be held in Moutier from 25th to 28th April 2007, is to create a showcase for the industrial expertise available to the world of medicine and the art of dentistry. With this in mind, the organisers have invited companies active in this sector to take part in this exhibition. Over 170 companies whose production (or partial production) is destined for the medical sector have accepted our invitation. These companies, large or small, have reserved a booth at mediSIAMS to present their products destined for the medical sector. For their part, visitors will be able to discover a very large range of products that perfectly match the requirements of a market looking for high-tech, ingenious, modern, practical, original, unique, task-specific and innovative products.

Why medical technologies in Moutier?

The Jura Area is a region of Switzerland with a tradition of manufacturing very small high-precision components, typically for the watch-making industry. Precisely this kind of skill is required for manufacturing parts for the medical sector. This savoir-faire, which has always been at the core of our companies, allows for excellent positioning within the very highly specialised medical sector. Something which is even more true of the Jura Area. We have everything we need locally to prevail in this market. We operate on the principle of a very large «competence centre». In actual fact, everything, or almost everything, is available within a fairly small geographical radius. This exceptional and very unusual situation will be obvious to everyone at mediSIAMS.

What exhibitor categories are there?

The visitor can expect to find five large exhibitor categories: production facilities, materials, subcontractors, medical and dental products and service support. In each category, successful companies either internationally or regionally renowned, will be exhibiting their capabilities.

Several world-famous companies have decided to

make a premier European event out of their participation at mediSIAMS. Amongst others, major manufacturers of machine tools and some of the world's leading tool manufacturers have prioritised this exhibition to be one of their main events for 2007. For the first time, they will be presenting their wide range of products destined for the medical sector.

Numerous small companies will also be attending mediSIAMS. These small companies, for reasons of cost and availability, are rarely present at exhibitions of this kind. They are particularly innovative, exhibiting ingenious and practical products capable of further improving the very latest of machining processes.

What are the benefits for the visitor?

mediSIAMS is a small and convivial exhibition for visitors. The 170 exhibitors and the organisers know each other making sure everything is in place for a pleasant visiting experience.

As already mentioned, mediSIAMS is not only an occasion for the visitor to discover world-famous companies but also small companies who generally do not exhibit elsewhere. And all these companies are directly associated with the medical sector.

Manufacturers of machines, tooling, materials, specialists in sub-contracting, manufacturers of end products and many others are dedicated to making this first mediSIAMS a success. The four day exhibition will provide unique opportunities to discover products specific to production in the widest possible sense of the word.

Francis Koller, president of SIAMS SA

Products exhibited

1. Production means

a. Machines
b. Equipment
c. Automation
d. Tools – Accessories – Mechanical equipment

2. Materials

a. Materials
b. Semi-finished

3. Sub-contracting

a. Bar turning with metals and associated operations
b. Transformation and treatments of metals
c. Transformation of plastics

4. End products – medical and dental

a. End products – medical
b. End products – dental

5. Service support

a. Service providers
b. Organisations

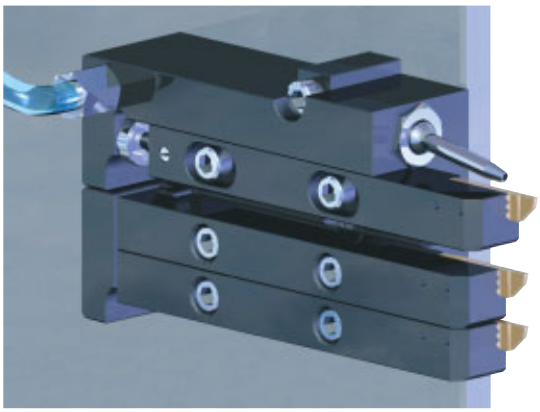
Meeting point for medical technologies

Contact: SIAMS SA
Postal/Zip code
CH – 2735 Bévilard (Switzerland)
Tel.: +41 32 492 70 10
Fax: +41 32 492 70 11
e-mail: info@siams.ch
web: www.medisiams.ch

MODU-LINE SYSTEM

BAR TURNING TOOL MANUFACTURERS COME TOGETHER AROUND THE MODU-LINE SYSTEM

APPLITEC, BIMU, DIETERLE and UTILIS are uniting to provide a vast MODU-LINE type tool line and have created a new standard in high performance cutting tools.



At the end of 2004, Applitec launched 'MODU-LINE', a new modular tool system designed for automatic bar turning machines. This line of tools not only enjoyed rapid commercial success, but attracted keen interest from machine manufacturers. However, in order to ensure the system's long term success and development and also to meet the exacting needs of the customer, the line had to be expanded. The expansion now incorporates:

- a wide choice of tools and insert holders
- optimum availability of options adapted to meet the different machines requirements on the market.

Developing this system towards a common standard shared by several tool manufacturers would perfectly meet these expectations.

Review of main benefits of the MODU-LINE system:

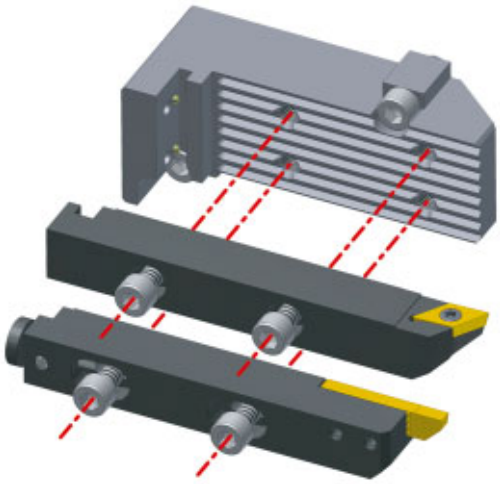
- **Reduction in machine downtime.**
- **Optimization of machining capabilities.**
- **Straightforward and economic concept.**

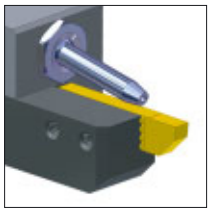
In practical terms the highlights of this concept are:

- Straightforward and rapid tool changeover, with ability to preset and adjust tool lengths.
- Precise insert lubrication, with independent power supply, for enhanced swarf control and reduction in tool wear.
- Higher number of tools available.
- Grooves along the length and large sections of tool to enhance rigidity.
- Wide range of uses with identical tools for different types of machines.

The MODU-LINE concept (patent pending)

The insert holder is held in place by two screws going through the body of the tool. Grooves along the length of its base ensure excellent rigidity and precise positioning. Longitudinal positioning is fixed by a peg (fixed or adjustable) which is held in place under pressure by a sprung bearing. The two fixing screws are part of the insert holder, so they cannot get lost. This makes handling the tool considerably easier.





Precise lubrication ensures enhanced swarf control and increased tool service life. The steerable nozzles are made of stainless steel and can withstand very high pressures. Each lubricating unit can be powered independently, which guarantees maximum pressure where its needed and reduces oil mist formation.

each tool position. This type of configuration means a wide range of tooling configuration options are available. This allows standard tool holders, MODU-LINE tools and driven tools to be used side by side.

There are two versions of MODU-LINE tool holders for the DECO a-line and Sigma 20 machines:

- Tool holder with lubrication.
- Double tool holder, enabling two tools to be fitted in one position on the machine.

MODU-LINE for TORNOS machines

The MODU-LINE tool holder bases are available for the following TORNOS machines:

- DECO 7/10a
- DECO 13a
- DECO 20/26a
- Sigma 8
- Sigma 20

For Tornos DECO a-line type machines and Sigma 20 machines, the tool holder base is independent for

Tool changeovers on the Sigma 20 are much easier. With the MODU-LINE system, only the insert holders are removed. The tool holders remain fitted to the machine.

For the Sigma 8 machine, a specific MODU-LINE tool holder plate can replace the original one. This way, gains in reliability and tool changeover speed are very high. Tool handling is also more user-friendly. For optimum flexibility, one or more standard square section tools and lubrication units can also be used.

As a concept, but also for the synergy created through the collaboration of the leading specialists in this type of tooling, the MODU-LINE system is already set to become a reference for years to come.

APPLITEC SWISS TOOLING www.applitec-tools.com

Bimu www.bimu.ch

DIETERLE www.dieterle-tools.de

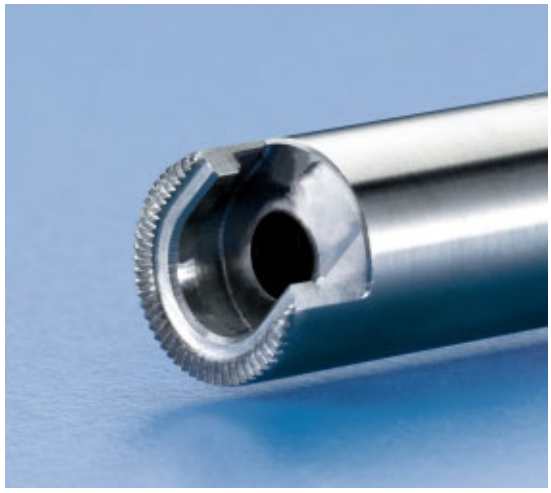
UTILIS www.utilis.com

IN A TIGHT GRIP: INCREASED PROCESS PARAMETERS

Today's high-end medical technology parts have to be manufactured faster, more accurately and with more simplicity. This is new territory for many – faster it may be, but is it still accurate enough? In addition to all this, challenging operations should be more straightforward to carry out… specifications which are already being manufactured in many bar turning firms. MOTOREX, in the lubrication business, has made a significant contribution here with its MOTOREX vmax-Technology and the trailblazing high performance cutting oil ORTHO NF-X.

A good example would be the production of an extremely challenging stainless steel bone miller, used for milling the prosthetic support inside the bone tissue. MOTOREX was approached by the manufacturer of the part and was faced with the following objectives:

Aim	Measure(s)
Increase productivity	Raise process speed (MOTOREX v_{max} technology), optimise machining fluid
All materials must be able to be machined using the same cutting oil	Change from conventional cutting oil to MOTOREX ORTHO NF-X ISO 15
Enhance surface quality	MOTOREX v_{max} technology and optimising tools
Improve safety in production	Extend length of periods between tool changeovers and reduce tool damage through optimised tool generation and ORTHO NF-X
Enhance awareness of realistic optimum potential	Record process parameters in the machine tool log book and MOTOREX cutting data sheet (see annex to this article in this document)
Cost reductions	Through measures listed above



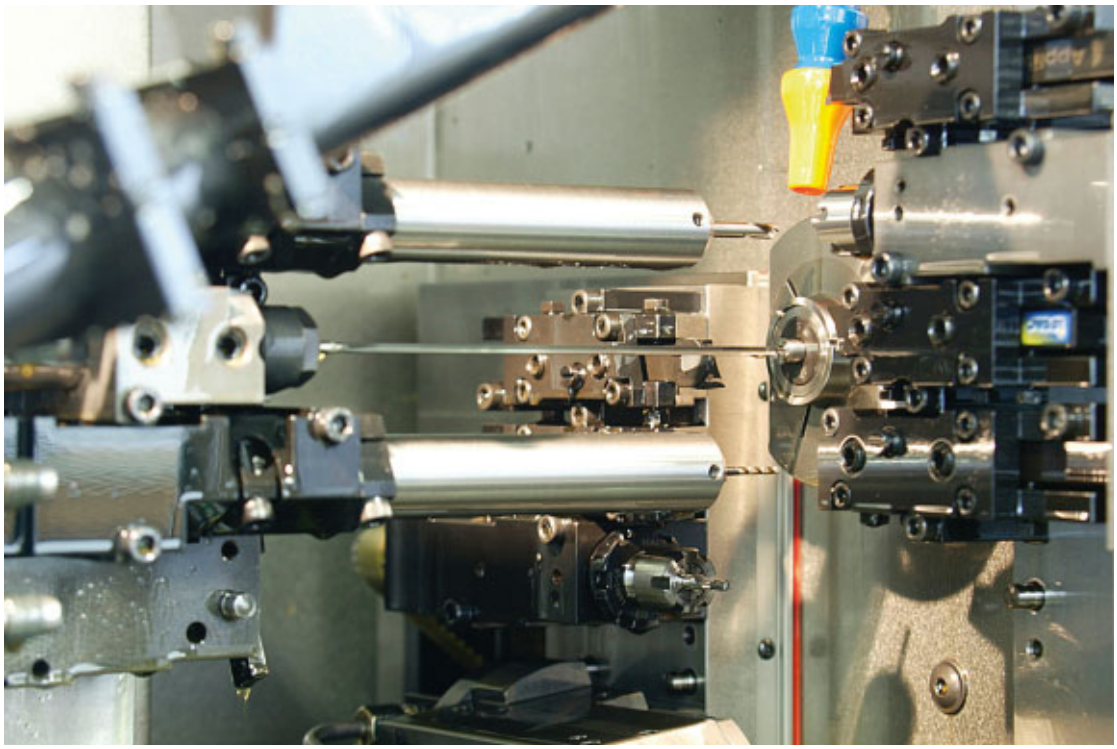
ORTHO NF-X process parameter

As a process parameter, cutting oil assumes the important functions of workpiece and tool cooling, lubrication of the contact point between tool and workpiece and the removal of swarf. The Swiss lubrication technology company, MOTOREX AG LANGENTHAL, which has a very specific focus on the metalworking industry, have a tradition of tests which closely reflect reality. Only this way can the performance capabilities of cutting oil be unveiled.

A short while ago, MOTOREX was able to test the capabilities of the high-performance cutting oil MOTOREX ORTHO NF-X in a comparison test with one of Europe's leading medical technology and tool manufacturers, thereby demonstrating its beneficial product properties in an objectively quantifiable and verifiable manner. In this way the participants were interested in increasing cutting data (Vc = cutting speed) and prolonging service life of tools for deep hole boring and milling with reversible tips.

The results from ORTHO NF-X and the same tools as before the change of cutting oil speak for themselves:

Operation	Increase in Vc = cutting speed	Increase in tool service life
Deep boring	+ 40 %	up to 70 %
Milling with reversible tool tips	+ 11 %	up to 154 %
Total production time/workpiece	up to 20 %	—
Surface quality (R_a value)	50 % improvement	—



Deep hole boring normally involves machining with cutting oils operating at high pressures and high displacement volumes. In this case, a perfect 108 mm deep hole can be made with only 40 bars of cutting oil pressure with ORTHO NF-X.

Faster machining really pays its way

On the tested machine, it proved possible to increase cutting speed by a solid 40 % during deep hole boring in the first stage of testing with ORTHO NF-X ISO 15 and without employing any other new measures. Even when milling at 11 % was still achievable, in view of the tough nature of this material, this should be viewed as a very positive outcome.

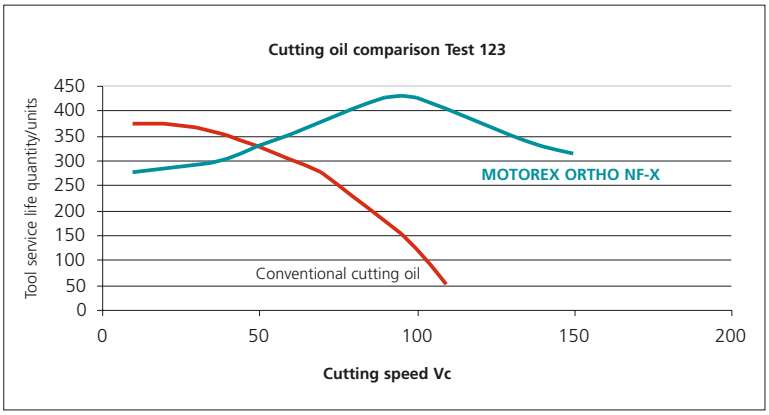
Cost optimisation measures in modern manufacturing companies are feared by most and seen as an opportunity. It does however make a lot of sense to sensitise bar turners to the subject of cutting parameters and demonstrating how they can put the latent potential to optimum use. In this way, productivity diagrams in company figures provide precise information on the performance of each machine and can serve as the basis for a bonus scheme for employees, for example.

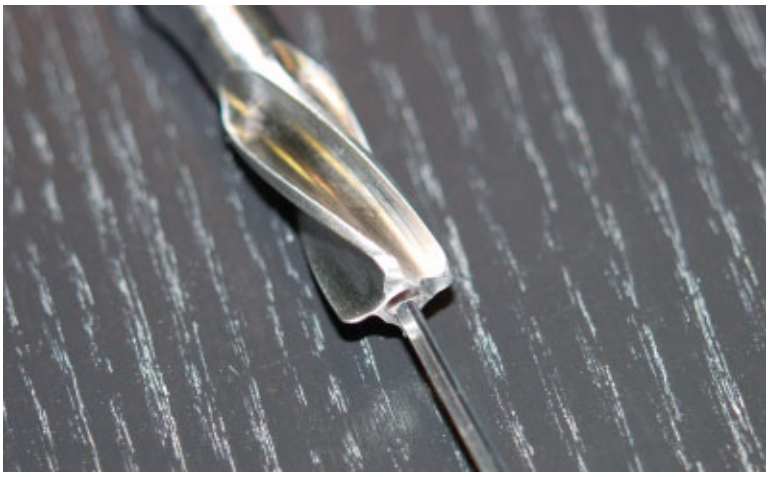
Practical: MOTOREX cutting data sheet

How is cutting data measured and benchmarked in your company? Once process data has been set up on a machine, experience shows that this data rarely needs to be optimised or benchmarked. Every part has different critical points during the machining process. These points require analysis, allowing process parameters to be optimised in a reciprocal manner. A simple but effective instrument for this is

All relevant parameters can be properly compared on the cutting data control sheet from MOTOREX. The sheet can be easily attached to the machine by a magnet and filed with the sample part.

MOTOREX ORTHO NF-X is capable of delivering convincing high-pressure stability. The workpiece receives optimum cooling; swarf is extracted rapidly and with minimum dissipation of oil volumes.





MOTOREX cutting data sheet which is attached to this article. All relevant data can be recorded and compared every time on this document. It is an incentive for line managers to optimise production processes and increase production output levels per unit of service life. Additional cutting data sheets can be ordered from the address below.

Summary of test application of ORTHO NF-X

Overall, it can be said that the positive qualities of MOTOREX ORTHO NF-X have had a direct effect on parameters recorded. In particular, the substantial increase in tool service lives, the improved surface quality and enhanced productivity all helped to convince those involved.

We would be delighted to provide you with information about the new generation of ORTHO cutting oils and the optimization of cutting parameters:

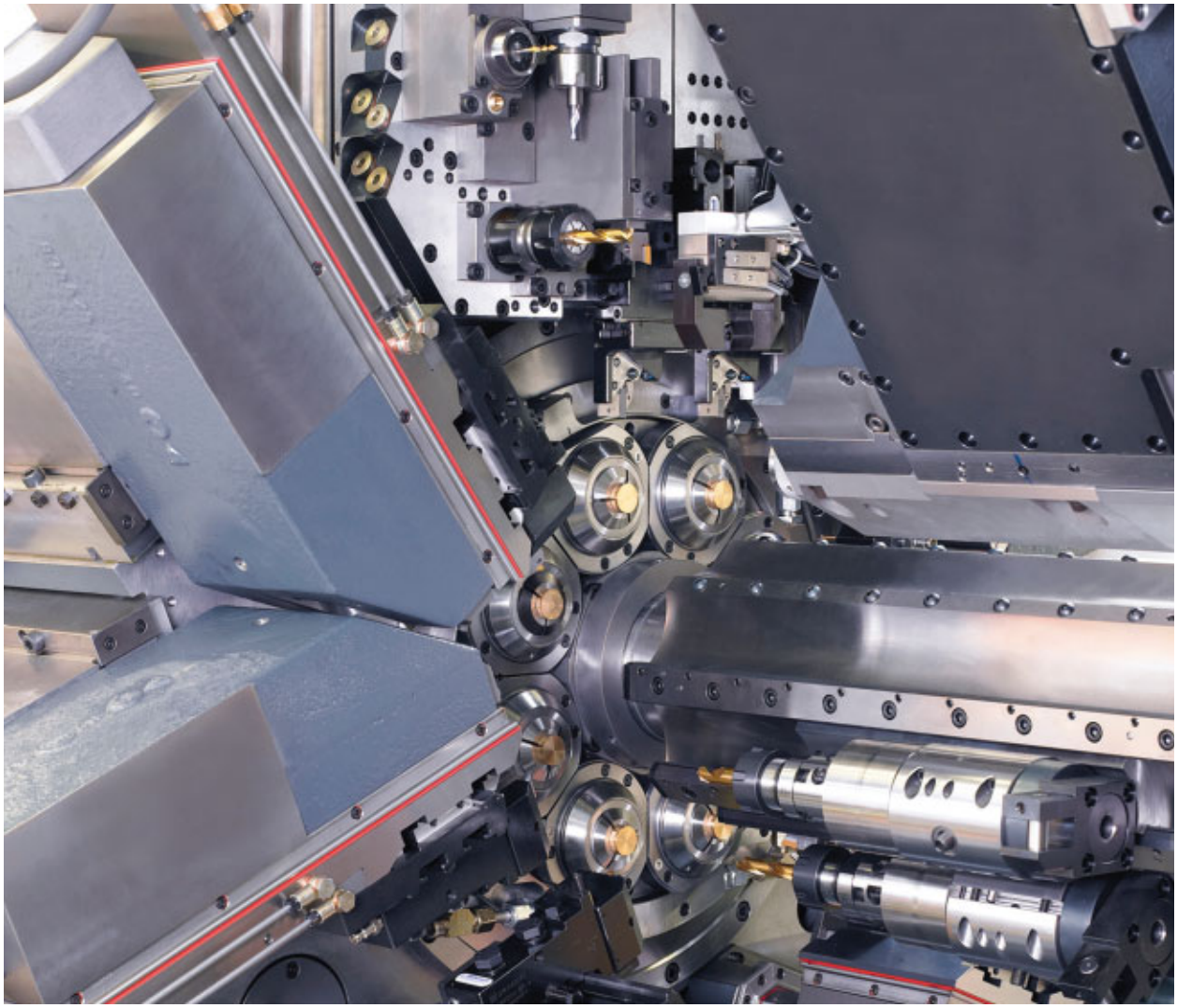
MOTOREX AG LANGENTHAL
Customer Service
Postfach
CH-4901 Langenthal
Tel. +41 (0)62 919 74 74
Fax +41 (0)62 919 76 96
www.motorex.com

WORLD PREMIÈRE AT mediSIAMS…

THIS IS WHERE TORNOS WILL BE PRESENTING A CNC MULTI-SPINDLE TURNING MACHINE THAT PRODUCES PARTS FOR THE MEDICAL INDUSTRY!

Tornos relentlessly continues to develop its product range and at the mediSIAMS exhibition in Moutier, the world leader in turning technology will launch yet another world première. The manufacturer of automatic turning machines will be presenting the MultiAlpha – a multi-spindle turning machine for machining medical parts in long production runs.
(For information on the mediSIAMS show from 25th to 28th April, see article on page 42).

Robert Meier, independent specialist journalist, Rupperswil

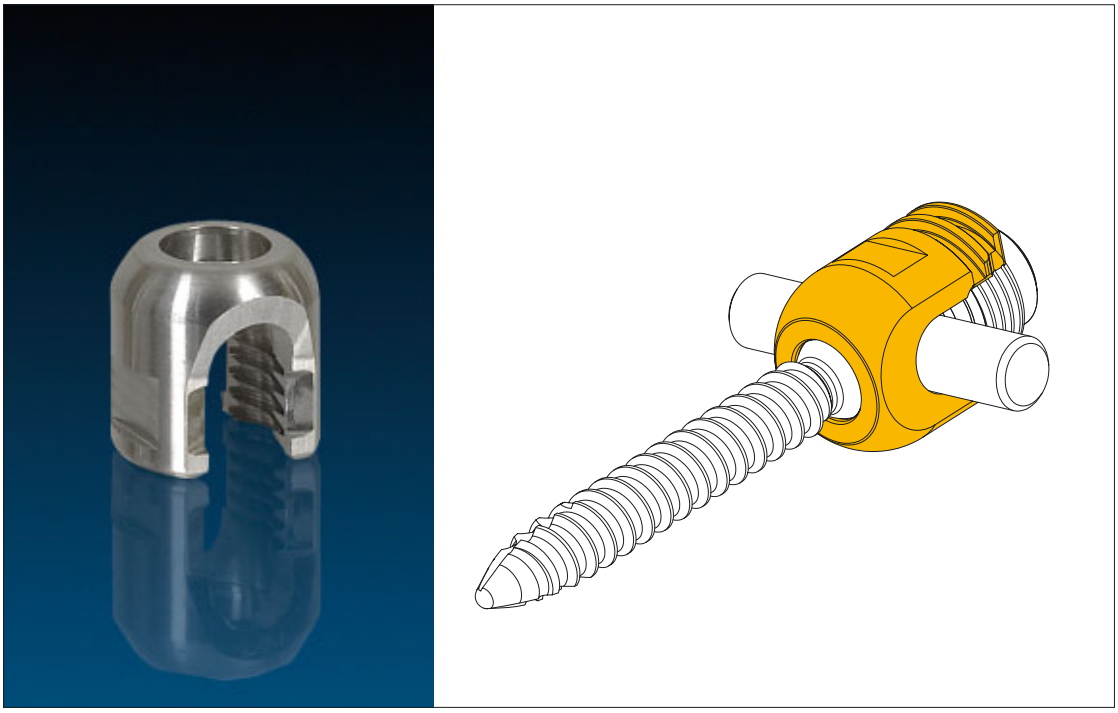


Equipped with a full-scale dual-system for counter operations, MultiAlpha delivers true "multispindle" performance to the medical sector.

Medical techniques are in the midst of great change. New operating and reconstruction procedures are being developed on almost a daily basis. Accompanying every breakthrough are new materials developed by specialists, parts then have to be produced from these materials.

Pressures in an evolving market place

Progress in medical techniques is extraordinary and machined parts are becoming increasingly complex and ever more diverse. Just taking the medical screws sector in isolation, requirements are becoming ever more demanding. This progess is also



At mediSIAMS, Tornos demonstrated production of a variety of parts with high added value. Two on single-spindle and one on multispindle.

affecting the manufacturers of these parts who must also satisfy the demands of yet another trend – the intense pressure on prices within a market. Up to now, the bar turner's prices were first and foremost put under pressure by 'technical' sectors such as the automotive or electronics industry, the medical sector being relatively unaffected by this trend. Indeed, this economic pressure also affects the medical sector and bar turners are looking for a solution that will reduce their production costs in this area as well. Action was needed – so Tornos presents its MultiAlpha multi-spindle turning machine to provide the solution.

Proven expertise

Tornos' expertise when it comes to the design of automatic turning machines, whether single-spindle, or multispindle, goes without saying. Looking back on a long track record, this manufacturer has been supplying single-spindle turning machines to workshops specialised in the manufacture of parts for medical technology for many years. Small parts to screws longer than 35 cm are all produced on Tornos turning machines.

With its multi-spindle turning machines, Tornos first built its reputation around machining large volume parts for plumbing, then for the electronics and automotive sectors, and finally for the highly demanding sector that is watchmaking. Each step of this progression was accompanied by improvements in quality and productivity.

Today's market requirements are such that the company has developed a multi-spindle turning machine which meets the new requirements within the medical sector and it is no surprise that Tornos has made a name for itself in this area. Indeed, this producer can boast an experience of more than twenty years in the medical sector. The company not only relies on specialists who continuously stay abreast of market trends but also maintains permanent contact with professionals in the sector, which ensures the right solutions to today's issues.

No burrs allowed

Titanium is the preferred material in the area of medical technology. This metal is characterized by its low weight and inertia with other elements ideally suited to the manufacture of metal parts to be inserted in the human body.

When it comes to medical parts, requirements are high and like the watchmaking sector, these parts have to meet precise dimensional tolerances, but surface quality is where these requirements are really exceptional. For instance, machined surfaces must be completely burr-free in this sector, a requirement which is not always easy to comply with when using

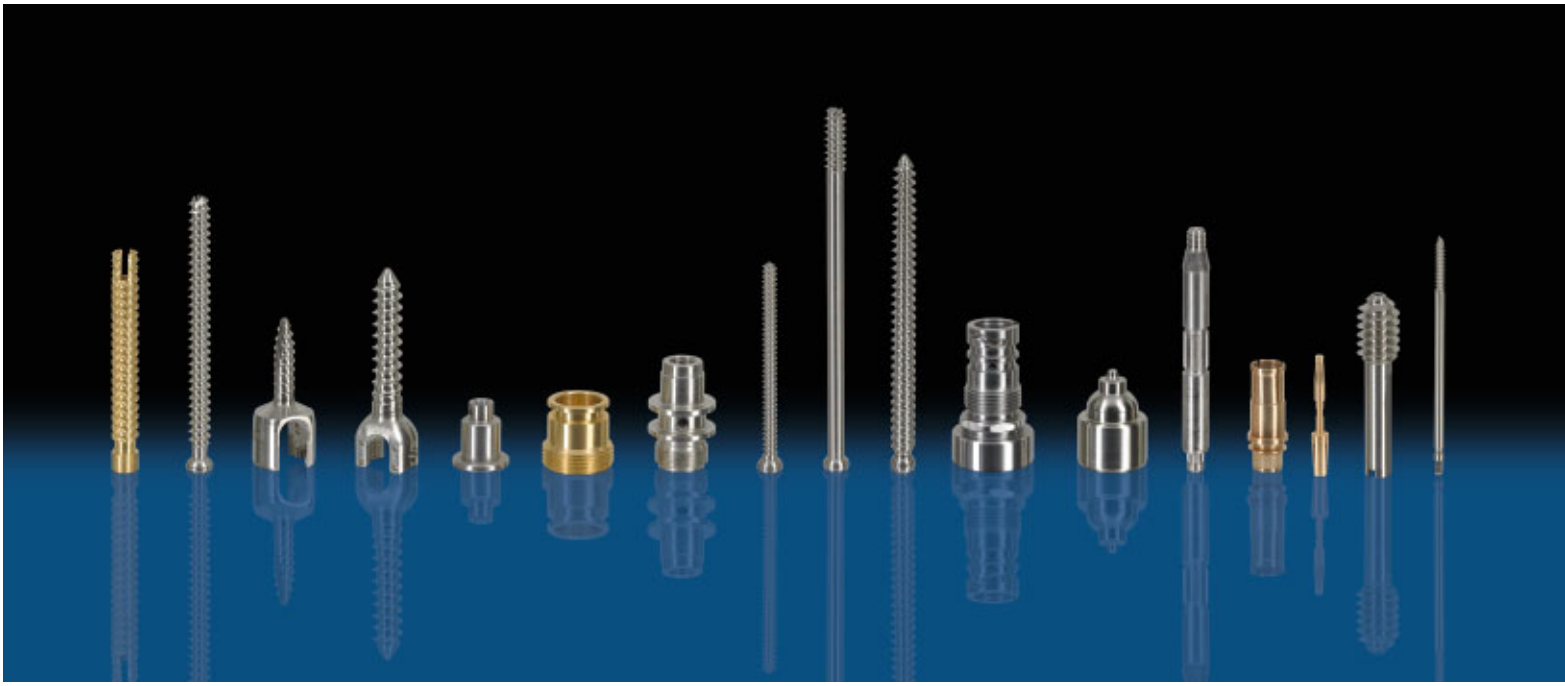
titanium, because this metal is particularly prone to burrs during machining which are hard to avoid. This is why machining these parts is particularly difficult because the bar turner often has to repeat operations to get the required «finish».

The multi-spindle turning machine to the rescue

With its MultiAlpha turning machine, Tornos was already meeting productivity and quality requirements in areas like automotive and watchmaking. This turning machine is equipped with eight spindles, each with its own motorspindle. This type of equipment ensures each station can work at the optimum speed for machining an exact area on the workpiece. In addition, the workpiece can be positioned independently on each station and operations repeated if necessary – if, for instance – to remove burrs perfectly.

To ensure finished parts, the counter spindle of the MultiAlpha turning machine is equipped with five different tools which enable the same number of counter operations. However, this machining capacity means that the workpiece can remain at this station for a prolonged period, a disadvantage when it comes to the total cycle time of the workpiece. Tornos engineers have avoided this problem by positioning a second counter spindle with five tools – an essential benefit.

This allowed for enhanced flexibility of the turning machine and a reduction in operational time on the



Tornos provides a full range of production systems which enable work for the medical sector to be carried out with complete peace of mind.

Focus on mediSIAMS

During the **mediSIAMS exhibition – from 25th to 28th April 2007 in Moutier**, Tornos is presenting as a world première, its MultiAlpha 8x20 multi-spindle turning machine with production of parts for the medical sector. A production area with this turning machine and two single-spindle turning machines will produce regular and complementary medical parts. Visitors will be able to see the capabilities of these production means for themselves.

Tornos evening at mediSIAMS

Medical solutions require tailor made solutions and global solutions are important in this respect. Tornos is aware of this and carries out full scale tests and validations with the assistance of partners specialised in the areas of cutting tools, materials and lubricants.

The aim of these tests is to «keep pushing forward» solutions offered to the customer and in this way, provide higher performance.

Those taking part in this first series of tests are PX Tools and Sandvik for tools, Ugine and Precimet for materials and Blaser for cutting fluids.

All partners will come together **on 26th April from 18:30 in the société'halle in Moutier** for a presentation of the latest trends in machining and «medical» problems and solutions. These presentations will be followed by a round table discussion when the organisers will try and answer any questions from the public. A cocktail buffet will round off the evening.

All those with an interest in the medical sector are cordially invited.

For more information:

Tornos SA Medical, Philippe Charles
Tel 032 494 44 37
e-mail charles.p@tornos.com

workpiece by doubling the time available for counter operations. Machining time for the same workpiece is 4 to 6 times faster than on a single-spindle turning machine – a considerable increase in productivity. Moreover, machining all workpieces on the same turning machine ensures perfectly identical parts, quality is also improved dramatically.

Careful handling

The impeccable look of these parts is also demanded by the customer. It's very important to make sure the part is not damaged when removed from the machine. In response to this request, the Tornos engineers have found a way round it by integrating a handling unit for the workpiece within the machine itself. It grips each part after the finishing stage and places it where the customer wants it, even in a pallet. Any damage through falling is therefore avoided and the customer already has the parts in place on a holder designed for future operations. This palletiser – equipment designed by Tornos – is also available for other areas.

Integrated fire protection system

One of the downsides of titanium is its tendency to ignite during the machining process, even under constant supervision from the operator. To eliminate all risk, the MultiAlpha turning machine is equipped with fire detectors which automatically and autonomously set off CO2 extinguishers. Experience has proved the effectiveness of the system. When a fire has started, turning operations were able to be continued after the fire had been put out, which is a significant benefit. The safety of the bar turner is also ensured by this system.

Production runs are adapted

In the field of medical screws, the sector works with made to measure screw families, standardisation not yet commonplace in this area. For instance, when working on a screw family, the operator only has to copy the program and change some specifications during changeover and the MultiAlpha is ready for a new run. This flexibility and swift changeover is another aspect along the way to high productivity from this automatic turning machine, batch size becoming a less and less significant factor.

Managing complexity, a comprehensive range of services

For extremely complex parts and in particular for long parts, the Tornos single-spindle turning machine becomes the machine of choice. Selecting single-spindle or multispindle is determined by the shape of the part, the size of the batches, the investment, the available space, customer preference and other parameters. These days, the Tornos product range enables a genuine choice of solutions finely tailored to meet the specifications of the customer. With its eight working positions and two counter operation positions, the MultiAlpha is capable of machining shapes as complex as medical screw heads, an area which has traditionally been very complex. Thanks to these capabilities, this turning machine enters production fields never reached until now.

Ease of programming

A multi-spindle turning machine with eight spindles and two counter operation positions – a programming nightmare? Specialists all agree, this turning machine is easy to programme with the help of the TB-DECO programming system from Tornos. The benefit for the bar turner already working on single-spindle or multispindle turning machines equipped with this system is clear, it will remain in the same programming family. In addition, when a workpiece is machined on a single-spindle turning machine then on a multi-spindle turning machine (for example for much larger production runs), the bar turner can benefit from the expertise gained from working on single-spindle to simplify programmation on the MultiAlpha, which guarantees further flexibility.

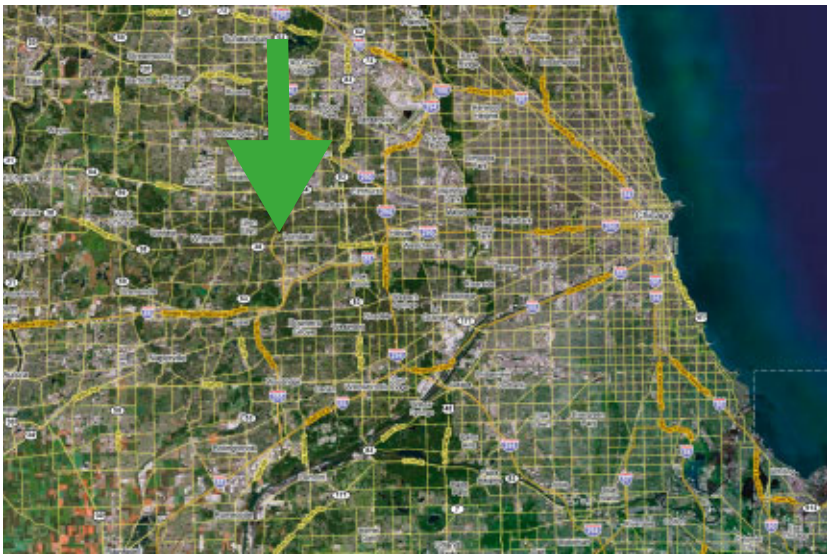
Easily adapted to other sectors

The MultiAlpha is a multi-spindle turning machine which is perfect for total and cost-effective machining for the medical sector. This turning machine is not just a production tool reserved for this sector. If needed, this machine can also be used to manufacture parts of the same quality and efficiency for other branches such as the automotive or watchmaking sectors, without having to modify the turning machine in any way.

MIDWEST CENTER OF EXCELLENCE DUE TO OPEN APRIL 2007

EAST COAST NEXT UP!

Tornos US is expanding its Winning Energy across North America in 2007. To sum up this move, decomagazine met Scott Kowalski.



decomagazine: We've heard about your Centers of Excellence, can you tell us more about these?

Scott Kowalski: With the addition of two new Centers of Excellence this year, we will be able to deliver a higher level of service to all four corners of North America. Both locations will house sales, applications, service and parts distribution operations, greatly enhancing our operating performance.

dm: What about this new facility you mentioned in the last issue of the magazine?

SK: Being built-out now, the Midwest Center of Excellence is a 7800 sq. foot facility located at 820 Parkview Boulevard in Lombard, Illinois – just a short 15 miles from O'Hare International airport and 25 miles from Midway International Airport. On site will be a demo room with representative machines from the DECO and Sigma single spindle line up – making it possible for customers across North America to test drive new Tornos equipment and participate in training classes. An excellent team of service, parts and applications specialists will call this new facility home. Located in the attractive Woodlake Corporate Park, this facility will represent the values of the Tornos brand worldwide: it will truly be a Center of Excellence in terms of performance, productivity, and teamwork.

dm: What is the second Center of Excellence; where will it be located?

SK: Later in 2007, a second streamlined Center of Excellence will replace the existing facility in Brookfield, CT. The new East coast building will take its cues from the Midwest Center of Excellence and will also house a sales, applications, service, and parts team and demo center.

Watch for Grand Opening announcements for our streamlined facilities in both locations very soon.

Tornos (East) – 70 Pocono Road – P.O. Box 325
Brookfield, CT 06804-0325

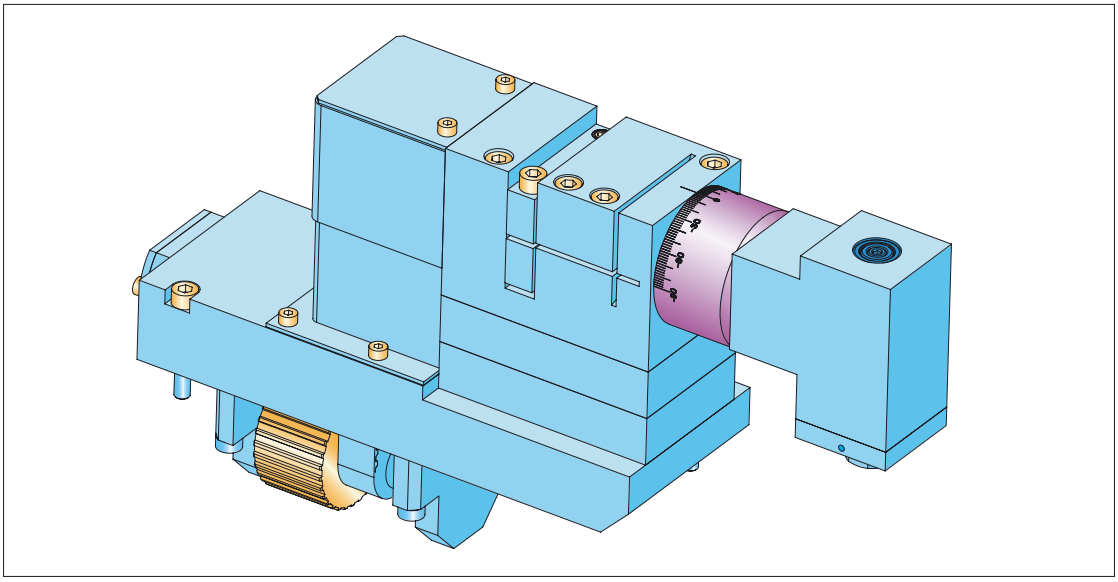
Tornos (Midwest) – Opening April 2007
820 Parkview Boulevard – Lombard, IL 60148

EVEN MORE POSSIBILITIES FOR MORE FLEXIBILITY

In this edition of decomagazine which is primarily dedicated to flexibility (see our article about TESA on page 30), two new options are presented for machines from the Sigma range.

Inclining unit for the DECO Sigma 20

This option does not have an issue number at the time of publication, but for more information, please contact your Tornos dealer.



Application

With parts becoming more and more complex, a machine manufacturer has to offer solutions to match. This new option for the DECO Sigma 20 enables operators to perform inclined milling and drilling operations with extreme ease. Several units fitted simultaneously further enhance the range of achievable operations.

Advantages

This function is based on a similar unit used for the DECO 13a and 20a. The drive system is provided by the same «fast changeover» system as all Sigma 20 units.

- Fitting is straightforward and fast.
- Works in operation and counter-operation modes.
- Proven reliability.
- High level of rigidity.
- Adjustable in all directions.

Technical specifications

Maximum speed: 8000 rpm.

Maximum torque: 3 Nm.

Adjustment: Angle adjustable by ± 90°.

Clamping: ER11 / ESX12 max. capacity 7mm.

Number of units: Two per comb, or four per machine.

Compatibility

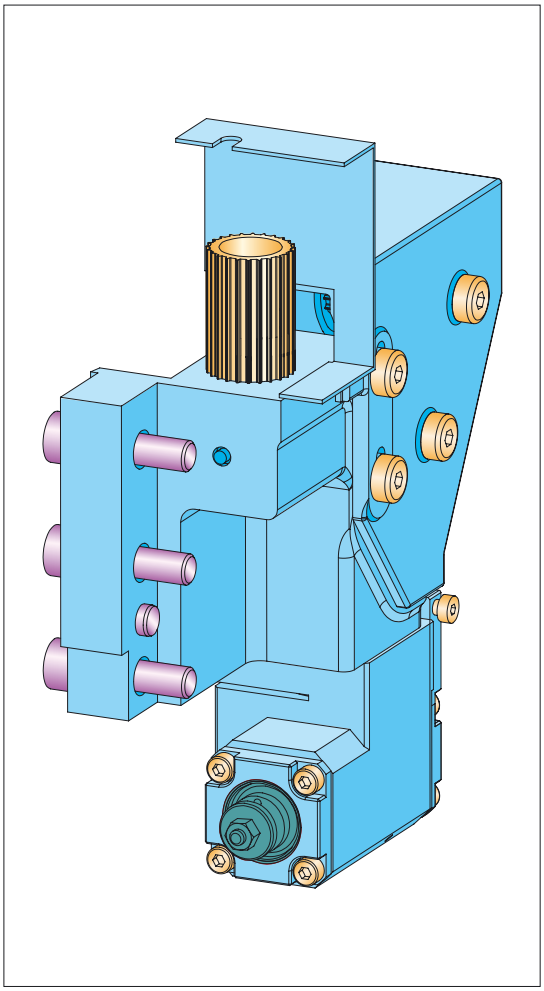
DECO Sigma 20.

Availability

Now.

Sigma 8 unit for threadmilling cutter / polygon operations

Option number 232-2260



Application

This unit is designed for polygon operations and threadmilling cutting as seen in «watchmaking» or «screws for glasses/spectacles», only at the primary stage of operations.

Advantages

Using a threadmilling cutter brings considerable advantages compared with other production methods for this type of shape.

- Speed.
- Option of using a threadmilling cutter «flush with the surface».
- Uses standard milling tools.

Used in polygon operations, this unit enables surfaces to be machined in an alternative manner to traditional milling where sequential machining operations overlap with indexing cycles. This has the following benefits:

- Significantly faster.
- No need for positioning or indexing.
- Very rigid thanks to a mounting bracket.
- Perfect synchronization with the main spindle.

Technical data

Clamping: With bracket diameter 8 mm.

Polygon operations with milling cutter:
Max. diameter 45 mm.

Fitting: T14 position only.

Restrictions

The «polygon operations» software function is essential for these operations.

Compatibility

DECO Sigma 8.

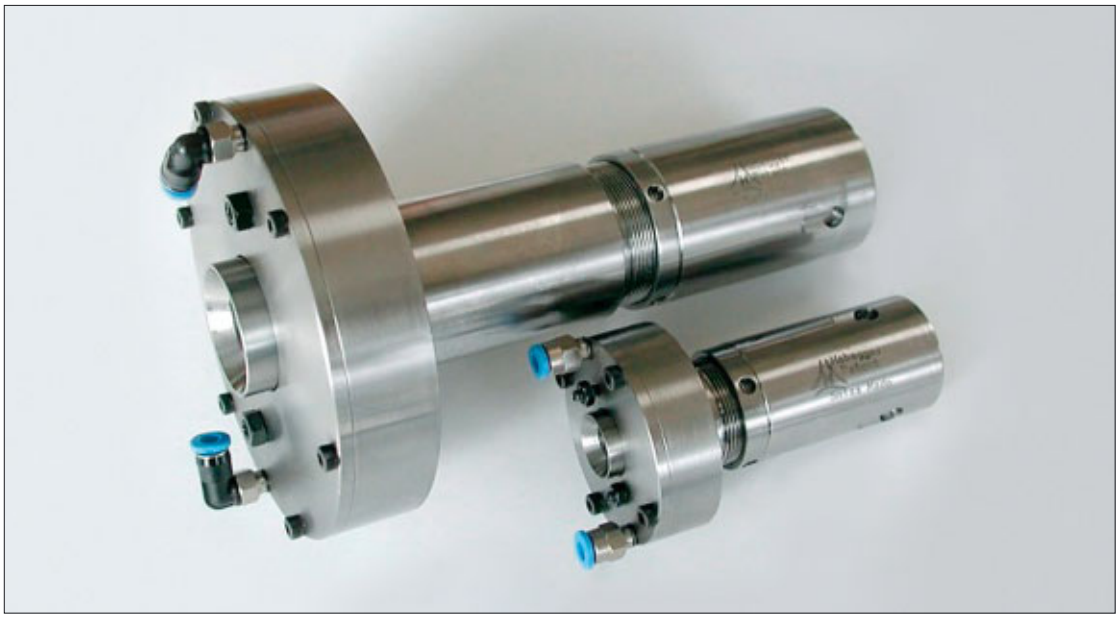
Availability

Immediately.

GUIDE BUSH WITH 3 POSITIONS: GUIDE BUSHES ADAPTED TO BAR TOLERANCES

New from Habegger SA, a guide bush that will get people talking!

Following trial production runs with its Swiss customers and in particular at Tornos S.A. in Moutier, Habegger SA is pleased to present their new guide bush with three positions to the readers of decomagazine. It should be available from summer 2007.



Guide bush TP30 and TP40.

Following trial production runs with its Swiss customers and in particular at Tornos S.A. in Moutier, Habegger SA is pleased to present their new guide bush with three positions to the readers of decomagazine. It should be available from summer 2007.

A little technology

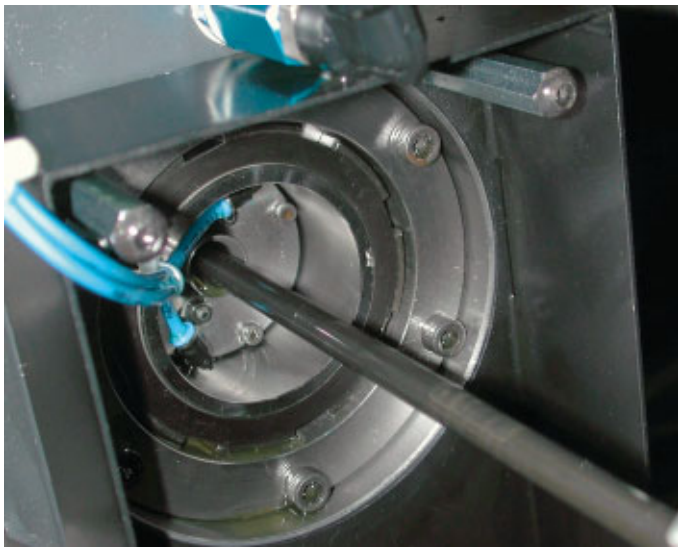
The principle is relatively straightforward. The traditional guiding elements remain unchanged and the internal components are identical to those found in the company's current guide bushes. All except the nut at the rear of the guide bush, which is used for manual adjustment. This is replaced by a pneumatic jack that allows the guide bush to be adjusted at any moment.

User benefits

This new guide bush offers the following advantages:

- Before machining each workpiece, the guide bush adapts itself to the tolerance of each bar, at the point where the workpiece is machined.
- During micro-milling or any other radial machining operation, the guide bush's chuck can be tightened to secure the bar rigidly and prevent any tools from being worn down prematurely – an effect often caused by the bar vibrating in a conventional guide bush.
- The same chucking function can be employed for feeding a long workpiece that requires a collet opening, this replaces the traditional «cable tie».
- Alternatively, the open position of the guide bush enables the headstock to advance rapidly, avoiding any marks on the raw material caused by the guide bush.
- During bar changeovers, this open position makes it easier to remove the off-cut and facilitates the installation of the new bar.
- The adjustment levels of the guide bush ensure the bars are guided perfectly up to h11 tolerance.

Pneumatic box FESTO.



Tornos DECO 20a (back view).

Express interview with Ms Anne Freudiger – Habegger SA

decomagazine: Why this new product now?

Anne Freudiger: The range of parts machined on sliding head machines is expanding year on year and the success of Habegger guide bushes in particular in the field of medical implants, has been the motivation for the company to develop this new concept, which offers definite advantages.

dm: You mentioned years, how long have you been manufacturing guide bushes?

AF: Harold Habegger SA has been making guide bushes since 1968. They are equipped with hard metal rollers that are particularly effective when machining under very tough conditions or with very tough materials.

dm: You have announced that these guide bushes will be available before the summer; will they come in all diameters?

AF: Yes. The same as all the other guide bushes in our current product range.

This new function from Habegger is installed on machines using guide bush holders for standard guide bushes. Interviewed on this subject, Ms Freudiger – head of marketing and communication at Habegger – is unequivocal: «We don't want to pass on additional costs to our customers who already own all or part of our equipment»

Lubrication is still carried out by the guide bush holder, the same as for CNC or EN type guide bushes. The pneumatic unit consists of a unit designed by FESTO which allows the operator to control two pressure levels. The first, at around 3bar is used for the bar guiding position, while the second at around 5bar, is used for the closed position. Inverted pressure controls the forced opening of the guide bush.

The pneumatic connection is done directly on the machine, with lubrified air at a pressure of 5 to 6bar. Two programmable 24VDC connections are required to control these functions.

For all information on this new product, contact Mr Bueche or Mr Känzig at the address below:

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