DECO MAGAZINE

7
4/98
DECEMBER

Merry Christmas & Happy New Year

NEW MACRO G903 FOR THE DECO

In Step with Paul Cassella in the USA

Many of our customers know our Senior Swiss Turning Applications Engineer, Paul Cassella – on the phone, that is. He's the person with the soft Italian accent asking all kinds of questions about your applications so that he can calculate time studies and configure a DECO system just right for your needs. Though he is modest, we encouraged Paul to share a bit of his interesting background with us and his views about the new DECO technology. Here is an excerpt from our conversation:

Editor: How long have you worked for TORNOS-BECHLER?

Paul: Almost 30 years. I was born in Naples, Italy and when I was a child my family moved to a village about 20 miles away from Moutier, Switzerland. When I was 16 years-old I was accepted to a our-year apprenticeship program at Bechler (this was before the TORNOS merger)> My parents didn't want me to commute every day, so we all packed up and moved to Moutier and went to work for the company. My father was a janitor and my mother worked in the milling department. In those days many employees lived in apartments on company property. Ours was attached to the R & D building, and I thought it was so interesting to see new machines being developed. it was a lot of fun. In 1973, I graduated at the top of my class.

Editor: What did you do after your apprenticeship?

Paul: I asked if there was an opening at our German subsidiary. In Europe, it is very important to learn German, so I thought that would be a good way to grasp the language. As fate would have it, there wasn't a position in Germany, but there was an opportunity for a service engineer at the U.S. branch. I accepted it and spent the next year training for machine repair, set-up, and cam layout before going to the U.S.

Editor: Did you speak English?

Paul: Not one word. Luckily when I first came in 1975 I was travelling with Mr. Eric Biedermann who was our chief engineer. When we arrived in New York, my luggage was lost. Without Mr. Biedermann's help with the language, I would probably still be in the airport baggage claim!

Editor: When did TORNOS enter the picture?

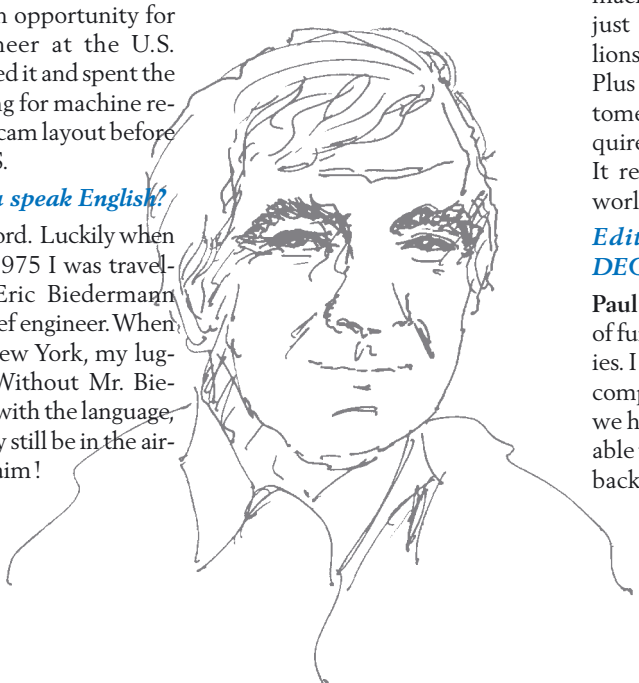
Paul: In 1976 TORNOS and BECHLER merged and overnight we had a complete new line of machines to get familiarized with. But, we received a lot of training and the transition went smoothly. I remember that the hardest thing to grasp was the different types of pick-up mechanisms TORNOS offers. That still stumps me some days now!

Editor: What happened in the early 80s?

Paul: We came out with a line of CNC machines, and experienced some difficult years. By this time I was more involved in quoting and applications engineering, and it seemed that we were always one technological stop behind our competitors. That was hard to accept because for decades the industry looked to us for the next new idea in Swiss screw machines. However, as the years passed we caught up, and now once again, we have made a revolutionary leap.

Editor: With the DECO 2000 technology?

Paul: Yes. With the DECO line I believe we have the best CNC Swiss type machines on the market.



Editor: How so?

Paul: The DECO 2000 machines match the speed of our cam machines and yet have the flexibility of CNC. We consistently beat our competitors in production cycles. I tell our customers to compare the unproductive time and the productive time separately with our competitors' studies. The DECO is designed so that we can have several tools engaged simultaneously. When the counter spindle goes in the back working position it doesn't interfere with the main operations at all.

Editor: Have the applications for Swiss type turning machines changed over the years?

Paul: With the advent of CNC, yes. The applications vary from defense to communications to medical. Our DECO machines are more like turning centers with the ability to turn, mill, drill, slot, gundrill, broach, crimp, whirl, bend, and many other operations. Customers can completely produce a part from barstock. However, we also have many customers who are replacing their conventional cam machines with DECOs. they are just as fast and can produce zillions of parts just like the cams. Plus with the DECO, if the customer's needs change and he requires more flexibility, he has it. It really offers the best of both worlds.

Editor: You seem to like the DECOs.

Paul: They've made my job a jot of fun. I enjoy doing the time studies. I like coming out ahead of the competition. And I'm pleased that we have something new and valuable to offer manufacturers. We're back on top.

New macro G903 for the DECO 10 and DECO 20/26:

Use:

The macro G903 is used to index between tools with a radius path, along axes X1/Y1 or X2/Y2.

A circular path G2 or G3 is worked out by incorporating an ideal radius, bearing in mind the maximum SOFT limit of axis X1 or X2.

Control syntax:

G903 P1= ...	P1= geometry number of the tool to be indexed
G903 P1=14	Indexing tool T14
G903 P1=60	Indexing tool T60

Features:

At each end of the index movement, the tool is positioned at "X", at the last programmed value and "Y" at 0, for the selected tool.

Why the G903 ?:

This saves programming time because it is now no longer necessary to calculate the radius or determine the direction of circular movement (G2 or G3).

Valid from version 4.3 of the TB-DECO onwards.

Using the polar co-ordinate interpolation function (TRANSMIT function)

Description:

Polar coordinate interpolations are programmed in a Cartesian plane (as X, Y coordinates). The machine only executes movements by combining a C axis with an X axis.

We shall now look at two possible applications of this function:

Number 7 (Dec.98):
Milling a square with T31 and end-milling Ø 10

Number 8 (March 99):
Milling a square with a circular miller, ø80 mounted on a polygon unit

Use:

The optional parameter D of function M198/M498 is used with value -1.

- To activate the polar coordinate mode: M198 D-1.
- To deactivate the polar coordinate mode: M199

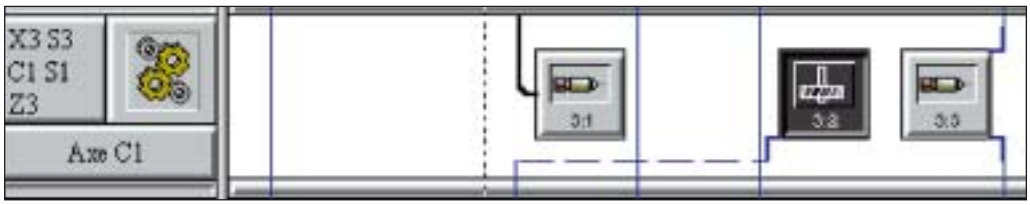
The operating line containing the M198 D-1 code to execute polar coordinate machining, must comprise axis X as master 1, axis C as master 2 and the third axis (e.g. Z) as the slave.

The first master axis must be an axis with a diameter (X2, X3 or X4).

Using the polar co-ordinate interpolation function (TRANSMIT function)

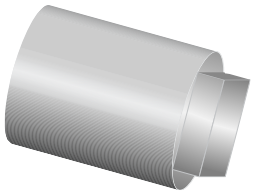
ISO code for the milling operation:

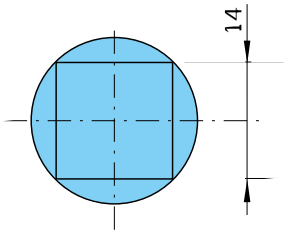
```
1.   G1 X3=35 Z3=-4 G100 T31 G94
2.   M198 D-1
3.   G1 C1=-18 G100  (PREPARING G42 CONTOURING)
4.   G1 X3=14 C1=-18 F200 G42 G81
5.   G1 X3=14 C1=7
6.   G1 X3=-14 C1=7
7.   G1 X3=-14 C1=-7
8.   G1 X3=14 C1=-7
9.   G1 X3=14 C1=18 (PREPARING G40 EXIT)
10.  G1 X3=35 C1=18 G100 G40
11.  G1 C1=0 G100
12.  M199
```

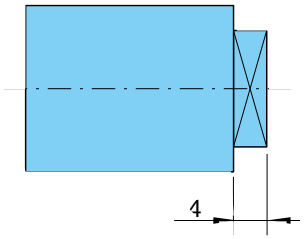


Milling a square with T31 and end-milling Ø 10

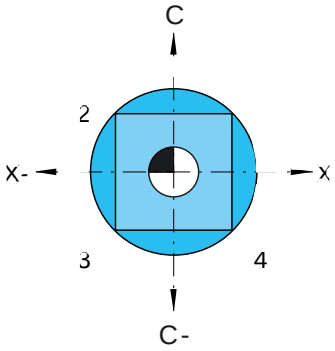
We want to mill the following square shape:







By switching to polar coordinate mode (M198 D-1), axes X and C are now defined as follows:

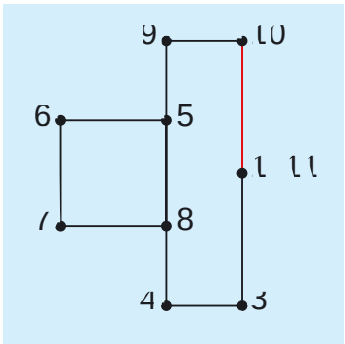


The part datum is located at the centre of the bar undergoing machining.

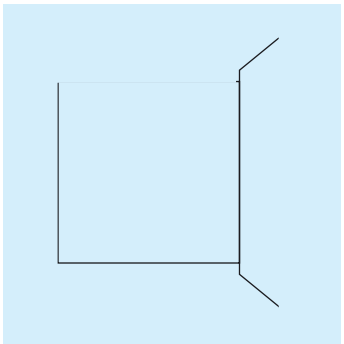
Absolute coordinates at X and C of points 1 to 4:

Point	X	C
1	14	7
2	-14	7
3	-14	-7
4	14	-7

In SINGLE mode the result is as follows:



Programmed path.



Path from the centre of the miller (corrected by G42).

The numbers identify the contour points corresponding to the line numbers of the above ISO code.

Next number:

Milling a square with a circular miller Ø 80 mounted on a polygon unit.

E

New options

This heading starts with the DECO 2000, 10 mm capacity, and highlights 2 interesting new features:

- **a device which extracts long parts**
- **a suction unit**

This issue also presents the latest spindle-locking device for the DECO 2000, 20 mm capacity.

DECO 2000, 10 mm capacity:

Option 5430 – A suction unit for oil and emulsion mist

Application – An additional filter is fitted to purify the air when cutting oil is used (dry mist).

This centrifugal device is designed for minimum maintenance.

Properties:

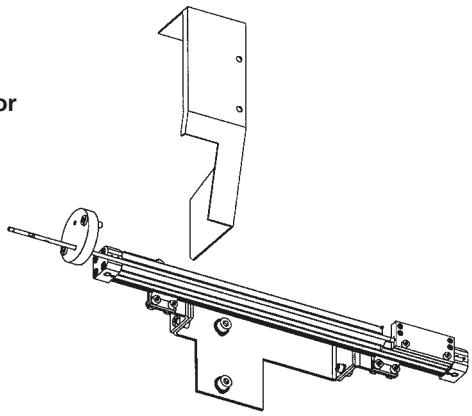
Manufacturer: Filtermist

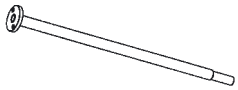
Flow rate: 7m3/min.

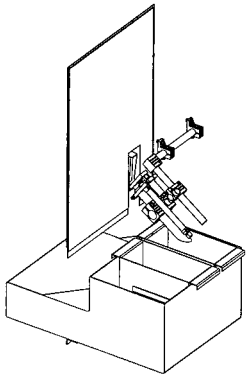
Motor power: 0.37 kW

Noise level at 2 m distance: 65 dBA

Option 4900 – Long part extractor
Note: option 2900 is required for this device.

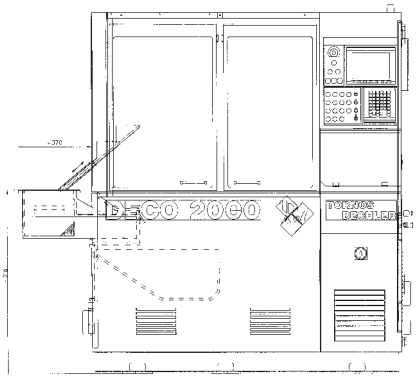






Application – This new device, which ejects parts across the counter-spindle, now means that parts up to 230 mm long can be machined.

A parts recovery device is also proposed.

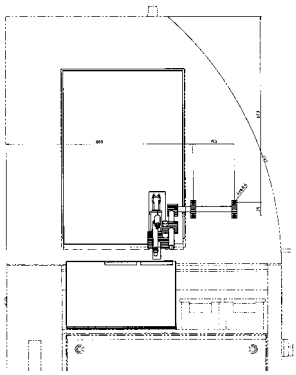


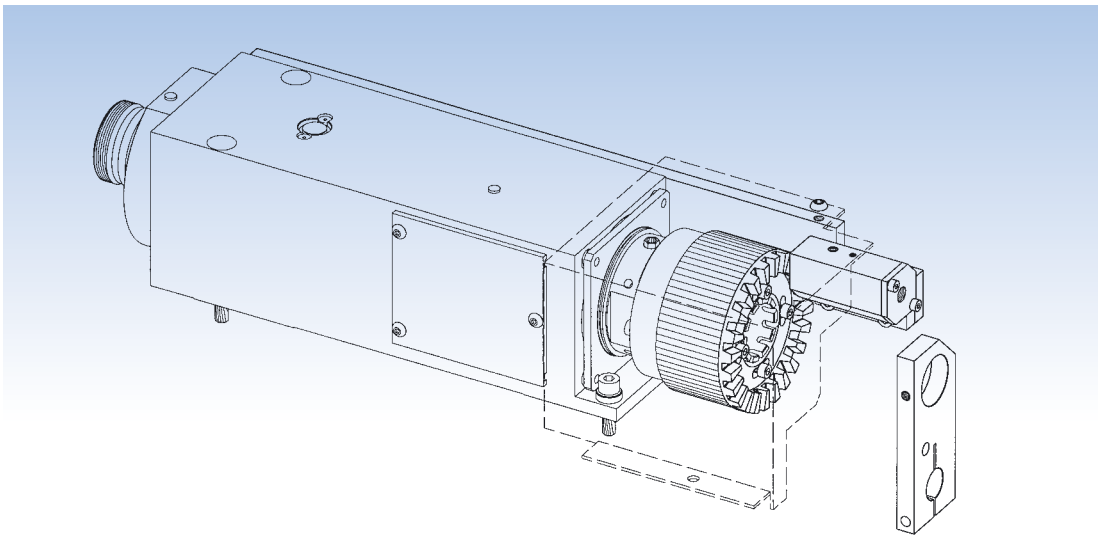
Properties:

Part diameters: from 1 to 10 mm

Length of parts: max. 230 mm

Controls: pneumatic actuators





DECO 2000, 20 mm capacity:

Option 0940 – Spindle lock

Application – This device can be fitted onto the headstock and counterspindle. Its purpose is to improve the accuracy and rigidity of axis C.

Operation – The numeric control positions the spindle. A pneumatically operated lock locks the position required by means of a toothed disk fitted to the rear of the spindle.

Properties:

Standard toothed disk: 24 divisions of 15° each

Locking torque: 40 Nm

Positioning accuracy:" 0,1°

This device makes it possible to increase both the rigidity and accuracy of the positioned stop compared with the conventional electrical system. The improvement in precision is in the order of > 60 %.

Table summarising the new features

Option	Designation	DECO Mag. No
1650	Unit with revolving spindle for the ESX 25 chuck	1/98
2100	High-speed drilling spindle - 15000 rpm	1/98
3240	Triple end tool holder	1/98
5010	High pressure drilling device	2/98
1800	Hobbing device for each generation	2/98
3300	Long drilling/milling spindle for the ESX 25 chuck	3/98 (6)
4550	S5 longitudinal motorization for driving the revolving units in positions T41-T44	3/98 (6)
3350	Differential spindle	3/98 (6)
5430	Suction device for oil and emulsion mist	7
4900	Long parts extractor	7
0940	Spindle lock	7

Even small series!


10 mm


20 mm


26 mm


MULTIDECO 26/6

1 minute with a superb creature passes like a second. The same minute sitting alongside an electrical panel really feels like eternity!

Albert Einstein

According to an exclusive analysis conducted by our financial and technical services, the DECO 2000 can be shown to be efficient and profitable even for small batch sizes.

Reasons

Contrary to our justified claims, there were some rumours in the market that the DECO 2000 was not efficient for small batches!

We immediately set up a working group consisting of the best specialists in the group, to analyse and actually establish the facts.

This article publishes the conclusions of this working group.

Findings

Like every new revolutionary idea, the DECO 2000 creates changes that are either liked or disliked.

In both cases, arguments can reinforce the view dependant on your wishes or prejudices. In this specific case, productivity of this new generation of lathes is, in fact, so great that there is no room for criticism.

Anxious to provide our customers with the best possible information, we decided to compare what actually could be compared!

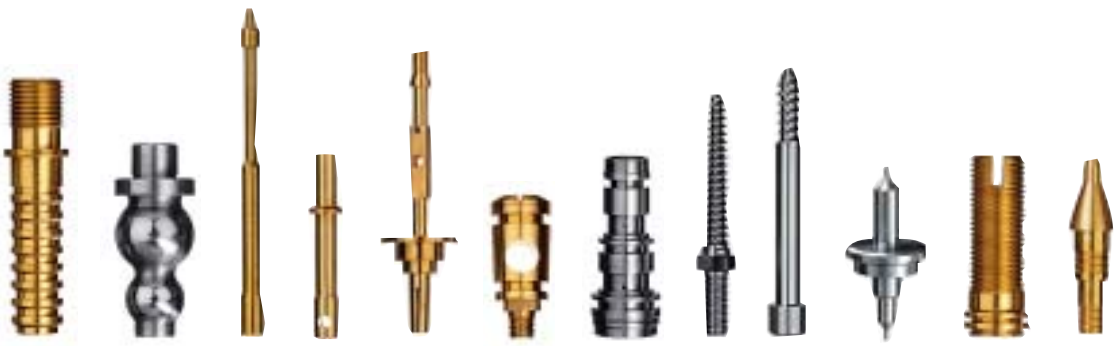
We therefore compared our DECO 2000 with a conventional CNC sliding head machine.

All our arguments in favour of the DECO 2000 (ease of programming, simulation, non-obsolescence of the machine – see DECO Magazine 6) are true and can be qualified – the uneasiness tends to be felt at a quantitative level. Yes, but how long does it take to programme and set?

Procedure

This is why we decided to take as an example, three parts and compare the overall time required for their execution, from the time of calculation right through to production.

The results of these operations were then entered and a financial and mathematical analysis carried out.



The comparative table below shows the results.

Preparation time (values in minutes)						
	Part No 1		Part No 2		Part No 3	
	DECO	CNC	DECO	CNC	DECO	CNC
Process Planning	60	60	60	60	60	60
Tool design and sourcing and managing of tool positions	220 (*1)	240	200	200	180	180
Making the program	200	200	200	200	200	200
Managing the program	2	–	2	–	2	–
Transferring the program	1	more sec.	1	more sec.	1	more sec.
Testing programs	–	15	–	15	–	15
Pre-setting tools	70	70	55	55	50	50
Starting up the machine						
Assembly of attachment and tooling	160	160	130	130	130	130
Bar feed (without changing the bar), chucks, reduction tube.	20	20	20	20	20	20
Program adjustment (several times)	60	60	60	60	60	60
Execute 1 test part	5	5	5	5	5	5
Transfer program (*2)	7x2 = 14	–	5x2 = 10	–	6x2 = 12	–
Total preparation time	**812**	**830**	**743**	**745**	**720**	**720**

Production time (values in minutes)						
	Part No 1		Part No 2		Part No 3	
Production of 1000 parts	**854**	**1298**	**1433**	**2033**	**1133**	**1466**
Production of 3000 parts	2564	3896	4300	6100	3400	4400
Optimisation after 3000 parts	60	60	60	60	60	60
Production of 5000 parts	4333	6553	7226	10227	5727	7393

Table scale, time in minutes

*(*1) : Given the large number of tools and working stations available on the DECO 2000, time can be saved, as it is possible to use a greater number of simpler tools !*

*(*2) : For these examples, we based ourselves on transfers of 7, 5 and 6 times, average figures.*

The total time of preparation has not been added to the production as a great part of it has been realized in hidden time.

The operations were carried out on a Pentium PC, 166 MHz with 32 Mb RAM. Connection to the machine was via an RS-232 cable (the most unfavourable case for the DECO-2000 re transfer time).

Conclusions

The transfer time of the programme to the machines i.e. is when the operator is completely inactive, is the probable cause of the idea that the process is slow. Also remember that more tools do take longer to set. Compare like with like.

Time relativity is a subjective phenomenon, with the best known example being quoted by Albert Einstein, who stated that 1 minute with a superb creature passes like a second. The same minute sitting alongside an electrical panel really feels like eternity !

This transfer time, which, seems long when sitting alongside the machine with arms folded, is nothing but a minuscule particle of the whole. Think of the time it saves though in machine calculation each time the part is made.

Because of this study, we now have the proof that the DECO 2000 is highly profitable and efficient even for small series runs.

Taking an average of our three examples, we obtain very positive results, even from 1000 parts onwards, with an improvement in total series production time (cost) for the least good example, already exceeding 20 % !

At 5000 parts for example, the worst increase is 20 % and more than 35 % for the best case measured.

In this particular example, a series run carried out during one working day (8 hours) on a conventional CNC takes above just under 5 hours !

Thanks to this calculation, we are all the more convinced that with the DECO 2000, we have the solution to all current and future demands of the environment.

Pascal Kohler
In charge of the test center of TORNOS-BECHLER.

Annex 1 : Comparison of productivity

Productivity of the CNC (p/min)	Productivity of DECO 2000 (p/min)	Improvement as a %
0.77 (78 sec)	**1.17** (51sec)	**51.5**
0.49 (122 sec)	**0.7** (86 sec)	**42.5**
0.68 (88 sec)	**0.88** (68 sec)	**29.2**
0.38 (157 sec)	**0.48** (122 sec)	**26.6**
0.84 (71 sec)	**1.2** (50 sec)	**43.2**
0.57 (105 sec)	**0.77** (77 sec)	**33.6**
0.80 (75 sec)	**1.05** (57 sec)	**31.6**
0.45 (133 sec)	**0.52** (115 sec)	**16.8**
0.45 (133 sec)	**0.57** (105 sec)	**26.6**
0.29 (206 sec)	**0.4** (150 sec)	**40**

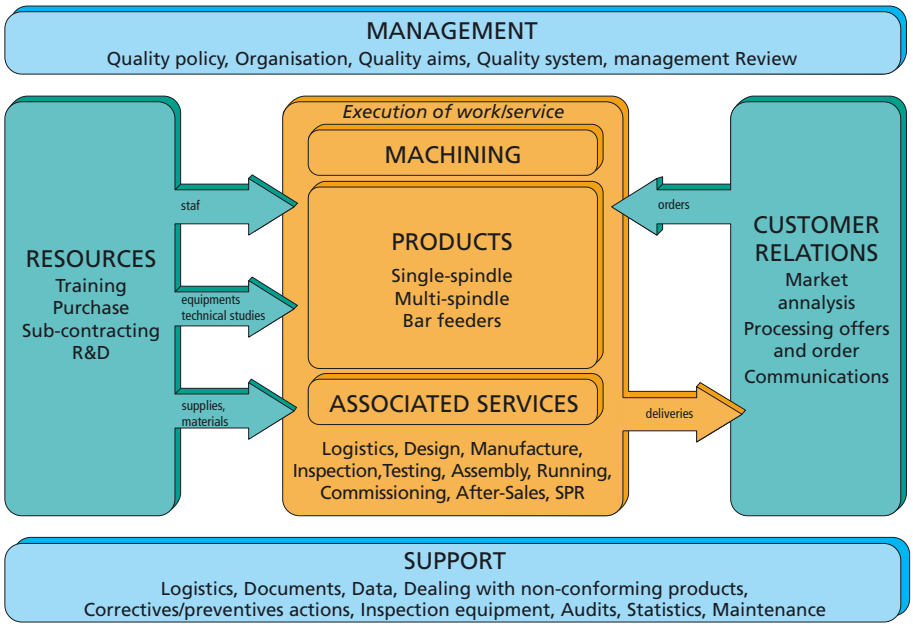
Quality document

Policy and aims

For more than one hundred years TORNOS-BECHLER SA has been involved in designing, developing, producing and selling automatic single and multispindle lathes and bar feeders, whilst also providing the necessary services to meet customer requirements. This constant strive to provide the best quality means that the company remains the market leader.

Jean-René Gonthier
Editor

Quality system structure



Our commitment towards quality is based on the following three fundamental principles:

◆ **Customer satisfaction** – We aim to satisfy our clients by providing solutions to their specific problems, at product quality level and with respect to services, prices and delivery deadlines. Our quality system has to be the guarantee of customer satisfaction.

◆ **Product development** – In order to guarantee the on-going development of our products, we have invested in acquiring new knowledge associated with the use and application of our machines and units. We are convinced that our success is based on the regular adaptation of new technologies and by co-operating with our customers and suppliers when developing new products.

◆ **Trained staff who are both responsible and motivated** – By providing the appropriate training, we ensure that our colleagues are completely familiar with any changes in the scope and responsibility of their jobs. We ensure that the employee carrying out the work is responsible for both executing and checking the job. This implies that our staff are informed, they obtain information and are committed to the quality programme.

◆ **Establishing long-term relations** – We aim for continuity and long-term commitment and work in partnership with our customers, suppliers and sub-contractors. This is reflected by an attitude of openness, availability and quick reactions. We also endeavour to preserve lasting relations with our staff and the outside world.

◆ **Continued improvement** – Our quality system, which is directed towards continuous improvement, requires a flexible organisation. Development of our products, organisation and production facility is ongoing and mastered by a very well defined process, which takes account of the requirements and facilities of TORNOS-BECHLER SA, including preventative measures.

◆ **Creating the necessary means** – We are always involved in creating the necessary means to ensure the development and longevity of the company, compliance with regulatory obligations, respect for the environment and all demands relating to safety.

DECO 2000 20 mm capacity as shown in Japan

Discussion with YACHIYODA SANGYO about their private shows for DECO 2000/20 at Tokyo and Nagoya.

Mr. S. Takei, director speaking:

YACHIYODA SANGYO CO. LTD is the trading company which imports/exports machine tools from Europe/USA. We have had good relations with TORNOS-BECHLER and other machine tool makers in Switzerland, for about half a century as an exclusive agent in Japan. This by way of introduction by the late Mr. Max G. Ritter whose father was the first Japanese Minister to Switzerland.

It is not too much to say that various Japanese industries, Automotive, Watch, Electric and Electronics, Precision, and Machine tool Industries etc., are growing using Swiss Machine Tools. We are proud of our great contribution to this prosperity.

Japan is now the largest producing and exporting center of machine tools in the world. Therefore, Japan is one of the most difficult countrys in which to import foreign machines. In this situation, our company is selling many imported machines by highlighting the sales points of high precision and long life. We believe that our customers share in these benefits from the imported machine tools.

We understand that the machining methods, products and materials of customers are changing as technical progress is rapid and therefore, "product life" is an important sales point.

To sell European machines, some special features that are unavailable on Japanese machines are important to highlight, over and above those factors of high accuracy and long product life.

When DECO 2000/7 mm was presented to us 2 years ago we that thought it would have a greater impact than the TORNOS-BECHLER TOR-4 that many years ago transformed the market.

We were impressed by the original idea of TORNOS-BECHLER who are based on 120 years of history as the established leader of Swiss type sliding head automatics.

Pub

DECO 2000 20 mm capacity as shown in Japan

We also noticed that this DECO 2000 machine has the new concept of NC. This control system, "PNC-DECO," is new and it has the productivity of a cam-controlled automatic with the flexibility of a numerical control. This differs from the normal CNC Automatic Lathes in this field.

Therefore, we planned the private show of this machine. Although there are some price differences between these and Japanese machines, we can expand sales activities by illuminating the superiority of PNC DECO against the normal CNC control.

The first private show was held from June 18 to 20, 1998 at YACHIYODA KOGYO CO. LTD, (Machine tool maker) who are our subsidiary in the Tokyo area. Then, the second in Nagoya had been held from June 24 to 26, 1998 renting the public exhibition hall at Nagoya.

The contents of the shows were the machining demonstration, simulations of programming and machining by TB-DECO software, lecture for mainly the explanation of difference between PNC control system and CNC control system and a question and answer period.

Since we expected many visitors in advance, the above demonstrations were held twice daily, totalling 12 times that were held at Tokyo and Nagoya. As a result nearly 200 professional visitors came to examine the DECO 2000 of which 65 % were very interested.

To understand the market and the needs of the end users we handed a questionnaire to all visitors. Here are the results:

Asked about the control of the machine, 96 % of visitors well understood the differences between CNC and PNC. 1.6 % thought the PNC DECO control is without a future!

36 % thought that they could use TB DECO without any problem. While 8 % thought it is too difficult, the remaining 56 % consider the training very important.

At the machine level, only 4 % of the visitors considered that the DECO 2000 would have difficulties in competing with the inland competitors.

The most difficult point in the private show was explaining "the difference between the PNC control system and CNC control" as well as to illuminate that there is no difference between the production rate of this PNC machine and the cam operated machine. We know, thanks to its flexibility that it is the most superior feature of the PNC system.

We think, we could get sufficient results due to the great co-operation of Mr. R. Froidevaux (TORNOS-BECHLER SA) and Mr. Mike Cox (TORNOS-TECHNOLOGIES UK). We deeply appreciated the help of both gentlemen.

The total appraisal of these private shows will only become known in time. We believe we can get good results from about 200 customers from analysing their feelings on DECO 2000, at these private shows for 6 days at Tokyo and Nagoya.

S. TAKEI, DIRECTOR
YACHIYODA SANGYO CO., LTD.

Mister Takei, thank you for this article that shows the customers' needs are the same wherever they are in the word and that DECO 2000 really gives solutions to them.

DECO MAGAZINE
INTERVIEW

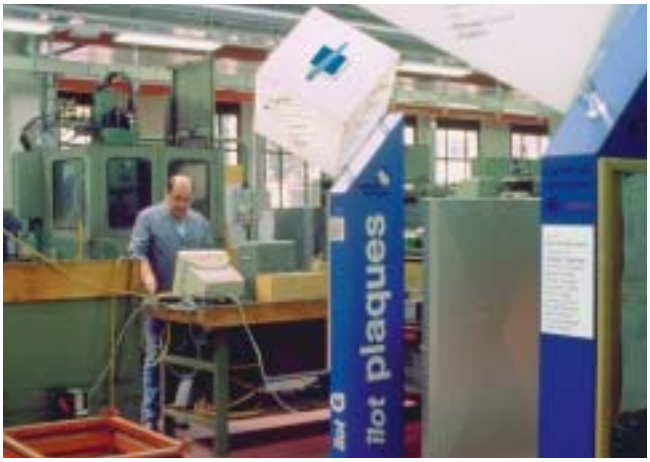
TORNOS-BECHLER

now has ISO 9001 certification, a further stage in updating

What is the purpose of certification ?

We met M. Patrick Spozio, head of implementing the quality management system at TORNOS-BECHLER to standard ISO 9001, to find out a little more about this latest step affecting the entire company.
But first of all, we shall give you a brief summary to define the series of ISO 9000 standards for those of our readers who are unfamiliar with them.

More than 120 people were directly involved in the definition and implementation of the quality system.



Standards ISO 9001, 9002 and 9003 cover the audit and certification of quality systems.

ISO 9001 – Organisational requirements for companies involved in the design and execution of their products.

ISO 9002 – Organisational requirements for companies manufacturing products without being involved in their design (sub-contracting).

The requirements are identical to ISO 9001 but do not include development.

ISO 9003 – Requirements relating to the organisation of Quality Control.

(Product execution phases are not covered by this standard).

The standards are edited by the ISO (International Standards Organisation) which does not carry out certification!

After this introduction, we shall now deal with the essentials of this subject.

DM: Hello Mr. Spozio ! What were your aims in implementing this certification project ?

PS: Hello ! The overall aim was actual certification but mainly we used it as the implementation of a quality system based on the requirements of standard ISO 9001. Application of the quality system must guarantee that the quality required is consistently upheld whilst ongoing improvements are made.

Quality = customer satisfaction.

It must be said that we did not have total quality management integration before implementing this project. The results of this application provide us with a basis, which we can use to achieve continuous improvement and control of the results.

To do this, the whole company had to be put on one level, so as to manage all processes and guarantee quality throughout the whole range of our activities.

What ensues from this certification is a continuous process of improvement, which can be implemented in two ways:

- Either by analysis and re-engineering, which will start up the company again on a new basis (improved process)

- or by focusing on targeted implementation, directed towards permanent improvement in order to comply with the requirements of the standard.

We opted for this second solution, which gradually affected every member of the company through involvement, training and process improvement.

In order to guarantee the system life, we shall have an audit carried out each year by the accredited

SQS supervisory association (Swiss Association for Quality and Management Systems).

This ISO 9001 certificate only runs for a 3-year period and will only be renewed if there is ongoing improvement.

DM: What have been the fundamental changes following this certification?

PS: An awareness in all departments, process inter-relationships and continued systems improvement.

This also highlighted certain operations where training was required and hence a clear-cut training strategy was implemented.

Another strong point is the facility of information access and exchange, ranging from the most simple to the most highly complex, by formalising processes and data.

No, because we tend to concentrate on what is absolutely essential and hence simplify the administrative aspect, so that we only have to contend with the "added value" factor of the process.

DM: Are the products better thanks to ISO 9001?

PS: The ISO 9001 certificate is not a product label, but since the system is always related to the product, product reliability must consequently also undergo permanent improvement.

DM: Is it an asset at market level?

PS: Of course, since any system directed towards customer satisfaction is an asset, whatever the field of activities.

Many of the company's clients have systems governed by standard ISO 9001. This results in improved understanding and hence a better knowledge of the partner and improved co-operation and relevance.

DM: How long did it take you to obtain certification?

PS: Implementation was relatively quick. The steps taken had been well controlled, planned and agreed. All the key success factors, such as management support, staff availability and training, were well managed. I would like to use this opportunity to thank the management for their confidence in me and all my colleagues for their efforts.

Three main elements explain the success of this step:

1. Focus:

We focused on the requirements of standard ISO 9001, ensuring that we only created those documents in sufficient detail, which were strictly essential.

2. Speed:

The project was intensively pursued, without any dead time. This was possible on account of the following reasons:

- TORNOS-BECHLER was already well organised (basic case)
- High morale
- No resistance to change (only in engineering)
- Implementation took place within an overall concept of change (project renewal)

3. Scope:

More than 120 people were directly involved in the definition and implementation of the quality system. Project commitment was total and dissemination throughout the rest of the company was all the easier.

DM: What methodology did you apply?

PS: Implementation and continued improvement were conducted by department heads (all middle management coming under one manager only). There were, therefore, just as many people responsible for quality as there were heads of departments. Everything was treated up-front. Implementation was treated as a thought process and not dealt with "literally", chapter by chapter.

DM: What are the future aims of the quality system?

PS: To have the quality system become part of normal practice for each member of staff; extend the quality system throughout the entire TORNOS Group and implement a computerised information management system.

DM: If I understand correctly, the system is currently quite streamlined, but will it not tend to become more cumbersome?

PS: No, because we tend to concentrate on what is absolutely essential and hence simplify the administrative aspect, so that we only have to contend with the "added value" factor of the process. Our aim is, therefore, simply to formalise all processes at all levels. Our quality system must remain flexible, so that it remains a permanent tool for maintaining TORNOS-BECHLER development.

DM: Mr. Spozio, thank you very much for this interview and we wish you all the best in this important stage in reshaping the company.


SQS
The Swiss Association for Quality and Management Systems
TORNOS BECHLER
TORNOS-BECHLER SA
CH-2740 Moutier
SQS-certificate ISO 9001
Whole company
Machine tool
IQNet

20 MM-CAPACITY DECO 2000 IS ACKNOWLEDGED WORLD-WIDE

After a triumphant launch in June 1997, the 20mm DECO 2000 keeps reminding its developers about what an excellent job they've done:

January 1998	Marketing Trophy – Our first distinction on a national scale; seemingly modest if you didn't know that were placed next best to giants such as Novartis and Coop Suisse.
March 1998	Metalworking Production 1998, Machine Tool Industry Awards – DECO 2000 Highly Commended. The only sliding head.
September 1998	Brno, Czech Republic – DECO 2000 wins the golden medal at the professional fair BWW 98.
September 1998	American Machinist Awards 1998 – DECO 2000 wins the title of **"the most flexible solution"** in the category of CNC automatics.

This unwavering appreciation confirms that TORNOS-BECHLER are well on the way to meeting the customer's requirements and will continue to do so.

MARKETING TROPHY 1999

The dates are fixed for this grand annual event with the prizes being awarded on January 19, 1999. Companies interested in participating in this important national Swiss contest (ideas for products, marketing, communication, etc.) are invited to contact the organisers directly.

Club Marketing Suisse
Marketing Trophy 1999
Jurastrasse 20
4600 Olten
Tel 062 207 07 70
Fax 062 207 07 71

INTERNET

For all Internet surfers, a new service is available: You can now download TORNOS-BECHLER product catalogues together with an application for displaying and printing them (Acrobat Reader).

Besides, you can find many other new features in our site, which are added on a regular basis. Do not hesitate to zoom in.

CONTEST

TORNOS-BECHLER Internet Contest broke a new record of participation when its last edition brought together 500 contestants.

We congratulate Mrs. Cécile Faget, Martine Peigny, Mr. Jerome Loge, Stéphane Clair, Laurent Poirier who win a watch as a result of a draw among the correct answers.

THE AWE-INSPIRING PRODUCTION MEANS OF TORNOS-BECHLER

The machinery in our completely refurbished workshops is constantly modernised: After installing and combining 2 YASDA machining centers we are currently connecting together 4 new high-performance machining centers (MAKINO).

This system will soon enable us to work round the clock with two teams plus one phantom team 7 days per week,

With 25 or 60 pallets this new machinery and work organisation will immensely increase our productivity.

DECO MAGAZINE

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IMPRESSUM DECO-MAGAZINE

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