

14th until 21st September 05
EMO
Hanover

20th until 25th October 05
(excl. Sunday 23rd October)

FEHLMANN AG
in-house exhibitor
Seon CH

9th until 13th May 06
SIAMS
Moutier CH

20th until 24th June 06
METAV
Duesseldorf D

19th until 23rd September 06
AMB
Stuttgart D

14th until 18th November 06
PRODEX
Basel CH

FEHLMANN

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REPORT

FEHLMANN

Anniversary Edition

Danke
Merci
Grazie
Thanks
Grazias
谢谢



Max Dornbierer
Administration Manager

Dear Readers,

Since the last edition of the periodically published Fehlmann Report quite a lot has happened in our company.

This year, we are looking forward to two important events, namely the 75th anniversary and the opening of our new Technology Center - two milestones in our company history which we would like to celebrate together with you in an appropriate manner.

With our new building we laid the foundation for an even better and more efficient customer service and care than has been offered to our esteemed customers so far.

In our big anniversary year, interesting events await us, for instance the EMO in Hanover from 14th to 21st September 2005, the 'Fehlmann Demonstration Days' from 20th to 25th October 2005 (excluding Sunday 23rd October) and much more. Already today, we are looking forward to personally welcoming you either on the EMO in Hanover or at our location in Seon. Needless to say that our company management has not forgotten about our employees and offered them a boat trip around the Hallwiler lake with a banquet to followed by an anniversary surprise.

You will find detailed information about our anniversary and the new Fehlmann Technology Center along with other interesting news on the following pages of this Anniversary Report. We are sure you, too, will find items of interest. Enjoy your reading.

If one has been working for one and the same company as long as I have people will quite often say you are 'part of the furniture'. This slightly disrespectful expression doesn't bother me at all, on the contrary, it fills me with a certain pride. Together with many other employees I have been given the opportunity to experience a lot of things over all these years - ups and downs with the former exceeding the latter by far. It was especially in bad times that our patron stood behind his crew which cannot be taken for granted any longer these days. Doubtlessly, this is also the reason why so many employees identify themselves with the company keeping faith with it in good times and bad times. In the name of the entire staff, I would like to sincerely thank the Fehlmann family. We do not consider ourselves simply as employees, but we are part of your company, we all belong to the big "Fehlmann Family", and we are proud of it.

Above all, however, we would like to thank our esteemed customers for their trust put in our company and our products. We know that we would not be where we are today without your loyalty, and we hope that you will allow us to further intensify and care for our partnership in the future.

Kind regards - Max Dornbierer

75 years of
W. FEHLMANN AG.
Thank you!

The new FEHLMANN
Technology Center

Step towards a
new dimension:
PICOMAX® 95

EMO 05
Hanover

PICOMAX® 90-M
with EROWA ERM

DATES
Dates for
your diary



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RETRO SPECTIVE

Seminars

The 'chip removal' seminars organized in cooperation with the companies Mapal and Sphinx and held in the premises of Motorex, once again form the ideal platform for the exchange of ideas and opinions.



In-house events

Welcome!

Once again this year, we had the pleasure of receiving numerous current and potential customers from home and abroad at our location in Seon.



Trade Fairs

Again last year, the world met FEHLMANN at more than 20 (!) fairs and exhibitions.



Stuttgart AMB 2004:
Presentation of the new FEHLMANN HSK E-50 spindle with 26,000 rpm.



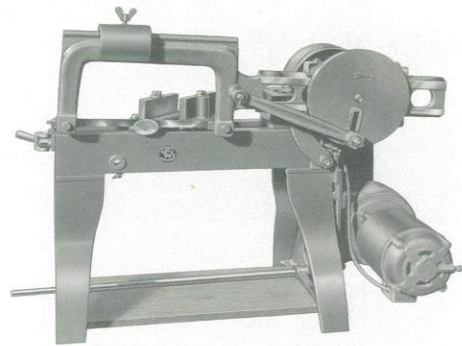
New FEHLMANN now also represented in Spain: Bilbao fair

At the site in China: with the machines PICOMAX 54 and PICOMAX 60 at the Beijing fair.



75 years of W. FEHLMANN AG. Thank you!

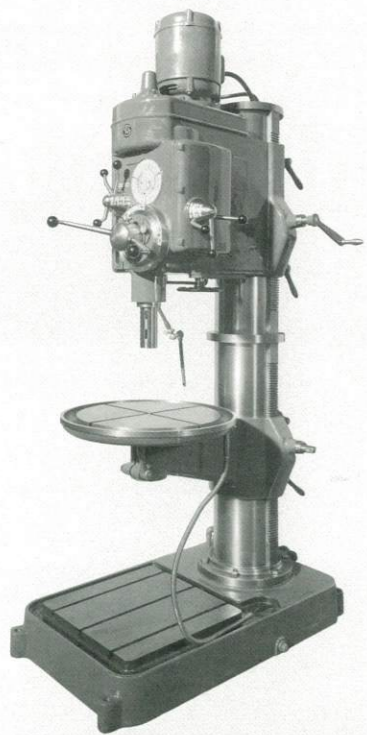
1936 at the trade fair in Basel



Sawing machine



Precision vice



High-speed drilling machine type B 40

W. Fehlmann AG Maschinenfabrik is a Swiss family enterprise which was founded by Willy Fehlmann, father of the current senior boss, Willy Fehlmann sen., in 1930. Since the passing of the founder in 1952, the company has been managed by his son Willy sen. He is about to be replaced by his three sons Frank, Willy jun., and René who will follow in his footsteps.

Mister Willy sen., please, allow us to take a look back at the past.

Willy sen.: Well, everything started in a very modest way. First, my father founded a company together with a partner. However, this partnership failed whereupon he set up his own workshop on the ground floor of his newly built house in Seengen in 1930. First, repairs or improvements to existing facilities and equipment were carried out. However, the operating range was limited to roughly 30 km as distances still had to be covered by bicycle.

This sounds rather adventuresome...

Willy sen.: Adventuresome was above all the irregular order inflow. Therefore, my father soon developed a program of machines and appliances designed and built by himself and quickly had success with it. As soon as in 1936, he presented his products at the trade fair in Basel!

And then, an interested son grew up as well?

Willy sen.: Of course, the entire family was involved in the company. My mother took care of the administration, and I spent most of my spare time in the workshop. But also our employees are actually part of the family. When the foreign competition made life increasingly difficult for us in the late forties, we managed to eke out a living with job order production thanks to the tireless work and commitment of our employees.

When did you definitely join the company?

Willy sen.: Unfortunately, my father passed away much too early, in 1952. As at that time I was still studying mechanical engineering in Le Locle graduating no sooner than two years later, the company went through a difficult phase at that time. During that time, I designed a bench drill with built-on coordinate table, equipped with an infinitely variable speed range between 300 and 4,000 rpm, which permitted precise jig boring and light milling applications (Fehlmann TB 13).

Was this the first step towards today's product program?

Frank F.: That's probably true, yes. With reference to handiness, operator convenience, universal fields of application hand in hand with high accuracy, my father's machines had to stand up to strong competitors already at that time. These requirements have changed very little over the years.



Company founder Willy Fehlmann, his son Willy and Mary Fehlmann in 1948

If one takes a look at your building complex today, it becomes apparent that a strong expansion then occurred?

Willy sen.: Thanks to constant further development and realized improvements, our concepts proved to be very successful. In 1958, the production area was more than doubled, and in 1969 we were forced to look for entirely new solutions which brought us here to Seon in the end. Technical development as well made quantum leaps at that time. With the incorporation of an electrical engineering and control technology division we were able to also keep pace with the electronic era. Early on - in 1975 - the company presented its first FEHLMANN NC coordinate milling and drilling machine combined with a 3-axes contour control. This PICOMAX 50 NC 3 also was one of the most important milestones in our company history. More than 800 units of this machine were sold!

How many employees did the company occupy at that time?

Willy F. jun.: At that time, the W. FEHLMANN AG employed approximately 30 persons. But in principle we remained a big family - something which hasn't changed until today by the way. Still, there

is no anonymity in our company, everybody knows each other, everybody knows who is in charge of which task. The identification of each individual employee with the company has always been and still is very marked and impressive.

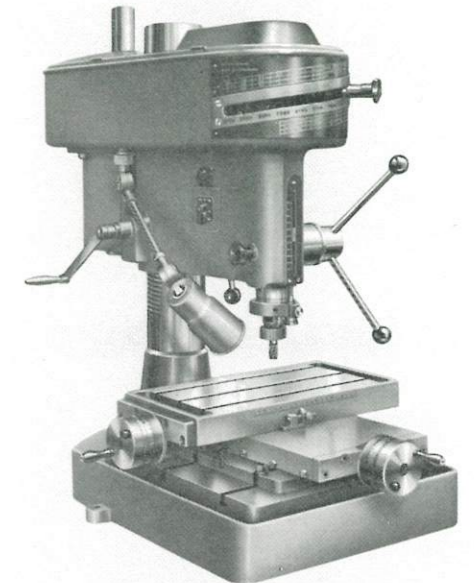
Ok, let us talk about the company philosophy. Do you have a mission statement? A kind of company philosophy?

Willy sen.: I believe that what makes us clearly stand out from the competition in Europe is no special mission statement but rather the fact that the customer receives a product from a single source which is practically produced by us from A to Z. We know our machines down to the last detail which is why our service is able to react in an extremely fast and competent way. We are also well prepared to selectively respond to customer-specific problems as we establish direct contact between the customer and us as the manufacturer. Not to forget our praxis oriented training courses.

Willy Fehlmann sen. with his three sons Frank, Willy jun. and René (from the left)

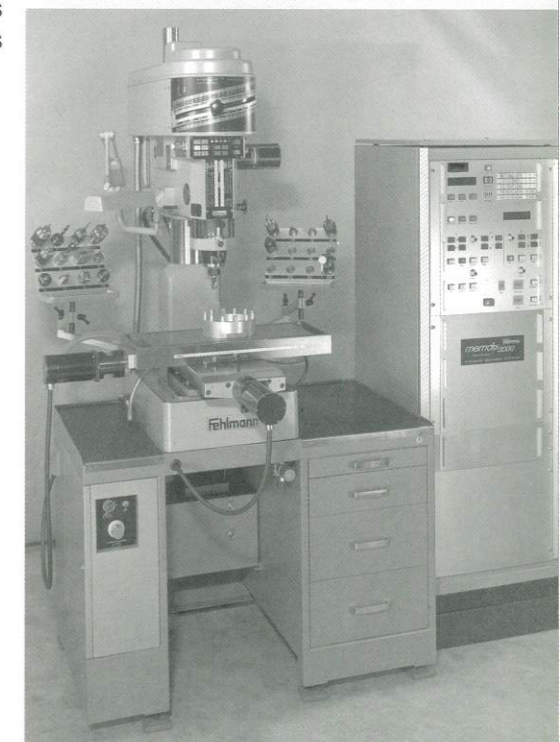


Beginning of the 50's:



Fehlmann TB 13

1975 at the EMO Paris:



PICOMAX 50 NC 3+A

Steps to keep in pace with modern times. 1989: PICOMAX 80 CNC-W
with automatic tool change



1994: PICOMAX 82 HSC
the HSC era, with 30,000 rpm



2001: PICOMAX 90-M
with the EROWA PX- Robot



Frank/F.: If I may throw in a word concerning the mission statement topic - or company philosophy or 'Leitbild' as we call it in German - I believe that our company philosophy might just as well be circumscribed as "user-oriented technology leadership". We do not want to apply technology for technology's sake but to offer the user an optimum solution as close to perfection as possible as regards precision and speed. Right from the beginning our attention has been focused on customer benefit and the high quality standard in all areas.

Let's return to your history. How did things proceed after the PICOMAX 50 NC?

Willy sen.: Of course progress didn't stop. In 1989 a new chapter was opened with the PICOMAX 80. It was designed for manual and CNC operation (switchable) and came newly equipped with the automatic tool changer. Starting from 1991, the machine was also available and offered with an Erowa robot. Its follow-up model - the PICOMAX 82 - opened the

gates to the HSC (High speed Cutting) era offering speeds of up to 30,000 rpm. In addition, we gained first experiences with automatic tool changers and our in-house MCM control software (Milling Center Manager). Even in view of this fast-paced development, however, it remained important to us that our machines continued to allow for conventional manufacturing.

Willy jun.: In 1996 we completed the PICOMAX 60 with its modern design and construction. Its technical highlights, such as the water-cooled hybrid-bearing motor spindle and the digital drives in 5 axes, allowed faster machining with higher accuracy. Its bigger sister, the PICOMAX 90-M with EROWA robot, was launched in 2001. With its large tool station magazine, this machine is virtually predestined for the use with a robot among other things. And now already the PICOMAX 95 is about to follow

Frank F.: In parallel to this development, however, also our operation and working processes were radical. Today, we are working with 3D geometry data throughout - from development (CAD) via programming (CAM) up to the CNC

measuring machines. For some time now, also the I.T. supported Product Data Management (PDM) and the FEM (Finite Element Method) calculation were adopted in order to accelerate the work flow facing higher and higher quality requirements. All this is also reflected by our new Technology Center which was built to provide an ideal environment for high-precision machining under stable temperature conditions.

What does "stable temperature" actually mean and why is it important?

Willy F. jun.: It means that the temperature is permanently kept constant allowing for a tolerance of +/- 0.7 °C. This is an absolute prerequisite for supersensitive precision engineering.

Meaning the future has begun in the new building?

Rene F.: Yes, you may say so. But above all we hold machine demos, carry out tests and offer training courses for customers in these new premises while the entire sales and development activities are focused here as well.

The just finished Fehlmann Technology Center setting new standards throughout



To design and build high-precision machining centers is one thing. But who are your customers, and where are they located?

Willy sen.: To begin with, it was of course Switzerland which was our main buyer. But very quickly we exported to all of Europe, in particular to Germany. Frank F.: Today we do export approx. 2/3 of our products worldwide to the industries mold and die production as well as precision part manufacturing. The challenges arising from this are complex: On the one hand we need high flexibility but on the other we also need expertness and the willingness to render top performance in ever changing fields.

One last question - Do you happen to know how many machines have already left your plant?

Willy sen.: We cannot name an absolutely reliable figure, but without any doubt we have already delivered far more than 10,000 machines. Many of the older ones still do their duty every day. We can say as much as we regularly receive inquiries for spare parts or upgrade requests. But let me close by saying something else: One can say that we were successful which is doubtlessly true. However, this success would not have been possible without our capable, committed, reliable, and loyal employees. Many of them have become a fixed part of our company over all these years. The other side are our faithful and loyal customers. For generations, it has been they who set and defined for us the guidelines of our developments. I will soon step down and make place for the next generation which is why I would like to take this opportunity to sincerely thank all of you who have contributed to the success of the W.Fehlmann AG company by some means or other!

Interview: Ruedi Kolb

The three Fehlmann sons::



Frank Fehlmann
Entry in 1991.
Assistant general manager.



Willy Fehlmann jun.
Joined the company in 1990.
Production manager.



René Fehlmann
Entered three years ago (2002).
In charge of IT.

The new FEHLMANN Technology Center.



Technology Center

With the completion of the new building project, the FEHLMANN company realizes both a marked expansion of the operational activities at their location in Seon/AG (Switzerland) and important improvements of their internal processes.

Continuously rising technological and market-specific requirements keep us busy every day. A highly motivated team of employees and the faith of our customers in our products and services are essential cornerstones for the continued success in the marketplace. One of the indispensable prerequisites for this is an optimum infrastructure.

The over 30 year old company building could no longer fulfill these demands to the full extent. Technology and also the demands and requirements of the customers had changed too much. By focusing on the areas of development/sales/demonstrations of our hightech machines including training, the project of constructing a new building was launched in 2003. The planning and realization of this project was comprehensively supervised and taken care of by Company Fent AG, engineer's Office, Seon AG.

Starting shot

After a thorough planning phase, the starting shot for the new building was fired in February 2004. In just 14 months, a free-standing five-floor industrial building was erected which harmonically integrates itself into the already existing factory buildings.

Basement

In the basement, there is a staff restaurant with adjacent assembly hall which can be used for demonstrations, customer events/symposiums and internal company occasions, next to storage and production areas.

Ground floor

The demonstration room is located on the ground floor. Here Fehlmann machines are presented in an ideal environment, where their high precision and economical performance are demonstrated. The room temperature may constantly be kept



within Technology Center extremely narrow tolerances of just $\pm 0,7$ °C. Next to the demonstration areas for machine tools you will find modern furnished offices for the application engineers, conference rooms, and the reception desk of the secretary's office.

1st floor

This floor hosts two professionally equipped customer training rooms for

CNC programming and HSC process engineering.

In the cafeteria the training participants may gather new strength during the breaks. Separated from the customer area, offices for sales and product management are also located on this floor.





2nd floor

The 2nd floor hosts the development divisions Mechanics and Electrics/Electronics. The modern and generously equipped 3D CAD and CAE workplaces offer direct access to the existing factory building thanks to the bridge on the same floor.



Technology Center

3rd floor

Electric assembly and cable packaging - run as cost center - were accommodated on the third floor. Goods traffic is catered for by a separate elevator for goods as well as by a covered connecting road.

The move to the new building was completed in summer 2005. The now vacated areas in the existing factory building can efficiently be put to other use and serve as additional assembly space in the fields of precision assembly (motor spindles, dividing attachments, coordinate tables). In addition, more space for processing (low-manned precision processing cubical and rotative) is now available. Due to the newly won space, new capacities also arise in other fields

of chip removing processes which we will be happy to offer you in the form of job order production at attractive conditions.

The new building will give the Fehlmann company decisive impulses for the future development of precision machining centers and milling drilling machines in the marketplace. The "figurehead" of the entire plant location Birren 1 is completed, and we are happy to now provide our customers and employees an ideal platform for the future cooperation in partnership.

Frank Fehlmann



We welcome you to our new Technology Center!



Step towards a new dimension PICOMAX® 95

Do you manufacture precision parts? Is the processing of tough materials and hard milling part of your daily work? If so, you should look at the new Fehlmann PICOMAX 95.

Due to the success of our automation solutions and the resulting flexible application possibilities, the demand for a machine covering larger batches and work piece sizes has increased. The new machine not only offers longer travels and a more rigid spindle but also comes equipped with a larger and faster tool changer and a new machine base design. Options such as 4- or 5-axes simultaneous machining, automatic work piece loading in various designs and much more are available and may be retrofitted if necessary.

Completely new designed - from top to bottom

All machine elements were already tested and optimized as to their future use following the FEM (Finite Element Method) procedure already during their development. In this way, important criteria such as rigidity and vibration insulation may be optimized as early as in the development stage. Guideways, digital drives and motors have been reinforced and revised in accordance with the latest requirements. The large table is located at an ideal height and can thus easily be loaded and monitored.

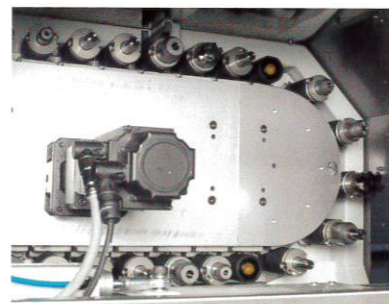


Structure and concept

Following the trend of our latest thermal analyses and tests, this machine has also been built from purely ferritic materials. The rigid base with its sump, vertical post and machine head are made of a massive, vibration-damping casting. The complete machine structure is subject to the same thermal expansion coefficients and thermal conductivities. We will be glad to advise you on this topic in detail.

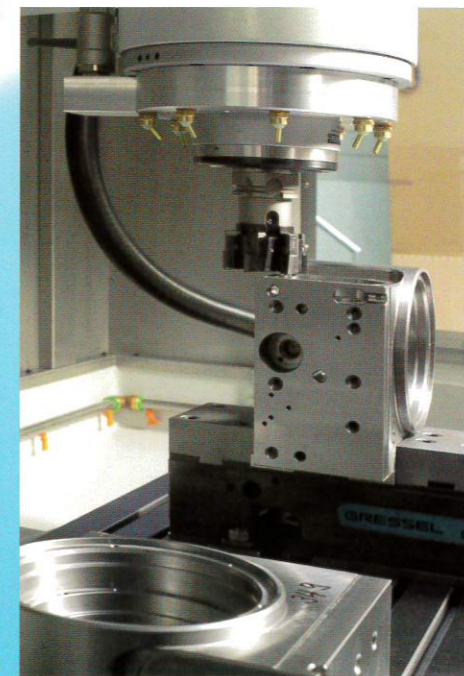
Versatile and fast, control unit and tool changer

For the control unit, we back dynamics and simple programming. As standard, we offer the fully digital Heidenhain iTNC 530 with the Heidenhain options 1 and 2 (functions for 5-axes-machining and fast 3D milling), electronic handwheel as well as with the Fehlmann HSC Setup™ cycle that has been developed in-house. The new compact tool changer has been equipped with a chain magazine and a double gripper. During the machining process, it can be loaded from the front, and in the basic design, it can accommodate 46 tools (larger sizes are available).



New housing

We have also followed new paths as far as the housing is concerned. The high-grade steel exterior of the PICOMAX 95 has been newly developed from top to bottom. The large door simultaneously opens the access to the machining room from the front and from the top.



More power

The heart of the PICOMAX 95 is the new Fehlmann HSK-A63 motor spindle offering either 14,000 or 20,000 rpm that has specially been developed for this machine. The active spindle cooling ensures optimum thermal stability. Larger as well as smaller tools can also be deployed for materials that are difficult to process.

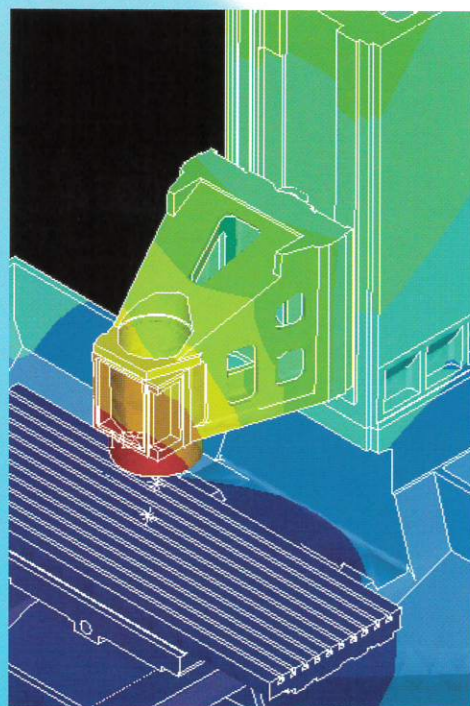
Our bottom line:

The new PICOMAX 95 is once again a milestone regarding flexibility. Developed for dynamics, cutting stability and large batch and workpiece sizes, this machine opens up to a new circle of users and customers. Do you sometimes wonder how to increase productivity and flexibility in order to stand your ground in this hard-fought market? Perhaps, the PICOMAX 95 or another model of our versatile product pallet may support you in this challenge. We are glad to welcome and advise you on this subject in our new Technology Center in Seon. We look forward to seeing you!

Sales team Fehlmann

The main technical features at a glance:

- Increased travel in X/Y/Z 800 x 500 x 610 mm
- Clamping surface 1600 x 500 mm
- Max. spindle speed 14,000 rpm optional 20,000 rpm
- Tool location HSK A 63
- Max. speed 30000 mm/min optional 48000 mm/min
- Standard number of tool positions 46
- Loading of changer from the front during production possible
- Complete machine design FEM optimized (Finite Element Method)
- 4th and 5th axis may be retrofitted
- Subsequent automation possible
- Massive, rigid structure, perfectly suited for processing tough materials and precision parts
- Perfect surface quality and tolerances in HSC milling thanks to HSC-Setup™ and digital drives
- and many more Fehlmann standard features



The FEHLMANN innovations on the EMO 2005.

Again on this year's EMO, we will proudly present to you a couple of innovations.

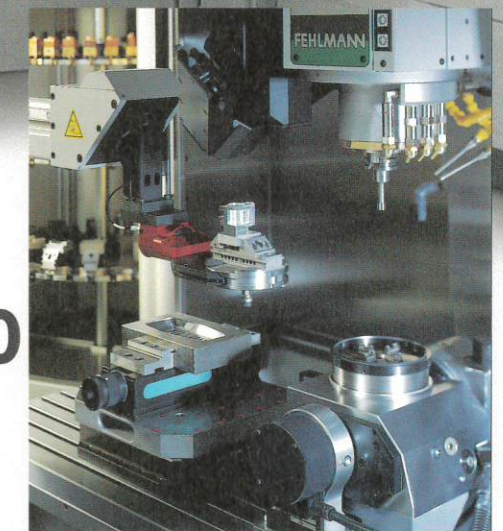
We had our exhibition concept completely revised - for you to feel good and for us to be able to present our products in an even more professional way.

We could put our exhibition under the motto:

Going for more productivity without expanding your production space?

Among other things, we are going to show you the new PICOMAX 95 - please, read the related report on pages 12 and 13 - and the PICOMAX 90 ERM with the new Fehlmann Software MCM 5.1. Please, note the right half of this page.

Come and see us on the EMO in Hanover. We would like to personally introduce you to one or the other Fehlmann innovation. We look forward to your visit!



The PICOMAX® 90 with ERM-Robot.

The PICOMAX 90 ERM with the new FEHLMANN Software MCM 5.1 and the command panel specifically developed for this system. The new MCM software is a further development of the FEHLMANN "Milling Center Manager". Using the new command panel two machines at one time may be controlled and monitored in an even faster and more efficient way.



FEHLMANN at the

EMO Hanover

14th until 21st
September 2005

Halle 12
Stand D46

