

INSIGHTS

EDITION **1** 2013

2013 OPEN HOUSE

Clamping technology. Milling techniques
More than 30 machines in full production!

PREMIERE FOR THE C 32!

Highly dynamic, simultaneous 5-axis machining of work-
pieces up to 1000 kg

DYNAMIC EFFICIENCY

The HEIDENHAIN software package
for efficient machining tasks

HIGHLY PRODUCTIVE INCONEL MACHINING

Aeros dry lubrication

CUSTOMER STORIES

from: aerospace technology, medical technology
and machine construction



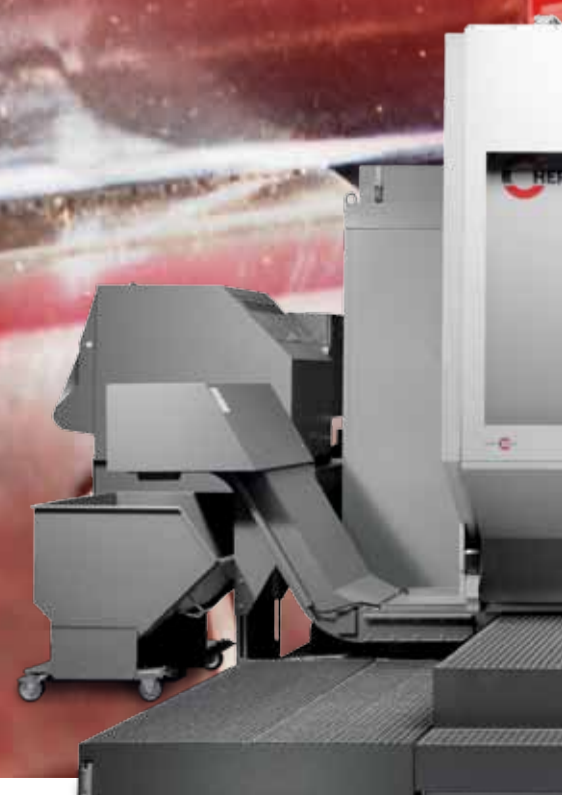
COMPANY.

OPEN HOUSE

3 REASONS TO COME A

1 Special display with over 50 exhibitors from the areas of clamping technology - CAD/CAM - Controls

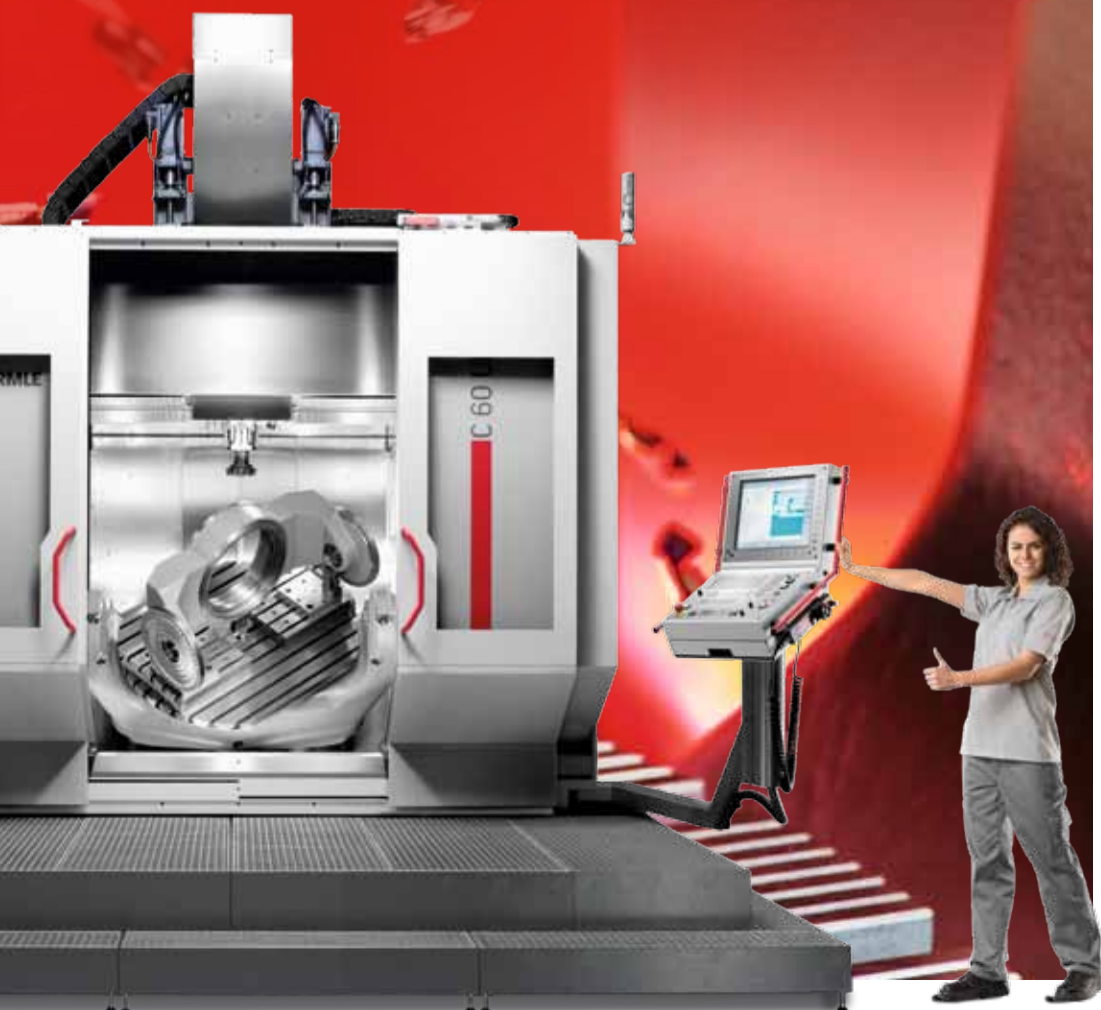
2 Interesting deployment examples and milling techniques!



April 24-27, 2013

AND SEE US!

**3 Over 30 machines
in full production!**



A special occasion...

Dear customers,
interested persons, employees and
friends of the company,

The opportunity does not arise very often,
and the honor does not devolve on many,
to write the foreword in the company
newspaper for the 75th anniversary of a
fighting-fit company. So I am very gratified
to be able to write a few words on the three-
quarter century of the company's existence.

The exciting story began with a courageous
start-up in 1938, at a time of great
upheaval. The company's start was
immediately followed by the difficult war
years, and then came another heavy blow
with the founder's accidental death. Thanks
to the efforts of his siblings, the company
was able to continue and indeed expanded
continuously up until the turbulent time of
the early nineteen-nineties. The crisis that
came about then represents a hiatus in the
company's history that was successfully
overcome through the purchase of shares
by the present major shareholders. This
laid the foundations for solid growth and
the current conditions of stability and high
performance. All the shareholders support
the company with a great deal of loyalty
and cooperativeness. They do not pursue
short-term shareholder-value strategies,
but enable the company to develop and
implement medium and long term plans
based on principles of sustainability.

A decisive factor for the successful progress
made towards becoming an innovative and
globally active technology enterprise always
has been and remains the knowledge, skills
and commitment of our employees. Equally
important are the loyalty of our customers
and their confidence in our products. For
that - and also for that dose of luck that
is also always part of success - we are
sincerely grateful.

It is a matter of personal pride and
satisfaction to me to have enjoyed the
privilege of heading this company and being
able to work with this team. 75 years of

achievement are only possible through
sustainable thinking and doing, and this is
what characterizes our daily work. Therefore
I am optimistic - despite all the vagaries
of the present time - that the company
will remain a force to be reckoned with for
the next 75 years as well. The company
founder himself showed fortitude at a time
of extreme unrest.

Another aspect of our history that is worth
looking at more closely is the advent of the
Hermle milling machines and their contin-
uously increasing dimensions. A Hermle H2 of
1957 weighed - fully equipped - the same
as a single unprocessed Z slide of the C60.

What is our current situation? 2012 was
one of the most successful years in the
company's history. While the media dra-
matized crisis after crisis, Hermle delivered
record statistics in terms of incoming orders,
turnover and profits. And 2013 has started
with a great deal of promise as well. The
term crisis is, to be sure, elastic. At any
event, as far as we are concerned we would
be happy to see the kind of 'crisis' that we
have experienced so far continue.

As in other years, the high point of this
anniversary year is our traditional Open
house. We are looking forward to all the
many discussions with our customers that
form the basis of our decision-making for the
future. It goes without saying that we very
much hope you will also find all you need
towards creating your successful future.

Sincerely yours,

Dietmar Hermle



OPEN HOUSE

OPENING HOURS

Wednesday – Friday	9:00am to 5:00pm
Saturday	9:00am to 1:00pm

HIGHLIGHTS

- **Premiere** for the new **C 32 high-performance center**
- **Premiere** for the new **PW 3000 pallet changer** adapted to a C 60 U
- **Premiere** for the new **“Dynamic Efficiency”** software package
- Over 30 machines (some automated) in our Technology and Training Center
- **Hermle Expert Forum** – our application technology and training departments will be on hand to answer all questions about applications
- **Service competence live** – Presentation and demonstration of our service division
- Special clamping technology – CAD/CAM software display with over 50 well-known exhibitors
- **Plant tours** of one of the most productive machine tool manufacturers

As in previous years, Maschinenfabrik Berthold Hermle AG is organizing its traditional Open house at its Gosheim headquarters.

When we open the doors of the manufacturing plant from 24 - 27 April 2013 to welcome interested visitors, you will be able not only to experience our entire spectrum of highly innovative machining centers in action, but also catch up with the latest trends in our special „Clamping Technology“ show.

Over 50 external exhibitors will be showing you the future in the areas of clamping media, CAD/CAM and control technology.

The Hermle product range in all its diversity

It goes without saying that all Hermle products (from 3-, 4- and 5-axis machining centers, milling and turning variants through to customized equipment and special solutions) are displayed in the Technology and Training Center, together with interesting workpieces for a wide range of sectors. Or you can see the Hermle machines operating under production conditions in our manufacturing plant.

We are looking forward to your visit – and we can guarantee that it will be worth your while! Please use the attached fax form to let us know or register online at www.hermle.de in the Open house section.

Exhibitors:

CLAMPING TECHNOLOGY

ALBRECHT PRÄZISION GMBH & CO. KG
ALLMATIC JAKOB
ANDREAS MAIER GMBH & CO. KG
BEST GMBH
BIG KAISER
EMUGE-WERK RICHARD GLIMPEL GMBH & CO. KG
EROWA AG
EUGEN FAHRION GMBH & CO. KG
GRESSEL AG
HAIMER GMBH
HAINBUCH GMBH
HELMUT DIEBOLD GMBH & CO. KG
HEMO WERKZEUGBAU
HOFFMANN GMBH & CO. KG
LENZKES SPANNTHECHNIK GMBH
LMT TOOL SYSTEMS GMBH / BILZ
NIKKEN DEUTSCHLAND GMBH
PAROTEC AG
RÖHM GMBH
SCHRENK GMBH
SCHUNK GMBH & CO. KG
SPREITZER GMBH & CO. KG
STARK SPANNSYSTEME GMBH
VISCHER & BOLI GMBH

OTHER

BLUM-NOVOTEST GMBH
CARL ZEISS INDUSTRIELLE MESSTECHNIK GMBH
E. ZOLLER GMBH & CO. KG
FCS / PFLEGHAAR
INFOBOARD EUROPE GMBH
IRUBA INNOVATIONS GBR
KELCH + LINKS GMBH
M & H INPROCESS MESSTECHNIK GMBH
RENISHAW GMBH
ROTHER TECHNOLOGIE GMBH & CO. KG
SEGONI AG
STAAB-TEC / RAPIDFORM

SOFTWARE – CAD/CAM

COMPLETE SOLUTIONS INC.
CAMTEK GMBH
CENIT AG
CGTECH DEUTSCHLAND GMBH
CIMCO INTEGRATION I/S
CONCEPTS NREC
DELCAM GMBH
JANUS ENGINEERING GMBH
OPEN MIND TECHNOLOGIES AG
SESCOI GMBH
SOLIDCAM GMBH
TEBIS AG
UNICAM SOFTWARE GMBH /
MASTER CAM CNC SOFTWARE INC.

CONTROL TECHNOLOGY

DR. JOHANNES HEIDENHAIN GMBH
SIEMENS AG



April 24-27, 2013



Exhibits

Exhibits in the Technology and Training Center

- 1 x B 300
- 1 x C 400 basic
- 1 x C 20 with RS 05 robot system
- 1 x C 20 U with IH 60 handling system
- 2 x C 22 U
- 1 x C 22 U with PW 150 pallet changer
- 1 x C 30 U with aerosol dry lubrication
- 4 x C 30 U
- 1 x C 30 U with RS 2 Kombi robot system
- 1 x C 32 U
- 4 x C 42 U
- 2 x C 42 U MT (mill/turn)
- 1 x C 50 U
- 1 x C 50 U MT (mill/turn)
- 1 x C 60 U MT (mill/turn)

Exhibits operating under production conditions in our manufacturing plant

- 1 x C 1200 V (high-precision manufacturing)
- 2 x C 40 U with RS 3 robot system
- 1 x C 42 U with PW 850 pallet changer
- 1 x C 50 U MT with PW 2000 pallet changer
- 1 x C 60 U with PW 3000 pallet changer

Exhibits in our Service Center

- 1 x C 22 U
- 1 x C 42 U

COMPANY.



Premiere for the C 32!

With the C 32, Hermle can boast yet another heavyweight in 5-axis / 5-side machining – this machining center can handle workpieces up to 1000 kg – very dynamically and working on five axes simultaneously.

Designed for daily use and highest standards of precision, the C 32 adapts ergonomically to its operator – ensuring optimal operating comfort, uncomplicated working conditions and easy maintenance. A wide range of thought-through features guarantees highly precise and economical parts manufacturing. The C 32 can mill even difficult-to-machine materials in record time and with perfect precision – even fully automatically and as a flexible manufacturing system.

POTENTIAL FOR INCREASED PRODUCTION

Our compact PW 850 and PW 250 pallet changers open up new ways of preparing the highly dynamic machining centers during primary machining time. Additional adaptable storage systems allow for further increases in productivity: The machining centers can be configured using a pallet storage system for semi-automatic or fully automatic machine runtimes according to production needs or specific to customer needs, and with a very wide range of settings. Several machining centers can be optionally linked to create a complete manufacturing system.

NEW – and on view at Hermle's Open house 2013
Experience the new C 32 and its impressive performance!



PW 250 pallet changer



PW 850 pallet changer



TECHNICAL DATA

Traverse X-Y-Z:	650 - 650 - 500 mm
Speed:	10000 / 15000 / 18000 / 25000 / 42000 rpm
Rapid linear traverse X-Y-Z (dynamic):	45 (60) - 45 (60) - 40 (60) m/min
Linear acceleration X-Y-Z (dynamic):	6 (10) m/s ²
Control unit:	iTNC 530 / S 840 D sl
Rigid clamping table:	900 x 665 mm
Max. table load:	1500 kg

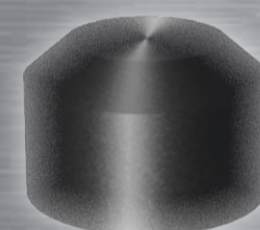
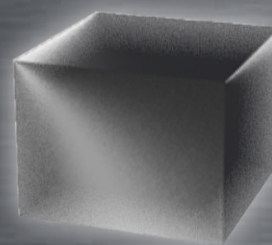
NC swiveling rotary tables:

Tables with worm:	Ø 320 mm	Ø 650 x 540 mm
Swiveling range:	+/- 130°	+/- 130°
A axis speed:	25 rpm	25 rpm
C axis speed:	40 rpm	30 rpm
Table load max.:	300 kg	600 kg

Tables with torque:	Ø 320 mm	Ø 650 x 540 mm
Swiveling range:	+/- 130°	+/- 130°
A axis speed:	25/55* rpm	25* rpm
C axis speed:	80 rpm	65 rpm
Table load max.:	200 kg	1000 kg

* with tandem drive

WORKPIECE DIMENSIONS



3-axis

5-axis

650 x 650 x 500 mm

Ø 650 x 500 mm

max. 1500 kg

max. 1000 kg

Collision circle: Ø 840 mm

AUTOMATION TOOLS

- 2 pallet changers
- 3 robot systems RS 05 - 3
- 3 additional tool magazines
- linear chain-linking

COMPANY.



dynamic + efficiency

HERMLE is unveiling the „dynamic + efficiency“ software package for efficient machining with HEIDENHAIN control systems – live at the HERMLE Open house event in Gosheim. Detailed information can be obtained at the HERMLE users’ meeting or directly at the HEIDENHAIN stand.

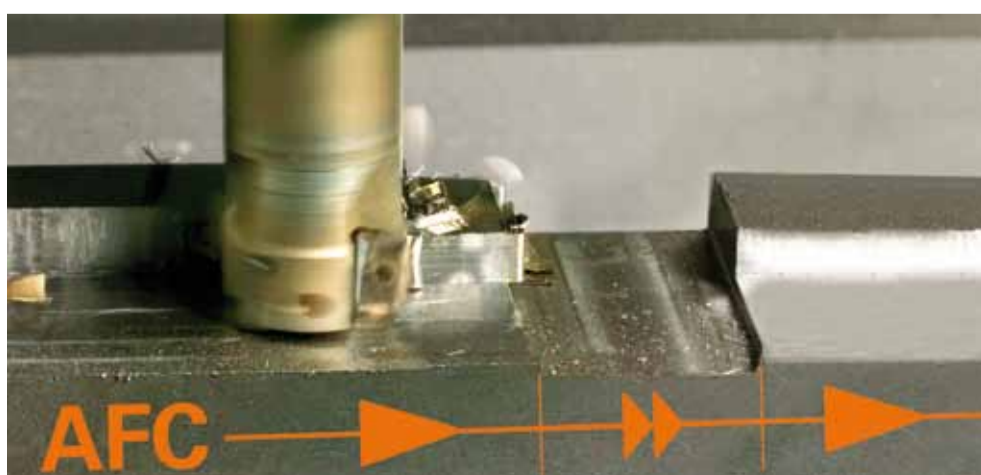
Adaptive Feed Control AFC

Adaptive Feed Control AFC automatically controls the feed rate of the TNC – depending on the spindle output and other process parameters. In a single learning step the TNC records the maximum spindle output that occurs. Then, prior to the actual machining, the limit values are defined in a table. AFC influences the feed within these limits.

Especially with cast parts, overmeasure or material inconsistencies occur. Feed regulation allows the previously trained maximum spindle output during the whole machining time to be maintained. The time can be shortened by increasing the feed rate in machining zones where less material needs to be removed.

The AFC continuously adjusts the feed rate to the spindle output. If a tool gets worn, the spindle output increases and the TNC reduces the feed. As soon as the feed rate goes below the preset minimum, the TNC reacts with NC Stop, a warning signal, or it performs a fully automatic tool change to a replacement tool, thus avoiding collateral damage following milling cutter breakage or wear.

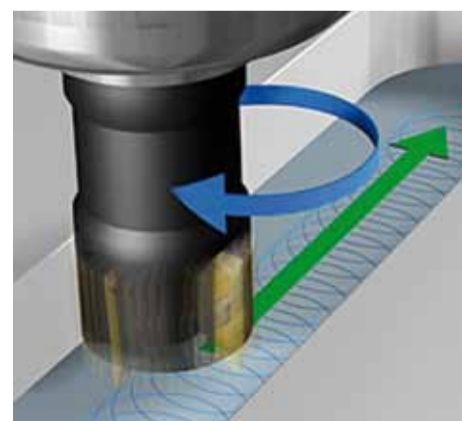
Reducing the feed rate when the stored maximum spindle output is exceeded until the reference spindle output is reached saves wear on mechanical parts and the main spindle is protected against overloading.



Intelligent machining – produce any kind of contour in trochoidal milling

The trochoidal milling process allows for any groove to be machined very efficiently. The roughing is done with circular movements that are additionally overlaid with a linear movement forwards. This means that the wrap angle of the tool remains small, so that a deep cut is possible. Trochoidal milling is often used to mill highly durable or hardened materials, so as to be able to work with deeper cutting. When using end milling cutters, the entire length of the cutting length can be used. This means that more uniform cutter wear and therefore a greater machining capacity in relation to the tool lifetime can be achieved.

As the tool sinks into the material in a circular motion, it is subjected only to low radial forces. This saves wear on the mechanical parts and prevents vibration. If this milling method is optionally combined with AFC, a great deal of time can be saved.



Active Chatter Control ACC

In rough machining (high-performance milling), very large forces are involved. Depending on the tool speed, the resonance properties of the machine tool and the material removal rate (cutting effect during milling), so-called „chatter“ occurs. This leads to unpleasant markings on the workpiece surface, and the tool wears quickly and unevenly. In extreme cases the tool may break. To combat the tendency to „chatter“ in a machine, HEIDENHAIN now provides a function called ACC (Active Chatter Control). This is especially useful in heavy-duty machining and allows for significantly better milling results.

Depending on the machine type, the material removal rate can be increased by up to 25% or more. At the same time, machine loading is reduced and the tool life is increased.

Heavy-duty machining with ACC



Heavy-duty machining without ACC



OVERVIEW OF TNC ADVANTAGES:

- higher material removal rate; optimized machining time
- minimization of wear on mechanical parts
- increased tool life
- tool monitoring

3 manufacturers, 1 result – highly productive Inconel machining

Perfectly matched to each other: Hermle 5-axis machining centers and Iruba fir-tree tools, combined with Rother ADL aerosol dry lubrication and CO₂ interior cooling provide the key to more productivity and quality when machining Inconel.



Rother system adapted to a C 30 U

Inconel alloys are often used where extremely high temperatures are involved. Typical areas of use include compressor and turbine shovels or combustion chambers in gas turbines. They can also be found in superchargers, chemical reactors and steam boilers. In some cases Formula 1 exhaust manifolds are made of Inconel.

In addition to its space-saving and cost benefits, aerosol dry lubrication has great advantages compared with conventional wet lubrication.

- Oil consumption in the ml range
- Swarf for disposal is dry
- Dry workpieces for subsequent machining
- Better cutting speeds and tool life
- No oil film on walls, no risk of dripping
- Low space requirements
- No costs for supply and deployment
- Better surface quality
- Clean, environmentally friendly workplaces
- Up to 60% reduction of manufacturing costs
- Automatic oil feed via refill unit
- Low-maintenance
- Easy to use
- Easy to adapt
- No pressure fluctuation at the tool
- Aerosol lubrication possible for icp < 0.5 mm
- Deep hole drilling possible
- Reduced torque of spindle
- Options such as integrated control support or fluid-flow measurement
- Connection to ProfiBus or ProfiNet

HOW AEROSOL DRY LUBRICATION WORKS

In this technique, a very small amount of mineral-oil-free oil is atomized in a transport gas (air). The atomization takes place in a pressurized container, so that the oil particles become even finer. The oil mist ensures optimal lubrication directly at the cut, thus preventing the generation of heat through friction. The residual heat is removed with the swarf. Thanks to the aerosol, which has never been available in this quality before, there is no danger of an oil film building up, neither in the internal cooling passages of the tools, nor in the rotary feedthroughs of the spindles. It cannot be destroyed even at the highest speeds. During machining, the aerosol can be fed directly to the cut either through the internal cooling passages of the tool or via an external jet. For machining Inconel, CO₂ is supplied in addition as coolant via the internal cooling passages of the tool. This means that the tool is properly cooled throughout the machining process.

USERS.



FROM FLYING CHIPS TO “FLYING COMPONENTS”

Deharde is committed to the quality-oriented and economical production of “flying components” for the aerospace industry – Hermle’s C 60 U, 5-axis CNC performance center makes that possible.

Markus Stocker, machining supervisor (left), with a 5 axis milled integral component of solid aluminum, and Bernd Bredekorn, CNC milling technician and programmer/operator for the C 60 U, both at Deharde.

The portfolio of Deharde Maschinenbau Helmut Hoffmann GmbH from Varel in North Germany is very varied: At first, the areas of plant manufacturing, aerophysics (wind tunnel models), aerospace, tool manufacturing and the automotive industry seem to have little in common. But they are united in one thing: the need for highest precision in reproducible quality. The company near the Frisian coast fulfills these requirements through consistent investment in the latest technology. At the very latest since Helmut Hoffmann took over the firm in 1968, Deharde has been delivering service and technological performance with an emphasis on machining technology for the North German aerospace industry.

PRECISION MACHINING ON A LARGE SCALE

With its ability to deal with “large parts”, Deharde has acquired a special status. This has had the effect of attracting customers first from Germany, then Europe, and finally from all over the world and also a corresponding investment in machines, halls, QA and, of course, specialist staff. Markus Stocker, who supervises the company’s machining tasks, explains: “To find a better response to globalized production, we have adapted our business model. That means broadening out on the one hand, but also becoming more focused. In other words, we’re moving away from conventional machining towards highest-precision manufacture of complex parts. This has consequences for the plant, and in purchasing new equipment we didn’t make any compromises.” In concrete terms: Deharde went for 5-axis high-performance CNC machining centers from Hermle’s C series, so as to be sure of being able to meet the exacting requirements associated with aerospace and automotive components. The first step was taken in 2011 with the purchase of Hermle’s flagship, the high-end C 60 U machining center for processing workpieces up to 2500 kg. This move immediately proved to be successful, and meant that even more capacity was needed. Within a short space of time, Deharde ordered a C 42 U, a C 22 U and another C 60 U. Everyone from managerial staff to the machine operators are impressed by the high levels of quality and performance. “In combination with the very high and completely reproducible positioning and repeating accuracy we can achieve extreme precision and supply the parts in unvarying, optimal quality. Previously, we had to rough-work model parts with two or three hundredths over-measure and then rework them to the final size. These days, we can achieve ready-to-dispatch precision and surface quality in a single process,” says Markus Stocker. A specific example? A 1000 mm long wing section that displays a precision tolerance of 0.01 mm – milled! – over its entire length, i.e. contour.

EXCELLENT MILLING QUALITY

Within a very short period, Deharde expanded its high-performance 5-axis CNC machining center to four units with a view to becoming the benchmark for precision manufacture of complex workpieces. On the basis of thousands of “flying components” of aluminum, titanium, Inconel, steel and ceramic, an increasing number of automotive components and milled workpieces for plant construction, the technology integrator Deharde is achieving genuine synergetic effects. And that is just how its customers see it, as Boeing’s award of the title “Supplier of the Year” in 2009 confirms.



Overall view of a 5-axis high-performance CNC C 60 U machining center from Hermle with a working area of 1200 x 1300 x 900 mm (X, Y, Z), a tool magazine with 70 compartments and a Heidenhain iTNC 530 control.



Deharde’s „Hermle Line“ with three of four Hermle machining centers – front C 22 U, center C 42 U, rear the C 60 U with the purpose-built „5-axis hall“.



360° SERVICE FOR PRECISION PARTS

Christel Dorau, engineer and technical operation manager (left), and Peter Dorau, CEO at Trissler & Kielkopf (right), with a selection of sophisticated precision parts.

Through the well-considered penetration of new business areas and consistent investment in new technologies, Trissler & Kielkopf has successfully achieved the transition from a knitting machine manufacturer to a supplier of ready-to-assemble precision parts.

The medium-sized firm Trissler & Kielkopf represents a good example for the change that has come about in machine engineering in Baden-Württemberg. When Johannes Trissler started making knitting machines in 1921, he had no idea that this sector would practically no longer exist 70 years later. Business was excellent for many years – and this continued with the specialization in flat-bed knitting machines. As the knitting and textile machine industry began to experience major change, Trissler & Kielkopf adjusted its focus to the supplier trade and general machine engineering. The last knitting machine left the Reutlingen works in the early nineteen-eighties. In 1990, the European textile machinery industry was practically at an end, but the Reutlingen company had long since established itself in other industrial and machine engineering sectors. A short time later, the time had come for a new generation to take the helm. Mr Peter Dorau, who some time previously had already shouldered managerial responsibility, and his wife Christel took charge. With a view to maintaining their competitiveness, they immediately introduced structural alterations.

INTELLIGENT INVESTMENT

“The parts manufacturing division was strongly oriented towards conventional turning, drilling, milling and grinding machines. We did actually start with 3-axis milling using a Hermle UWF 900 universal milling machine as early as 1991, but otherwise we still used the machines that were already there,” explains CEO Peter Dorau. This went well until the orders flooded in so fast that the company was unable to find enough qualified personnel. Mr Dorau continues: “We realized that we had to invest in more highly automated CNC machining centers as soon as possible so that we could satisfy the demand with the same level of staffing.” Being very satisfied with the UWF 900, Trissler & Kielkopf took the logical step and extended its plant resources through the purchase of 5-axis CNC machining centers from Hermle: C 800 U (1999), C 800 V (2000) and three C 40 U (2006, 2008, 2010). As an engineer and technical operation manager, Ms Dorau assesses the investment in Hermle machines as follows: “The reliability and precision of the machines are demonstrably very good. We can deliver the precision parts on time and in excellent, reproducible quality. But most of all we find the rapid response of the service team and quick availability of spare parts impressive.”

ENTERING THE WORLD OF ROBOTICS

Even after thirteen years, the C 800 U is still running as well as it did at the start. Nevertheless, Trissler & Kielkopf is increasing the level of automation further and pays close attention to the compatibility of the Hermle machining centers, that are generally identically equipped – the latest C 40 U combined with a fully automated workpiece magazine and loading system. The C 40 U installed in 2008 started operation with an RS2 robot system, and since then highly flexible

production is possible round the clock. As Peter Dorau confirms: The mix of high-performance 5-axis full processing and integrated, fully automated workpiece management is the ideal solution for Trissler & Kielkopf: “We have to be able to manage runs from between one and 20000 pieces, divided into batches. Generally, we deal with complex individual parts and small series, using steel, tooling steel, stainless steels, aluminum and plastic. With the Hermle C 800 U, and especially the C 40 U machining center, we are able to fully process precision workpieces from 3 mm in size, using the working area of the C 40 U to the full and the rotation and swiveling capability of the NC rotary tables.”

NO IDLE TIMES

Thanks to the workpiece magazine and workpiece / pallet handling with the RS2, the process runs fully automatically and autonomously, so that the staff can concentrate on other tasks while the order is being executed. For a medium-sized company like Trissler & Kielkopf this is essential – it cannot afford the luxury of idle times. That is why Peter and Christel Dorau put their confidence in the production expertise of their eleven highly-qualified employees and in the 5-axis capabilities of their long-term partner Hermle. This provides an excellent basis for being able to supply convincing tenders that are in a different league compared with ones based on a conventional workbench.



A flexible manufacturing system as an integrated unit with a C 40 (already active, on right) and an RS2 workpiece magazine and handling system (left); ready-prepared for the planned integration of a further C 40 U to be placed to the left of the RS2.



NC swiveling table with integrated 420 mm rotary table (allowing the Z-axis path to be retained) and added compact pallet receiver.

► Further information at: www.hermle.de

USERS.



24 X 7-R - THE PRODUCTIVITY FORMULA FOR FMS

CNC 5-axis high-performance machining centers with robot feeding to and from workpiece magazines are the “moneymakers” amongst the Flexible Manufacturing Systems (FMS).

MAWAtec AG from Selzach does 90% of its business with the Swiss market – that means being able to do a lot more than just producing turned and milled parts. As Dominik Lehmann, MAWAtec’s CEO, puts it: “Our focus is definitely on more complex parts which we can manufacture from practically all materials that can be machined. Whether that means steel, aluminum or special materials like titanium, Inconel and PEEK – we procure the material, ensure the implementation of the right technique and supply not just the know-how, but also the required personnel and machine capacity.”

WHEN MACHINING TECHNICIANS TAKE A CLOSE LOOK ...

MAWAtec is constantly on the lookout for technological innovation, so it already started using 5-axis machining ten years ago. A team led by production manager Roland Stauffenegger investigated machining systems for over a year to test their performance. The result: Hermle’s C series was the winner by a clear margin. As Roland Stauffenegger points out: “The overall concept of the C 30 U CNC 5-axis high-performance machining center satisfied us across the board, be it the way it is constructed with three axes in the tool and two in the workpiece, the integrated design of the NC swiveling rotary table, the tremendous stability and rigidity, the excellent accessibility from the front and above, the spindle output, the control system – or that we know the service is good.” After the first C 30 U had been installed, the question arose as to why the machine should have to remain idle

overnight. As a result, and in close cooperation with Hermle, the workpiece handling was automated, interfaces were defined and the machine was upgraded. New customers, new orders: The original C 30 U was followed by another at the end of 2007, and number 3 came in the fall of 2008.

AUTOMATED OPERATION RETROFITTED BY THE EXPERTS

The latest C 30 U, with 189 tool pockets and an enlarged tool-change magazine, had all the options needed for upgrading to robot-aided workpiece handling. 18 months later, the time was ripe – and Hermle was able to exploit its experience in the field of automated solutions for RS2 robot systems. MAWAtec decided to implement its own pallet construction specially for the handling and positioning of raw-sawed or laser-cut blanks. “95% of the parts that we work or handle in the system are sawn or lasered, and not deburred. With our universal pallets, we can flexibly take up parts ranging from small items (4.5 x 23 x 19 mm) to large ones with maximum dimensions of 55 x 450 x 160 mm (thickness x width x height) using relatively simple holding mechanisms,” explains MAWAtec CEO Dominik Lehmann.

So if there are sufficient workpieces, production can continue round the clock, apart from downtimes for maintenance, servicing and changeovers. The bottom line is: The Hermle machines at MAWAtec are a byword for best reliability, performance and machining precision!

The MAWAtec team: Dominik Lehmann, CEO (left), Daniel Gaberell, CNC Technician (center), Roland Stauffenegger, Production Manager, in front of a Hermle C 30 U with RS2.



RS2 robot system with some of the heavy load racks for taking on pallets at varying heights; below left: the rear opening of the setup station.



The RS2 setup station equipped for parallel pallet loading and unloading at primary machining times. MAWAtec’s own pallets for multiple uptake of raw-sawn or lasered blanks.

DATES

Metalloobrabotka Minsk, Belarus,
9 to 13 April 2013

CIMT Beijing, China,
22 to 27 April 2013

Open house Gosheim, Germany,
24 to 27 April 2013

Intertech Dornbirn, Austria,
15 to 17 May 2013

Metalloobrabotka Moscow, Russia,
27 to 31 May 2013

Machtool Poznan, Poland,
4 to 7 June 2013

For other trade shows with Hermle exhibits,
please see www.hermle.de

Germany

	Hermle + Partner Vertriebs GmbH Gosheim, Germany www.hermle-partner-vertrieb.de
	Hermle-Leibinger Systemtechnik GmbH Tuttlingen, Germany www.hermle.de
	Hermle Maschinenbau GmbH Ottobrunn, Germany www.hermle.de
	Hermle Demonstration Center Kassel-Loth. awt.kassel@hermle.de www.hermle.de

Belgium

	Hermle Belgium Halen, Belgium www.hermle.de
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Bulgaria

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