

Set-up time reduced by 50%

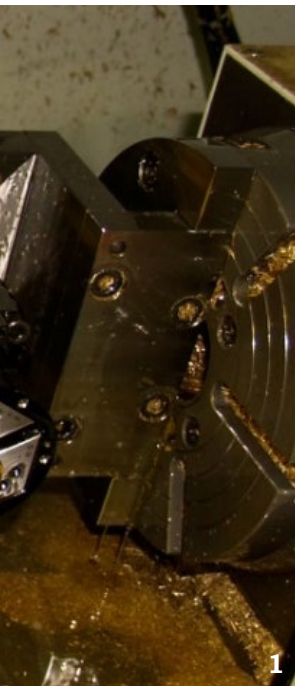
Located in Waldkirch, Hummel AG, a manufacturer of solar thermal systems has implemented workholding technology from Hainbuch to reduce set-up times by over 50% in its milling department. By switching to Hainbuch clamping devices, the German solar manufacturer can now produce with significantly higher flexibility in its milling operations.

As a medium-sized global player, Hummel AG manufactures threaded cable glands, plug-and-socket connections, instrumentation and control electronics, heater fittings, pump groups and also systems and components for solar thermal systems. Between its Waldkirch and Denzlingen locations, Hummel employs over 260 staff with over 450 employees globally. However, the complete turning and milling production is located at the company's Waldkirch facility.

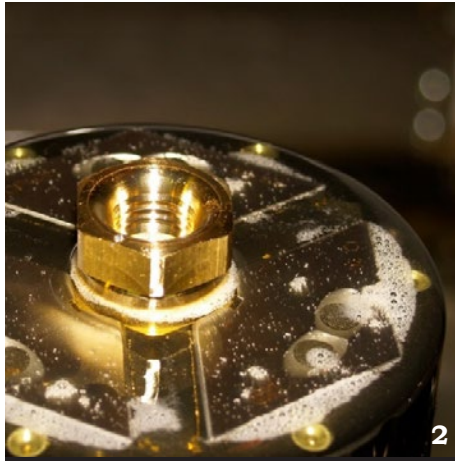
First contact

When the Hummel management board commissioned Michael Schulz, Authorized Officer at Hummel AG to minimize the set-up times back in 2000, Mr. Schulz soon had his first contact with Hainbuch: "We started to use the Spanntop

chuck from Hainbuch on multi-spindle lathes. The SF51 multi-spindle automatic lathe from Schütte was equipped with the Spanntop chuck. Now, in the shopboxes at Hummel, there are thousands of Hainbuch clamping devices with a value between € 500,000 and € 750,000."



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1 + 2 With the flexible hydraulic stationary chucks from Hainbuch, Hummel saves 50 % set-up time.

3 Wilfried Weber, Milling Production Manager at Hummel, Thomas Klumpp, Hainbuch Regional Sales Manager, and Michael Schulz, Authorized Officer at Hummel, (left to right) are extremely satisfied with the flexibility, accuracy, and set-up time optimization.



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From the very beginning, Thomas Klumpp, Regional Sales Manager at Hainbuch was the contact person for Michael Schulz and his colleagues. Commenting: "Starting with the multi-spindle automatic lathe, Hummel also systematically implemented the Hainbuch clamping devices on the single-spindle automatic lathes. And now we have progressed to milling machines."

Since 2013, Hummel also uses clamping devices from Hainbuch on its Haas vertical VF2 machining center. Overall, milling represents just 5% of the metal cutting at Hummel, with all other work completed on turning centres. On the Haas VF2, Hummel machines

brass and aluminum cable glands with strain relief. The cable glands are first manufactured as turned parts on a single or multi-spindle machine. Then on the Haas machine, the middle pieces are milled out, the workpieces get bored and threaded, into which screws are inserted for the strain relief elements. The cable glands with strain relief are used in the machine tool industry.

"We bought the Haas VF2 with a fourth axis in 2004 for the four-side machining. It replaced an old Steinel machine, so the pneumatic clamping location elements from the Steinel had to be adapted to the Haas VF2. For this, bridges and other items were built,"

recalls Wilfried Weber, the company's Milling Production Manager.

In 2009, the company converted some of the clamping devices to hydraulic clamping to achieve higher precision and clamping forces. "However, in 2012 we reached a point where we had difficulties achieving the higher precision levels. In addition, the set-up times were clearly too long," explains Michael Schulz.

Compact design

In 2012 at the AMB Show, Wilfried Weber spoke with Thomas Klumpp from Hainbuch about implementing new clamping devices for the company's milling operations. Mr. Klumpp recalls: "At AMB, we immediately

checked out different variants with the Hydrok SE 40 hydraulic stationary chuck. Due to the compact design of the Hydrok SE 40, today Hummel can machine one more part in the same spatial conditions than they could with the old system - six parts instead of five."

By removing the workpiece changeover, the runtime savings are evident. "We run volumes between 1500 and 6000, so the benefits are significant. The important reasons for the clamping device conversion to Hainbuch were the set-up accuracy, the shorter set-up time and the fact that the metal removal rates of the tools that exist today in the milling area could be exploited. With a pneumatic clamping device,



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4 Thanks to the CENTREX duo bolts, alignment is not necessary. 5 The three ZS-R-125 centric clamping vises from Hainbuch on a special pallet. 6 Wilfried Weber shows, who is an original equipment manufacturer at Hummel: In the shop boxes there are only clamping heads and collets from Hainbuch.

the clamping forces to fully deploy a hard metal tool with a cutting speed of 400m/per min couldn't be achieved at all," emphasizes Wilfried Weber.

As Klumpp describes the advantages: "The outstanding feature of the Hydrok SE 40 is that in spite of its small install space and piston, it can transfer a very high clamping force. With a maximum actuation of 85 bar and a radial clamping force of 85 kN, the Hydrok delivers the force of a small truck."

Cable glands

On the Haas VF2, Hummel machines a special variant of its cable glands as well as the large variants with armored conduit thread, which corresponds to an outside diameter of 28.3 mm. Out of 200 working days, the special variants run at least 150 days. Through a total of ten different dimensions and two different materials for the two different product types, over 40 different products are produced.

"In addition to the 6 Hydrok SE 40 clamping set-ups on the VF2, we are also using three ZS-R-125 centric clamping vises from Hainbuch on a spe-

cial pallet. Previously, we had five different clamping devices, now we have just two. This means that we save expensive set-up times and frequent

changeovers. In terms of set-up times, we now save at least 50 percent," explains Wilfried Weber.

FACTS

Hummel in Waldkirch was founded in 1948 by Anton Hummel and initially concentrated on **contract manufacturing**. The conversion to manufacturing of **electrical goods** for installation followed later. **Heating products and sanitary products** were added. In the 1970s, in addition to turned metal products, the parts spectrum was supplemented with plastic products.

At this time, the company included the installation division with electrical products, such as cable glands, heating system and sanitary threaded unions, and vents for radiators. Since 1998, Hummel has also been offering **plug-and-socket connectors**, which has become an important source of revenue for the companies.

For example, in the electronic area hot runner control devices, for injection molding machines are part of the Hummel products. Today **Holger Hummel** leads the company in the third generation as a Chairman of the Board. **Touch panels** with a screen diagonal of up to 22 inches for industrial applications, are Hummel's newest product division.

A Dutch sensor manufacturer for touch systems now also belongs to Hummel.

In addition to the international headquarters in Denzlingen, and the historic main office in Waldkirch, Hummel is also represented worldwide with subsidiaries and sales representatives. For example, Hummel produces in Shanghai with approximately 50 employees.

It is represented in India with its own tool construction and an aluminum foundry with approximately 25 employees. In the São Paulo area it maintains a subsidiary with a turning shop, an injection molding, and an assembly, with approximately 30 employees.

A small production facility in Italy and a small assembly facility in France complete the Hummel worldwide locations.