

The Kellenberger K100 with a bearing between synchronised centres



# HB is Bearing the Fruit of Kellenberger Machines

**L**ocated in Honley, HB Bearings is celebrating its 50th year in business in style, investing in the latest Kellenberger grinding centres from DF Precision Machinery. The latest addition, a K100 grinding centre with a Wenger automation system has cleared a backlog of two months of work in just two weeks.

The company specialises in the manufacture of special and standard metric and imperial bearings that are hard to source. This can include precision radial bearings, deep groove ball bearings, cylindrical roller, angular contact, duplex as well as many other types of bearing and housing. Katrina Wood, Product Manager for Gamet bearings at HB Bearings says: “HB Bearings is a bearing manufacturing company that has been running for 50 years now, manufacturing bespoke bearings as well as a standard Gamet Bearings product range.”

The company has recently installed a Kellenberger K100 grinding centre that has been supplied by DF Precision. The machine has been installed with a fully automated Wenger loading system that has revolutionised the way HB Bearing manufactures large-volume runs of taper bearings.

Looking at the application Katrina Wood says: “This part is a Super Precision taper roller, and it goes in the Gamet taper roller bearings. These can be used as high load bearings and where customers require super precision, for example, headstock bearings”

“There are many operations that are included in making the complete bearing. In the early days of production, it was difficult to get a whole batch quantity out for the customer, but this machine has been revolutionary. It’s had a massive impact on the roller side of manufacturing at HB Bearings.”

The Kellenberger K100 is a universal CNC OD/ID grinding machine for use across medium to large-scale universal grinding applications. The Swiss-Made Kellenberger K100 grinding machine supplied by DF Precision is highly configurable and offers a wealth of options to accommodate the widest range of universal grinding operations. It is the combination of flexibility along with a proven track record at HB Bearings that has kept the Huddersfield manufacturer buying Kellenberger machines. HB Bearings specified the Kellenberger K100 with a Wenger WeStep 650 automation solution. The



Kellenberger machines on the shop floor. The company has a Kellenberger machine over 22 years old. Commenting upon the 22-year-old machine, Darren Mawhinney from HB Bearings says: "The old machine is making the same parts as it was 20 years ago. We are still grinding bearings to an accuracy of around 5µm, if not better on these kinds of machines. On the job it's running on at the moment, it is running with a repeatability of 3µm."

Another of the most recent purchases at HB Bearings was a Kellenberger K10. Alluding to this, Darren says: "We decided to buy this machine to complement the production of our Gamet Bearings standard products. This machine offered us the opportunity to streamline that side of production and we're finding the repeatability of this machine to be 1µm. It's fantastic! When the bearings are in operation, they are extremely quiet, and this is because they are super precision bearings – they need to have a running accuracy of within half a micron. So, we needed a machine that's capable of producing this precision, quality and repeatability."

Attaining micron repeatability and micron run out on the bearings is a daily practice for HB Bearings. As Darren adds: "We produce these bearings from one-offs up to batches in the region of hundreds-off. On the Gamet side alone, it's a 25mm bore up to 700mm OD and on the HB bespoke bearings, we do a 6mm bore up to 1m OD. The additional machine has just given us so much capacity. It lets us keep up with customer requirements. It is letting us get ahead of our customer requirements now, so we're building up good stock quantities, shorter lead times and again the accuracy of the parts. It is highly instrumental in our goal to get our components right first time."

With both CNC and manual grinding centres, HB Bearings uses its manual machine tools for F1 bearings, vintage vehicles, reverse engineering and bespoke bearings. As Darren continues: "This is why we keep the manual machine shop going. But for our production side, the CNCs are the correct way to go. They've moved our company forward so much over the last 20 years, especially with the new K10 and the K100, our production capability has increased considerably."

Adding his thoughts on the Kellenberger K100 with Wenger automation, Darren says:

"We are manufacturing super precision taper rollers and we will do these in batches of 'tens of thousands'. They come back from heat treatment and then we finish grind them through the Wenger loading system and the K100 to a precision and repeatability of 1µm. It's our second automated loader, when we had seen what is available from Kellenberger and Wenger - it was an obvious choice for us. We had to move forward, and we had to make sure that we could deliver for our customers."

"Kellenberger has been here for the last 20 years, so we're expecting the same again. Our shop floor operators are well used to the machines, the operating system, they all know their way around them so there's no reason for us to look elsewhere. Everybody's happy with the machines, and the support we get, and we've never been able to fault the support we've had. Kellenberger has been perfect for us." ◻

The Wenger WeStep automation system feeding the Kellenberger K100

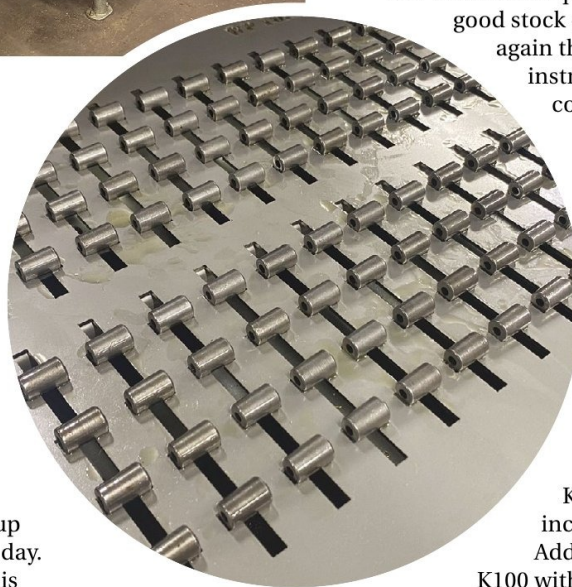


WeStep 650 is capable of loading shaft parts up to 650mm long and up to 260mm diameter, HB is optimising this capability to run components from 7mm up to 38mm diameter in high batch quantities, the parts are fed in pallets that are drawn in and processed by a chain conveyor. Pallets are indexed under the line gantry and when a pallet of parts has been processed, it is placed on the upper finished parts conveyor and removed at the operator's side.

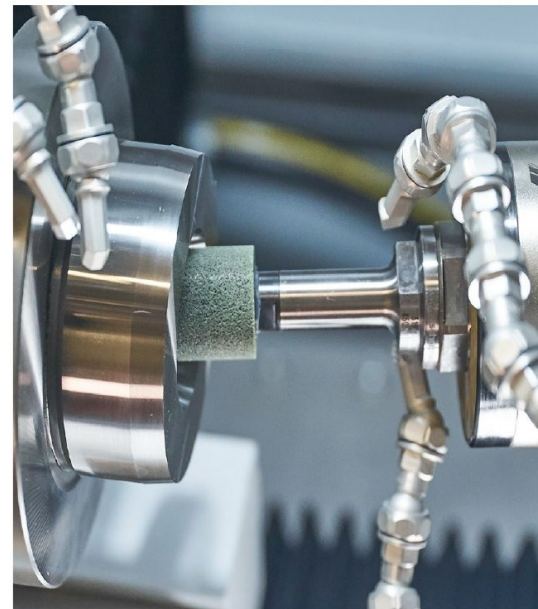
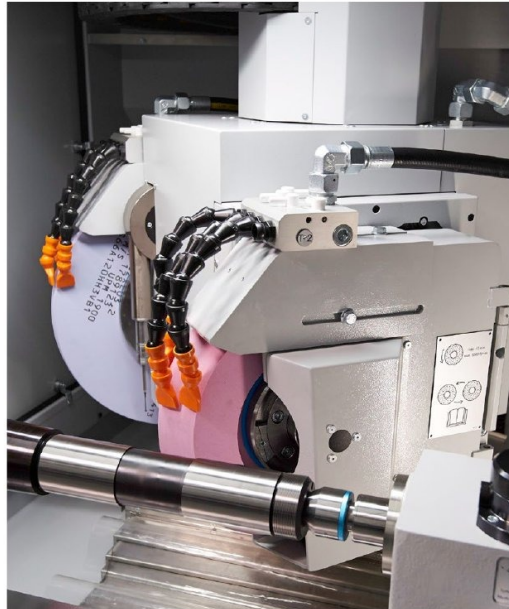
Looking at this productivity, Katrina Wood adds: "This machine has speeded up the number of rollers we are making in a day. We were making around 90 rollers and this machine can do 400 to 500, depending on the size. If the size is smaller, we can do a bigger batch within a day. It's had a massive impact on the business. I don't have to worry about the rollers, the quantities or quality when I'm issuing jobs or when I'm thinking about the deliveries. This isn't a problem to me anymore."

Katrina Wood continues: "The machine has made life easier. I do the sales, but I also come down to issue all the jobs and expedite, this headache is now gone. Customers are approaching us and being confident in the fact that we can deliver big quantity batches. We're getting repeat orders, but it's not just a case of the quantity, it's the quality, it's the customer service. It's the whole rounded service that we give here at HB Bearings."

The company has placed its faith in DF Precision and the Kellenberger brand over the years, with more than 8



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DF Precision Machinery Ltd. Tel 0116 201 3000 Email [sales@dfpmach.com](mailto:sales@dfpmach.com)

