



COMPACT DESIGN



LOW MAINTENANCE



EASE OF ASSEMBLY



PRECISION

COMPACT TOOL CHANGING SYSTEM

Mechanical Handling - Tool Changer

APPLICATION DESCRIPTION:

When Walter Maschinenbau wanted to develop a new CNC controlled Helitronic tool grinder, they needed a product that could link 12 or 24 x 254mm diameter grinding discs and traverse them around a circuit without them clashing.

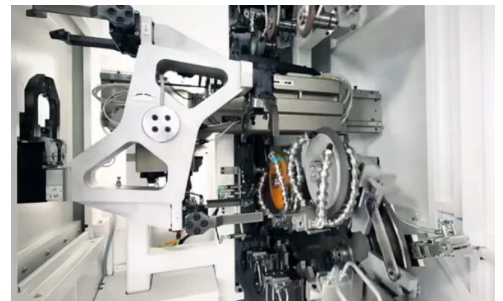
Walter turned to motion experts at HepcoMotion to find a track system to fit into the limited available space. Preventing the discs from clashing as they went around the curved sections of the track was critical, and the track could not be lengthened outside the space available. There was also the requirement for the control system to pick any wheel in the circuit and bring it to a predetermined position within a positional accuracy of 0.050mm.

RESULTS:

A compact, easy to install, low maintenance tool changer system, the Hepco standard bleed lubrication system for the track was installed to ensure a measured amount of lubricant was distributed to the V guide, ensuring long life. In a lubricated 1-Trak system the limiting factor is the life of the bearings calculated at many thousands of kilometers. In the unlikely event of the bearings needing changing, it is a simple task to release the V bearings from the carriage and perform a replacement. Custom-configured 1-Trak guidance systems are available from Bishop-Wisecarver, the exclusive North American distributor of HepcoMotion products since 1984.

SOLUTION:

A 1-Trak system machined from a single plate of a proprietary tool steel so that there was no assembly of track parts would provide the basic base plate for the tool changer. The plate included the vee track machined in, plus the cam profile for the carriage drive pins to follow. A separate drive wheel with slots to allow the pin movement was driven by a motor / helical bevel gearbox arrangement attached from the rear of the base plate.



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