

# Leader sees the attraction of magnetic workholding solutions

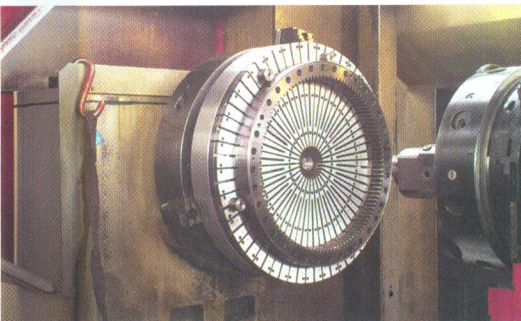
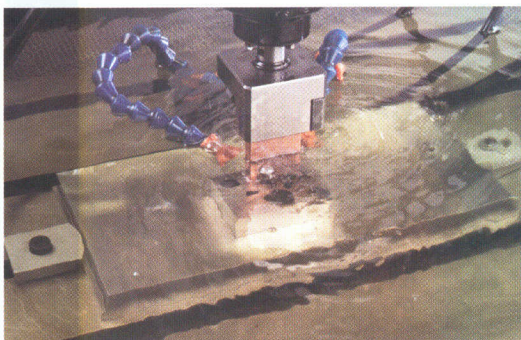
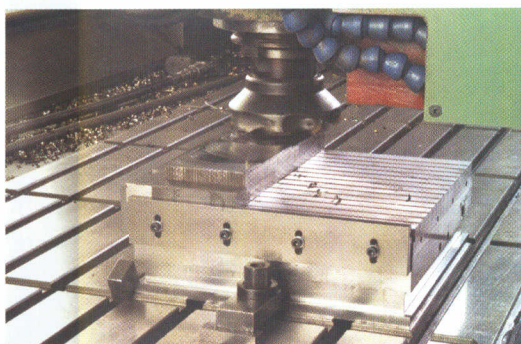
Tamworth-based workholding specialist, Leader Chuck Systems, has recently expanded its product portfolio for securing workpieces during machining operations with the addition of the extensive range of magnetic fixturing systems from Walmag Magnetics. These include permanent magnet, electromagnet and electro-permanent systems for grinding, turning, drilling and milling, as well as wire and die sink EDM machining.

"Fixing the workpiece on a magnetised chuck allows easy access to five faces for the machine tool making it an effective way of holding the raw material for simultaneous 5-axis or 3+2 positional milling operations," explains managing director, Mark Jones.

He continues: "Previously part of the Walker Magnetics Group, Walmag has an established reputation for developing and manufacturing high performance workholding solutions using various magnetic technologies. With a depth of application knowledge built up over many years the Walmag staff can provide extensive information and offer manufacturing industry focused advice on aspects of workholding using magnetic force."

Designed to be robust and totally maintenance free, the range of Walmag permanent magnetic chucks are ideal for grinding. However, they can be used for all the above mentioned operations. Activated by physically moving a handle they operate with no electrical power supply, so they are easy to install and can be quickly transferred between different machines if required. A permanent magnetic system does not generate any heat so there is no risk of thermal deformation of the pole plate or the workpiece, helping to maintain machining accuracy.

The magnetic field in electromagnet fixture systems is generated by coils supplied with a DC current. The field is activated by a control unit that allows quick magnetisation of the workpiece. With the coil sizes designed to suit the application a very strong magnetic field can be created resulting in a tight clamping of the workpiece, and they are typically suited to grinding and turning operations. Thanks to the powerful magnetic field it is possible to



reliably clamp even rough workpieces, as it can overcome any gaps between the workpiece and the chuck. The control unit allows the magnetic force to be varied to suit the application and operation can be manual, automatic or combined, and chuck sizes can be matched to suit the workpiece.

Combining permanent and electromagnetic technology the electropermanent magnetic range offers

high clamping forces for heavy milling operations. As power is only required during clamping and unclamping the chuck is fail safe in operation, all machining is done without any current. The minimal requirement of electrical current means that no significant heat is generated, minimising the thermal impact of the chuck on the machining accuracy. This makes the technology suitable for high precise grinding. The control unit allows the operation to be automated and the chucks can be produced in various sizes from standard dimensions to several meters in length and width.

For EDM applications a special low power magnetic field is used to minimise any influence on the sparked material, and the chucks are constructed to be submerged in the die-electric fluid. As well as the range of chucks Walmag also produces a full range of accessories designed to aid the capability of the magnetic solutions available.

Based in the Czech Republic, Walmag can trace its involvement with magnetics back to 1960. Over 60 highly skilled staff work at the company's 30,000 ft<sup>2</sup> facility in Kromeriz, near Brno, producing standard and bespoke magnetic clamping chucks for a global manufacturing industry.

Based in Tamworth, Leader Chuck Systems has an enviable reputation for the in-house design and production of Leader chucking, stationary clamping, gripping and workholding products. A respected brand name for high quality equipment with more than 60 years' experience, the company also stocks products from the very best suppliers, such as AutoGrip, Bison, CARVEsmart, Gamet, Hainbuch, Hewa, Iram, Lexair, Maprox, MicroCentric, Orange Vise, Posistop, Walmag Magnetics, ZeroClamp and Zweifel. Able to provide

the right chuck or gripping solution for any application, Leader Chuck offers quality, precision, and reliability at competitive prices with reliable expert advice and a commitment to customer service.

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