

MicroPlus



Workholding + Tool Support System



MicroPlus is a high accuracy workholding and tool support system that significantly reduces tool run-out. MicroPlus was developed to satisfy the growing demand for more precise tools. Consistent results of less than 3 micron tool run-out have been achieved with the use of the new system.

The advanced MicroPlus system consists of 2 separate assemblies: the Flexi-Chuck assembly provides effective workholding, while the Overhead Top Clamp Assembly (OTC) provides tool support and guidance. Together, as the MicroPlus system, they will reduce tool run-out to less than 3 micron.

The function of the Flexi-Chuck is to clamp and rotate the tool, allowing the tool and internal components to move independently of each other, minimising any misalignment. This prevents adverse factors such as collet inaccuracy and any misalignment caused by loading tools.

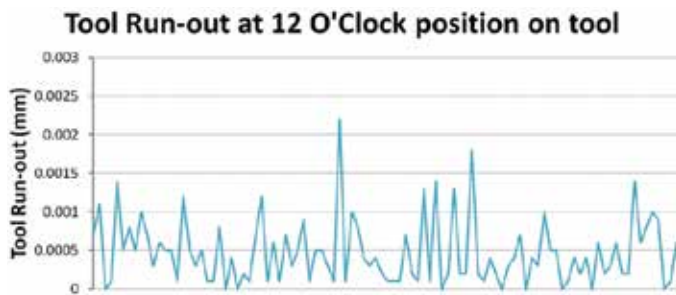
ANCA's patented Flexi-Chuck has internal springs which generate the clamping force and make it a completely independent unit. The Flexi-Chuck does not use the traditional draw bar and is not affected by that design's potentially negative influence on tool run-out. In other less advanced systems, if the draw bar and tool are not in a completely straight line, the centrelines may differ. This would result in the draw bar pulling the tool at a different angle which would cause tool run-out.

The role of the OTC assembly in the system is to support the tool and ensure it is in correct alignment. This reduces tool run-out. The OTC retains the tool in the rigid V-block with an overhead clamp. The clamp is a rigid metal finger with an acetal pad that ensures the tool shank is not damaged when it is rotated during grinding. The tool is clamped and unclamped by a pneumatic actuator.

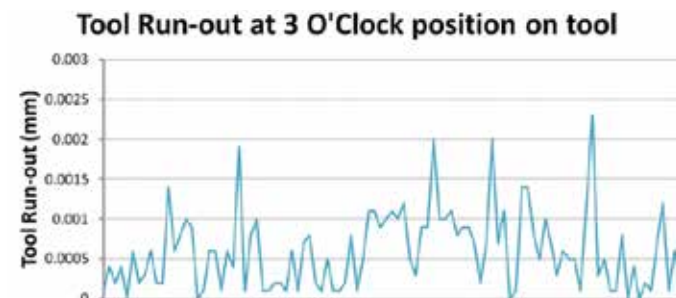
Key Benefits

- Reliable elimination of both radial and axial run-out
- Less than 3µm (0.00012") runout for tools
– measured 50mm (2") from the face of the collet
- Ideal for the production grinding of Ø3mm (1/8") – Ø8mm (3/16") tools
- Automated set-up assistance is provided in ToolRoom software
- Easy changeover of collets
- No restriction in machine work envelope
- Suitable for both manual and automated loading of tools
- Available for the MX7, MX5, MX7 Linear, MX5 Linear, FX7 Linear and FX5 Linear machines
*Note: requires upgrade to headstock cylinder and drawbar

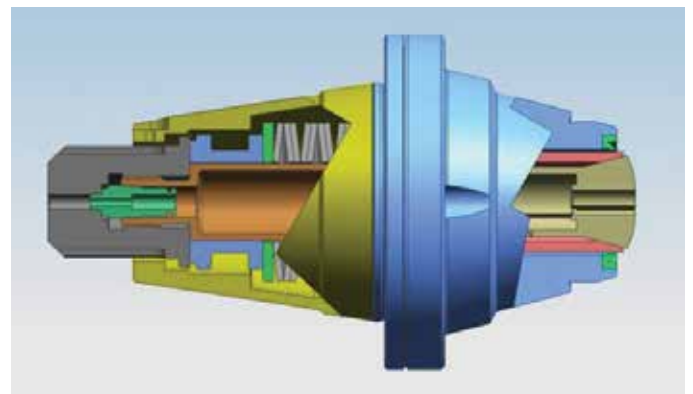
LESS THAN ③ MICRON TOOL RUNOUT



Run-out test results for 100 parts as ground using MicroPlus and measured with LaserPlus



Run-out test results for 100 parts as ground using MicroPlus and measured with LaserPlus



Tool run-out at top of the tool (12 o'clock) & side of the tool (3 o'clock) showing less than 3 micron run-out accuracy over 100 tools.

Patented Flexi-Chuck with internal springs