

KERN Micro – The compact all-rounder

➤ The new **KERN** Micro

The new KERN Micro is an ultra-compact all-rounder that offers outstanding automation possibilities combined with nano-range precision. This multi-talented machine can be used for a universal range of parts – and naturally features the high positional accuracy of $\pm 0.5 \mu\text{m}$ for which KERN is renowned, whilst maintaining the highest levels of repeatability and reliable productivity. The exceptionally large tool changer is designed for up to 209 tools and offers easy access. The working area can be accessed without restrictions even after the connection of automatic external workpiece changers. The ideal conditions for automation!

➤ The **compact system** for a wide range of production

The Micro is available either as a three- or five-axis machining centre. In five-axis configuration large workpieces with a height of up to 220 mm and a maximum diameter of 350 mm are no problem for the KERN Micro. Naturally the capability also includes full 5 axis simultaneous machining. Combined expertise in a handy package, the Micro takes up extraordinarily little space.

always.**KERN**.precision





→ Intelligent temperature management

All important components are kept at a constant temperature of 20 °C. This includes coolants, electrical switch cabinet, spindle and all axes. The temperature is raised or lowered as required.

→ Very compact in relation to the workpiece size

In a space of just four square metres, the machine can perform five-axis machining of very large workpieces with a maximum diameter of 350 mm. The intelligent arrangement of the fourth and fifth axes results in a large swivel range that allows full use of the working area.

→ Perfect ergonomics and automation options

The working area and the tool cabinet are fully accessible at all times, even with automation. Large openings and easy access to the clamping area facilitate manual operations. There are interfaces for all standard automation functions. Automatic workpiece changing systems can easily be retrofitted.

→ Plug & Play

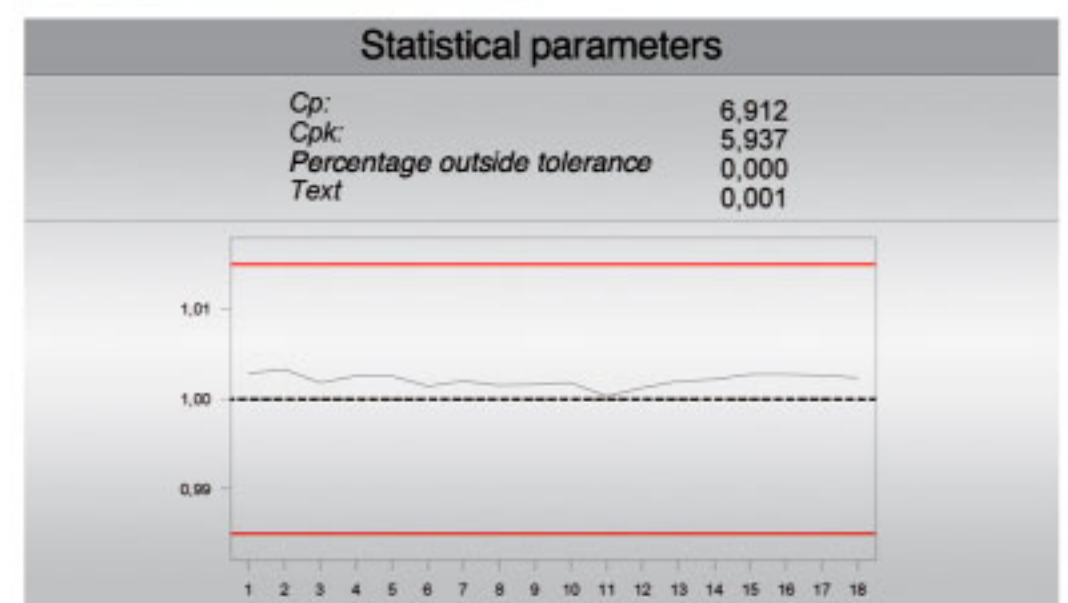
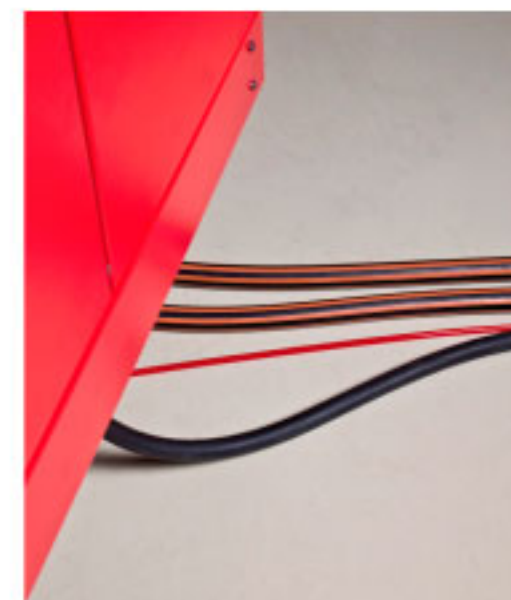
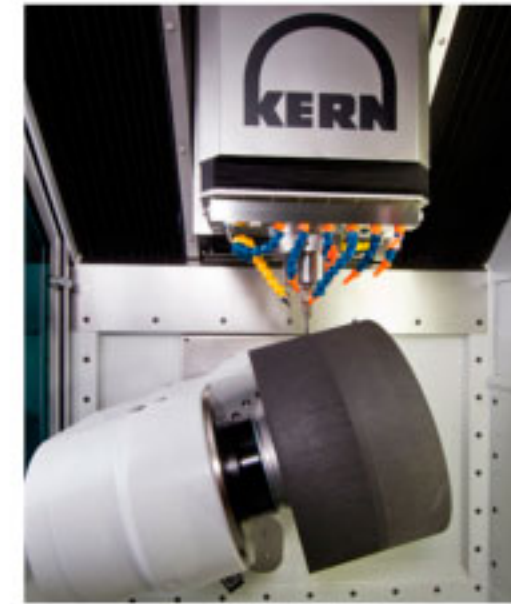
One-box design: all units – with the exception of optional water chiller – are integrated in the machine. It is ready to operate in just a few steps; only four connections have to be made for commissioning.

→ KERN precision

The proverbial KERN precision includes precise machining with accuracy of up to $\pm 0.5 \mu\text{m}$ as well as high repeat accuracy as part of productive, reliable operation. The significantly lower scrap rate saves costs – in both high-precision and precision manufacturing.

→ Tool cabinet with quick-change pallets for over 200 tools

There is also great flexibility for tool selection: the new "tool cabinet" presents up to 209 tools for automatic changing, displayed to the operator through a clear window. Thanks to the separately patented quick-change pallets, complete tool sets can be put together for each job and stored in an additional cabinet. Thus the stored tools can be refreshed or extended as required with minimum set-up times.



→ Technical data

→ Linear axes

Traversing distances X/Y/Z: 350/220/250 mm |
Max. clamping area: Ø 350 mm |
Max. workpiece weight: 50 kg |
Traversing speed: 30 m/min |
Acceleration: 10 m/s² |

→ Rotary and swivelling axes

Rotary axis: 360° endless / 200 rpm |
Swivelling axis: 220° (opt. 280°) / 600°/s |
Swivelling axis clamping: 300 Nm |

→ Precision (VDI/DGQ 3441)

Position scatter (linear axes): ±0.5 µm |
Position scatter (swivelling axis): ±3.0" |
Position scatter (rotary axis): ±0.5" |

→ Spindle alternatives

HSK 25: 35000 rpm, 6 kW (S1) |
HSK 25: 50000 rpm, 6 kW (S1) |
HSK 40: 42000 rpm, 15 kW (S1) |

→ Tool changer

HSK 25: 20-, 101- and 209 positions |
HSK 40: 18-, 90- and 186 positions |
Max. tool diameter: 70 mm |
Max. tool length: 150 mm |
Chip-to-chip time: 4.5 s |

→ Technical concept

Central cooling management with 0.2 K control accuracy |
One-box machine |
Tool cabinet |
Heidenhain controller |

→ Dimensions and weights

Weight: 6100 kg |
Base area: 1495 x 3040 mm |



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