

# ormance

dimensional correction instead of the usual five was required for maintaining correct size.

The cutting tool material and radius and geometry information which previously could only be found on indexable insert packaging is now also lasered onto each individual insert to help minimise the chance of inserts being mixed up and therefore the possibility of scrap components.

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## Taking it to the top



**The recently extended TOPlus Mini range from Leader Chuck Systems features significant real-world benefits according to the workholding supplier.**

The new chuck features a mass reduction of 38% and is one third shorter and one third smaller in diameter. This means reduced energy consumption during operation and better cutting tool accessibility.

Thanks to the reduced mass and size the choice of suitable tools is much broader. Also, the tools used can be shorter and therefore more stable – for both the main and sub-spindles. This is particularly beneficial where installation space is limited and in batch production operations where part to part consistency

is vital. TOPlus Mini is ideal for lowering energy consumption, providing dynamic spindle acceleration and shorter cycle times to lower the cost per workpiece.

Managing director Mark Jones states: "A typical CNC lathe has a 20 to 30kW spindle motor which costs around £1,000 per month to run. By reducing the mass of the chuck you can directly reduce the power drawn which will result in ongoing energy savings. With industrial electricity costs only going up, every step you take towards energy efficiency is rewarded within the business profits. The TOPlus Mini range supports these business objectives."

The TOPlus Mini is available

in two variants – pull-back and dead length. The pull-back TOPlus Mini features a vulcanised clamping head with pull-back and hexagonal geometry for optimum chuck sealing and a 25% higher clamping force. The fixed base end-stop for clamping with pull-back effect, or central mounting thread for component specific end-stops makes it ideal for clamping workpieces with shorter collars or shoulders. Additionally, this can be removed when necessary to facilitate a through-bore for bar work. A bespoke mounting thread for drawtube connection is also provided.

For radial clamping without axial movement of the clamping head the deadlength TOPlus

Mini is suitable for component transfer between spindles such as horizontally opposed twin spindle lathes, also known as kissing-spindle lathes, and for vertical turning pick-up spindles. Again, the chuck can be used for through-bore work with bar fed raw material.

Providing a concentricity of 0.025mm, there are five TOPlus Mini deadlength chucks in the range, 26, 40, 52, 65 and 100, the figure denoting the maximum workpiece diameter. The smallest chuck is rated up to 10,000rpm and a radial clamping force of 35kN. The Mini 40 and 52 are rated to 7,000rpm and offer radial clamping forces of 103kN and 108kN and axial compression force of 33kN and 40kN respectively.

The rotational mass of much larger workpiece capacity of

the TOPlus Mini 65 and 100 means these chucks are rated at 6,000rpm and 5,000rpm and accordingly the clamping forces have also been increased. The 65 has a radial clamping forces of 120kN and an axial compression force of 45kN while the largest chuck in the range has a radial clamping forces of 172kN and an axial compression force of 65kN.

Covering the same five workpiece diameter ranges, with equivalent speed ratings, radial and compression forces, the TOPlus Mini pull-back chuck range increases concentricity to 0.015mm.

**LEADER CHUCK SYSTEMS**  
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