DUAL-CHANNEL THROUGH-SPINDLE MQL

means the lubricant and air are run in separate paths and combined at the point of use instead of a mixture delivered through a single path.

MQL Applicator

Supplies accurate and repeatable lubricant and air

DUAL-CHANNEL ROTARY UNION

Carries lubricant and air separately into the rotating spindle

Dual-channel MQL responds up to 10X faster than single channel when the MQL rate is changed.

10X FASTER

This is the most consistent, clean, and seamless way to use MQL in a CNC machine.

FLUID DELIVERY TUBE

Keeps lubricant and air separate all the way to the tool holder

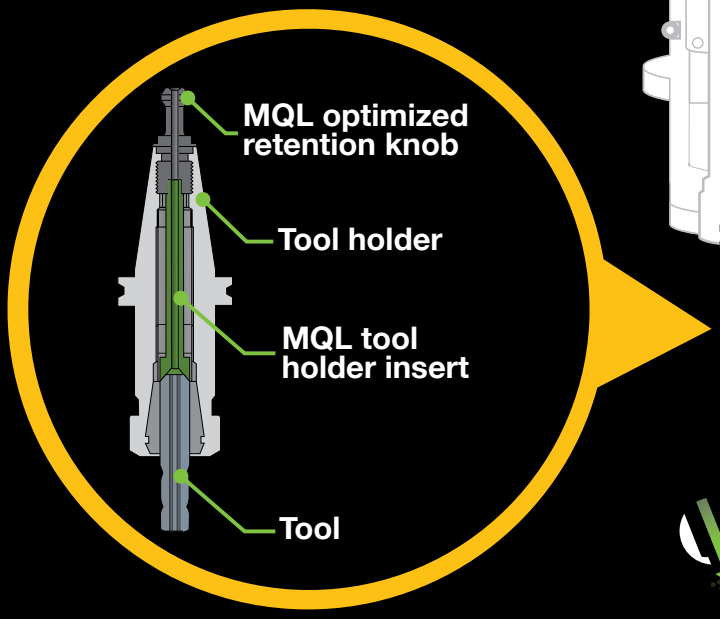
Tools can be designed to deliver the lubricant exactly where it is needed every time, eliminating concerns about nozzle positioning.

WHAT TO LOOK FOR

- A straight fluid path through the spindle
- Fluid and air mixed as close to the tool tip as possible
- A straight, consistent diameter from point of mix to shank of tool
- Digital control of the amount of fluid delivered
- Output consistency, regardless of fluid properties such as viscosity and temperature
- System reliability

Save 30-40% of total energy used compared to machining with traditional coolant systems.

No spraying from a distance. Lubricant usage and overspray are minimized with through-spindle MQL.



TOOL HOLDER INSERT

Keeps MQL aerosol directed to tool

ThroughSpindle™

UNIST
Environmentally Friendly Lubrication