



EMPOWERING INNOVATION

LASER MICROMACHINING & PRECISION SYSTEM

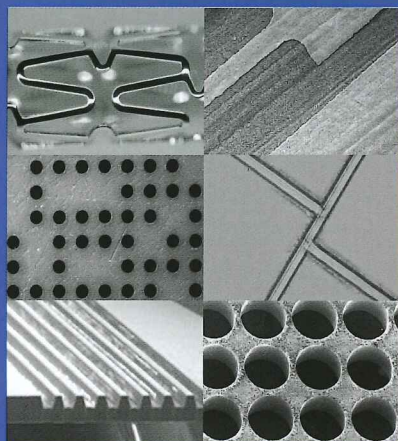


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Laser micromachining offers unique advantages for materials processing in an ever increasing range of applications. From micro holes with diameters down to a few microns and sub-micron tolerances laser processing and micro-machining provides a highly versatile engineering solution

APPLICATIONS

- Laser Micro Drilling
- Laser Micro Milling
- Laser Micro Cutting
- Laser Micro Patterning
- Laser Micro Scribing
- Laser Dicing
- Laser Micro Welding
- Laser Probe Card Drilling
- Laser Processing PV Cells



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Lubrication

MQL—A Path Breaking Technology

Many machinists do not know or truly understand the true concepts behind Minimum Quantity Lubrication (MQL), and therefore never get to enjoy its benefits. Here's how understanding true concepts behind lubrications can make a huge difference to your business!

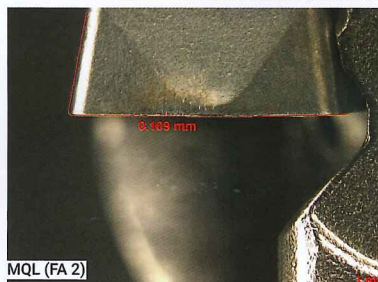
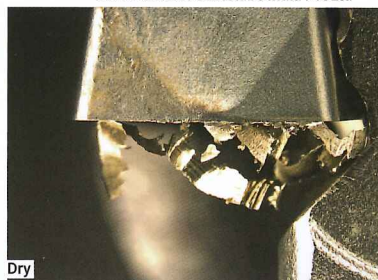
Minimum Quantity Lubrication (MQL) goes by many names and sometimes incorrectly, referred to as 'mist coolant'. In an industry where production efficiency is crucial, the unknowns of a 'new' technology pose the potential threat of complications and downtime. The fear of the unknown may be the greatest challenge to MQL. The excellent lubricity of a good MQL lubricant means that most the heat from friction is transmitted to the chip and exits the interface as chips are thrown away. This lubrication and transfer of heat keeps the cutting tool much cooler, reduces tool wear and allows a much higher productivity. "MQL is Business Process Management. Implementing an MQL process



Blaser Swisslube is always concerned with generating the highest productivity, efficiency and quality out of machining processes of our customers in close cooperation with our industrial partners."

Jos Christoffel, Product Manager, MQL Blaser Swisslube AG

Source: Blaser Swisslube India Pvt Ltd



Cutting process with dry coolant vs. MQL

is like completing an engineering project and one needs to have competent partners who can support throughout this journey and contribute in the complete ecosystem," says Product Manager MQL, Blaser Swisslube AG, Jos Christoffel.

Customer case study

In a close collaboration between Fraisa and Blaser Swisslube, a cutting process in stainless steel (1.4301) was optimised with MQL in the medical industry. Prior, the cutting process was done dry without any coolant technology. The goal of the project was to find a suitable process with MQL that results in a substantial benefit.

To achieve this goal, different tools from Fraisa and MQL solutions from Blaser Swisslube were evaluated and compared under real conditions at its technology centre.

With the ideal combination of MQL oil and tool, an increased productivity and a better tool life were enabled. "Overall, the metal removal rate was increased by 70 percent and this resulted in a higher tool life by 243 percent" informs Christoffel. This convincing result was achieved with an internal aerosol transport through the tool with a one channel MQL device."



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