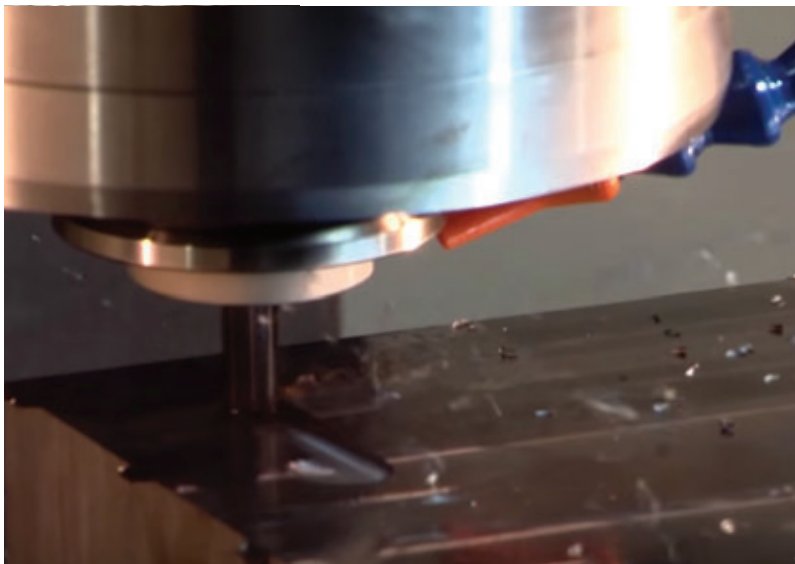
AUTOMATIC LUBE SYSTEMS

MINIMUM QUANTITY LUBRICATION & NEAR DRY MACHINING

AUTOMATIC LUBE SYSTEMS, INC.
www.automaticlubesystems.com
(844)-LUBESYS



MINIMUM QUANTITY LUBRICATION AND NEAR DRY MACHINING

Machine tools increasingly run 24 hours a day. Perfect lubrication of machine components is fundamentally important to ensure reliable and flawless performance, which dramatically reduces wear and maintenance costs. Automatic Lube Systems, Inc. offers innovative and reliable lubrication methods and systems to adopt to any application with the guarantee of high reliability. Automatic Lube Systems, Inc. has an entire range of products: oil, fluid grease, grease, also including air-oil for bearings and for MQL dry machining in cutting applications.

WHAT ARE NDM AND MQL?

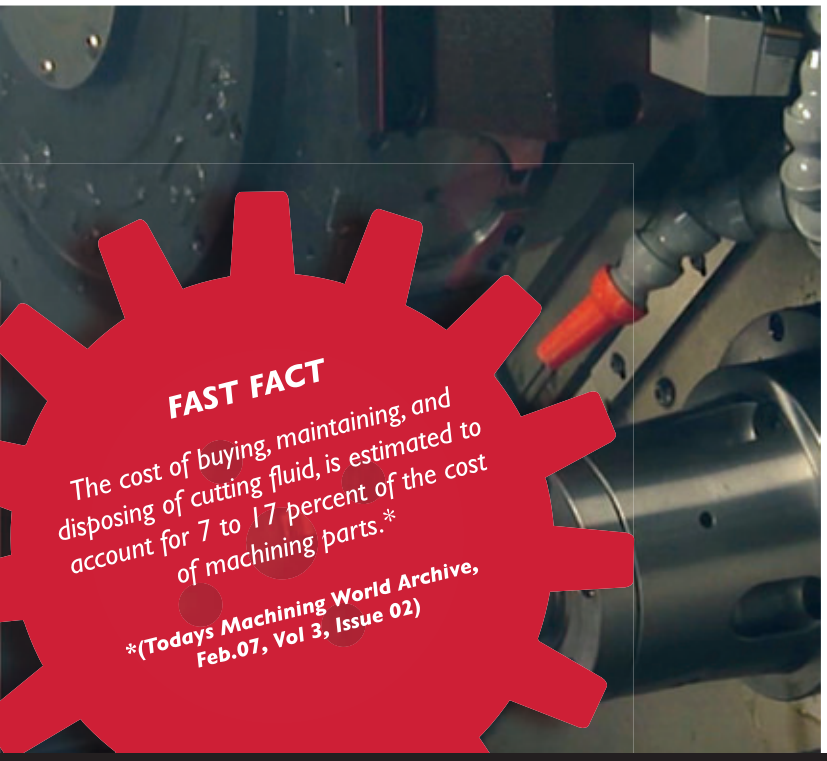
NDM or Near Dry Machining and MQL, or Minimum Quantity Lubrication, are alternatives to traditional metal working fluids or flood coolant. The aim of near dry machining is to replace traditional coolant and pure oil flood systems in a machining environment with an accurately controlled compressed air stream that guarantees minimal quantities of oil lubrication in an air/oil format to the cutting surface. This ensures better lubrication of the cutting surface and guarantees high performance machining.

HOW ARE NDM AND MQL DIFFERENT FROM FLOOD COOLANT?

The concept of MQL is fundamentally different from that of flood coolant. While flood coolant can use upwards of 30,000-60,000 mL/hour, MQL is typically less than 50 mL/hour. Where coolants flood the interface in an attempt to control temperature, MQL coats the interface with a thin film of lubricant and prevents heat buildup through friction reduction.

HOW DOES IT WORK?

Minimum quantity lubrication applies a light spray of an air and oil mixture to the cutting area. This spray or aerosol lubricates the tool as it cuts. The heat of machining burns off and evaporates most of the oil, resulting in nearly dry chips and parts.



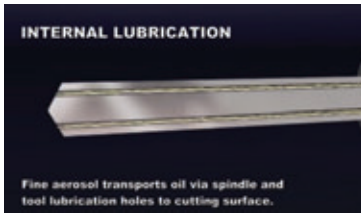
FAST FACT

*The cost of buying, maintaining, and disposing of cutting fluid, is estimated to account for 7 to 17 percent of the cost of machining parts.**

***(Todays Machining World Archive, Feb.07, Vol 3, Issue 02)**

HOW IS THE LUBRICATING AEROSOL TRANSPORTED TO THE CUTTING SURFACE?

- External Lubrication: oil is transported via an external nozzle to the cutting surface placed in the vicinity of the tool and workpiece.
- Internal or "through-the-tool" Lubrication: oil is transported through internal lubrication holes in the cutting tool.



IS MQL ENVIRONMENTALLY FRIENDLY?

MQL is a much more environmentally safe approach than using flood coolants. Most of the oils used in MQL are vegetable-based esters and fatty alcohols and are non-toxic and readily biodegradable. The move from flood coolants to near dry machining can result in improved health conditions from handling and working around conventional coolants.

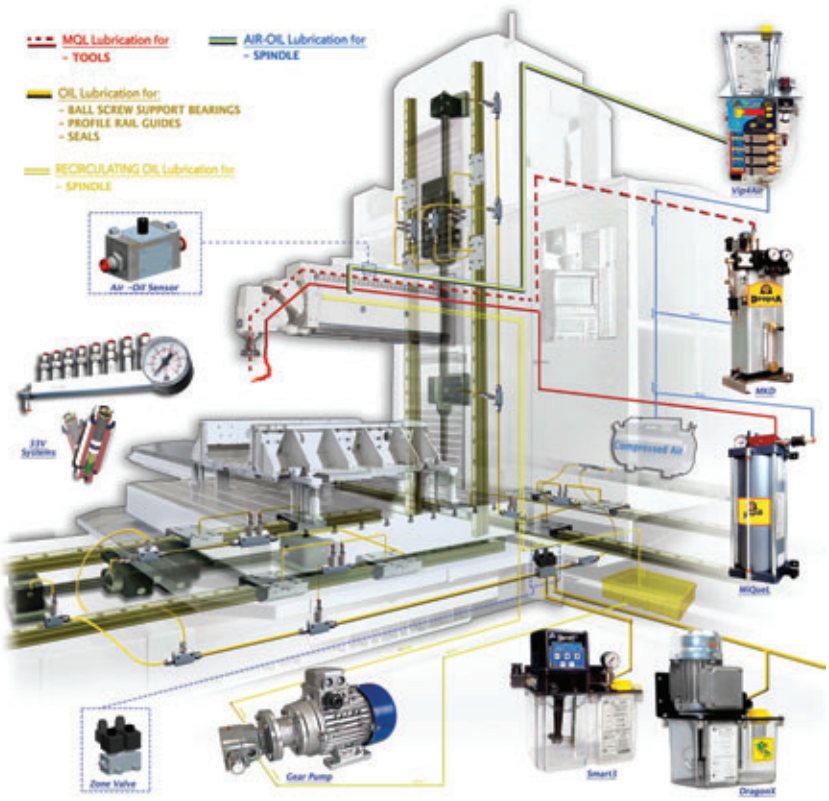
QUICK BENEFITS

- Eliminates flood coolant
- No waste disposal problems
- Longer tool life
- Safer working conditions
- Less fluid consumption
- Long term cost savings
- Cleaner machine operation
- No discoloring of parts
- Non-toxic
- Less machine maintenance
- Clean, dry chips

WHAT APPLICATIONS WILL NEAR-DRY MACHINING OR MINIMUM QUANTITY LUBRICATION WORK?

- Band sawing
- Circular sawing
- Milling
- Drilling
- Tapping
- Turning
- Drill presses
- Swiss Type Lathes
- CNC Lathes
- And Many More

AVAILABLE PRODUCTS AND SOLUTIONS



ALL OF OUR NEAR DAY MACHINING AND MINIMUM QUANTITY LUBRICATION PRODUCTS:

- MiQueL
- MKD
- Smart3
- DragonX
- VIP4Air
- And Many More

AIR/OIL LUBRICATION

Air/Oil Lubrication consists of an air stream, that normally operates continuously, used to provide cooling to the lubrication point and as a transport medium to carry small quantities of oil to the lubrication point. The oil-injected into the air stream at regular intervals coats the surfaces to be lubricated and reduces friction and wear.

ADVANTAGES

- Fully Integrated Monitoring
- Modular concept
- Integrated or Remote Cycle Control
- Simple Interfacing
- Low Cost
- Cooler bearing
- Higher Speeds

TYPICAL APPLICATIONS

- Spindle Lubrication
- Chain Lubrication
- Bearings - High Speed Bearings
- Spindles

MQL – MiQueL

MiQueL is the perfect solution for air / oil external lubrication. MiQueL is the ready-to-go solution for the most demanding and high performance near dry machining applications requiring internal, thru-the-tool minimal quantity lubrication necessary for air/oil modular systems. MiQueL is designed for near dry machining lubrication for machine tools, cut and fold sheet metal machines, and steel mills; it can be used on all systems that need calibrated lubrication and function control.

MKD DUAL

MKD-Dual is the ready-to-go solution for the most demanding and high performance near-dry machining applications requiring internal, thru-the-tool minimal quantity lubrication. Thanks to state of the art aerosol generation technology and its auto-adaptive system, MKD-Dual is suited both to new machine installations saving substantial capital costs on coolant equipment and retrofit installations where existing spindle and coolant piping can be used to channel aerosol lubrication to the tool tip. With Internal or "through-the-tool" lubrication: oil is transported through internal lubrication holes in the cutting tools. The MKD-Dual product leads the way with patented technology that generates specifically profiled micron-sized oil aerosol particles that can be injected through existing spindles and tool-holders to the leading edge of the cutting tool.

VIP4

These small all-enclosed devices are ideal for use on small systems and offer fully integrated control and monitoring in a single compact package. Typical applications: high speed bearings, spindle lubrication in machine tool, micro-spray coating applications, gear lubrication, chain lubrication and cleaning.

The Vip4 Air System offers one of the most compact and feature rich air/oil systems available for spindles and it is able to achieve a significantly reduced amount of lubricant dispensing and positive feedback is a must for such systems. A variant of the Vip4 Air, specifically aimed at chain or conveyor application can be used in any application where the lubrication cycle is not time driven but impulse driven. On a typical application, a sensor connected to the Vip4 Chain monitors the number of links passing across the lubrication nozzle and fires a micro quantity of oil onto the point thus increasing chain or conveyor life without lubricant wastage that can drip off the chain and contaminate the industrial process.

WHO ARE WE

We are a first generation, small business, founded by two local owners, who focus on automatic lubrication solutions for a variety of applications. We believe in the benefits of auto lube; our company was born out of a desire to deliver quality and reliability. Our goal is to provide the best designs, solutions, installations, and service of auto lube products. We appreciate every customer, quote, opportunity and every project that we have the pleasure of working on. Thank you in advance for your business.

Our mission is increasing safety, uptime, and productivity while reducing costs through automatic lube system installations.

WHAT ARE THE BENEFITS OF MQL AND NDM?

- Reduced work cycle times, generally by 25% to 80%
- Increased tool life thus increasing time between tool change and gaining productivity
- Better surface finish and tolerances can be achieved
- Eliminate coolant make your plant/shop more environmentally friendly
- Parts finish machining with a fine rust inhibiting oil coating – not coolant contamination
- Water and oil consumption drastically reduced
- Our technology works on diverse materials and machining operations
- Eliminate or reorganize capital cost of high pressure thru-tool coolant system on new systems

Side-by-bide implementation parallel to existing coolant system gives you peace of mind and maximum flexibility

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AUTOMATIC LUBE SYSTEMS, INC.
www.AutomaticLubeSystems.com | Sales@AutomaticLubeSystems.com
(844) 582-3797 (LUBESYS) Westfield, MA