

# unilube

## MICRO LUBRICATION

# The effective and ecological Micro Lubrication Technology



### Applications

Unilube Micro Lubrication Systems (MLS) are designed for use in machining and metal forming operations, for applying protective film and sliding layer, in short, wherever friction needs to be effectively eliminated. They fully replace conventional flood coolants and water-soluble lubricants.

### Function

Unilube Micro Lubrication Systems operate according to the principle of nearly total lubricant consumption without residue. The micro-thin protective film is applied in such a way that it is entirely consumed during the process, e.g. the machining of the work-piece. Accurately adjustable positive-displacement metering pumps guarantee

a minimal and constant flow rate of lubricant application at all times. Under high pressure, the lubricant is atomized in dual-medium nozzles into invisible particles and is directed at high velocity, as a micro-thin film, precisely to the point where lubricant is needed – for example, the contact zone of a tool.

### Advantages

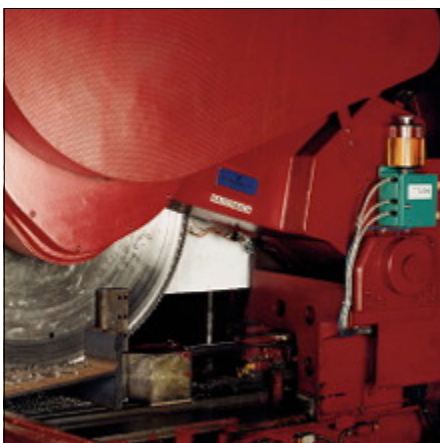
Due to the very precise and focused application, Unilube Micro Lubrication Systems are extremely economical and operate according to the principle: »Drops instead of liters«. Unilube Micro Lubrication Systems use an average of just 3 liters of High Performance Lubricant per year and nozzle, while conventional installations require the use and disposal of hundreds of liters of coolant.

The cost of constructing machines also becomes considerably lower since Unilube Micro Lubrication Technology allows a lighter and consequently more dynamic design without the need for lubricant collection devices or covers. In addition, costly separation, filtering and cleaning devices are no longer needed.

In fact, the cleaning and disposal is as easy as those in actual dry machining methods; additionally, due to the Unilube Micro Lubrication Technology, wear is markedly reduced and the surface quality is improved.

Dry workstations, residue-free workpieces and chips, and operations without the generation of mist or odors already meet tomorrow's stringent environmental requirements for a clean and healthy workplace.

• 3 l / year



Cutting steel beams (blade  $\varnothing$  1400 mm), 3-nozzles Unilube MicroLubricationSystem



Cavity milling with HSC-technology, 2-nozzles Unilube MicroLubricationSystem

### Systems Series and High Performance Lubricants

**PULSLUB Micro Lubrication Dispenser**



Compact, versatile and modular dispenser with individual metering of the rate of lubricant and air flow. Lubrication cycles are initiated, as required, by any type of control signal or foot-operated valve.

The PULSLUB Micro Lubrication Dispenser is ideal for operations which require a short, pulsating application of lubricating film such as:

**Drilling, tapping, punching, cold-forming, etc.**

**ECOLUB Micro Lubrication System**



Precise metering pumps with integrated timer control supply a continuous lubricating microfilm, individually adjustable for each nozzle, as required. A control valve allows the system to be linked to the work process. Functional components guarantee the highest process reliability during operation and ensure permanent monitoring.

The ECOLUB Micro Lubrication System is proven ideal for:

**Sawing, milling, turning, broaching, high-speed cutting, a variety of microlubrication and protective film applications, etc.**

**UNILUB High Performance Lubricants**



They are designed for the application of a micro-thin lubricant film. They effectively lower friction, reduce the generation of heat and diminish tool wear. Used in an undiluted form, they also feature outstanding lubricating properties and provide mist-free operations, as well as residue- and stain-free surfaces.

The UNILUB High Performance Lubricants are powerful, synthetic products, and environmentally-friendly, designed for an effective and resource-saving use in Micro Lubrication Systems. They are registered as non-toxic at the Federal Office of Public Health.

To achieve optimal operating conditions, the Micro Lubrication System and nozzle arrangements, as well as the High Performance Lubricant, must be properly determined according to the specific requirements of the plant.

### UNILUBE Micro Lubrication Technology = High Performance + Quality + Ecology

- **Minimum investment and extremely fast amortization**
- **Increase in productivity**
- **Decrease in operating costs**
- **Higher cutting speeds and feeds**
- **Extended tool life**
- **No expenditure for cleaning and disposal**
- **Profitable recycling of dry chips**
- **Clean, mist-free environment**
- **Clean and healthy workplace**