



We have the Technology for your Lubricant



Advantages

- High performance and efficient pump technology for manufacturing applications of different lubricants
- Flexible application via the large range of fine-tuned adjustable settings
- Mist-free, micro-fine lubricant applications
- Optimal process reliability and accurate results of reproducible lubricants
- Minimization of lubricant consumption

Micro-Dosing Unit (MDA)

The Micro-Dosing Unit (MDA) is designed to dispense Minimal Quantity Lubrication (MQL) in precise dosing applications for the automobile and industrial manufacturing sectors. This unit's technology combines advantages of precise-application and cost-efficiency with the flexibility of a high performance pump system for virtually any lubricant substance. In addition, the unit has the capacity to be equipped with up to 6 WERUCON® dosing pumps. Via the wide range of precise-adjustable-settings and its solid construction, the MDA system has the capability to handle a multiple number of manufacturing processes for non-machining and metal-cutting operations. Moreover, due to the mist-free application, the lubricant-air mixture has a significant reduction in lubricant consumption. Hence, harmful health vapours or fumes can be efficiently controlled.

Micro-Dosing MDA

Minimal Quantity Lubricant (MQL) incorporated with WERUCON® Technology

Wherever there is a necessity to minimize friction through using a lubricant substance or a protective liquid preservative, the MQL is a cost-effective and environmentally-friendly process. The conversion of lubricants in a production process is often connected to companies with extremely high expenditures. WERUCON® technology is so highly advanced that the dosing units can be adapted to any company's preferred lubricant. Thus, companies of the metal-forming and machine-cutting industry must take into account by setting up the latest state-of-the-art MQL dosing operation that it can be done without incurring high changeover costs. The MQL system considerably decreases lubricant usage in reproducible grease. In turn, this significantly reduces the cost and, more importantly, it reduces the burden on the environment. The precondition for this flexibility in relationship to lubrication and coolant emulsion is the high performance of a dynamic pump system. Our metering pumps are in-house developments, which are designed to enhance the extraction fluidity of various liquids in operation with the customer's own viscosity ratios. This does not only determine the variable application of the liquids, but also the process reliability even at fluctuating outdoor temperatures. WERUCON® dosing nozzles are so geometrically designed that with proper adjustment of the air-flow intensity no mist or fog is produced with most commercially available lubricants. Thereby, the workroom's air is generally not contaminated with harmful, respirable aerosol-particles.

Flexible Applications

The Micro Dosing Unit has the capacity to be equipped with up to 6 WERUCON® pumps, executing operation of several machining processes simultaneously. In accordance with the unit's specification requirements, it can be configured, reconfigured and extended with WERUCON® components. It can also carry out metal cutting processing by dispensing the exact dosage of lubricant on the work piece or on tools such as drills, saws, mills,

etc. In addition, by utilizing WERUCON® pump technology, it is possible to perform band surface coating for non-metal-cutting processes.

Simple Operation

The amount of lubricant required depends upon the setting of the two adjustable parameters located on the metering pump and the pulse generator. The metering pumps' setting has an analogue display indicator and a scale of 0.02 graduations. Via a selector switch or by electrical activation each dosing pump and nozzle is individually activated. The lubricant's varied output rate is reproducible at any time.

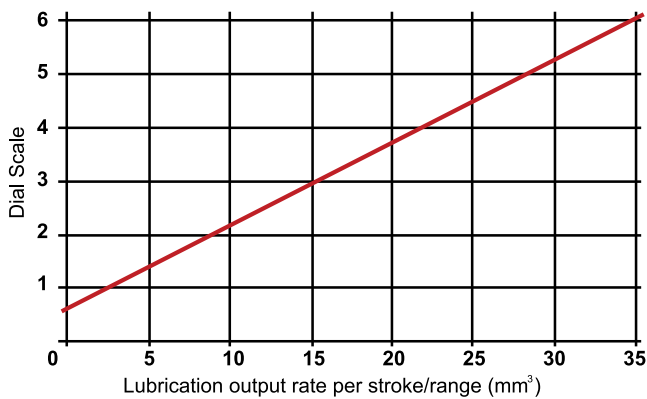
MQL Advantages

- No changing of the lubricant is necessary
- No disposal cost for cooling emulsions
- No residue on work piece components, tools and machinery
- No cleaning is required
- No expensive coolant circulation system; drip pan, splash guard, filter, etc. are no longer needed.
- Longer tool life-cycle
- Higher speed performances are possible
- Better surface quality and dimensional accuracy of the work piece components
- No air-pollution via toxic aerosols in the work area
- No dermatological hazards, such as coolant emulsions
- No environmental pollution, the lubricants are biodegradable



Specifications

Theoretical Conveyor/Delivery Data



	Specifications
Pumps	<ul style="list-style-type: none"> • Max. 6 Dosing pumps • Max. Output volume = 35mm³/stroke • Max. Pump frequency = 160/minute
Impuls generators	<ul style="list-style-type: none"> • Max. 2 Impulse generators
Spray air controls	<ul style="list-style-type: none"> • Max. 2 Pressure regulating valves
Connection ports	<ul style="list-style-type: none"> • Max. 12 coaxial-hose sets/dosing nozzles • Max. possible length for each hose = 10 m
Control activation	<ul style="list-style-type: none"> • Electric Control: Mono stable start signal for the metering unit, 24 V/DC; 24 V/AC; 110 V/AC; 230 V/AC • Parallel Control: The entire dosing machine is activated with a control signal • Separate Control: Each dosing pump and nozzle can be individually activated or in groups
Circuitry	<ul style="list-style-type: none"> • Each metering pump and nozzle can be manually disconnected via a selector switch • Maximum 4 manual switch-on connectors are possible
Lubricant containers	<ul style="list-style-type: none"> • Lubricant containers with mesh screens are available in sizes 1.0 liters, 3.0 liters and 5.0 liters • Low level switch indicator
Compressed air supply unit	<ul style="list-style-type: none"> • Compressed air (power) supply min. 4 bars, max. 8 bars
Cabinet	<ul style="list-style-type: none"> • Powder-coated metal cabinet with a lockable door
Adjustment range	<ul style="list-style-type: none"> • Output volume approximately 5 cm³/minute

Accessories

- Mounting kit and mounting frame
- Spray cabinet
- Foot-operated switch
- Custom-designed equipment
- Dosing nozzles are available in different configurations



Optional Enhancements

For very thin lubricants, we recommend using the **pulse compensator**, which provides a continuous spray of lubricant.

For point accuracy of surface coating, e.g. plate lubrication, a **decompression modulus** is integrated in the system to prevent eventual dripping of the lubricant.

Alternative units

MDB

- Dosing unit with a maximum of 2 dosing pumps and 2 nozzle connectors
- Lockable cabinet with a control panel
- Diverse industrial applications

KDE

- Compact unit with 1 dosing pump and up to 2 metering nozzles
- Direct mounting on machines, e.g. drills, mills, etc. is possible

DSS

- Continuous spray output system, equipped with switchable spray valves
- Process reliable band lubrication



MDB



KDE



DSS

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WERUCON GmbH

WERUCON® is a leader in advanced metering technology that supplies special production machines for the automobile industry and the mechanical engineering service sector in the capacity of assembly and dosing technology, for Minimal Quantity Lubrication (MQL) of surface moistening production and precise dosing application of lubricant substances.

The strength of our company is a result of our solution-oriented engineering services combined with our ability to deliver expeditiously. We maintain plentiful stock of ready to operate, automatic devices and machines; as our products are designed and manufactured in-house. The installation of WERUCON® machines is specifically customized to fit our customers' infrastructure. As an innovative, technological supplier of MQL, we work in partnership with manufacturers of lubricants who continue to set high standards; and are pioneers in the field of lubricant surface coating.

WERUCON® dosing technology stands for reliable and precise lubricant dosing application for metal-forming and metal-cutting processing. First and foremost, in companies where MQL is in demand, our micro-dosing pumps are in use. With our dosing technology, the lubrication is virtually independent of the environment and is always reproducible.

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