

UNICUT®

Advanced Cutting Fluid Technology made in Germany



**Minimum Quantity
Lubrication Systems**





Advanced Cutting Fluid Technology made in Germany

Good ideas are the guarantee for your success

Perfect solutions are our motive – since the company's foundation in 1968 up to now. as experts for high-performance cutting fluids for the aluminium and steel processing industry we are developing products and systems promising and assuring our customers the maximum of quality and capacity.

The results are internationally patented high technology solutions in the field of minimum amount cooling lubrication that proved to be excellent in practice. minimal consumption, maximal capacity and environment-friendly recipes are standards set by us. with the innovative UNICUT® duplex-System we succeeded in combining the advantages of a minimum amount cooling lubrication with the advantages of oil and emulsion lubrication.

Our experience of more than 45 years does not only flow into our product development but also into our service offer: we are always at your disposal when you need us, either on the phone or directly at the face. You can expect from us a competent consultation, professional manysidedness and individual solutions for specific use optimizing your procedures for a long time.

Put us to the test!

UNICUT®

Advanced Cutting Fluid Technology made in Germany

FOUNDED IN 1968

SCOPE OF BUSINESS

production, sale
and development of
minimum amount
cooling lubrications
and solutions.

CAPACITY OF PRODUCTION

36,000 tons per year

BOARD OF MANAGEMENT

Wilfried Wahl
Jürgen Wahl
Monika Wahl





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UNICUT® Minimum Quantity Lubrication Systems

• FIELDS OF APPLICATION

UNICUT® minimum quantity lubrication systems offer a wide range of possible applications with the focus on circular saws, band saws, die cutting and slitting lines. Additionally, we can realize custom-made solutions to meet our clients' individual needs..

• OPERATION

UNICUT® MQL systems work with air pressure which means that the fluid is supplied by excess pressure and therefore pumps that are prone to malfunction are no longer necessary. The UNICUT® MQL systems is a fully reliable system which is particularly suited for large-scale industry applications.

The dosage nozzle, developed by UNICUT®, always feeds the right amount of lubricant. Fluid amounts can be adjusted easily and precisely and reproduced without any difficulties since the fluid dosage is only controlled by the pressure inside the container. A proportional valve is available as an option which allows the electronic control of fluid quantity.

Benefits compared to other Lubrication Systems

- Reproducible results
- Very low consumption between 0.5 - 1.0 gram/minute
- Extremely reliable
- Very precise low-mist spray pattern
- Up to 100 lubrication points can be connected to one pressure container
- Oil and air flow can be adjusted independently
- All hose lines have a diameter of > 2.0 mm
- Solid design



UNICUT® MMS - 30

Capacity: 3 litres



UNICUT® MMS - 50

Capacity: 5 litres



UNICUT® MMS - 100
Capacity: 10 litres



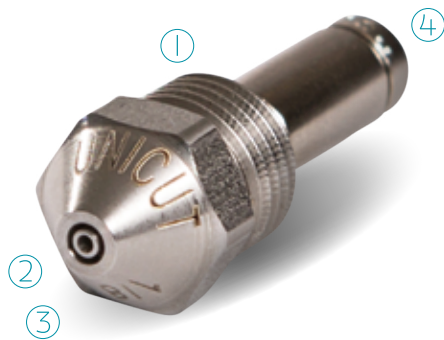
- ① Pressure container made of solid aluminium
- ② Easy quantity control via container pressure
- ③ Optional level monitoring using float switch
- ④ Solid design for large-scale industry or industrial application
- ⑤ Visual level control
- ⑥ Pressure gauge only made of metal and glass
- ⑦ Dual filter

- Optionally extendable due to modular design
- Pre-fitted for automatic refill with the optionally available UNICUT® filling station
- Suitable for network systems of up to 100 nozzles

• Nozzles

UNICUT® Nozzles are precise and robust at the same time. Made of stainless steel, they are resistant against flying burrs and mechanical stress. The UNICUT® full cone nozzles are two-phase nozzles with a separate air and fluid flow. Due to the pressure-tight connection of nozzle and fluid line, air and fluid only come into direct contact when exiting the nozzle which enables a very precise and low-mist spray pattern. Another positive side effect of this type of connection is that fluid and spray air pressure can be controlled independently from one another.

UNICUT® 1/8" Full Cone Nozzle



- ① Entirely made of 1.4301 stainless steel
- ② Fluid outlet
- ③ Air ring for low-mist spray pattern
- ④ Push-in screw connection for 3 mm hose

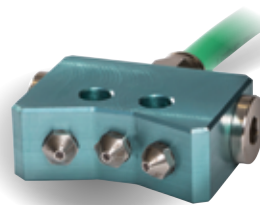
UNICUT® 7mm Full Cone Nozzle




Nozzles for Circular Saws

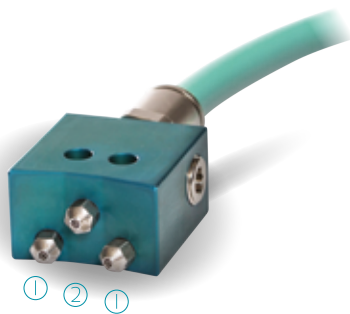
Nozzle heads for circular saw applications supplied by UNICUT® can be used to lubricate and cool circular saws, whatever your application may be. UNICUT® always offers the right solution for your equipment. Particularly the UNICUT® all-round nozzles make sure that the saw blade is lubricated by the nozzle head, while at the same time a coolant can be sprayed onto the steel blade, which means that in applications with hard metal saw blades the nozzle is not removed to exchange the saw blade.

UNICUT® M-Nozzle Head





- Nozzle: 3 x 1/8"
- Application: circular saws 
- From diameters of Ø 800 mm

UNICUT® All-round Nozzle Head with 3 Nozzles

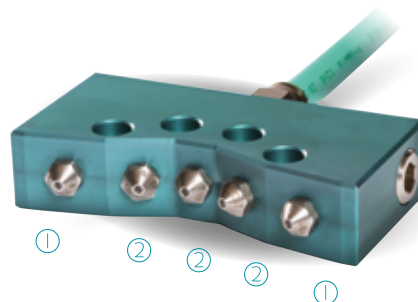


① Cooling nozzles

② Lubrication nozzles


- For cooling and lubricating the saw blade
- Nozzle: 3 x 7 mm, 1 x lubrication, 2 x cooling
- Application: Underfloor saws, circular saws
- up to diameters of Ø 800 mm  

UNICUT® 5-fold All-round Nozzle Head



① Cooling nozzles

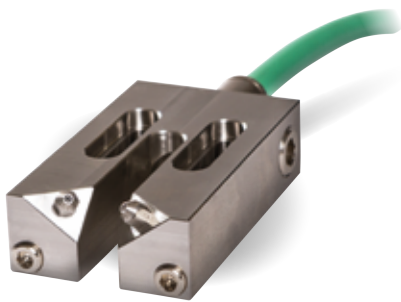
② Lubrication nozzles


- For cooling and lubricating the saw blade
- Nozzle: 5 x 1/8", 3 x lubrication, 2 x cooling
- Type of processing: Circular saw 

• Nozzles for Band Saws

Nozzle heads for band saws have been designed in such a way that saw blade heights from 34 – 90 mm can be covered. Due to the design with three nozzles fitted both the saw teeth as well as the back of the blade are lubricated.


UNICUT® Stainless Steel U-shaped Nozzle Head



- Nozzle: 3 x 7 mm
- Type of processing: Band saw 
- Up to a saw blade height of 67 mm

UNICUT® U-shaped Nozzle Head



- Nozzle: 3 x 7 mm
- Type of processing: Band saw 
- Up to a saw blade height of 80 mm

• Nozzles for Custom Application

Due to the modular design of the UNICUT® MMS systems custom solutions can be implemented easily and cost-effectively. Successfully accomplished projects include those in profile lubrication, profile cleaning, strip slitting and many more.

UNICUT® Extended Nozzle with Stainless Steel Tube



- Tube Ø 8 mm
- Nozzle: 1 x 7 mm
- Material: 1.4301

Distribution Units

The intermediate distribution unit allows bridging long distances between container and nozzle. The intermediate distribution unit is connected to the pressure container via a traditional hose or tube line. The valve unit of the nozzle-valve-arrangement can then be linked with the intermediate distribution unit using a quick coupling connection. This particular design allows on the one hand that the pressure container can be placed outside the machine, so that it can be refilled without entering the exclusion zone of a machine, while on the other hand network systems comprising of up to 100 lubrication points can be set up.

UNICUT® Intermediate Distribution Unit



- To bridge long pipe distances

UNICUT® Dual Distribution Unit



- ① Control of fluid and air
- ② Flame-resistant outer hose
- ③ Nozzle heads for all applications

UNICUT® All-round Distribution Unit



- ① Control of cooling, lubrication, air
- ② Flame-resistant outer hose
- ③ All-round nozzle heads

• Fluid Level Monitoring

The optionally available level switches will give you the opportunity to monitor the fluid level of your lubrication system. The switch signals when the fluid in the container has reached the minimum level via the SPS of the processing machine or the optionally available UNICUT® flashing light. A level switch that gives a signal of being full / empty is available for the MMS 100 system. So the container can be automatically refilled from a barrel or an IBC container by means of the UNICUT® filling station which is optionally available.

UNICUT® Level Switch



- With 2 switching points full + empty (optional)

UNICUT® Level Switch



- With 1 switching point (optional)

Minimum Quantity Coolant

UNICUT® Coolant-SAF

RANGE OF SERVICE:	High tech special product
MATERIALS:	C-steel, CrNi-steel, high-alloyed steels, titanium and special materials
CHARACTERISTICS:	Fully synthetic, low viscosity, water mixable
WAY OF MACHINING:	Band sawing, circular sawing, milling, turning, drilling, reaming and rubbing



STEEL /
STAINLESS STEEL



TECHNICAL CHARACTERISTICS

- Fully synthetic special concentrate
- Does not emulsify the cutting oil
- Specially developed for dual application
- Grants highest performance of cutting and cooling fluid
- Mixable in a ratio of 1:30 with purified water
- No residues

ADVANTAGES

- Maximum productivity through maximum machine utilization rate while significantly extending tool life.
- Flash cooling of cutting edge through minimum quantity spray cooling and reduction of surface tension of cooling liquid.
- "Dry cut" = dry chips that are easily disposable due to minimum quantity, no disposal of cooling agent, no disposal of fluid bonding agent which means improved workplace environment.
- Extremely kind to your skin, no harmful vapours when used properly, paint-preserving characteristics.
- It has not been rated as a hazardous substance in the workplace, biodegradable.
- It has not been rated as a hazardous material
- Free from wax-like, sticky or resinous residue
- Free from DEA, PCB, PCT, chlorine, heavy metals, silicones, nitrosamines, halogens.
- Disposal according to EAK No. I20I09 WGK I (VwVWS) rule of mixtures.

AVAILABLE CONTAINER SIZES

- 10, 20, 30 litres HDPE-container
- 200 litres in throw-away barrels
- 1,000 litres container

Minimum Quantity Lubricants

UNICUT® Basic-V



ALUMINUM



NON FERROUS
METALS

RANGE OF SERVICES:	Broadband-allround product
MATERIALS:	Aluminium, non-ferrous metals, C-steels and CrNi-steels
CHARACTERISTICS:	Based on mineral oil, medium viscous, high temperature resistant, all-purpose use
WAY OF MACHINING:	Circular- and band-sawing, rubbing, reaming, milling, ingot milling, turning



TECHNICAL CHARACTERISTICS

- Viscosity 100 cSt at 40 degrees Celsius
- Based on mineral oil
- for high performance processing machines
- For milling processes with following plating
- Excellent lubrication effect
- Also suitable and well-tried for aviation and space flight alloys
- Suitable for silicon bearing alloys and pure aluminium
- Suitable for special non-ferrous metal alloys
- Usable with every commercially approved pumping and spraying MQCL station
- Recyclable and dry shavings
- Free of silicone as well as chlorine and other halogens

ADVANTAGES

- Cost saving by increasing the machining speed
- Reduction of tool costs
- Avoiding of built-up edges
- Less standstills by tool change
- No costs for cooling agent odour
- Ideal for companies with high variety of materials
- Cost-effective by low consumption
- Good skin tolerance and environmentally friendly
- Dry and grooveless milled surfaces

AVAILABLE CONTAINER SIZES

- 10, 20, 30 litres HDPE-container
- 200 litres in throw-away barrels
- 1,000 litres container

Minimum Quantity Lubricants

UNICUT® Steel-A4

RANGE OF SERVICES:	Hightech special product
MATERIALS:	C-steel, CrNi-steel, high-alloyed steels, titanium and special materials
CHARACTERISTICS:	Free of mineral oil, biodegradable, medium viscous
WAY OF MACHINING:	Band sawing, circular sawing, milling, turning, drilling, reaming and rubbing


STEEL/
STAINLESS STEEL


SPECIAL
MATERIALS



TECHNICAL CHARACTERISTICS

- Viscosity 60 cSt at 40 degrees Celsius
- Free of mineral oil
- Biodegradable
- For high performance metal cutting machines
- Extremely suitable for difficult-to-machine materials like austenitic steels, special materials like Nimonic and Hastelloy as well as highly heat resistant steels
- Excellent lubrication effect
- Usable with every commercially approved MQCL equipment
- Recyclable and dry shavings
- Free of silicone as well as chlorine and other halogens

ADVANTAGES

- Very high tool service lives
- Cost saving by enormous increase of the machining speed
- Clean and smooth surfaces
- Reduction of tool costs
- Less standstills by tool change
- No costs for cooling agent odour
- Cost-effective by low consumption
- Good skin tolerance and environmentally friendly

AVAILABLE CONTAINER SIZES

- 10, 20, 30 litres HDPE-container
- 200 litres in throw-away barrels
- 1,000 litres container

Minimum Quantity Lubricants

UNICUT® Alu-MF



RANGE OF SERVICES:	Hightech special product
MATERIALS:	Aluminium and its alloys, non-ferrous metals
CHARACTERISTICS:	Free of mineral oil, biodegradable, lowly viscous
WAY OF MACHINING:	Circular sawing, band sawing, milling, drilling, turning



TECHNICAL CHARACTERISTICS

- Viscosity 25 cSt at 40 degrees Celsius
- Free of mineral oil
- Biodegradable
- Developed in cooperation with leading producers of band saws
- Excellent lubrication effect
- Also suitable and well-tried for aviation and space flight alloys
- Suitable for high-silicon content alloys and pure aluminium
- Usable with every commercially approved MQCL-spraying station
- Recyclable and dry shavings
- Free of silicone as well as chlorine and other halogens

ADVANTAGES

- Very high tool service lives, at band saws up to 3,000 m² /band
- Cost saving by enormous increase of the machining speed
- Reduction of tool costs
- Avoiding of built-up edges
- Less standstills by tool change
- No costs for cooling agent odour
- Cost-effective by low consumption
- Good skin tolerance and environmentally friendly
- Dry and grooveless milled surfaces

AVAILABLE CONTAINER SIZES

- 10, 20, 30 litres HDPE-container
- 200 litres in throw-away barrels
- 1,000 litres container



We are thinking ahead

And of a better environment

To meet our high demand we are constantly refining our products, especially as to their environmental compatibility. Already nowadays UNICUT® products are considered to be a progressive contribution to improve the environmental balance of metal processing companies.

Numerous products are mineral oil free and biodegradable, all are free of silicone, PCP, PCT, chlorine and other halogens. Metal cuttings coming up during working stay dry and can be recycled comfortably.

Clean production

In the UNICUT® company building most modern energy saving measures are applied: Power generation is made by an own photovoltaic equipment (capacity 30 KW/h). Production emissions will not be found in our company or are avoided as far as possible.



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