

microjet®

MINIMUM-QUANTITY LUBRICATION

microjet®

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Forming of tubes, gear teeth and rods (internal and external machining)
Application: Axial forming of vehicle shafts with built-in minimum-quantity lubrication

- ⌘ Lubricant: free from chlorine and heavy metals for highest dynamic stresses
- ⌘ Nozzle ring: external lubrication
- ⌘ Atomizing nozzle: internal lubrication
- ⌘ minimum application of lubricant
- ⌘ improved tool service life
- ⌘ high throughput
- ⌘ high manufacturing quality
- ⌘ higher production capacity



YOUR BENEFITS

Tools

Longer tool service life, reduced tool friction.

Workplace and working environment

Cleaner workplace, dry workpieces.

Machines

Shorter downtimes thanks to less maintenance and shorter set-up times.

Production

Production rise through increased cutting parameters and tool service life. Improved manufacturing quality.

Cleaning

Costs for cleaning workpieces, machines and their immediate environment can be considerably reduced.

Safety

Reduced risk of accident thanks to clean, oil-free floors, no skin diseases caused by bacteria or fungus infections, none of the resulting staff failures.

Economy of operation

Shortest pay-off time, often less than a year. Lubricant savings of up to 80%. Profitable recycling of raw materials.

OUR ADDRESS



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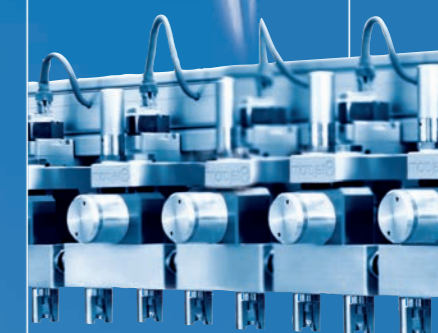


Slitting installation

Lubrication of knives on a slitting installation in service centre

- ⌘ finest metered oiling of each cutting knife
- ⌘ Result: improved cutting accuracy (tolerances)
- ⌘ no generation of burrs
- ⌘ increased number of cuts
- ⌘ improved service life
- ⌘ shorter set-up times
- ⌘ improved manufacturing quality
- ⌘ higher production and throughput capacity

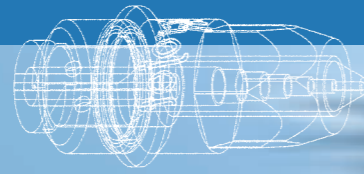
FORMING TECHNOLOGIES
 FORMING TECHNOLOGIES



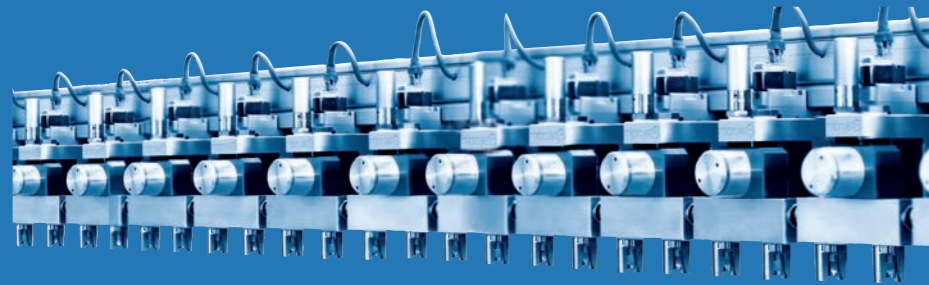
microjet®
 GmbH
 Minimum-quantity lubrication systems

microjet®

A SOLUTION TO EVERY APPLICATION



NOZZLE TECHNOLOGY



Technological lead through innovative nozzle engineering

- Most precise and directionally stable air/oil mixture jet
- Air/oil mixture jet directed to the machining point within an air jacket
- No nebulizing of lubricant
- Low noise level
- Minute air and oil consumption in comparison with conventional needle nozzles
Savings of up to 80%
- Reproducible quantities applied
- Reliable metering of both low- and high-viscosity liquids
- No expensive wear parts
- Built-in heating
- Automatic filling system with runback

Thanks to our nozzle technology (nozzles from Ø 4 mm) we are in a position to offer a solution to any application.



Original fogless uniform metering jet
Mixture guided in air jacket
Cone angle 26°

SURFACE OILING IN FORMING PRACTICE

The *microjet*®-minimum-quantity lubricating technique allows to oil steel strips, sheet steel, tubes, wires and sectional steel through finest oil metering prior to the forming process.

To avoid striation, tool wear and tool rupture during the forming operation the surface of tools and workpieces has to be previously oiled with an accurate water-thin film of a suitable lubricant.

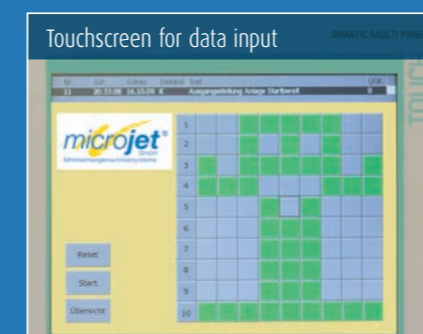
The *microjet*®-minimum-quantity lubricating technique simultaneously meters out and atomizes the liquid into the finest particles using compressed air. This generates a fine uniform mixture, the microscopic particles of which penetrate deep into the surface of the forming area and extremely well adhere to it.

CONTROL SYSTEM AND VISUALIZATION



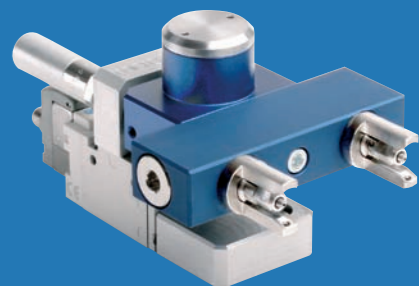
Hardware and software (flexibly combining and solving different tasks)

- SPS Control system
- Touchscreen
- Easy operation through direct input
- Fast and immediate treatment
- Visualization
- Partial, sectorial or extensive oiling zones
- Differing oiling patterns on upper and lower side of steel strip or plate
- Applied quantities 0.2 – 5 g/m²

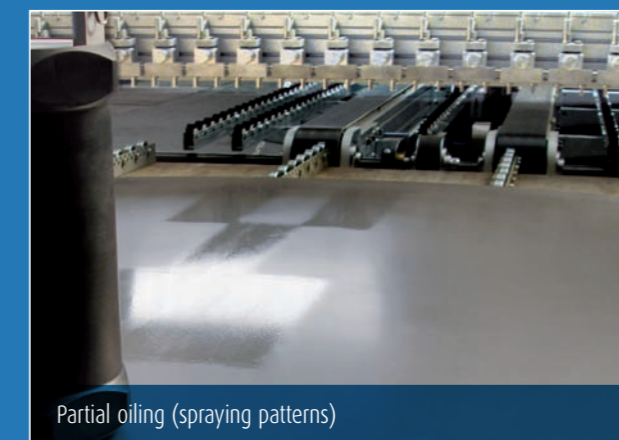


Nozzle module (50/35)
with built-in shut-off valve for air and liquid, electric or pneumatic drive, at choice.

Design:
Two *microjet*®-dual-phase nozzles with wide spraying attachment, spraying width 100 mm
Electric drive



Housing with built-in nozzle modules for upper and lower side
Spraying width per module 50 mm
Options: Fully telescopic for maintenance work
Built-in heating system for high-viscosity wax-based lubricating media.
Applied quantities 0.2 – 5 g/m²
Layer thickness 0.2 – 5 µm



Partial oiling (spraying patterns)