

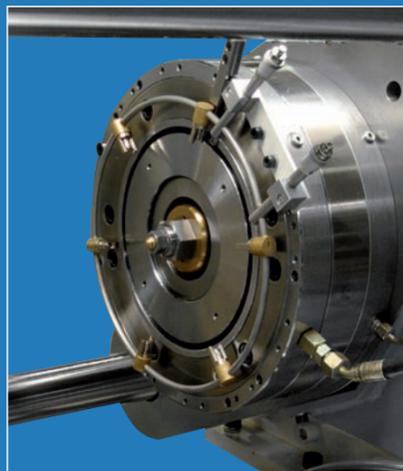
microjet®
A SOLUTION TO EVERY APPLICATION

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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-consumption 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.

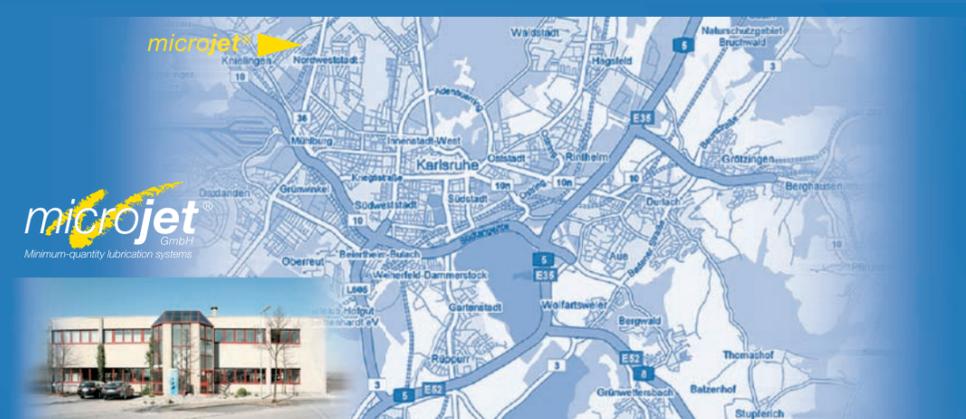
Safety

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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Längsteil-Anlage

**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

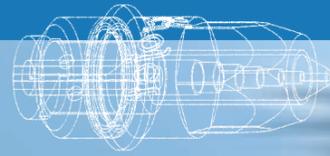


Oiling of wires, tubes and boards

microjet®
Minimum-quantity lubrication systems

microjet®

A SOLUTION TO EVERY APPLICATION



OILING OF WIRES, TUBES AND BOARDS

microjet® minimum-consumption lubricating technology allows to wet tubes, wires, profiles and boards through finest metering of any liquid.

To avoid striation and tool wear during the forming process tubes, wires and profiles have to be previously oiled with medium. After the machining process the half-finished product manufactured always has to be coated with a protective film to

avoid superficial damages and other depreciating effects.

microjet® nozzle technology atomizes the liquid into finest particles (microscopic particles) using compressed air. This generates a large uniform thin layer of fluid (layer thickness 0.2 to 5 µm) that extremely well adheres to the surface of the workpiece.

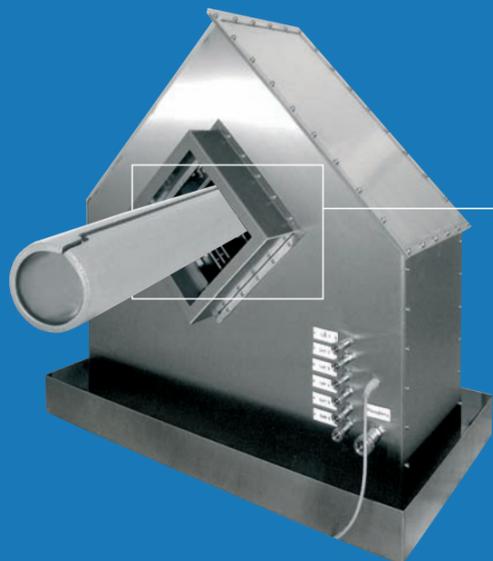
The compressed air additionally promotes the penetration of the microscopic particles into the superficial "pores" of the workpiece. The liquids applied are thus able to unfold their properties to the full.

OILING OF STEEL PROFILES

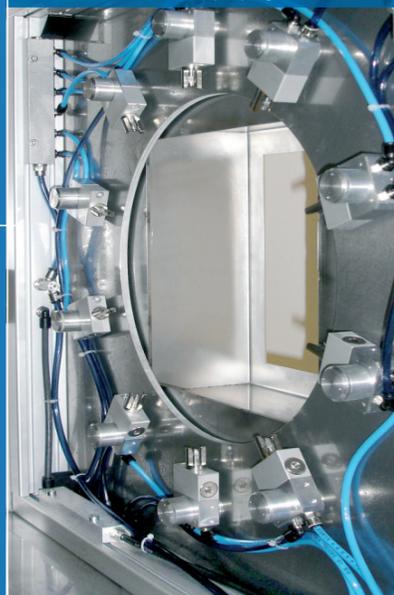
Switch cabinet with electric and pneumatic components



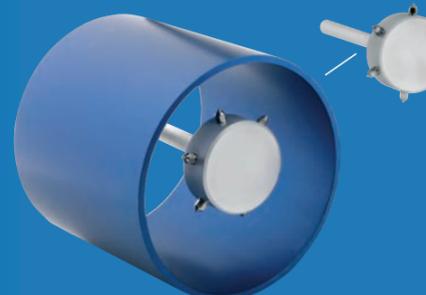
Spraying gate with 38 spraying modules and integrated temperature control



Insight into the inner life: Slide-in unit with 10 spraying modules



External lubrication of tubes
The workpiece to be oiled is passed through a spraying gate.



Internal lubrication of tubes
The spraying unit is passed through the workpiece to be oiled.

Equipment for application of lubricant on tubes (tube ends)

The lubricant will be applied as a thin-film in one process step on the tube-internal- and the tube-external-surfaces.

The benefits:

- ▣ one process step for internal- and external oiling
- ▣ increased efficiency
- ▣ lower need of lubricant
- ▣ application of reproducible quantities
- ▣ improved manufacturing quality
- ▣ cleaner workplace

