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**
Larger tool service life, reduced tool friction.

**Workplace and working environment**
Cleaner workplace, dry workplaces.

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

**Production**
Production rises 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.

**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

**OUR ADDRESS**

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A Solution To Every Application

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

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 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.

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The workpiece to be oiled is passed through a spraying gate.

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.

The liquids applied are thus able to unfold their properties to the full.

Spraying gate with 38 spraying modules and integrated temperature control

The spraying unit is passed through the workpiece to be oiled.

Insight into the inner life:

Switch cabinet with electric and pneumatic components

Spraying gate with 38 spraying modules and integrated temperature control

Insight into the inner life:

Switch cabinet with electric and pneumatic components

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