

Our Solenoid Valve in the Aviation Industry

PRECISION FOR THE HIGHEST DEMANDS

In the aviation industry, particularly during the assembly of aircraft fuselages, precision and efficiency are of the utmost importance. Our Nanojet Solenoid Valve offers an optimal solution for suppliers specializing in the lubrication and cooling of rivet or screw holes during the drilling process.



Why is Lubrication of Drill Holes so Important?

Lubrication of drill holes is a critical factor for the quality and safety of aircraft:

- **Reduction of Friction and Wear**
Lubricants minimize friction and protect tools and materials from premature wear
- **Improved Drilling Quality**
Clean, precise holes without cracks or burrs ensure the structural integrity of the aircraft fuselage.
- **Effective Cooling**
Lubricants dissipate heat generated during drilling, preventing overheating of tools and materials.
- **Corrosion Protection**
Lubricants protect drill holes from moisture and corrosion, which is vital for the aircraft's longevity.
- **Prevention of Material Swelling**
Precise dosing and targeted application prevent excess lubricant from seeping into undesired areas and causing sensitive materials to swell.
- **Facilitation of Assembly**
Properly lubricated holes allow for smooth installation of rivets or screws, minimizing rework.

The Importance of Rivets in Aviation

A modern commercial aircraft, such as the Boeing 737, contains approximately 1 to 1.5 million rivets, while larger models like the Airbus A380 can use up to 3 million rivets.

These rivets are essential for the structural integrity and stability of the aircraft.

To ensure these connections are reliable, rivet holes must be precisely drilled and optimally lubricated. This not only facilitates flawless installation but also contributes to the safety and durability of the aircraft.

Precise Dispensing – Not a Drop Too Much

Thanks to its pressure- and time-controlled system, the Solenoid Valve ensures that the exact required amount of lubricant or coolant is dispensed — no more, no less. This eliminates over-application and the subsequent need for time-consuming cleaning.

Precision Through Special Nozzle Geometry

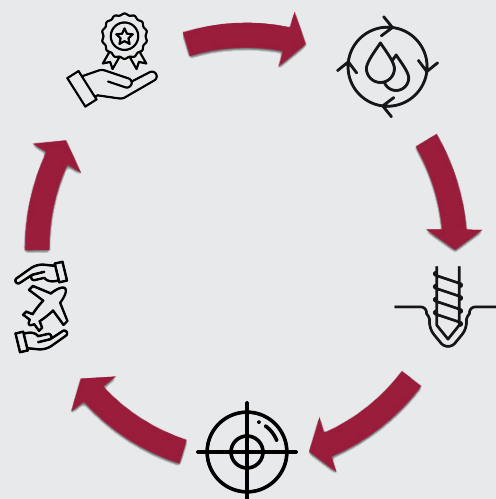
Our unique nozzle geometry ensures that the fluid is applied accurately and without overspray. Even when injected at an angle during drilling, the application remains precise, keeping surrounding areas clean.



NANOJET DISPENSING SYSTEM

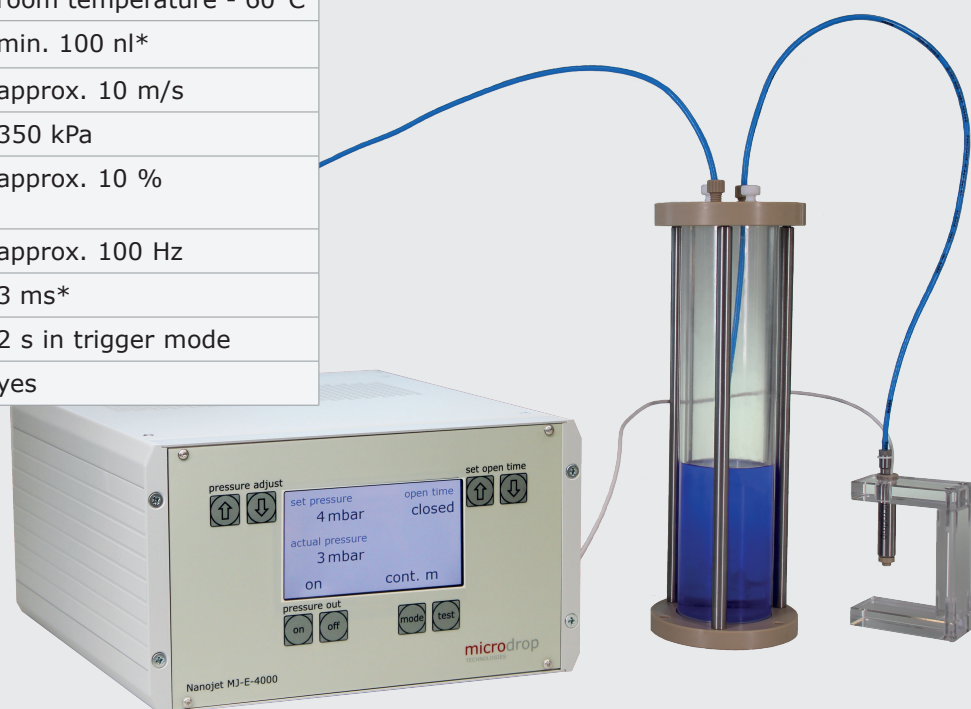
Key Advantages

- **Optimal Lubrication and Cooling**
Fluid is delivered directly into the drill hole, reducing friction and heat generation.
- **Superior Drilling Quality**
Precise lubrication prevents material damage and ensures clean, burr-free holes.
- **Prevention of Material Swelling**
Accurate dosing prevents sensitive materials from being damaged by excess fluid.
- **Resource Savings**
Precise dispensing reduces lubricant and coolant consumption, saving costs and benefiting the environment.
- **Cleanliness and Efficiency**
No post-cleaning of drill holes is required, as the fluid is applied only where needed.



NANOJET DISPENSER HEAD (EXTRACT)

	MJ-K-102-L
Permissible liquid viscosity	0.4 - 50 mPas*
Nozzle diameter	50, 100, 200, 500 µm*
Ambient temperature	room temperature - 60°C
Dispensing single volume	min. 100 nl*
Average speed of emission	approx. 10 m/s
Maximum working pressure	350 kPa
Standard deviation of dispensed volume	approx. 10 %
Maximum repetition frequency	approx. 100 Hz
Minimum opening time	3 ms*
Maximum opening time	2 s in trigger mode
Extrernal trigger	yes



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We are there for you. Contact us.

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