Advanced Nozzle Head For Microfluidics Applications

Reference: TD-NL-1012

TECHNOLOGY DESCRIPTION

The advanced nozzle head by Huygens Engineers enables precise fluid handling for micro-scale applications. Using state-of-the-art computational fluid dynamics (CFD) and precision manufacturing techniques, this nozzle head is optimised for minimal flow resistance, accurate droplet generation and stable high-pressure operation. Its design incorporates features such as anti-clogging mechanisms, multi-phase flow management and surface tension optimisation, making it suitable for high-demand environments. The nozzle head is particularly effective in applications requiring extreme accuracy and repeatability, including: aerospace fuel injection systems; semiconductor manufacturing, such as photoresist coating and chemical deposition; and life sciences applications, including DNA sequencing and lab-on-chip technologies.

Awaiting product visual

INNOVATIVE ASPECTS

- Precision: Achieves sub-micron accuracy in droplet formation and flow control
- Efficiency: Reduces material waste by up to 30% compared to traditional nozzle systems
- Scalability: Modular design allows adaptation for different flow rates and operational pressures
- Durability: Resistant to clogging and wear, ensuring long operational lifetimes in high-pressure environments
- Advanced simulation: CFD-driven design minimises flow disruptions and maximises system efficiency

TECHNOLOGY READINESS

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COUNTRY OF ORIGIN

Netherlands

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TAGS	#Microfluidics	#NozzleHead Design	#FluidDynamics	#Precision Engineering	#Advanced Fluidics	#HighPressure Systems
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