

## Nanojet Piezovalve NJ-K-4...



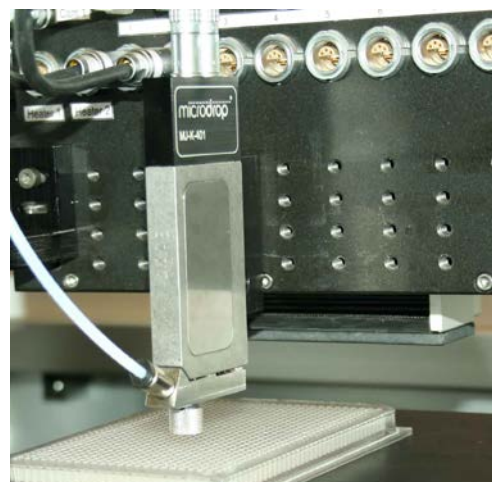
### ADVANTAGES

- high accuracy due to precisely controlled piezoelectric trigger pulse
- stable and robust system for industrial applications
- normally-closed valve, that avoids liquid dripping and contamination
- 24-hours non stop application possible
- very long life time
- easily exchangeable nozzles for various applications
- very good chemical stability for the usage of complex liquids
- intelligent upgraded processor with advanced timing and automatic identification
- volume range from 8nl to 10 $\mu$ l per pulse
- maximum dispensing frequency of 450Hz

### Technology

The Nanojet Piezovalve NJ-K-40xx is a normally-closed jet dispensing system, based on a piezoelectric driven mechanical valve. The Nanojet Piezovalve is able to dispense volumes contact-free in a range from 8nl up to 10 $\mu$ l per dispensing cycle with a viscosity range of up to 2000mPas. This versatile jet dispensing system with high precision switching performance delivers a very high dispense accuracy of approx. 1%. The ability to fine tune the trigger impulse enables the adaptation for dispensing standard as well as complex liquids. The mechanically robust and at the same time precisely controllable Nanojet Piezovalve NJ-K-40xx is eminently suitable for high quality dispensing in industrial applications.

The liquid to be dispensed is transported from a liquid reservoir (or from a custom cartridge) to the nozzle unit supported by pressure. The nozzle unit is detachable. Depending on the application, nozzles in form of a flat plate or a needle can be inserted into the nozzle unit. Possible nozzle diameters for nozzle plates range from 70 $\mu$ m up to 200 $\mu$ m. A typical inner diameter of a nozzle needle is 150 $\mu$ m. The dispenser nozzle can easily be



exchanged due to the patented quick-exchange system so that downtimes, due to nozzle clogging or cleaning are reduced to a minimum.

The flat design of the valve with a thickness of only 10mm allows the combination of several valves in a compact array and an optimal integration into other systems. External control via a host computer is possible using SPS or RS232 interfaces. Other interfaces can be provided on request.

## Nanojet Piezovalve NJ-K-4...

### TECHNICAL DATA

Nanojet Piezovalve NJ-K-4...	
Dispensing quantity range	8nl to 10µl per pulse*
Feed pressure range	300 to 3500hPa*
Viscosity of dispensed fluids	0,4 to 8000mPas*
Switching time	approx. 1ms
Dispensing quantity accuracy	approx. 1% (with P, T = const.)*
at a maximum dispensing frequency of	450Hz
continous load dispensing frequency	200Hz*
Life time	>> 10 <sup>9</sup> dosages (regular maintenance required)
Ambient temperature range	10 to 50°C
Weight	220g
Nozzle	Quick exchange system
Stability	All aqueous media, organic solvents, weak acids and alkaline solutions
Dimensions	115 x 39,5 x 10mm
Standard interfaces (other interfaces on request)	RS232C; 24V SPS
Control unit (external)	NJ-E-4092 and NJ-E-4133

subject to change without prior notice  
06/2017-e

\* depending on liquid in use



Nanojet driver electronics  
(NJ-E-4092 and NJ-E-4133)  
for Nanojet piezovalve NJ-K-4...

### microdrop Technologies GmbH

Tycho-Brahe-Kehre 1  
22844 Norderstedt / Germany

Phone: +49 (0)40 53 53 83-0  
Fax: +49 (0)40 53 53 83-24

info@microdrop.de  
www.microdrop.de