

PipeJet-Tip™

Pipetting in the nanoliter range by disposable tips

The PipeJet-Tip™ is a conventional pipette tip with integrated nanoliter dispensing capability based on the PipeJet™ technology. Used as a pipette tip in the conventional way it allows for aspiration and dosage of liquid volumes up to 60 µl. When the nano-dosage capability is needed, the pre-filled tip is mounted manually into an actuator module and droplets of 10 to 60 nl can be ejected contact less using the PipeJet™ principle.

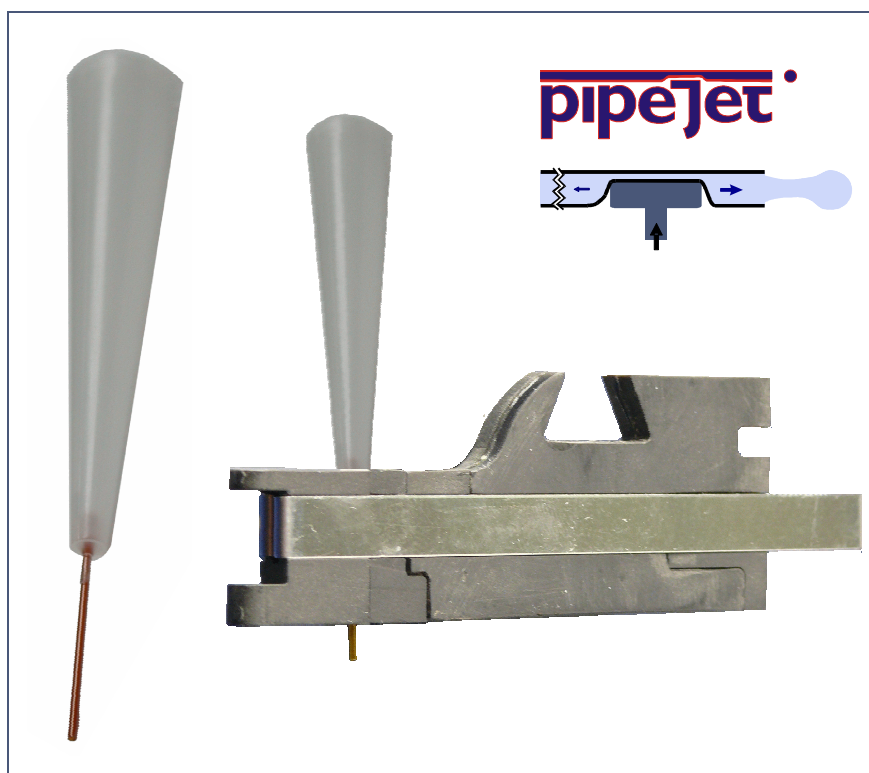
Key element of the nanodosage system is an elastic pipe with a well-defined inner diameter molded into the pipette tip. By squeezing the pipe with high dynamics, the liquid is driven out through the end of the pipe. The dosed volume is independent of the viscosity or the surface tension over a wide range. Due to the simple geometry of the pipe and the high dynamics, the PipeJet™ technology enables the dispensing of a wide variety of even difficult fluids such as PEG, DMSO, Methanol or solutions filled with beads or even living cells. With a single tip droplet volumes between 10 nl and 60 nl can be dispensed, larger volumes are achieved by multi-dispensing at frequencies up to 50 Hz or by conventional operation.

Due to the simple working principle and the robust material, clogging is greatly prevented even for particle-laden liquids. Furthermore the low dead volume and the minute minimum volume of 1 µl that is required to operate the PipeJet-Tip™ make it ideally suited for handling precious samples at lowest volumes.

A short - to mid-term storage of the liquid can also be realized by the PipeJet-Tip™: A filled tube can be frozen and stored. After thawing the tip is ready again for either pipetting or nl-dispensing. Due to the long and thin dosage tube, the tip is capable of interfacing with a 1536 well MTP or 3456 well MTP for easy aspiration.

PipeJet-Tip™ - Specifications

Dosage range:	10 nl - 60 nl adjustable (single shot volume)
Dosage frequency:	Typically up to 50 Hz (depends on surface tension)
Storage / pipetting volume:	approx. 100 µl (depends on surface tension)
Viscosity range:	1 – 200 mPas for nanoliter dispensing
Surface tension range:	30 mN/m – 76 mN/m
Precision / Accuracy:	< 5 nl / < 10 nl (including tip to tip variation)
Tested Media:	Aqueous solutions, solvents, DMSO, beads, cells, PEG, THF, Acetonitril, Ethanol, Methanol ...



Applications

Aliquoting & distributing precious samples (Enzymes, Proteins etc.)
Dispensing of cells
Dispensing of aggressive media which degrades tubing and valves of conventional systems
Aspiration from and pipetting into 1536 well MTP & 3456 well MTP

Materials

All liquid contaminated materials:
<ul style="list-style-type: none"> are low cost disposables can be sterilized are USP class VI compliant
Customized materials and geometries are possible

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