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Autodrop Pipettes

ADVANTAGES

- Fast liquid change
- Contactless dispensing
- Single droplet volumes from 20pl to 180pl *
- Variation of dispensed volume approx. 1% *
- Very small storage volume, depending on pipette type: 25µl up to 37µl
- Very small dead volume of 12µl - 14µl
- Droplet rate 1 ... 2000Hz * (provided by a standard driver electronics)
- Droplet velocity approx. 2m/s *
- It is possible to dispense fluids with a viscosity up to about 20mPas *

Technology

Autodrop Pipettes are based on piezo-driven inkjet printing technology. The fluid is aspirated through the nozzle tip into the glass capillary.

The integrated piezo actuator induces a shock-wave into the fluid contained in the pipette, which causes a droplet to be emitted from the nozzle.

Criteria to find the best Autodrop Pipette

- What kind of fluid is to be dispensed (Viscosity, concentration of additives etc.)?
- What kind of solvent is used?
- Are there particles in the liquid: Size and concentration of particles?
- Desired diameter of the droplets
- Desired droplet emission frequency
- Dispensing volume:
  a) single droplet
  b) throughput of droplets per second
- How many pipettes are necessary for the application?
- Is there an interest to upgrade the system to more than one dispenser head later?
- Is an xyz-positioning system required?

Need help? Please send us a short description of the application and a datasheet of the fluid.

Features

- The inner nozzle diameter of the Autodrop Pipettes strongly influences the droplet size.
- The relation between inner nozzle diameter, droplet size and droplet volume is:

inner nozzle diameter	droplet size in flight *	droplet volume *
30µm	35µm	20pl
50µm	55µm	90pl
70µm	70µm	180pl

* depending on the fluid used

- The spot size on the substrate depends on the wetting behaviour between the fluid and the surface material.
- microdrop Technologies GmbH are specialized in customized solutions. Please ask for application-optimized dispenser heads!

Autodrop Pipette AD-K-901

The design of the pipette AD-K-901 with a transparent body makes it easy to read the filling level at any time. Like pipette AD-K-501 the long designed glass capillary enables a dipping in microtiter plates of 9,5mm or smaller. The nozzle tip outer diameter of 1mm even enables a dipping in a 384-well plates.

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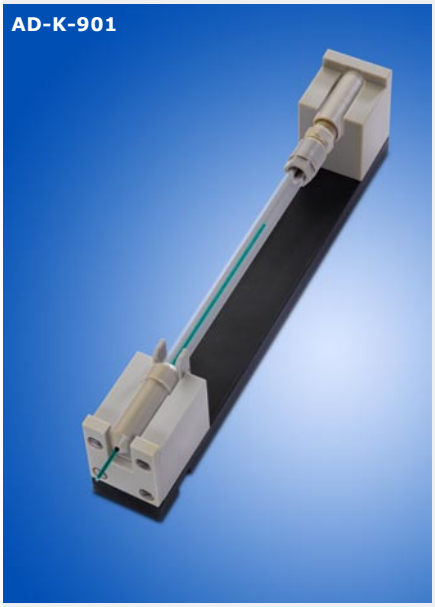

Autodrop Pipette, storage volume 37µl

Viscosity range:	0.4 ... 20mPas *
Standard inner nozzle diameter:	30µm, 50µm, 70µm
Droplet volume:	20 ... 180pl *
Variation of dispensed volume:	< 1% *
Droplet velocity:	2m/s *
Standard drop rate:	1 ... 2000Hz *
Life time:	> 100 billion cycles
Storage volume:	approx. 37µl
Dead volume:	approx. 14µl
Materials in contact with fluid:	glass (PEEK, FEP, ETFE, PTFE)**

Dimensions:

- Pipette AD-K-901: ø 8,5mm / l: 140mm
- Holder with electrical contacts AD-H-901: w: 20mm / h: 138mm / d: 31mm
- Pipette with holder: w: 20mm / h: 148mm / d: 31mm

Autodrop Pipette, storage volume 25µl

Viscosity range:	0.4 ... 20mPas *
Standard inner nozzle diameter:	30µm, 50µm, 70µm
Droplet volume:	20 ... 180pl *
Variation of dispensed volume:	< 1% *
Droplet velocity:	2m/s *
Standard drop rate:	1 ... 2000Hz *
Life time:	> 100 billion cycles
Storage volume:	approx. 25µl
Dead volume:	approx. 12µl
Materials in contact with fluid:	glass

Dimensions:

- Pipette AD-K-501: ø 7mm / l: 73mm
- Holder with electrical contacts AD-H-501: w: 8.5mm / h: 45mm / d: 29mm
- Pipette with holder: w: 8.5mm / h: 97mm / d: 29mm

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*** depending on the fluid used**