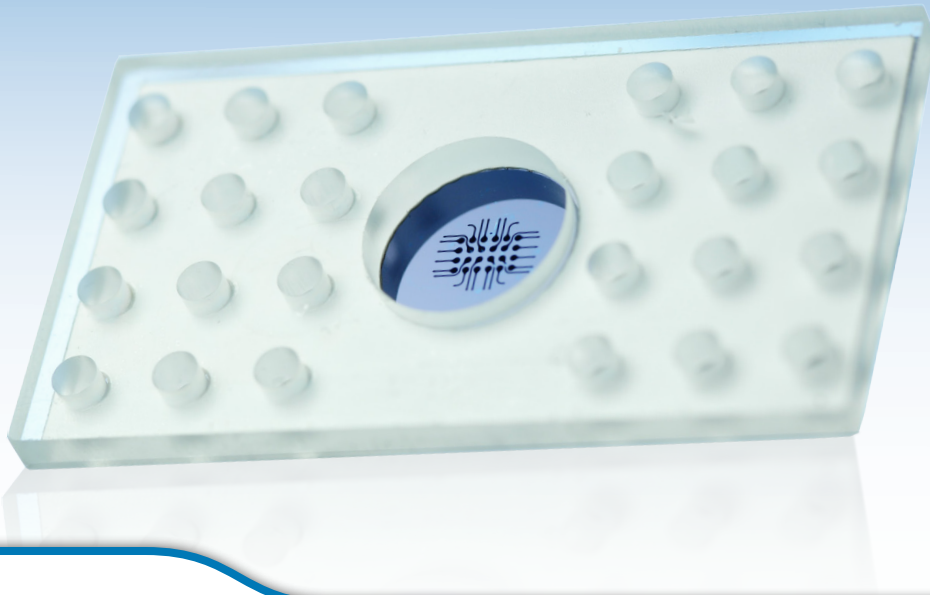


# TOPSPOT® PRINTHEADS



- Highly parallel micro array printing
- Non-contact dispensing technology
- Reusable printheads
- Customizable printhead design

## TOPSPOT® TECHNOLOGY

Key element of the TopSpot technology is the printhead which can be loaded with 24 or 96 different media. All liquids are printed to a substrate simultaneously. The microarray is formed by the individual droplets on the slide having a pitch of about 500 µm. For each droplet only about one nanoliter liquid is consumed. Therefore, a printhead can create several thousand microarrays with one filling.

The printhead consists of three layers made from glass and silicon, which are manufactured with lithographic techniques with a precision of less than one micron. For a homogenous ejection of the droplets, the nozzle area is hydrophobically coated.

## APPLICATIONS

Spotting of nucleic acids, proteins, cells, buffers and solvents

High throughput applications

The technology is suitable for small scale research applications as well as high throughput production

## MATERIALS

### All liquid contaminated materials:

- are reusable
- can be sterilized
- are USP class VI compliant

Customized materials are possible



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## TOPSPOT® WORKING PRINCIPLE

In order to print samples a piezo stack actuator presses a piston into the so called actuation chamber of the printhead and a homogenous pressure pulse simultaneously affects all nozzles. If the pressure is high enough, it overcomes the capillary forces of the channels and the surface tension of the fluids in the nozzle and accordingly leads to a droplet break-off.

## SPECIFICATIONS



### 96-channel printhead

Dimension:	56 mm x 25 mm x 2.5 mm
Reservoir volume:	3 µl
Reservoir layout:	1536 well-MWP format
Nozzle pitch:	500 µm (4 x 24)
Materials:	Silicon & glass
Order No.:	TS-40960 E



### 24-channel printhead

Dimension:	36 mm x 20 mm x 2.5 mm
Reservoir volume:	6 µl
Reservoir layout:	384 well-MWP format
Nozzle pitch:	500 µm (4 x 6)
Materials:	Silicon & glass
Order No.:	TS-40240 E

