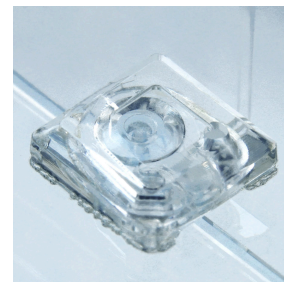


MV-1 Embedded Microvalve

Product specifications

The [MV-1](#) is an embedded on/off valve used to automate microfluidic functions such as priming, mixing, and timing of fluidic events. The valve is actuated using externally supplied air pressure via a channel on the microfluidic chip. Performance benefits of the MV-1 include optical clarity, solvent resistance, fast switching times, reliable sealing, and the ability to traffic small particles without fouling. Multiple valves can be attached to a single microfluidic chip for either simultaneous or independent control.



Product information

Model ID	MV-1
Overall dimensions	4.5 x 4.5 x 1.5 mm
Body material	PMMA, PC, or COP
Wetted material	COC elastomer
Default position	Normally open
Total internal volume *	1.3 μ L
Actuation displacement volume	~ .5 μ L
Actuation method	Externally applied air pressure
Actuation pressure	175 kPa for liquid pressures up to 70 kPa 350 kPa for liquid pressures between 70-200 kPa
Compatible media	Aqueous solutions, polar organic solvents, acids and bases, fluorinated oils and surfactants
Device assembly method	Laser welded

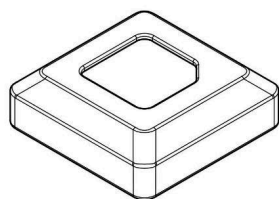
Performance specifications

Response time **	< 15 ms
Maximum compatible particle size	100 μ m
Maximum operating temperature	45 $^{\circ}$ C
Expected lifetime	> 1 x 10 ⁶ cycles

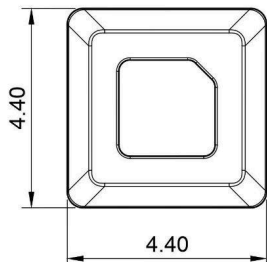
* Reported internal volume includes all wetted features including the fluidic inlet and outlet

** Response time may be limited by the solenoid valve used to supply actuation pressure

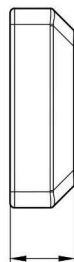
Product Dimensions



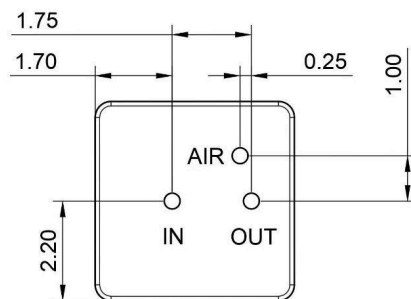
DIMENSIONS IN MILLIMETERS
CAD AVAILABLE UPON REQUEST



TOP



SIDE



BOTTOM