

Meso-scale Fluidic Digital Valve

Applications:

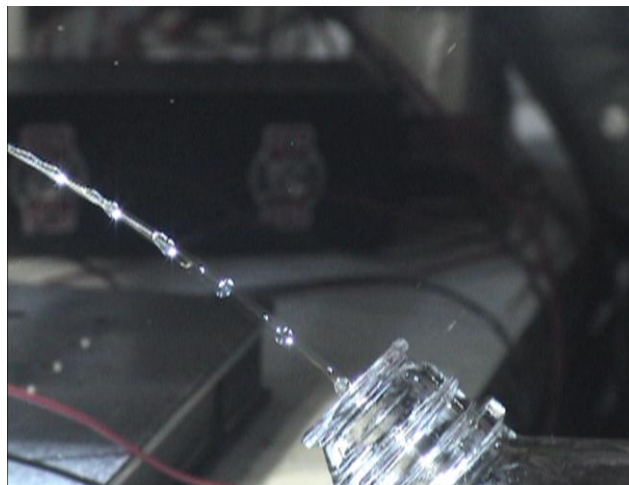
- Meso-fluidic prosthetic finger
- Extremely high pressure, low volume systems
- Potential for new inventions in areas of miniature robotics, active prosthetics and orthotics, and very small, high performance haptic interfaces

Advantages:

- Fine control of fluid power at a level presently not possible
- Enables an entirely new class of flow control valves
- Poppet valve reduces tolerance and contaminant sensitivity
- Basic components require only moderate manufacturing tolerances
- Less power to control flow
- Greater energy efficiency of flow control

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Fluid flow at >1000 psi

Summary:*Technology Description*

The basic idea is to control very low fluid flow at high pressures through pulse width modulation of a very small poppet valve. The technology enables fine control of fluid power at a level presently not possible with the present state of the art. The objective of this invention is to enable fine control at low flow rates (< 1 mL/sec) and high pressures (>1000 psi).

Technology Application

These valves can be used where very fine adjustments are needed in systems with high pressure and low volume fluids.

Stage of Development: Bench Scale

Patent Status: Patent pending

Licensing Status: Available for licensing