# Method for Fabricating Active Microfluidic Features Such as Valves and Pumps and Open-Source Platform for Fabrication and Operation of Microfluidic Devices

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## TECHNOLOGY DESCRIPTION

A UCSD Researcher has developed a method to fabricate microfluidic features into a single layer microfluidic device. All current microfluidic methods for fabrication require two layers. The advantages of a single layer is that tooling costs are lowered, there will be improved manufacturing yields, and improved compatibility with traditional injection-molding processes. Here, the researcher has made the chips with single layer valves and successfully tested these for functionality.In addition, source files for the design, fabrication and operation of the devices have been developed.

## APPLICATIONS

The invention has the potential to expand the user-base of microfluidic devices by addressing two of the biggest challenges faced by research scientists: the chip-to-world interface and the pneumatic control manifolds. The chip-to-world interface is uncomplicated and reduces setup time to minutes, even for inexperienced users. The programmable manifold replaces complicated tubing and wiring with a single product that can deliver adjustable pressures to as many as 96 ports.

## PATENT STATUS

| Country | Type | Number | Dated | Case |
|---|---|---|---|---|
| United States Of America | Issued Patent | 9,365,418 | 06/14/2016 | 2012-016 |

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## OTHER INFORMATION

### CATEGORIZED AS

- Medical
  - Research Tools

### RELATED CASES

2012-016-0

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