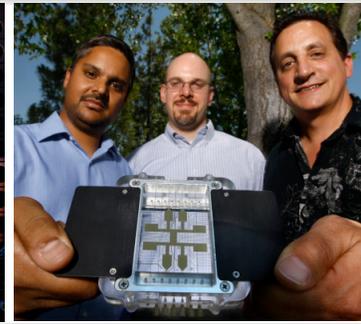
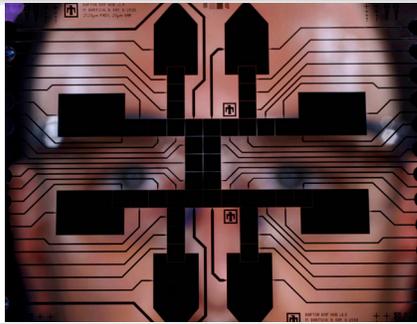
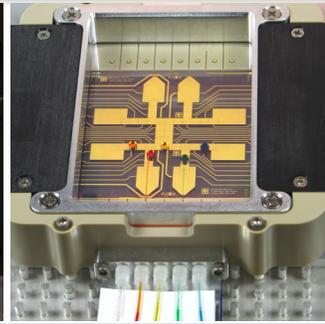
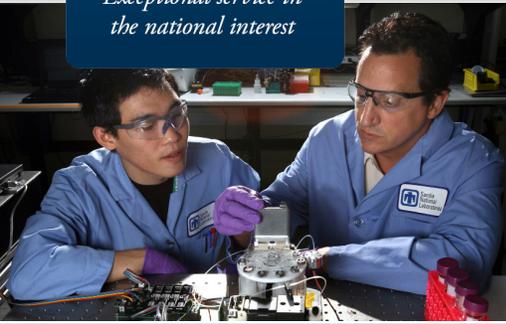


# MICROFLUIDIC DEVICES



Sandia National Laboratories has been working at the forefront of microfluidic device and component development for over twenty years and has amassed a sizable patent portfolio, a portion of which is now available for licensing as a bundle of 50+ patents for one simple fee. To further Sandia's goal of disseminating and transferring taxpayer-funded technology into the private sector, this bundle is offered for non-exclusive licensing with an up-front fee of \$25,000 and nominal periodic maintenance fees.

The inventions, devices, and methods comprising this intellectual property bundle were primarily developed in support of Sandia's national security mission in chemical and biological defense, and as such, reflect an emphasis on compact, portable form factors and the low power and high reliability needed for extended field deployment. These bundled patents largely fall under three broad categories: chip-based devices and diagnostics, microfluidic interconnects and interfaces, and materials and fabrication methods. Licensed together, the contents of the bundle represent a broad-based suite of building blocks offering particular benefit to applications including laboratory automation, chemical and biological sample preparation and purification, separation science, analytical chemistry instrumentation, material synthesis, system integration, and biomedical diagnostics.

Bundled patents include a number of capillary microfluidic valves and fittings, a unique digital microfluidic interface, methods for producing axisymmetric coaxial flow fields in a chip-based format. Also featured are interconnect devices which offer several components that can act as manifolds, check valves, or ultra-high pressure pumps. These can be used to construct devices that change the flow rate of the material and sample to detection units—including laser induced fluorescence, mass spectroscopy detectors, and flow cytometry. The fabrication materials and technologies allow the connections between microfluidic devices and external components while increasing the number of functional components that can be connected to a microfluidic device.

Sandia National Laboratories does not sell its products and relies on licenses like this to commercialize its technology into unique devices that reflect an emphasis on portability and reliability.

50+ U.S. patents  
available as a bundle  
for a license fee of  
\$25K

(Flip Over for Complete Listing)

## Capability Highlights:

- Sample concentration & efficient delivery to chip
- Mass manufacturing methods
- Multiple fluidic connections
- Increased number of external components

## Potential Applications:

- Bioscience R&D
- Medical Point-of-Care
- Remote Sampling
- Pharmaceuticals
- Veterinary

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U.S. Patent No.	Title
9,409,357	Devices, systems, and methods for microscale isoelectric fractionation
9,404,913	Micropores and methods of making and using thereof
9,190,736	Fabrication of small-scale structures with non-planar features
8,940,147	Microfluidic hubs, systems, and methods for interface fluidic modules
8,871,496	Methods, microfluidic devices, and systems for detection of an active enzymatic agent
8,808,588	Methods for integrating a functional component into a microfluidic device
8,703,058	Microfluidic devices and methods including porous polymer monoliths
8,563,325	Coaxial microreactor for particle synthesis
8,394,312	Method for forming polymerized microfluidic devices
8,163,254	Micromanifold assembly
8,047,829	Method for forming polymerized microfluidic devices
7,999,937	Microfluidic devices and methods for integrated flow cytometry
7,710,086	Modular high voltage power supply for chemical analysis
7,625,474	Method for a microfluidic weaklink device
7,553,455	Micromanifold assembly
7,534,334	Apparatus and method for concentrating and filtering particles suspended in a fluid
7,527,977	Protein detection system
7,494,557	Method of using sacrificial materials for fabricating internal cavities in laminated dielectric structures
7,488,407	Castable three-dimensional stationary phase for electric field-driven applications
7,452,507	Portable apparatus for separating sample and detecting target analytes
7,400,119	Modular high voltage power supply for chemical analysis
7,390,377	Bonding thermoplastic polymers
7,384,526	High-pressure microhydraulic actuator
7,351,380	Microfluidic structures and methods for integrating a functional component into a microfluidic device
7,348,688	Low power, scalable multichannel high voltage controller
7,314,208	Apparatus and method for selectively channeling a fluid
7,246,524	MEMs Fluidic actuator
7,182,371	Edge compression manifold apparatus
7,161,334	Modular high voltage power supply for chemical analysis
7,094,326	Electrodes for microfluidic applications
7,022,381	Method for producing high dielectric strength microvalves
7,012,342	Low power, scalable multichannel high voltage controller
7,004,198	Micro-fluidic interconnect
6,994,826	Method and apparatus for controlling cross contamination of microfluid channels
6,988,402	Mobile monolithic polymer elements for flow control in microfluidic devices
6,952,962	Mobile monolithic polymer elements for flow control in microfluidic devices
6,846,399	Castable three-dimensional stationary phase for electric field-driven applications
6,833,068	Passive injection control for microfluidic systems
6,832,787	Edge compression manifold apparatus
6,821,819	Method of packaging and assembling micro-fluidic device
6,797,187	Surface-micromachined microfluidic devices
6,782,746	Mobile monolithic polymer elements for flow control in microfluidic devices
6,772,513	Method for making electro-fluidic connections in microfluidic devices
6,770,182	Method for producing a thin sample band in a microchannel device
6,733,730	Method and apparatus for reducing sample dispersion in turns and junctions of microchannel systems
6,599,436	Formation of interconnections to microfluidic devices
6,548,895	Method of packaging of electro-microfluidic devices
6,537,437	Surface-micromachined microfluidic devices
6,443,179	Packaging of electro-microfluidic devices
6,428,666	Electrokinetic concentration of charged molecules
6,287,440	Method for eliminating gas blocking in electrokinetic pumping systems
6,277,257	Electrokinetic high pressure hydraulic system
6,210,986	Microfluidic channel fabrication method
6,019,882	Electrokinetic high pressure hydraulic system