

Rapid Fluidics

Shaping the Future of Microfluidics

**Introduction to Design, Prototyping, and Manufacturing Services
Technical Specifications 2024**



What we do

- Microfluidic prototyping & production, utilising novel 3D printing and other specialised fabrication techniques
- 24-hour turnaround of bespoke prototype designs with minimal overhead costs.
- Design consulting services for microfluidic design & development
- Mid scale manufacturing with support to large scale manufacturing



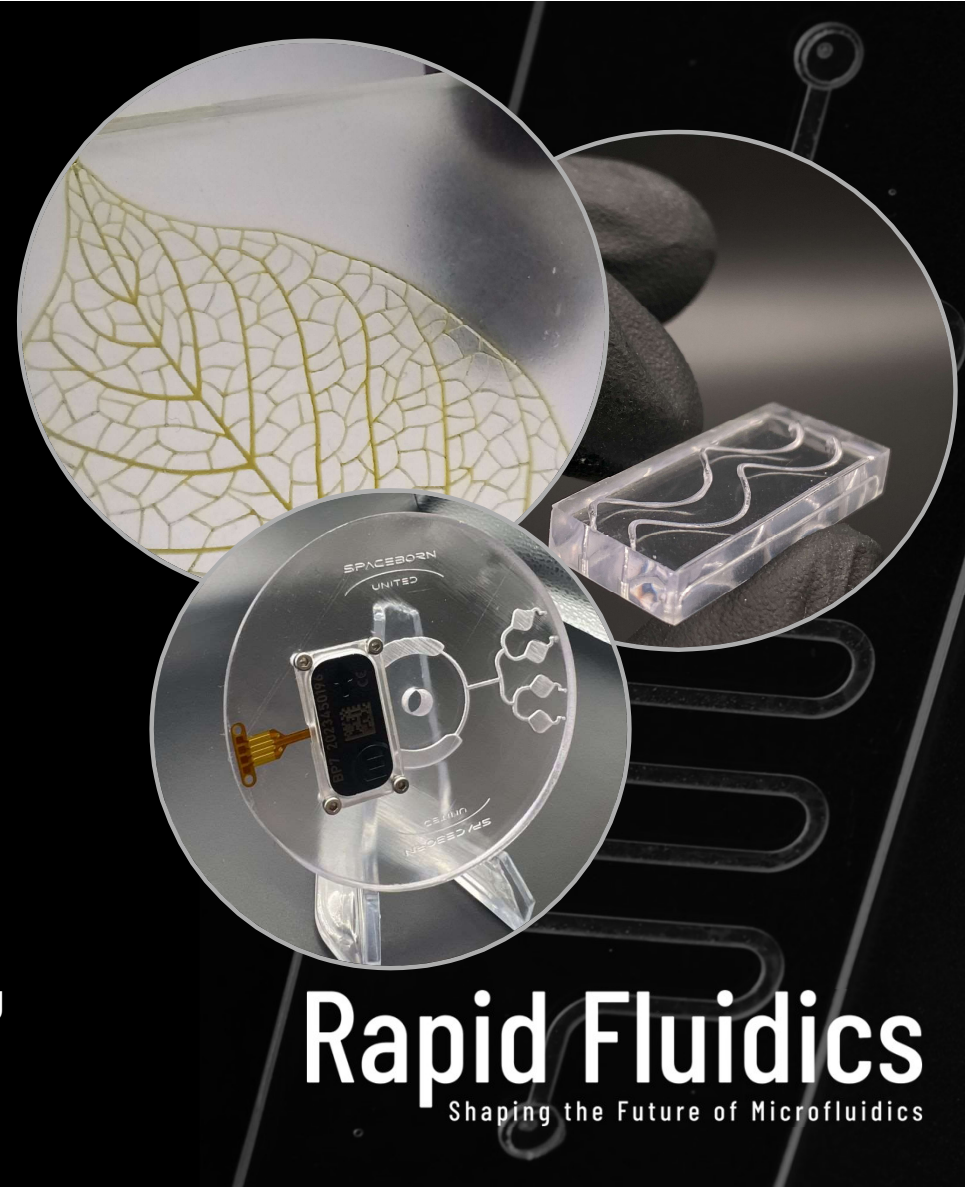
Rapid Fluidics
Shaping the Future of Microfluidics

Capabilities - at a glance

Our core capabilities include rapid prototyping of enclosed microfluidic devices, complex pneumatic manifolds, and lab consumables using 3D printing technologies.

We can also offer rapid turn around open and tape sealed microfluidics either using 3D printing technology or pressure forming of thermoplastics depending on material/geometry.

We have developed a process for embedding electronics and other components within enclosed microfluidic devices, providing a simple prototyping solution.

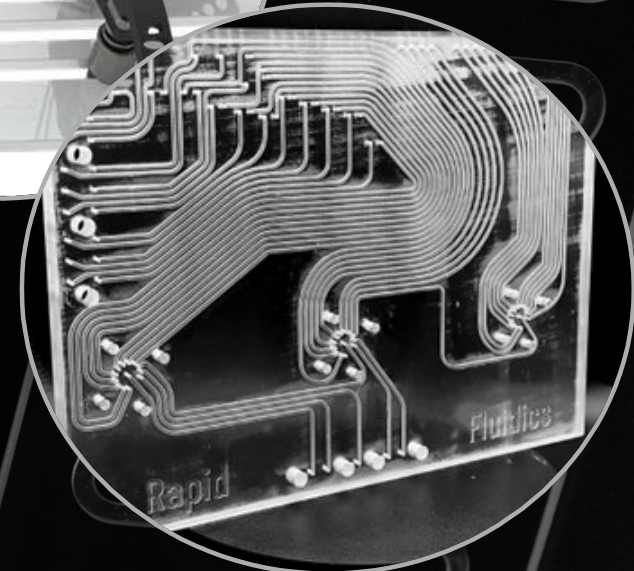
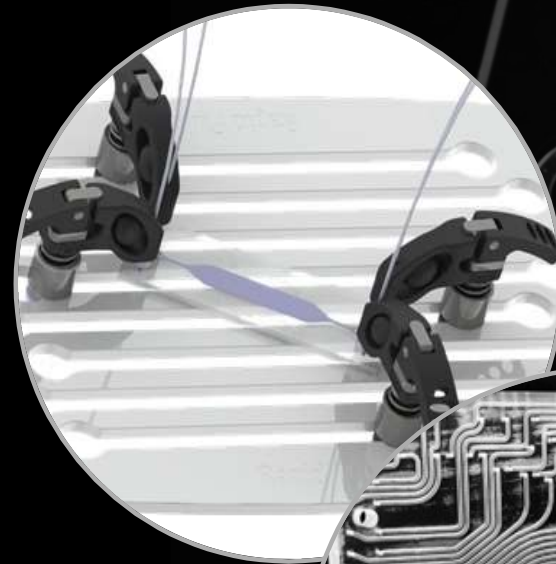


Rapid Fluidics
Shaping the Future of Microfluidics

Project Types

The team has experience throughout the whole product development lifecycle and has successfully worked on microfluidic systems across multiple projects and companies.

Projects so far have ranged from helping in specific areas of the development lifecycle, for example building a proof-of-concept instrument, or performing independent design reviews, all the way up to full design, build, test and technical handover to remote factory for producing 1000s of readers and test cards.



Rapid Fluidics
Shaping the Future of Microfluidics

Our Customers

Some Customers come ready to print:

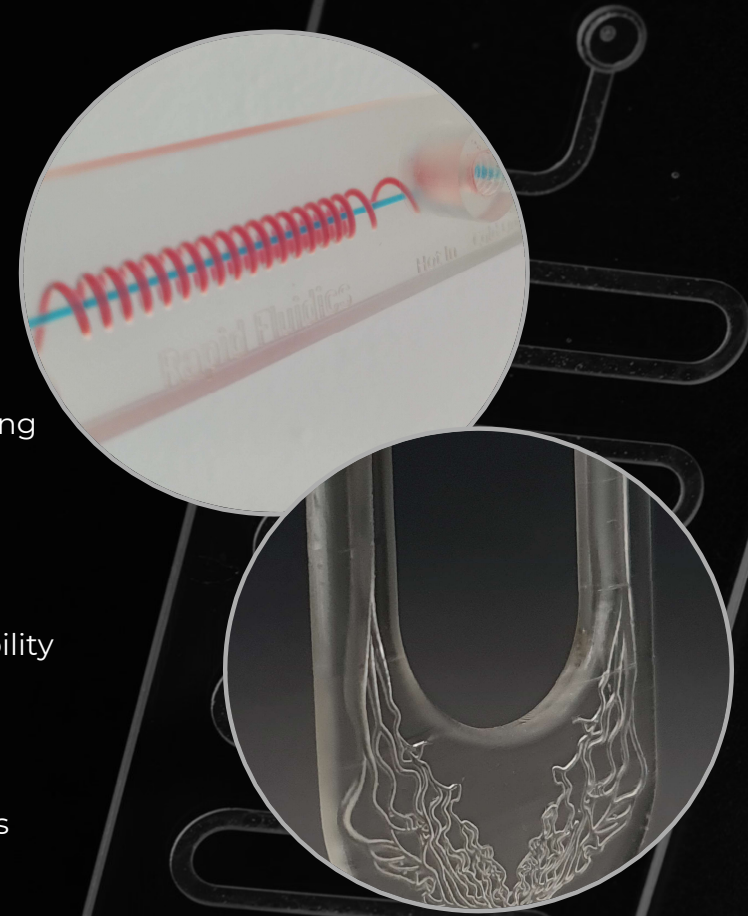
- Know what they need
- Simple designs, adaptations of existing products
- Repeat customers, often established businesses or non-specialist prototyping companies
- Frequent low-cost orders £100s-£1000s

Some Customers need help adapting a design:

- Require some design support to incorporate functionality or manufacturability
- Adaptable design for future iterations
- Typically, Startups scaling up, non-specialist design consultancies.
- Quick turnaround often essential, high value consultancy: £1000s - £10,000s

Some Customers need a brand-new design:

- Require full design and product development support
- Range from University spinouts to large organizations
- Product lifetime support potential £100,000s



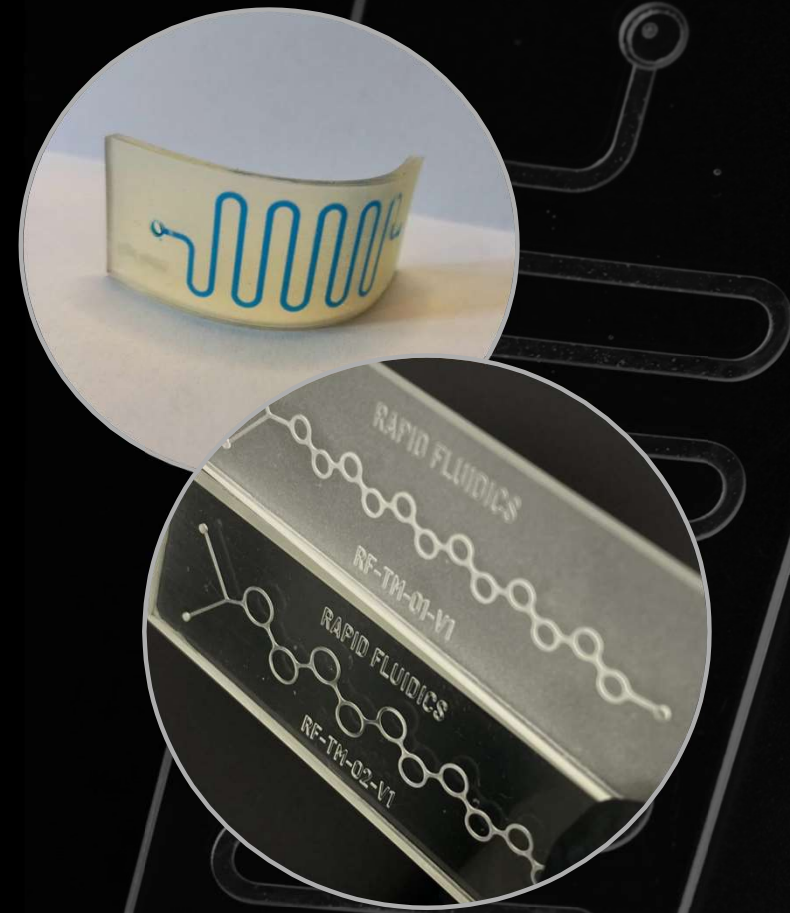
Rapid Fluidics
Shaping the Future of Microfluidics

Materials

We can manufacture 2D and 3D printed geometries in a range of high quality methacrylate based resins. Materials are selected to suit the geometry and application of a part, which can meet the following requirements:

- Optically clear or opaque
- High temperature resistant
- Flexible
- Multiple layers
- Biocompatible
- Integrate electrodes, glass, membrane materials, and flow control as well

We can also pressure form some geometries in a range of thermoplastic materials.



Rapid Fluidics
Shaping the Future of Microfluidics

Microfluidic Connections

We can integrate a number of standard connections into microfluidic components to simplify part testing, these include:

- Standard threaded luer lock
- Mini luer
- Integrated tubing
- Barbs
- Standard threaded connections down to M2.5

We also offer a Modular Microfluidic System (MMS) with accessories to provide a simple method to create fluid connections to flat microfluidic chips – visit our webshop for all the details !



Rapid Fluidics
Shaping the Future of Microfluidics

Capabilities - enclosed 2.5D microfluidics

	Biocompatible material		Standard material	
	Footprint $\leq 51 \times 29$ mm	Footprint $> 51 \times 29$ mm	Footprint $\leq 51 \times 29$ mm	Footprint $> 51 \times 29$ mm
Minimum channel diameter	200 μm	300 μm	100 μm	200 μm
Minimum feature size	150 μm	200 μm	70 μm	100 μm

Notes:

- Minimum channel/feature sizes are dependant on exact material requirements and part complexity and the above sizes cannot be guaranteed without assessment of the all the part requirements.
- We are always researching new and better ways to make things and investing in new equipment, so it is always worth getting in touch with us to see if we can meet your requirements



Rapid Fluidics
Shaping the Future of Microfluidics

Get in touch

info@rapidfluidics.com

Rapid Fluidics Ltd
The Warehouse
Spring Garden Lane
Newcastle upon Tyne
NE4 5TD

Phone: +44 (0) 330 057 1119



Rapid Fluidics
Shaping the Future of Microfluidics