



custom

design and  
microfabrication

devices

microfluidic chips in glass,  
quartz and polymer

dolomite

dolomite

Innovators in microfluidic solutions



## Why choose Dolomite for microfluidic chip design and fabrication?

**Dolomite works with customers around the world to develop a variety of versatile, complex and cutting edge custom devices, available in exceptionally short lead times.**

### Dolomite's custom device solutions

At Dolomite we understand that every application is unique and that our standard components might not be the right solution for you. Therefore we offer **custom chips to meet your exact requirements.**

Fabricated to the highest quality standards in optical glass, quartz (fused silica) or polymer, our custom microfluidic chips benefit a wide range of applications including clinical diagnostics and DNA analysis where **reusability, chemical compatibility, optical transparency and thermal characteristics** are important.

Our microfluidic devices are developed using several microfabrication techniques that create **microchannels** and **complex structures** in resistant and inert substrate materials.

### Key production processes

- **First class wet-etching of microchannels** with etch depths of 100nm to 500µm
- **World leading thermal bonding process** minimizes thermal distortions enabling unrivalled chip complexity
- **Excellent grinding and polishing techniques:** Broad range of substrate thicknesses from as thin as 100µm to > 40mm thick
- **Hydrophobic surface coatings** can be applied to benefit droplet and emulsion formation
- **Micro-drilling** for a minimum hole size of Ø 150µm
- **Multiple layers** can be fused to create complex geometries
- **Variety of deposited coatings:** platinum, gold, copper and titanium to create a wide range of features, such as sensors, mirrors or electrodes

### Recent examples of our custom devices include:

**Quartz Flow Cell** with a 500µm wide and 300µm deep channel for detection of bacteria

**1ml Microreactor Chip** with 3 layers etched to 300µm deep per layer

**Cell Sorting Chip** with over 2 million integrated electrode features

**Nozzle spray device** with integrated platinum electrodes

**Gas Chromatography Chip** (4" x 4" footprint) etched on both layers (one polished to 250µm) with over 7m of channel network

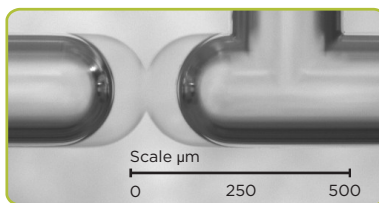
**Dual Droplet Generation Chip** allowing the generation of 3-reagent droplets on 2 separate junctions with 8 fluidic inputs and 2 outputs

### Micro-fabrication expertise

**Dolomite is pushing the boundaries of microfluidic technology.** Our innovative team of design engineers has extensive experience in material processing and is unique in combining traditional manufacturing techniques with micro-engineering expertise.

Our **in-house micro-fabrication** facilities which include **cleanrooms and high precision glass processing** facilities allow us to prototype and test all products rapidly which ensures a faster development cycle and reduces the time to market.

If you are looking for a specific channel geometry, channel size or surface coating, whatever the idea, Dolomite can help you take it to the next level!



**Left:** Microfluidic devices are fabricated in Dolomite's class-1000 cleanroom

**Above:** Custom chip: etched on both layers. Channel-to-channel alignment accuracy <5µm

**Right:** Dolomite offers a variety of deposited coatings



## Innovators in microfluidic solutions

ISO 9001:2008 certified



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