



custom

design and
production

flow cells

in optical glass, clear fused
silica or black quartz



Innovators in microfluidic solutions

Why choose Dolomite for customized flow cell design and production?

Dolomite has extensive experience in material processing and is unique in combining traditional manufacturing techniques with micro-engineering expertise. We understand and exploit the material properties that are important to work on micro-scales and give flow cells the leading edge.

Background

Flow cells are the future for modern and sophisticated chemical analysis. Historically they have been widely used in UV analysis techniques. In the 21st century innovative optical techniques such as Spectroscopy, Flow Cytometry and Spectrophotometry are increasingly important.

Dolomite's expertise

Dolomite is the world leader in developing and manufacturing microfluidic solutions. Our professional team of engineers offers extensive experience in combining micro-engineering technology with traditional material processing and glass manufacturing.

As well as a wide range of standard flow cells, Dolomite offers:

- **Bespoke solutions** – producing innovative flow cells with multiple channels and very low chamber volume;
- **Integrated solutions** – combining flow cell and microfluidic technology;
- **System solutions** – developing and manufacturing custom interconnects, detectors and systems.

All our flow cells are manufactured to high quality standards using mainly quartz or optical glass. These materials combine the benefits of low thermal expansion, high chemical resistance and excellent optical properties, such as homogeneity and high UV transmission.

Let us take your ideas to the next level. Contact Dolomite for a consultation with our engineers.

Our innovative processing capabilities include:

- **World leading thermal bonding process:** Low temperature bonding minimizes thermal distortions.
- **High-precision borings and cavities.**
- **Excellent wet etching:** Superior optical quality of micro-channels with etch depths of nm to mm deep.
- **Variety of deposited coatings:** Flow cells can be sputtered with metals down to nm thickness.
- **Extremely accurate alignment of layers and features.**
- **Wide variety of materials:** Optical glass, clear fused silica, black quartz and others.

Flow cell example

Over the last couple of years, Dolomite has always pushed the boundaries of traditional manufacturing processes. We worked with customers around the world to develop innovative solutions to their exacting challenges.

In one of our latest projects we developed bespoke multi-channel flow cells with chamber volumes of less than 10 μ l. They not only passed the standard Raman water test with an 'excellent', but also were described by the tester as "some of the best flow cells I have ever characterized in this test."

Applications

Flow cells have a wide range of application areas including: molecular biology, protein engineering, pathology, immunology and plant and marine biology.



Left: Selection of different custom flow cells.

Above: Clear custom flow cell for 12 channel UV detector.

Right: Silica and black quartz custom flow cell.



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ISO 9001:2008 certified



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