



standard

changing the world of
microfluidic connections

Multiflux™

microfluidic
instrumentation interface



Innovators in microfluidic solutions

Dolomite leads the way in microfluidic connections

Dolomite, a world leader in the design and manufacture of microfluidic devices, has introduced Multiflux™, a unique and flexible range of microfluidic connectors and compatible Interfaces which allow users to integrate their microfluidic devices into new and existing systems by creating fast and reliable multi-way fluidic connections.

Background

Fluidic systems for manipulation, analysis and control of small amounts of materials are becoming increasingly sophisticated. In addition, there is an increasing trend for these kind of systems to be designed at smaller and smaller scales into the microfluidic domain.

At present, most fluidic connectors only allow the connection of one fluid tube at a time. Furthermore, connecting microfluidic devices to macro-scale systems presents many challenges. If these are not addressed well, the benefits of working within the microfluidic regime may be compromised through time consuming assembly and resolving leaks.

In the field of electrical connections we are all used to robust, easy to use, multi-way connectors. Imagine being asked to connect between your laptop and projector with 15 single wires and being expected to get each wire in the correct position otherwise the projector would at best not work, or at worst get damaged. We would all see that as simply unacceptable!

These are the challenge that the engineers and scientists at Dolomite have been working on for more than 5 years, and have now solved with Multiflux™.

Introducing Multiflux™

New open standard changing the world of microfluidic connections

Multiflux™ is Dolomite's solution for anyone working in microfluidics. This new range of multi-way microfluidic connectors and interfaces enables the fast and easy interconnection between a range of fluidic systems and/or bundles of tubing. The Multiflux™ components provide a flexible, cost-effective and time-efficient solution, which can be used in a number of ways:

- Multiflux™ Connector + Multiflux™ Compatible Interface + custom* chip
- Multiflux™ Connector + custom* interface + custom* chip
- Multiflux™ Connector + Multiflux™ Compatible Interface + Dolomite chip

Dolomite has now made this interface standard open to enable other researchers and companies to benefit from the world leading capabilities of Multiflux™.

* custom = designed by the user or OEM integrator

Main benefits

- Easy to use: no tools are required
- Quick solution: reliable and leak-free connections can be made in seconds
- Multi-way connection: interconnection of many tubes at once
- Simple and robust: tube-to-chip and tube-to-tube connections
- Excellent chemical compatibility
- Wide temperature range: -15°C up to 150°C
- Flexible solution: can be used for fluidic and electrical connections
- Easy to use: no tools are required

How to use Multiflux™

Multiflux™ Connectors are designed to be easily integrated into your own systems helping you solve your interconnection challenges:

1. Using your own microfluidic chips

Do you design or manufacture microfluidic chips? - You could use a Multiflux™ Connector and Interface solution to create a fast and reliable connection for your own chip.

2. Using your own microfluidic chip and interface

Does your microfluidic chip already have an interface in place? - You could use a Multiflux™ solution to integrate your chip into your system or connect to other microfluidic devices.

3. Tube-to-tube connections

Do you have a large bundle of tubing in your experimental set-up? Why make and break the connections one at a time? You could simply use a Multiflux™ In-line Interface solution.

4. Off-the-shelf solution - ready to go

Are you working with fluidic systems to manipulate, control or analyse small amounts of material? - Dolomite provides a range of standard chips compatible with Multiflux™ Connectors and Multiflux™ Interfaces. Please contact us for more information.

We have a design guide to help you understand how to use our Multiflux™ Connectors. Please contact us for more information.



Linear Connector 4-way and Chip Edge Interface



Circular Connector and Circular In-line Interface



Linear Connector and Top Interface







Linear Connectors 4-way and Resealable Chip Interface

Multiflux™ Connectors

Dolomite's Multiflux™ Connectors enable the fast and easy integration of microfluidic devices into new and existing systems by providing a fluidic device with several fluid input and output ports. Their unique and compact design facilitates reliable and efficient connection between:

- Microfluidic chips and 0.8mm O.D. tubing,
- Microfluidic chips and 1.6mm O.D. tubing,
- Two bundles of tubing,
- A bundle of tubing and an instrument.

Part No.	3000024	3200148	3000102	3000067	3200149	3200150	3000051
Technical details							
Product name	Linear Connector 4-way	Linear Connector 7-way	Linear Connector 8-way	Linear Connector 12-way	Linear Connector 15-way	Linear Connector 23-way	Circular Connector
Picture		Coming soon			Coming soon	Coming soon	
Connector type	Linear						Circular
Number of ports	4	7	8	12	15	23	8
Max. operating pressure	30bar*						20bar
Max. operating temperature	-15°C up to 150°C*						
Tube O.D.	1.6mm	0.8mm	1.6mm		0.8mm		
Chip thickness	depends on interface used						2mm - 4mm
Min. width of chip	15mm		30mm	45mm			12mm
Material	PTFE and perfluoroelastomer						

* custom design up to 1000bar and 1000°C, please contact us for more details

Standard Multiflux™ Interfaces

The Multiflux™ Connectors can be used together with Dolomite' microfluidic chips and standard Multiflux™ Interfaces or custom devices designed by the user.

Quick and easy to use, the Multiflux™ Interfaces securely hold microfluidic connections in place without disruptions to the fluid flow.



Chip Edge Interface 4- to 23-way

Designed for use with the Linear Connector, the Chip Edge Interfaces enable a fast, reliable and efficient **connection between the edge of microfluidic chips and tubing.**



Chip Surface Interface 4- to 23-way

Dolomite's Chip Surface Interfaces work in conjunction with the Linear Connector to allow users to create a fast and reliable fluidic **connections to the surface of microfluidic chips.**



In-line Interface 4- to 23-way

Quick and easy to use, the In-line Interfaces facilitate an **in-line sealing** and accurate alignment **between two sets of tubing,** enabling uninterrupted liquid flow.

Custom option

Dolomite also offers a range of engineering services to create interface and connector solutions tailored to your requirements including operating pressure up to 1000bar and operating temperature up to 1000°C. Please contact us for more information.

Using Multiflux™ compatible devices

Dolomite is regarded by many as a “centre of excellence” for the design, prototyping and manufacture of microfluidic solutions. Since 2005 we have launched over 150 leading edge products, pioneering new technologies as well as the use of microfluidic devices for small scale fluid control and analysis.

We are proud of our achievements and very passionate about protecting the integrity of our brands. You do not need our permission to use our Multiflux™ Connectors or Multiflux™ Interfaces. However, if you are designing and/or manufacturing your own Multiflux™ compatible device, please make sure that it is defined as “**Multiflux™ compatible**” using the correct trademark.



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