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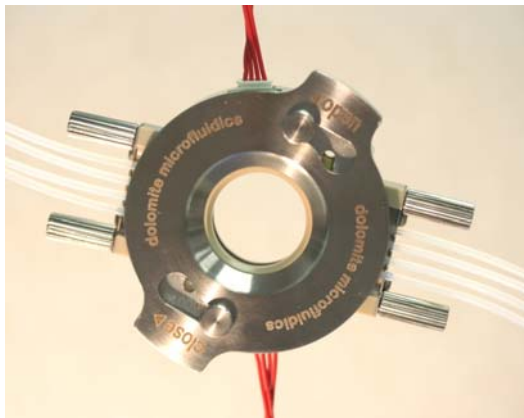
INFORMATION SHEET

Part name	Mitos Resealable Chip Holder	Part number	3000305
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Description

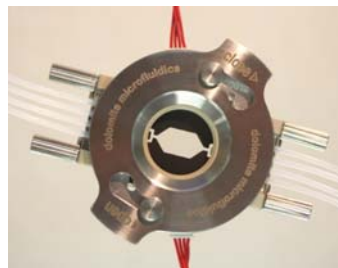
The Mitos Resealable Chip Holder is used in combination with microfluidic chips that can be opened and then resealed. The chip base layer is loaded into the holder first followed by the gasket and then the chip top layer. The holder clamps the layers together and provides eight fluidic and eight electrical connections to the chip.

Reagents, sensors, biosensors or cells can be deposited on the chip base layer. The chip base layer material is typically glass, quartz, or polymer. Fluids are then flowed through channels in the gasket layer over the deposited sensors or reagents. The depth of the channels in the gasket is typically between 100 – 500 microns. Applications include: biosensor testing, cell culture and analysis, dielectrophoresis experiments and impedance detection.



Left: Mitos Resealable Chip Holder (3000305) without a chip

Below: Mitos Resealable Chip Holder with a custom chip and gasket



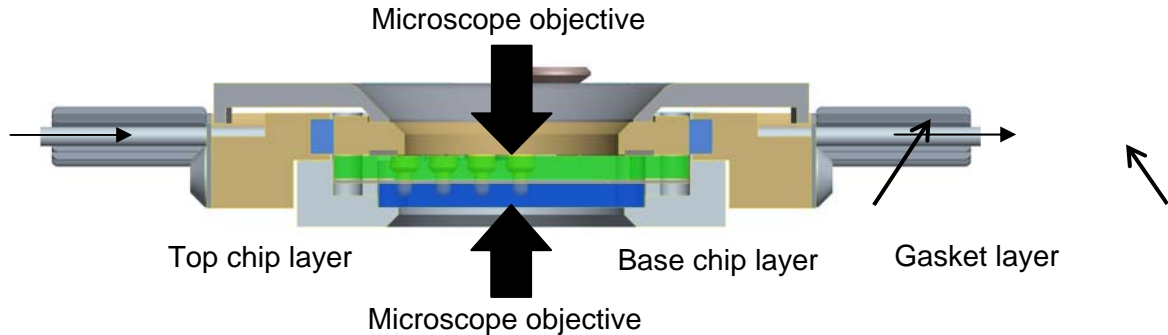
Benefits

- Low profile allows viewing with a microscope
- Excellent chemical resistance
- Easy to clean
- Eight fluidic and eight electrical connections
- Allows deposition of reagents, sensors or cells onto channel surface

	Connector Specification	Value
1	Number of Fluid Connections	8
2	Number of Electrical Connections	8
3	Chip size	30.0 mm x 22.0 mm
4	Chip top layer thickness	3.0 mm or 2.0mm
5	Chip base layer thickness	2.0 mm
6	Gasket Thickness range	100 – 500 µm
7	Outside diameter of fluid connection tubing	1.6 mm (1/16 inch)
8	Inside diameter of fluid connection tubing	0.25 mm, 0.5 mm, 0.8 mm
9	Fluid connection tubing material	PTFE (FEP, PFA or PEEK)
10	Wetted Materials	PEEK, PTFE, Viton
11	Holder Diameter	62.0mm
12	Holder Thickness	12.0mm

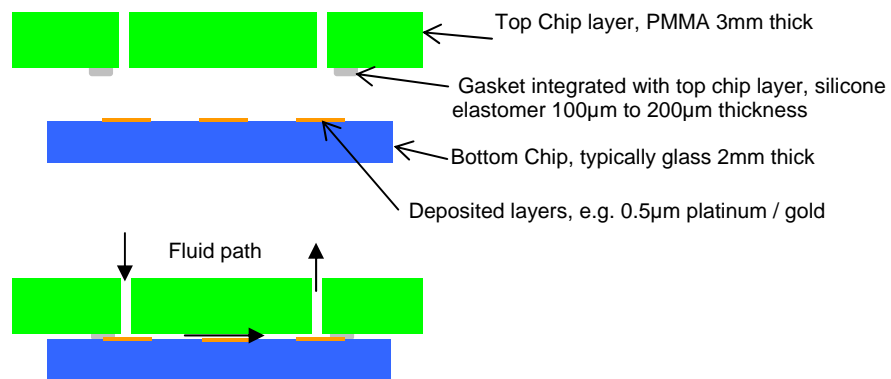
Chip Design

The windows at the top and bottom of the holder allow a microscope objective lens to get within millimetres of the microfluidic channel structure. The exact distance depends on the channel size. Details are shown below:

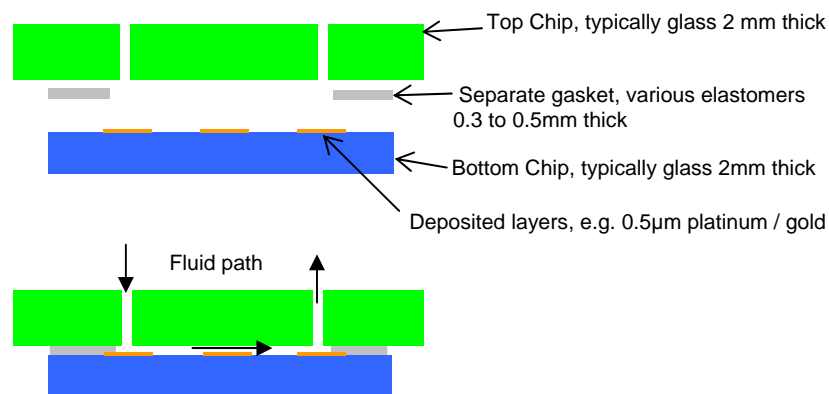


Currently there are no standard chip designs for the resealable chip holder. Custom chips can be designed and fabricated by Dolomite. There are two types of gaskets available as shown below:

Gasket integrated with top layer

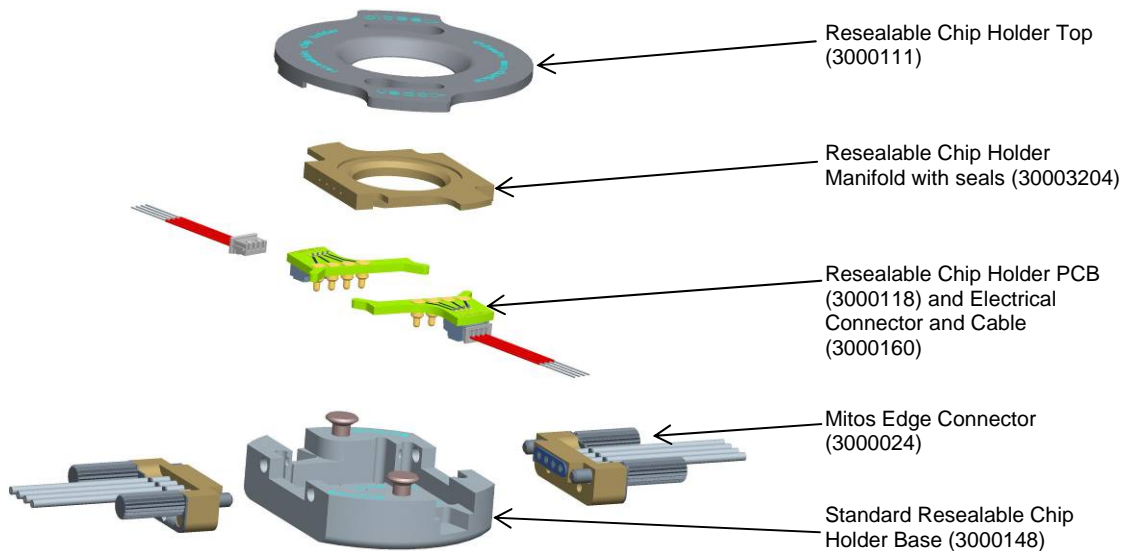


Separate gasket layer

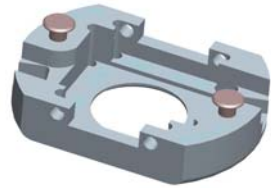







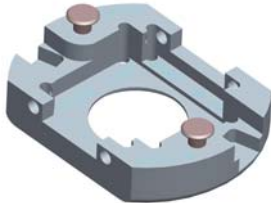
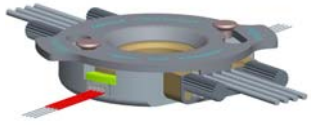
Parts and Accessories

The image below shows the parts that are supplied with the Mitos Resealable Chip Holder:



The base also comes in a smaller size for use with thinner chips.

Part Number	Description	Image
3000148	Standard Resealable Chip Holder Base: The standard chip holder base accommodates a 2mm bottom chip, a 3mm top layer chip and a gasket between 0.1 and 0.2mm thick.	
3000111	Resealable Chip Holder Top: Provides clamping of the chip layers.	
3000304	PEEK Manifold with Seals: The interface between the chip and the edge connector. The image is inverted to show the seals.	
3000024	Mitos Edge Connector: Allows connection to 1.6mm (1/16") outside diameter PTFE tube.	
3000118	Resealable Chip Holder Electrical Interface PCB: Provides 4 electrical connections to base chip.	

<p>3000168</p>	<p>Electrical Cable and Connector: Connects to electrical interface PCB.</p>	
<p>3000147</p>	<p>Thin Resealable Chip Holder Base: The thin chip holder base accommodates a 2mm bottom chip, a 2mm top chip and a gasket between 0.1 and 0.5mm thick.</p>	
<p>3000306</p>	<p>Mitos Thin Resealable Chip Holder Base Complete Assembly: A full assembly with the thin base (see above).</p>	

Holder Geometry

