

Vacuum Cable

Vacuum Coupler

Vacuum Flange

Air Side Coupler

Air Side Cable

In many high vacuum applications the use of epoxy is undesirable as outgassing can occur. The Oxford Electronics optical fibre vacuum feedthroughs use CuBall\* metal coated optical fibers which are brazed to a stainless steel tube to make a vacuum tight seal and then brazed to an SMA connector on the vacuum side. The optical fiber feedthrough allows disconnection either side of the vacuum chamber. This feedthrough is weldable into a variety of standard vacuum flanges to provide an optical fiber UHV system.

An SMA adaptor then allows connection to vacuum compatible optical fiber cables inside the vacuum chamber. The vacuum compatible optical fibers are metal coated fibers which have an SMA connector brazed to one end to connect to the feedthrough and a choice of either another SMA, or a straight ferrule as shown below or simply a polished fiber end. This means that a vacuum optical fiber system can be assembled which is completely epoxy free.

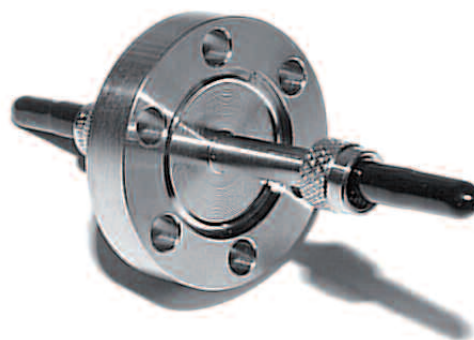
### Available sizes

Vacuum feedthroughs and compatible optical fiber vacuum cable, and external cables are available in core diameters of 400  $\mu\text{m}$ , 600  $\mu\text{m}$  and 1000  $\mu\text{m}$ .

The cables are silica-silica construction and are available in UV-Visible range of 180-1200 nm or the Visible-IR range of 500-2400 nm. These fibers can be used for high power transmission and are radiation resistant. They also have low fluorescence. Standard lengths are 300 mm, 600 mm or 900 mm. Longer lengths are available to order.

### Vacuum feedthroughs

Part number	VF400	VF600	VF1000
Fiber core diameter $\mu\text{m}$	400	600	1000



### Vacuum cables



### Ordering information

**VC 600 UV-300-S**

S = SMA F = Ferrule BP = Bare polished  
 Length in mm  
 UV = UV-Visible IR = Visible IR  
 Core diameter  $\mu\text{m}$  (400, 600 or 1000)



## External cables

External cables are available with matching spectral response and numerical aperture to the metal-coated fiber used in the feedthrough and the internal vacuum optical fiber cables. The cables are fitted with matching SMA connectors and have a flexible stainless steel jacket of 5 mm outer diameter. This gives excellent crush resistance whilst maintaining flexibility. Standard lengths are 1m, 5m and 10m. Alternative lengths are available to order. The fiber can be UV-visible or visible-IR to match the fibers used inside the vacuum chamber.



## Ordering information

**EC 600 UV-1**

