



Diffusion Bonded Conflat Window Assemblies

When you need beryllium windows mounted to Conflat-style flanges for your UHV experiment quickly, look no further than Brush Wellman – Electrofusion Products, a trusted source for beryllium and beryllium processing since 1972. These windows can be baked to 450°C and are helium mass spectrometer leak tight to 1×10^{-9} atm-cm³/sec.

Custom Designed or Catalog Item?

Why not choose both? We have an on-hand supply of standard size Conflat flanges with the largest possible aperture size, which means less time between when you order and when you receive your beryllium window assembly. All you need to do is choose between IF-1, PF-60, or PS-200 grade beryllium foil and choose your required thickness. The “Standard Conflat Assemblies” table below lists the aperture size and the thinnest possible foil to withstand 1 atmosphere of differential pressure. If you don’t need to have the thinnest foil possible, choose a thicker foil which will lower the cost and increase the amount of differential pressure the window can withstand. Of course, if you need a custom aperture (round, square, or any other shape or size), our engineers can meet your needs.

Brazing versus Diffusion Bonding

Other companies may offer brazed beryllium windows, but BW–Electrofusion specializes in diffusion bonding. Typical high temperature liquidus brazing induces structurally weakening grain growth in the beryllium window material. Since diffusion bonding is accomplished at temperatures below the melting point of the braze alloy, it results in high temperature performance without compromising the strength of the beryllium. By controlling the pressure in the

process, diffusion bonding also offers control over braze alloy flow, meaning no high absorption alloy material in the active area of the window. In other words, a beryllium window perfect for your application.

Delivery and Warranty

These made-to-order assemblies are available within 3 weeks of your order. As with everything BW-Electrofusion sells, we offer a lifetime warranty on our products against any defects in materials or workmanship (normal wear and tear or corrosion from operational use is excluded from this warranty).

Health and Safety

Handling beryllium in solid form poses no special health risk. Like many industrial materials, beryllium-containing materials may pose a health risk if recommended safe handling practices are not followed. Inhalation of airborne beryllium may cause a serious lung disorder in susceptible individuals. The Occupational Safety and Health Administration (OSHA) has set mandatory limits on occupational respiratory exposures. Read and follow the guidance in the Material Safety Data Sheet (MSDS) before working with this material. For additional information on safe handling practices or technical data on beryllium, contact Brush Wellman Inc. - Electrofusion Products.

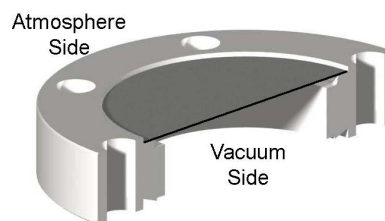
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Standard Conflat Assemblies

(Order by specifying Part Number, Foil Grade, and Foil Thickness)

Part #	Conflat Size (OD)	Aperture Size	Minimum Foil Thickness
DB133053	Ø1.33”/Ø34mm	Ø0.53”/Ø13mm	0.002”/0.05mm
DB275153	Ø2.75”/Ø70mm	Ø1.53”/Ø39mm	0.005”/0.13mm
DB338200	Ø3.38”/Ø86mm	Ø2.00”/Ø51mm	0.007”/0.18mm
DB450277	Ø4.50”/Ø114mm	Ø2.77”/Ø70mm	0.010”/0.25mm
DB600427	Ø6.00”/Ø152mm	Ø4.27”/Ø108mm	0.015”/0.38mm
DB800560	Ø8.00”/Ø203mm	Ø5.60”/Ø142mm	0.020”/0.50mm



Cutaway View of Standard Conflat assembly

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