

DuraBeryllium® windows in conflat flanges

Technical Note



DuraBeryllium window in conflat flange

Applications

- X-ray fluorescence
- Synchrotron
- X-ray diffraction

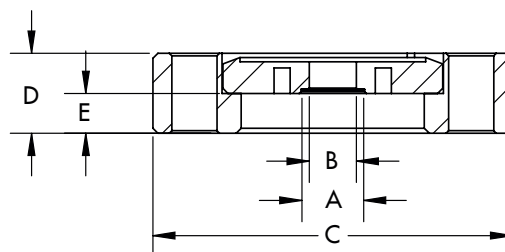
Moxtek® offers DuraBeryllium® windows mounted in vacuum fittings (CF flanges) with a proprietary high temperature metal seal and both DuraCoat® and DuraCoat Plus protective films. DuraBeryllium windows have high x-ray transmission, high temperature tolerance, and excellent corrosion resistance.

Benefits	Features
DuraCoat®	Corrosion resistance, hermetic seal
DuraCoat®Plus	Maximum corrosion resistance
Thin Beryllium	High transmission of low energy x-rays
Uniform thickness	Consistent transmission
Vacuum tight	No gas diffusion
Standard stainless steel conflat design	Fits standard vacuum fittings
	Corrosion resistant metal flange
Metal bond seal	Hermetic seal
	High temperature exposure

Geometry and sizes



Typical assembly of Beryllium window



Conflat flange geometry

Dimensions of conflat flange options (referring to conflat flange geometry drawing)

CF	Foil thickness (µm)	Foil diameter (mm) A	Through hole diameter (mm) B	CF Outer diameter (mm) C	CF thickness (mm) D	Window height (mm) E	Coating	Part ID
1-1/3" OD	8.0	9.2	7.0	33.8	7.2	0.5	DuraCoat Plus	DBM-08-9.2-CF1.3-P
	25.0	16.0	13.0	33.8	7.2	0.5	DuraCoat	DBM-25-16.0-CF1.3
2-1/8" OD	8.0	9.2	7.0	53.6	11.9	6.5	DuraCoat Plus	DBM-08-9.2-CF2.1-P
	25.0	16.0	13.0	53.6	11.9	6.5	DuraCoat	DBM-25-16.0-CF2.1

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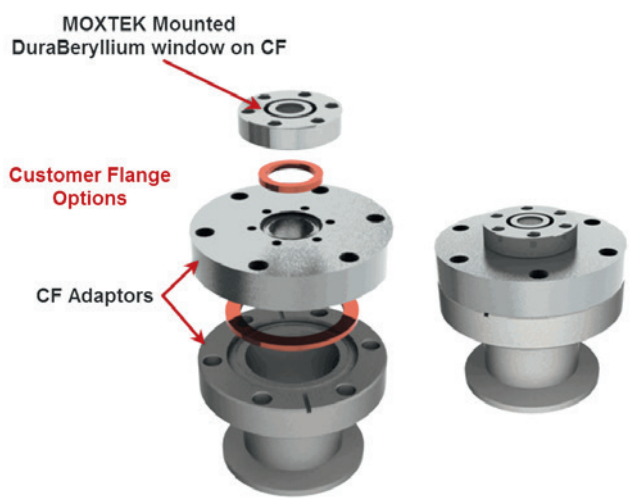
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Mounting instructions

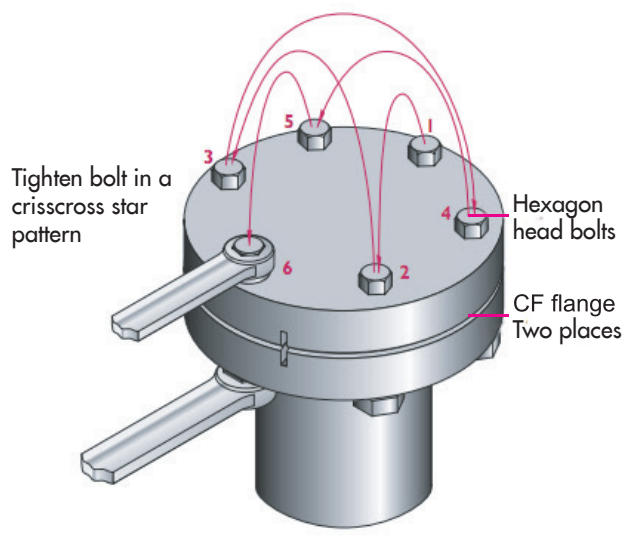
Before mounting the CF flange, inspect the part and ensure that the flange is clean and free of scratches. When cleaning the flange, follow the Technical Note, "Guidelines for cleaning AP3 and DuraBeryllium x-ray windows". Do not touch the window with anything.

Use proper conflat flange bolt tightening protocol to avoid damage to the window. Improper handling and tightening of the flange can cause concentrated stress on the window and create a leak, voiding the warranty. Proper tightening protocol includes a crisscross method of securing each bolt as shown.

Conflat flanges are designed for use with a copper gasket. Only use the copper gasket one time. Only use proper size bolts when assembling. DuraBeryllium CF flanges can be used with standard CF adapters. A sample conflat flange attachment is shown below.

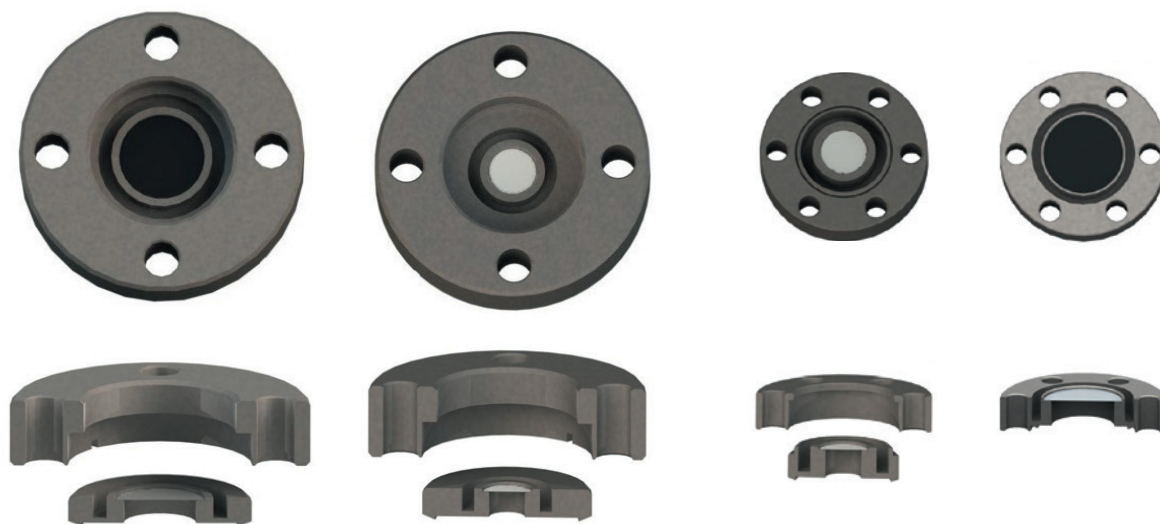


Conflat flange in vacuum assembly



Conflat flange tightening pattern*

Conflat flange options (Drawings available upon request)



DBM-25-16.0-CF2.1
(2 pieces)

DBM-08-9.2-CF2.1-P
(2 pieces)

DBM-08-9.2-CF1.3-P
(2 pieces)

DBM-25-16.0-CF1.3
(1 piece)