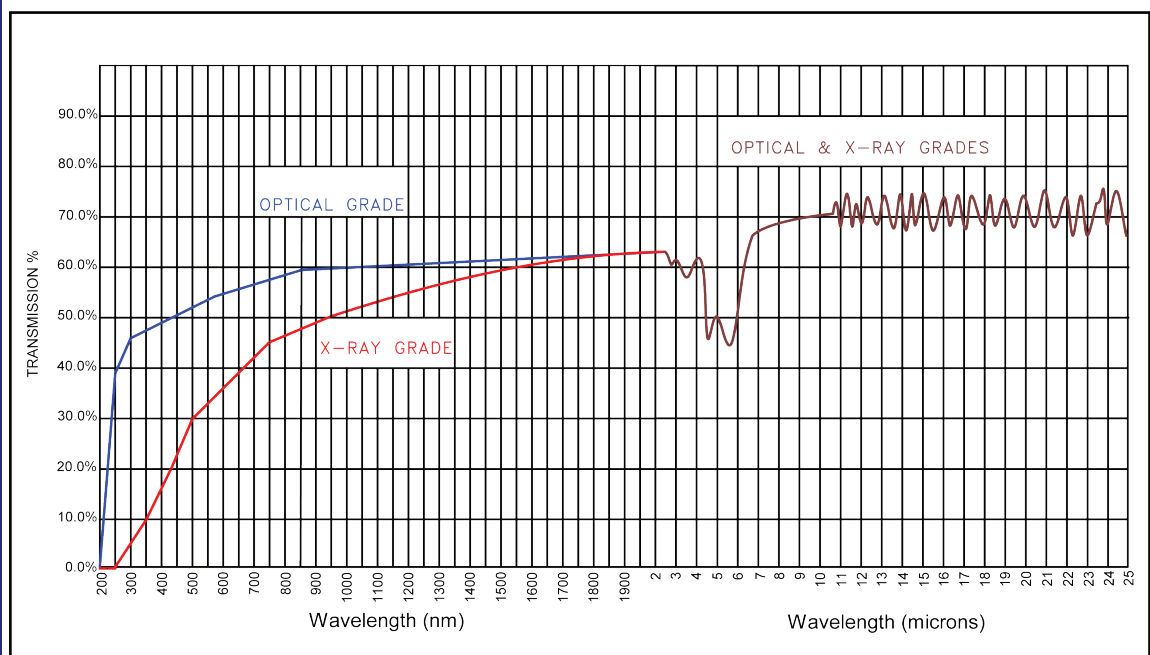




Specification	
Seal Type	Braze
Maximum Temperature	450°C 304L, 600°C 316LN
Minimum Temperature	minus 20°C
Maximum Rate of Temperature Change	3°C per minute
Window Roughness	30nm Ra
Leak Rate	<1x10 ⁻¹⁰ atm-cc/sec (He)
Pressure Range	1 bar to 1x10 ⁻¹¹ mbar

Torr Scientific CVD Diamond UHV Viewports are offered as standard in CF flanges, but can be supplied in ISO, KF or custom designed flanges on request. The viewports comprise a diamond window which is synthetically produced by a chemical vapour deposition (CVD) process. The ultra high vacuum (UHV) CF versions are offered using high grade 304L or 316LN stainless steel flanges. TSL viewports are manufactured in cleanroom conditions and helium leak tested, cleaned and packed to UHV standards. The rugged construction of the CVD Diamond viewports allows repeated bake-out with UHV performance. The transmission properties of the CVD Diamond extend from visible through FIR to beyond 100 microns. The window is polished to a surface roughness of 30nm Ra, has high thermal conductivity and good bio compatibility. Various anti-reflective coatings to match customer reflectance requirements are also processed at TSL. Non-standard viewports can be manufactured on request, including re-entrant style microscope/camera viewports. Annealed copper gaskets and other component accessories are also supplied by TSL.

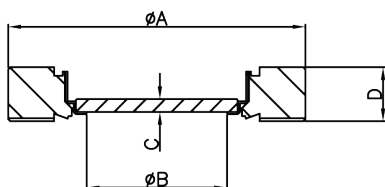
Transmission Curve - CVD Diamond



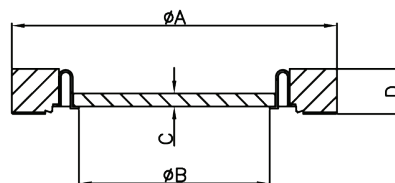
Please note that the optical transmission curves are approximations and should be used for reference only



CF-1



CF-2



Part Number	Flange Type	A	B	C	D	Diagram	Flange Material	Weld Ring Material	Window Grade
VPZ16CVDDX	NW16CF	34	15	0.5	12.7	CF-1	304L	Kovar	X-ray
VPZ16CVDD	NW16CF	34	15	0.5	12.7	CF-1	304L	Kovar	Optical
VPZ16CVDDX-LN	NW16CF	34	15	0.5	12.7	CF-1	316LN	Kovar	X-ray
VPZ16CVDD-LN	NW16CF	34	15	0.5	12.7	CF-1	316LN	Kovar	Optical
VPZ38/15CVDDX	NW35CF	70	15	0.5	12.7	CF-1	304L	Kovar	X-ray
VPZ38/15CVDD	NW35CF	70	15	0.5	12.7	CF-1	304L	Kovar	Optical
VPZ38/15CVDDX-LN	NW35CF	70	15	0.5	12.7	CF-1	316LN	Kovar	X-ray
VPZ38/15CVDD-LN	NW35CF	70	15	0.5	12.7	CF-1	316LN	Kovar	Optical
VPZ38/20CVDDX	NW35CF	70	20	1	12.7	CF-2	304L	Kovar	X-ray
VPZ38/20CVDD	NW35CF	70	20	0.5	12.7	CF-2	304L	Kovar	Optical
VPZ38/20CVDDX-LN	NW35CF	70	20	1	12.7	CF-2	316LN	Kovar	X-ray
VPZ38/20CVDD-LN	NW35CF	70	20	0.5	12.7	CF-2	316LN	Kovar	Optical