

SAFETY

Pressure differentials: Kodial VPZ viewports are designed to withstand 1 Bar differential pressure. Other standard viewports are designed to withstand 2 Bar differential pressure. The pressure on the 'vacuum side' of the viewport must not exceed a positive pressure differential of 1 bar. The viewports are designed for vacuum applications.

•**WARNING:** Pressures in excess of this or high reverse pressures may cause catastrophic failure and result in serious injury.

MOUNTING

•**Viewport bolt-up procedure:** Always use *annealed copper gaskets* and washers on both sides with each nut and bolt. Use all bolt holes. Tighten opposing mounting bolts equally over several passes. Use a *torque wrench* to ensure equal sealing torque. Do not over tighten. Failure to follow this procedure will invalidate any warranty.

Product Care Sheet

IMPORTANT

DO NOT USE THIS VIEWPORT
WITHOUT READING THE
FOLLOWING INFORMATION

If there is any doubt please ask
your supplier.

HANDLING

●**WARNING:** The optic surface is very delicate and will scratch easily. Always wear lint-free or surgical rubber gloves when handling. Never touch the optic surface.

●**Storage:** It is recommended best practice that all viewports are covered when not in use.

●**Use:** If the viewport is to be used in a vacuum system where materials are deposited or plasma cleaned, an internal viewport shutter should be fitted.

●**Humidity:** Anti-reflective coatings are durable and resistant to atmospheric moisture and other common contaminants.

CLEANING

●**WARNING:** All viewports are supplied UHV clean and ready for use. Optical coatings are typically 10-300nm thick and as such are extremely delicate. Any materials deposited or removed from the coating will affect optical performance. Cleaning should only be attempted when absolutely essential.

●**Dust:** *Dust should be removed using a particulate and water-free low pressure air-gun, aerosol or puffer.*

●**Light smudges (e.g. finger prints):** *Smudges should be removed by wiping very gently using a lint free optical quality wipe moistened with isopropanol (IPA). Do not use tissue paper.*

●**Other marks:** *Products with more serious marks and contamination should be returned to the supplier for cleaning and/or recoating.*

TEMPERATURE SPEC

●**Baking:** When baking, ensure the viewports are shielded from direct heat and strong temperature gradients, by, for example covering them with aluminium foil.

●**Heating/ Cooling rates:** Heating and cooling rates must be kept below 3 °C/min.

Max Temperatures: Exceeding the temperatures below will invalidate any warranty:

Viewport Type	Max Temp °C
Brazed Sapphire 316LN	600
Brazed Sapphire 304L	450
Standard VPZ Kodial	350
Brazed Fused Silica	200
Brazed Quartz	200
Bonded	120
Mechanically sealed	130