

# 真空视窗

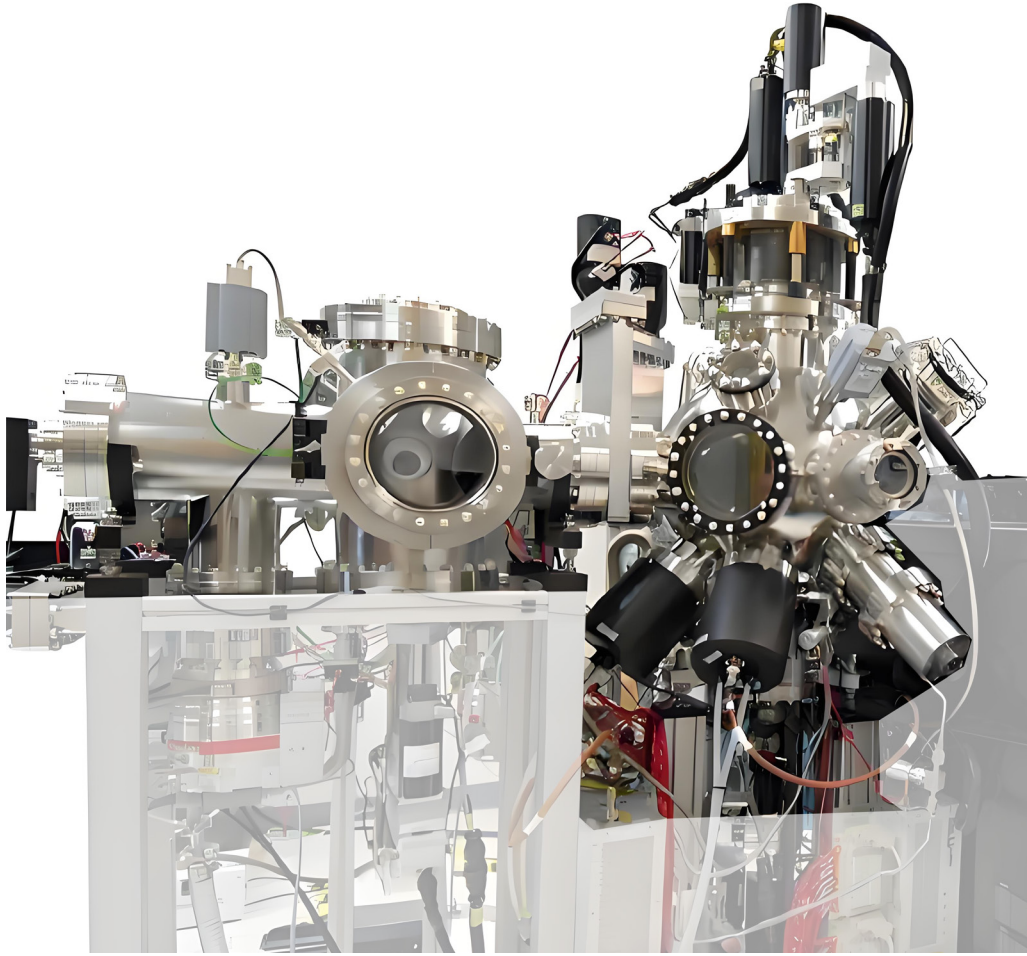
# Vacuum viewpoint

赛米瑟真空观察窗是真空设备的关键组件，用于在维持系统真空度的同时，实现内部过程的实时观察或光学监测。其设计需兼顾高密封性、耐压性及透光性，广泛应用于科研、半导体、镀膜等领域。

Semi serve vacuum viewpoint is a key component of vacuum equipment, used to maintain system vacuum while achieving real-time observation or optical monitoring of internal processes. Its design needs to balance high sealing, pressure resistance, and transparency, and is widely used in scientific research, semiconductor, coating, and other fields.



# Vacuum viewpoint



## Typical applications 典型应用



半导体制造：晶圆刻蚀、CVD 过程监控。

Semiconductor manufacturing: wafer etching, CVD process monitoring.



科研装置：粒子加速器、同步辐射光源的视口。

Research equipment: Particle accelerator, synchrotron radiation light source viewport.



镀膜设备：光学镀膜厚度实时监测。

Coating equipment: Real time monitoring of optical coating thickness.



电子显微镜：样品室真空隔离与观察。

Electron microscope: sample chamber vacuum isolation and observation.



航天测试：模拟太空环境的舱体观测。

Aerospace testing: Observation of spacecraft in simulated space environments.

# Product structure and materials

## 产品结构 & 材料

### 视窗材料

#### Glass material

光学玻璃：经济实用，适用于可见光范围，耐高温达 300°C。

Borosilicate glass: economical and practical, suitable for visible light, with a temperature resistance of up to 300 °C.

石英玻璃：高紫外透过率，耐高温至 1200°C，适合高温 / 激光应用。

Quartz glass: high UV transmittance, temperature resistance up to 1200 °C, suitable for high temperature and laser applications.

蓝宝石：超高硬度与红外透光性，耐腐蚀，用于极端环境。

Sapphire: With ultra-high hardness and infrared transparency, it is corrosion-resistant and suitable for extreme environments.

### 密封方式

#### Sealing method

无氧铜金属密封：用于超高真空 ( $\leq 10^{-8}$  Pa)，高温烘烤耐受。

OFHC gasket metal seal: used for ultra-high vacuum ( $\leq 10^{-8}$  Pa), high temperature baking resistance.

O 型圈密封：适用于中低真空，便捷更换。

Centering ring seal: suitable for medium and low vacuum, easy to replace.

### 法兰接口

#### Type of flange

标准法兰：CF 法兰、KF 法兰、ISO 法兰，兼容主流真空系统。

Standard flanges: CF flange, KF flange, ISO flange, compatible with commonly used vacuum systems.

定制化：支持非标尺寸及异形法兰适配。

Customization: Supports non-standard size and irregular flange adaptation.

# Product advantages

## 产品特性

**高真空密封：** 泄漏率  $< 1 \times 10^{-10}$  Pa·m<sup>3</sup>/s，确保系统稳定性。

High vacuum sealing: leakage rate  $< 1 \times 10^{-10}$  Pa · m<sup>3</sup>/s, ensuring system stability.

**宽温域适配：** 石英窗耐受 -80°C 至 1000°C (短期峰值 1200°C)。

Wide temperature range adaptation: Quartz windows can withstand temperatures ranging from -80 °C to 1000 °C (short-term peak temperature of 1200 °C).

**多光谱透过：** 可选材料覆盖紫外到红外波段 (如石英透光范围 0.2~2.5μm)。

Multispectral transmission: Optional materials can cover the ultraviolet to infrared wavelength range (such as quartz transmission range of 0.2~2.5 μ m).

**抗冲击设计：** 蓝宝石窗片可承受 0.5MPa 压差，防爆型可选。

Impact resistant design: Sapphire window panels can withstand a pressure difference of 0.5MPa, and explosion-proof types are optional.

**耐腐蚀涂层：** 可选镀膜处理 (如防反射膜、耐酸碱涂层)，延长寿命。

Corrosion resistant coating: Optional coating treatment (such as anti reflection film, acid alkali resistant coating) can extend the service life.

# Vacuum viewpoint

## 超高真空视窗, CF 法兰 UHV Kodial Viewports, CF Flanges

材料 Material : SS 304L

figure 1

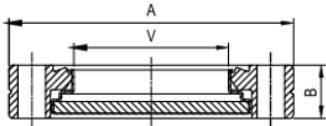
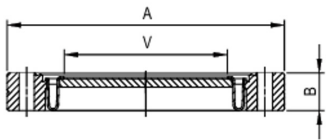


figure 2



Part Number	Flange Size	Figure	A	B	V
VP-KD-CF-133	CF1.33"	1	34.1	8.0	15.9
VP-KD-CF-275	CF2.75"	1	69.9	13.0	38.0
VP-KD-CF-450	CF4.5"	1	113.5	17.5	63.6
VP-KD-CF-600	CF6"	2	151.5	20.0	89.2
VP-KD-CF-800	CF8"	2	202.5	22.0	137.0
VP-KD-CF-1000	CF10"	2	253.2	24.6	137.0

Dimension in mm

## 超高真空视窗, CF 法兰 UHV Kodial Viewports, CF Flanges

材料 Material : SS 316LN

figure 1

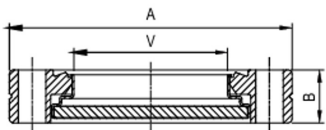
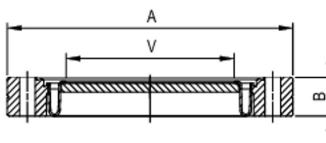


figure 2



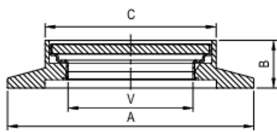
Part Number	Flange Size	Figure	A	B	V
VP-KD-CF-133-6LN	CF1.33"	1	34.1	8.0	15.9
VP-KD-CF-275-6LN	CF2.75"	1	69.9	13.0	38.0
VP-KD-CF-450-6LN	CF4.5"	1	113.5	17.5	63.6
VP-KD-CF-600-6LN	CF6"	2	151.5	20.0	89.2
VP-KD-CF-800-6LN	CF8"	2	202.5	22.0	137.0
VP-KD-CF-1000-6LN	CF10"	2	253.2	24.6	137.0

Dimension in mm

# Vacuum viewpoint

## 高真空视窗, KF 法兰 HV Kodial Viewports, KF Flanges

材料 Material : SS 304L

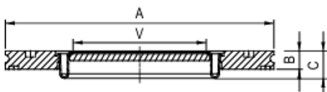
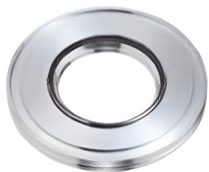


Part Number	Flange Size	A	B	C	V
VP-KD-KF-25	KF25	40.0	9.5	25.4	15.9
VP-KD-KF-40	KF40	54.9	14.5	52	38
VP-KD-KF-50	KF50	75.0	14.5	52.0	38.0

Dimension in mm

## ISO-K 焊接视窗 ISO-K Welded Zero Length Viewports

材料 Material : SS 304L



Part Number	Flange Size	Figure	A	B	V
VP-KD-ISOK-63	ISO-K 63	95.0	11.9	8.0	15.9
VP-KD-ISOK-100	ISO-K 100	130.0	12.0	13.0	38.0
VP-KD-ISOK-160	ISO-K 160	180.0	11.9	17.5	63.6
VP-KD-ISOK-200	ISO-K 200	240.0	12.0	20.0	89.2
VP-KD-ISOK-250	ISO-K 250	290.0	12.0	22.0	137.0

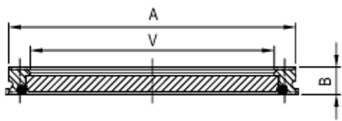
Welding sealed HV ISO-K viewports

Dimension in mm

# Vacuum viewpoint

## ISO-K O 型圈密封视窗 ISO-K O-ring Zero Length Viewports

材料 Material : SS 304L



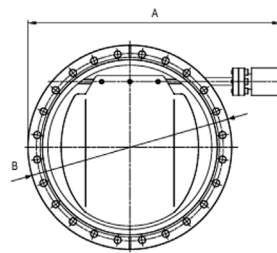
Part Number	Flange Size	A	B	C
VP-KD-ISOK-63-O	ISO-K 63	95.0	13.5	72.0
VP-KD-ISOK-100-O	ISO-K 100	130.0	15.5	104.0
VP-KD-ISOK-160-O	ISO-K 160	180.0	17.2	153.0

O-ring sealed HV ISO-K viewports

Dimension in mm

## 超高真空带挡板视窗, CF 法兰 UHV Viewport Shutters, CF Flange

材料 Material : SS 304L



Part Number	Flange Size	A	B
VPS-CF-275	CF 2.75"	166.0	69.3
VPS-CF-450	CF4.5"	202.0	113.5
VPS-CF-600	CF6"	235.0	151.6
VPS-CF-800	CF8"	281.0	202.4
VPS-CF-1000	CF10"	323.0	253.2