

VPFC Calcium Fluoride Crystal Infrared Windows

Crystal Infrared Windows

Calcium Fluoride (CaF₂) has long been used in research applications. It is a cost-effective solution and performs well in controlled environments where humidity, chemical exposure, vibration and high frequency noise are minimized or eliminated.

The transmission rate characteristics of CaF₂ are ideal for higher temperature applications, short and medium wave thermography and for the visual spectrum. Medium to long wave transmission rates (7-14 micron) are typically between 50% and 65%, based on the infrared camera detector sensitivities at different wavelengths.

IRISS VPFC (Viewing Pane Fixed Crystal) IR windows are specially coated to reduce the transmission drift due to moisture/humidity. However, industrial users are strongly encouraged to investigate the IRISS VPFR series of Industrial-Grade Infrared windows which are specifically designed for stability in harsh industrial environments.



Specifications

Materials	
Window housing and cover	UL 94 5VA Nylon ("switchgear-grade plastic"); -40°C (-40°F) to 273°C (523°F)
Optic	Calcium Fluoride Crystal (other crystal options also available) -100°C (-148°F) to 1400°C (2555°F)
Gaskets	UL 94 5VA TPE; -40°C (-40°F) to 273°C (523°F)
Hardware	316 stainless steel
Other	
Useful temperature rating	-40°C (-40°F) to 200°C (392°F)
Water and dust ingress	IP65 / NEMA 4: closed and when in use

Dimensions

Model	Body Diameter	Viewing Area Diameter	Assembly Thickness
VPFC-50	9.1 cm (3.6 in)	5.1 cm (2.0 in)	2.6 cm (1.0 in)
VPFC-75	12.1 cm (4.8 in)	7.6 cm (3.0 in)	2.6 cm (1.0 in)
VPFC-100	15.1 cm (5.95 in)	10.2 cm (4.0 in)	2.6 cm (1.0 in)

Ordering information

Order #	Description	Price
VPFC-50	Research-grade infrared window: 5.1cm (2.0 in) diameter viewing area	POA
VPFC-75	Research-grade infrared window: 7.6 cm (3.0 in) diameter viewing area	POA
VPFC-100	Research-grade infrared window: 10.2 cm (4.0 in) diameter viewing area	POA

POA, Price On Application

VPFC Features

- Transparent crystal allows for visual inspection (however does not meet impact requirements of IEEE for medium and high voltage switchgear)
- Compatible with all models of infrared cameras
- Ultraviolet transmission compatible with all models of corona cameras
- Housing made of switchgear-grade plastics: insulated to 30kV/mm, non-conductive, and UL94 compliant

Certifications

- UL 50V
- UL 508A; ANSI UL 508A
- IP65 / NEMA 4
- Lloyds of London Type Approval



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