GMTech Global Maintenance Technologies

Total Engineering Solutions

IRISS®

Infra Red Inspection Support Systems

- Available in, Grill, Fixed or Removable optics
- Simple, permanent installation
- Fitting time approx 10 minutes
- Allows non-intrusive Thermographic inspection with no down time
- 7 types of IR viewing materials available dependant on environment, operational and budgetary requirements
- Complete with drilling template, fitting instructions and operator ID labels
- Injection molded plastic construction
- UL 94 5VA flammability rated assembly
- Standard screws fit 5mm thick panel
- Fixed optics IP65 rated at all times- BSEN60529
- Grill option IP65 closed IP2X in use- BSEN60529
- Aluminum assemblies are available on re-

The Professional Thermographers Choice!

Certificate No. FS 58733

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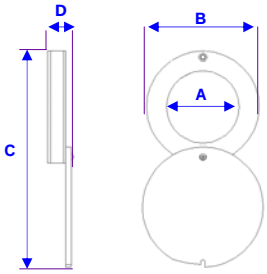
SPECIFICATIONS

DIMENSIONS VP50:

A = 50mm
B = 83mm
C = 151mm
D = 18 mm

Package weight VPF (IR1) = 110g
Package weight VPF (CaF2) = 135g
Package weight VPG (Grill) = 114g



DIMENSIONS VP75:

A = 75mm
B = 112mm
C = 225mm
D = 18 mm

Package weight VPF (IR1) = 216g
Package weight VPG (Grill) = 213g

DIMENSIONS VP100:

A = 100 mm
B = 145 mm
C = 282 mm
D = 20 mm

Package weight VPF (IR1) = 287g
Package weight VPG (Grill) = 283g

FIRST STEP, CHOOSE AN IR MATERIAL THAT SUITS YOUR REQUIREMENTS.

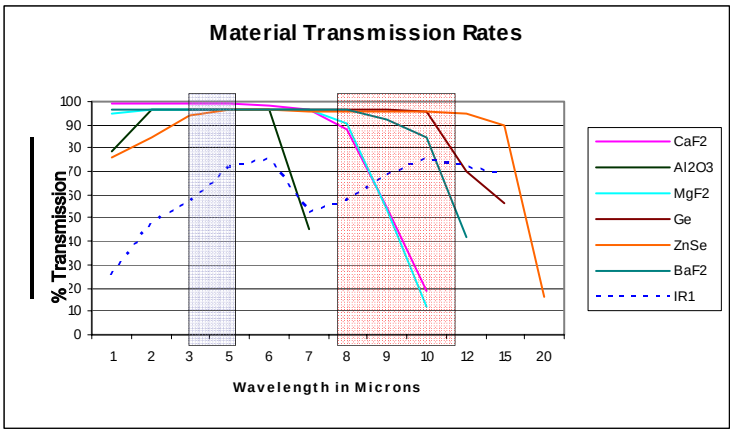
The first item that must be addressed is determining which waveband you will operate in. As you can see from the chart below there are a few choices for long wave (8 – 14 µm) but there are several for short wave (3 – 5 µm) cameras. From the transmission chart (below) it can be seen that the materials vary considerably in material properties and points to other areas that have to be considered such as:

Environmental Considerations:

Is the window for indoor or outdoor use? Will it be submitted to severe environmental conditions? (UV, Gamma radiation, rain, snow, sea water, extreme temperatures, etc)

Operational Considerations:

Some materials are less robust than others, the Knoop hardness number indicates the resistance to local penetration. Rugged materials such as Sapphire (Al2O3) have a high number; fragile materials like Barium Fluoride have a low number. Therefore operators must give serious consideration to the operating environments in which they intend to use IR windows as choosing the wrong material would be a very costly exercise!!



The above graph demonstrates the transmission rates of the materials that we use in the manufacture of our infra red window systems and where they fall into the LW and SW infrared wavelengths.

Your Local Agent is:

IRISS RANGE COMPRISES OF:

VPF: Fixed Optics

Where the dielectric clearances between the live components and panel covers are to close for the VPR– Range we only use and recommend the VPF fixed optics option. With several grades of optics materials available we are able to tailor your system to your operational and budgetary requirements.

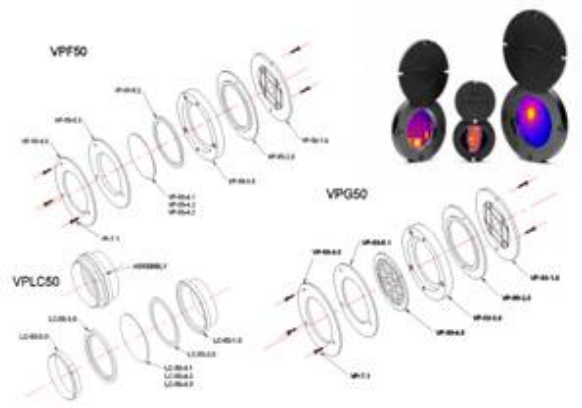
VPG: IP2X Grills

Where there is no risk to the camera operator of electric shock or flash over, we have a viewing port with no crystal. The VPG has a viewing grill rather than a viewing crystal this grill allows full access for an image to be taken but protects the panel from objects falling into the component during the inspection.
Additional benefits are that there are no requirements for a thermographer to make any adjustments to the camera for the transmission rates of the optics.

VPR & VPLC: Removable Optics and Lens Carrier

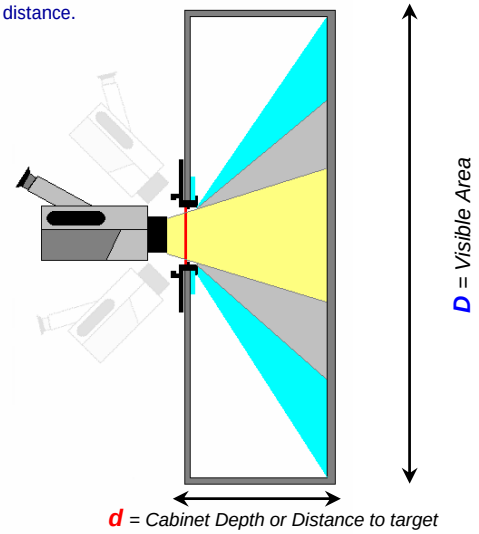
Where the dielectric clearances between the live components and panel covers allow we have devised viewing ports that have a removable crystal, thus offering significant savings as only one crystal will be required per camera, regardless of how many windows are fitted, this allows the operator to use the best materials on the market, together with the additional benefits that they bring at a fraction of the cost.

NOTE:
We recommend a minimum of twice the panel's safe minimum dielectric clearance before consideration is given to using the VPR system.
NOTE:VP50 system Shown below



Field of View

The window diameter needed is a function of the lens field of view and the distance from the window to the component in which the thermographer needs to see. Traditionally the total field of view is calculated by multiplying two times the tangent of one half the angle multiplied by the distance.



REMEMBER

Under no circumstances should any IR window be fitted within the following minimum dielectric clearances!

5 Kv Equipment no less than 4 inches!!
15 Kv Equipment no less than 6 inches!!

Under no circumstances can the minimum clearances be compromised