

### 12. FITTING YOUR IRISS IR WINDOW LABELS:

It should be noted that there may be multiple targets through the IR viewing window, these need to be recorded on the thermographers label, the most common method of locating the targets required is by using the clock face method, i.e. bus bar connections at 4 O'clock, etc. This data can all be placed on label, an examples of a completed label is shown below in Fig 14.



### 13. TRANSMISSION RATES:

Below is the infrared transmission rates for the VPFR Polymer based Viewing Panes, VPFC Crystal based Viewing Panes and the VPG infrared grill ranges of products. You must insert the data into the thermographers label that corresponds with the IRISS product that you are using.

#### IR Viewing Pane Transmission Rates

VPFR Range:- MWIR = 0.50 LWIR = 0.57

VPFC Range:- MWIR = 0.79 LWIR = 0.49

VPC Range:- MWIR = 0.92 LWIR = 0.55

*Note: The IR wavelengths used for the transmission rate calculations are SWIR= 4 Microns and LWIR = 9 Microns.*

#### IR Viewing Grill Transmission Rates

VPG Range:- MWIR = 0.85 LWIR = 0.85

Note: more information on infrared transmission rates is available at: [www.iriss.com/materials.php](http://www.iriss.com/materials.php)

### 14. FIELD OF VIEW:

Below is a field of view matrix showing what can be seen through the IRISS VP range of infrared viewing panes. This matrix is a guide only and is based on an IR camera that has a standard 24 degree lens with a lens diameter of 2 inches with a maximum viewing angle of 30 degrees in the horizontal and vertical. All dimensions are in inches.

IR Target Distance	VP50 FOV	VP75 FOV	VP100 FOV
8 inches	Hor= 13.2 Ver= 9.9	Hor= 16.2 Ver= 12.9	Hor= 19.2 Ver= 15.9
12 inches	Hor= 18.0 Ver= 13.5	Hor= 21.0 Ver= 16.5	Hor= 24.0 Ver= 19.5
18 inches	Hor= 25.0 Ver= 18.75	Hor= 28.0 Ver= 21.75	Hor= 31.0 Ver= 21.75
24 inches	Hor= 31.5 Ver= 24.0	Hor= 34.5 Ver= 27.0	Hor= 37.5 Ver= 30.0

Note: more information on field of view is available at: [www.iriss.com/field\\_of\\_view.php](http://www.iriss.com/field_of_view.php)

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## IRISS VP Series Infrared Window INSTALLATION INSTRUCTIONS



The following instructions are for the installation of the IRISS VP Range of infrared inspection viewing panes and grills. These instructions should be read and understood completely before starting the installation of the infrared viewing pane assembly. All the tools, items and accessories shown in these instructions are available directly from IRISS inc. Further information or assistance is available at:

Web: [www.iriss.com](http://www.iriss.com)  
Email: [support@iriss.com](mailto:support@iriss.com)  
US Toll Free: (877) 704-747  
International: +1 (941) 907-9128

## 1. GETTING STARTED:

Before starting you should ensure that you have all the tools and equipment required to successfully complete the installation. The holes can be cut using either a rotary cutter or punch set incorporating either an electric or hydraulic ram.

### Tool Requirements:

- Correct Size Hole Saw / Hole Punch
- Electric Drill
- Cone Drill
- 7 MM (9/32") Drill Bit
- Centre Punch
- De-burring Tool / File



### PPE Requirements:

- Safety Glasses
- Working Gloves (recommended)
- Comply with all site PPE Requirements

All tools and equipment required for the installation of IRISS infrared inspection panes are available from our website.  
For more information email: [sales@iriss.com](mailto:sales@iriss.com)

## 2. CHECK THE CONTENTS:

Check the contents of your IRISS unit, this would have arrived packaged in either a box or a bubble wrapped bag; each unit contains the following:

- 1 x Complete IRISS VP Unit
- 1 x Fitting Template (Fitting instructions on rear)
- 1 x Instruction for Use Label
- 1 x IR Target ID Label
- 1 x Additional Screw-pack



## 3. FITTING THE CUTTING TEMPLATE:

Once you have decided on the location that you wish to fit the IRISS VP Unit, you will need to apply the supplied cutting template to the side of the panel where the window is to be fitted (Fig 3).



NOTE: Advice on how to locate and site IR viewing panes and electronic copies of all cutting templates including cad files can be download from our website:  
[www.iriss.com/fitting\\_instruc.php](http://www.iriss.com/fitting_instruc.php)

## 4. CENTRE-PUNCH HOLES:

Centre-punch holes using a centre-punch; mark all the fixing holes and the centre hole for the rotary cutter or hole-punch assembly pilot drill



## 5. DRILL FIXING HOLES:

Using a 7 mm (9/32) drill bit to drill the fixing holes and pilot hole for the chosen hole cutter. (Fig 5 & Fig 6)



IRISS UNIT	FIXING HOLES
VP12	THREE
VP-50	THREE
VP-75	FIVE
VP-100	SIX

## 6. CENTRE HOLE SIZES:

The table below details the hole size required for each of the IRISS VP range of infrared inspection panes.

IRISS UNIT	HOLE SIZE mm	HOLE SIZE inches
VP12	30 mm	1 1/8
VP-50	50 mm	2.0
VP-75	75 mm	3.0
VP-100	100 mm	4.0

## 7. ROTARY HOLE CUTTER DETAILS:

IRISS UNIT	ROTARY CARBIDE CUTTER DETAILS
VP12	CHAMPION CT5-1 1/8
VP-50	CHAMPION CT5-2
VP-75	CHAMPION CT5-3
VP-100	CHAMPION CT5-4



## CUTTING SPEED RECOMMENDATIONS:

SIZE mm (inches)	STEEL (RPM)	ST/STEEL (RPM)
30 mm (1 1/8")	500—800	200—450
50 mm (2.0")	200—500	120—225
75 mm (3.0")	150—300	80—150
100 mm (4.0")	100—200	60—120



\* For best performance we recommend 1/2" corded power tools

## 8. HOLE PUNCH DETAILS:

IRISS UNIT	HOLE PUNCH DETAILS
VP12	GREENLEE 730BB -1-1/8
VP-50	GREENLEE 730BB -2
VP-75	GREENLEE 730BB -3
VP-100	GREENLEE 730BB -4



## 9. CUTTING CENTRE HOLE :

Cut the correct size hole using your chosen method (rotary or electro/hydraulic punch); Fig 7 shows hole being cut using an hydraulic punch set.



Once you have cut the hole size to the correct diameter, de-burr, remove any metal shavings and the remaining portion of the cutting template. (Figs 8 & 9)



Finally treat all bare metal surfaces with an protective anti-corrosion coating (paint, sealer, etc...). This will ensure that the infrared viewing pane seals are not effected by long term corrosion and protect the integrity of the panel.



## 10. FITTING YOUR IRISS IR WINDOW :

Once the hole cutting has been completed as described in Section 8 your IRISS infrared viewing pane can be fitted.

- Remove the back plate from the IRISS Unit
- Place the body of the unit complete with seals on the front of the panel
- Place the back plate inside the panel and fit the screws through the back plate into the body of the IRISS unit. (Fig 10)
- Tighten screws to 5 nm (3.7 Lb/ft). This equates to fully hand tight using a Pozi-drive screwdriver. (Fig 11) You're IRISS infrared inspection viewing pane is now ready for use.



## 11. FITTING YOUR IRISS IR WINDOW LABELS:

Ensuring that you IR Viewing Pane is correctly labelled is essential... without the correct information it will not be used to its full effect. Each IRISS VP Unit is supplied with two labels; the first is an instruction for use label (Fig 12), this should be placed next to the window (Fig 13) this details the steps to be taken to ensure the unit is used correctly.



The second label is for the use of the thermographer (Fig 14). this label allows the thermographer to note the number of targets, emissivity of the targets, transmission rates of the viewing pane or grill, etc....