HVIR WINDOW TYPE C

The range of HVIR expands with a new window in order to adapt to the hardest conditions. HVIR.85 TYPE 21C and HVIR.105 TYPE 22C fitted with Germanium crystal with DLC (HARD CARBONE) coating on external face and AR (ANTI-REFLECTING) coating on internal face offer a very good transmission and a higher resistance to environment.

It is an ideal product for the most severe conditions (possibility of using wiper – see standard) of maritime, metallurgical industries.

Derived from the same range which makes its success and its lifetime, types 21C and 22C assemble and install respectively as type 21 and 22.


THE WINDOW COMPRISES :

1) Tightened protection cap, equipped with sealing gasket and magnet.

2) Frame.

3) Optical window transparent to IR radiations covering the wavelengths of work.

4) Outer sealing gasket.

5) Inner self-adhesive flat gasket.

6) Fastener ring.

CHARACTERISTICS :

➢ Use from 7 µm à 14 µm (90%)

   ➢ UV sensitivity : none

   ➢ Optical component quality :
      Parallelism : < 3 µm
      Flatness : 5(2)
      Surface condition : P4 (S/D : 20/40)

➢ Operating temperature: -40°C +70°C

➢ Electric insulation of the frame :

   • 4 x 10^{15} ohms cm2/m at 20 °C
   • 8 x 10^{15} ohms cm2/m at 100 °C

TRANSMISSION CURVE : IR
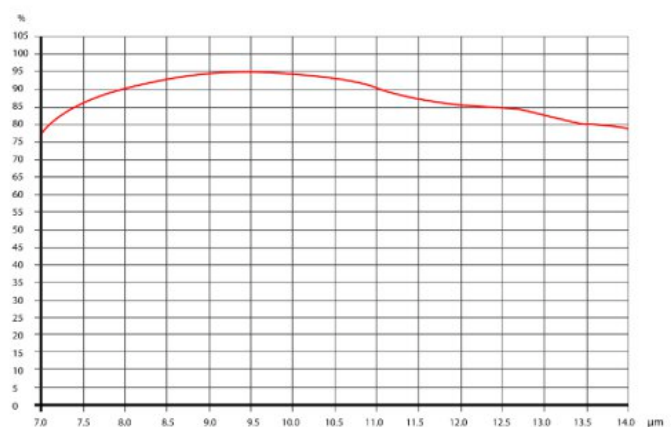
QUALIFICATIONS :

❖ **International standards**

The H.VIR® windows are conformed to:

- CEI 60529 standard
  Water and dust penetration:

  - IP67 code : **LCIE** (2008)

- To CEI 62262 standard
  Mechanical impact

 - IK 07 code : **LCIE** (2008)

    IP 67 Qualification

- CEI 60255-21-1 and CEI 60255-21-3 standards

  - Vibration and seism categories (severity class: 1) : **CETIM** (2008)

- To NEMKO (Norway) standards :

  - NEK- EN 60439-3 and NEK 511(18b-18c) (April 96)

- **UL certification** (2008) :
  USR and CNR recognized

STANDARDS OF COATING :

Environmental

|		
Adhesion	MIL-C-48497A, 08/09/1980, §4.5.3.1	Tape test
Humidity	MIL-C-48497A, 08/09/1980, §4.5.3.2	24hrs, 49°C, 95-100% relative humidity
Abrasion	TS1888, 01/07/1979, §5.4.3	10,000 wipes with windscreen wiper in water/sand slurry
Salt Spray	MIL-C-675C, 22/08/1980, §4.5.9	200 hrs salt spray fog exposure
Salt Solution	MIL-C-48497A, 08/09/1980, §4.5.5.2	24 hrs immersion in salt water
Solubility	TS1888, 01/07/1979, §5.2.2.1	28 days immersion in water

SIZES:

** Vision
E = Plate thickness
F = Threading lenght
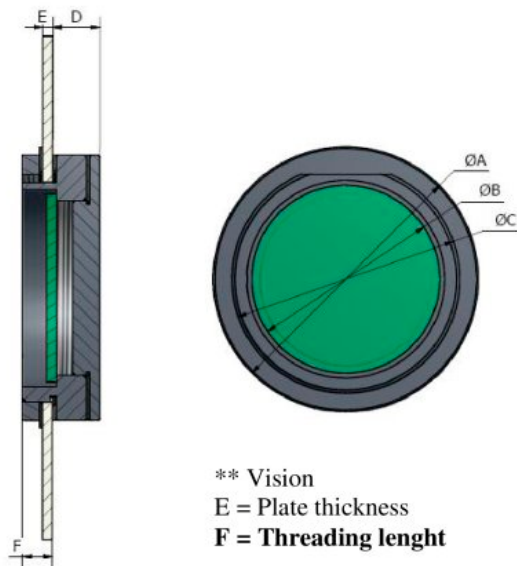
	H.VIR® 85 type 21C	H.VIR® 105 type 22C
Ø A	99 mm	133 mm
Ø B**	71 mm	95 mm
Ø C	M88 x 2	M113 x 3
D	14 mm	14 mm
Crystal thickness	3.50 mm 0/+0.1	4 mm 0/+0.1
Standard version : 0 mm < E ≤ 8 mm	**F = 15 mm**	**F = 15 mm**
L2 version : 8mm < E ≤ 12 mm	**F = 20 mm**	**F = 20 mm**

INSTALLATION

The installation process consists of the following steps:

➢ **Preliminary analysis** :

- Identifying the areas to be checked.

- Defining the location and number of H.VIR observation windows taking account the field of vision
  and the capacities of the camera being used.

- Recording the thickness of metal sheeting on which windows will be placed. In the event that they are higher than 8 mm, two versions of threading are available as an option :

- Reference L2: 20 mm threading length
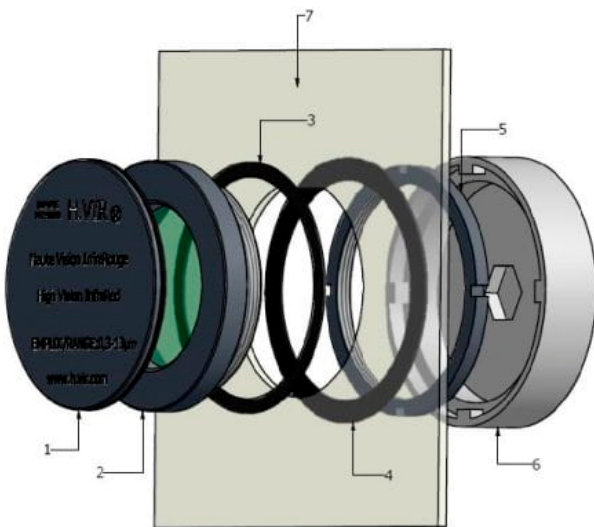
Preparation :

Using the provided drilling plan :

- According to the defined diameter of each window, make an opening in the panel using a GREENLEE style cutter or by laser and water spray, following the drawings provided.
- Affix self-adhesive flat gasket n°4 to inner side of panel n° 7.
- Ensure that the cap n°1 is tightly screwed onto the frame n°2.
- Place the frame n°2 to the front surface (take care that the flat sealing gasket n°3 is in place on the frame).
- Tighten the nut n°5, in reversed clockwise mode, using a specific key n° 6 adaptable to all dynamometric wrenches.
- Coupling must be :

   H.VIR® 85 - H.VIR Exr® : 65 Nm or 6.5 Kg
   H.VIR® 105 : 80 Nm or 8 Kg

   Note *: This operation needs only ten minutes per window.*

USE : Metallurgical Industry – High Furnaces Control (Molten Metal)