



GV Standard X-Vent

Operation and Maintenance Manual

"Technical experts in the design, manufacture and supply of precision engineered, architectural rooflights for residential and commercial buildings."



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Introduction

Thank you for purchasing a Glazing Vision X-Vent (*Figure 1*). The X Vent is available in standalone Solo and Integrated formats. The X Vent is a safety critical product. It has been designed and tested to BS EN 12101-2:2003. As such it should provide years of trouble free service with minimal maintenance.



Figure 1 – X-Vent

Controls and Operation

Control Switch:

The standard operation of the unit is via the supplied wall switch (*Figure 2*) and can be operated using two different methods as explained below:

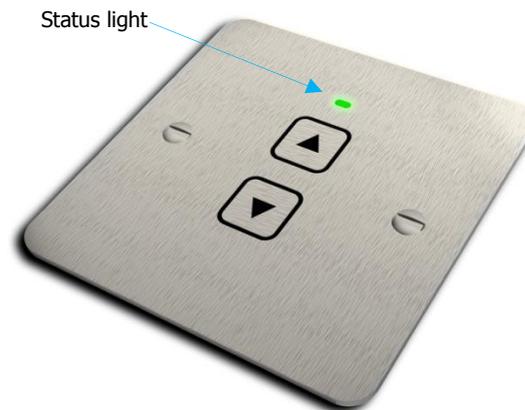


Figure 2 –Wall mounted control switch

1. **'One touch' operation** – Press and release the control switch once in either the up or down direction; the rooflight will open or close fully. Partially open positions can be achieved by pressing the control switch again during the open or close cycle.
2. **Conventional 'hold' operation** – Press and hold the control switch until the rooflight has reached the desired position, releasing the switch stops the rooflight in that position. Note: the rooflight will stop when it becomes either fully open or closed.

Status Light:

The status light will illuminate green if the rooflight is functioning normally. If the status light displays another colour please refer to the troubleshooting section.

Fire alarm system (Mandatory)

The X Vent is supplied with a trailing cable for connection to an external fire alarm system. It is the fire alarm that will trigger the X Vent to open to the Fire Open position (see Basic X-Vent Operation).

Remote Control (Optional):

The remote control unit (*Figure 3*) functions in the same way as the control switch but allows you to open and close your rooflight from a short range. The remote control is powered by two AA batteries.

To replace the batteries, remove the small hex screws found on the rear of the remote to allow access inside (*please note there is a free end wire antenna coiled within the remote*).



Figure 3 – Remote control

Rain Sensor Operation (Optional):

The rain sensor (*Figure 4*) automatically closes the rooflight when it rains. If moisture is detected on the rain sensor when rooflight is opened, a special built in heater activates for 60 seconds to evaporate standing water. If after 60 seconds water is still detected, the rooflight will close. This feature enables the rooflight to differentiate between rain and standing water / morning dew.



Figure 4 - Rain sensor

Security System Connection (Optional)

The X Vent can be supplied with a cable for connection to an external security system as an optional extra. The cable is connected to a micro switch mounted inside the X Vent. The switch closes when the lid is in the closed position.

Building Management (Optional):

The X-Vent can be connected to building management systems. Please contact Glazing Vision Ltd for further details if required.

Basic X-Vent Operation

The X-Vent has three prime positions; closed, vent open and fire open. These correspond to 0°, 45° and 140° lid openings respectively. Under normal operating conditions the X Vent will travel between the vent open and closed positions. It can be stopped in any intermediate position and will respond to the full range of input controls listed above. This means that the X-Vent will not open beyond 45° under the control of the wall mount control switch.

The X-Vent is fitted with an ambient air temperature sensor as standard. This sensor serves as a backup to the fire alarm system. If the sensor detects ambient air temperature of 72°C it will trigger fire behaviour. Fire alarm activation will also trigger fire behaviour.

Under fire conditions the X-Vent will immediately respond by travelling to the fire open position. This will happen regardless of the status of any of the other control devices. Whilst the fire conditions are held the X-Vent will remain in the fire open position and will ignore all other input devices.

Control will be returned to the wall mounted control switch after a 180 second delay, the temperature sensor is below the trigger point and the fire alarm input is inactive.

On resetting the fire alarm, if the temperature sensor is below its trigger point control is returned to the wall mounted control switch.

Once the X-Vent has been manually closed beyond the vent open position (i.e. to an angle less than 45°) control is returned to all system inputs. Hence recovery from fire alarm activation must be by manual operation, and closure can be in 'stages' i.e. the rooflight can be closed in a series of close operations.

Back up Battery

The X Vent has a back-up battery housed inside its base. Under normal conditions the control board will trickle charge the battery which is isolated from electrical loading. Only when the incoming supply to the control board is lost will the battery will be switched in automatically.

When operating under battery all appropriate system inputs will be allowed to close the X Vent. Once closed, or if already closed, the X-Vent will only open under fire behaviour.

Whilst running from the battery the X-Vent will emit a periodic audible warning. Battery operation is also indicated by a flashing red LED on the wall mounted control switch. The LED will flash when the switch is pressed in either open or close directions.

A continuous red LED indicates that the battery is at low level. See section on troubleshooting.

Routine Testing

As the X-Vent is a safety critical product it is anticipated that it will be subject to a regular testing regime. This is the reason why, following fire activation, it has been made necessary to close the X-Vent manually using the wall mounted control switch. In this way it is possible to walk to each X-Vent in the property, confirm that it has opened to the fire open position, and then check that the X-Vent closes with no faults present (i.e. green LED on wall mounted control switch).

Cleaning the X-Vent

Due to the X-Vent's unique bonding method and the slight pitch built into the kerb, there should be no water ponding on the glass when installed correctly. Any standard glass cleaning product can be used to clean the glass unit. However take care not to use abrasive materials or cleaners as this may affect the unit and its finish. The framework of the unit can be cleaned using warm soapy water with a soft lint free cloth.

It is important to avoid getting water into the internal channel of the rooflight framework. Therefore we highly recommend carrying out any cleaning of the rooflight whilst in the closed position.

Troubleshooting

The X-Vent control board monitors the operation of the vent. If a fault is detected, the board will disable the vent to prevent possible damage. Fault and standard conditions are indicated by the status light on the control switch (*Figure 2*). The following table shows the various status light displays and their meanings:

Status light shown	Meaning
Continuous Green	Displayed whilst rooflight is in motion with no faults present. If rooflight is one-touch opened or closed LED will remain lit until motion stops.
Intermittent Green	Flashes whilst rooflight closes due to rain sensor. Flashing will stop when motion stops.
Continuous Blue	Indicates an IO fault, i.e. a mechanism timing fault. LED remains lit and control switch is disabled until control board is reset.
Intermittent Blue	Indicates an overcurrent or undercurrent condition. Flashes and control switch is disabled until control board is reset.

The batteries supplied with the X Vent are sealed and maintenance free with a design life of 12 years. On the basis that the X Vent operation is restricted to fire behaviour while running under battery the low battery state should not arise often. If the low battery state persists for more than 24 hours please contact Glazing Vision to arrange for replacements to be fitted.

Standard Glass Specification and Breakage Instructions

Glass Specification

The standard glass used within the Skydoor comprises a 6mm HST toughened outer pane, a 20mm warm edge spacer argon filled black silicone sealed cavity and a 4mm HST soft coat Low E toughened inner pane. However various options are available at time of order. If specific data is required for the glazing please contact Glazing Vision for a glass data sheet for the specification installed within your rooflight.

Breakage Instructions

Should the double glazed unit break for any reason, due to the unique method of bonding the glass unit into the frame, a new lid would need to be supplied. Glass breakage is not covered under the product warranty unless the breakage is a direct result of Glazing Vision Limited or its product failing. In the event of the glass being damaged please contact Glazing Vision for assistance.

COSHH and Safe Disposal

There are no hazardous materials used in the construction of the Skydoor. Wherever possible when disposing of the Skydoor recycle as much as possible. Do not burn any plastic materials. The following materials are used throughout the Skydoor:

Framework

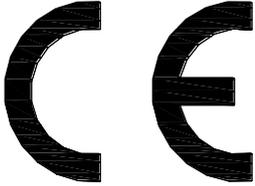
- Aluminium extrusion
- Aluminium corner brackets
- Polyester powder coated finish
- Acrylic adhesive (corner joints)
- Low modulus silicone
- Foam tape
- EPDM rubber gaskets
- Polyamide thermal break strips
- Silicone rubber seal
- Toughened glass panes
- Aluminium spacer bar

Mechanisms and control

- Stainless steel fixings
- Aluminium extruded mechanism base plate
- Acetal lead screw guide
- Mild steel linkage arms
- Stainless steel lead screw
- Aluminium oldham coupling
- Ultramid nylon electrical connectors
- Bronze lead screw block inserts
- Natural rubber bump stop
- Printed circuit board
- Rubber sealed deep groove ball bearings
- Copper wiring
- Electric motor (various)
- Limit switches (various)
- Standard insulated spade terminals
- ABS electrical enclosure
- SPST rocker switch
- Acetal slide bracket

Certification

Following the certification of the X Vent and in accordance with the requirements of BS EN 12101-2:2003, this label will be affixed to each X Vent supplied by Glazing Vision.

 <p data-bbox="764 701 823 725">1720</p> <p data-bbox="860 504 1050 528">Date of Dispatch:</p> <input data-bbox="842 539 1083 589" type="text"/> <p data-bbox="860 629 1027 654">Serial Number:</p> <input data-bbox="842 663 1083 712" type="text"/>
<p data-bbox="504 757 1110 875">X Vent – A Natural Heat and Smoke Exhaust Ventilator Glazing Vision Ltd., Saw Mills Road, Diss, Norfolk IP22 4NX, UK 1720-CPD-0037</p>
<p data-bbox="700 920 932 945">EN 12101-2:2003</p> <p data-bbox="568 983 1064 1070">Aa = max 0.6m²; WL 1500; SL 125; T (-15); Re 50; B300; A1 Temperature of thermal initiation device 72°C</p>

Product Warranty

A warranty document will be provided with the rooflight. If this is misplaced it can be found at www.glazingvision.co.uk/resources/warranties/.