

# VELUX solar roof window GGU

**VELUX®**



The VELUX solar, centre-pivot roof window GGU is a wireless solution that makes installation fast and easy. The roof window has an integrated and silent motor. Control is simple – just click on the wall switch. And if it rains, the rain sensor automatically closes the window. Moisture-resistance makes it ideal for kitchens and bathrooms.

- Rain sensor automatically closes the window in the event of rain.
- Solar-powered design delivers all of the benefits of a motorised window without the wires.
- The motor is hidden in the top cover and totally invisible from view.
- Compatible with VELUX ACTIVE with NETATMO for a better indoor climate with sensor-based ventilation. Remote controlled via smartphone or voice.
- Easily control your roof window with the wireless wall switch that offers simple open/close/stop functionality.
- Silent motor keeps rooms quiet for sleeping children or simply for improved well-being.
- Entrapment control detects objects in the path of the window.



## Application guidance

The window can be installed in roof pitches between 15° and 90° to the horizontal.



VELUX electric and solar roof windows are easily operated by a wireless wall switch, providing fresh air at the touch of a button. Perfect for both within-reach and out-of-reach applications where extra comfort and convenient operation is required. For optimum daylight, choose larger windows for lower roof pitches.

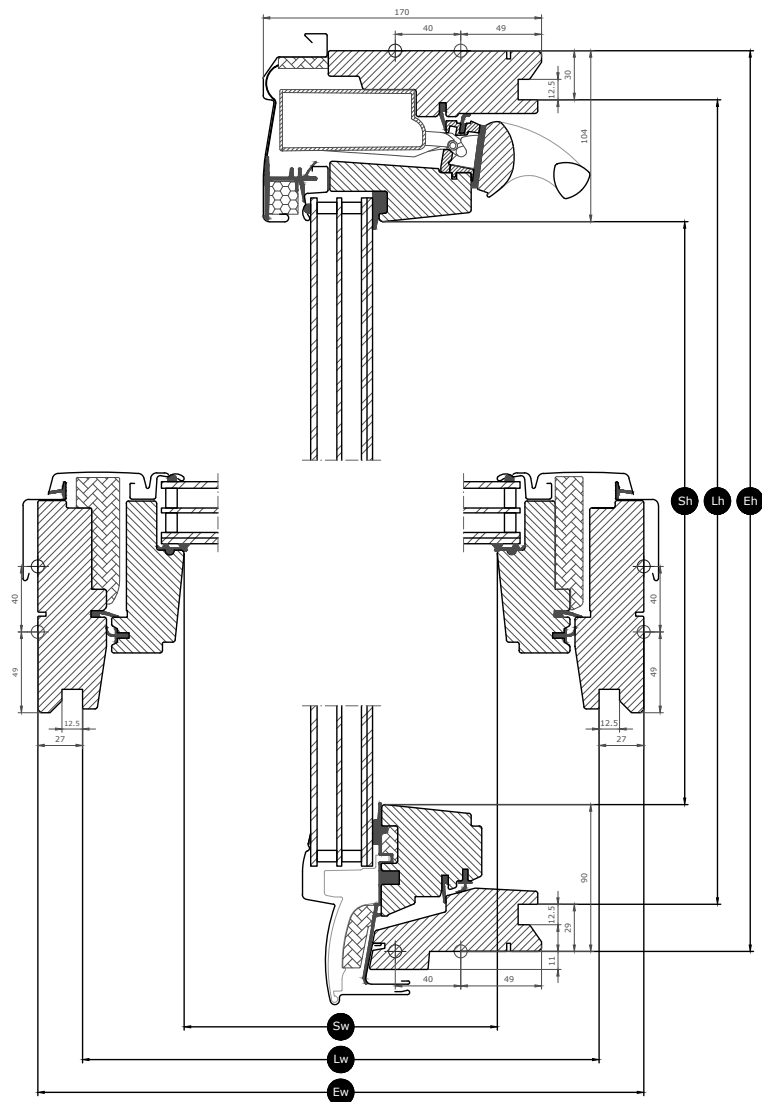
## Available sizes and daylight area

The size overview shows the availability across the different glazing variants. Please note that the individual glazing variant may not be available in all the sizes shown.

|      | 550                                 | 660                                 | 780                                 | 942                                 | 1140                                | 1340                                |
|------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 778  | GGU<br>CK02<br><br>(0.22)<br>[0.10] |                                     |                                     |                                     |                                     |                                     |
| 978  | GGU<br>CK04<br><br>(0.29)<br>[0.20] | GGU<br>FK04<br><br>(0.38)<br>[0.24] | GGU<br>MK04<br><br>(0.47)<br>[0.28] |                                     |                                     | GGU<br>UK04<br><br>(0.91)<br>[0.47] |
| 1178 | GGU<br>CK06<br><br>(0.37)<br>[0.20] | GGU<br>FK06<br><br>(0.47)<br>[0.24] | GGU<br>MK06<br><br>(0.59)<br>[0.28] | GGU<br>PK06<br><br>(0.75)<br>[0.33] | GGU<br>SK06<br><br>(0.95)<br>[0.39] |                                     |
| 1398 |                                     | GGU<br>FK08<br><br>(0.58)<br>[0.24] | GGU<br>MK08<br><br>(0.72)<br>[0.28] | GGU<br>PK08<br><br>(0.92)<br>[0.33] | GGU<br>SK08<br><br>(1.16)<br>[0.39] | GGU<br>UK08<br><br>(1.40)<br>[0.46] |
| 1600 |                                     |                                     | GGU<br>MK10<br><br>(0.85)<br>[0.28] | GGU<br>PK10<br><br>(1.07)<br>[0.34] | GGU<br>SK10<br><br>(1.35)<br>[0.40] | GGU<br>UK10<br><br>(1.63)<br>[0.46] |

All measurements are in mm. ( ) = Effective daylight area, m<sup>2</sup> [ ] = Geometric free area, m<sup>2</sup>










## Cross section dimensions



| Width |  | CK-- | FK-- | MK-- | PK-- | SK-- | UK-- |
|-------|--|------|------|------|------|------|------|
| Sw    | Sash aperture width                    | 371  | 481  | 601  | 763  | 961  | 1161 |
| Lw    | Distance between lining grooves, width | 495  | 605  | 725  | 887  | 1085 | 1285 |
| Ew    | External frame width                   | 550  | 660  | 780  | 942  | 1140 | 1340 |

| Height |   | --02 | --04 | --06 | --08 | --10 |
|--------|---|------|------|------|------|------|
| Sh     | Sash aperture height                    | 584  | 784  | 984  | 1204 | 1406 |
| Lh     | Distance between lining grooves, height | 719  | 919  | 1119 | 1339 | 1541 |
| Eh     | External frame height                   | 778  | 978  | 1178 | 1398 | 1600 |

## Glazing features


|                            | Glazing 66SG | Glazing 67 | Glazing 69 | Glazing 68 | Glazing 70 |
|---|--------------|------------|------------|------------|------------|
| <br>Solar protection       | ★★★★☆        | ★★★★☆      | ★★★★★      | ★★★★☆      | ★★★★☆      |
| <br>Security               | ★★★★☆        | ★★★★☆      | ★★★★☆      | ★★★★☆      | ★★★★☆      |
| <br>Safety lamination      | ✓            | ✓          | ✓          | ✓          | ✓          |
| <br>Toughened glass       | ✓            | ✓          | ✓          | ✓          | ✓          |
| <br>UV filter            | ✓            | ✓          | ✓          | ✓          | ✓          |
| <br>Rain noise reduction | ✓            | ✓          | ✓          | ✓          | ✓          |
| <br>Easy-to-clean        | ✓            | ✓          |            |            |            |
| <br>Anti-dew             | ✓            | ✓          |            |            |            |

### Glazing structure

| Glazing variant | Glazing unit  | Variant composition  |
|-----------------|---------------|--|
| Glazing 66SG    | Triple-glazed | 6.8mm laminated float glass - 13mm Argon - 3mm heat strengthened glass - 13mm Argon - 4mm toughened glass          |
| Glazing 67      | Triple-glazed | 6.8 mm laminated float glass - 12 mm Krypton - 3 mm heat strengthened glass - 12 mm Krypton - 4 mm toughened glass |
| Glazing 69      | Triple-glazed | 6.8mm laminated float glass - 13mm Argon - 3mm heat strengthened glass - 13mm Argon - 4mm toughened glass          |
| Glazing 68      | Triple-glazed | 6.8 mm laminated float glass - 13 mm Argon - 3 mm heat strengthened glass - 13 mm Argon - 4 mm toughened glass     |
| Glazing 70      | Double-glazed | 6.8 mm laminated float glass - 16 mm Argon - 4 mm toughened glass  |

## Technical values for the window

Overview of technical values for the product, covering among other, CE marking in accordance with EN 14351-1.

|  | Glazing 66SG             | Glazing 67                | Glazing 69               | Glazing 68               | Glazing 70               |
|---|--------------------------|---------------------------|--------------------------|--------------------------|--------------------------|
|   | Performance              |                           |                          |                          |                          |
| <b>Thermal transmittance</b>  | 1.0 W/(m <sup>2</sup> K) | 0.88 W/(m <sup>2</sup> K) | 1.1 W/(m <sup>2</sup> K) | 1.1 W/(m <sup>2</sup> K) | 1.3 W/(m <sup>2</sup> K) |
| <b>Light transmittance</b>  | 0.62                     | 0.62                      | 0.57                     | 0.68                     | 0.68                     |
| <b>Total solar energy transmittance</b>   | 0.44                     | 0.44                      | 0.27                     | 0.49                     | 0.46                     |
| <b>Sound insulation</b>   | 37(-2;-4)                | 38(-2;-5)                 | 35(-1;-3)                | 35(-1;-3)                | 35(-1;-3)                |
| <b>Air permeability</b>   | 4 (PK10: 3)              | 4 (PK10: 3)               | 4 (PK10: 3)              | 4 (PK10: 3)              | 4 (PK10: 3)              |
| <b>External fire performance - British</b>  | AC                       | AC                        | AC                       | AC                       | AC                       |
| <b>External fire performance - European</b>                                       | npd                      | npd                       | npd                      | npd                      | npd                      |
| <b>Impact resistance</b>  | 3                        | 3                         | 3                        | 3                        | 3                        |
| <b>Load-bearing capacity of safety devices</b>                                    | ✓                        | ✓                         | ✓                        | ✓                        | ✓                        |
| <b>Reaction to fire</b>   | D-s3,d2                  | D-s3,d2                   | D-s3,d2                  | D-s3,d2                  | D-s3,d2                  |
| <b>Resistance to snow load</b>  | **                       | **                        | **                       | **                       | **                       |
| <b>Resistance to wind load</b>  | C3 (>SK08: NPD)          | C3 (>SK08: NPD)           | C3 (>SK08: NPD)          | C3 (>SK08: NPD)          | C3 (>SK08: NPD)          |
| <b>Water tightness</b>  | E900                     | E900                      | E900                     | E900                     | E900                     |

Resistance to snow load = \*\* See glazing composition

NPD: No performance determined

## Interior finish

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| Material Description                   | White maintenance-free<br>Finished with polyurethane lacquer. |
|--|---|
| Colour code NCS, inner surface         | S 0500-N  |
| Colour code nearest RAL, inner surface | 9003  |

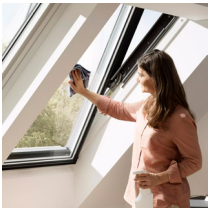
## Exterior covers

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| Material Description                   | Aluminium, dark grey<br>Dark grey | Titanium zinc  | Untreated copper |
|--|-----------------------------------|----------------|------------------|
| Colour code NCS, outer surface         | S 7500-N                          | No colour code | No colour code   |
| Colour code nearest RAL, outer surface | 7043                              | No colour code | No colour code   |

## Cleaning and maintenance

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To clean the outer glass surface from the inside, rotate sash manually and secure in cleaning position with barrel bolts.



VELUX repair and maintenance kits are available.

## Guarantee period

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All electrical components have a 3 year guarantee period. The full terms and conditions of the VELUX Product Guarantee are available on our website [www.velux.co.uk](http://www.velux.co.uk) or [www.velux.ie](http://www.velux.ie)

## Flashings and installation products

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### **Flashings**

Install the VELUX roof window in virtually any roofing material by using genuine VELUX flashing solutions. Our flashings are designed specifically for the exact size and shape of the roof windows to create perfect, watertight fit. Flashings can also be used to combine multiple roof windows.

### **Installation products**

Ensure a proper installation and an air- and watertight connection between the window and roof with VELUX installation products. All installation products are designed to perfectly fit the roof window for a reliable and durable result.

## Blinds, awnings and shutters

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Complete the VELUX roof window installation with roller shutters and awning blinds for heat protection and interior blinds for light dimming, blackout and insect protection. Choose from a wide range of manually operated or remote-controlled products that are made to fit the particular window type and size. Please contact your local VELUX sales company for more details about compatibility.

## Further information

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We reserve the right to make technical changes.

For more information on our products, please visit <https://www.velux.co.uk> or <https://www.velux.ie>.

## Technical information

|                                      |                                    |   |
|--------------------------------------|------------------------------------|---|
| <b>VELUX solar roof window GGU</b>   | <b>Installation and use</b>        | <p>The window is classified in protection class IP44. The window operator is hidden in the top cover and functions at temperatures between -10 °C and +60 °C.</p> <p>Installation in rooms with a high level of humidity must comply with relevant regulations (contact a qualified electrician if necessary).</p>  |
|                                      | <b>Window opening</b>              | <p>The window operator permits a maximum opening of 200 mm within 35 seconds. Due to a shorter chain, small/special window sizes have a different window opening.</p> <p>Window opening for sizes --K01 and --K02 = 135 mm. Window opening for sizes --K25 and --K27 = 38 mm. The chain engages and disengages automatically when the window is closed.</p>   |
|                                      | <b>Compatibility</b>               | <p>The roof window is based on radio frequency (RF) technology, 868 MHz range, and is compatible with other VELUX products with the io-homecontrol® logo.</p> <p>Subsequent installation of VELUX solar roller shutter SSL is possible if the window size code is FK-, MK-, PK-, SK- or UK-. Only these sizes have enough room for the solar cell on the roller shutter top casing. For windows produced after June 2019, installation in windows with size code CK- is also possible.</p> <p>Installation of VELUX solar awning blind MSL-VA requires adaptor plate kit ZOZ 213K. The kit must be purchased separately.</p> <p>Installation of VELUX solar MSL-SA and SSS-SA is possible if the window size is MK-, PK-, SK- and UK-. For sizes CK- or FK-, dual solar switch ZOZ 246 is required.</p> <p>Please note that the roller shutter must be io-homecontrol® labelled to be compatible with the VELUX solar roof window.</p> <p>Interior decoration and sunscreening products can be fitted to VELUX solar GGL and GGU. Please note that if these products are combined with VELUX solar roller shutter SSL or VELUX solar awning blind MSL, the battery recharging capability of the interior solar decoration and suncreening products will be reduced.</p> <p>Connection to non-compatible products may cause damage or malfunction.</p> |
| <b>Pre-paired wall switch</b>        | <b>Connection</b>                  | Powered by the solar panel  |
|                                      | <b>Materials</b>                   | ABS plastic, white (NCS S 1000-N)   |
|                                      | <b>Size and weight description</b> | 8.2 cm x 8.2 cm x 1.7 cm, 0.125 kg.   |
|                                      | <b>Installation and use</b>        | <p>The wall switch is for indoor use only, between a minimum ambient temperature 5 °C and a maximum ambient temperature 45 °C. It can be used in a dry or humid environment (such as a living room or a bathroom).</p> <p>Radio frequency range: 300 m range open field. Depending on the building construction, the indoor range is approximately 30 m.</p>  |
| <b>Integrated rain sensor, solar</b> | <b>Power consumption</b>           | 2 x alkaline AAA (1.5V) batteries<br>Expected battery lifetime: Up to 1 year.   |
|                                      | <b>Materials</b>                   | PC with glass fibre   |
|                                      | <b>Size and weight description</b> | N/A   |
| <b>Solar panel</b>                   | <b>Power consumption</b>           | N/A   |
|                                      | <b>Materials</b>                   | ASA with glass fibre, black (NCS S 9000-N), with ASI 3 solar cell   |
|                                      | <b>Size and weight description</b> | Solar cell incl. rain sensor: 520 x 20 x 88 mm (W x H x D), 0.4 kg  |
| <b>Window operator, solar</b>        | <b>Materials</b>                   | Motor casing of polybutylene terephthalate (PBT) with glass fibre, black (NCS S 9000-N). Stainless steel chain.   |
|                                      | <b>Size and weight description</b> | 370 x 50 x 110 mm (W x H x D), 1.2 kg   |
|                                      | <b>Power consumption</b>           | 90 uA standby, supplied by the battery. High performance battery, 10.8 V d.c., NiMH, type VELUX. Recharged continuously by the solar cell. A fully charged battery allows up to 300 operations without recharging.<br>Expected battery lifetime of the solar powered window operator: Approximately 10 years.   |
|                                      | <b>Motor capacity</b>              | Traction capacity: Min 225 N<br>Pressure capacity: Min 150 N  |