

# VELUX solar roof window GGU

Glazing 70



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.
- 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.
- Compatible with VELUX ACTIVE with NETATMO for a better indoor climate with sensor-based ventilation. Remote controlled via smartphone or voice.



## 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.

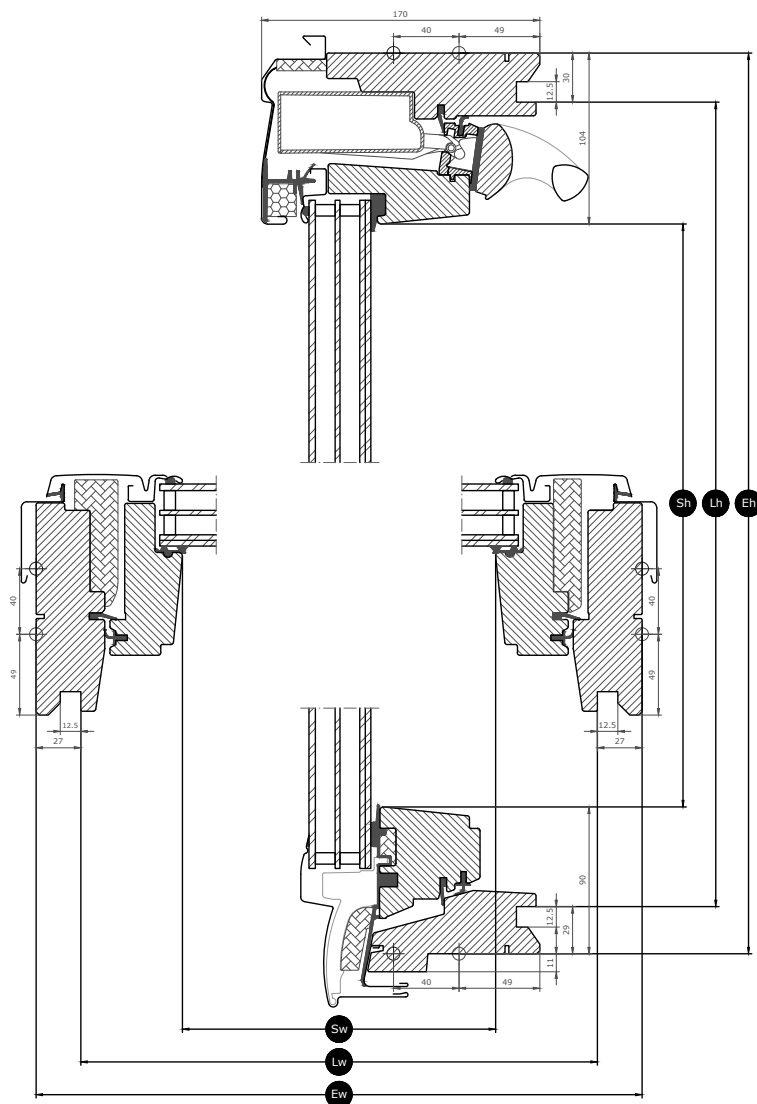
## Available sizes and daylight area

|         | 550 mm                              | 660 mm                              | 780 mm                              | 942 mm                              | 1140 mm                             | 1340 mm                             |
|---------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 778 mm  | GGU<br>CK02<br><br>(0.22)<br>[0.10] |                                     |                                     |                                     |                                     |                                     |
| 978 mm  | GGU<br>CK04<br><br>(0.29)<br>[0.20] | GGU<br>FK04<br><br>(0.38)<br>□      | GGU<br>MK04<br><br>(0.47)<br>[0.28] |                                     |                                     | GGU<br>UK04<br><br>(0.91)<br>[0.47] |
| 1178 mm | 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 mm |                                     | 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

Please note that the view of the cross section is from bottom to top



| 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    | Exterior 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     | Exterior frame height                   | 778  | 978  | 1178 | 1398 | 1600 |

## Glazing features

| Glazing 70  |   |  |
|---|---|---|
|    | <b>Heat insulation</b><br>The low energy glazing unit reduces heat loss through the window and enhanced indoor comfort.   | $U_g = 1.0$   |
|    | <b>Solar gain</b><br>In colder climates and in rooms with large window areas, solar gain provides a better indoor climate during winter periods.                        | <b>0.46</b>   |
|    | <b>Solar protection</b><br>In warm climates and in rooms with large window areas, a sun protective glazing unit provides a better indoor climate during summer periods. | ★★★★☆   |
|   | <b>Security</b><br>Thicker laminated inner glass increases resistance to manual attack (burglary).  | ★★★★☆   |
|  | <b>Safety lamination</b><br>Prevents glass from falling into the room in case of accidental breakage.   | ✓   |
|  | <b>Toughened glass</b><br>Adds strength to the outer glass surface to protect from wayward balls and extreme weather such as heavy storms and hail.                     | ✓   |
|  | <b>UV filter</b><br>Protects your interior furnishings from fading due to the sun's harmful UV rays.  | ✓   |
|  | <b>Rain noise reduction</b><br>Rain noise reduction creates a barrier between the window and the weather outside for undisturbed moments during rainy days – or nights. | ✓   |
|  | <b>Easy-to-clean</b><br>Dirt-repellent coating lets you spend less time cleaning and more time enjoying the view.   |   |
|  | <b>Anti-dew</b><br>The anti-dew coating significantly reduces the days with dew on the outer glass and thus gives you a clear view.                                     |   |

### Glazing structure

| Glazing unit  | Composition (from inside to outside)                              |
|---------------|---|
| Double-glazed | 6.8 mm laminated float glass - 16 mm Argon - 4 mm toughened glass |

## Technical values for the window

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

| Window characteristics                       | Performance              |
|--|--------------------------|
| Thermal transmittance (U-value)              | 1.3 W/(m <sup>2</sup> K) |
| Light transmittance (τ <sub>v</sub> )        | 0.68                     |
| Total solar energy transmittance (g-value)   | 0.46                     |
| Sound insulation (R <sub>w</sub> )           | 35(-1;-3)                |
| Air permeability, [class]                    | 4 (PK10: 3)              |
| External fire performance - British [class]  | AC                       |
| External fire performance - European [class] | npd                      |
| Impact resistance [class]                    | 3                        |
| Load-bearing capacity of safety devices      | √                        |
| Reaction to fire [class]                     | D-s3,d2                  |
| Resistance to snow load                      | See glazing composition  |
| Resistance to wind load [class]              | C3 (>SK08: NPD)          |
| Water tightness [class]                      | E900                     |

NPD: No Performance Determined

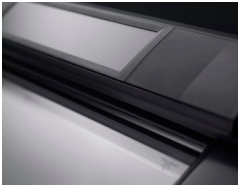
## Visible features

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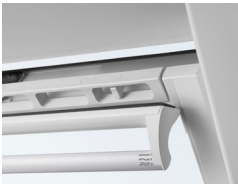
### Window operator, solar

Fully-integrated solar-powered motor is hidden from view in the top of the frame and is operated by remote control.



### Integrated rain sensor, solar

The roof window closes automatically in the event of rain or is prevented from opening thanks to the rain sensor.



### Ventilation flap

The full-width ventilation flap can be used for ventilation even with a closed window.



### Blind bracket, manual

Easily install blinds on the window without the need for extra tools. Simply click on the blind in the pre-fitted brackets.



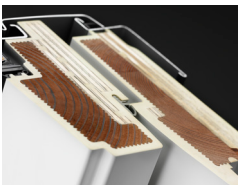
### Frame hinge, centre-pivot, side

Durable hinge design allows for reliable operation and enables the sash to be rotated for easy cleaning of the outer glass.



### Barrel bolt

The barrel bolt can be placed into the integrated barrel bolt bushing to secure the window for cleaning of outer glass surface or for safe ventilation.



### Excellent insulation

High performance insulation materials in the window construction and thermally modified timber core increase the energy efficiency of the window.



### Data plate

Every VELUX roof window has a unique data plate with information that can be used to look up CE marking documentation, when purchasing accessories or in case of service or replacement.

## 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 |                  |
| Colour code nearest RAL, outer surface | 7043                              | 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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## 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.

## VELUX ACTIVE with NETATMO compatible

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Compatible with VELUX ACTIVE with NETATMO for a better indoor climate with sensor-based ventilation. Remote controlled via smartphone or voice.



## Further information

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We reserve the right to make technical changes.

For more information on our products, please visit <https://velux.com>.

## Technical information

|                                      |                                    |  |
|--------------------------------------|------------------------------------|--|
| <b>VELUX solar roof window GGU</b>   | <b>Installation and use</b>        | 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. Installation in rooms with a high level of humidity must comply with relevant regulations (contact a qualified electrician if necessary).   |
|                                      | <b>Window opening</b>              | 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. 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.  |
|                                      | <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 sunscreening 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>Integrated rain sensor, solar</b> | <b>Installation and use</b>        | 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). Radio frequency range: 300 m range open field. Depending on the building construction, the indoor range is approximately 30 m.   |
|                                      | <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>Solar panel</b>                   | <b>Size and weight description</b> | N/A  |
|                                      | <b>Power consumption</b>           | N/A  |
|                                      | <b>Materials</b>                   | ASA with glass fibre, black (NCS S 9000-N), with ASI 3 solar cell  |
| <b>Window operator, solar</b>        | <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>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   |