

VELUX solar 2in1 roof window GGLS

VELUX®

Glazing 70



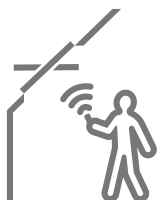
The VELUX solar 2in1 GGLS is a wireless solution which together with two windows in one frame allows for fast and easy installation. The new daylight solution gives you an extensive view, increased influx of daylight and full flexibility for ultimate control and convenience. Control window, blinds, and heat protection products individually or grouped by hand, with a wall switch or with VELUX intelligent home control systems.

- Enjoy an extensive view to the outside and more daylight due to extra slim frame profiles
- Solar-powered design delivers all of the benefits of a motorised window without the wires.
- With the integrated rain sensor, the skylight will close automatically at the first sign of inclement weather.
- The glazing comes standard with premium features like safety lamination, toughened glass, UV filter and our unique rain noise reduction.
- One frame module allows a simple well-known installation process with few components.
- Compatible with VELUX ACTIVE with NETATMO automatic indoor climate control for a healthier home, including smart phone and voice control.
- One-piece top cover and slim profile covers feature a very aesthetic integration in the roof.



Application guidance operation method

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



VELUX solar 2in1 roof window GGLS consists of two windows, one operable, top-operated and one fixed, in one frame. This provides extra daylight and an extensive view while offering all the benefits of our top-operated windows. To benefit optimally from the wide view, we recommend an installation height that allows for a clear sight line to the outside from both a standing and seated position.

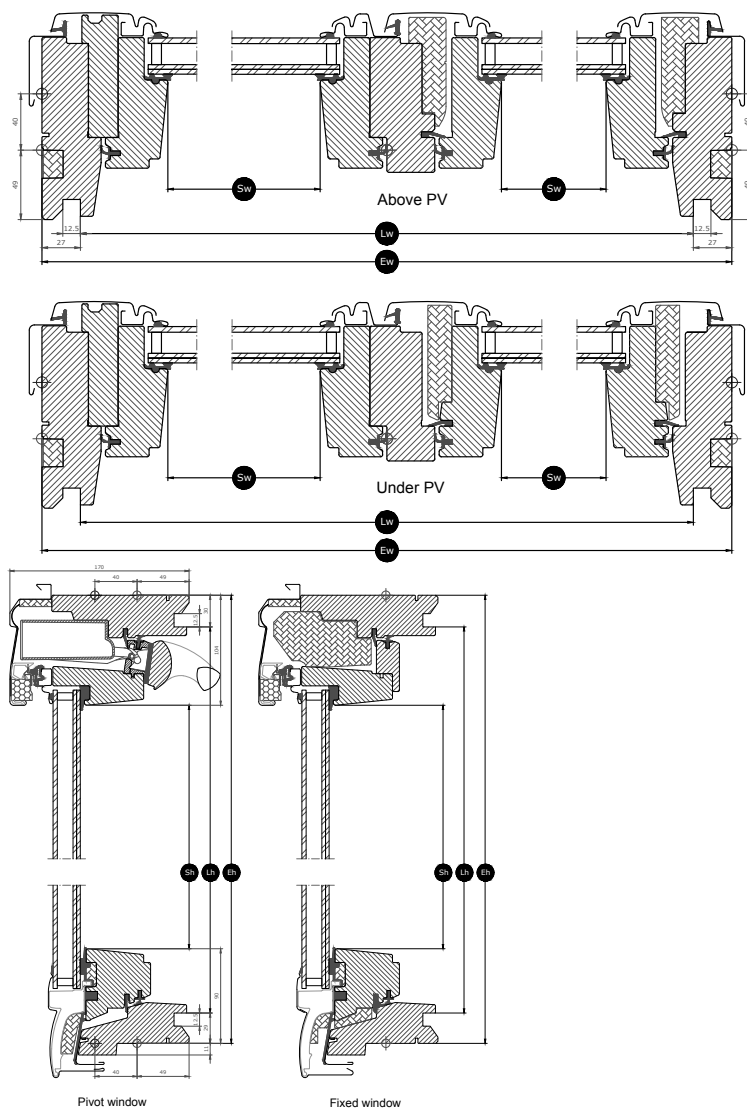
The 2in1 roof window gives you full flexibility for ultimate control and convenience. Control each sash, blind, and heat protection product manually, remotely with a wall switch or with VELUX intelligent home control systems.

Available sizes and daylight area

	1270	1390	1510	1552
1178	GGLS FFK06 (0.94)	GGLS FMK06 (1.06)	GGLS MMK06 (1.18)	GGLS FPK06 (1.22)
1398	GGLS FFK08 (1.16)	GGLS FMK08 (1.30)	GGLS MMK08 (1.44)	GGLS FPK08 (1.50)

All measurements are in mm. () = Effective daylight area, m²


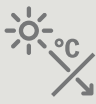






Cross section dimensions



Width		FFK--	FMK--	FPK--	MMK--
Sw	Sash aperture width	481, 481	481, 601	481, 763	601, 601
Lw	Distance between lining grooves, width	1216	1336	1498	1456
Ew	External frame width	1270	1390	1552	1510

Height		--06	--08
Sh	Sash aperture height	984	1204
Lh	Distance between lining grooves, height	1119	1339
Eh	External frame height	1178	1398

Glazing features

Glazing 70		
	Heat insulation The low energy glazing unit reduces heat loss through the window and enhanced indoor comfort.	$U_g = 1.0$
	Solar gain In the wintertime, the heat from the sun entering through the windows is a usable solar gain.	0.46
	Solar protection In warm climates and in rooms with large window areas, a sun protective coating provides a better indoor climate during summer periods.	★★★★☆
	Security Thicker laminated inner glass increases resistance to manual attack (burglary).	★★★★☆
	Safety Laminated inner glass is designed to hold the fragments together if the glass breaks. We recommend that you consider using glass units with laminated glass on the inside for windows placed above areas where people sleep, play or work.	✓
	Outside strength Toughened outer glass makes your glazing more resistant to hail, heavy wind and snow loads.	✓
	Delayed fading of material Laminated inner glass protects materials behind the glass against UV radiation and therefore delays fading of the materials.	✓
	Rain noise reduction The combination of laminated glass and extra thick glass helps provide a significant, audible reduction of rainfall sound.	✓
	Easy-to-clean The easy-to-clean coating minimises the cleaning frequency of the outer glass and gives you a clearer view in case of rain.	
	Anti-dew 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	Variant composition
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 14351-2.

Window characteristics	Performance
Thermal transmittance	1.3 W/(m ² K)
Light transmittance	0.68
Total solar energy transmittance	0.46
Sound insulation	34(-1;-4)
Air permeability	Class 4
External fire performance - British	npd
External fire performance - European	npd
Impact resistance	Class 3
Load-bearing capacity of safety devices	√
Reaction to fire	C-s1,d2
Resistance to snow load	See glazing description
Resistance to wind load	Class C3
Water tightness	9A

NPD: No performance determined

Visible features

**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**

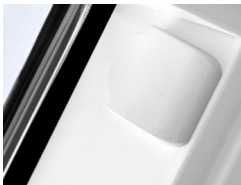
The roof window closes automatically in the event of rain or is prevented from opening thanks to the rain sensor.

**Detachable sash**

The fixed sash is detachable and can be taken out for an easier process during service or installation from the inside.

**Ventilation flap, pine wood**

The full-width ventilation flap can be used for ventilation even with a closed window. The ventilation flap is connected to the top sash with the lock casing.

**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.

**Interior insulation, frame top sides**

Innovative ThermoTechnology™ insulation is integrated into the top frame sides of the window to increase energy-efficiency.

**Barrel bolt, centre-pivot, top-operated**

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.

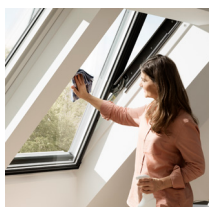
Interior finish

Material Description	White-painted Finished with triple coat, white painted.
Colour code NCS, inner surface	S 0500-N
Colour code nearest RAL, inner surface	9003

Exterior covers

Material Description	Aluminium, dark grey Dark grey
Colour code NCS, outer surface	S 7500-N
Colour code nearest RAL, outer surface	7043

Cleaning and maintenance



To clean the outer glass surface from the inside, rotate sash manually and secure in cleaning position with barrel bolts. The fixed window can be cleaned outside by opening the operable window.



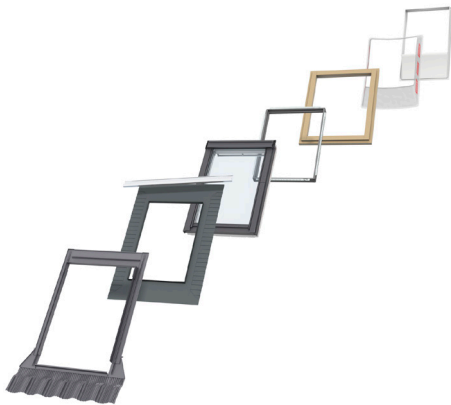
VELUX repair and maintenance kits are available.

Guarantee period



All electrical components have a 3 year guarantee period.

Flashings and installation products



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 a perfect, watertight fit. Flashings can also be used to combine multiple roof windows.

Installation products

Ensure a proper insulation 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

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



Compatible with VELUX ACTIVE with NETATMO automatic indoor climate control for a healthier home, including smart phone and voice control.

Further information

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

VELUX solar 2in1 roof window GGLS	Window opening	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. The chain engages and disengages automatically when the window is closed. When the window is opened manually, the friction in the hinges allows the sash to be parked in an open position at an opening angle of 5° to 45°.
Pre-paired wall switch	Materials	ABS plastic, white (NCS S 1000-N)
	Size and weight description	8.2 cm x 8.2 cm x 1.7 cm, 0.125 kg.
	Installation and use	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.
	Power consumption	2 x alkaline AAA (1.5V) batteries Expected battery lifetime: Up to 1 year.
Integrated rain sensor, solar	Materials	PC with glass fibre
Solar panel	Materials	ASA with glass fibre, black (NCS S 9000-N), with ASI 3 solar cell
	Size and weight description	Solar cell incl. rain sensor: 520 x 20 x 88 mm (W x H x D), 0.4 kg
Window operator, solar	Materials	Motor casing of polybutulene terephthalate (PBT) with glass fibre, black (NCS S 9000-N). Stainless steel chain.
	Size and weight description	370 x 50 x 110 mm (W x H x D), 1.2 kg
	Power consumption	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. Expected battery lifetime of the solar powered window operator: Approximately 10 years.
	Motor capacity	Traction capacity: Min 225 N Pressure capacity: Min 150 N