VELUX solar, 3in1 roof window

The VELUX solar 3in1 roof window GGLS is a wireless solution which together with three 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
- Refresh your home by opening one or two windows according to your needs
- Solar-powered design delivers all of the benefits of a motorised window without the wires.
- Rain sensor automatically closes the window in the event of rain.
- One frame module allows a simple well-known installation process with few components.
- Compatible with VELUX ACTIVE with NETATMO for a better indoor climate with sensor-based ventilation. Remote controlled via smartphone or voice.
- One-piece top cover and slim profile covers feature a very aesthetic integration in the roof.

CE

VRW Roof windows en-WW - Approved
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Application guidance

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

VELUX solar 3in1 roof window GGLS consists of three windows, two openable, 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 3in1 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

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.

	1880
1178	GGLS FFKF06 (1.41) [0.48]
1398	GGLS FFKF08 (1.74) [0.48]

All measurements are in mm. ( ) = Effective daylight area, m^2 [ ] = Geometric free area, m^2

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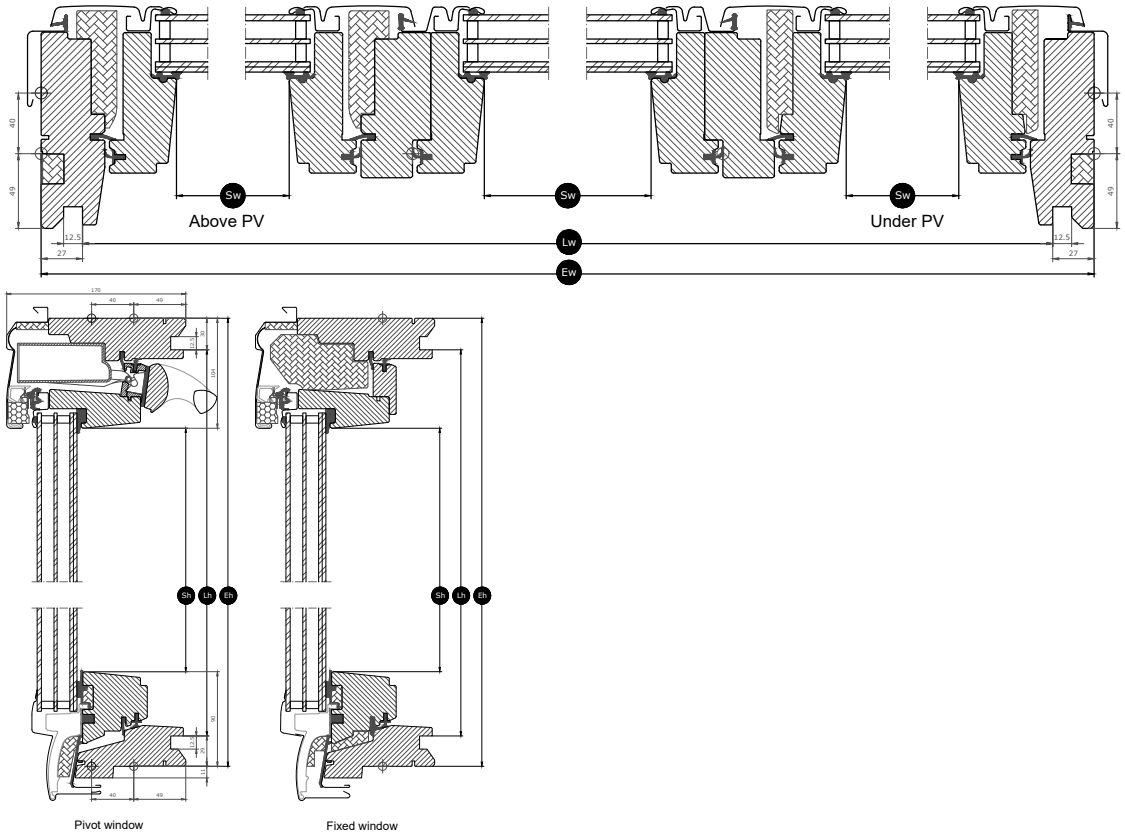
Cross section dimensions



Width		FFKF--
Sw	Sash aperture width	481, 481, 481
Lw	Distance between lining grooves, width	1826
Ew	Exterior frame width	1880

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

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Glazing features

	Glazing 66SG	Glazing 70	Glazing 76	Glazing 57
Solar protection	★★★☆	★★★☆	★★★★	★★★★
Security	★★☆☆	★★☆☆	★★☆☆	★★☆☆
Safety lamination	✓	✓	✓	✓
Toughened glass	✓	✓	✓	✓
UV filter	✓	✓	✓	✓
Rain noise reduction	✓	✓		✓
Easy-to-clean	✓			✓
Anti-dew	✓			

Glazing structure

Glazing variant	Glazing unit	Composition (from inside to outside)
Glazing 66SG	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
Glazing 76	Double-glazed	6.8 mm laminated float glass - 16 mm Argon - 4 mm toughened glass
Glazing 57	Double-glazed	6.8 mm laminated float glass - 16 mm Argon - 6 mm toughened glass

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Technical values for the window

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

Window characteristics	Performance			
	Glazing 66SG	Glazing 70	Glazing 76	Glazing 57
Thermal transmittance (U-value)	1.0 (size 06: 1.1) W/(m²K)	1.3 (size 06: 1.4) W/(m²K)	1.3 (size 06: 1.4) W/(m²K)	1.3 (size 06: 1.4) W/(m²K)
Light transmittance (τ,v)	0.62	0.68	0.62	0.61
Total solar energy transmittance (g-value)	0.44	0.46	0.30	0.30
Sound insulation (Rw)	36(-1;-5)	34(-1;-4)	34(-1;-4)	34(-1;-4)
Air permeability, [class]	4	4	4	4
External fire performance - British [class]	npd	npd	npd	npd
External fire performance - European [class]	npd	npd	npd	npd
Impact resistance [class]	Class 3	Class 3	Class 3	Class 3
Load-bearing capacity of safety devices	✓	✓	✓	✓
Reaction to fire [class]	C-s1,d2	C-s1,d2	C-s1,d2	C-s1,d2
Resistance to snow load	**	**	**	**
Resistance to wind load [class]	Class C3	Class C3	Class C3	Class C3
Water tightness [class]	9A	9A	9A	9A

Resistance to snow load = ** See glazing composition

NPD: No Performance Determined

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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	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

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

VELUX repair and maintenance kits are available.

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 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

Complete the VELUX roof window installation with roller shutters and awning blinds for heat protection and interior blinds for light dimming or blackout. 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

We reserve the right to make technical changes.

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

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Technical information

VELUX solar, 3in1 roof window	**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 operated manually, the friction in the hinges allows the sash to be opened and parked at an opening angle of 5° to 45°.
	Compatibility	The roof windows are based on radio frequency (RF) technology, 868 MHz range, and are compatible with other VELUX products with the io-homecontrol® logo. Subsequent installation of VELUX exterior products SSLS, MSLS and SSSS is possible for windows in size FFKF--., but will require 2 x ZOZ 246. Interior decoration and sunscreening products can be fitted to VELUX solar GGLS. Please note that if these products are combined with VELUX solar roller shutter SSLS or VELUX solar awning blind MSLS, the battery recharging capability of the interior solar decoration and sunscreening products will be reduced. Connection to non-compatible products may cause damage or malfunction.
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
	Size and weight description	N/A
	Power consumption	N/A
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

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