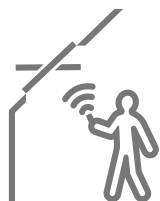# VELUX INTEGRA® solar roof window GGL

Glazing 70

The VELUX INTEGRA® solar, centre-pivot roof window GGL 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.

- 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.
- 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.

15°-90°

Application guidance

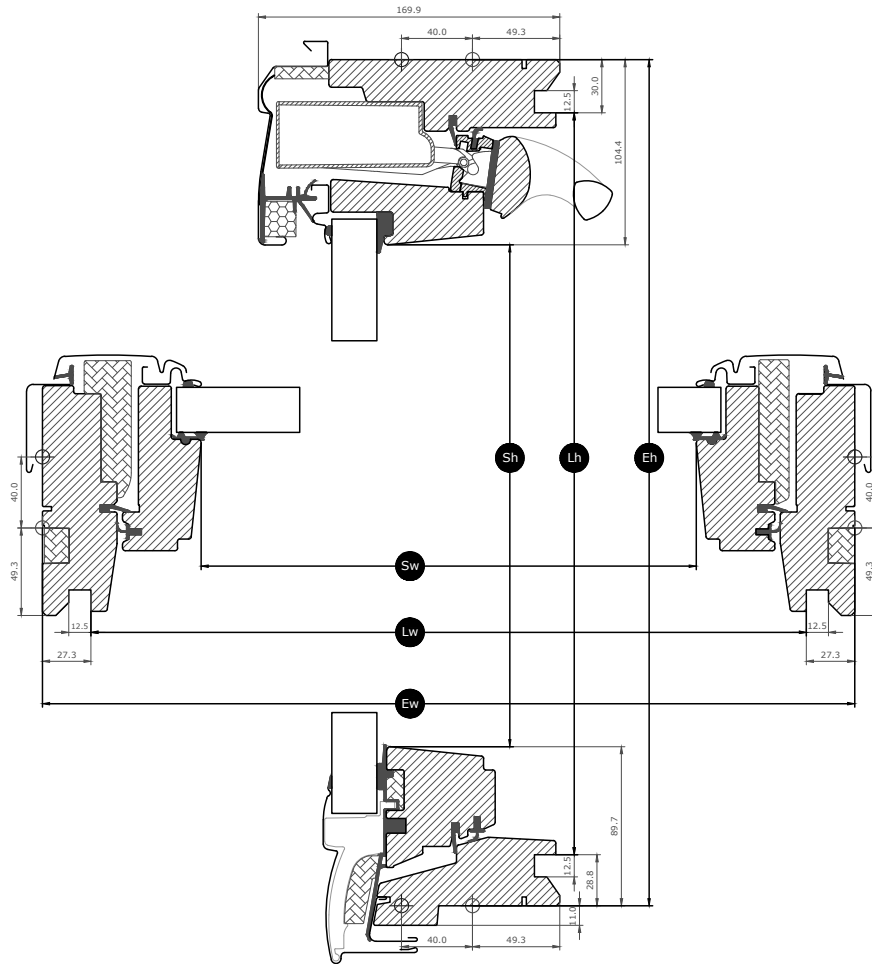The window can be installed in roof pitches between 15° and 90° to the horizontal.

VELUX INTEGRA® remote-controlled 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. Available in mains- and solar-powered versions. For optimum daylight, choose larger windows for lower roof pitches.

Available sizes and daylight area

	472	550	660	780	942	1140	1340
550					GGL PK25 (0.27)		
698						GGL SK01 (0.48)	
778		GGL CK02 (0.22)					
978	GGL BK04 (0.23)	GGL CK04 (0.29)	GGL FK04 (0.38)	GGL MK04 (0.47)	GGL PK04 (0.60)		GGL UK04 (0.91)
1178		GGL CK06 (0.37)	GGL FK06 (0.47)	GGL MK06 (0.59)	GGL PK06 (0.75)	GGL SK06 (0.95)	
1398			GGL FK08 (0.58)	GGL MK08 (0.72)	GGL PK08 (0.92)	GGL SK08 (1.16)	GGL UK08 (1.40)
1600				GGL MK10 (0.85)	GGL PK10 (1.07)	GGL SK10 (1.35)	GGL UK10 (1.63)

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

Cross section dimensions

Width		BK--	CK--	FK--	MK--	PK--	SK--	UK--
Sw	Sash aperture width	293	371	481	601	763	961	1161
Lw	Distance between lining grooves, width	417	495	605	725	887	1085	1285
Ew	Exterior frame width	472	550	660	780	942	1140	1340

Height		--01	--02	--04	--06	--08	--10	--25
Sh	Sash aperture height	504	584	784	984	1204	1406	356
Lh	Distance between lining grooves, height	639	719	919	1119	1339	1541	491
Eh	Exterior frame height	698	778	978	1178	1398	1600	550

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 colder climates and in rooms with large window areas, solar gain provides a better indoor climate during winter periods.		$g = 0.46$
Solar protection In warm climates and in rooms with large window areas, a sun protective glazing unit provides a better indoor climate during summer periods.		★★★☆
Sound insulation A combination of laminated glass and extra thick glass provides better sound insulation against noise from outside (traffic, playgrounds, etc).		$R_w dB = 35(-1;-3)$
Security Thicker laminated inner glass increases resistance to manual attack (burglary).		★★☆☆
Safety lamination Prevents glass from falling into the room in case of accidental breakage.		√
Toughened glass Adds strength to the outer pane to protect from wayward balls and extreme weather such as heavy storms and hail.		√
UV filter Protects your interior furnishings from fading due to the sun's harmful UV rays.		√
Rain noise reduction Rain noise reduction creates a barrier between the window and the weather outside for undisturbed moments during rainy days – or nights.		√

Glazing structure

Glazing unit	Composition (from inside to outside)
Double-glazed	6.8 mm laminated inner glass with coating - 16 mm argon - 4 mm toughened outer glass with coating

Technical values for the window

Overview of technical values for the product, covering CE marking in accordance with EN 14531 and other EN standards.

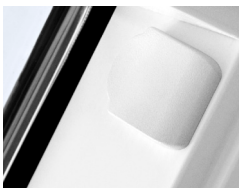| Window characteristics	Performance
Thermal transmittance (U-value)	1.3 W/(m2K)
Light transmittance (τ,v)	0.68
Total solar energy transmittance (g-value)	0.46
Sound insulation	35(-1;-3)
Air permeability	4
External fire performance - British	AC
External fire performance - European	npd
Impact resistance	3
Load-bearing capacity of safety	
Reaction to fire	C-s1,d2
Resistance to snow load	See glazing composition
Resistance to wind load	C3 (>SK08: NPD)
Water tightness	E900

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.

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 using the VELUX Pick&Click™ system.

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 pane.

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.

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

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.
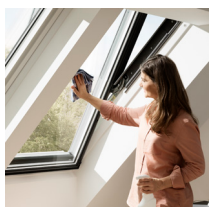
Interior finish

Material Description	Clear lacquer Finished with triple coat, clear lacquered.	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	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

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

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, 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 for a better indoor climate with sensor-based ventilation. Remote controlled via smartphone or voice.

Further information

We reserve the right to make technical changes.

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

Technical information

VELUX INTEGRA® solar roof window GGL	Size and weight description	Size of product including packaging: The same as equivalent manually operated roof window. Weight: Approx 3 kg more than equivalent manually operated roof window.
	Installation and use	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).
	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. 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.
	Compatibility	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. Subsequent installation of VELUX INTEGRA® solar roller shutter SSL or VELUX INTEGRA® solar awning blind MSL is possible if the window size code is MK--, PK--, SK-- or UK--. Only these sizes have enough room for the solar cell on the roller shutter top casing or the awning blind top cover. Installation of VELUX INTEGRA® solar roller shutter SSL or VELUX INTEGRA® solar awning blind MSL-VA requires adaptor plate kit ZOZ 213K. The kit must be purchased separately. Please note that the roller shutter must be io-homecontrol® labelled to be compatible with the VELUX INTEGRA® solar roof window. Interior decoration and sunscreening products can be fitted to VELUX INTEGRA® solar GGL and GGU. Please note that if these products are combined with VELUX INTEGRA® solar roller shutter SSL or VELUX INTEGRA® solar awning blind MSL, 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
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