

# VELUX bottom-operated roof window GGL-B

VELUX®

Glazing 70



The VELUX bottom-operated, centre-pivot roof window GGL-B offers the great essential functionalities and good energy efficiency of our top-operated GGL. Bottom operation makes it easy to operate the window when installed in a higher position e.g. 130-160 cm above floor level, for example due to a high knee wall.

- The handle in the bottom part of the window makes the operation convenient when installation is 130-160 cm above floor level.
- Same high quality and design as you know from the original VELUX roof window GGL.
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- Removable and cleanable ventilation filter protects your home from dust and insects while ventilating.
- Quickly and easily add blinds by simply clicking them into the pre-fitted brackets
- Adjust the bottom handle position to ventilate your home without opening the window.
- Open the top control bar to the ventilation position for fresh air through a closed window.
- Easily rotate the window 180° for safe cleaning of the outer glass from the inside.



## Application guidance

The window can be installed in roof pitches between 15° and 90° to the horizontal. It is possible to install the window in a roof pitch down to 0° when using kerb ECX.



Manual bottom-operated, centre-pivot roof windows are our recommended solution when the window needs to be placed in a high position (130-160 cm) above floor level, for instance because of a high knee wall. In installations in combination with façade elements or as the lower part of a combi installation, bottom operation will be comfortable, as the handle will be easy to reach for opening and closing the window.

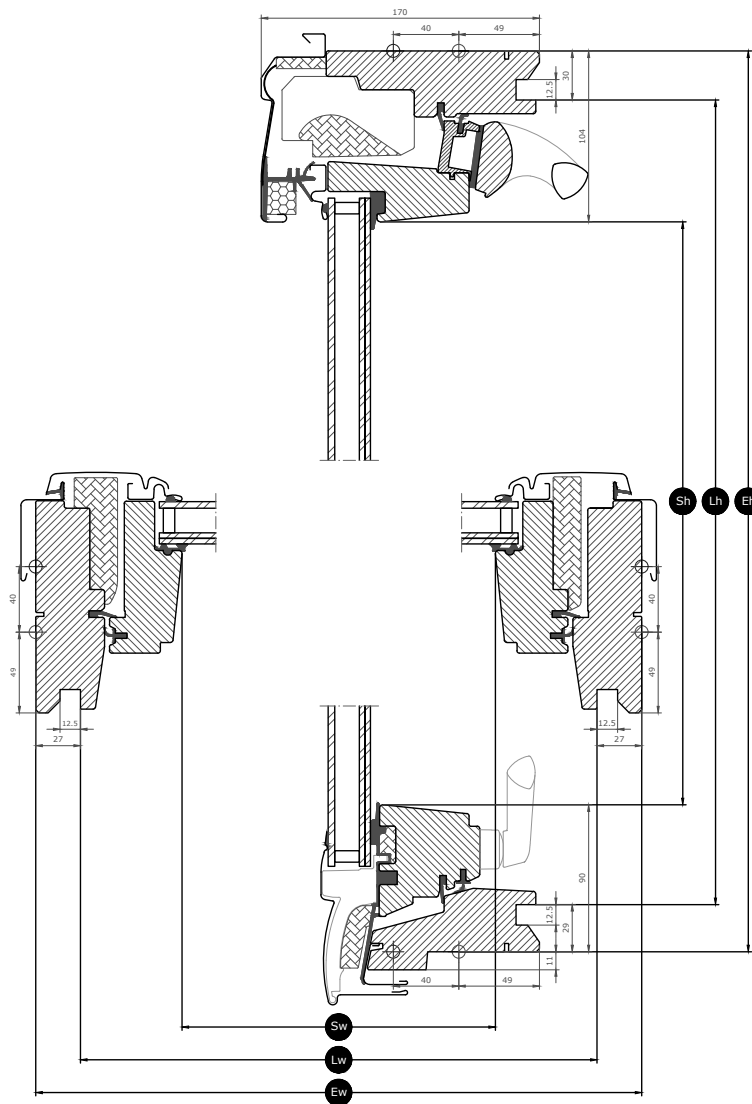
## Available sizes and daylight area

	550 mm	780 mm	942 mm	1140 mm	1340 mm
778 mm	GGL CK02 (0.22) [0.26]				
978 mm		GGL MK04 (0.47) [0.53]			GGL UK04 (0.91) [0.98]
1178 mm		GGL MK06 (0.59) [0.66]	GGL PK06 (0.75) [0.83]	GGL SK06 (0.95) [1.03]	
1398 mm		GGL MK08 (0.72) [0.81]	GGL PK08 (0.92) [1.01]		
1600 mm			GGL PK10 (1.07) [1.17]		

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

# Cross section dimensions











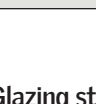
Please note that the view of the cross section is from bottom to top



Width		CK--	MK--	PK--	SK--	UK--
Sw	Sash aperture width	371	601	763	961	1161
Lw	Distance between lining grooves, width	495	725	887	1085	1285
Ew	Exterior frame width	550	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> The low energy glazing unit reduces heat loss through the window and enhanced indoor comfort.	$U_g = 1.0$
	<b>Solar gain</b> 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> 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> Thicker laminated inner glass increases resistance to manual attack (burglary).	★★★★☆
	<b>Safety lamination</b> Prevents glass from falling into the room in case of accidental breakage.	✓
	<b>Toughened glass</b> 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> Protects your interior furnishings from fading due to the sun's harmful UV rays.	✓
	<b>Rain noise reduction</b> 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> Dirt-repellent coating lets you spend less time cleaning and more time enjoying the view.	
	<b>Anti-dew</b> 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
External fire performance - British [class]	NPD
External fire performance - European [class]	NPD
Impact resistance [class]	NPD
Load-bearing capacity of safety devices	√
Reaction to fire [class]	C-s1,d2
Resistance to snow load	See glazing composition
Resistance to wind load [class]	C3
Water tightness [class]	9A

NPD: No Performance Determined

## Visible features

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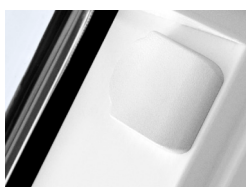
### **Operating handle, centre-pivot, bottom-operated**

Easy to operate handle with two-point locking mechanism and integrated ventilation position.



### **Ventilation flap**

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**

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.



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

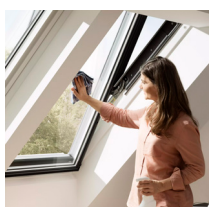
## Exterior covers

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

## Cleaning and maintenance

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To clean the outer glass surface from the inside, open the window with the bottom handle, 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.

## 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>.