

## Product information

# Top-operated centre-pivot polyurethane roof window GGU



### Product description

- High quality moulded polyurethane with white lacquer finish
- Top control bar for easy operation even with furniture under the window
- Ventilation flap and integrated dust and insect filter
- Maintenance-free interior surface
- Maintenance-free exterior covers

### Roof pitch

- Can be installed in roof pitches between 15° and 90°

### Materials

- Polyurethane around a timber core
- Glass
- Lacquered aluminium, copper or zinc
- VELUX ThermoTechnology™ insulation

### Downloads

For installation instructions, CAD drawings, 3D BIM objects, 3D GDL objects etc, please visit [www.velux.bg](http://www.velux.bg).

## Certifications



The VELUX product factories guarantee quality systems implementation process and environmental management systems through appropriate accreditations ISO 9001 and ISO 14001

**EUTR** In compliance with the EU Timber Regulation (EUTR), EU regulation 995/2010

**REACH** We are aware of the REACH regulation and acknowledge the obligations. No products are obliged to be registered in accordance to REACH and none of our products contain any Substances of Very High Concern.

Available sizes and daylight area

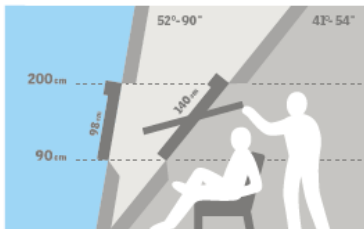
	472 mm	550 mm	660 mm	780 mm	942 mm	1140 mm	1340 mm
778 mm		<b>GGU CK02</b> (0.22)					
978 mm		<b>GGU CK04</b> (0.29)	<b>GGU FK04</b> (0.38)	<b>GGU MK04</b> (0.47)			<b>GGU UK04</b> (0.91)
1178 mm		<b>GGU CK06</b> (0.37)	<b>GGU FK06</b> (0.47)	<b>GGU MK06</b> (0.59)	<b>GGU PK06</b> (0.75)	<b>GGU SK06</b> (0.95)	
1398 mm			<b>GGU FK08</b> (0.58)	<b>GGU MK08</b> (0.72)	<b>GGU PK08</b> (0.92)	<b>GGU SK08</b> (1.16)	<b>GGU UK08</b> (1.40)
1600 mm				<b>GGU MK10</b> (0.85)	<b>GGU PK10</b> (1.07)		

( ) = Effective daylight area, m<sup>2</sup>

Lining measurements

Size	Width (mm)
CK--	495
FK--	605
MK--	725
PK--	887
SK--	1085
UK--	1285

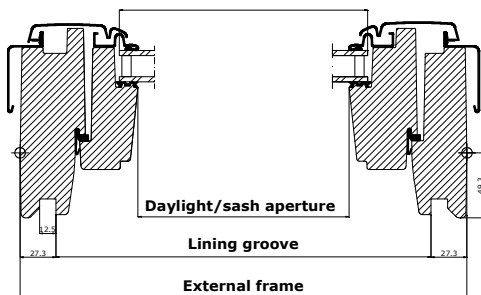
Size	Height (mm)
--02	719
--04	919
--06	1119
--08	1339
--10	1549



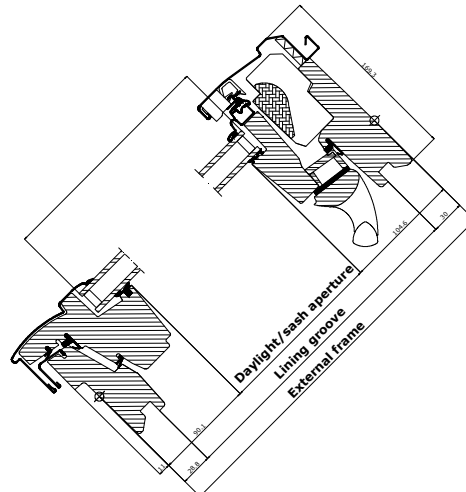
Top-operated centre-pivot roof windows make it possible to place furniture directly below the window without obstructing operation of the window.

For windows to be placed within reach, try to allow for a clear view when standing and when seated. Note that the optimum window height depends on the roof pitch.

Width



Height



### Technical values

	--50	--70	--60	--66	--62
<b>U<sub>w</sub> [W/m<sup>2</sup>K]</b>	1.3	1.3	1.2	1.0	0.81
<b>U<sub>g</sub> [W/m<sup>2</sup>K]</b>	1.1	1.1	1.0	0.7	0.5
<b>R<sub>w</sub> [dB]</b>	32	35	37	37	42
<b>g [ ]</b>	0.66	0.64	0.30	0.50	0.50
<b>τ<sub>v</sub> [ ]</b>	0.80	0.79	0.61	0.69	0.65
<b>τ<sub>uv</sub> [ ]</b>	0.32	0.05	0.05	0.05	0.05
<b>Air permeability [class]</b>	4	4	4	4	4

Thermal improvements such as lower U-value (U<sub>w</sub>) and lower linear heat loss coefficient (φ) can, for some variants, be obtained with frame insulation collar and/or recessed installation.

### Glazing structure

	--50	--70	--60	--66	--62
<b>Inner glass pane</b>	4 mm float with low ε coating	2 x 3 mm laminated float with low ε coating	2 x 3 mm laminated float with low ε coating	2 x 3 mm laminated float with low ε coating	2 x 3 mm laminated float with low ε coating
<b>Middle glass pane</b>	-	-	-	3 mm heat strengthened float with low ε coating	3 mm heat strengthened float with low ε coating
<b>Outer glass pane</b>	4 mm toughened	4 mm toughened	6 mm toughened with coatings	4 mm toughened with coatings	8 mm toughened with coating
<b>Cavity</b>	16 mm	15 mm	15 mm	2 x 12 mm	2 x 10 mm
<b>Glass panes</b>	Double	Double	Double	Triple	Triple
<b>Gas filling</b>	Argon	Argon	Argon	Argon	Krypton

## Glazing features

		--50	--70	--60	--66	--62
	<b>Heat insulation</b> Low energy glazing provides reduced heat loss through the window and enhanced indoor comfort.	•	•	••	•••	•••
	<b>Solar gain</b> In the wintertime, the heat from the sun entering through the windows is a usable solar gain.	•••	•••	•	••	••
	<b>Solar protection</b> In warm climates and in rooms with large window areas, a sun protective coating provides a better indoor climate during summer periods. Alternatively, exterior sunscreening can be installed.			•••		
	<b>Sound insulation</b> A combination of laminated glass and optimal glass thickness provides better sound insulation. Frame/sash construction and gaskets are equally important.	•	••	•••	•••	•••
	<b>Security</b> Thicker laminated inner glass pane designed to increase resistance to manual attack (burglary).		•	•	•	•
	<b>Energy balance</b> The energy balance represents the ability of the roof window to utilise the passive solar gain and keep in the heat during winter and its ability to protect against the risk of overheating during summer. Sunscreening products can further improve indoor summer comfort.	✓	✓	✓	✓	✓
	<b>Safety</b> 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.		✓	✓	✓	✓
	<b>Outside strength</b> Toughened outer glass pane makes your glazing more resistant to hail, heavy wind and snow loads.	✓	✓	✓	✓	✓
	<b>Delayed fading of materials</b> Inner laminated glass protects materials behind the glass against UV radiation and therefore delays fading of the materials.		✓	✓	✓	✓
	<b>Rain noise reduction</b> The combination of laminated glass and extra thick glass helps provide a significant, audible reduction of rainfall sound. Frame/sash construction and gaskets are equally important.			✓		✓
	<b>Easy-to-clean</b> The easy-to-clean coating minimises the cleaning frequency of the outer glass pane and gives you a clearer view in case of rain.			✓	✓	
	<b>Anti-dew</b> The anti-dew coating significantly reduces the days with dew on the outer glass pane and thus gives you a clear view.				✓	✓

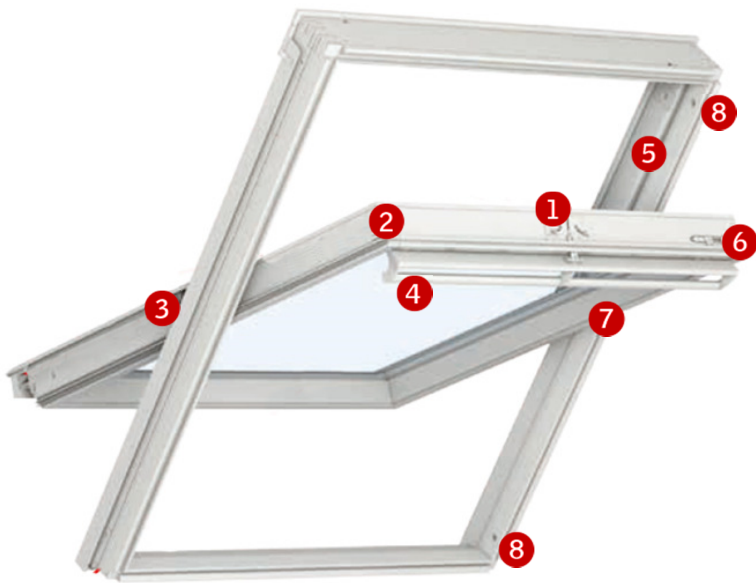
• Good   •• Better   ••• Best   ✓ Feature included in glazing variant

### Technical values, ventilation through ventilation flap

Property	Windows with double glazing					
	Width					
	CK--	FK--	MK--	PK--	SK--	UK--
Air flow characteristics [l/s]	1.9	2.3	2.8	3.4	4.1	4.8
Air flow exponent [-]	0.53	0.53	0.53	0.53	0.53	0.53
Ventilation capacity at 4 Pa [l/s]	4.0	4.8	5.8	7.1	8.5	10.0
Ventilation capacity at 8 Pa [l/s]	5.7	6.9	8.4	10.2	12.3	14.5
Ventilation capacity at 10 Pa [l/s]	6.4	7.8	9.5	11.5	13.9	16.3
Ventilation capacity at 20 Pa [l/s]	9.3	11.3	13.7	16.6	20.1	23.5
Equivalent area through ventilation flap [mm <sup>2</sup> ]	2600	3100	3700	4600	5600	6600
Geometrical free area [mm <sup>2</sup> ]	2800	3700	4500	6100	7200	10600

Property	Windows with triple glazing					
	Width					
	CK--	FK--	MK--	PK--	SK--	UK--
Air flow characteristics [l/s]	1.2	1.3	1.5	1.7	2.1	2.4
Air flow exponent [-]	0.63	0.63	0.63	0.63	0.63	0.63
Ventilation capacity at 4 Pa [l/s]	2.8	3.1	3.5	4.1	4.9	5.7
Ventilation capacity at 8 Pa [l/s]	4.3	4.8	5.4	6.3	7.6	8.9
Ventilation capacity at 10 Pa [l/s]	4.9	5.5	6.2	7.3	8.2	10.2
Ventilation capacity at 20 Pa [l/s]	5.5	6.2	6.9	8.1	9.8	11.5
Equivalent area through ventilation flap [mm <sup>2</sup> ]	2000	2200	2500	2900	3500	4100
Geometrical free area [mm <sup>2</sup> ]	2800	3700	4500	6100	7200	10600

**Visible features**



**1 Lock casing**

- electro-galvanised steel
- colour: "silver"



**2 Data plate**

- window type, size and variant code
- CE marking
- production code
- QR code



**3 Click-on covers**

- lacquered aluminium



**4 Control bar**

- anodised aluminium



ThermoTechnology™

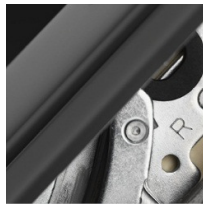
**5 Excellent insulation**

- expanded polystyrene
- colour: grey charcoal
- thermally modified timber



**6 Barrel bolt**

- plastic
- colour: white
- steel
- colour: "silver"



**7 Hinges with friction**

- electro-galvanised steel
- colour: "silver"



**8 Barrel bolt bushings**

- plastic
- colour: white

## Cleaning and maintenance



To clean the outer pane from the inside, rotate sash and secure in cleaning position with barrel bolt.



VELUX repair and maintenance kits are available.

## Exterior covers

Material	NCS standard colour	RAL nearest standard colour
Lacquered aluminium (-0--) grey	S 7500-N	7043
Lacquered aluminium (-5--) black	S 9000-N	9005
Copper (-1--)	-	-
Titanium zinc (-3--)	-	-

Special colour requests, please contact [www.velux.bg](http://www.velux.bg).

## Interior finish

White lacquer	Lacquer, white NCS standard colour: S 0500-N, nearest RAL standard colour: 9003.
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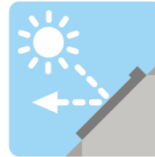
Special colour requests, please contact [www.velux.bg](http://www.velux.bg).

## Blinds, awnings and shutters



### Interior sun screening

- Blackout blind ●●●
- Roller blind ●●●
- Pleated blind ●●
- Flying pleated blind ●
- Double pleated energy blind ●●
- Venetian blind ●●
- Duo blackout blind ●



### Exterior sun screening

- Awning blind ●●●
- Roller shutter ●●●



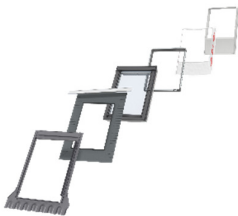
### Additional accessories

- Insect roller screen ●

- Available in manual and mains/solar powered versions
- Available in manual and mains powered versions
- Available in manual version

The mains and solar powered versions are part of the VELUX INTEGRA® product range.

## Flashings and installation products



### Flashings:

- ED- for single installation
- EB- for twin installation
- EK- for combi installation

Available for standard and recessed installation

### Installation products:

- Installation set BDX 2000 (incl BFX)
- Underfelt collar BFX 1000 incl transverse drainage gutter
- Vapour barrier collar BBX 0000
- Linings LS- (incl BBX)
- Kit for lining LSG 1000 (incl BBX)

## Note

We reserve the right to make technical changes.

For more information on roof window GGU and other VELUX products, please visit [www.velux.bg](http://www.velux.bg).

## Control options



### VELUX INTEGRA®

- Solar upgrade kit KSX 100K can be fitted to upgrade manual windows to obtain a series of benefits

- Touch screen control pad



- Telescopic rod