

GGL/GGU Solar INTEGRA® Electric Roof Window



VELUX Solar INTEGRA® Electric powered roof window utilises the energy from the sun with a photovoltaic solar cell on the external window frame charging a high performance NiMH battery which provides the power for operation. The centre-pivot window is a classic and versatile design manufactured in high quality natural pine with the option of a clear lacquered pine internal finish (GGL) or a white polyurethane internal finish (GGU). This requires direct exposure to sunlight. There is no need to plug into a power supply which makes installation even quicker and easier. It is suitable for installation into roof pitches between 15° and 90°.



VELUX Solar blinds can be fitted internally along with either Solar Awning blinds or Roller Shutters fitted externally and still be operated from the window Control Pad.

VELUX recommend that all roof windows including solar or electrically operated roof windows are installed with a laminated pane for instances above 2.20m

GGL



Features/Benefits

- Ventilation bar with dust and insect filter – *Allows fresh air to enter the room while the window is securely closed*
- Friction springs – *Allows easy operation of window*
- Sash rotates 180° from inside – *Allows easy and convenient cleaning*

GGU



Operation

The Control Pad has a free field range of up to 300m, indoor range is 30m and will open the window up to 200mm. The window can also be manually opened and will centre-pivot to 180° for cleaning purposes. The Solar INTEGRA® Electric powered roof window has many functions.

VELUX INTEGRA®



Control Pad

Glazing options

- (--60) glazing Double glazed, laminated inner pane, toughened outer pane with Easy-to-clean coating, enhanced noise reduction.
- (--66) glazing Triple glazed, laminated inner, toughened outer pane with Easy-to-clean & Anti-dew coating.
- (--70) glazing Double glazed, laminated inner pane, toughened outer pane.

Cladding

- NCS standard colour (Grey): S 7500-N nearest RAL standard colour: 7043.
- Also available: titanium zinc, copper or other cladding types and colours.

Maintenance

The pane should be cleaned with a soft, clean, lint-free cloth or non-abrasive sponge. The rest of the window can be cleaned with ordinary household cleaners. The filter can be removed and either washed or replaced.

Guarantee

- 10 year VELUX guarantee on windows and flashing kits.
- 3 year guarantee on blinds, shutters, awnings and electrics.

Interior finish option

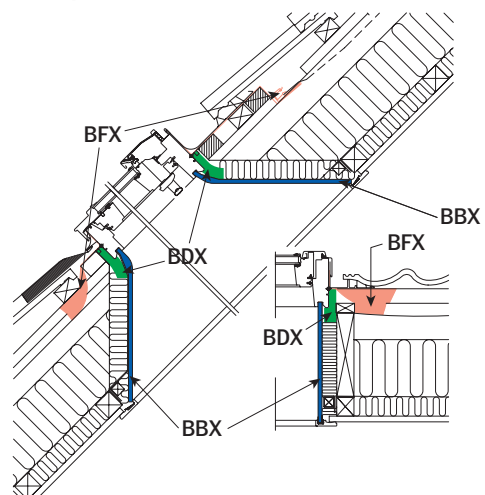
GGL

- White paint finish.

GGU

- No other finish available.

Best practice installation



Installation Products recommended by VELUX

Flashings for

- Single installation (ED_)
- Twin installation (EB_)
- Combi installation (EK_)

Installation Products

- Insulation Collar (BDX)
- Underfelt Collar (BFX) includes transverse drainage gutter
- Vapour Barrier (BBX)

Blinds, Awnings/Shutters

Interior Sunscreening

- Blackout Blind – Solar (DSL)
- Roller Blind – Solar (RSL)

Awnings/Shutters

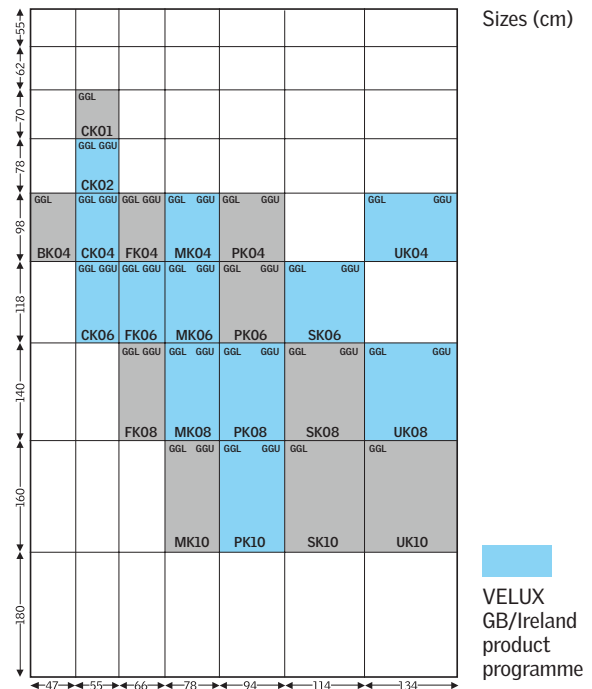
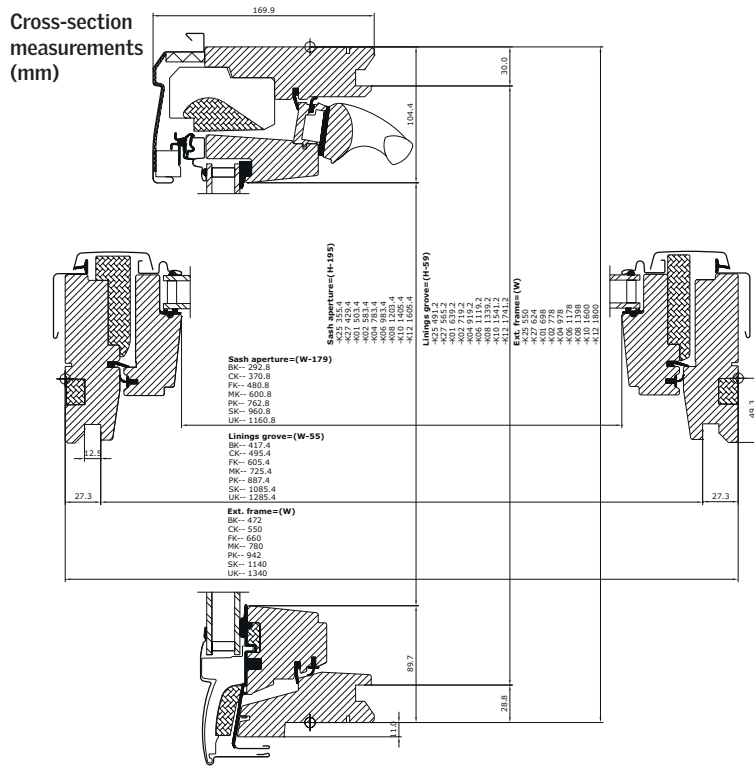
- Awning Blind – Solar (MSL)
- Roller Shutters – Solar (SSL)

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Please note not all glazing variants are available in all sizes and types

Size	Window Options	Exterior Frame	Visible Glass	Lining Rebate
		WxH	exf	kxl
BK04	GGL	472 x 978	293 x 783	417 x 639
CK01	GGL	550 x 698	371 x 503	495 x 639
CK02	GGL, GGU	550 x 778	371 x 583	495 x 719
CK04	GGL, GGU	550 x 978	371 x 783	495 x 919
CK06	GGL, GGU	550 x 1178	371 x 983	495 x 1119
FK04	GGL, GGU	660 x 978	481 x 783	605 x 919
FK06	GGL, GGU	660 x 1178	481 x 983	605 x 1119
FK08	GGL, GGU	660 x 1398	481 x 1203	605 x 1339
MK04	GGL, GGU	780 x 978	601 x 783	725 x 919
MK06	GGL, GGU	780 x 1178	601 x 983	725 x 1119
MK08	GGL, GGU	780 x 1398	601 x 1203	725 x 1339

Size	Window Options	Exterior Frame	Visible Glass	Lining Rebate
		WxH	exf	kxl
MK10	GGL, GGU	780 x 1600	601 x 1405	725 x 1541
PK04	GGL, GGU	942 x 978	763 x 783	887 x 919
PK06	GGL, GGU	942 x 1178	783 x 983	887 x 1119
PK08	GGL, GGU	942 x 1398	763 x 1203	887 x 1339
PK10	GGL, GGU	942 x 1600	763 x 1405	887 x 1541
SK06	GGL, GGU	1140 x 1178	961 x 983	1085 x 1119
SK08	GGL, GGU	1140 x 1398	961 x 1203	1085 x 1339
SK10	GGL	1140 x 1600	961 x 1405	1085 x 1541
UK04	GGL, GGU	1340 x 978	1161 x 783	1285 x 919
UK08	GGL, GGU	1340 x 1398	1161 x 1203	1285 x 1339
UK10	GGL	1340 x 1600	1161 x 1405	1285 x 1541



Technical data (GGL/GGU)	Size	BK04	CK01	CK02	CK04	CK06	FK04	FK06	FK08	MK04	MK06	MK08
Ventilation flap - free area [10 ³ mm ²]*		2.2	2.8	2.8	2.8	2.8	3.7	3.7	3.7	4.5	4.5	4.5
Ventilation flap - equivalent area [10 ³ mm ²]*		1.9	2.6	2.6	2.6	2.6	3.1	3.1	3.1	3.7	3.7	3.7
Ventilation - open window INTEGRA [m ²]		0.17	0.11	0.10	0.20	0.20	0.24	0.24	0.24	0.28	0.28	0.28
Effective daylight area [m ²]		0.23	0.19	0.22	0.29	0.37	0.37	0.47	0.58	0.47	0.59	0.72

*Measured to EN 13141-1

Technical data (GGL/GGU)	Size	MK10	PK04	PK06	PK08	PK10	SK06	SK08	SK10	UK04	UK08	UK10
Ventilation flap - free area [10 ³ mm ²]*		4.5	6.1	6.1	6.1	6.1	7.2	7.2	7.2	10.6	10.6	10.6
Ventilation flap - equivalent area [10 ³ mm ²]*		3.7	4.6	4.6	4.6	4.6	5.6	5.6	5.6	6.6	6.6	6.6
Ventilation - open window INTEGRA [m ²]		0.28	0.33	0.33	0.33	0.34	0.39	0.39	0.40	0.47	0.46	0.46
Effective daylight area [m ²]		0.85	0.60	0.75	0.91	1.07	0.95	1.14	1.35	0.91	1.41	1.63

*Measured to EN 13141-1

Pane variant	--60	GGL --62	GGU --62	--66	--70	EN/ISO Standard
Thermal transmittance, U _W [W/m ² K]	1.2	0.83	0.81	1.0	1.3	EN ISO 12567-2
Thermal transmittance, U _g [W/m ² K]	1.0	0.5	0.5	0.7	1.1	EN 673
Sound insulation, R _W [dB]	37	42	42	37	35	EN ISO 10140-2
Air permeability	Class 4	Class 4	Class 4	Class 4	Class 4	EN 1026
Light transmittance, τ _v	0.61	0.65	0.65	0.69	0.79	EN 410
Total solar energy transmittance, g	0.30	0.50	0.50	0.50	0.64	EN 410