VELUX Modular Rooflights

Daylight solutions for public and commercial buildings

veluxcommercial.com

VELUX®

Commercial

Front cover: Monolight

Above: Linearlight, Residential buildings, Strandpromenaden, Østerbro, Denmark

Elegant rooflight in pure style for flat roofs

VELUX Modular Rooflights are roof windows for flat roofs, that maximise the amount of natural light, without intrusive framing being visible.

VELUX Modular Rooflights have an elegant and aesthetic design and bring daylight into commercial buildings – for learning, working and recreation. The modules are available made-to-measure and can be produced in any dimension within the design limits, to meet the specific needs.

VELUX Modular Rooflights come in the following configurations:

Monolight (Fixed and Venting)
Monolight Walk-on (Fixed)
Linearlight (Fixed and Venting)
Circularlight (Fixed)

Burglary-resistant variant is available for:
Monolight (Fixed and Venting)
Linearlight (Fixed)

Index

Serving your daylighting needs every step of the way

VELUX Commercial offers daylighting and ventilation solutions for industrial, commercial and public buildings. Our domes, rooflights and glazing systems provide plenty of daylight and fresh air, transforming the indoor spaces into inspiring and productive places.

With us as your partner, you have installation and technical expertise close at hand. Together, we can develop long-lasting and high-quality results for your building.

We are here to support you throughout the building project, from specification and design to installation and maintenance. We will carefully listen to your specific needs and help you select the best possible solution.

As part of the VELUX Group, we draw on 80 years of expertise in daylighting solutions. Today, we are a team of 1,100 people working within manufacturing, sales and global support functions in 15 countries.

VELUX Commercial offers solutions in following categories:

Domes and flat roof windows
Our complete range of prefabricated, ready-to-install domes and flat roof windows provide single sources of daylight and fresh air as well as smoke and heat exhaust ventilation.

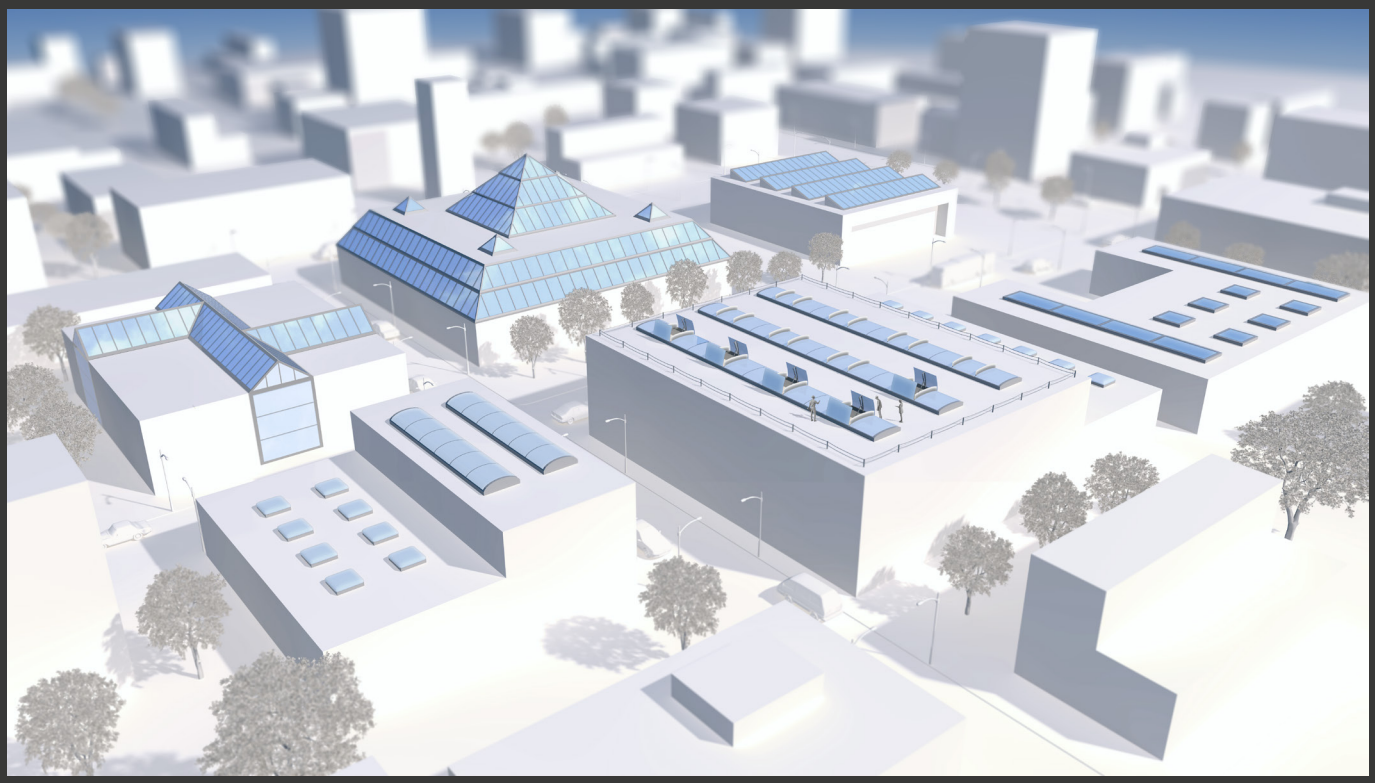
Continuous Rooflights
Our economic continuous rooflight systems provide large areas of natural, diffused light as well as comfort and certified smoke and heat exhaust ventilation options in a lightweight construction.

GRILLODUR®
This lightweight, fiberglass solution provides glare-free and shadow-free illumination, along with fall-through safety and options for comfort and smoke and heat exhaust ventilation.

Glass systems
Our reliable glass systems with design flexibility enable you to produce a building with optimal daylight and fresh air as well as smoke and heat exhaust ventilation to support occupant wellbeing.

Smoke exhaust and comfort ventilation
Our solutions for smoke and heat exhaust ventilation, comfort ventilation and daylight and heat control ensure safety and occupant wellbeing.

Support
We offer a wide range of support in the design, specification and installation phases, as well as, service and maintenance. For easy specification, download our detailed 2D illustrations and technical drawings or our detailed 3D CAD/BIM objects.



Designing with daylight and natural ventilation

Improving well-being and comfort

With people spending up to 90% of their time indoors, designing with daylight becomes increasingly important to enhance well-being. Innovative daylight design connects the inside of buildings to the world outside. Natural light helps stimulate the mind and creates comfortable environments for work, study, and leisure. When thermal control is combined with natural light and fresh air, comfort and well-being are maximised.

Daylight and ventilation with additional comfort features

VELUX Commercial offers several unique features to help create grand daylight designs. The availability of sun protection and opening modules for ventilation help reduce heat and glare exposure, providing climate control.

Daylight and artificial light

A key difference between daylight and artificial light is daylight's evolving light levels, color, and direction throughout the day. The direction in which light falls is also dependent on the location of windows and lighting fixtures. Daylight penetrating through façade windows and rooflights provide an evolving light direction, while electric lights in the ceiling provide vertical illumination. Try our Daylight Visualizer tool for a precise and visual daylight analysis of any given rooflight installation.

Smoke ventilation

Skylights play a major role in keeping the building and its occupants safe by removing toxic smoke in the event of a fire. To make sure people are safe, our innovative rooflight solutions can be complemented with accessories that provide several benefits. Smoke ventilation systems channel the smoke and heat through the roof and are designed to facilitate the safe escape of people. The type of fire ventilation that VELUX Commercial provides is natural fire ventilation.

Our products can be configured to automatically open and close according to changes within the building environment. VELUX Commercial offers a wide range of natural comfort ventilation and natural smoke and heat exhaust ventilation rooflights. Changes to the environment such as building temperature or smoke detection can trigger your building management system to adjust hinges, opening rooflight panels in order to help to control indoor comfort or ventilate smoke in the event of a fire.

Safety on the roof

To ensure safety during installation, maintenance and inspection, VELUX rooflights can be offered with a range of metal fall-through protection systems that can be either pre-installed or installed on-site. Whether a warehouse, factory, or an office building – VELUX Commercial can help you select the safest solution.

Daylight through the roof as single spots or entire bands

Monolight, K.B.Hallen Sports facilities, Copenhagen, Denmark

VELUX Modular Rooflights are an elegant solution for flat roofs, providing direct access to daylight. Due to the glass-top construction the light incidence is maximised, meaning that the light area is equal to the roof opening. Furthermore, the prefabricated built-in wooden upstand provides a straightforward and simple installation process. VELUX Modular Rooflights are available in several variants:

- Monolight is a single rooflight which can transform a dull room by flooding the space with natural light from above. Monolight is offered as a fixed or venting rooflight, allowing for additional comfort ventilation as required.

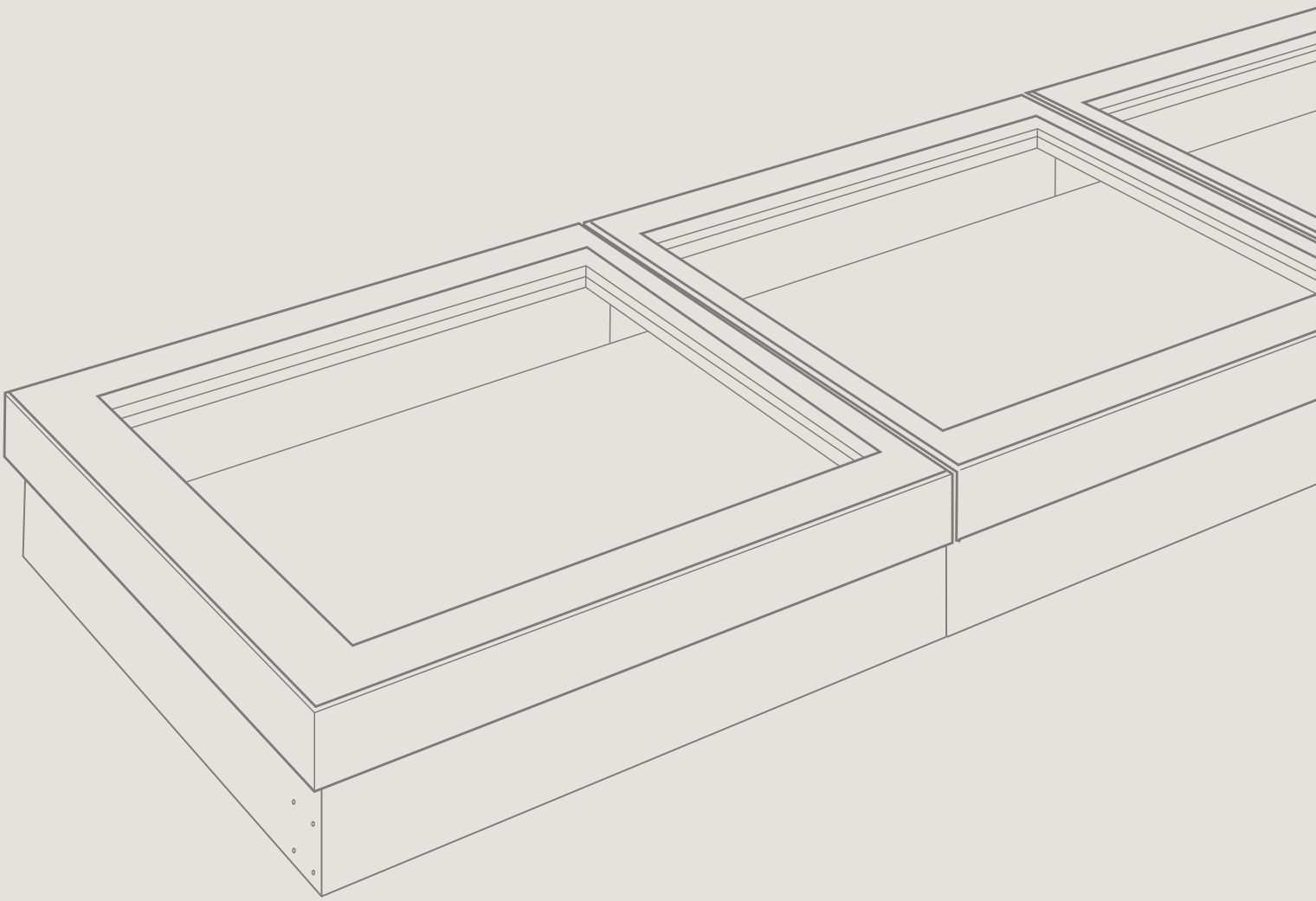
Brangeon Office, Cholet, France

Linearlight, Engholm school, Lillerød, Denmark

Monolight, CM Byg, Ribe, Denmark

- Monolight Walk-on is offered as a fixed version where the walkable top unit can make flat roofs accessible without compromising daylight in the building.
- Linearlight is a row of VELUX Modular Rooflights that by means of an advanced connector system provides a larger band of natural light without the need for additional support.

  Linearlight is offered as a fixed or venting rooflight, allowing for additional comfort ventilation as required.
- Circularlight is a fixed single round rooflight which can provide an elegant, rounded style look in the roof.



MADE-TO-MEASURE PREMIUM ROOFLIGHTS

The module

The advantages of a prefabricated flat roof module

Prefabricated modularity offers a great number of advantages, at every step in the process. From planning and design to the moment the roof is sealed off with magnificent skylights. Modularity offers:

- Known performance, classifications and behaviour, easing the specification phase.
- Predictability of time frame and estimation of labour in the installation phase.
- Security for years to come through support and maintenance.
- Clarity and speed for all implicated stakeholders in the building process.

Modularity is a shortcut to creating sustainable buildings with all the necessary approvals and classifications.

Modularity in every single product
All modules are produced offsite at our factory, meaning every single component is rigorously tested and integrated in a controlled environment. Each component is also of the highest premium quality and is built to stand the test of time.

All prefabricated Monolight, Linearlight and Circularlight roof windows are CE marked in accordance with EN 14351-1.

VELUX Modular Rooflights have a reference service life of 30 years in accordance with EN 17213.

For more on performance and classifications, go to page 28-33.

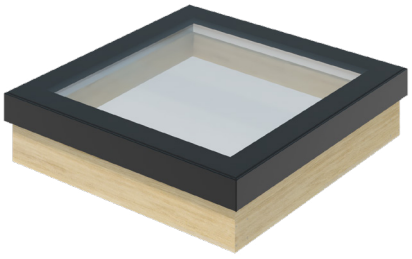
VELUX Modular Rooflights are made-to-measure modules and can be produced in any dimension and upstand height, within the design limits, thus perfectly matching the building.

reddot winner 2023

Product overview

Monolight

Fixed



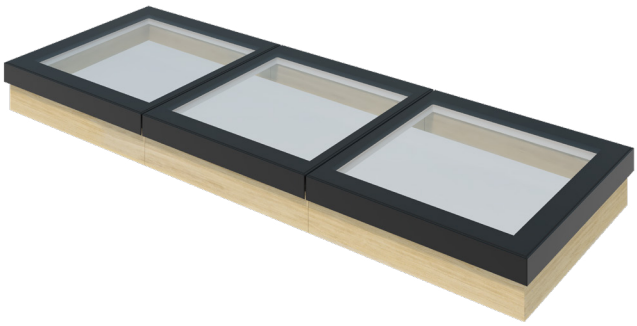
Monolight fixed
It is a fixed variant, including upstand, and a perfect solution where natural light is desired. For a nice finish the builders inner lining can be connected into the groove just under the glazing.

Venting

Monolight venting
It is an optimal solution where light and natural ventilation are required. An elegant and functional solution, with a fully integrated chain actuator concealed within the insulated wooden upstand. For a nice finish the builders inner lining can be connected into the groove just under the glazing.

Linearlight

Fixed



Linearlight fixed and/or venting
Linearlight is a unique solution that by placing modules side by side form a continuous system without the need for additional support. The solution consists of either pure fixed modules, pure venting modules or a combination of both, based on customer wishes.

Venting

The upstand with advanced connector system and drainage gutter ensures a watertight and airtight connection between the modules. A minimized beam ensures a beautiful connection on the inside. Based on customer requirements a static calculation (snow and windloads) will be made by VELUX Commercial for each building situation.

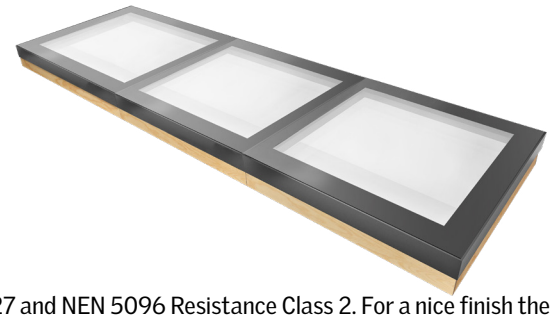
Monolight Burglary-resistant

Fixed and venting

Burglary-resistant
Is available as versions of Monolight fixed and venting and of Linearlight fixed. These products are approved according

Linearlight Burglary-resistant

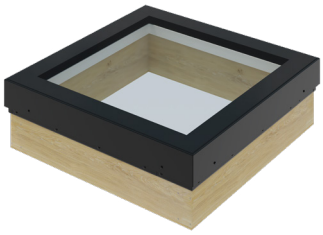
Fixed



to EN 1627 and NEN 5096 Resistance Class 2. For a nice finish the builders inner lining can be connected into the groove just under the glazing.

Monolight Walk-on

Fixed



Monolight Walk-on
Is a fixed single unit rooflight ideal when natural light is required under an accessible roof. For a nice finish the builders inner lining can be connected into the groove just under the glazing.

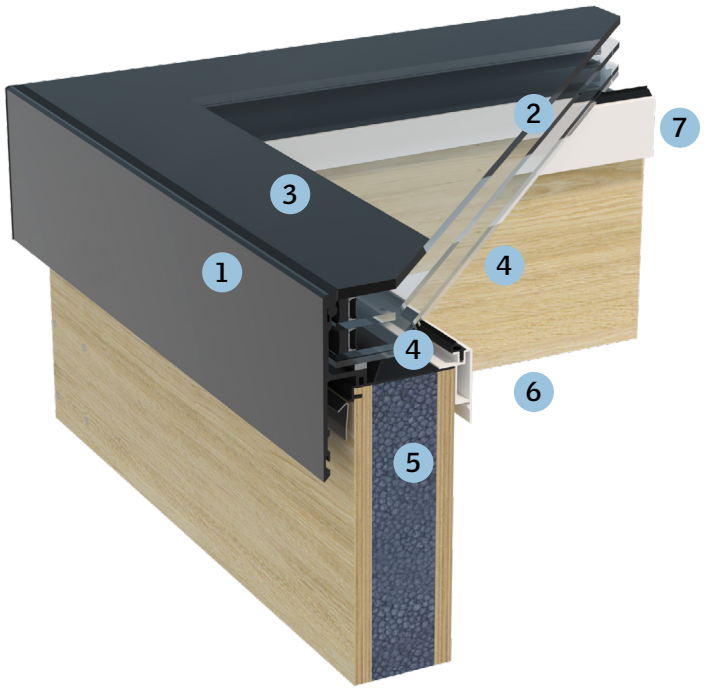
Circularlight

Fixed

Circularlight
For buildings with a wish for an extraordinary architectural style or daylight design Circularlight can be applied to illuminate the room with natural light.

Module construction

Monolight



1 **Aluminium frame (height depends on glazing unit)**
Pre-assembled corners and powder coated aluminium frame with the standard colour grey.

2 **Insulating Glass Unit (IGU)**
Available in double and triple glazing, standard with LowE coating or with additional sun protection. Monolight Walk-on is only available in a double glazing with a LowE coating.

3 **Silk screen print**
The silk screen print gives a nice finish as well as UV protection to the gaskets and the underlying construction.

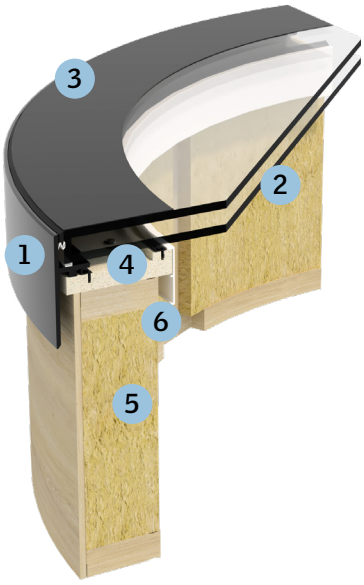
4 **Double gaskets**
The top plate gasket and the gasket on the aluminium profile provide a watertight and airtight construction.

5 **Upstand**
90°angle provides a straight connection with the interior. The wood-EPS sandwich construction provides a stable and well-insulated upstand for a good insulation performance of the entire product.

6 **Lining profile**
This multifunctional part defines the clear internal part of the product. It offers the possibility for a secure connection to the vapour barrier in the roof construction. It also makes the flush plaster board connection from ceiling to glazing easy and intuitive during installation. Vapour barrier and inner lining are to be supplied by others. The profile also supports installation of an optional roller blind.

7 **Pre-wiring for roller blind**
Hidden pre-wiring is optional for nice and easy installation of VELUX roller blinds.

Circularlight



1 **Aluminium frame**
Welded frame and powder coated aluminium frame with the standard colour grey.

2 **Insulating Glass Unit (IGU)**
Available in double glazing with LowE coating

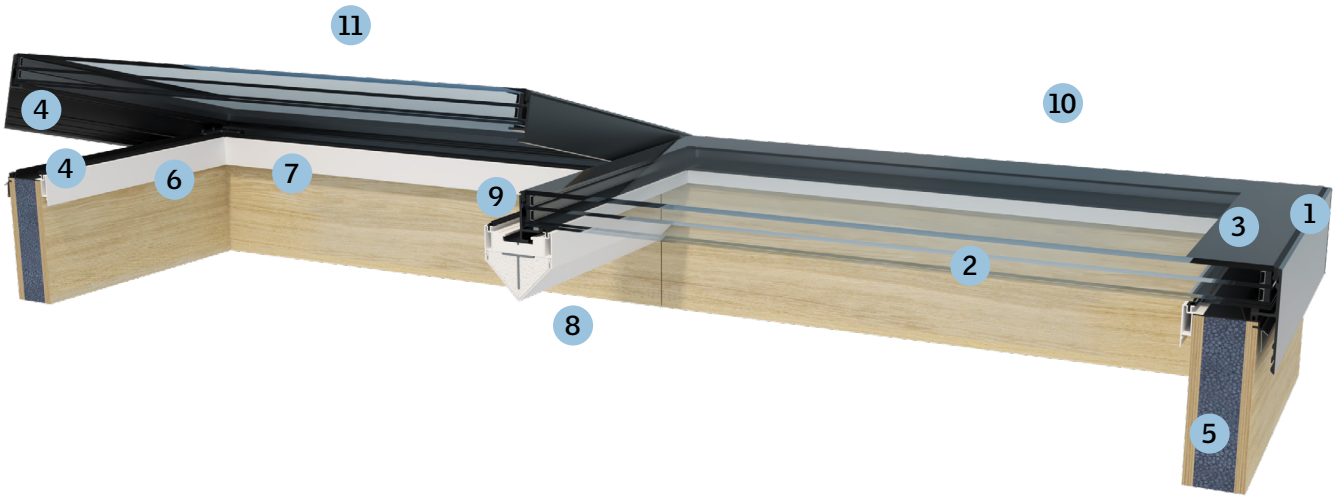
3 **Silk screen print**
The silk screen print gives a nice finish as well as UV protection to the gaskets and the underlying construction.

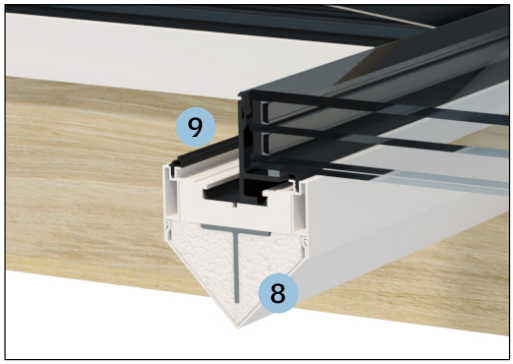
4 **Double gaskets**
A top plate with gaskets provides a watertight and airtight construction

5 **Upstand**
90° angle provides a straight connection with the interior. Construction with plywood and insulation material for a good thermal performance.

6 **Lining profile**
This multifunctional part defines the clear internal part of the product. It offers the possibility for a secure connection to the vapour barrier in the roof construction. It also makes the flush plaster board connection from ceiling to glazing easy and intuitive during installation. Optional inner lining available.

Linearlight





1 **Aluminium frame (height depends on glazing unit)**
Pre-assembled corners and powder coated aluminium frame with the standard colour grey.

2 **Insulating Glass Unit (IGU)**
Available in double and triple glazing, standard with LowE coating or with additional sun protection.

3 **Silk screen print**
The silk screen print gives a nice finish as well as UV protection to the gaskets and the underlying construction.

4 **Double gaskets**
The top plate gasket and the gasket on the aluminium profile provide a watertight and airtight construction.

5 **Upstand**
90° angle provides a straight connection with the interior. The wood-EPS sandwich construction provides a stable and well-insulated upstand for a good insulation performance of the entire product.

6 **Lining profile**
This multifunctional part defines the clear internal part of the product. It offers the possibility for a secure connection to the vapour barrier in the roof construction. It also makes the flush plaster board connection from ceiling to glazing easy and intuitive during installation. Vapour barrier and inner lining are to be supplied by others. The profile also supports installation of an optional roller blind.

7 **Pre-wiring for roller blinds**
Hidden pre-wiring is optional for nice and easy installation of VELUX roller blinds.

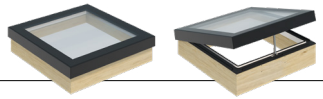
8 **Minimized beam**
The beam with optimized reinforcement is supporting the top unit while it is kept as slim as possible in order to maximize light entrance.

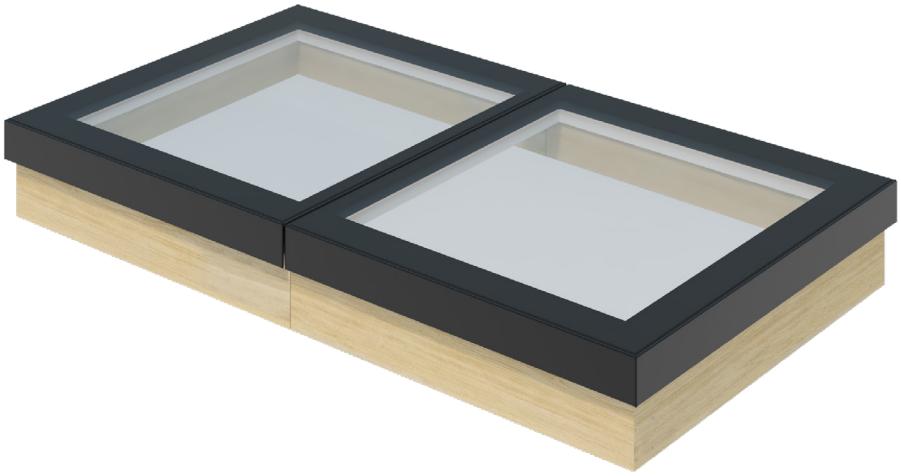
9 **Drainage gutter**
Rain water flows down the drainage gutter and is transported to the outside of the product.

10 **Fixed module**

11 **Venting module**

Burglary-resistant variants Class 2 (RC2)





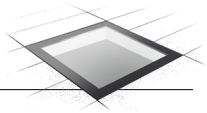
Monolight (fixed and venting) and Linearlight (fixed) are available as Burglary-resistant versions. The products are reinforced with stronger glass (P4A), fixation and additional installation materials. The approved security materials are supplied within the package.

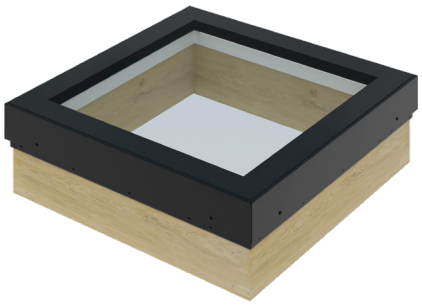
Burglary-resistant variants hold a Class 2 (RC2) in accordance with NEN 5096:2012+A1, EN 1627:2011. Please note that the distance between the top of the roof and the bottom of the sash profile must not exceed 170 mm after finished installation.

SKG-IKOB
Certificatie

Read more about burglary-resistance in our installation instruction can be downloaded at your local VELUX Commercial website.

Monolight Walk-on



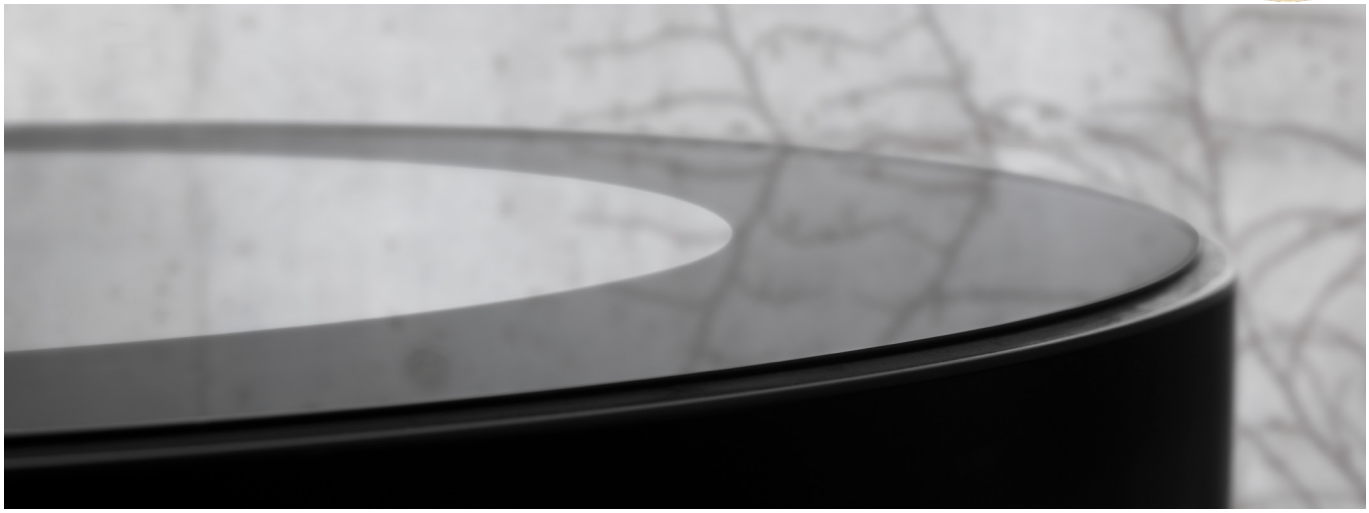


Monolight Walk-on
Monolight Walk-on is ideal when natural light is required under an accessible roof. It is available with a special 2-layer glazing unit with an optional anti-slip coating.

The modules are designed to comply with a live load (person) of 5 kN/m2 according to Eurocode EN 1991-11 using and DIN 18008-5.

Please note that it is the sole responsibility of the customer to verify the product's suitability for the intended purpose by means of using the relevant local requirements and load scenarios. Furthermore, national anti-slip regulations should be considered.

Circularlight



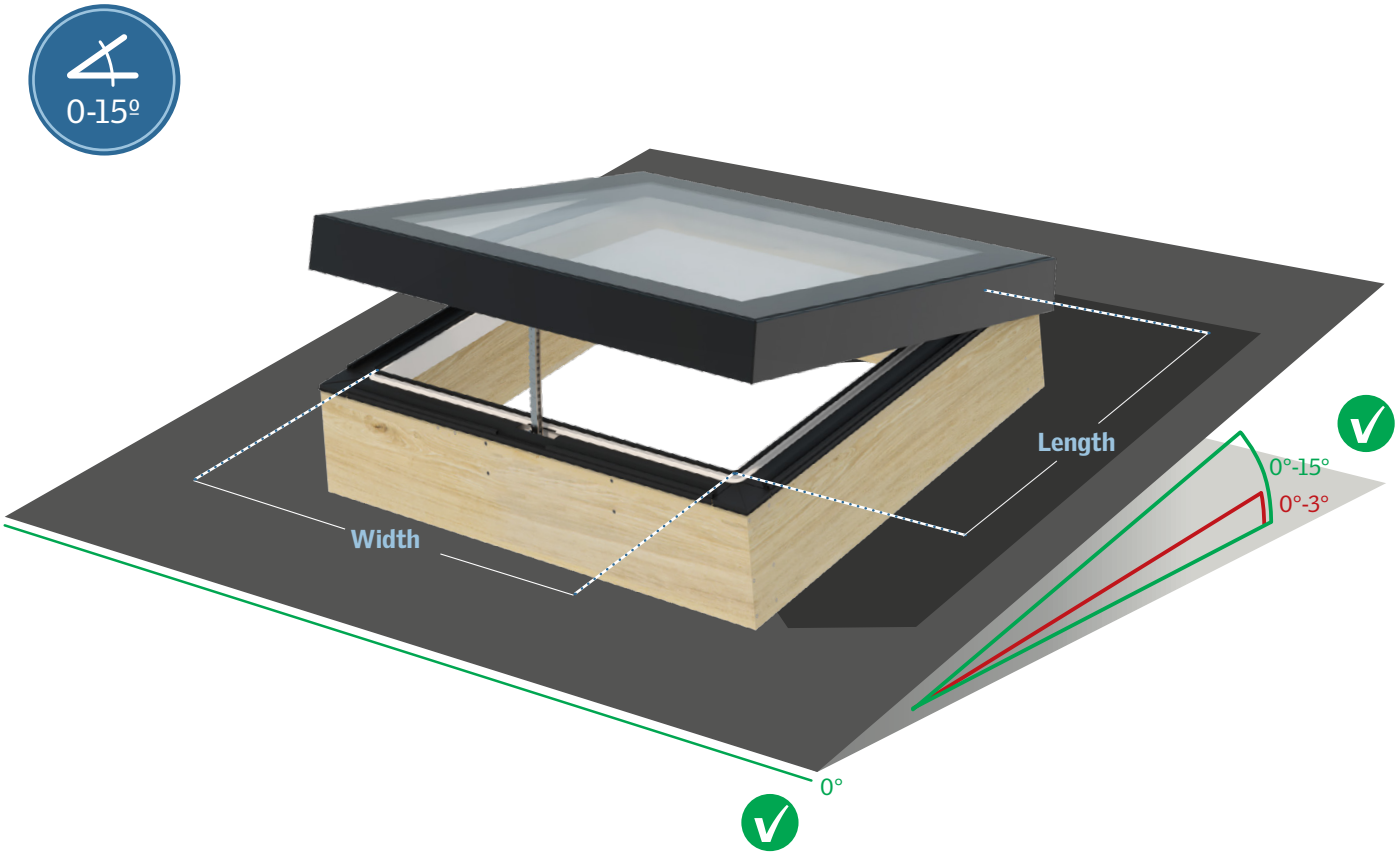
Circularlight
For buildings with an extraordinary architectural style Circularlight can be applied to illuminate with natural light. The round shape can on its own or combined in a pattern give a stylish expression to the building from outside or from the interior.

It is available with a 2-layer glazing unit and has an optional inner lining for easy installation.

Roof pitch and clear internal measurement

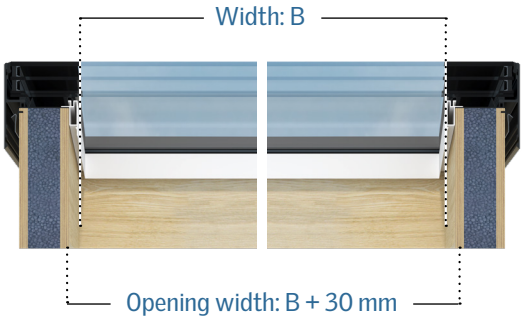
Roof pitch
VELUX Modular Rooflights can be installed in flat and pitched roofs from 0° up to 15°. A minimum 3° pitch on the module installation is recommended to avoid ponding water on the glass surface.

The venting modules must be installed as top hung. A lateral pitch is not allowed for venting modules or for Linearlight.

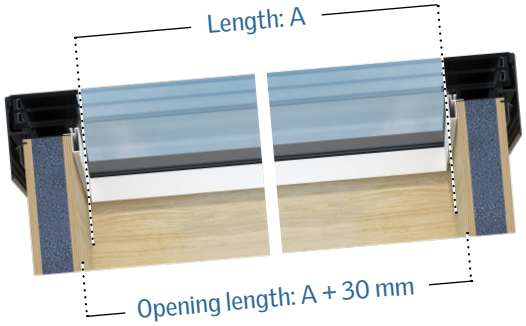


Monolight and Linearlight

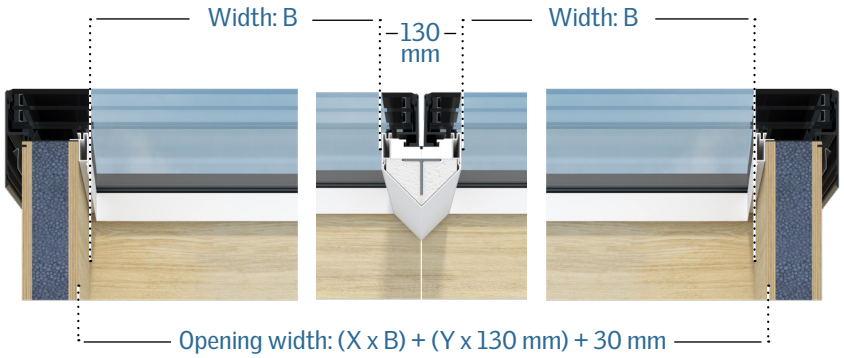
Monolight



Monolight/Linearlight



Linearlight

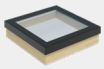
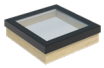
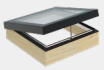
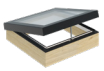
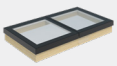
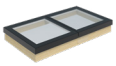
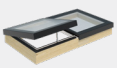
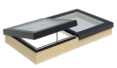
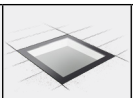


Clear Internal
A = Clear internal module length
B = Clear internal module width
Note: The inner lining is not part of the VELUX Commercial delivery.

Product overview

The Module

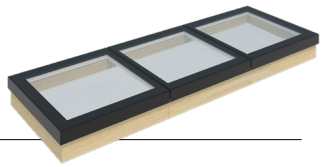
Configuration options

			Glazing unit	Clear internal measurements (mm)		Upstand (mm)		Limitations				
				Width (B) (Actuator side) Diameter (Ø) (only Circularlight)	Length (A) (Slope direction)	Height	Construction width	Max. clear internal area (m²)	Max. measurement of shortest side (mm)	Max. ratio between shortest and longest side	Clear internal area (m²) or width (B) in relation to one or two actuators	Min. width (B) for two actuators (mm)
Monolight	**Fixed**		Double glazing	250-3000	250-3000	150-600	100	4.00*	1950	1:6	_	–
Monolight	**Fixed**		Triple glazing	250-3000	250-3000	150-600	100	4.00*	1950	1:6	_	–
Monolight	**Venting**		Double glazing	600-3000	600-2000	150-600	100	4.00*	1950	1:6	Area ≤ 2 m² (Single actuator) Area > 2 m² or width (B) > 2m (Dual actuators)	1200
Monolight	**Venting**		Triple glazing	600-3000	600-2000	150-600	100	3.00*	1950	1:6	Area ≤ 1.5 m² (Single actuator) Area > 1.5 m² or width (B) > 2m (Dual actuators)	1200
Linearlight	**Fixed**		Double glazing	250-3000*	250-2000*	150-600	100	4.00*	1950	1:6	_	_
Linearlight	**Fixed**		Triple glazing	250-3000*	250-2000*	150-600	100	4.00*	1950	1:6	_	_
Linearlight	**Venting**		Double glazing	600-3000*	600-2000*	150-600	100	4.00*	1950	1:6	Area ≤ 2 m² (Single actuator) Area > 2 m² or width (B) > 2m (Dual actuators)	1330
Linearlight	**Venting**		Triple glazing	600-3000*	600-2000*	150-600	100	3.00*	1950	1:6	Area ≤ 1.5 m² (Single actuator) Area > 1.5 m² or width (B) > 2m (Dual actuators)	1330
Monolight Walk-on	**Fixed**		Walk-on Double glazing	600-3000	600-3000	170-600	100	3.00	_	_	_	_
Circularlight	**Fixed**		Double glazing	Ø 900-1300	_	150-600	117	1.33	_	_	_	_

* Depends on snow and wind loads – a static calculation must be performed

Size overview

Linearlight



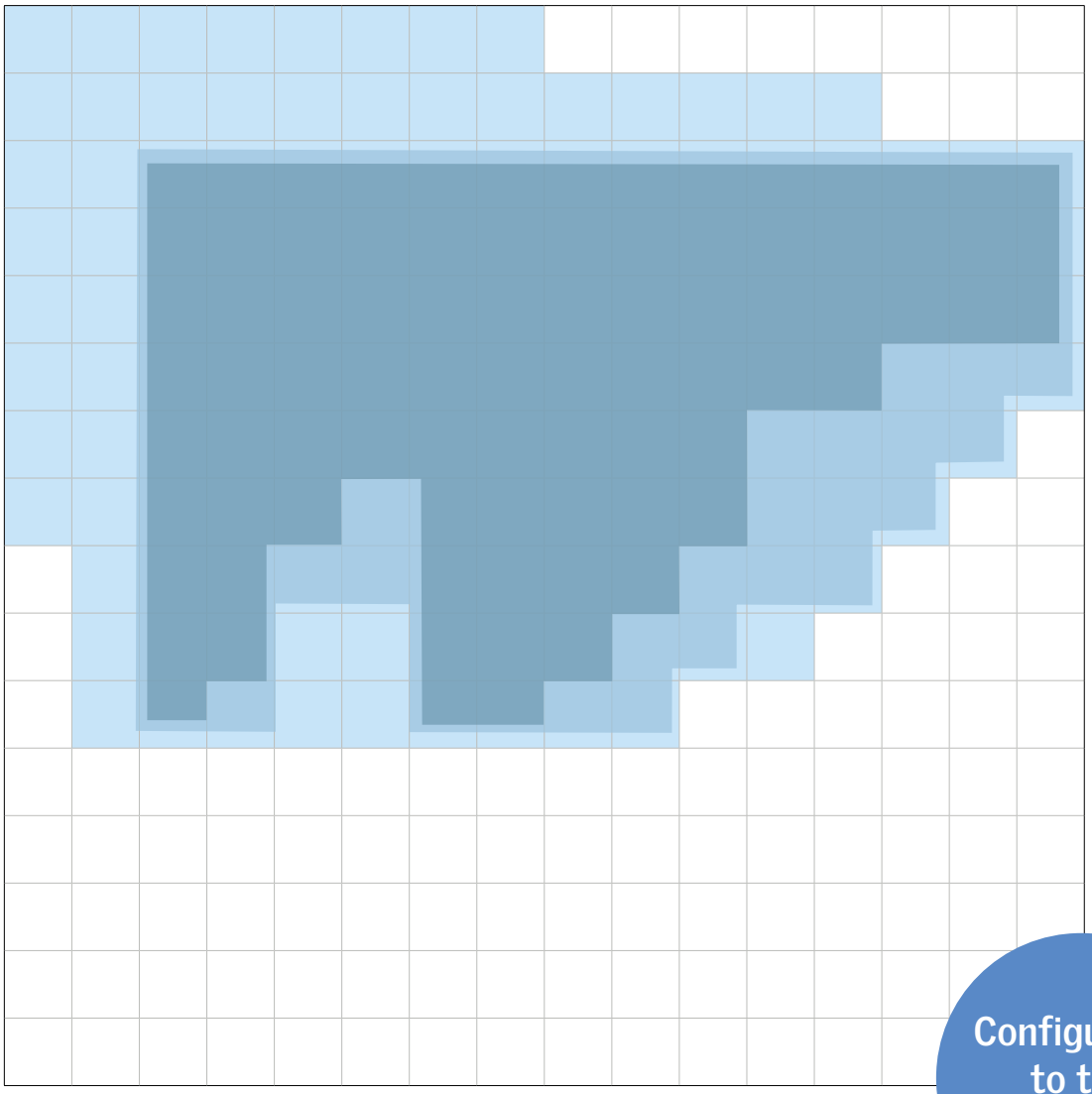
The table gives an indication of module size limits for all Linearlight variants. Modules are made-to-measure and the size shall always be configured according to the configuration options of criteria page 19.

Width (B) between 250 and 3000 mm depending on module type

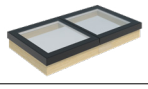
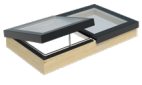
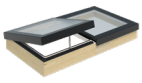
250	400	600	800	1000	1200	1400	1500	1600	1800	2000	2200	2400	2600	2800	3000

Length (A) between 250 and 3000 mm depending on module type

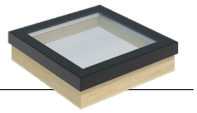
250 400 600 800 1000 1200 1400 1500 1600 1800 2000 2200 2400 2600 2800 3000



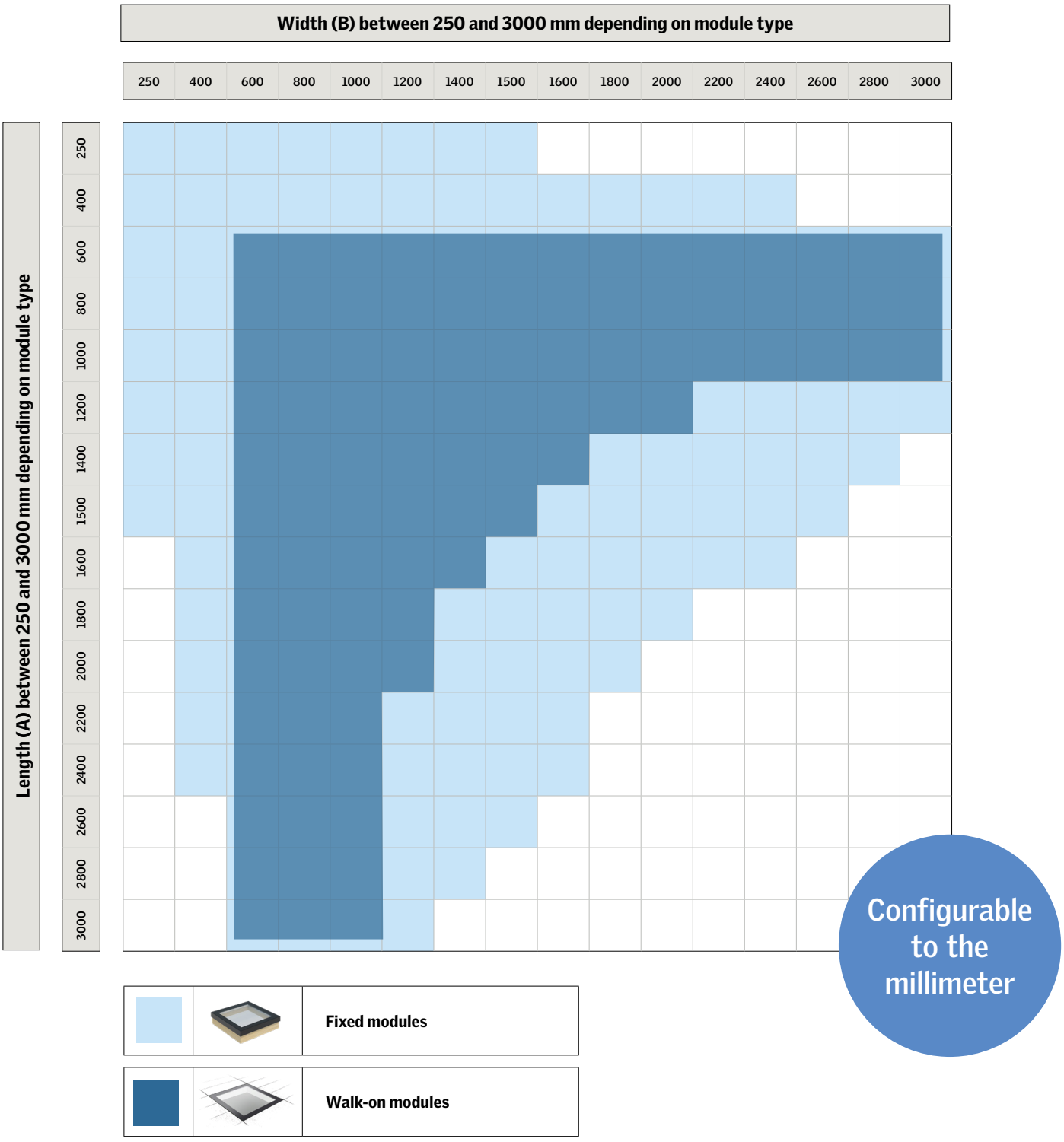
Configurable to the millimeter

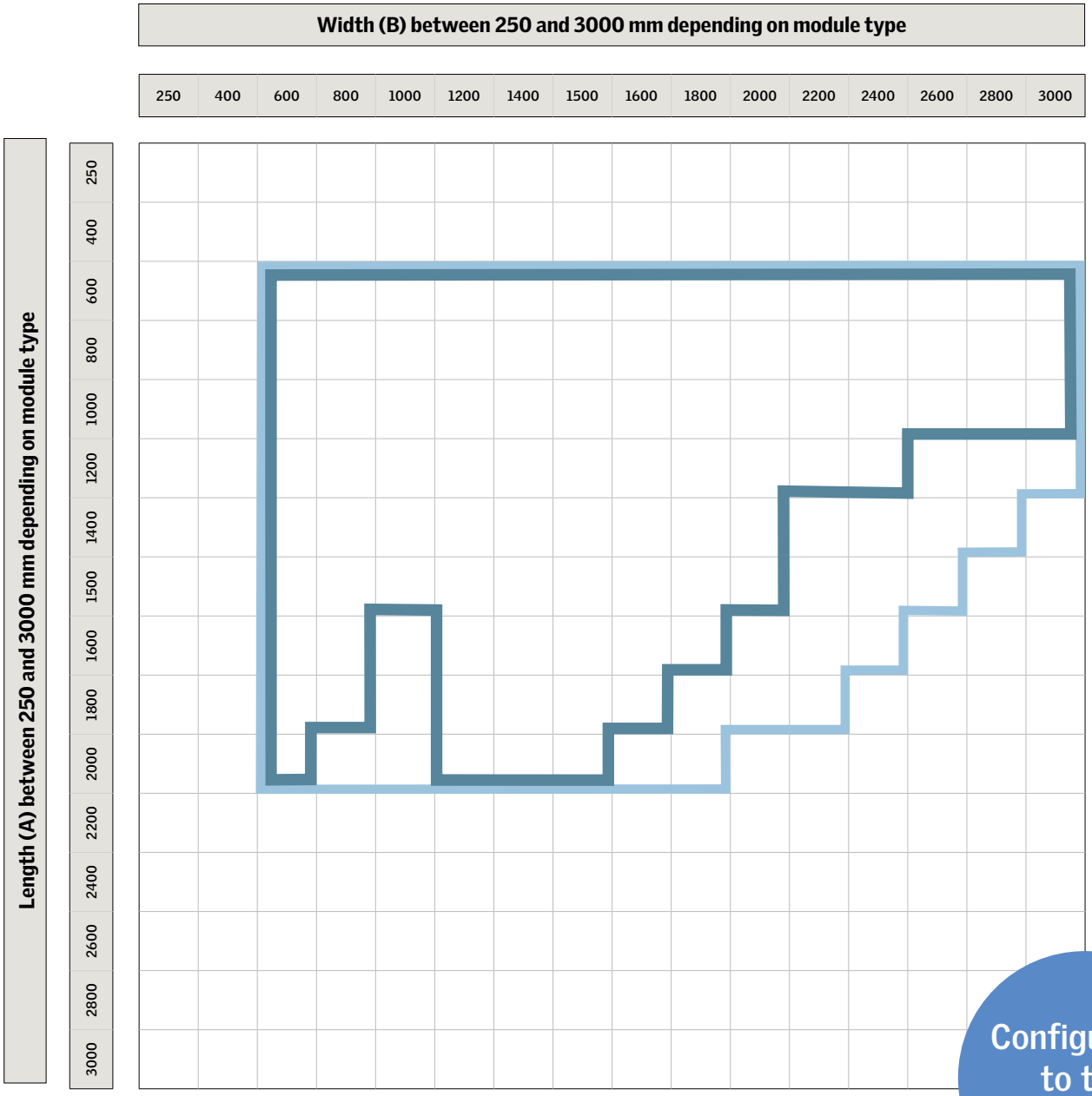
		**Fixed modules**
		**Venting modules** – Double glazing
		**Venting modules** – Triple glazing

Monolight



The table gives an indication of module size limits for all Monolight variants. Modules are made-to-measure and the size shall always be configured according to the configuration options of criteria page 19.





Venting modules
– Double glazing

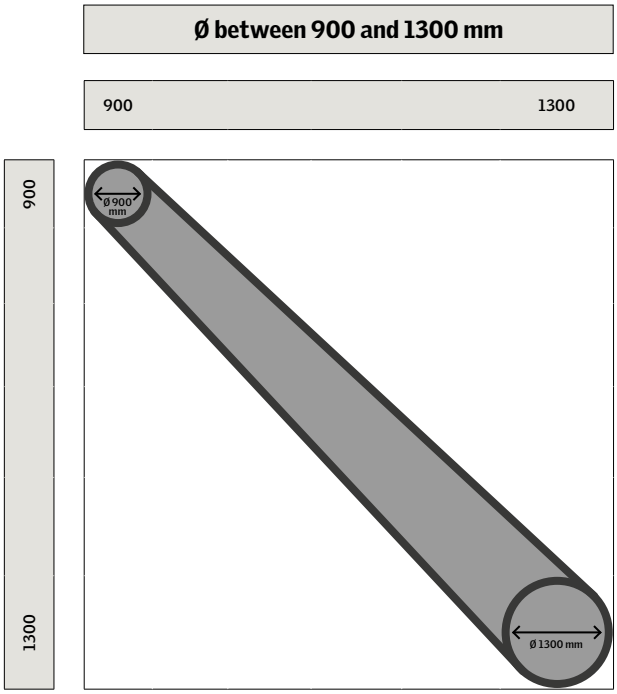
Venting modules
– Triple glazing

Configurable to the millimeter

Size overview

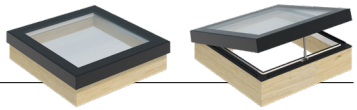
Circularlight – Made-to-measure

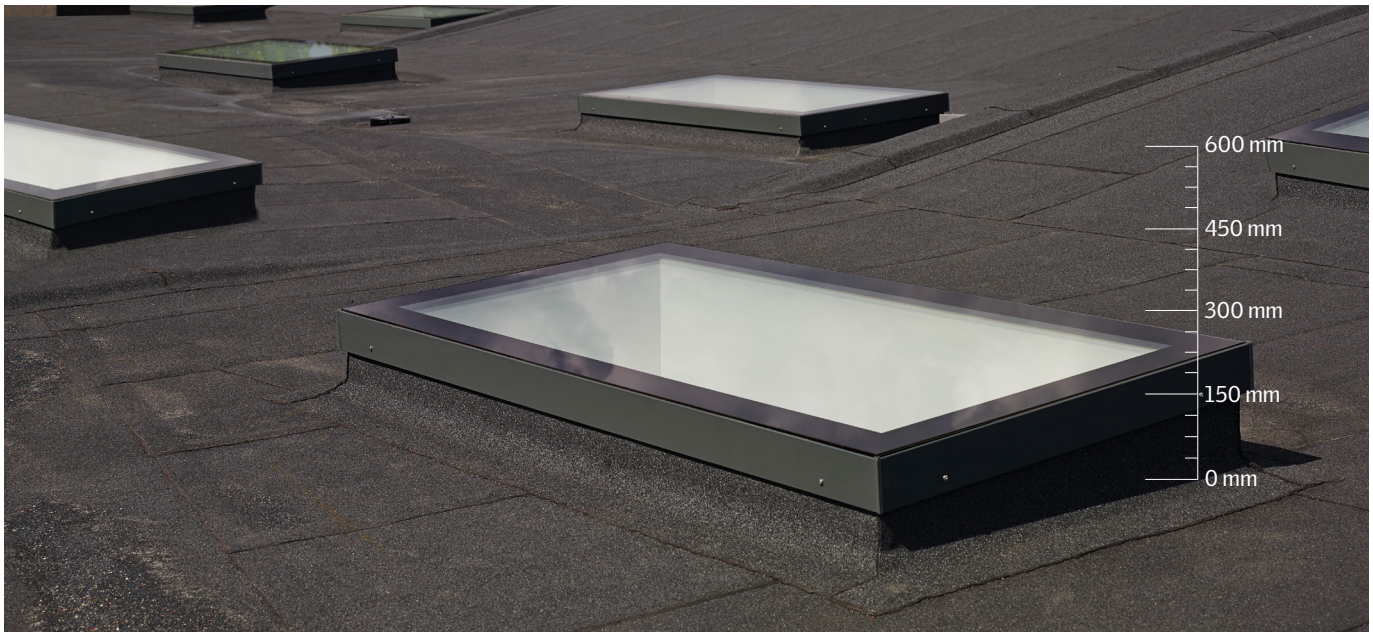
The table gives an indication of module size limits. Modules are made-to-measure and the size shall always be configured according to the criteria page 19.



Attachment to the roof

Insulated wooden upstand





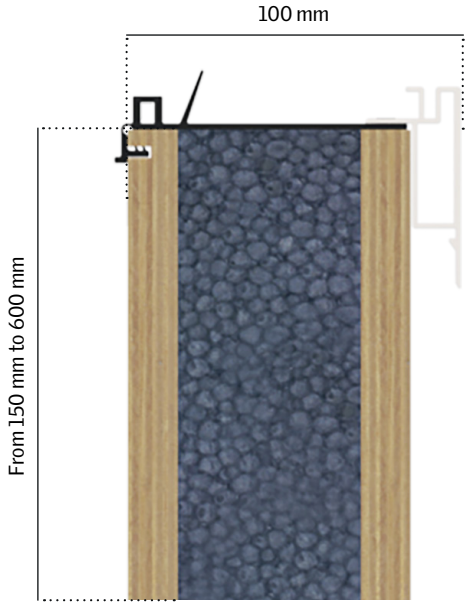
The wooden upstand is supplied from 150 mm up to 600 mm, depending on project requirements, or visual architectural idea. Monolight Walk-on is available with an upstand from 170-600 mm.

If 150 mm continuous roofing felt is needed, a minimum upstand height of 190 mm for fixed modules and 230 mm for venting modules is required due to the top unit design.

For venting modules, the actuator is fully integrated in the wooden upstand.

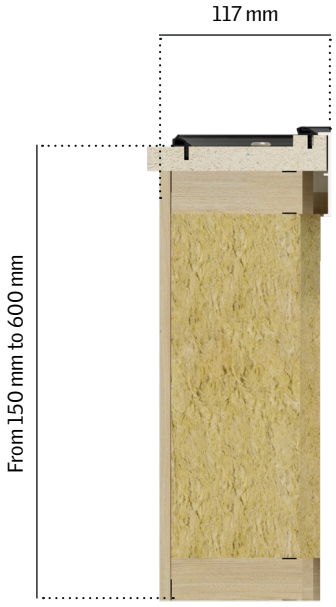
The wood in the upstand is CE marked in accordance with EN 13986 and has a bonding quality of class 3 in accordance with EN 314-2, a classification that specifies use in exterior conditions and exposure to weather over sustained periods.

Monolight and Linearlight

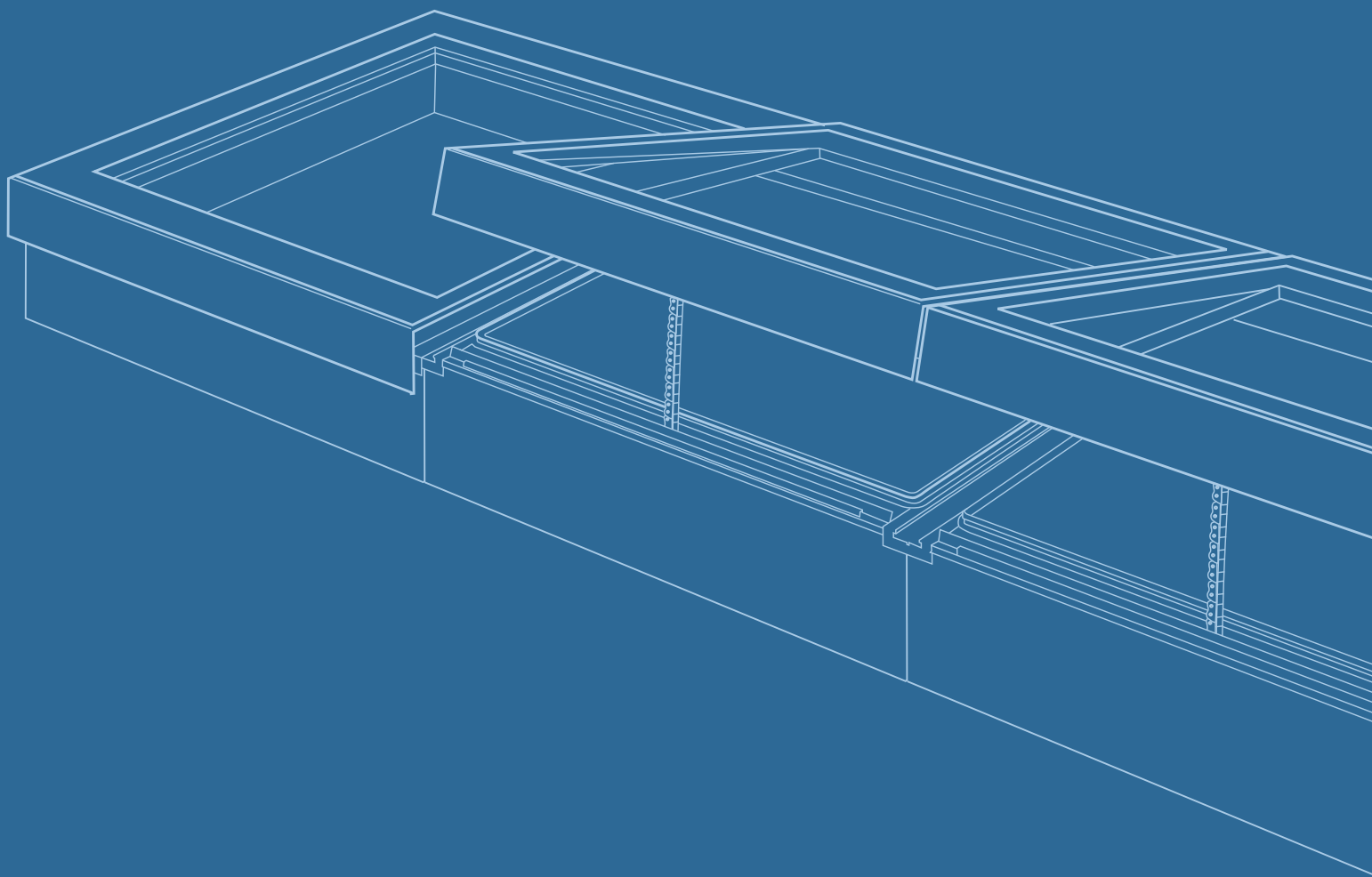


Inner lining and vapour barrier to be supplied by others.

Circularlight



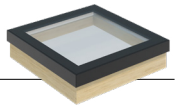
Optional inner lining available.



PERFORMANCE AND TECHNICAL DATA

Module materials and colours

Monolight and Linearlight



White

Insulated wooden upstand

Material: Wood – EPS sandwich panel with wood and coated aluminium profile (RAL 9010, gloss 30)

Top surface:
- Black EPDM gasket

Internal and external surface:
Untreated water-resistant plywood, CE marked in accordance with EN 13986 and has a bonding quality of class 3 in accordance with EN 314-2.

Grey

Black

Top unit

Frame:
Material: Aluminium with steel and plastic corner keys

Surface: Powder coated

Colour: RAL 7043, gloss 30 or RAL 9005, gloss 30. Other colours upon request at additional price.

Pane: Double or triple glazing

Silk screen printing on pane

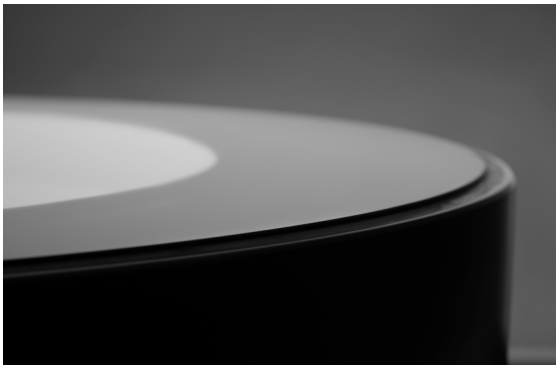
Material: Silk screen print, 115 mm wide (50 mm wide at beam side of Linearlight)
Colour: Black

Circularlight

White

Insulated wooden upstand
Material: Plywood, insulation and plastic profile (RAL 9010)

Top surface:
- Purenit top plate
- Black EPDM gaskets



Grey

Top unit

Frame:
Material: Aluminium
Surface: Powder coated
Colour: RAL 7043, gloss 30
Pane: Double glazing

Silk screen printing on pane

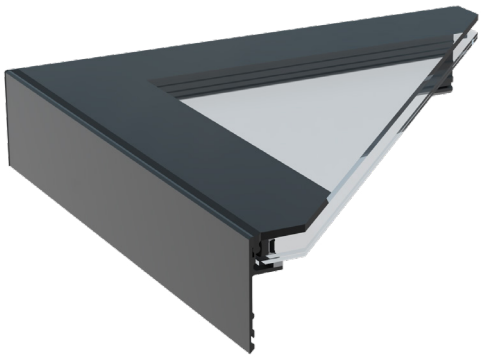
Material: Silk screen print, 129 mm wide
Colour: Black

Glazing unit

Options

Modular rooflights come with low emissivity double or triple glazing with foil-laminated inner glazing for added safety and two different coating options.

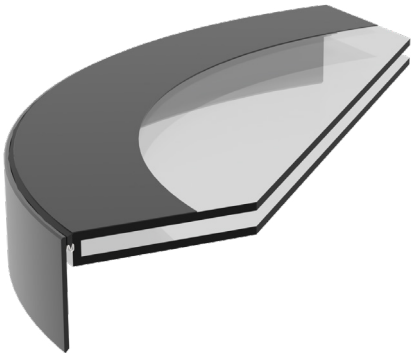
The coatings are optimised to meet the desired levels of solar heat gain, sun protection, light transmittance and colour rendering.



Double glazing available for
Monolight and Linearlight

Triple glazing available for
Monolight and Linearlight

Walkable double glazing available for
Monolight Walk-on



Double glazing available for
Circularlight

Glazing unit with advanced sun protection coating

Spectral values (wave length in nm)

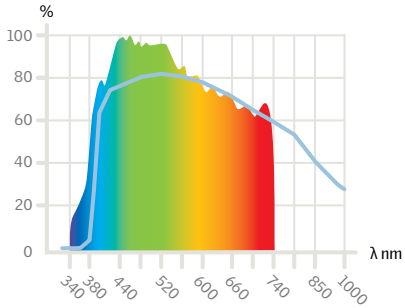
Visible daylight tau

All of the mentioned values on this page are in accordance with EN 410.

Glazing with low emissivity coating (LowE) for DG

Variant 20V

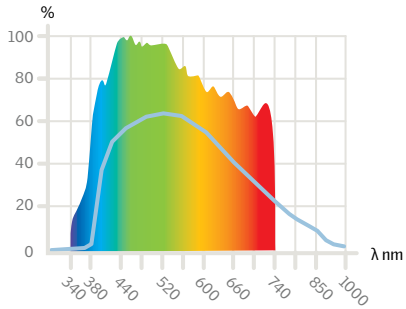
Light transmittance: τ_v-value = 80%
Solar factor: g-value = 61%
Colour rendering index: R_a = 97



Glazing with light sun protection coating (Sun1) for DG

Variant 21V

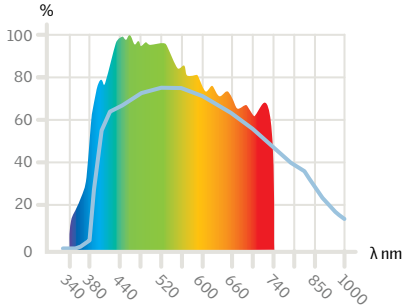
Light transmittance: τ_v-value = 61%
Solar factor: g-value = 33%
Colour rendering index: R_a = 91



Glazing with low emissivity coating (LowE) for TG

Variant 30V

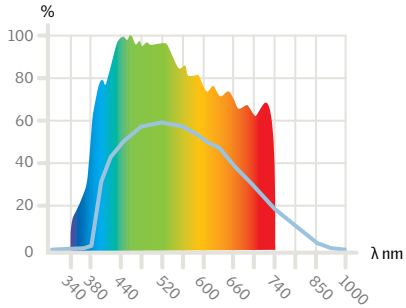
Light transmittance: τ_v-value = 71%
Solar factor: g-value = 53%
Colour rendering index: R_a = 95



Glazing with light sun protection coating (Sun1) for TG

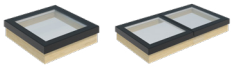
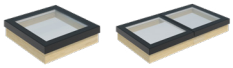
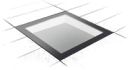
Variant 31V

Light transmittance: τ_v-value = 55%
Solar factor: g-value = 31%
Colour rendering index: R_a = 90



Technical data

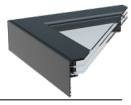
Glazing Unit

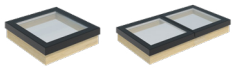
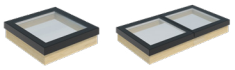
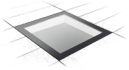
	**Monolight** **Linearlight**		**Monolight Burglary-resistant** **Linearlight Burglrary-resistant**
	**Monolight Walk-on**		**Circularlight**

DG = Double Glazing TG = Triple Glazing WG = Walk-on glazing WAG = Walk-on anti-slip glazing	Coating	Insulatin Glass Unit (IGU)	Clear internal area	Construction Insulating Glass Unit (IGU)	Thermal transmittance	Light transmittance	Solar factor
		IGU	a	(outside - inside)	U_g*	τ_v	g
		code	m²		W/m²K	%	%
DG	**LowE**	20V	a ≤ 2 m²	8H - 16 Argon - 8.76F LowE (44.2)	1.1	80	61
DG	**LowE**	20Y	2 m² < a ≤ 2.8 m²	8H - 14 Argon - 10.76F LowE (55.2)	1.1	80	61
DG	**LowE**	20Z	2.8 m² < a ≤ 4.0 m²	8H - 12 Argon - 12.76F LowE (66.2)	1.1	79	61
DG	**LowE**	22V	a ≤ 2 m²	8H - 16 Argon - 9.52F LowE (44.4)	1.1	80	61
DG	**LowE**	22Y	2 m² < a ≤ 2.8 m²	8H - 14 Argon - 11.52F LowE (55.4)	1.1	79	61
DG	**LowE**	22Z	2.8 m² < a ≤ 4.0 m²	8H - 12 Argon - 13.52F LowE (66.4)	1.2	79	61
DG	**Sun1**	21V	a ≤ 2 m²	8H Sun1- 16 Argon - 8.76F LowE (44.2)	1.0	61	33
DG	**Sun1**	21Y	2 m² < a ≤ 2.8 m²	8H Sun1 - 14 Argon - 10.76F LowE (55.2)	1.0	61	33
DG	**Sun1**	21Z	2.8 m² < a ≤ 4.0 m²	8H Sun1 - 12 Argon - 12.76F LowE (66.2)	1.2	60	33
DG	**Sun1**	23V	a ≤ 2 m²	8H Sun1 - 16 Argon - 9.52F LowE (44.4)	1.0	61	33
DG	**Sun1**	23Y	2 m² < a ≤ 2.8 m²	8H Sun1 - 14 Argon - 11.52F LowE (55.4)	1.0	61	33
DG	**Sun1**	23Z	2.8 m² < a ≤ 4.0 m²	8H Sun1 - 12 Argon - 13.52F LowE (66.4)	1.2	60	33
TG	**LowE**	30V	a ≤ 2 m²	8H - 18 Argon - 6H LowE - 18 Argon - 10.76F LowE (55.2)	0.5	71	53
TG	**LowE**	30Y	2 m² < a ≤ 2.8 m²	8H - 16 Argon - 6H LowE - 18 Argon - 12.76F LowE (66.2)	0.5	71	52
TG	**LowE**	30Z	2.8 m² < a ≤ 4.0 m²	8H - 15 Argon - 6H LowE - 15 Argon - 16.76F LowE (88.2)	0.6	70	52
TG	**LowE**	32V	a ≤ 2 m²	8H - 18 Argon - 6H LowE - 18 Argon - 11.52F LowE (55.4)	0.5	71	52
TG	**LowE**	32Y	2 m² < a ≤ 2.8 m²	8H - 16 Argon - 6H LowE - 18 Argon - 13.52F LowE (66.4)	0.5	71	52
TG	**LowE**	32Z	2.8 m² < a ≤ 4.0 m²	8H - 15 Argon - 6H LowE - 15 Argon - 17.52F LowE (88.4)	0.6	70	52
TG	**Sun1**	31V	a ≤ 2 m²	8H Sun1 - 18 Argon - 6H - 18 Argon - 10.76F LowE (55.2)	0.5	55	30
TG	**Sun1**	31Y	2 m² < a ≤ 2.8 m²	8H Sun1- 16 Argon - 6H - 18 Argon - 12.76F LowE (66.2)	0.5	55	30
TG	**Sun1**	31Z	2.8 m² < a ≤ 4.0 m²	8H Sun1 - 15 Argon - 6H - 15 Argon - 16.76F LowE (88.2)	0.6	55	30
TG	**Sun1**	33V	a ≤ 2 m²	8H Sun1 - 18 Argon - 6H - 18 Argon - 11.52F LowE (55.4)	0.5	55	30
TG	**Sun1**	33Y	2 m² < a ≤ 2.8 m²	8H Sun1 - 16 Argon - 6H - 18 Argon - 13.52F LowE (66.4)	0.5	55	30
TG	**Sun1**	33Z	2.8 m² < a ≤ 4.0 m²	8H Sun1 - 15 Argon - 6H - 15 Argon - 17.52F LowE (88.4)	0.6	55	30
WG	**LowE**	27V	a ≤ 3 m²	33.04H (101010.8) - 14 Air - 13.52HS LowE (66.4)	1.3	72	48
WAG	**LowE**	28V	a ≤ 3 m²	33.04H (101010.8) Anti-slip - 14 Air - 13.52HS LowE (66.4)	1.3	NPD	NPD
DG	**LowE**	20V	a ≤ 2 m²	8H - 16 Argon - 8.76F LowE (44.2)	1.1	80	61

The glazing unit has a black silk screen print along the edge
* Slope α = 90°
NPD = No Performance Determined

Glazing Unit – continued



	**Monolight** **Linearlight**		**Monolight Burglary-resistant** **Linearlight Burglrary-resistant**
	**Monolight Walk-on**		**Circularlight**

DG = Double Glazing TG = Triple Glazing WG = Walk-on glazing WAG = Walk-on anti-slip glazing	Coating	Insulatin Glass Unit (IGU)	Thermal transmittance of the entire window in accordance with EN 14351-1		Psi value	UVtransmittance	Colour rendering index	Direct airborn sound reduction (IGU) ***	Total solar energy direct absorbtion	Resistance to pendulum body impact (IGU) EN12600 ***	Security glazing (IGU) EN356 ***
			For clear internal area:								
			≤ 2.3 m² **	> 2.3 m² **							
		IGU	U_w	U_w	ψ	τ_{uv}	R_a	R_w (C, C_{tr})	a	Class	Class
		code	W/m²K	W/m²K	W/mK	%		dB	%	Outside/Inside	Outside/Inside
DG	LowE	20V	1.7	-	0.055	0.4	97	37 (-1,-5)	24	NPD/1B1	NPD/P2A
DG	LowE	20Y	1.7	1.6	0.055	0.4	96	39 (-2,-5)	25	NPD/1B1	NPD/P2A
DG	LowE	20Z	-	1.8	0.061	0.4	96	38 (0,-4)	26	NPD/1B1	NPD/P2A
DG	LowE	22V	1.7	-	0.055	NPD	97	38 (-1,-5)	25	NPD/1B1	NPD/P4A
DG	LowE	22Y	1.7	1.6	0.055	NPD	96	39 (-2,-5)	26	NPD/1B1	NPD/P4A
DG	LowE	22Z	-	1.8	0.061	NPD	96	38 (0,-4)	27	NPD/1B1	NPD/P4A
DG	Sun1	21V	1.7	-	0.055	0.2	91	37 (-1,-5)	36	NPD/1B1	NPD/P2A
DG	Sun1	21Y	1.7	1.6	0.055	0.2	91	39 (-2,-5)	37	NPD/1B1	NPD/P2A
DG	Sun1	21Z	-	1.8	0.061	0.2	90	38 (0,-4)	37	NPD/1B1	NPD/P2A
DG	Sun1	23V	1.7	-	0.055	NPD	91	38 (-1,-5)	37	NPD/1B1	NPD/P4A
DG	Sun1	23Y	1.7	1.6	0.055	NPD	91	39 (-2,-5)	38	NPD/1B1	NPD/P4A
DG	Sun1	23Z	-	1.8	0.061	NPD	90	38 (0,-4)	38	NPD/1B1	NPD/P4A
TG	LowE	30V	1.2	-	0.075	0.3	95	45 (-2,-4)	31	NPD/1C1/1B1	NPD/NPD/P2A
TG	LowE	30Y	1.2	1.1	0.075	0.3	95	45 (-1,-4)	31	NPD/1C1/1B1	NPD/NPD/P2A
TG	LowE	30Z	-	1.2	0.091	0.3	94	44 (-1,-3)	32	NPD/1C1/1B1	NPD/NPD/P2A
TG	LowE	32V	1.2	-	0.075	NPD	95	45 (-2,-4)	32	NPD/1C1/1B1	NPD/NPD/P4A
TG	LowE	32Y	1.2	1.1	0.075	NPD	95	45 (-1,-4)	33	NPD/1C1/1B1	NPD/NPD/P4A
TG	LowE	32Z	-	1.2	0.091	NPD	94	44 (-1,-3)	33	NPD/1C1/1B1	NPD/NPD/P4A
TG	Sun1	31V	1.2	-	0.075	0.1	90	45 (-2,-4)	38	NPD/1C1/1B1	NPD/NPD/P2A
TG	Sun1	31Y	1.2	1.1	0.075	0.1	89	45 (-1,-4)	38	NPD/1C1/1B1	NPD/NPD/P2A
TG	Sun1	31Z	-	1.2	0.091	0.1	89	44 (-1,-3)	39	NPD/1C1/1B1	NPD/NPD/P2A
TG	Sun1	33V	1.2	-	0.075	NPD	90	45 (-2,-4)	39	NPD/1C1/1B1	NPD/NPD/P4A
TG	Sun1	33Y	1.2	1.1	0.075	NPD	90	45 (-1,-4)	39	NPD/1C1/1B1	NPD/NPD/P4A
TG	Sun1	33Z	-	1.2	0.091	NPD	90	44 (-1,-3)	39	NPD/1C1/1B1	NPD/NPD/P4A
WG	LowE	27V	2.0	1.8	0.069	NPD	93	38 (-1, -5)	41	1B1/1B1	P4A/P4A
WAG	LowE	28V	2.0	1.8	0.069	NPD	NPD	38 (-1, -5)	NPD	1B1/1B1	P4A/P4A
DG	LowE	20V	1.7	-	0.055	0.4	97	37 (-1,-5)	24	NPD/1B1	NPD/P2A

The glazing unit has a black silk screen print along the edge
NPD = No Performance Determined

* Slope α = 90°
** Upstand height = 150 mm, if height > 150-600 mm, NPD Upstand height WA+WAG = 170 mm, if height > 170-600, NPD
*** Only for glazing

Classifications

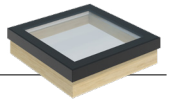
Because the products are prefabricated, they can be tested extensively against all conceivable hazards and stressful events. Monolight and Linearlight roof windows are tested and CE marked in accordance with the harmonized standard EN 14351-1 Windows and doors.

Furthermore, products can be tested for other commonly-used parameters customers may require.

All products are manufactured, assembled and delivered from the same heavily-controlled production line, leading to components with identical properties.

When installing in areas with high humidity, adequate ventilation must be ensured. Be aware that the Modular Rooflights must not be installed directly above a shower zone and it must not be used as the primary ventilation source in high humidity areas.

Performance



Essential characteristic performances according to EN 14351-1				
Test results	**Monolight**	**Linearlight**	**Monolight Walk-on**	**Circularlight**
Resistance to windload, EN12210, EN12211	Class C5 *	Class C3 *	Class C5 *	Class C5
Watertightness, non shielded, EN12208, EN1027	Class E1200 **	Class E1200 **	Class E1200 **	Class E1200
Impact resistance, EN13049	Class 4	Class 4	NPD	Class 4
Thermal transmittance, EN ISO 10077-1, EN ISO 10077-2	Depending on size and pane variant***	Depending on size and pane variant***	1.8 - 2.0 W/m_2K	1.7 W/m_2K
Air permeability, EN12207, EN1026	Class 4 **	Class 4 **	Class 4 **	Class 4
Reaction to fire, EN13501-1	Class B, s1-d0	Class B, s1-d0	Class B, s1-d0	Class B, s1-d0
Acoustic performance, EN ISO 140-3, EN ISO 717-1	34 (-1;-4) – 36 (-1; -3) dB ****	34 (-1;-4) – 36 (-1; -3) dB ****	38 (-1;-5) dB	34 (-1;-4) dB

* For Monolight exceeding = 1170 mm (B) x 1170 mm (A): NPD, For Linearlight exceeding = 600 mm (B) x 1350 mm (A): NPD
** For Monolight exceeding $2m^2$: NPD , For Linearlight exceeding $1.44m^2$: NPD
*** For further information, see page 30-31 in regard to Uw according to EN 14351-1
**** Depending on size and pane variant. Contact VELUX Commercial for further information.
NPD = No Performance Determined

Additional performances			
Test results	**Monolight**	**Linearlight**	**Monolight Walk-on**
Burglary resistance, NEN 5096:2012+A1:2015, EN 1627:2011	Class 2 (RC2)	Class 2 (RC2)*	NPD
Live load (person), DIN 18008-5	NPD	NPD	Area load 5 kN/m^2, Point load 4.5 kN

* = NPD for Linearlight Venting
NPD = No Performance Determined

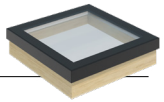
U-values with outer surface area

Double Glazing = DG Triple Glazing = TG	Insulation Glazing Code	Clear internal area	U_g [W/m²K] (Slope α = 90°, vertical)	U_τ [W/m²K] (Slope α = 0°, horizontal)	$U_{RC,300}$ [W/m²K] (Slope α = 0°, horizontal, upstand height 300 mm)	$A_{RC,300}$ [m²] (developed area)
DG*	20V	a ≤ 2 m²	1.1	1.7	1.0	4.49
	20Y	2 m² < a ≤ 2.3 m²	1.1	1.7	1.0	4.49
	20Y	2.3 m² < a ≤ 2.8 m²	1.1	1.7	–	–
	20Z	2.8 m² < a ≤ 4.0 m²	1.1	1.8	–	–
TG*	30V	a ≤ 2 m²	0.5	0.8	0.71	4.49
	30Y	2 m² < a ≤ 2.3 m²	0.5	0.9	0.71	4.49
	30Y	2.3 m² < a ≤ 2.8 m²	0.5	0.9	–	–
	30Z	2.8 m² < a ≤ 4.0 m²	0.5	0.9	–	–
DG**	20V	a ≤ 2 m²	1.1	1.7	0.97	3.84
	20Y	2 m² < a ≤ 2.8 m²	1.1	1.7	1.1	3.84
	20Z	2.8 m² < a ≤ 4.0 m²	1.1	1.8	1.1	3.84
TG**	30V	a ≤ 2 m²	0.5	0.8	0.69	3.99
	30Y	2 m² < a ≤ 2.8 m²	0.5	0.9	0.74	3.99
	30Z	2.8 m² < a ≤ 4.0 m²	0.5	0.9	0.75	3.99

* Calculated according to EN 1873 for reference size 1230 mm x 1400 mm (not part of CE marking)
** Calculated according to EN 1873 for reference size 1200 mm x 1200 mm (not part of CE marking)

Data plate

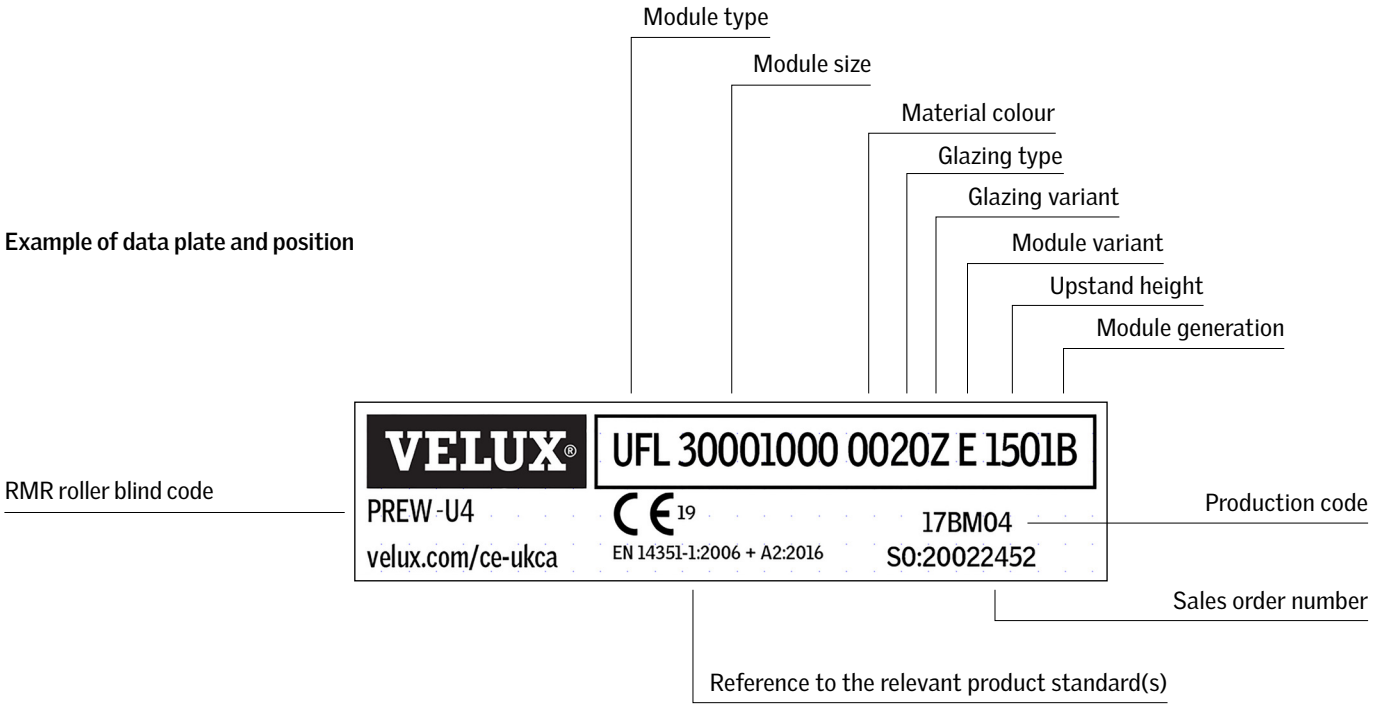
Information about the modules

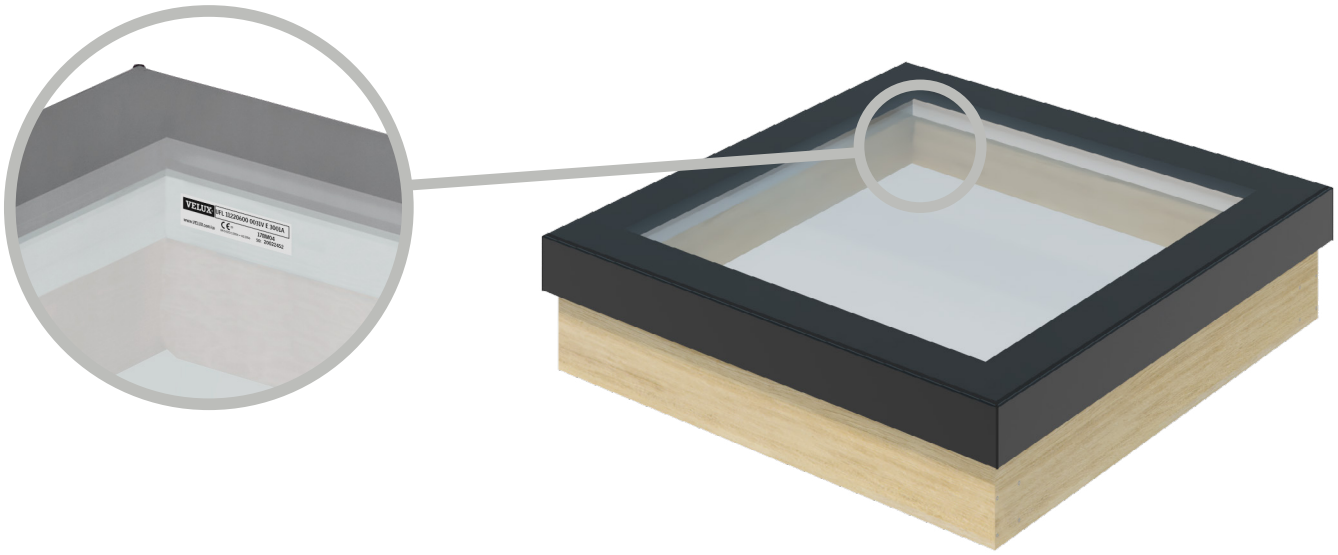


All VELUX Modular Rooflights, electrical components and accessory products have a data plate label. The data plate helps to identify the product and must NOT be removed.

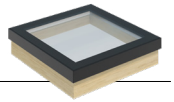
If a product is damaged or malfunctioning, the information on the data plate must be given to the VELUX sales company.

Example of data plate and position





Modular Rooflights – code structure

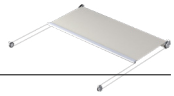


Example

UFL	30001000	0	0	20	Z	E	150	1	C

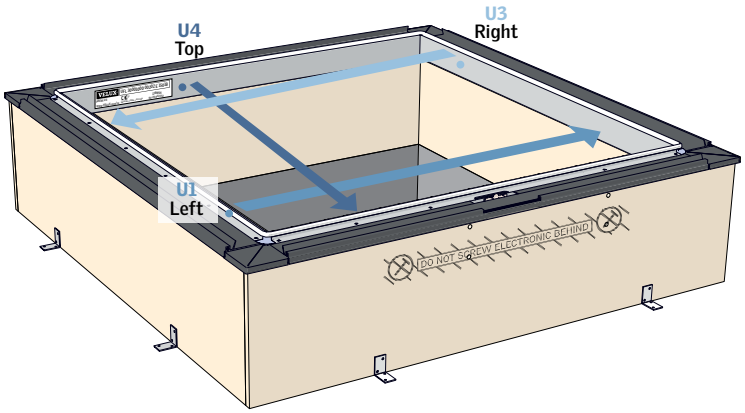
Type	Module size	Interior colour	Exterior colour	Glazing type	Glazing variant	Module variant	Upstand height	Branding	Module generation
U = VELUX Modular Rooflights	Above is a size example in mm	0 = std.	0 = std.	20 = DG/LowE	V = a ≤ 2m²	Linearlight:	Above is a size example in mm	1 = VELUX	A = Launch 2019
	Width and length (if Rectangular)	Standard, RAL 9010 gloss 30	Standard, RAL 7043 gloss 30	21 = DG/Sun1		S = Start	150-600 mm		
	Diameter (if Circularlight)			22 = DG/LowE P4A	V = a ≤ 1,43m2 (for Circularlight)	M = Mid			
F = Fixed				23 = DG/Sun1 P4A		E = End			B = Launch 2021
V = Venting				27 = DG/LowE Walk-on	Y = 2m²< a ≤ 2.8m²	W0 = Walk-on			
				28 = DG/LowE Walk-on anti-slip		Q = Burglary			
M = Monolight		8 = Non standard	5 = Standard, RAL 9005 gloss 30			QE = Burglary End			
L = Linearlight				30 = TG/LowE	Z = 2.8m² < a ≤ 4m²	QM = Burglary Mid			C = Launch 2024
C = Circularlight				31 = TG/Sun1	Z = 2.8m² < a ≤ 3m² (for Vented TG)	Burglary-resistant ONLY available with glazing type 22,23,32,33			
			8 = Non standard	32 = TG/LowE P4A					
				33 = TG/Sun1 P4A					
					X = Non standard				
				99 = Non standard		No letter for Monolight and Circularlight			

Roller blind RMR codes



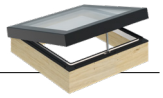
Example

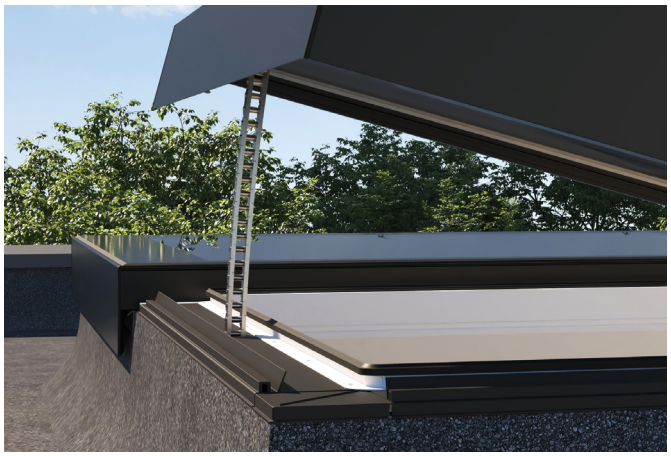
Code	Explanation
NW / no code	Non wired
PREW-U1	Pre-wired left hand side
PREW-U3	Pre-wired right hand side
PREW-U4	Pre-wired top side
RMR-U1	Mounted RMR left hand side
RMR-U3	Mounted RMR right hand side
RMR-U4	Mounted RMR top side



Venting module

Chain actuator



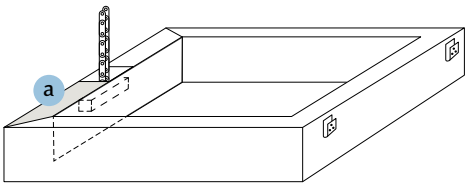


In venting modules, the actuator is fully integrated in the wooden upstand. The actuator is not visible from the inside when the module is closed, thus there is no visual difference between fixed and venting modules. The stroke length is 260 mm resulting in an opening of approximately 190 mm. The venting modules meet the requirements of the harmonised standard EN 60335-2-103(2015), see comment below for reference.

A venting module is operated by either one actuator or two synchronised actuators depending on the clear internal area and modules width. For further information, see page 19.
The modules can be controlled by either a io-homecontrol®, or Open System ± 24V (OS ±24 V DC) control system.

Monolight / Linearlight Venting Modules				
Glazing - Double (DG) or Triple (TG)	DG	DG	TG	TG
Clear internal area – max.	2 m²	4 m²	1.5 m²	3 m²
No. of actuators* integrated in upstand	1	2	1	2

* VELUX WMU 88V ---- (2 Amp/actuator)



Service Monolight venting and Linearlight venting
The actuator is accessible by removing the top plate gasket (a)

Global saftety warning (except Germany, Austria, Switzerland)
Comfort venting VELUX Modular Rooflights meet the requirements of the harmonised standard EN 60335-2-103(2015) as to a max opening clearance of 200 mm (by means of physical limitation of the actuator) and as to the max closing speed of 15 mm/sec. Therefore, comfort venting rooflights can be installed within reach, i.e. at installation heights below 2.5 m above floor level (inside) and ground level (outside). According to EN 60335-2-103 access levels are defined as e.g. stairs and terraces. Surfaces not normally used for standing on, such as windowsills, and movable equipment such as ladders, are not considered to be access level.

Please note that the venting rooflights operate with high closing force, which can cause serious injury in case of entrapment. If VELUX roller blinds are installed in the rooflight, please observe recommendations in the safety instructions provided with each VELUX roller blind RMR.

We recommend that you observe national regulations and consider if the planned specific use of the building requires additional safety measures that must be applied by the installer/user to prevent serious injury.

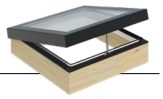
The VELUX Group will not accept responsibility for damages, injury or death resulting from such an installation. The installer/user is ultimately responsible for own omissions and actions. Measures could for instance be to install a motion sensor that is able to disconnect power from the control unit in case of any movement in the immediate vicinity of the VELUX Modular Rooflights.

Safety warning for Germany, Austria, Switzerland
VELUX Modular Rooflights have a recommended minimum installation height of 2.5 m above floor level (inside) and ground level (outside). In case of installation below that level, safety measures must be applied by the installer/user to prevent serious injury. No instruction or measure can eliminate the inherent hazards resulting from installation heights below 2.5 m.

If VELUX roller blinds are installed in the rooflight, please observe recommendations in the safety instructions provided with each VELUX roller blind RMR.

The VELUX Group will not accept responsibility for damages, injury or death resulting from such installation. The installer/user is ultimately responsible for own omissions and actions. Measures could for instance be to install a motion sensor that is able to disconnect power from the control unit in case of any movement in the immediate vicinity of the VELUX Modular Rooflights.

Control system



VELUX io-homecontrol® is a simple wireless system for control of comfort venting modules and/or roller blinds.When installing VELUX io-homecontrol® products, you only need to install standard 230V cabling to supply control unit KLC 410. All components for VELUX io-homecontrol® are supplied by the VELUX Group.

VELUX can provide following components for venting modules:

Control units				
KLC 410 – Power supply and control unit	1**	1**	1**	1**
Control switch and sensor				
KLR 200/KLR 300 – Control pad				
KLI 311/KLI 312 – Wall switch				
KLF 150 – Interface (external control devices)				
KLA 200 - Rain sensor	1***	1***	1***	1***

* VELUX WMU 88V (2 Amp/actuator)
** No. of rain sensors / venting module
*** No. of venting modules / rain sensors
To be decided according to the project requirement

Control pad	Power supply and control unit	Rain sensor
		
KLR 200/KLR 300	KLC 410	KLA 200

Wall switch	Wall switch	Interface (external control devices)
		
KLI 311 (for ventilation)	KLI 312 (for roller blinds)	KLF 150

Open system

Venting modular rooflights and roller blinds controlled with the open system solution are connected to ± 24 V DC. In addition to ± 24 V DC, the open system skylights and roller blinds can be connected to and integrated in common building automation fieldbus systems, i.e. KNX, BACnet, LON and Modbus. The connection to the skylight actuator is made through the integrated WindowMaster MotorLink™ technology that among other things enables exact position control and feedback.

Roller blinds

Sun screening

The internal roller blind RMR is designed for installation with VELUX Modular Rooflights. The blind protects against heat and glare and helps to control the amount of light in the building. The roller blind is available in any height from 725 mm till 3000 mm and in width from 600 mm till 1000 mm. It can be oriented in the top-bottom or side-side direction of the rooflight.

The roller blind is available for Monolight and Linearlight both fixed and venting. To support fast and safe installation of VELUX Modular Rooflights, it is possible to order roller blinds with hidden pre-wiring and completely pre-mounted from the factory. If the module is pre-wired, the wire will always run close to the inner wood as illustrated below.

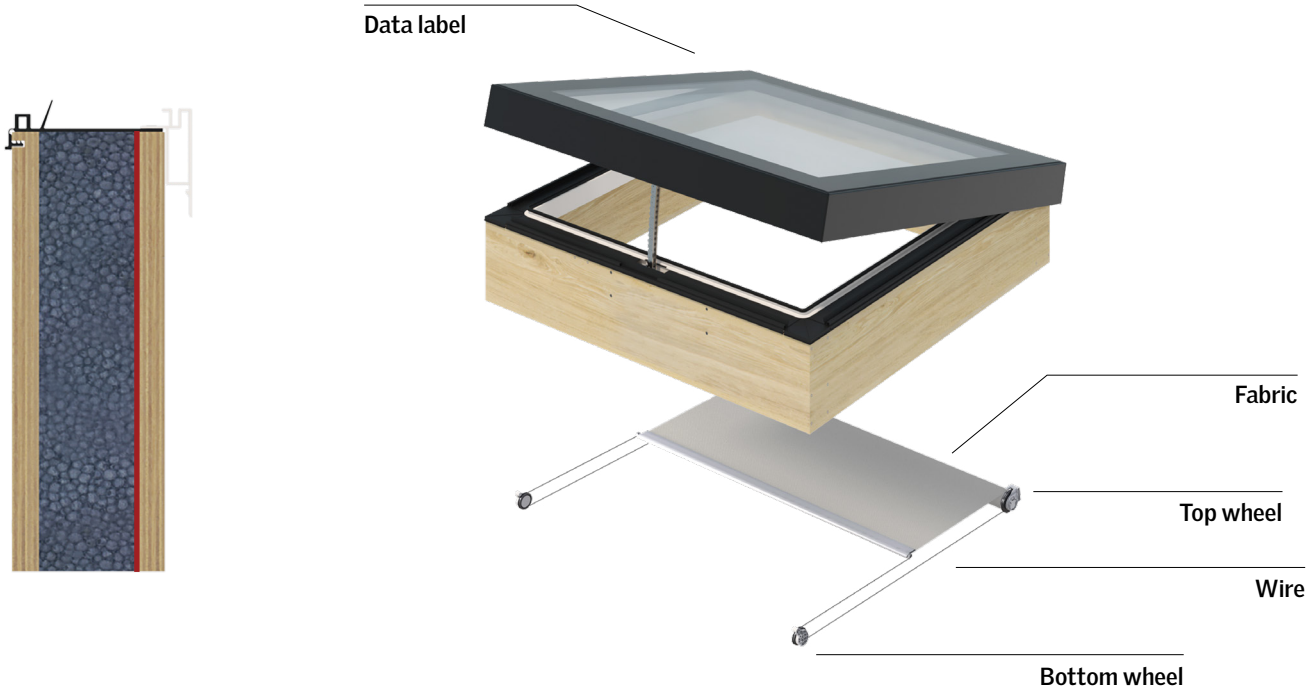
The blind consists of four wheels, one in each corner of the rooflight upstand and two steel wires at the side of the blind. The two wires pull a lightweight polyester fabric available in three commonly used colours.

VELUX roller blinds are electrically operated and can be controlled using either VELUX io-homecontrol® or Open System ±24V (OS ±24V DC).

Operation
One power supply and control unit KLC 410 per four roller blinds RMR is required. Roller blinds RMR can be operated from either one of the following or a combination of:
- Control pad KLR 200 or KLR 300 – individual or simultaneous operation
- Wall switch KLI 312 – simultaneous operation

Order the right size
To order the right sizes see the data plate on the VELUX Modular Rooflight. How to read the data plate, see page 35.

* Fire behaviour:
Flame retardant material according to EN 13501-1, class B,s1-d0; DIN 4202-1, Class B1; NF P92503-507, Class M1



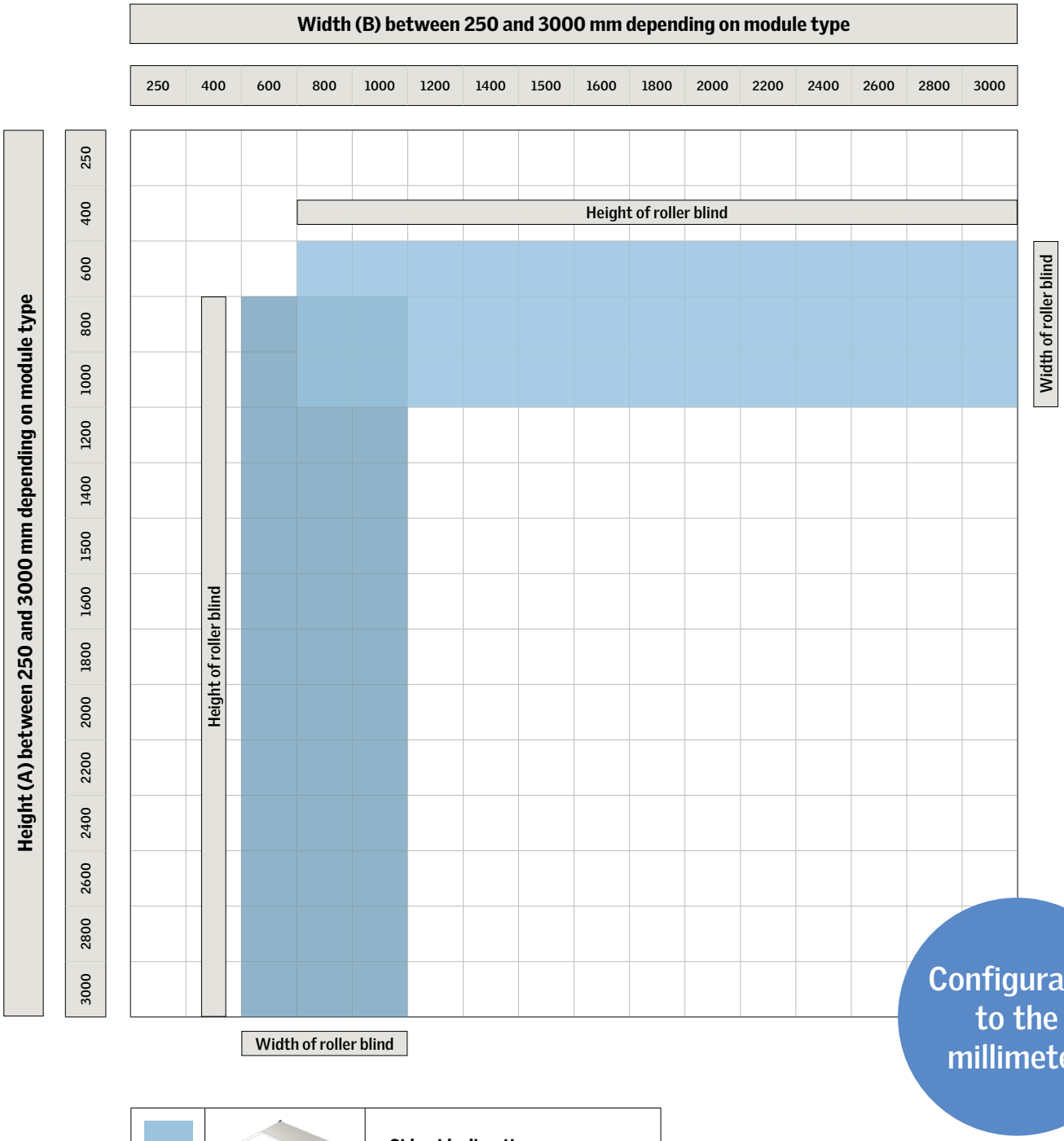
VELUX can provide following components for roller blinds RMR: (see page 37 for reference)

Control units	
KLC 410 – Power supply and control unit	4*
Control switch	
KLR 200/KLR 300 – Control pad	
KLI 312 - Wall switch	
KLF 150 – Interface (external control devices)	

* No. of roller blinds / control unit
To be decided according to the project requirement

Size overview of roller blinds

The table gives an indication of module size limits for all roller blinds variants.



Linearlight with minimized beam and roller blinds

Sun screening and colours

Fire retardant sun screening			
			
Colour: Variant code	Grey RMR 8805	White RMR 8806	Black RMR 8807

The blind cloth of VELUX roller blinds is pulled on two tension steel wires on pulley wheels, which are accessible, when the roller blinds are installed on rooflights within reach and therefore can cause serious injury, if a person gets in contact with this during the electrical operation of the blind. VELUX roller blinds have a recommended minimum installation height of 2.5 m above floor level (inside) and ground level (outside). In case of installation below that level, safety measures must be applied by the installer/user to prevent serious injury. No instruction or measure can eliminate the inherent hazards resulting from installation heights below 2.5 m.

We recommend you to observe national regulations and consider if the planned specific use of the building requires that additional safety measures must be applied by the installer/user to prevent serious injury.

The VELUX Group will not accept responsibility for damages, injury or death resulting from such installation. The installer/user is ultimately responsible for own omissions and actions. Measures could for instance be to install a motion sensor that is able to disconnect power from the control unit in case of any movement in the immediate vicinity of the VELUX Modular Rooflights.

Interior design

The motor for roller blind operation is hidden inside the rod.

Roller blinds are kept tight and smooth by a strong, thin wire suspension.

Roller blind bottom wheel ensures position of the wire.

Interior design

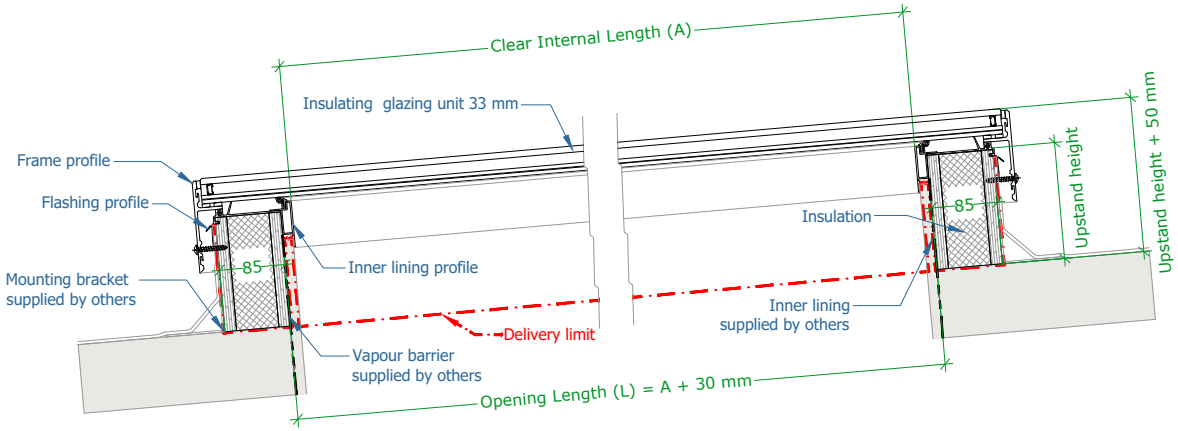
Roller blind RMR at top side of Linearlight.

Roller blind fixation at bottom side of Linearlight.

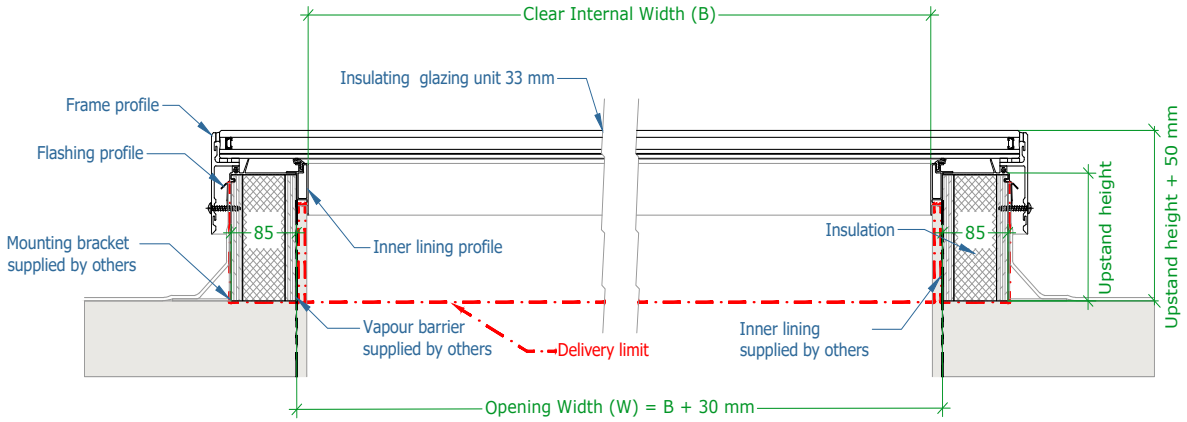
Sectional Drawings

Monolight

Examples of sectional drawings. The full assortment is available at our website.
Monolight fixed – double glazing
(Triple glazing also available)



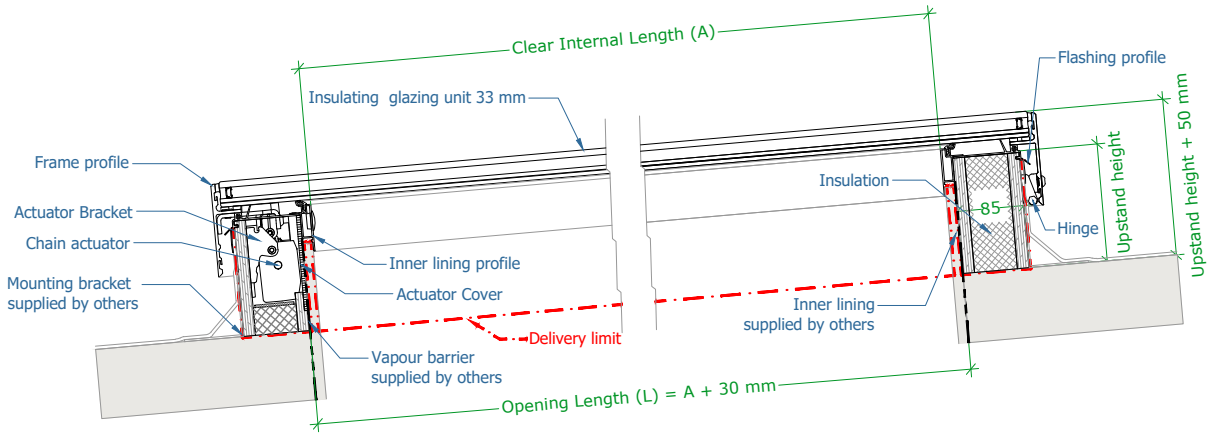
Cross-section – bottom



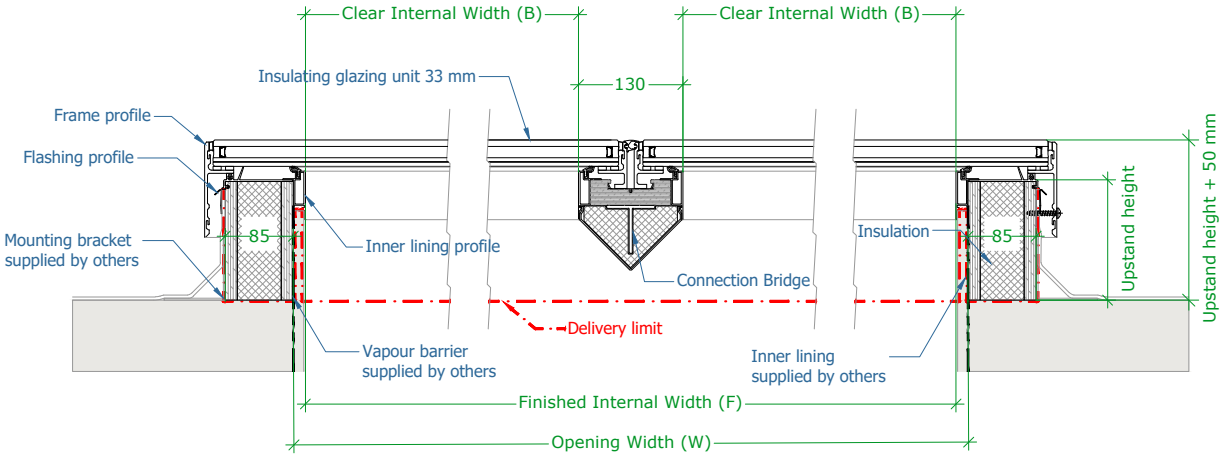
Longitudinal section

Linearlight

Examples of sectional drawings. The full assortment is available at our website.
Linearlight fixed/venting – double glazing
(Triple glazing also available)



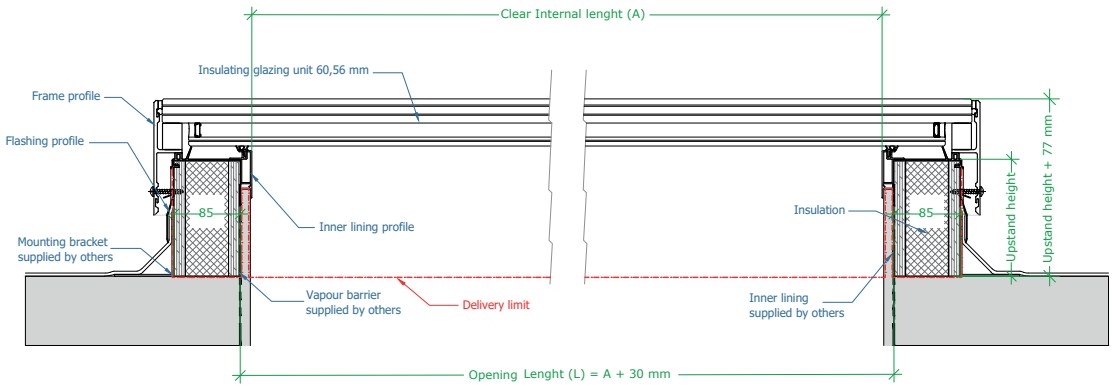
Cross-section – bottom



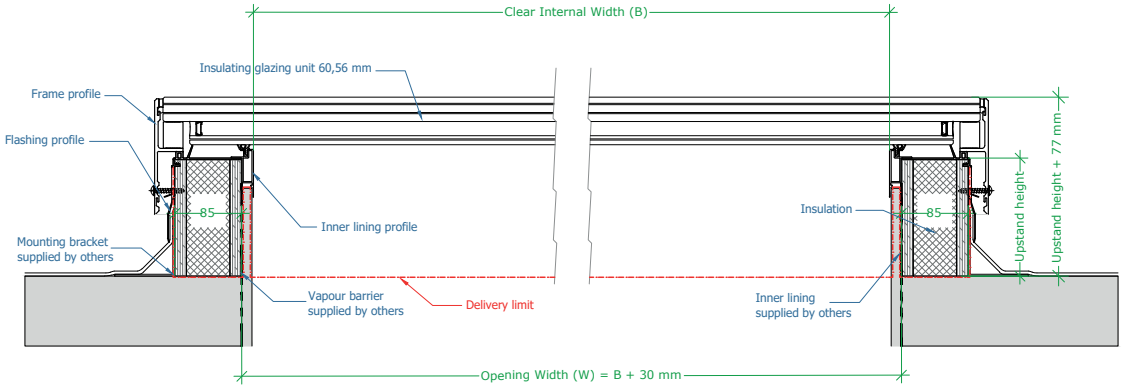
Longitudinal section

Walk-on

Examples of sectional drawings. The full assortment is available at our website.
Walk-on fixed – double glazing



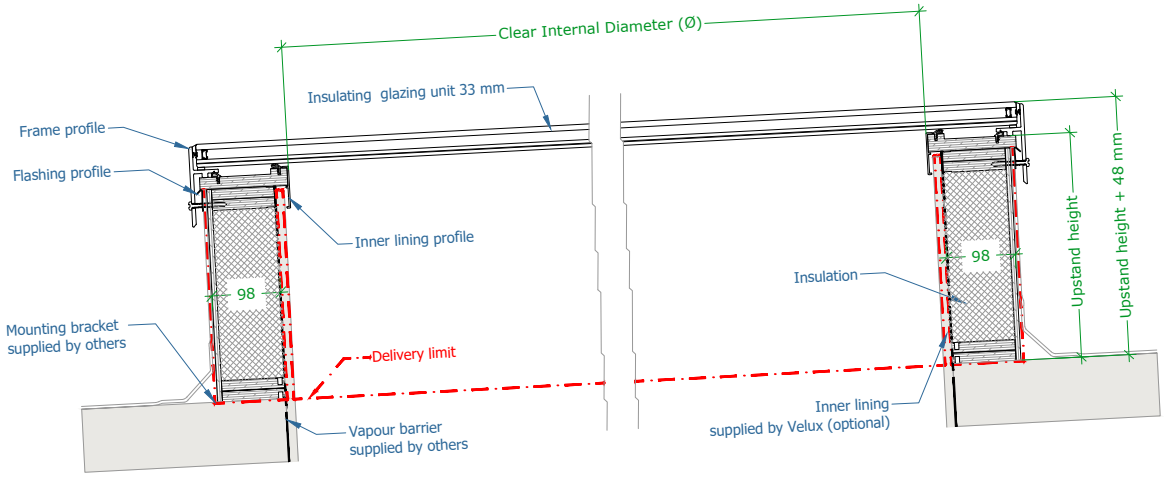
Cross-section – bottom



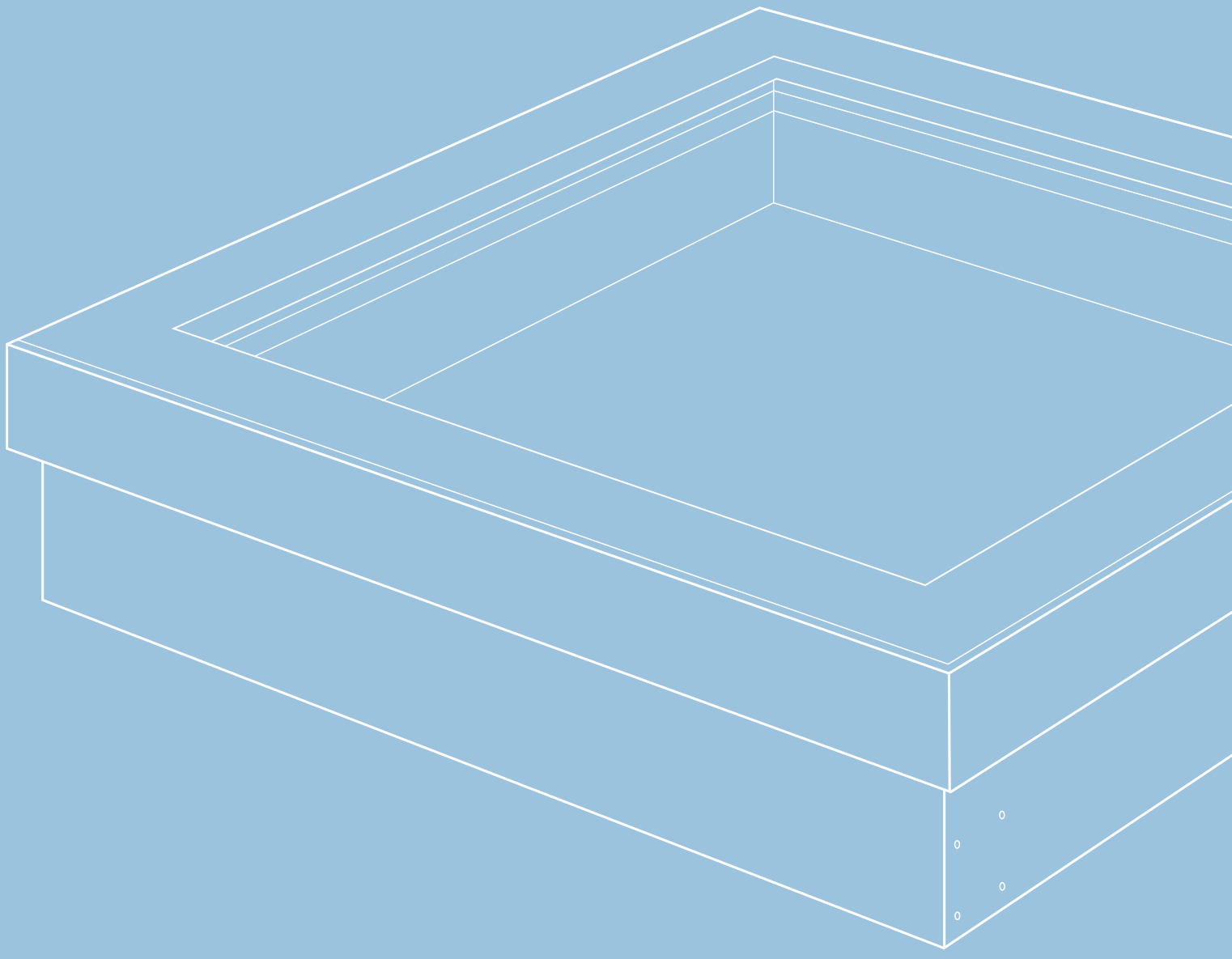
Longitudinal section

Circularlight

Examples of sectional drawings. The full assortment is available at our website.
Circularlight fixed – double glazing



Cross-section – bottom

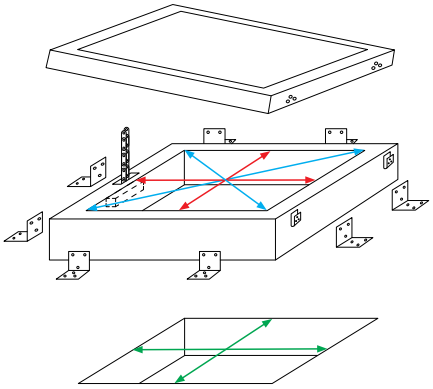


INSTALLATION

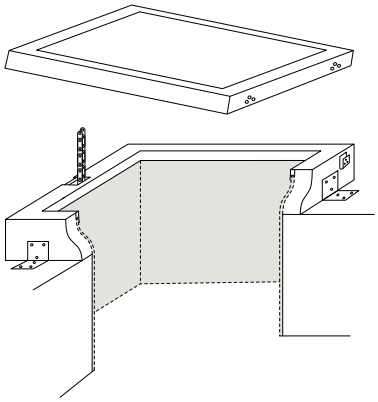
Designed for easy installation

All components are designed in accordance with the overall system. In our controlled facilities, we monitor all aspects of production to ensure a perfect fit and assembly. A strong integrated upstand ensures stability of the product, so that it can be installed on virtually any slightly inclined roof structure. This makes it possible to mount the upstand and top unit within minutes.

Installation of Monolight venting

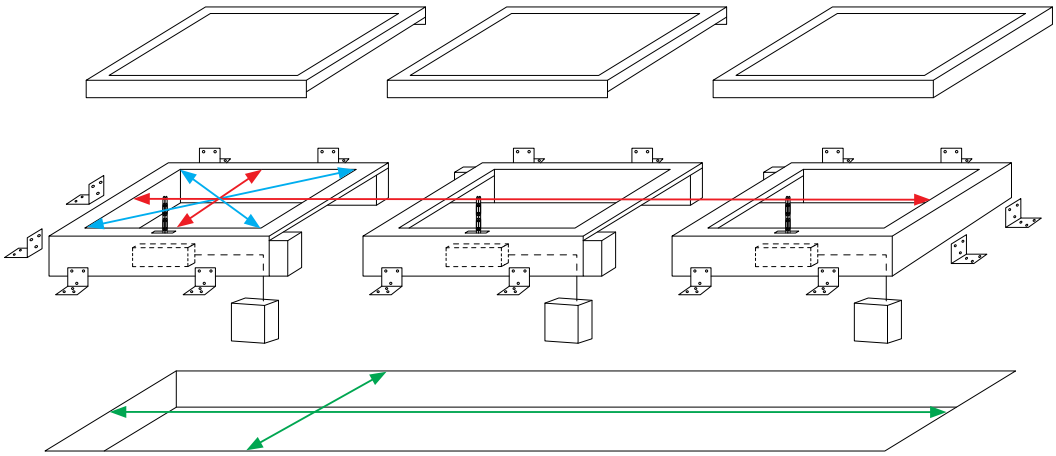


Structural opening size
Inner lining / Clear Internal
Diagonal measurement of the module



Inner lining shall be mounted at the inner side of the upstand. Perfect fit in the groove of the aluminium profile just under the glazing.

Installation of Linearlight



Read more about the installation in our installation instructions.
Can be downloaded at your local VELUX Commercial website.

A fast installation system

Craning products to the roof

Preparing the hole for the upstand

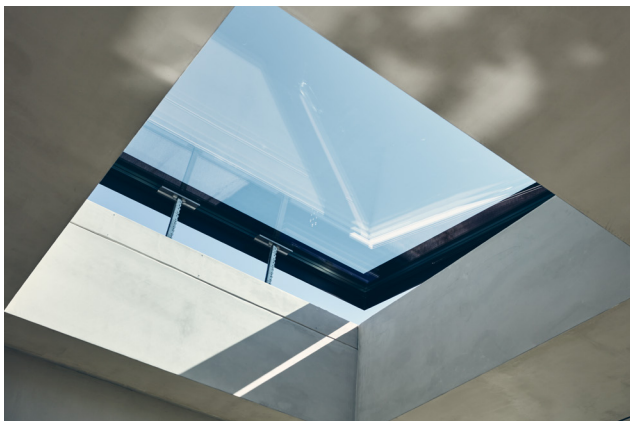
Securing the upstand and roofing material for watertightness without exposing the product to the flame.

Placing the top unit

Placing the top unit

External work finalized

Connecting the electricity and checking the functionality

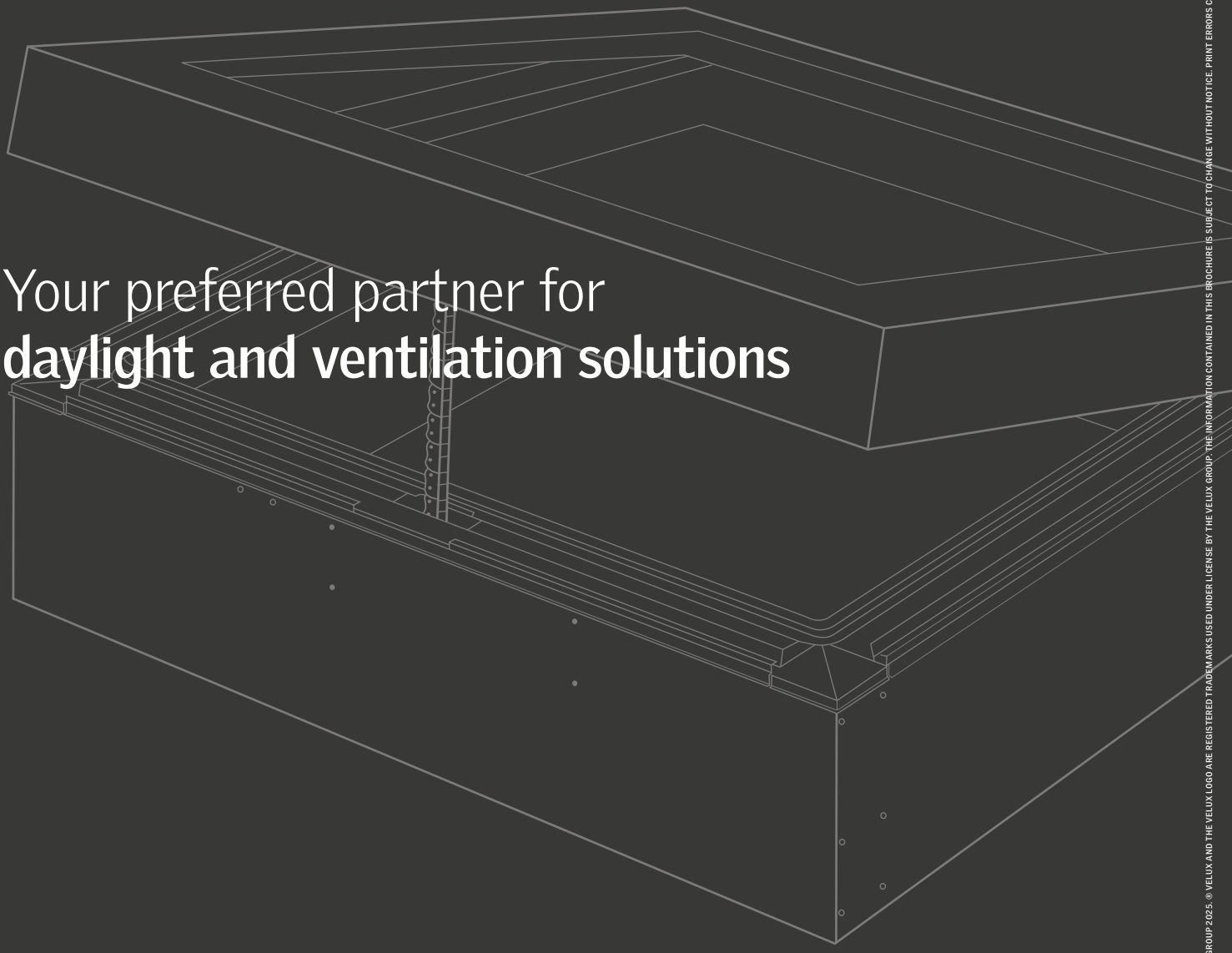


Internal work finalized

Note: Generation A is shown on above photos

VELUX Group
VELUX Commercial
Ådalsvej 99
Denmark

Web: veluxcommercial.com
Blog: commercial.velux.com/blog



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Version 3.3