



# PRODUCT CATALOGUE

2021



SUPPORTED BY FAKRO

**30**<sup>YEARS</sup>  
HOME SOLUTIONS

**FAKRO®**





# 30 YEARS OF HOME SOLUTIONS

The word 'HOME' brings positive connotations as these are often our memories and sometimes dreams. We all at FAKRO think how to make life there always abundant in natural light, healthy and comfortable, simply unique.

Therefore, being faithful to its mission, FAKRO has been manufacturing joinery that stands behind exceptional home solutions for 30 years now.

30 YEARS

HOME SOLUTIONS





# CONTENTS

WHAT MAKES A FAKRO ROOF WINDOW BETTER?	6
ROOF WINDOW CERTIFICATION	7
NEW DIMENSION OF INNOVATION	8-9
ROOF WINDOW PERFORMANCE AT A GLANCE	10
HOW TO SELECT A ROOF WINDOW	12
SELECTING THE CORRECT FLASHING KIT	13
TOP HUNG AND CENTRE PIVOT WINDOWS <b>FPP-V MAX, FPU-V MAX, PPP-V MAX</b>	14-15
CENTRE PIVOT WINDOW WITH TRIPLE GLAZING UNIT <b>FTP-V</b>	16-17
CENTRE PIVOT WITH SINGLE CHAMBER GLAZING UNIT WINDOWS <b>FTP-V, FTS-V</b>	18-19
CENTRE PIVOT WINDOWS FOR HIGH HUMIDITY LEVEL ROOMS <b>FTU-V, PTP-V</b>	20-21
ELECTRONICALLY CONTROLLED Z-WAVE CENTRE PIVOT WINDOWS	22-23
HIGHLY ENERGY EFFICIENT PIVOT WINDOWS <b>FTT U6, FTTU8 THERMO</b>	24-25
FLASHINGS FOR ROOF WINDOWS	26-27
WINDOW WITH RAISED AXIS OF ROTATION <b>FYP-V proSky, FDY-V Duet proSky</b>	28-29
BALCONY WINDOW <b>FGH-V GALERIA</b>	30-31
NON-OPENING WINDOWS <b>FXP, FXU</b>	32-33
L-SHAPED COMBINATION WINDOWS <b>BD_, BV_, BX</b>	34-35
ROOF WINDOW ACCESSORIES	36
ROOF WINDOW EXTERNAL ACCESSORIES	37
ROOF WINDOW INTERNAL ACCESSORIES	38
ACCESSORIES FOR OPENING WINDOWS	39
INSTALLATION ACCESSORIES	39
ELECTRIC CONTROL Z-WAVE	40-41
ACCESS ROOF LIGHTS FWP, WS_, WG_, WLI	42-43



# CHANGING YOUR VIEW







The part roof windows play in attic rooms has massively influenced the way we look at interior design. Whether for a home or a commercial project, our huge choice of roof windows can be used in a range of different ways. Our close-grain pine will look sensational for years while our sleek, stylish frames provide a bigger glazing area to let in more light. With all these benefits and more it's not hard to see why FAKRO roof windows become a focal point in their own right and prompt such consistently positive comment.

For those of you looking to achieve the highest levels of Energy Saving, BREEAM, Passive House or "EnerPHit" our triple and quadruple-glazed non-vented FTT range offers an exceptional standard of performance. At the heart of all our products FAKRO provide a high level of security, highly resilient hinges and seals, and a standard of timber treatment which we believe is second to none.

FAKRO uses responsibly sourced timber and as well as natural pine, you can opt for white PU-coated, pine or PVC products, all of which are available in conservation style BBA, IAB and FSC® certified products together with warranties of 10 years for windows and 20 years for glazing give you peace of mind that the name FAKRO is synonymous with quality.



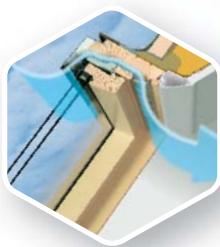
# WHAT MAKES A FAKRO ROOF WINDOW BETTER?

FAKRO roof windows are designed to provide a focal point for any room whether you use them individually or in combinations. Their stylish appearance is matched by the highest standard of manufacturing and finishing which means you can rest assured they will go on looking good for years to come. Our windows offer a perfect combination of style, sustainability, security and long design life. To achieve such high performance involves ongoing refinement and improvement to every roof window that we design.



## Premium Close Grained Redwood Timber

The pine we use offers the clearest visual evidence of our roof window quality. Not only does its close grain look stylish, we obtain timber from FSC® certified sources.



## Automatic Controlled Ventilation

The FAKRO V40P automatic vent which is installed in FAKRO pine roof windows is activated by changes in atmospheric pressure. It provides the optimum balance of fresh air regardless of weather conditions.



## Ease of Installation

Our easy to use "bracket fix" installation system enables windows to be fitted either to rafters or battens and sarking.



## Exceptional Security

FAKRO's TopSafe® system gives confidence and peace of mind that our roof windows offer exceptional burglary resistance. TopSafe provides additional hinge and lock reinforcement to prevent the sash from being forced.



## thermoPro technology HIGH ENERGY SAVINGS

What really sets FAKRO windows apart is their low level of heat loss. Unlike some manufacturers who provide U-values just for glazing units, FAKRO provides information for the whole window. When comparing our performance with other products you will see how our non-vented, quadruple glazed FTT U8 Thermo has a single glazing unit area and a U-value of 0.58W/m²K which leads the market.

**10** year  
warranty  
for window

**20** year  
warranty  
for glazing unit

**∞** Lifetime  
glazing unit hail  
resistance warranty

## Performance Guarantees

Whether buying natural pine, PU-coated pine or PVC, FAKRO offers a 10 year warranty for all windows and a 20 year warranty on glazing units. We also offer a no quibble lifetime warranty against damage by hail stones.

## Choice of Internal Finish

FAKRO offers two types of roof window for rooms in which high levels of humidity are created. You have the choice of either white polyurethane-coated pine or PVC in white, golden oak and pine finishes.



## We Don't Just Do White

FAKRO roof windows can be manufactured in any colour from the RAL classic palette. That's over 200 colours customers can specify to special order for their chosen projects. Our standard natural pine, white acrylic, PU coated and PVC roof windows can be received from stock within three days.



# CERTIFICATES



One of the key factors differentiating manufacturers from one another is certification of products. At FAKRO we continually look for ways to innovate and improve our designs, not just with new roof windows but existing ones. In 2012 this yet again enabled us to set an industry standard as we achieved Passive House certification of our industry leading quadruple-glazed FTT U8 Thermo. The FTT U8 offers an amazing U-value of 0.58 W/m<sup>2</sup>K and provides the ideal solution for airtight designs.

NBS Plus - FAKRO specification clauses are available via NBS Plus. This enables concise, technically accurate and up-to-date information in relation to our extensive range of roof windows and roofing accessories to be copied and pasted.

In the same way, we led the market by becoming the first roof window manufacturer to secure BBA certification - as long ago as 2002. Today, many more of our products are accredited including our popular ranges of centre pivot, top hung and pivot windows.

This includes products in conservation style and the highly thermally efficient FTT U6 triple-glazed window while, for specifiers and buyers in Ireland we also have Irish Agrément Board (IAB) certification.

FAKRO are the only roof window manufacturer to carry both NSAI & BBA accreditations.

Our roof windows offer scope for you to buy or specify products using timber from sustainable sources; indeed we are the only such manufacturer to offer FSC® certification for the higher quality, close-grain pine which we use. We also design all windows to be stripped down for recycling of all parts which, combined with the use of sustainable timber, shows the extent of our commitment to environmental issues.

CE marking provides a passport that enables a construction product, irrespective of its origin, to be legally placed on the market of all EU member states. Unlike some manufacturers, FAKRO declares full details of performance for all points which make up a CE mark, yet more evidence that our products exceed minimum standards for health, safety and economy of energy.





# NEW DIMENSION OF INNOVATION

Innovation is the DNA of FAKRO and the main driving force of the company's development. It's a philosophy of unconventional thinking, thanks to which the new solutions expand functionality and enhance product quality. FAKRO has redefined roof windows by introducing an automatic ventilation flap V40P, the topSafe system which strengthens the construction of the window, or thermoPro technology which increases the quality and parameters of the windows. By focusing on development and innovation, FAKRO contributes to creating comfortable living conditions for people around the world.



## topSafe

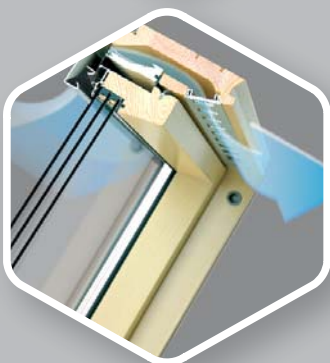
### SYSTEM TOPSAFE

#### INCREASED SECURITY

Roof windows have to ensure safety of use and protect against unauthorised access to the room from the roof. The special system of the window structure reinforcement topSafe significantly improves resistance of roof windows to break-in attempts and protects against the sash opening under foot pressure if inadvertently stepped on.

The topSafe system consists of:

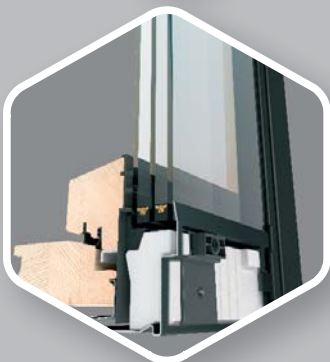
- **Innovative** - installation system of specially shaped hinges,
- **Metal** - element strengthening the locking system,
- **Metal** - steel bar, making it difficult to break the window using tools



## V40P

### AUTOMATIC V40P AIR INLET

Positioned in the top part of the frame. At a pressure difference of 10Pa air inlet capacity is up to 49m<sup>3</sup>/h depending on the window width. The capacity rises up to the point where the optimum value is achieved. If the pressure difference continues to grow, the airflow capacity stays on the same stable level. An elastic, pneumatic flap deflects, limiting the amount of inflowing air by reducing the air inlet duct area e.g. when strong gusts of wind appear and in the winter time.



## thermoPro

### THERMOPRO TECHNOLOGY

The roof windows are manufactured using thermoPro technology. The solutions introduced ensure improved quality and parameters of windows. ThermoPro technology increases energy-efficiency performance, provides greater durability, ensures excellent tightness and facilitates the installation process of roof windows.

#### BETTER THERMAL INSULATION OF WINDOWS

- Reduced heat loss and lower heating bills
- New version of low emission coating on the glass
- Introduction of insulation inserts in the bottom corners of the sash aimed at enhancing window's energy-efficiency performance

#### GREATER WINDOW TIGHTNESS IN TERMS OF AIR PERMEABILITY

Windows manufactured using thermoPro technology feature 3rd and 4th tightness class according to EN12207, thus reducing the amount of air penetrating into the room. It is particularly important for mechanical ventilation.

#### GREATER WOOD DURABILITY THANKS TO WATER DRAINAGE CHANNELS

Special water drainage channels are introduced in the lower corners of the frame to discharge water from condensation and potential leakage caused by, e.g. damaged external aluminium profiles. Wooden profiles are less exposed to the moisture, which adds to their durability.

#### EASIER INSTALLATION GREATER COMFORT OF WORK

New brackets facilitate installation work and increase the ability to adjust roof windows during their installation. In addition, the use of Torx screws streamlines the installation process of roof windows.





# ROOF WINDOW CONSTRUCTION

## TYPES OF WINDOW PROFILES STRUCTURE

Windows should be chosen based on to the humidity level in the room.



### Wood with colourless acrylic coating

The basic material for the production of windows is specially selected high quality pinewood, glued in layers. The wood is vacuum impregnated and lacquered with eco-friendly acrylic lacquer in natural colour. Such windows find their destination in most of rooms in the attic.



### Wood with white polyurethane layer

For rooms with periodically elevated humidity levels (kitchens, bathrooms) we recommend wooden windows coated with three layers of white polyurethane lacquer to create durable and perfectly smooth surface. Visible parts of the window such as bolts or locking elements are made of plastic in white colour which add to its aesthetics. Handle in silver colour.



### Aluminium clad - PVC

Aluminium clad - PVC windows are intended for rooms with increased humidity (bathrooms, bathing salons). Multi-chamber PVC profiles are strengthened from the inside with galvanized steel. The plastic used in the window does not absorb any moisture and the window itself is durable and corrosion free. The PVC profiles are classified with class A - the highest by EN 12608 standard. Windows are also available in golden oak (GO) and pine (PI) veneer. Selected windows are made in innovative profile joining technology V-PERFECT.



FAKRO obtains wood from forests with planned forestry economy and uses in the production process eco-friendly materials which do not contain harmful substances.



## WARRANTY

**10** year  
WARRANTY  
for window

**20** year  
WARRANTY  
for glazing unit  
and hardware elements\*

**∞ LIFETIME**  
glazing unit hail  
resistance warranty

\*details to be found in warranty card available at [www.fakro.com](http://www.fakro.com) and at Builders Merchants




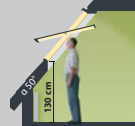










# ROOF WINDOW PERFORMANCE AT A GLANCE

**Centre pivot roof windows** are still the most popular design, with a wide variety of options including highly energy-efficient windows suited to airtight construction, burglar-resistant windows (particularly suited to low pitch roofs and multi-occupancy buildings). All can be rotated through 180° to clean the outer pane from within the room. A choice of natural pine, white acrylic, white PU-coated pine and PVC is available.

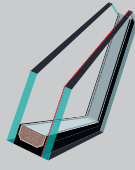
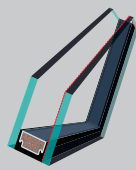
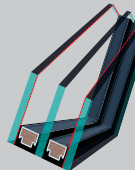
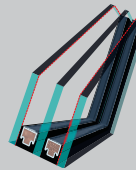
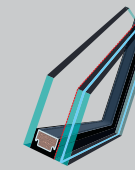
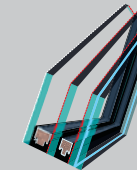
**Top hung and pivot dual function roof windows** provides total flexibility of use. When open, the top hung function provides an unrestricted field of view at a lower height than a centre pivot window while centre pivot operation enables the sash to be rotated through 180° to clean the outer pane from within the room. A choice of natural pine, white PU-coated pine and PVC is available.

**High pivot roof windows** function in the same way as a centre pivot window but with the axis of rotation slightly higher in the frame to enable even taller people to walk up to the open window. This enables a greater glazing height to be achieved without adding to the window's width. With scope also to choose a twin sash window in a single frame (the FDY-V proSky Duet window), this can extend up to 2.35 metres.

## STANDARD ROOF WINDOWS

type	TOP HUNG AND PIVOT WINDOWS				CENTRE PIVOT								
													
material	wood		PVC		wood						PVC		
natural pine	FPP-V U3 preSelectMAX	FPP-V U5 preSelectMAX	-	-	FTS-V U2	FTP-V U3	FTP-V U4	FTP-V U5	FTP-V P5	FTP R1	-	-	
white polyurethane	FPU-V U3 preSelectMAX	FPU-V U5 preSelectMAX	-	-	-	FTU-V U3	FTU-V U4	FTU-V U5	FTU-V P5	FTU R1	-	-	
conservation version:	+	+	+	+	+	+	+	+	+	+	+	+	
view													
air inlet			V35		V10					non-vented	V35		
air inlet air flow	up to 49 m³/h		up to 41 m³/h		up to 9 m³/h	up to 49 m³/h				-	up to 41 m³/h		
glazing	double	triple	double	triple	double	double	triple	triple	triple	double	double	triple	
Ug (EN 673)	1.0 W/m²K	0.5 W/m²K	1.0 W/m²K	0.5 W/m²K	1.1 W/m²K	1.0 W/m²K	0.7 W/m²K	0.5 W/m²K	0.5 W/m²K	1.0 W/m²K	1.0 W/m²K	0.5 W/m²K	
Uw	1.3 W/m²K	1.0 W/m²K	1.3 W/m²K	1.1 W/m²K	1.3 W/m²K	1.3 W/m²K	1.1 W/m²K	0.97 W/m²K	0.97 W/m²K	1.3 W/m²K	1.3 W/m²K	1.0 W/m²K	
topSafe system	+		+		+						+		
acoustic insulation	32 dB	33 dB	32 dB	34 dB	32 dB	32 dB	33 dB	33 dB	35 dB	39 dB	32 dB	34 dB	
handle	elegant		elegant white		standard	elegant						elegant white	
seals	4		4		4						4		
installation pitch	15-55° (85°)		15-55° (85°)		15-90°						15-90°		

## GLAZING UNIT


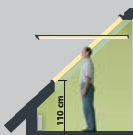
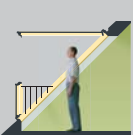

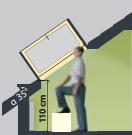





						
GLAZING UNIT	U2	U3	U4	U5	P2	P5
GLAZING STRUCTURE	4H-16-4T	4H-16-4T	4-12-4-12-4	4HT-10-4H-10-4HT	4H-15-33.2T	4HS-10-4HT-8-33.2T
TECHNICAL SPECIFICATION	ENERGY EFFICIENT	ENERGY SAVING	HIGHLY ENERGY EFFICIENT	HIGHLY ENERGY EFFICIENT	ANTI BURGLARY	SAFE
GLAZING	DOUBLE	DOUBLE	TRIPLE	TRIPLE	DOUBLE	TRIPLE
INNER LAMINATED GLASS					(CLASS P2A)	(CLASS P2A)

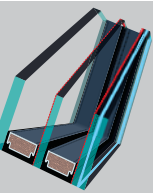
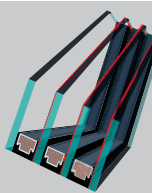
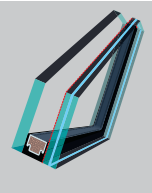
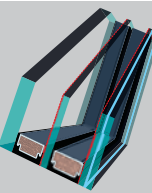
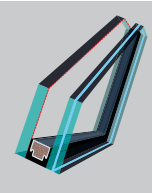
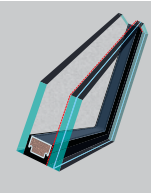


**The Balcony window** is the ultimate, modern twin sash window. With the top sash opening as a top hung window, the bottom sash with laminated internal glazing opens from the bottom to reveal built-in balustrades.

**L-shaped windows** provide scope to take any of FAKRO's standard roof windows into a vertical wall. This gives a much extended field of view and a bigger glazing area which maximises the use of natural daylight.

**Conservation roof windows** are designed to meet planning requirements in conservation areas or for the sensitive development of older buildings. In addition to all our standard windows being available in conservation style, bespoke commissions are routinely undertaken.

CENTRE PIVOT				HIGH PIVOT		BALCONY		L-SHAPED		SIDE HUNG	
											
wood		wood		wood		wood		wood		wood	
FTP-V U3 Z-Wave	FTT U8 Thermo	FTT U6	FTT R3	FYP-V U3 proSky	FYP-V U5 proSky	FDY-V U3 Duet proSky	FGH-V P2 Galeria	FGH-V P5 Galeria	BD_P2, BVPP2,BXP P2	BD_P5, BVP P5,BXP P5	FWP P2
FTU-V U3 Z-Wave	FTT/U U8 Thermo	FTT/U U6	FTT/U R3	FYU-V U3 proSky	FYU-V U5 proSky	FDY-V/U U3 Duet proSky	FGH-V/U P2 Galeria	FGH-V/U P5 Galeria	BD_/U P2, BVUP2,BXU P2	BD_/U P5, BVU P5,BXU P5	FWU P2
+	+	+	+	+	+	+	-	-	-	-	+
											
V4OP non-vented				V4OP		V4OP		—		—	
up to 49 m³/h				up to 49 m³/h		up to 49 m³/h		up to 49 m³/h		—	
double	quadruple	triple	triple	double	triple	double	double	triple	double	triple	double
1.0 W/m²K	0.3 W/m²K	0.5 W/m²K	0.5 W/m²K	1.0 W/m²K	0.5 W/m²K	1.0 W/m²K	1.1 W/m²K	0.5 W/m²K	1.1 W/m²K	0.5 W/m²K	1.0 W/m²K
1.3 W/m²K	0.58 W/m²K	0.80 W/m²K	0.81 W/m²K	1.3 W/m²K	0.97 W/m²K	1.3 W/m²K	1.5 W/m²K	1.1 W/m²K	1.3 W/m²K	0.88 W/m²K	1.3 W/m²K
+	+			+		+	+		—		—
32 dB	36 dB	38 dB	42 dB	32 dB	31 dB	32 dB	35 dB	34 dB	37 dB	38 dB	35 dB
—	elegant			elegant		elegant	elegant		elegant		elegant
4	5			4		4	4		2		4
15-90°	15-70°			20-65°		25-65°	35-55°	40-55°	90°		15-55°

					
U6	U8	R1	R3	G61	O2
6H-18-4HT-18-33.2T	4H-12-4HT-12-4HT-12-4HT	6H-12-33.2SIT	8H-16-4HT-18-33.2SIT	6H-12-33.2SIT	4H0-14-33.1T
HIGHLY ENERGY EFFICIENT	PASSIVE GLAZING	SOUND REDUCING	SOUND REDUCING	SOLAR CONTROL	OBSCURE
TRIPLE	QUADRUPLE	DOUBLE	TRIPLE	DOUBLE	DOUBLE
(CLASS P2A)		(CLASS P2A)	(CLASS P2A)	✓	✓



# HOW TO SELECT A ROOF WINDOW

## 1 HOW WILL YOU MAKE A HOME?

- Choose the correct type of window to suit your environment.
- Classic centre pivot windows make the windows easy to clean as the sash will swivel to allow cleaning of the outside on the inside!
- Top hung and pivot windows give an unrestricted view at a lower height than a standard centre pivot window.



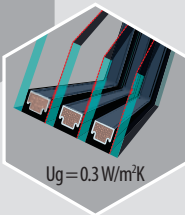
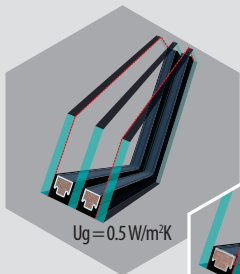
## 2 HOW MUCH DAYLIGHT DO YOU NEED?

The higher up the window is fitted the greater the spread of natural daylight into the room. It is recommended that the glass area should be at least 15-20% of the total floor area for best results.



## 3 WHICH GLAZING UNIT TO CHOOSE?

- For windows above head height you should use a laminated glass. If the glass shatters a plastic membrane between the two sheets of glass retain the shards.
- Energy efficient triple-glazed units ensure exceptional thermal efficiency and can almost eliminate heat loss altogether.
- Other glazing choices include; tinted, obscure, reflective and self-cleaning glass.



## 4 WHAT IS YOUR ROOF PITCH?

- Most roof windows are well suited for a roof pitch of between 15 and 90 degrees. However, the installation pitch range may differ for certain types of windows.
- For flat roofs you can choose between standard domed or non-domed designs.
- To ensure the flow of water from the glass surface of non-domed windows, the window should be installed with a pitch of at least 2 degrees.



## 5

### SUPER SAVINGS WITH HIGHLY ENERGY-EFFICIENT WINDOWS

- A well-insulated roof can be let down by a poorly insulated window which will cause heat loss.
- Standard double glazed windows with a thermally insulated glazing unit and flashing may suffice.
- For increased performance you should consider a highly energy-efficient roof window specially designed and supplied with insulated flashing.



## 6 MANUAL OR ELECTRIC CONTROL?

Electric control using wireless technology is available to operate your roof windows – supplied as standard with a factory fitted motor, remote control and a rain sensor. Allows multiple windows & accessories to be operated from one controller. The use of the Z-Wave protocol permits communication with other “smart home devices”.



## 7 HOW TO PROTECT AGAINST HEAT AND SUNLIGHT?

- Contemporary awning blinds can be up to eight times more efficient than internal blinds in terms of passive heat reduction while still allowing light through.
- As well as heat absorption, solar powered awnings open automatically in cloudy weather to increase the available light. In winter they reduce noise from rain and hail and protect the window from an accumulation of snow and leaves.





# NEW DIMENSION OF INNOVATION

Flashing kits are required to provide a neat and waterproof connection to the roof, therefore selecting the correct kit is an essential requirement in the selection process.

FAKRO roof window flashings are categorised according to the roof material and application.

- Enables roof windows to be installed with any type of roof covering
  - Standard depth and ideal for tiles such as the Double Roman
  - 3cm higher than the standard depth, for high profile tiles such as the Bold Roll
  - 3cm deeper than the standard depth, for where a recessed style is required.
- Ideal for conservation roof windows which invariably need to be positioned lower in the roof



## FLASHING KIT TYPE

	Type of roofing material		Flashing type	Fitting depth	Maximum profile depth of roof material	Roof pitch
<b>ES</b>			ESV	<b>V(0)</b>	10mm	15° – 90°
			ESJ	<b>J</b> (–3 cm)	10mm	20° – 90°
<b>EL</b>			ELV	<b>V(0)</b>	up to 10mm	20° – 90°
			ELJ	<b>J</b> (–3 cm)		
<b>EP</b>			EPV	<b>V(0)</b>	up to 16mm	25° – 90°
			EPJ	<b>J</b> (–3 cm)		
<b>EZ</b>			EZN-A	<b>N</b> (+3 cm)	up to 45mm	15° – 90°
			EZV-A	<b>V(0)</b>	up to 45mm	15° – 90°
			EZJ-A	<b>J</b> (–3 cm)	up to 45mm	20° – 90°
<b>EH</b>			EHN-A	<b>N</b> (+3 cm)	up to 90mm	15° – 90°
<b>EH_-AT Thermo</b>			EHV-AT Thermo	<b>V(0)</b>	up to 90mm	15° – 90°
			EHN-AT Thermo	<b>N</b> (+3 cm)	up to 120mm	15° – 90°
<b>EE</b>			EEV	<b>V(0)</b>	—	15° – 90°
			EEJ	<b>J</b> (–3 cm)		20° – 90°
<b>E_A</b>			ESA		10mm	10° – 75°
			EZA-A		up to 45mm	10° – 75°
			EHA-A		up to 90mm	10° – 75°
<b>EB</b>			EBV	<b>V(0)</b>	—	15° – 90°
			EBJ	<b>J</b> (–3 cm)		20° – 90°



**FPP-V**  
preSelect MAX  
**FPU-V**  
preSelect MAX  
**PPP-V**  
preSelect MAX

**HIGHLY  
FUNCTIONAL**

## TOP HUNG AND PIVOT WINDOW PRESELECT MAX



- A new generation of top hung and pivot windows come with two independent opening mechanisms. The sash can be opened outwards from the top and via centre pivot.



- The outward opening function enables the sash to be opened in any position from 0° to 45° which allows an easy approach to the opened window.



- Innovative hardware system guarantees complete sash stability in both opening functions.
- Opening method can be switched using preSelect sliding switch placed in the side part of the frame which is accessible after opening the window.
- Handle 'Elegant' positioned in the base of the sash for easy operation and two-step micro-opening.



- The pivot function enables the sash to be rotated through 180° and is used for cleaning the outer pane.
- Increased operational safety and burglary resistance – topSafe system.



- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.



- Wide range of additional accessories.



- Suitable for pitches from 15° - 55°, window in a special version installed in pitches from 55° - 85°.





## FPP-V preSelect MAX

thermoPro



automatic air V40P,



highest quality pine wood,  
glued in layers, vacuum  
impregnated,



double coated wood with  
ecological acrylic lacquer in  
natural colour.



## FPU-V preSelect MAX

thermoPro



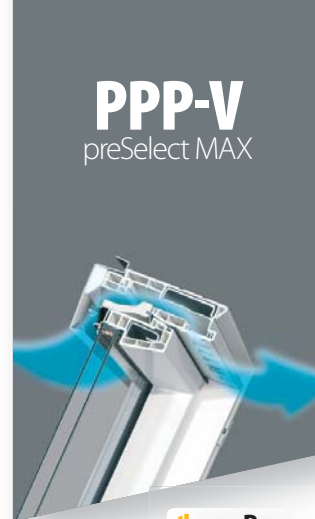
automatic air V40P,



highest quality pine wood,  
glued in layers, vacuum  
impregnated,



three coats of polyurethane  
varnish ideal for creating a  
durable and smooth finish in  
white on the surface of the frame.  
Designed for rooms with  
periodically increased humidity  
(kitchens, bathrooms).



## PPP-V preSelect MAX

thermoPro



efficient air inlet V35,



multi-chamber white  
PVC profile with reinforced  
steel core,



available in white, golden  
oak ((PPP/GO MAX))  
or pine ((PPP/PI MAX)) veneer,



the material does not absorb  
moisture, the window is durable  
and resistant to corrosion.  
Designed for rooms where  
elevated humidity level stays for  
a long time (bathrooms, laundry  
rooms).

### TOP HUNG AND PIVOT WINDOW

windows external dimensions [cm]	55x98	55x118	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m <sup>2</sup> ]	0.29	0.37	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	02	16	03	04	14	05	06	07	13	08	09	10	11	12
<b>FPP-V U3</b> preSelect MAX $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>FPU-V U3</b> preSelect MAX $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>PPP-V U3</b> preSelect MAX $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>PPP-V/GO U3</b> preSelect MAX $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>PPP-V/PI U3</b> preSelect MAX $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+

$U_w$  - heat transfer coefficient





**FTP-V  
FTU-V**

**ENERGY-  
EFFICIENT  
AS STANDARD**

## CENTRE PIVOT WINDOW WITH TRIPLE GLAZING UNIT



- A popular design of windows with a hinge located in the middle of the window height.



- Convenient way to use the window as the handle is located at the bottom of the sash. The handle is equipped with a two step micro-opening facility.



- Easy cleaning of the outer pane and operating the awning blind with the use of blocking sash bolt when rotated through 180 degrees.



- Increased operational safety and burglary resistance topSafe system.



- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.



- A wide range of accessories.



- Possibility to install electrical control.



- Installation in roof pitches from 15 to 90 degrees.



## FTP-V U4 FTU-V U4



thermoPro

V40P

automatic V40P air-inlet,

U4

two chamber, (triple glazed)  
highly energy-efficient glazing  
 $U_w = 1.1 \text{ W/m}^2\text{K}$  with standard  
flashing,



highest quality pine wood,  
glued in layers, vacuum  
impregnated,



double coated wood with  
ecological acrylic lacquer in  
natural colour,



three coats of polyurethane  
varnish ideal for creating a  
durable and smooth finish in  
white on the surface of the  
frame,



Designed for rooms with  
periodically increased humidity  
(kitchens, bathrooms).

## FTP-V U5 FTU-V U5



thermoPro

V40P

automatic V40P air-inlet,

U5

two chamber, (triple glazed)  
highly energy-efficient U5  
glazing  $U_w = 0.97 \text{ W/m}^2\text{K}$   
with standard flashing,



highest quality pine wood,  
glued in layers, vacuum  
impregnated,



double coated wood with  
ecological acrylic lacquer in  
natural colour,

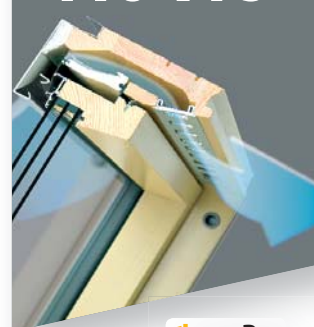


three coats of polyurethane  
varnish ideal for creating a  
durable and smooth finish in  
white on the surface of the  
frame,



Designed for rooms with  
periodically increased humidity  
(kitchens, bathrooms).

## FTP-V P5 FTU-V P5



thermoPro

V40P

automatic V40P air-inlet,

P5

two chamber, (triple glazed)  
highly energy-efficient lamina-  
ted glazing with easy mainte-  
nance layer,  $U_w = 0.97 \text{ W/m}^2\text{K}$   
with standard flashing,



highest quality pine wood,  
glued in layers, vacuum  
impregnated,



double coated wood with  
ecological acrylic lacquer in  
natural colour,



three coats of polyurethane  
varnish ideal for creating a  
durable and smooth finish in  
white on the surface of the  
frame,



Designed for rooms with  
periodically increased humidity  
(kitchens, bathrooms).

### PIVOT WINDOWS IN TRIPLE GLAZING UNIT

windows external dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m <sup>2</sup> ]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTP-V U4 $U_w = 1.1 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTU-V U4 $U_w = 1.1 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTP-V U5 $U_w = 0.97 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
FTP-V P5 $U_w = 0.97 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+

$U_w$  - heat transfer coefficient

**NOTE:** Additional sizes also available: 55x118, 94x98, 134x118





**FTP-V  
FTS-V**

  
**A POPULAR  
CHOICE**

## CENTRE PIVOT WINDOW WITH DOUBLE GLAZING UNIT



- Widely used window with the hinge situated in the middle of the window height.



- Handle positioned in the base of the sash for easy operation.  
Equipped with two step micro-opening.



- The sash can be rotated through 180° and locked allowing safe and easy cleaning of the outer pane.



- Wide range of additional accessories.
- The possibility of installing electric control.



- Suitable for roof pitches 15-90°.





automatic V40P air-inlet,



topSafe system with increased burglary resistance,



thermoPro technology increases durability and roof windows parameters,



U3 energy-efficient glazing unit,



safe glazing unit P2,



highest quality pine wood, glued in layers, vacuum impregnated,



double coated wood with ecological acrylic lacquer in natural colour.



air-inlet V22,



energy-efficient glazing unit U2,



pine wood, glued in layers, vacuum impregnated,



wood coated with ecological acrylic lacquer in natural colour.

#### CENTRE PIVOT WINDOW

windows external dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m <sup>2</sup> ]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
<b>FTP-V U3</b> $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>FTP-V P2</b> $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>FTS-V U2</b> $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+

$U_w$  - heat transfer coefficient





**FTU-V  
PTP-V**

**RESISTANT  
TO HUMIDITY**

## CENTRE PIVOT WINDOWS FOR ROOMS WITH HIGH LEVELS OF HUMIDITY



- A popular design of windows with a hinge located in the middle of the window height.



- Handle positioned in the base of the sash for easy operation and equipped with two-step micro-opening.



- The sash can be rotated through 180° and locked allowing safe and easy cleaning of the outer pane.



- Increased operational safety and burglary resistance topSafe system.



- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.



- A wide range of accessories.
- Possibility to install electrical control.



- Installation in roof pitches from 15 to 90 degrees.



## FTU-V



V40P

automatic V40P air-inlet,

U3

energy-efficient glazing unit U3,

U5

energy-efficient glazing unit U5,



highest quality pine wood, glued in layers, vacuum impregnated,



three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame.



Designed for rooms with periodically increased humidity (kitchens, bathrooms).

## PTP-V



V35

efficient air inlet V35,

U3

energy-efficient glazing unit U3,

U4

highly energy-efficient glazing unit U4,



Multi-chamber PVC profiles in white are re-inforced with steel cores.



Available as well in:  
- golden oak (PTP/GO) and pine (PTP/PI) veneer,



the material does not absorb moisture, the window is durable and resistant to corrosion. Designed for rooms where elevated humidity level stays for a long time (bathrooms, laundry rooms).

### CENTER PIVOT WINDOWS WITH INCREASED RESISTANCE TO MOISTURE

windows external dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m <sup>2</sup> ]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
<b>FTU-V U3</b> $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>PTP-V U3</b> $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>PTP-V/GO U3</b> $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>PTP-V/PI U3</b> $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>PTP-V U4</b> $U_w=1.1 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	-	+	+	+	+	+

$U_w$  - heat transfer coefficient



**FTP-V Z-WAVE**  
**FTU-V Z-WAVE**

**INTELLIGENT  
HOME**

## ELECTRONICALLY CONTROLLED Z-WAVE CENTRE PIVOT WINDOWS



- A popular design of windows with a hinge located in the middle of the window height.



- Handle positioned in the base of the sash for easy operation and equipped with two-step micro-opening.



- The sash can be rotated through 180° and locked allowing safe and easy cleaning of the outer pane.



- Increased operational safety and burglary resistance topSafe system.



- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.



- A wide range of accessories.
- Possibility to install electrical control.



- Installation in roof pitches from 15 to 90 degrees.



## FTP-V Z-Wave



thermoPro

V40P

automatic V40P air-inlet,

U3

energy-efficient glazing unit U3,

U5

energy-efficient glazing unit U5,



highest quality pine wood, glued in layers, vacuum impregnated,



double coated wood with ecological acrylic lacquer in natural colour



actuator cover in silver colour.

## FTU-V Z-Wave



thermoPro

V40P

automatic V40P air-inlet,

U3

energy-efficient glazing unit U3,

U5

energy-efficient glazing unit U5,



highest quality pine wood, glued in layers, vacuum impregnated,



three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame. Designed for rooms with periodically increased humidity (kitchens, bathrooms)



actuator cover in white colour.

### ELECTRONICALLY CONTROLLED WINDOWS

windows external dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m <sup>2</sup> ]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
<b>FTP-V U3 Z-Wave</b> $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>FTU-V U3 Z-Wave</b> $U_w=1.3 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>FTP-V U5 Z-Wave</b> $U_w=0.97 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>FTU-V U5 Z-Wave</b> $U_w=0.97 \text{ W/m}^2\text{K}$	+	+	+	+	+	+	+	+	+	+	+	+	+	+

$U_w$  - heat transfer coefficient



**FTT U6**  
**FTT/U U6**  
**FTT U8** Thermo  
**FTT/U U8**  
Thermo

  
**LOWER  
HEATING  
BILLS**

## HIGHLY ENERGY EFFICIENT PIVOT WINDOWS

**PASSIV**

- Special roof windows designed for energy-efficient and passive buildings. The glazing unit is embedded in a specially designed sash frame. The wooden profiles are wider compared to a standard window.
- There are five gaskets used in the window. The window construction minimizes the phenomenon of thermal bridging and ensures better window insulation.
- The pivot windows with the axis of rotation above the centre of the window, so even a tall person can easily walk up to the window edge.
- Handle positioned in the base of the sash and equipped with two-step micro-opening.
- The sash can be rotated through 180° and locked allowing safe and easy cleaning of the outer pane.



**thermoPro**



**15-70°**

- Increased burglary resistance- topSafe system.
- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.
- Wide range of additional accessories.
- Suitable for roof pitches 15-70°.



## FTT U6



thermoPro

U6

highly energy-efficient glazing unit U6  
 $U_w = 0.80 \text{ W/m}^2\text{K}$  with standard flashing,  
 $U_w = 0.71 \text{ W/m}^2\text{K}$  when installed with Thermo flashing,



highest quality pine wood, glued in layers, vacuum impregnated,



FTT U6 - double coated wood with ecological acrylic lacquer in natural colour,



FTT/U U6 - three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame. Designed for rooms with periodically increased humidity (kitchens, bathrooms).

## FTT U8 Thermo



thermoPro

U8

passive U8 glazing unit,

$U_w = 0.58 \text{ W/m}^2\text{K}$  the warmest roof window with a single glazing unit available on the market. Supplied with **Thermo flashing**



as standard equipped with XDK set, which consists of thermo-insulating XDP kit and air-tight XDS collar,



highest quality pine wood, glued in layers, vacuum impregnated,



FTT U8 - double coated wood with ecological acrylic lacquer in natural colour,



FTT/U U8 - three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame. Designed for rooms with periodically increased humidity (kitchens, bathrooms).



Designed for passive house buildings, Passive House certified,

### HIGHLY ENERGY EFFICIENT WINDOWS

windows external dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98
effective glazing area [m²]	0.22	0.29	0.38	0.47	0.58	0.47	0.59	0.73	0.85	0.75	0.92	0.95	1.16	0.92
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12
FTT U6 $U_w = 0.8 \text{ W/m}^2\text{K}$	-	+	+	+	+	+	+	+	+	+	+	+	+	+
FTT/U U6 $U_w = 0.8 \text{ W/m}^2\text{K}$	-	+	+	+	+	+	+	+	+	+	+	+	+	+
FTT U8Thermo $U_w = 0.58 \text{ W/m}^2\text{K}$	-	+	+	+	+	+	+	+	+	+	+	+	+	+
FTT/U U8Thermo $U_w = 0.58 \text{ W/m}^2\text{K}$	-	+	+	+	+	+	+	+	+	+	+	+	+	+

$U_w$  - heat transfer coefficient





## FLASHINGS FOR ROOF WINDOWS

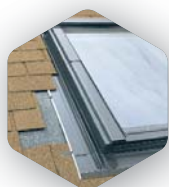
- Flashings are essential for tight connection of roof windows with roofing material. Precisely designed flashing details ensure a durable and neat fit with the roofing material used. The purpose of flashing is to ensure good drainage away from the window and to provide protection from the wind.
- FAKRO offers a range of flashing solutions, manufactured in polyester powder coated aluminium to give high durability and resistance to atmospheric conditions. The standard colour is brown RAL 7022, which matches well with most roofing finishes.



Standard flashings allow window to be installed in the most popular types of roofing materials:



**EL**  
for flat roof coverings bitumen/  
slate plain tiles up to 10mm  
thick



**ES**  
For flat roof coverings  
up to 10mm thickness



**EZ**  
For profiled roof coverings  
up to 45mm depth



**EH**  
For deeply profiled roof  
coverings up to 90mm depth



**EZV-F**  
for flat roof tiles



**EHV-AT<sup>Thermo</sup>**  
Provides thermal insulation  
above the surface of the  
battens



**ELV<sup>Thermo</sup>**  
for bitumen shingles and  
slates up to 10mm thickness



**EBV-P**  
for panel metal sheet

#### FLASHINGS FOR PIVOT WINDOWS, TOP HUNG AND PIVOT WINDOWS

windows dimensions [cm] size symbol	55x78 01	55x98 02	66x98 03	66x118 04	66x140 14	78x98 05	78x118 06	78x140 07	78x160 13	94x118 08	94x140 09	114x118 10	114x140 11	134x98 12
<b>ELV</b> for flat roof coverings	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>ESV</b> for flat roof coverings	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>EZV-A</b> For profiled roof coverings	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>EHN-A</b> for high profiled roof coverings	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>EZV-F</b> for flat roof tiles	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>EHV-AT<sup>Thermo</sup>*</b> with additional insulation	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>ELV<sup>Thermo</sup></b> with additional insulation	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>EBV-P</b> for panel metal sheet	+	+	+	+	+	+	+	+	+	+	+	+	+	+

\*flashing for high profiled roof coverings up to 90mm thickness)

## COMBINATION FLASHINGS

The combination flashing are ready made flashing systems for joining windows in groups: horizontally, vertically and in a block.  
The distance between windows joined horizontally and vertically is normally 10cm. There are seven modules in the FAKRO combination system, to cater for any layout you may require.



**B2/1**  
Horizontal  
combination



**B1/2**  
Vertical  
combination



**B2/2**  
Block  
combination

#### THE MOST POPULAR TYPES OF COMBINATION FLASHINGS EZV-P FOR CORRUGATED ROOFING MATERIALS

windows dimensions [cm] size symbol	55x78 01	55x98 02	66x98 03	66x118 04	66x140 14	78x98 05	78x118 06	78x140 07	78x160 13	94x118 08	94x140 09	114x118 10	114x140 11	134x98 12
<b>B2/1</b> KZV-1-P, KZV-3-P	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>B1/2</b> EZV-P, KDV	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>B2/2</b> KZV-1-P, KZV-3-P, KXV-4, KXV-6	+	+	+	+	+	+	+	+	+	+	+	+	+	+





**FYP-V**

proSky

**FDY-V**

Duet proSky

**LARGE AND  
FUNCTIONAL**

## WINDOW WITH RAISED AXIS OF ROTATION



- Pivot windows with axis of rotation placed above the centre of the window height, so even a tall person can easily walk up to the window edge. The lower part of the sash fulfils a top hung function and the upper part part of the sash is an additional source of daylight. The sash when opened from 0 to 45 ° is supported by an innovative supporting mechanism enabling to leave the sash open in any position within this range.

When installed in roofs with pitches 39°-43° the window satisfies the requirements of DIN 5034-1\* standard, according to which the bottom window edge has to be placed 95cm above the floor level and the top minimum 220cm.



- Handle positioned in the base of the sash for easy operation and two-step micro-opening.

\* standard valid for the German market



- The sash rotated by 160 degrees and locked facilitates outer glass cleaning.



- Increased burglary resistance – topSafe system.



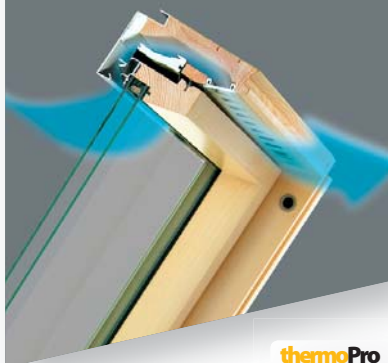
- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.



- Wide range of additional accessories.



## FYP-V proSky



thermoPro

V40P

automatic V40P air-inlet

U3

As standard equipped with energy-efficient glazing U3.

206 cm

single sash window, windows available up to height 206 cm,



highest quality pine wood, glued in layers, vacuum impregnated,

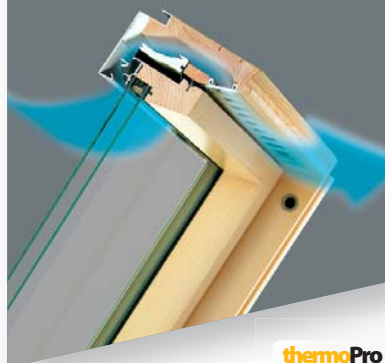


double coated wood with ecological acrylic lacquer in natural colour

20-65°

suitable for pitches between 20 to 65°

## FDY-V Duet proSky



thermoPro

V40P

automatic V40P air-inlet

U3

As standard equipped with energy-efficient glazing U3.

<255 cm>

double sash window, non-opening bottom sash with safe glazing, windows available up to height of 255 cm,



highest quality pine wood, glued in layers, vacuum impregnated,



double coated wood with ecological acrylic lacquer in natural colour

25-65°

suitable for pitches between 25 to 65°

### WINDOW WITH RAISED AXIS OF ROTATION FYP-V U3 proSky

windows external dimensions [cm]	66x118	66x140	78x98	78x118	78x140	78x160	78x180	94x140	94x160	94x180	114x140
effective glazing area [m <sup>2</sup> ]	0.47	0.58	0.47	0.59	0.73	0.85	0.96	0.92	1.07	1.22	1.16
size symbol	04	14	05	06	07	13	40	09	80	41	11
U <sub>w</sub> = 1.3 W/m <sup>2</sup> K	+	+	+	+	+	+	+	+	+	+	+

U<sub>w</sub> - heat transfer coefficient

### WINDOWS WITH LOWER TRANSOM FDY-V U3 Duet proSky

78x186	78x206	94x186	94x206
0.73	0.85	0.92	1.07
0.18	0.18	0.23	0.23
CA	CB	DA	DB
+	+	+	+

### FLASHINGS FOR WINDOW WITH RAISED AXIS OF ROTATION

windows dimensions [cm]	66x118	66x140	78x98	78x118	78x140	78x160	78x180	94x140	94x160	94x180	114x140
size symbol	04	14	05	06	07	13	40	09	80	41	11
ESV for flat roof coverings	+	+	+	+	+	+	+	+	+	+	+
EZV-A for profiled roof coverings	+	+	+	+	+	+	+	+	+	+	+
EHN-A for high profiled roof coverings	+	+	+	+	+	+	+	+	+	+	+

78x186	78x206	94x186	94x206
CA	CB	DA	DB
+	+	+	+
+	+	+	+
+	+	+	+



# FGH-V Galeria FGH-V/U Galeria

  
**BIGGER  
SPACE**

## BALCONY WINDOW - GALERIA



- An innovative, large roof window whose sashes when opened create a balcony.
- The upper top hung sash opens upwards, while the lower sash can be tilted forwards, allowing easy access to the balcony recess. The sash when rotated through 0° - 45° is supported by an innovative supporting mechanism which allows leaving the open sash in any position within this range.
- Handle positioned in the base of the upper sash and equipped with two-step micro-opening.
- The sash can be rotated through 180° and locked allowing safe and easy cleaning of the outer pane.
- Increased burglary resistance – topSafe system.
- ThermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.

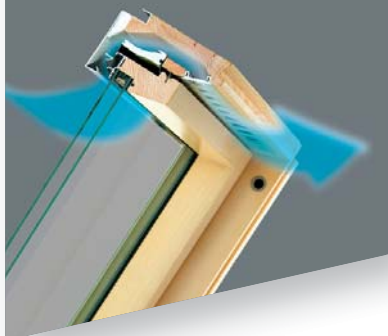


- Highest quality pine wood, glued in layers, vacuum impregnated.
- Double coated wood with ecological acrylic lacquer in natural colour.
- Three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame. Designed for rooms with periodically increased humidity (kitchens, bathrooms)
- A wide range of accessories.
- Installation in roof pitches between 35 and 55 degrees. Installation in a roof structure without L-shaped wall is recommended.



## FGH-V

Galeria



V40P

automatic V40P air-inlet

P2

Both sashes are equipped with safe P2 glazing

upper sash can be rotated smoothly up to an angle of 45 °.  
Side safety barriers are integrated into the bottom sash and slide out during opening. When closing the lower sash, balcony rails are hidden inside the window and are not visible above the roof surface.

## FGH-V/U



V40P

automatic V40P air-inlet

P2

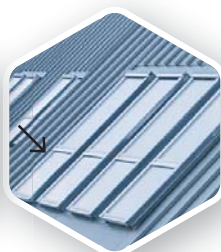
Both sashes are equipped with safe P2 glazing



upper sash can be rotated smoothly up to an angle of 45 °.  
Side safety barriers are integrated into the bottom sash and slide out during opening. When closing the lower sash, balcony rails are hidden inside the window and are not visible above the roof surface.



FAKRO



FAKRO

barriers when closed are concealed under the window flashing elements, they do not collect dirt or spoil aesthetics of the roof.



Made to order  
Balcony window available only with installation performed by authorized service.



Combining FGH-V balcony window with other FAKRO windows, e.g. FDY-V can be carried out using K\_\_\_/G flashings.

### BALCONY WINDOW - GALERIA

windows external dimensions [cm]	94x255
effective glazing area [m²]	1.07
	0.60

<b>FGH-V P2</b> $U_w = 1.5 \text{ W/m}^2\text{K}$	+
<b>FGH-V/U P2</b> $U_w = 1.5 \text{ W/m}^2\text{K}$	+

$U_w$  - heat transfer coefficient

### FLASHINGS

windows external dimensions [cm]	94x255
<b>ELV/G</b> for bitumen shingles and slates up to 10mm thickness	+
<b>EZV-A/G</b> for corrugated roofing material	+
<b>EHN-A/G</b> for high profile roofing material	+
<b>EHN-AT Thermo/G</b> with additional insulation for high profile roofing material	+





**FXP  
FXU**

**PERFECT  
ILLUMINATION**

## NON-OPENING COMBINATION WINDOWS



- Non-opening window installed exclusively beneath a standard roof window. Designed for vertical combinations. It constitutes an additional element increasing field of view and securing ingress of natural light to the room. The window from the inside is butt joined with a roof window. A narrow connecting strip enhances aesthetics and does not limit illumination area. From the outside the window comes with a special cladding element which is screwed to the sash in the upper roof window.



thermoPro



15°-90°

- Increased operational safety and burglary resistance – topSafe system.
- thermoPro technology - the solutions introduced ensure improved quality and parameters of roof windows, thus increasing their energy-efficiency performance, providing greater durability, ensuring excellent tightness and facilitating the installation process.
- Wide range of additional accessories.
- Suitable for pitches from 15° - 90°.



# FXP



thermoPro

P2

safe glazing unit P2,

P5

two chamber, highly energy-efficient laminated glazing with easy maintenance layer

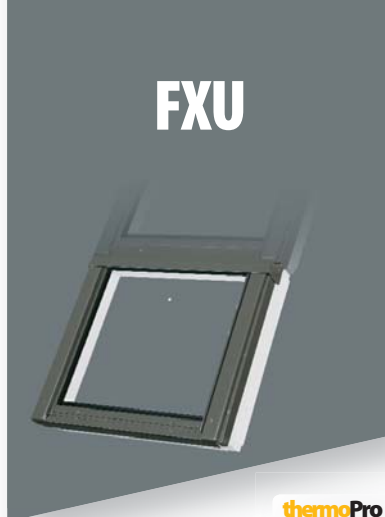


highest quality pine wood, glued in layers, vacuum impregnated,



double coated wood with ecological acrylic lacquer in natural colour

# FXU



thermoPro

P2

safe glazing unit P2,

P5

two chamber, highly energy-efficient laminated glazing with easy maintenance layer



highest quality pine wood, glued in layers, vacuum impregnated,





three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame.



Designed for rooms with periodically increased humidity (kitchens, bathrooms).

## NON-OPENING WINDOWS

windows external dimensions [cm]	78x95	94x95
		
size symbol	CU	DU
<b>FXP P2</b>	+	+
<b>FXU P2</b>	+	+
<b>FXP P5</b>	+	+
<b>FXU P5</b>	+	+

Installed with special flashings. When choosing appropriate flashing it is required to add up the height of FX\_ window and the upper window. Then choose the nearest flashing of greater height to proper roof covering type. In case of using Thermo flashing it is required to purchase KDV-XT module.



**BD\_,BD\_/U  
BVP, BVU  
BXP, BXU**

**ENHANCED  
FIELD OF VIEW**

## L-SHAPE VERTICAL COMBINATION WINDOW



- The L-shaped windows are designed to be installed where the roof meets a vertical wall. These windows serve to extend the roof window into the wall. This results in the amount of light entering the room and the field of view being greatly increased.

The L-shaped combination windows can be combined with roof windows of any design.

**P2**

- As standard equipped with safety glazing unit P2 or P5.

**P5**

- Windows equipped with multi-point locking fittings.



- The highest quality pine wood, glued in layers, vacuum impregnated.



- Double coated wood with ecological acrylic lacquer.



- Three coats of polyurethane varnish ideal for creating a durable and smooth finish in white on the surface of the frame. Designed for rooms with periodically increased humidity (kitchens, bathrooms)



- A wide range of accessories.



- The roof window installation range joined with L-shaped combination window is 15 to 55 degrees.



## BDR, BDL BDR/U, BDL/U



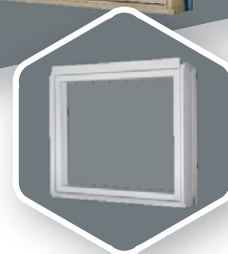
- tilt and turn opening system.
- the sash opened by tilting 12cm and turned to 90 degrees. Operated by one handle located on the side of the sash. As standard comes with a key, by which you can lock the window. Opened to the right (BDR) or left side (BDL).

## BVP BVU



- tilt opening
- the sash opened by tilting about 12 cm. The handle with key lock is situated on the upper part of the sash.

## BXP BXU



- non-opening

### L-SHAPED WINDOW B\_

windows external dimensions [cm]	78x60	78x75	78x95	78x115	78x137	94x60	94x75	94x95	94x115	114x60	114x75	114x95	114x115
effective glazing area [m <sup>2</sup> ]	0.25	0.33	0.56	0.57	0.71	0.31	0.42	0.58	0.73	0.40	0.53	0.73	0.92
size symbol	33	81	82	83	84	34	85	86	87	35	89	90	91
<b>BDL P2 (left)</b>	+	+	+	+	+	-	+	+	+	-	-	+	+
<b>BDR P2 (right)</b>	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>BVP P2</b>	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>BXP P2</b>	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>BDL/U P2 (left)</b>	+	+	+	+	+	-	+	+	+	-	-	+	+
<b>BDR/U P2 (right)</b>	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>BVU P2</b>	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>BXU P2</b>	+	+	+	+	+	+	+	+	+	+	+	+	+





## FUNCTIONAL ACCESSORIES FOR ROOF WINDOWS

  
**PLEASANT &  
BEAUTIFUL**

## ROOF WINDOW ACCESSORIES

- FAKRO roof window accessories combine functional and operational features with attractive designs.
- Internal accessories can put the finishing touches on any roof window.

The wide range of blind type, style and colour ensures complete harmony with your chosen décor and helps shape a room's character.

- Exterior accessories (awning and blind) effectively protect against excessive heating of the attic on hot summer days.
- Accurate adjustment of accessories to FAKRO roof windows ensures their quick and easy assembly. The original FAKRO accessories are characterized by high quality, innovative solutions and aesthetic appearance.



# EXTERNAL ACCESSORIES

NEW LINE



## Awning blinds **AMZ**

- offers up to 8 times more effective protection in comparison with internal blackout blinds
- effective shading of the room at the same time providing a view to the outside
- the best protection from tiresome heat

### Control:

- **AMZ** manually operated or with the use rod (supplied in package)
- **AMZ Z-WAVE** system, controlled by remote control or wall switch
- **AMZ Solar** controlled by remote control

### AWNING BLINDS FOR PIVOT WINDOWS (FT, PT); TOP HUNG AND PIVOT WINDOWS (FP, PP preSelect\*)

windows dimensions [cm] size symbol	55x78 01	55x98 02	66x98 03	66x118 04	66x140 14	78x98 05	78x118 06	78x140 07	78x160 13	94x118 08	94x140 09	114x118 10	114x140 11	134x98 12
<b>AMZ I</b> <i>I group (089, 090)</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>AMZ II</b> <i>II group (092)</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>NEW LINE</b> <b>AMZ I</b> <i>I group (089, 090)</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>NEW LINE</b> <b>AMZ II</b> <i>II group (092)</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>AMZ Z-Wave I*</b> <i>I group (089, 090)</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>AMZ Z-Wave II*</b> <i>II group (092)</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>AMZ Solar I**</b> <i>I group (089, 090)</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>AMZ Solar II**</b> <i>II group (092)</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+



## External roller shutters **ARZ**

- effective protection from tiresome heat
- shading of the room
- increased security
- increases the feeling of privacy
- acoustic protection against external noise

### Control:

- ARZ-H operated manually from the inside with a crank (supplied in package)
- ARZ Z-Wave system, controlled by remote control or wall switch
- ARZ Solar controlled by remote control, recommended in places where there is no 230V power supply

### EXTERNAL ROLLER SHUTTERS: ARZ-H FOR PIVOT WINDOWS (FT), ARZ Z-WAVE FOR PIVOT WINDOWS (FT,PT) AND FOR TOP HUNG AND PIVOT (FP, PP preSelect\*)

windows dimensions [cm] size symbol	55x78 01	55x98 02	66x98 03	66x118 04	66x140 14	78x98 05	78x118 06	78x140 07	78x160 13	94x118 08	94x140 09	114x118 10	114x140 11	134x98 12
<b>ARZ-H</b>	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>ARZ Z-Wave*</b>	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>ARZ Solar**</b>	+	+	+	+	+	+	+	+	+	+	+	+	+	+

\* The control and power devices should be purchased separately, details on the page with Z-Wave electrical control elements.

\*\* The set includes a controller with a remote control and battery.



# INTERNAL ACCESSORIES



**venetian  
blinds**  
**AJP**

- reduction of incoming light to the room
- control the direction and the amount of the light entering by changing the angle of the slats



**dimming  
roller blind**  
**ARP**

- protection against sunlight during sunny days
- possibility to lock the blind in any position



**blackout  
blinds**  
**ARF**

- very good protection from sunlight
- possibility to lock the blind in any position
- partial protection from solar heat

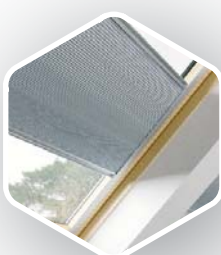


**pleated  
blinds**



**APS**

- provide a soft and diffused light into the room
- possibility to lock the blind in any position
- top-down system-easy operation by top and bottom bar

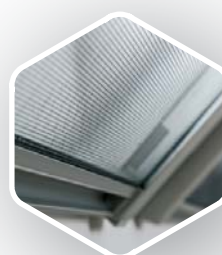


**pleated  
blinds**



**APF**

- gradual reduction of the incoming sunlight up to the black out
- possibility to lock the blind in any position
- top-down system - easy operation by using the upper and lower beams



**insect screen**  
**AMS**

- protection against insects
- minimum shading of the room
- can be installed with other internal and external accessories

INTERNAL ACCESSORIES															
windows dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98	
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12	
<b>AJP I</b> <i>I group</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>AJP II</b> <i>II group</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>ARP I</b> <i>I group</i>	+	+	+	+	+	+	+	+	-	+	+	+	+	+	
<b>ARP II</b> <i>II group</i>	+	+	+	+	+	+	+	+	-	+	+	+	+	+	
<b>ARF I</b> <i>I group</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>ARF II</b> <i>II group</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>APS I</b> <i>I group</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>APS II</b> <i>II group</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>APF I</b> <i>I group</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>APF II</b> <i>II group</i>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>AMS commercial size</b>	55x170	55x200	66x200	66x240	78x200	78x240	94x200	94x240	114x200	114x240	134x200	134x240			
lining opening width [cm]	49.5	49.5	60.5	60.5	72.5	72.5	88.5	88.5	108.5	108.5	128.5	128.5			
lining opening maximum height [cm]	170	200	200	240	200	240	200	240	200	240	200	240			
<b>AMS</b>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	



# ACCESSORIES FOR OPENING WINDOWS



## ZST

telescopic control rod enables the user to operate windows, Venetian blinds, and other blinds positioned beyond user's direct reach



## ZBB

window restrictor -enabling safe sash opening in the tilt position up to 10cm



## ZBL

aesthetic window lock ZBL in white, prevents accidental opening of the window, is mounted at the bottom of the window

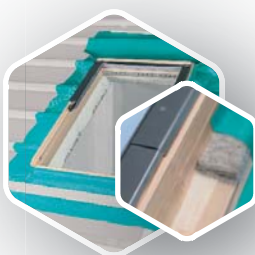
# INSTALLATION ACCESSORIES

FAKRO installation accessories guarantee quick and easy connection between the roof window and the roof construction. Using original installation accessories will allow the proper use of windows for many years.



## XLC Internal lining

- ensures proper finish around the window from the inside of the room. The XLC -F for wooden windows, XLC -P for aluminum-plastic windows. The bottom part of lining perpendicular and the upper one parallel to the floor, ensures adequate lighting and proper air circulation over the surface of the glass.



## XDP Insulating set

- designed to enable fast, tight air-permeable and thermal insulation around the window to be installed.
- the set consists of air-permeable membrane and thermo-insulating material made of natural wool in shape of wool cubes and wool tress.
- XDP insulation set together with XDS air-tight collar form a XDK insulation package



## XDS Air-tight flashing

- is secured internally to form air-tight barrier around the window against warm and humid air as any moisture on the surface of the insulation greatly reduces its thermal insulation properties.

## XDP Thermo\*

- consists of a XWT Plus vapor permeable collar and insulating band.

INSTALLATION ACCESSORIES															
windows dimensions [cm]	55x78	55x98	66x98	66x118	66x140	78x98	78x118	78x140	78x160	94x118	94x140	114x118	114x140	134x98	
size symbol	01	02	03	04	14	05	06	07	13	08	09	10	11	12	
<b>XLC-F 30</b>															
<b>XLC-P 30</b>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>XDP</b>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>XDS</b>	+	+	+	+	+	+	+	+	+	+	+	+	+	+	
<b>XDK</b> (XDP+XDS)	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

\* we advise to use it with FAKRO Thermo flashings





## ELECTRIC CONTROL Z-WAVE

- A System of solutions for the implementation in intelligent buildings
- Z-Wave is a wireless radio protocol used for communication with household electrical appliances. All electrical devices that have a Z-Wave system module can be connected to the network: Z-Wave windows, standard windows equipped with actuators with Z-Wave module, ARZ Z-Wave roller shutters and internal accessories AJP Z-Wave, ARF Z-Wave and ARP Z-Wave.
- In addition to the windows, you can connect rain and wind sensors, and integrate them with other home electrical appliances.
- It allows you to create a wireless network and control the products with the Z-Wave module using wireless keyboard, remote control, mobile phone or Internet.
- The installation of the system does not require the use of any switchboards or communication cables between the electrical devices, which obviously reduces costs and assembly time.
- The Z-Wave system is easy to install, easy to expand and control regardless of your building stage.
- FAKRO products equipped with the Z-Wave module cooperate with FIBARO electronics. Through the FIBARO control panel - Home Center 2, we can create a smart home that will be operated using your smartphone application from anywhere on earth.





# Z-WAVE CONTROLLING DEVICES



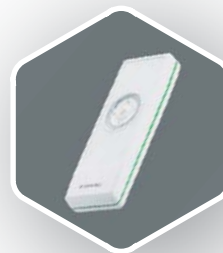
## ZWS 12

electric actuator Z-Wave for opening roof windows. Also available in the version (ZWS 230 and ZWZ 230).



## ZRW7

keyboard is designed to operate a combination of products separately or simultaneously



## ZRH12

remote is designed to operate a combination of products separately or simultaneously



## ZRS 24

multi-functional Z-wave remote control which allows to configure all devices integrated within the Z-wave network



## ZWL 1

radio controller Z-Wave used for the remote control of a single Z-Wave device or a group of devices. Available in version ZWL2-double controller and in ZWL3 triple controller version



## ZZ 60

15VDC impulse power supply to electrical devices. Also available in the hermetic housing (ZZ 60h)



## ZWMA1

bridge module radio controller designed to control a single device or a group of devices by means of potential-free contacts



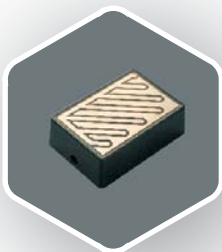
## ZWMA4

4-channel bridge module Z-Wave remote control designed to control Z-Wave devices of another control system



## ZWMP

weather module designed to control Z-Wave devices by ZRD rain sensor, ZWD wind sensor and ZFD smoke sensor



## ZRD

rain sensor in cooperation with ZWMP weather module controls Z-Wave device eg. closes window during the rain



## ZWD

wind sensor in cooperation with ZWMP weather module allows closing the window in case of strong gusts of wind



## ZFD

smoke detector in cooperation with ZWMP weather module opens Z-Wave window upon detecting visible smoke





**FWP  
WS\_ WG\_  
WLI**

  
**EASY ACCESS  
TO THE ROOF**

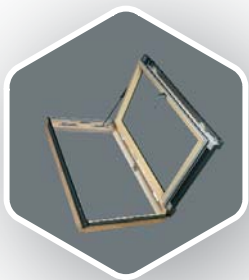
Pic. FWP (right)

## ACCESS ROOF LIGHTS

- Roof access windows provide fast, safe and easy access to the roof for conservation and required maintenance work. Depending on the room type in the attic (inhabited or uninhabited) a range of access windows can be used.
- The universal wooden FWP escape window enables to change the opening sides; change of the opening side is made by the customer during the installation process.
- Factory delivered as a right opening roof exit, but can be delivered in left opening version as well.



# UNIVERSAL SIDE HUNG AND ESCAPE WINDOW



## FWP

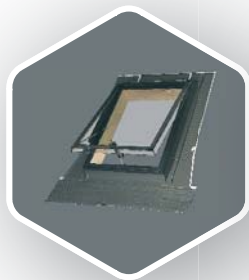
The highest quality pine wood, glued in layers, vacuum impregnated.

Double coated wood with ecological acrylic lacquer.

Installed with standard FAKRO windows flashings at 3 installation depths N, V, J. Can be combined with other windows, e.g. FTP or FPP by means of standard flashings for combinations, e.g. KZV.

Installation pitch: 15-55 degrees.  
Cladding can be made in any colour from the RAL palette. It can also be manufactured from copper or titanium-zinc.

# STANDARD ACCESS ROOF LIGHT FOR UNINHABITED ROOMS



## WS\_

has a top hung structure with semi-circular polycarbonate dome which opens upwards up to an angle of 180°, ensuring easy access to the roof and effective room illumination. The material used features increased resistance to weather conditions,

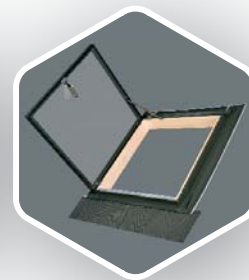
suitable for pitches from 15-60°, comes with an integrated flashing compatible with most tile type roofs.



## WG\_

access roof light has a top hung design and the sash opens outwards, available in two versions: WGT with single toughened glass 4H, WGI with glazing unit 4H-9-4H and gas spring,

suitable for pitches from 15-60°



## WLI

access roof light opens to the side, equipped with glazing unit with external and internal glass toughened 4H-8-4H. It can be installed in left or right opening version. It comes complete with a turn limiter to hold the sash stable and prevent accidental closure.

suitable for pitches from 15-70°

### THE FWP U3, P2, U5, P5 SIDE HUNG ESCAPE WINDOW

window dimensions [cm] size symbol	66x78 22	66x98 03	66x118 04	78x98 05	78x118 06	94x118 08	94x98 15
<b>FWP U3</b>	+	+	+	+	+	+	+
<b>FWU U3</b>	+	+	+	+	+	+	+
<b>FWP P2</b>	+	+	+	+	+	+	+
<b>FWU P2</b>	+	+	+	+	+	+	+
<b>FWP U5</b>	+	+	+	+	+	+	+
<b>FWU U5</b>	+	+	+	+	+	+	+
<b>FWP P5</b>	+	+	+	+	+	-	+
<b>FWU P5</b>	+	+	+	+	+	-	+

### STANDARD ACCESS ROOF LIGHTS WITH FLASHING

window dimensions [cm]	54x75	86x86
<b>WSS</b> flashing for flat roof coverings	+	+
<b>WSZ</b> flashing for profiled roof coverings	+	+
<b>WSH</b> flashing for high profiled roof coverings	+	+
window dimensions [cm]	46x55	46x75
<b>WGT</b> integrated with universal flashing*	+	+
<b>WGI</b> integrated with universal flashing*	+	+
window dimensions [cm]	54x83	86x87
<b>WLI</b> integrated with universal flashing*	+	+

\*particularly suited to tile roofs





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