Who does not rejoice at the arrival of long-anticipated sunny days? But the sun, so pleasant a companion when it comes to basking on the beach, can be also a real nuisance. On scorching hot days, solar radiation floods the interior which, inevitably, leads to a significant increase not only in the temperature in the loft but the whole building as well. The best protection against the bothersome heat is provided by external accessories (awning blinds, shutters). The use of such external accessories is therefore, of particular importance in predominately southern or westerly orientated rooms.
Awning blinds – 8 times more effective protection against heat gain in comparison with internal shading devices

External accessories protect against the heat of the sun. They absorb solar radiation even before it reaches the window and emit it outside, thus preventing an increase of temperature in the room.

Thermal radiation which passes through the glass is absorbed by an internal screen. Then, it turns into the long wave infrared radiation (heat) which is not transmitted through the window glass to the outside - the screen radiates heat into the room acting as a heater. This leads to an undesirable heat gain in the room, especially from the south on sunny, hot days. Internal accessories are used predominantly to control incoming light and decorate the interior.

„In accordance with DIN 5034-1, the rooms should be protected from excessive heat of the sun not with internal accessories but rather external shields (awnings, roller shutters) “The space should be protected from overheating on summer days so far as is reasonably practicable with the use of external covers placed outside the glass which reflect the heat. The temperature gain inside the room occurs due to the absorption of global radiation by objects inside the room and its bounding surfaces (walls, floor). The radiation absorbed transforms into the long-wave infrared radiation (heat), which is not passed through the window glass to the outside and leads to an undesirable heat gain inside the room in the summer“ - DIN 5034-1.

The temperature in the loft room on a hot day depends on the type of protective accessories used.
AWNING BLINDS

FOR VERTICAL WINDOWS
• VMZ, VMZ Z-Wave, VMZ Solar, VMB Z-Wave, VMB Solar

FOR ROOF WINDOWS
• AMZ, AMZ Z-Wave, AMZ Solar
AMZ Awning Blinds are intended for roof windows.

- VMZ Awning Blinds and VMB Markisolette have been designed specifically for vertical windows. The VMB Markisolette has a movable, tilting bar. This feature allows access to the external windowsill after unrolling the blind. Both these products are mounted externally onto windows and doors (terrace or balcony) and are made of PVC, aluminium or wood. The awning blinds enable protection of the interior against overheating and provide uniform distribution of light intensity, hence improving the indoor occupant comfort.
WHY DO WE USE ACCESSORIES FOR VERTICAL AND ROOF WINDOWS?

EFFECTIVE PROTECTION AGAINST HEAT

Awning blinds constitute the optimal solution as a means of protection against excessive solar heat. They absorb solar radiation before it reaches the glass, emitting heat outside, thus on sunny days, they provide superior protection against bothersome temperatures inside the room. The awning blind offers up to 8 times more effective protection in comparison with internal solar protection devices, which in practice results in a temperature drop in the interior of as much as 10°C.

ENERGY EFFICIENCY

The VMZ Awning Blind reduces energy consumption of air conditioning units, hence lowering their operating cost and cutting CO₂ emissions to the environment. The Solar Awning Blind does not consume any electricity from the grid as it is powered by a battery recharged by a solar panel. Moreover, unrolled awning blind protects the room against heat loss on cold nights by increasing Uw heat transfer coefficient up to 16%. This ensures lower heating bills.

INFLOW OF NATURAL LIGHT

Windows covered with the awning blinds, as opposed to eternal roller shutters, allow the influx of natural light. The awning blinds allow the passage of sufficient light so as not to necessitate the use of any additional light sources.
VISIBILITY TO THE OUTSIDE AND PRIVACY

When pulled down, the awning blind ensures visual contact with the external environment. You can easily view the surroundings and yet have privacy from any observers who might be tempted to take a peek inside.

IMPROVED ERGONOMICS

The unrolled awning blind improves ergonomics in the workplace. It allows for even distribution of light intensity, providing visual comfort to our eyes and protects them from the harmful effects of glare or reflections, which is especially important when working on the computer. In the room with the awning blinds pulled down the eyes do not get fatigued as much as in the room without such facility, where the light intensity distribution tends to be very uneven.

PROTECTION AGAINST HARMFUL UV RADIATION

The awning blind limits the penetration of harmful UV radiation to the interior. When extended over a window, it helps to protect the objects and materials inside from harmful UV rays, which causes them to discolour.

PROTECTION AGAINST INSECTS

The electric awning blind covering a vertical window, in addition to protection against excessive heat gain inside the room, acts as an insect screen. When the window is open, the awning blind prevents insects from entering the interior.
AWNING BLINDS FOR VERTICAL WINDOWS

VMZ AWNING BLIND

• manual control by hand or via control rod (not included)
• remote control or wall switch
• automatic control

Electric awning blinds are also available in the following versions:

• VMZ Electro 230 – connected to the mains and operated by a wall switch
• VMZ Electro 12 – connected to the mains by means of 15V power supply and operated by a wall switch
• VMZ Electro Solar – powered by solar panels and operated by a wall switch
• VMZ Bluetooth – preparation in progress

Awning blinds available to special order.
VMB MARKISOLETTE

VMB Solar
Markisolette
- automatic control

VMB Z-Wave
Markisolette
- remote control or wall switch

Electric awning blinds are also available in the following versions:
- VMB Electro 230 – connected to the mains and operated by a wall switch
- VMB Electro 12 – connected to the mains by means of 15V power supply and operated by a wall switch
- VMB Electro Solar – powered by solar panels and operated by a wall switch
- VMB Bluetooth – preparation in progress

Awnings blinds available to special order.
CONVENIENT CONTROL

The VMZ Awning Blind is available in three control variants, and the VMB in two variants:

**VMZ Solar i VMB Solar**

- Automatic control. The intelligent system controls the awning blind depending on the level of insolation. The function of a sensor is fulfilled by the solar panel which reacts directly to solar radiation. Under high insolation conditions, the awning blind is unrolled automatically. When permanent cloud cover appears, the awning blind rolls back up. The Solar type awning blind is powered by a 12VDC battery pack built into the cassette. The batteries are recharged by the solar panel. Rated current drawn by the motor is 1.4A.

The Solar Awning Blind is equipped with a sensor for measuring the intensity of light and can be controlled in one of three modes:
- automatic (self-activating lowering and raising depending on the level of insolation),
- semi-automatic (self activating lowering, rising with the remote control),
- operation via the supplied remote control.

In special cases, the awning blind can be controlled with the service button.

**VMZ Z-Wave i VMB Z-Wave**

- Operates with the remote control or wall switch in the wireless Z-Wave system.

**VMZ**

- Operated manually or by means of a control rod (may be purchased separately).
AVAILABLE COLOURS AND FABRICS

The profiles of the awning blinds and VMB Markisolette are available in four colours (white, grey, black and brown). On request, they are available in any RAL colour. In addition to that, there are eight types of fabrics to choose: six with 10% relative open area and two with 1% open area.

VMZ, VMB GROUP I
Available in six colours (fabric with 10% relative open area).

VMZ, VMB GROUP II
Available in two colours (fabric with 1% relative open area).

STRUCTURE OF THE ELECTRIC AWNING BLIND FOR VERTICAL WINDOWS

The VMZ Awning Blind is made of durable, weather-resistant fibre glass fabric coated with PVC. The fabric is rolled up on the motor-driven shaft and inserted into the cassette made of aluminium profiles fitted to the window or external lining recess. The edges of the fabric are reinforced with a special sliding tape, which maintains proper fabric tension between the guides and prevents it from detaching. Such a fabric-to-profile connection greatly improves resistance to wind and forms an impenetrable barrier for insects. This solution is capable of withstanding gusts of wind up to 120km/h and lateral winds of up to 220km/h.

An additional advantage of this awning blind is the possibility of utilizing a full blackout fabric. In the electrically operated VMZ Solar Awning Blind, the solar panel with the light intensity sensor has been integrated into the cassette.
Awning Blinds for Fakro Roof Windows

AMZ Awning Blinds

AMZ Awning Blinds are made of durable, weather resistant mesh. It is rolled up on the spring-loaded shaft and inserted into the aluminum cassette mounted above the window. This design allows for easy operation of the blind and enables the use of wider fabric, which shades the interior more effectively.

Awning blinds – 8 times more effective protection against heat gain than internal roller blinds
Awning blinds are recommended by FAKRO as the optimal protection against unwanted heat gain for the interior. They absorb solar radiation before it reaches the glass and emit heat to the outside, thus on sunny days the interior is very well protected from an increase of temperature. At the same time, they allow an influx of natural light, ensuring a uniform distribution of light and view to the external environment. In addition, they offer protection against UV rays and reduce the sound of falling raindrops.

- automatic control
  Intelligent system controls the awning blind depending on insolation. High insolation levels trigger the awning blind to unroll automatically. In cloudy weather, the awning blind rolls back up without any user intervention.

- remote control or wall switch

- manual control by hand or control rod (included).

Electric awning blinds are also available in the following versions:

- AMZ Electro 230 – connected to the mains and operated by a wall switch
- AMZ Electro 12 – connected to the mains by means of 12V power supply and operated by a wall switch
- AMZ Electro Solar – powered by solar panels and operated by a wall switch
- AMZ Bluetooth – preparation in progress

Awning blinds available to special order.
The AMZ Awning Blind is made of durable, weather-resistant fibre glass fabric coated with PVC. The fabric is rolled up on the motor-driven shaft and inserted into the cassette made of aluminium profiles mounted above the window. The edges of the fabric are reinforced with a special sliding tape which maintains proper fabric tension between the guides and prevents it from detaching. Such fabric-to-profile connection greatly improves resistance to wind. This solution is capable of withstanding gusts of wind up to 120 km/h and lateral winds of up to 220 km/h.

The awning blind can use a full blackout fabric and have the seals inserted into the slots already prepared in the aluminum profiles, which makes it possible to fully black out the window.

AMZ Solar Electric Awning Blind - solar panel with light intensity sensor integrated into the cassette enables operation of the awning blind in the automatic mode.

The AMZ Electric Awning Blind is intended for the majority of roof windows, be that of centre pivot, preSelect top hung and pivot or proSky high pivot structure. It can be used with both wooden and aluminium clad-plastic windows retaining its full functionality.
FAKRO offer also awning blinds intended for roof windows of other manufacturers. To order such awning blinds, it is necessary to provide the following: name of manufacturer, name of window, size and year of production.

These awning blinds are available in the manual and solar versions.

The aluminium structure of the awning blind is in grey-brown colour - RAL 7022. On request, it can come in any other RAL colour.

The awning blinds for roof windows of other manufacturers are priced similarly to the awning blinds for FAKRO windows. When pricing awning blinds outside the FAKRO range, take the price of the closest, larger size (e.g. accept the price for 70x100 as for 78x118).

In the case of Brass windows, the awning blinds are installed from the outside. Operating the manual blind is possible after opening the window.
For roof and vertical windows installed in hard-to-reach spots FAKRO offers electric accessories as standard equipped with the Z-Wave system.

The Z-Wave is a wireless radio protocol used for communication between electrical household devices. It is used to connect into a single network electric equipment such as lighting, thermostats, alarms, computers, telephones, air conditioning as well as electric windows and blinds. All electrical appliances equipped with the Z-Wave system module can be connected to the network.
**Z-WAVE ELECTRIC CONTROL ELEMENTS**

- **ZWK 10**
  The **ZWK 10** wall keypad used for the remote control of many products separately or simultaneously: the Z-Wave window, ZWS230 or ZWS12 actuator for opening the window, ARZ Z-Wave external roller shutter, AMZ Z-Wave awning blind, VMZ Z-Wave vertical awning blind, VMB Z-Wave roll-up awning.

- **ZWP 10**
  The **ZWP 10** remote control used to control many products separately or simultaneously: the Z-Wave window, ZWS230 or ZWS12 actuator for opening the window, ARZ Z-Wave external roller shutter, AMZ Z-Wave awning blind, VMZ Z-Wave vertical awning blind, VMB Z-Wave roll-up awning.

- **ZWG 1**
  Modern **ZWG 1** touchscreen made of toughened glass is used to control one or many products simultaneously: the Z-Wave window, ZWS230 or ZWS12 actuator for opening the window, ARZ Z-Wave external roller shutter, AMZ Z-Wave awning blind, VMZ Z-Wave vertical awning blind, VMB Z-Wave roll-up awning.

- **ZWG 3**
  Modern **ZWG 3** touchscreen made of toughened glass is used to control many products separately or simultaneously: the Z-Wave window, ZWS230 or ZWS12 actuator for opening the window, ARZ Z-Wave external roller shutter, AMZ Z-Wave awning blind, VMZ Z-Wave vertical awning blind, VMB Z-Wave roll-up awning.

- **ZZ60**
  Ventilated 15VDC switched-mode power supply is used to power the Z-Wave devices. Output power – 60W. Suitable for mounting on the rail DIN TS35. It provides power for up to two external electric accessories.

- **ZZ60h**
  Hermetic 15VDC switched-mode power supply is used to power the Z-Wave devices. Output power – 60W. Suitable for mounting on the rail DIN TS35. It provides power for up to two external electric accessories.

**ELECTRIC CONTROL ELEMENTS 230V**

- **ZKP**
  A single flush mounted wall switch with backup enables the control of a single device such as the AMZ Electro 230, VMZ Electro 230.

- **ZKN**
  A single surface mounted wall switch with backup enables the control of a single device such as the AMZ Electro 230, VMZ Electro 230.
The **Z-Wave system** enables the control of many receivers (e.g. Z-Wave windows, ZWS12 or ZWS230 actuators, internal and external shutters, external blinds) by means of a multi-channel controller (ZWP10 remote control, ZWK10 wall keypad or ZWG3). Using this solution, you can simultaneously control several receivers (e.g. run 4 awning blinds) or control only one chosen receiver (e.g. the AMZ Z-Wave awning blind). One ZWP10 remote control or ZWK10 wall keypad can operate up to 10 receivers (group of receivers) separately or up to 231 receivers simultaneously. The AMZ Solar and VMZ Solar awning blinds are factory equipped with the ZWP SA4 remote control which enables the control of 4 awning blinds separately and (or) simultaneously.

### INSTALLATION

Connecting a set of Solar type awning blinds (both roof and vertical) requires only configuring products and assigning them to a certain number of controllers. Connecting a set of the Z-Wave type awning blinds (both roof and vertical) consists in connecting products to the 15V ZZ60 or ZZ60h power supply. Next steps involve configuring products and assigning them to a certain number of controllers. Controllers (e.g. ZWK10, ZWG3) are mounted to the wall or other flat surface by means of screws included in the mounting kit or by double-sided adhesive tape. The ZWK10, ZWG3 or ZWG1 controllers can also be put in another freely chosen place as they are powered by a 3V DC battery.
THE TENDER FORMS

At the builders’ merchants there are available forms containing all the necessary information for selection and assembly of the awning blinds. Additional information for available palette of colours helps to match the awning blinds to the building appearance.

**REQUEST FOR QUOTATION FORM**

AWNING BLINDS for vertical windows VMZ Z-Wave, VMZ SOLAR

I submit form to request for quotation and pricing of products

I submit form to order products

Data of person submitting request for quotation:

Name & Surname / Company
Address
Phone
E-mail

Data for the invoice (in case of ordering the product):

Name & Surname / Company
Address
Tax Identification Number

Data for the product delivery (if different than above):

Name & Surname / Company
Address
Phone
E-mail

Attach to the forms:

Attachment 1: Measurement card: AWNING BLINDS for vertical windows
Attachment 2: Measurement card: AWNING BLINDS for balcony windows

Pursuant to article 34 paragraph 1 of the Act of 20 August 1997 on personal data protection, be informed that:

1. Administration of your personal data is the company FAKRO sp. z o.o. with headquarters based in Nowy Sacz (33-300), Wegierska 144 a Street and companies belonging to FAKRO Group for the marketing purposes.
2. Your personal data will be processed for the purposes of placing an order or submitting a request for these services. Subcontractors will have access only to the data that are necessary for the implementation of these services. Subcontractors will have access only to the data that are necessary for the implementation of these services.
3. Providing personal data is voluntary with the reservation that submitting them is necessary to perform these services.
4. Your personal data will be processed for the purposes of placing an order or submitting a request for these services. Subcontractors will have access only to the data that are necessary for the implementation of these services. Subcontractors will have access only to the data that are necessary for the implementation of these services.
5. Providing personal data is voluntary with the reservation that submitting them is necessary to perform these services.
6. Providing personal data is voluntary with the reservation that submitting them is necessary to perform these services.
7. Providing personal data is voluntary with the reservation that submitting them is necessary to perform these services.
8. Providing personal data is voluntary with the reservation that submitting them is necessary to perform these services.

You can contact our company by sending an E-mail to info@fakro.pl or by post to FAKRO Sp. z o.o. ul. Wegierska 144a, 33-300 Nowy Sacz (with the inclusion of the words "request for quotation"

For proper dimensioning of windows, selection and installation of awning blinds it is necessary to familiarize with:

**ILLUSTRATIVE DRAWINGS TO TAKE MEASUREMENTS OF VERTICAL WINDOWS**

**PARAMETERS OF THE AWNING BLIND**

**DIMENSIONS OF VERTICAL WINDOWS**

**ILLUSTRATIVE DRAWINGS TO TAKE MEASUREMENTS OF VERTICAL WINDOWS**