External venetian blinds
Perfect sun shading with modern design.
As a manufacturer of sun shading systems, WAREMA produces pioneering solutions that are technically superior and are designed to meet the individual needs of your property, thereby improving the energy balance of your building, the value of your property and your own quality of life.

This brochure provides an initial overview, allowing you to find your way around the wide and varied choice of external venetian blinds and their individual fields of application.
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The right products
for your dream house.
We develop and produce modern and functional sun shading system solutions which enable active SunLightManagement. We rely very consciously on the strengths of a family company based in Germany. Cooperation based on trust and fairness is a key prerequisite for the partnership with our customers. Our actions and approach are consistently geared towards increasing customer benefit. To this end we now offer a growing range of products and services tailored to your requirements and demands.
Sun shading systems from A to Z.

External venetian blinds

Venetian blinds facade system - Metal system venetian blinds - Window system venetian blinds - Front-mounted external venetian blinds - Top-mounted external venetian blinds for new buildings - Sloped external venetian blinds - Wind-stable external venetian blinds - Light control venetian blinds

Roller shutters

Front-mounted roller shutters - Top-mounted roller shutters - Top-mounted roller shutters for new buildings - Renovation roller shutters - Asymmetrical roller shutters - Security roller shutters

Large slats

Single-walled slat systems - Hollow slat systems - Large slat systems

Pergola awnings, patio roofs and patio awnings

Articulated arm awnings - Cassette awnings - Conservatory awning - Patio side screens - Dutch canopy awnings

Sun sail

Pergola awnings-Patio roofs

Sun sail
Unattractive and boring purpose-built buildings are a thing of the past – continuous glazed facades and special shapes have become a staple of modern architecture. And the desire for individual style is constantly growing. This new diversity also demands a similar diversity of sun shading systems. WAREMA offers a perfect, individual solution for every architectural style – for inside and outside.

Internal sun shading
- Venetian blinds
- Vertical louvre blinds
- Roller blinds
- Pleated blinds
- Panel curtains
- Sun shading for skylights

Insect screens
- Fixed frames
- Swivel frames
- Sliding frames
- Roller blinds
- Light well covers

Black-out blinds
- Vertical black-out blinds
- Horizontal black-out blinds
- ZIP blackout blinds

Window awnings
- Window awnings with ZIP guidance
- Vertical awnings
- Facade awnings
- Drop-arm awnings
- Markisoollettes

Control systems
- Radio remote controls
- Central control systems
- WAREMA climatronic® 2.0
- Sensor
- KNX technology
- LonWorks® technology
- BAline
Room climate intelligently controlled – the WAREMA system concept.

The OPTI SYSTEM

External sun shading systems
External WAREMA sun shading systems reduce solar incidence of energy. Incidence of light is optimised to allow for sufficient daylight utilisation without glare. The concept is simple: Depending on time of day or year more or less sunlight is allowed in and the system uses more or less of the possible solar energy gain.

Internal sun shading systems
The internal WAREMA product provides additional glare control all year round, providing convenience and a high level of comfort. Visual privacy or view out can be individually adjusted. High-grade materials and a varied colour palette give individual style to any room.

Intelligent control system
WAREMA control systems create the ideal room climate with optimum daylight utilisation. They make use of solar energy according to demand and around the clock.
Optimal sun shading systems and significant energy savings are interesting aspects for any home owner today. The WAREMA OPTI SYSTEM provides the ideal room temperature – pleasantly cool in summer and cosily warm in winter. Fully automatic with maximum comfort. With existing heat protection glazing, the combination of external adjustable sun shading systems, internal glare control and intelligent control saves up to 40 percent of energy costs. Further information can be found at www.warema.com/optisystem

**Summer daytime**
Solar incidence of energy has to be kept low on a hot summer day. Incidence of light should be high enough to allow for sufficient daylight utilisation without glare. Additional internal glare control can be used where requirements are especially high.

**Summer nights**
At the end of a hot summer day the building will have heated up. At night the control raises all existing sun shading components which block the heat flow from inside to outside. This supports the building cooling down.

**Winter daytime**
Solar energy gains should be used on a cold winter day. In the case of glare, only internal glare control is used. When the sun is low the requirements for glare control are especially high. Internal products with low transmission can meet these requirements. Dark colours ensure that a large quantity of solar energy can be used.

**Winter night time**
During the cold winter night the building has to be protected from heat loss. This requires all sun shading products to be lowered. The resulting air pockets between the individual components improve heat insulation.
Improving energy efficiency – with WAREMA sun shading system.

Energy savings with technical sun shading systems in connection with an intelligent control system

![Bar chart showing energy savings](chart.png)
Around 40% of the energy requirement of a European home is used for lighting, heating, cooling and ventilation - half of it for heating alone! According to a study by the European Solar Shading Organisation (ES-SO) around 110 million tonnes of CO₂ could be saved in Central Europe alone with efficient sun shading systems in connection with an intelligent sun shading commission. This is a key issue in terms of the current energy saving regulations and its consequences for builders and home owners.

The increasing size of glazed and window facades provides greater surfaces for the sun to enter buildings, causing rooms to heat up faster in summer. In winter, heating energy increasingly radiates to the outside. You can use WAREMA sun shading systems to reduce the outward radiation of heat, prevent your rooms from heating up and make the most of daylight. Daylight improves personal well-being and therefore also performance in the workplace.
Ideal climate balance
WAREMA “Product Carbon Footprint”
WAREMA sun shading systems can be harmoniously integrated into many different facade styles and help to reduce energy consumption. Solar radiation in summer is deterred and cooling down in winter is reduced. Energy consumption is lowered and less CO₂ is emitted. The result: A positive cost and climate balance. This is confirmed by “Product Carbon Footprint”, the institute for applied logistics (IAL) at the specialist college FH Würzburg-Schweinfurt.

The use of sun shading systems helps to reduce the energy consumption of buildings throughout the year. Less fossil energy sources are being burned. Emission of the greenhouse gas CO₂ is reduced. On the other hand, of course, the production, operation and disposal of sun shading systems requires energy. CO₂ is released into the environment.

The experts at the IAL therefore determine the so-called “Product Carbon Footprint” (PCF) of a WAREMA external venetian blind using the recognised method of the Greenhouse Gas Protocol (GHG). They compare CO₂ emissions resulting from extraction of raw materials, transport, installation, operating costs and disposal of an external venetian blind to the reduced emission of greenhouse gas through its use.

The result is impressive: During a product lifetime of 20 years the WAREMA sun shading achieves a CO₂ reduction of 8,500 kg. That is equivalent to 57 times the amount of greenhouse gas emissions from extraction of raw materials to disposal – a real contribution to cost reduction and climate protection.
There are a number of different installation situations for WAREMA external venetian blinds depending on the wall structure of the property. As not all external venetian blinds in the range are suitable for every installation situation, the following pages provide an overview of the various options for the different types of walls and the particular features of the WAREMA product range.

**Masonry with composite thermal insulation system**

**Suitable types:**
- Venetian blind window systems
- Metal system venetian blinds
- Facade venetian blinds
- Front-mounted external venetian blinds
- Top-mounted external venetian blinds for new buildings
- Asymmetrical external venetian blinds

**Monolithic masonry**

**Suitable types:**
- Facade venetian blinds
- Metal system venetian blinds
- Top-mounted external venetian blinds for new buildings
- Front-mounted external venetian blinds
- Asymmetrical external venetian blinds
Masonry with front-mounted cold facade

Suitable types:
- Facade venetian blinds
- Metal system venetian blinds
- Front-mounted external venetian blinds
- Top-mounted external venetian blinds for new buildings
- Asymmetrical external venetian blinds
Installation situations

Cavity wall
- Facade venetian blinds
- Metal system venetian blinds
- Front-mounted external venetian blinds
- Venetian blind window systems
- Top-mounted external venetian blinds for new buildings
- Asymmetrical external venetian blinds

Facades with timber frame construction

Suitable types:
- Facade venetian blinds
- Metal system venetian blinds
- Front-mounted external venetian blinds
- Venetian blind window systems
- Top-mounted external venetian blinds for new buildings
- Asymmetrical external venetian blinds
Mullion-transom facades/Conservatories

Suitable types:
- Facade venetian blinds
- Metal system venetian blinds
- Asymmetrical external venetian blinds

Internal installation

Suitable types:
- Light control venetian blinds
- Facade venetian blinds
Facade venetian blinds
for individual facade design

These facade venetian blinds can be integrated as elements into virtually any facade. The range of slats, from simple standard slats to extremely wind-stable slats, enables you to design the exterior of your property to suit almost any requirement. Facade venetian blinds are used for heat as well as anti-glare protection. But facade venetian blinds are also ideal for blackout using the special dim-out slats.

**Product benefits**
- Excellent flexibility of the application due to large range of models
- Also available as a wind-stable version for use in locations particularly exposed to the wind – up to wind force 10

**Features**
- Construction limit values*:  
  Max. width: 5000 mm  
  Max. height: 5000 mm  
  Max. surface area: 25 m²  
- Slats: beaded 60/80 mm, flat slats 60/80/100 mm, dim-out slats 73/90/93 mm  
- Available with vivamatic® (VM), slowturn (ST), daylight transport element (TLT)  
- Drive: 230 V central motor, solar drive, crank  
* depending on type and options

**Installation situation**
- Transom and mullion facade/conservatory  
- In front of the facade  
- In the soffit  
- Rear-ventilated facades  
- Double skin facades - inside
Facade external venetian blind E 80 A6

1. Cover panel
2. Guide rail
3. Bottom rail
4. Lifting tape
5. Ladder tape
6. Slats
Facade venetian blinds
for individual facade design

Self-supporting external venetian blinds
- Cover panel fixed to guide rail
- No need for additional fixing of the cover panel to the facade
- Mounting alternatively on or between the guide rails
- Different versions of cover panel available

Installation situation
- On conservatories
- On transom and mullion facades
- Retrofitting on insulated facades
- For renovations
- As a facade design feature

Wind-stable external venetian blinds
- Effectively usable up to wind force 10
- Excellent energy savings and lower cooling loads due to longer available use
- Can easily be refurbished or converted in most cases

Installation situation
- On high buildings
- In wind-exposed locations
**Dim-out external venetian blinds**
- Dimmed light in your rooms, thanks to special slat design and plastic sealing strips on the front edge of the slats
- Can also be used for longer periods during wind
- Dim-out blinds retain all standard functions of external venetian blinds

**Installation situation**
- In living areas and bedrooms
- Wherever the incidence of light could prove annoying
- In meeting and conference rooms
- On mullion-transom facades
- On conservatories
vivamatic®
Daylight management for external venetian blinds

vivamatic® cannot be seen. But the result can: The intelligent daylight management automatically sets the external venetian blind slats to the ideal angle even before lowering – depending on the current position of the sun, time of day and time of year. This allows vivamatic® to create a haven of well-being, permanently. The slat position continuously and automatically adapts to the position of the sun. External venetian blinds with vivamatic® have benefits for heat regulation as well as for energy savings. The comfortable vivamatic® technology enhances private homes as well as offices and large commercial buildings.

Overview of your advantages

- Maximum daylight utilisation without darkening the room already during lowering - user remains undisturbed
- Best possible room illumination with simultaneous heat protection
- Continuous automatic adjustment of the slat angle provides a permanent feel-good atmosphere – throughout the entire day
- Comfortable control using WAREMA climatronic® 2.0
- Reduces energy consumption for air conditioning of the building and increases energy efficiency. Sustainably.

Installation situation

Installation or retrofitting are very easy: whether new buildings or refurbishment – vivamatic® is possible wherever external venetian blinds are planned. Even where buildings are nearly finished, a decision to install vivamatic® can still be made. This allows you to enjoy tomorrow’s quality of life today.
More information about the supplementary accessory at www.vivamatic.com
WAREMA metal system venetian blinds are the first choice when robust, durable solutions and safe investments are required. They offer the highest level of stability due to metal components for lifting and slat connections. This design also makes it possible to achieve more precise positioning of the individual slats, clearly improving dim-out function and light gain. Compared to standard solutions, metal system venetian blinds have a high-quality appearance and the absence of holes in the slats reliably prevents distracting reflections.

**Product benefits**
- Particularly durable model, all textile components were replaced with metal components
- Improved dim-out through omission of holes for lifting tapes
- Blinds are raised and lowered using metal chains running in the guide rails
- The special design of the bottom rail impedes pushing up of the lowered external venetian blind and prevents jamming when obstacles are encountered

**Features**
- Construction limit values:
  - Max. width: 4000 mm
  - Max. height: 4300 mm
  - Max. surface area: 8 m²
- Slats: 80 mm beaded, 90/93 mm dim-out slat
- Available with daylight transport element (TLT)
- Drive: 230 V central motor

**Installation situation**
- On mullion-transom facades
- On conservatories
- On new buildings
- For renovations
- As a facade design feature
- In living areas and bedrooms
- Wherever the incidence of light could prove annoying
Metal system venetian blind

1. Top rail
2. Guide rail
3. Slats
4. Plastic-coated steel wire
5. Bottom rail
6. Lifting chain
Venetian blind window systems

Perfect integration.

Venetian blinds window systems can be integrated into the facade in a concealed form and are therefore virtually invisible. They are especially designed for composite thermal insulation systems, making compliance with the current EnEV no problem. Create design features on your exterior walls with the wide range of aluminium component colours. Insect screen roller blinds, swivel doors and sash frames can be supplied with the venetian blind window system to protect you from annoying insects.

NEW! Guide profile with integrated plaster lathing optionally available!

Product benefits
- Concealed integration in the facade because cover panels and fronts of guide rails can be set in plaster
- Minimum installation work as external venetian blind is pre-mounted into the cover panel
- No thermal bridges as external venetian blind is fixed above the guide rails, no separate cover panel fixing required
- Integration of insect screens possible

Features
- Construction limit values:
  - Max. width: 4000 mm
  - Max. height: 4000 mm
  - Max. surface area: 16 m²
- Slats: beaded 80 mm, flat slats 80 mm, dim-out slats 73/90/93 mm
- Available with vivmatic® (VM), slowturn (ST), daylight transport element (TLT)
- Drive: 230 V motor

Installation situation
- Specifically designed for thermal insulation composite systems
- As a visual feature for facade design
- Rear-ventilated facades
- In the soffit
- In front of the facade
- Refurbishments and renovations
Venetian blind window system

- Cover panel
- Guide rails
- Bottom rail
- Lifting tape
- Ladder tape
- Slats

Guide profile with integrated plaster base
Venetian blind window systems

Shaft variants FSR S1 and FSR S2

Venetian blind window systems as shaft versions S1 and S2 allow easy use in existing on-site shafts. Additional fastening for the top box in the shaft is not necessary - this makes planning and installation very easy and efficient. The new shaft external venetian blinds are particularly suitable for use in construction projects with timber frames as well as for renovation and refurbishment projects.

Product benefits
- Easy and efficient installation since no fixing points are required in the shaft
- Use in existing on-site shafts

Features
- Construction limit values:
  - FSR S1: max. width: 4000 mm
    max. height: 4000 mm
    max. area: 16 m²
  - FSR S2: max. width: 4000 mm
    (with additional, on-site fixation of top guide rails)
    max. height: 4000 mm
    max. area: 16 m²
- Slats: flat slats 60/80 mm,
  beaded 60/80 mm,
  dim-out slats 73/90/93 mm
- Available with vivamatic® (VM), slowturn (ST)
- Drive: 230 V central motor, crank

Installation situation
- For installation in existing shafts
- For integration in composite thermal insulation systems and ventilated facades
- For use in timber frame buildings as well as in renovation and refurbishment projects
Venetian blind window system shaft variant S1
with auxiliary panel

Venetian blind window system shaft variant S2
Front-mounted external venetian blinds
ideal combination with front-mounted roller shutters.

WAREMA front-mounted external venetian blinds fill the gap between external venetian blinds and front-mounted roller shutters. It is possible to install the two systems on the same building by using the same box, thereby allowing every room to be fitted with the ideal sun shading system depending on its particular application. The optionally available integrated insect screen roller blind provides protection against insects. A solar drive can be selected specifically for retrofitting blinds. No need for line routing and power supply.

**Product benefits**
- Compatible with front-mounted roller shutters in terms of installation and appearance
- Fixing the construction to the window or masonry, no separate box fixing required

**Features**
- Construction limit values:
  - Max. width: 4000 mm
  - Max. height: 4000 mm
  - Max. surface area: 16 m²
- Slats: beaded 80 mm, flat slats 80 mm, dim-out slats 73 mm
- Available with vivamatic® (VM), slowturn (ST), daylight transport element (TLT)
- Drive: 230 V central motor, solar drive

**Installation situation**
- As a visual feature for facade design
- In the soffit
- In front of the facade
- Rear-ventilated facades
Front-mounted external venetian blind, R10 rectangular, with integrated insect screen and beaded slats

1. Box
2. Solar panel
3. Guide rail
4. Insect screen roller blind
5. Bottom rail
6. Lifting tape
7. Ladder tape
8. Slats
Top-mounted external venetian blinds for new buildings for new buildings and refurbishment.

Unlike most other external venetian blinds in our range, WAREMA top-mounted external venetian blinds for new buildings are installed together with the windows, concealing them unobtrusively within the facade and enabling them to be combined ideally with WAREMA top-mounted roller shutters for new buildings. Optionally available with insect screens.

NEW! Patented guide profile for flush mounting optionally available: A plaster base plate is already integrated here in the area between the window and the guide rail. In this way, the raised external venetian blinds are practically invisible.

**Product benefits**
- Installed directly with the window frames
- Concealed unobtrusively within the facade
- Guide rails can be set in plaster at the front
- Integration of insect screens possible

**Features**
- Construction limit values:
  - Max. width: 4000 mm
  - Max. height: 4000 mm
  - Max. surface area: 16 m²
- Slats: beaded 80 mm, flat slats 80 mm, dim-out slats 73 mm
- Available with vivamatic® (VM), slowturn (ST), daylight transport element (TLT)
- Drive: 230 V central motor, crank

**Installation situation**
- On new buildings
- Refurbishment
- On the window frame
- Can also be used in the soffit of clinker brick facades
Top-mounted external venetian blind for new buildings with integral insect screen

1. Box
2. Guide rail
3. Insect screen roller blind
4. Bottom rail
5. Lifting tape
6. Ladder tape
7. Slats

Guide profile with integrated plaster base
WAREMA asymmetrical external venetian blinds provide ideal protection from the sun even with angled windows and, thanks to their clever mechanism, are ideal for use with angles between 5° and 52°. They match the other styles of WAREMA external venetian blinds perfectly, allowing you to create a coordinated appearance. You may also wish to opt for the benefits of a solar drive.

**Product benefits**
- Design adapted to other WAREMA external venetian blind types
- Suitable for use with nearly all asymmetrical windows with angles between 5° and 52°

**Features**
- Construction limit values:
  - Max. width: 1820-2510 mm
  - Max. height: 3900 mm
  - Max. surface area: 7 m²
- Slats: Flat slat 80 mm
- Drive: 230 V central motor, solar drive

**Installation situation**
- Transom and mullion facade/conservatory
- In front of the facade
- In the soffit
- Rear-ventilated facades
- Double skin facade
Asymmetrical external venetian blind E 80 AF SR with flat slats for angles between 5° and 52°

- Cover panel
- Guide cables
- Bottom rail
- Ladder tape
- Lifting tape
- Slats
Light control venetian blinds

ideal interior lighting.

WAREMA light control venetian blinds allow incoming light to be averted and also to be precisely controlled and even directed in the desired direction. These systems are designed specifically for buildings where external sun shading is not possible, with daylight guided by slats that have a concave upper surface with a mirror foil. Even more effective are Genius slats that have been developed in conjunction with the Fraunhofer Institute to improve heat insulation, daylight utilisation, glare control and visual privacy towards the outside. This allows WAREMA Genius to achieve significant, verifiable improvements compared with internal sun shading systems.

**Product benefits**

- Ideal for glare-free lighting of workplaces
- Screens out radiated heat while allowing in light
- Reduced motor noise by using noise-reducing top rails
- Semi-perforated slats are available for more visual contact with the outside world

**Features**

- Construction limit values:
  - Max. width: 3000 mm
  - Max. height: 3000 mm
  - Max. surface area: 9 m²
- Slats: Flat slat 50/60/80 mm, Genius slats 50/80 mm
- Available with slowturn (ST), daylight transport element (TLT)
- Drive: 230 V central motor, crank

**Installation situation**

- As an alternative for external sun shading systems
- For design reasons
- Wherever external sun shading systems are not feasible, e.g. on high-rise buildings
- In double skin facades protected from weather
Daylight guiding venetian blind E/C 80 L2

1. Noise-reduced top rail
2. Lifting tape
3. Ladder tape
4. Bottom rail
5. Slats

Genius slat
Slat shapes

External venetian blinds

Flat slats
- Slat widths: 50, 60, 80, 100 and 150 mm
- Slat thickness: 0.45 mm
- Rail-guided, cable-guided

Beaded slats
- Slat widths: 60 and 80 mm
- Slat thickness: 0.44 mm
- Rail-guided, cable-guided

Dim-out slats
- Slat widths: 73 and 93 mm
- Slat thickness: 0.44 mm
- Rail-guided

Light control venetian blinds

Concave shaped slats
- Slat widths: 50, 60 and 80 mm
- Slat thickness: 0.24 mm / 0.45 mm / 0.53 mm
- Cable guiding, rail guiding, no guiding

Genius slat
- Slat widths: 50 and 80 mm
- Slat thickness: 0.27 mm / 0.45 mm
- Cable guiding, rail guiding, no guiding
Slat colours

External venetian blind slats are available in

- Up to 26 standard slat colours and up to 14 RAL shades
- 4 slat colours with self-cleaning Reynolux® EcoClean™ coating
- Special colours as well as different front and back colour (on request)

Other aluminium parts are available in any colour from the RAL Classic colour chart. There may be differences between the colours of the slats and the powder-coated aluminium parts.

All cover panels and guide rails are powder coated according to the WAREMA standard colour fan.

<table>
<thead>
<tr>
<th>Colours for external venetian blind slats</th>
<th>80/80 AF</th>
<th>73/90/93</th>
<th>60/60 AF</th>
<th>100 AF</th>
<th>50 AF</th>
<th>100 AF</th>
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</tr>
<tr>
<td>W 3005 Wine red pearl mica effect</td>
<td></td>
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<tr>
<td>W 4800 Light beige</td>
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<tr>
<td>W 4919 Earth brown iron mica effect</td>
<td></td>
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<tr>
<td>W 4922 Cappuccino</td>
<td></td>
<td></td>
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<tr>
<td>W 7329 Dark bronze</td>
<td></td>
<td></td>
<td>●</td>
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<tr>
<td>W 8000 Selective slat</td>
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<td></td>
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<tr>
<td>W 8100 Millfinish II</td>
<td></td>
<td></td>
<td>●</td>
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<tr>
<td>W 8780 Light bronze</td>
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</tbody>
</table>

External venetian blind slats with Reynolux® EcoClean™ coating

| RAL 9006 EcoClean™ EcoClean™ | White aluminium, matt | ● | ● | ● | ● | ● |
| RAL 9007 EcoClean™ EcoClean™ | Grey aluminium, matt  | ● | ● | ● | ● | ● |
| RAL 9016 EcoClean™ EcoClean™ | Traffic white, matt   | ● | ● | ● | ● | ● |
| DB 703 EcoClean™ EcoClean™   | Anthracite iron mica effect, matt | ● | ● | ● | ● | ● |

1) Slat back side RAL 9006.
2) Slat surface with Reynolux® EcoClean™ coating matt, similar to the indicated colour number.
Colour variations are a result of the printing process.
Selective slat

the all-rounder among the slat colours
The use of slats with selective coating increases the entry of daylight into a building and reduces the incidence of energy.

The slat colour is similar to the colour RAL 9006 (white aluminium). Visible daylight is guided in to the room, leaving a large part of the heat radiation outside the window. The slats absorb ultraviolet and infrared radiation that is emitted as heat radiation outside of the building.

The selective coating directs approx. 30 % more daylight and approx. 50 % less heat into the building than external venetian blinds with similar slat colours.

Self-cleaning slat

with Reynolux® EcoClean™ coating
Our slat with Reynolux® EcoClean™ coating makes it possible: in connection with UV light and little air moisture (e.g. condensation water) the light-sensitive titanium dioxide coating (EcoClean™) on the slat surface acts like a catalyst and decomposes dirt and smog particles. The slats are constantly cleaning themselves and always stay clean and retain the attractiveness of your building. The air is also cleaned: 1000 m² of slats with Reynolux® EcoClean™ coating neutralise as much smog as 80 trees.

This is sustainability in active form!

Slat Millfinish II

Showing rooms in a favourable light
The brushed surface design and the highly reflective cover varnish disproportionally improve daylight utilisation of external venetian blinds with a timeless stainless steel look.

This surface supports diffused light distribution, the back of the slat is painted in the colour RAL 9006 matt (white aluminium), reliably preventing excessive, selective luminances.
Slowturn

**Reduces slat tilting for external venetian blinds**

External venetian blinds with the additional slowturn function feature a reduced slat tilting speed. The available time is tripled compared to standard external venetian blinds, achieving a more precise positioning of the slats. Using a higher-level sun shading control system allows slowturn to sustainably improve the energy efficiency of the building. Slowturn is available for practically all types of external venetian blinds. The interactive slowturn animation can be found at apps.warema.com.

**Operating principle of external venetian blinds with slowturn**

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**Ladder tape**

**Kevlar-reinforced tilt tapes and loop cords**

WAREMA uses ladder tapes with Kevlar core on all external venetian blinds. The kevlar fibres reinforce the fabric tapes considerably, improving slat closure and stack arrangement through more clearly defined folds.
Cover panels

- Cover panel BL 01
  - Angular cover panel, folded

- Cover panel BL 02
  - Angular cover panel, folded, with upturn beam

- Cover panel BL 03
  - Angular cover panel, folded with edging

- Cover panel BL 04
  - Angled cover panel, folded, bevelled

- Cover panel BL 05
  - Gallery cover panel

- Cover panel BL 06
  - U-shaped cover panel, folded

- Cover panel BL 07
  - U-shaped cover panel, bevelled on one side

- Cover panel BL 08
  - U-shaped cover panel, folded, bevelled on both sides

- Cover panel BL 09
  - Rounded cover panel, folded

- Cover panel BL 31
  - U-shaped cover panel, folded, to accommodate plaster base plates
  - Optional 8 mm polystyrene plaster plate available

- Cover panel, special version, with perforations, grooves or other folds
  - Available on request
Guide rails

**Type 1, rectangular**
- 25 x 18 mm
- Mounting on the wall

**Type 2, rectangular**
- 25 x 18 mm
- Mounting on guide rail brackets

**Type 3, rectangular**
- 50 x 18 mm
- Central guide rail to guide two blinds
- Mounting on guide rail brackets

**Type 4, round**
- Ø 32 mm
- Mounting on guide rail brackets

**Type 7, round**
- Ø 52 mm
- For mounting self-supporting external venetian blinds

**Type 8, round**
- Ø 52 mm
- Central guide rail to guide two blinds
- For mounting self-supporting external venetian blinds

**Type 9, rectangular**
- 25 x 50 mm
- For mounting self-supporting external venetian blinds

**Type 10, angled**
- 50 x 50 mm
- Central guide rail to guide two blinds
- For mounting self-supporting external venetian blinds

**Fascia panel**
- To reduce lateral incidence of light
FSCH 27-95
- 27 x 95 mm, centre dimension of slat tracking 80 mm
- 27 x 122 mm, centre dimension of slat tracking 107.5 mm
- Also available with dimensions 27 x 87 mm, centre dimension of slat guiding 72.5 mm
- Also available with dimensions 27 x 70 mm and 27 x 80 mm
- Continuous fixing profile
- Can be set in plaster frontally
- For use as a fascia panel to reduce lateral incidence of light

FSCH 27-95P
- 27 x 95 mm
- Optionally 27 x 87P and 27 x 122P
- Continuous fixing profile with plaster lathing
- Can be set in plaster at the front and side in the soffit

Corner guide rail with adjustable angle
- Allows mounting on building corners and bay windows
- Significantly reduces measurement and mounting
- Practically unlimited field of application

Guide rail bracket H1
- Bracket for guide rail type 1, 2, 3, 4

Guide rail bracket H 101
- Bracket for guide rail type 7, 8, 9, 10

Guide rails corner bracket corner bracket version 1
- Bracket for 90° external corner with 40 x 40 mm square tube and guide rail type 1
Cable guidings

- **Tension cable bracket**
  - Type S 01

- **Tension cable bracket**
  - Type SH 02 with cross plate

- **Tension cable bracket for mullion-transom (MT) facades**
  - Type SF 21

- **Tension cable bracket for mullion-transom (MT) facades**
  - Type SF 22

- **Tension cable bracket for mullion-transom (MT) facades**
  - Type SG 21

- **Tension cable bracket for mullion-transom (MT) facades**
  - Type SG 22

- **Tension cable bracket for floors and window sills**
  - Type S 03

- **Tension cable bracket for floors and window sills**
  - Type S 04

- **Tension cable bracket for corner situations**
  - Version 2

- **Spring tension device**
  - For avoiding longitudinal expansions of the tension cable, unobtrusively integrated into the top rail of the external venetian blind

- **Tension bracket, large**

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Bottom rails

**Standard bottom rail**
- Width x height: 50/60/80/100/150 x 20 mm
- Highly rigid profile prevents sagging or twisting
- Fits all slat shapes

**Metal system venetian blinds**
- **Bottom rail**
  - Especially sturdy profile
  - Approx. 104 x 33 mm
  - Guide neck with integrated push-up guard and jam protection

**Bottom rail for dim-out external venetian blinds**
- Flat, unobtrusive shape
- Approx. 73/93 x 15 mm
- With clip-on slat
- Tilts with the slats
- Flattened sides for smallest possible light gap between external venetian blind and window sill

**Daylight guiding bottom rail**
- Bottom rail adapted to fit shape of slat
- Approx. 60/80 x 25 mm
- With plastic end caps
- Fits daylight guiding venetian blinds 60L/80L

**Design bottom rail**
- Optional
- For 80 mm flat slats with cable guiding
WAREMA external venetian blinds are used almost exclusively as motorised versions in new buildings and refurbishments. To enhance the efficiency of the external venetian blinds we recommend the use of WAREMA control systems. These are specifically adapted for use with WAREMA external venetian blinds, they improve your well-being and guarantee a perfect indoor environment.

**Standard motor**
- 230 V central motor
- Conveniently adjustable upper and lower limit switches

**Motor with anti-icing protection**
- With thermal protection switch
- Suitable up to 8 m² blind area
- Operation not possible when components are iced over, avoiding damage

**Motors for bus controls**
- Motors with SMI interface
- Motors with incremental encoder
- Feedback of slat angle position to a higher-level control system
- Slat tracking according to sun position

**Noise-optimised top rail bracket**
- Fitted as standard with motor-operated external venetian blinds
- Raising and lowering the external venetian blind is barely audible

**Noise-reducing top rail**
- Minimises running noise
- Different models for inside and outside use

**Battery-supported emergency retraction set**
- External venetian blind motor with auxiliary drive and battery-supported control
- Super quick retraction of curtain, approx. 1m/sec.
- Battery-supported control with fail-safe function
- Specially designed for emergency exits

1) Availability see www.warema.com
Motor with connection for additional crank operation
- For use in the event of power failure

Crank drive
- Maintenance-free bevel gear
- Crank and crank rod used to raise and lower the blind and tilt the slats
- Thermal isolation, i.e. the drive mechanism of the pivot bearing is interrupted, reducing thermal conduction

Solar drive
- Solar panel charges a storage battery during solar radiation
- External venetian blind can be operated via hand-held radio transmitter, no cabling required
WAREMA climatronic® 2.0
WAREMA climatronic® 2.0 is a package solution for controlling sun shading, ventilation, windows, heating, cooling, lighting and many other functions in your building. The power consumers can be individually automated by switching between winter and summer programmes. Slat tracking according to position of the sun, which is fitted as standard, provides a sustainable improvement in the comfort and energy efficiency of your external venetian blinds

Benefits
- Reduction of energy consumption
- Provides a comfortable room climate
- Operating panel available in three colour variants, for perfect integration into any room design
- Automatic overheating protection and glare control
- Protects the sun shading system from weather damage

Functions
- Intuitive operation with function wheel and sensor keys as well as self-explanatory menu guidance
- Manual operation, settings can be changed at any time
- Visual privacy and cold protection through dawn/dusk control or timer

Areas of application
- Control of sun shading system, ventilation, windows, heating, cooling, lighting (switching and dimming) etc.

WMS – WAREMA Mobile System
Radio systems are particularly beneficial with retrofittings because no additional line routing is required. With the WAREMA Mobile System, the only components needed are transmitter and receiver. Users receive feedback about all move commands of their sun shading systems. Distant systems can also be reached by transmitting commands from receiver to receiver (routing function).

Benefits
- Scene control for up to 32 different scenes
- Commissioning and changing of limit values possible via PC
- Move to individual comfort positions at the press of a button

Functions
In conjunction with the WMS weather stations the sun shading products can be controlled according to different weather data.
- Brightness, wind speed, outside temperature, precipitation, time, dusk/dawn

Areas of application:
- Radio-control for different sun shading products and light