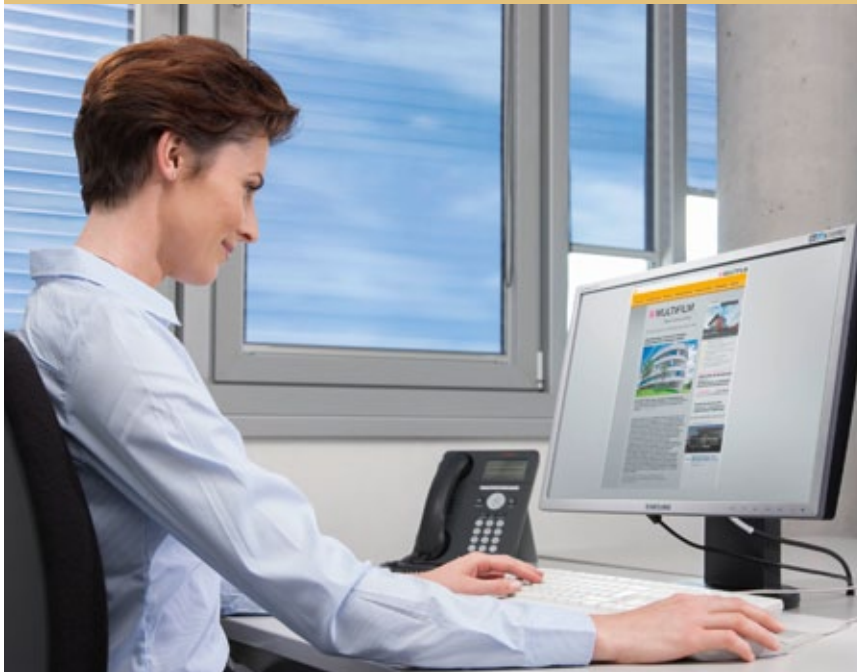


MULTIFILM® film roller blinds

Customised internal heat and glare protection



PRODUCT AND USER BENEFITS

- |||| Custom-made systems of premium quality
- |||| Transparent, highly reflective polyester film with triple effect:
 - Optimal protection against glare and reflections on the computer screen
 - Excellent solar heat protection
 - Good view to the outside
- |||| Pleasant room atmosphere and natural room lighting with daylight
- |||| Improvement of g- and U-value
- |||| Savings of cooling and heating energy
- |||| For new construction and retrofitting
- |||| Weather independent, maintenance-free
- |||| Long-living thanks to high quality materials

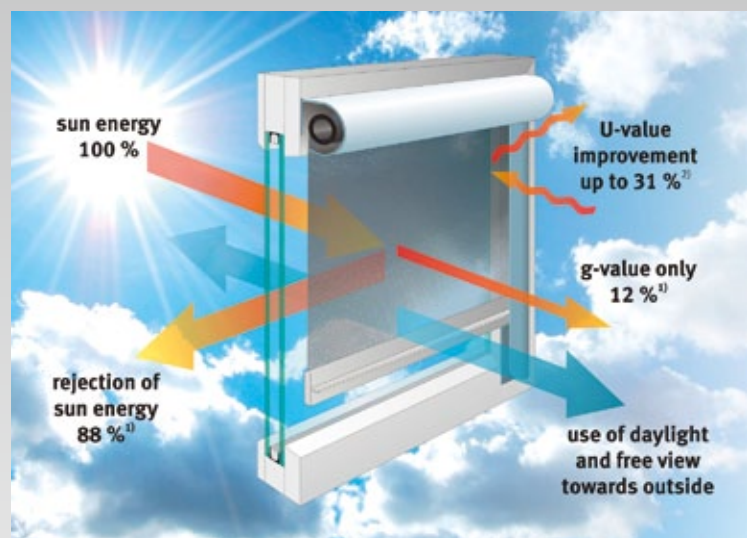
37%³⁾ SAVING OF HEATING AND COOLING ENERGY

MULTIFILM® film roller blinds are provided with a highly reflecting polyester film. The aluminium coated film outside reflects sun radiation directly back through the glass pane without converting it into heat. Up to 88 %¹⁾ of the total solar energy is blocked from the room and offers thereby an effective heat protection. During the winter the roller blinds work against heat loss and cooling down of rooms. Thus the room climate is comfortable all-the-year and up to 37 %³⁾ of heating and cooling energy can be saved.

¹⁾ Film SiAt012 with sun protection glass sunbelt polaris 65/34 according to the report of TU Berlin

²⁾ Film SiAt013 with thermal insulating glass Climaplust Ultra N 1,1 according to the report of Fraunhofer Institute IBP Stuttgart

³⁾ Computations done with software application Parasol, V 6.6, University Lund/Sweden



QUALITY GUARANTEED

- |||| Warranty for all products
- |||| More than 20 years experience
- |||| Quality management according to ISO 9001:2008
- |||| Most of the 600.000 installed MULTIFILM® roller blinds are still in use without any repair or maintenance.
- |||| Product quality according to DIN EN 13120
- |||| Above-average compliance with DIN EN 14501 (Performance requirements for sun protection systems) in respect of glare protection, heat protection and view to the outside

 **MULTIFILM®**
Perfection for windows.

MULTIFILM® film roller blinds

Classic-Line Classically versatile



PRODUCT FEATURES

- Most varied product group in terms of operation, hanging material, window geometry and inclination

MAXIMUM SIZE

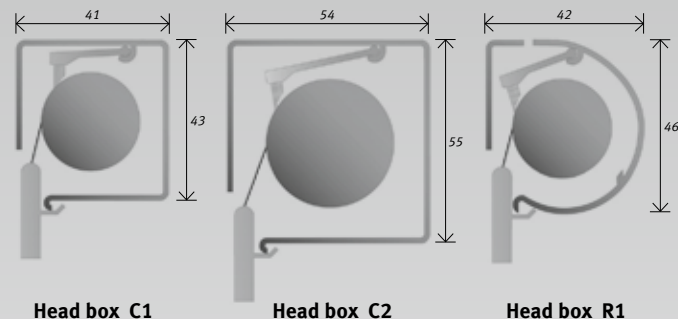
- 2,200 x 3,400 mm

OPERATION

- Chain loop, 24 V motor, BUS capable SMI motor, rechargeable battery motor

ASSEMBLY VARIATIONS

- Screw fitting or adhesive mounting on or into frame



Head box C1

Head box C2

Head box R1



Cleaning brushes



Rounded side guides

Compact-Line Smart appearance and great value



PRODUCT FEATURES

- Very small head box 35 x 35 mm
- Especially economic solution for project business

MAXIMUM SIZE

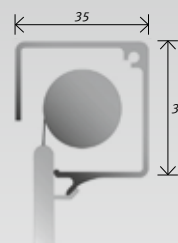
- 1,500 x 3,400 mm

OPERATION

- Chain loop

ASSEMBLY VARIATIONS

- Screw fitting or adhesive mounting on or into frame



Head box CO



Simple plug-in installation

Trend-Line Efficient sun protection meets interior decoration



PRODUCT FEATURES

- Roller blind with decorative character
- With head box or with carrier rail
- Without side guides

MAXIMUM SIZE

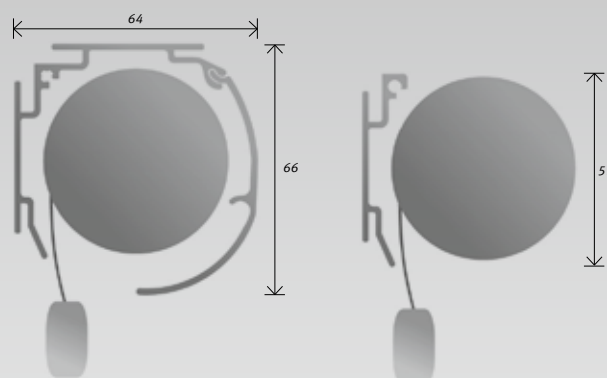
- 2,500 x 3,400 mm

OPERATION

- Chain loop, 24 V motor, BUS capable SMI motor, rechargeable battery motor

ASSEMBLY VARIATIONS

- Screw fitting into the window reveal, on the wall or on the ceiling



Head box R3

Trend-Line carrier rail

All measurements in mm.

Lux-Line The blind from bottom to top



PRODUCT FEATURES

- |||| Blind is pulled up from below
- |||| Patented bottom rail
- |||| Use of daylight in the upper part of the window and glare protection at working height

USE

- |||| Narrow, high or non-rectangular windows
- |||| For inclined to fully horizontal windows

MAXIMUM SIZE

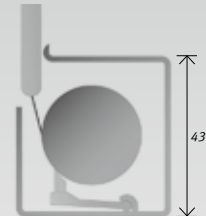
- |||| 2,200 x 3,400 mm

OPERATION

- |||| Chain loop or pull cord

ASSEMBLY VARIATIONS

- |||| Screw fitting or adhesive mounting on or into frame



Head box C1



Pull cord

Opposite pull blinds Effective shading for sloped and horizontal glazing



PRODUCT FEATURES

- |||| System comprising a spring-loaded and an electrical counter traction blind
- |||| Due to spring tension the blind is always tight

USE

- |||| For inclined and horizontal windows
- |||| Light dome and bands, winter gardens, atria

MAXIMUM SIZE

- |||| 2,200 x 3,400 mm

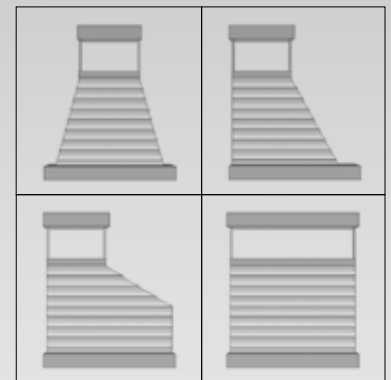
OPERATION

- |||| 24 V motor, BUS capable SMI motor, rechargeable battery motor

ASSEMBLY VARIATIONS

- |||| Screw fitting or adhesive mounting on or into frame

VARIATIONS



Film conditioning



THERMAL FLAT-EMBOSSING

- |||| High resistance against mechanical stresses (e.g. scratches)
- |||| Diffuse light dispersal in the room
- |||| Increase film stability

FILM WELDING

- |||| Ultrasonic welding for super-strong adhesion of film pieces up to 3 x 8 m

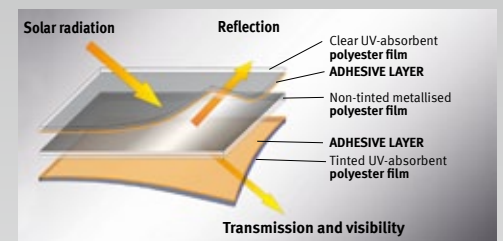
MULTIWAVE® PLEATING

- |||| Patented process for subsequent treatment of flat-embossed MULTIFILM® shades
- |||| Soft arched pleating provides a harmonious internal and external view and a high surface stability of the film
- |||| Freely selectable fold distance of the MULTIWAVE® pleats between 30 and 100 mm
- |||| Pleating up to 3 m width, for shading of large format façade elements

MULTIDECOR SCREEN+

- |||| Décor films in pleating designs, colours or individualized motifs
- |||| Printing is 100% abrasion-resistant and highly light fast
- |||| Transparency and reflection of the film remains unaffected

MULTIFILM® shade films



Film design (triple-layered)

- |||| Double or triple-layered polyester film in different colours
- |||| High reflection thanks to an aluminium coating
- |||| Light transmissions from 0 % to 16%
- |||| Special film with variable light transmission (MULTIFLEX®)



MULTIFILM® products in practice

Centre for Virtual Engineering, Stuttgart



The Fraunhofer Institute for Industrial Engineering IAO researches at the Centre for Virtual Engineering tomorrow's working environment.

SYSTEM REQUIREMENTS

- |||| Glare protection for offices
- |||| Inconspicuous installation of the systems in the ceiling

TECHNICAL REALISATION

- |||| Fabrication of a special ceiling profile
- |||| Assembly of 250 film roller blinds without head box
- |||| Blind installation directly in the ceiling
- |||| Operation of the glare protection systems via BUS control
- |||| Use of a decent grey glare protection film with 7% light transmission
- |||| Inconspicuous appearance at the façade due to colour neutral outer film face

European Court of Justice, Luxembourg City



The European Court of Justice is the jurisdiction of the European Union.

SYSTEM REQUIREMENTS

- |||| Internal glare protection
- |||| Adjustment of the glare protection system to the installation properties on site (installation behind suspended ceilings)
- |||| Preservation of the grid dimensions of the office, which was conceived as an "open office"

TECHNICAL REALISATION

- |||| Implementation of divided blinds, i. e. two hangings on one tube
- |||| Installation of more than 1,000 Film-Façade-Systems with sizes to 2.40 m width and 3.50 m height
- |||| Individual electrical operation with individual controls or centrally via BUS control
- |||| Use of a grey triple-layered film GyGy033

GEMINI office buildings, Wollerau (Switzerland)



The two GEMINI pyramidal office buildings with slope glass façade.

SYSTEM REQUIREMENTS

- |||| Internal heat and glare protection on an inclined façade, partly on trapeze shaped windows
- |||| Operation direction from bottom to top
- |||| Inconspicuous fitting into the façade

TECHNICAL REALISATION

- |||| More than 500 electrical operated opposite pull blinds (2.40 x 3.10 m)
- |||| Integration of the opposite pull blinds into the floor construction
- |||| Fabrication of an object-specific head box profile
- |||| Pulling cords hidden in the side guides
- |||| Centrally electrical operation via building BUS control
- |||| Use of a silver-anthracite film with 61% solar reflection for reliable heat protection

FURTHER SELECTED REFERENCES

Airbus, Hamburg | Banque de France, Paris | BASF, Ludwigshafen | Bosch, Vienna | Building complex "Le Dôme" and "Îlot A", Luxembourg City | B&Q Southampton | Daimler Van Technology Center, Stuttgart | EnBW-City, Stuttgart | Gardermoen airport, Oslo | German institute for Standardization (DIN), Berlin | London Heathrow Airport, London | Mainova AG, Frankfurt | MAN, Munich | Millenium Tower, Vienna | Municipal savings bank Cologne | ORACLE Germany, Potsdam | Tamedia AG, Zurich | Tweede Kamer, Den Haag | University of Bergen

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Perfection for windows.