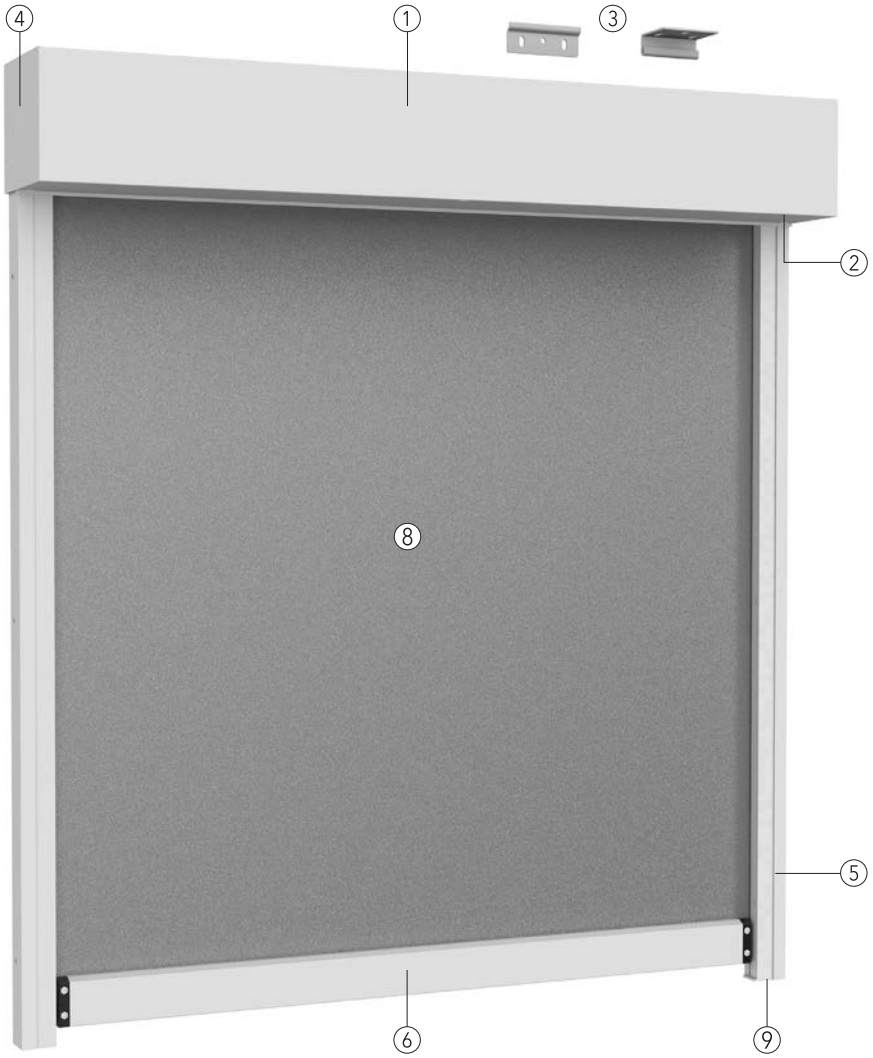
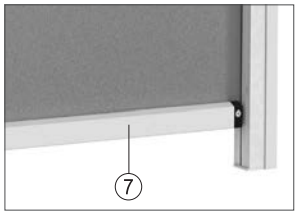
Specifications

Model 48-1067 / 1068



1. Cassette 110/150
2. Service hatch
3. Ceiling/wall bracket (for 48-1068 only)
4. Side cap
5. 2-part guide rail
6. Drop rail type M (58 x 24 mm)
7. Drop rail type S (33 x 24 mm)
8. Fabric guided at the sides
9. Guide rail bottom end cap



Specifications

Model:

48-1067 zip_2.0 Cassette 110 - two-part guide rail
48-1068 zip_2.0 Cassette 150 - two-part guide rail

Description:

ZIP-Shade for internal and external shade and protection from glare with two-part cassette in angular form and two-part side guide rails made of extruded aluminium. Awning canopy guided in side guide rails.

Fitted sizes:

	min. width	Max. width	Min. height	Max. height	Surface area
48-1067	65 cm*	300 cm	50 cm	300 cm	9 m²
48-1068	65 cm*	480 cm	80 cm	600 cm	20 m²

* depends on motor (Becker E18 and C18 as of 65cm / Somfy Maestria+ 50 WT as of 68 cm / Somfy Maestria+ 50 io as of 73 cm)

DIN EN 13561:

Awnings for outdoor use as sun protection. Manufactured according to DIN EN 13561.

Height	**Drop rail type M** (width up to max. 4.8 m)	**Drop rail type S** (width up to max. 3 m)
up to max. 3 m	Wind resistance class 6	Wind resistance class 3
up to max. 6 m		Wind resistance class 0

Please pay attention here to our maximum permissible wind speeds at which it can be used.

Cassette and lateral bearings:

Cassette (height x depth) 110 x 110 mm and 150 x 150 mm.
Cassette made of extruded aluminium, wall thickness c. 2 mm. Cassette in angular form with service hatch removable from below. 2-part side bearings made of aluminium, for holding the drive hardware incl. roller tube. Cassette fitted in guide rails via side bearings, self-supporting. For Cassette 150 two wall/ceiling brackets are used as of width 2000 mm as an installation aid.
Drive unit hardware and fabric tube can be fully inspected from below without removing the cassette. In combination with the V2 or V4 connection variant simple disconnection of the supply line is possible.

Guide rails:

2-part guide rail, made up of 40 x 38 mm base section and 35 x 30 mm guide rail in extruded aluminium. Base section fixed by means of direct mounting as front or reveal installation. Base section and guide rail joined by threaded bolt to offset any imprecisions in the building structure or caused by the installation. Stainless steel recessed sleeve nut to lock the threaded bolt and to cover the drill hole. Sections are pre-drilled.

Fabric tube:

48-1067 110: Fabric tube Ø 63 mm made of zinc-plated steel, with flat groove to take the fabric.
48-1068 150: Fabric tube Ø 90 mm made of zinc-plated steel, with flat groove to take the fabric.

Drop rail:

External drop rail type M (58 x 24 mm), usable as of 650 mm width, made of extruded aluminium, powder-coated with internal groove to take the awning fabric. Drop rail guided at the side in guide rail with steel retaining plate and black plastic drop bar insert, with internal weight made of zinc-plated square steel.
Optional: Drop rail type S (33 x 24 mm), usable as of 1000 mm width, made of extruded aluminium, powder-coated with internal groove to take the awning fabric. Drop rail guided at the side in guide rail with steel retaining plate and black plastic drop bar insert. Drop rail type S for awning unit width 1000-1400 mm with special lead section, as of 1400 mm with zinc-plated steel.

Operation:

Becker E18 motor as hard-wired version (standard) or C18 as wireless one:
Tubular motor (230 V/ 50 Hz/ 17 min-1) integrated in fabric tube, torque limit stop as required, with electronically adjustable end position switch-off, sensitive obstacle detection in DOWN direction, blockage detection in UP direction, maintenance-free, with thermal circuit breaker. No synchronous running when using group control.

Somfy Maestria+ 50 WT as hard-wired motor or Maestria+ 50 io as wireless one:
Tubular motor (230 V/ 50 Hz/ 17 min-1) integrated in fabric tube, torque limit stop as required, with electronically adjustable end position switch-off, blockage detection in UP direction, maintenance-free, with thermal circuit breaker. No synchronous running when using group control.

Connection variants:
Standard: Variant 1: c. 1.5 m motor connection cable, black, UV-resistant and halogen-free, with open cable strands and internal loop.

Options:
- Variant 2: c. 1.5 m motor connection cable with internal inspection loop additionally fitted inside the cassette and Hirschmann plug coupling for easier end position setting, black, UV-resistant and halogen-free, with open cable strands.
- Variant 3: c. 0.5 m motor connection cable, black, UV-resistant and halogen-free, with Hirschmann STAS 3N plug and retainer outside the cassette, with additional inspection loop inside the cassette.
- Variant 4: c. 0.5 m motor connection cable with internal inspection loop additionally fitted inside the cassette and Hirschmann plug coupling for easier end position setting, black, UV-resistant and halogen-free, with Hirschmann STAS 3N plug and retainer outside the cassette.

Frame colours:

All visible aluminium parts powder-coated. RAL 9016 white (MHZ colour no. 171), RAL 9006 silver (MHZ colour no. 900), DB703 anthracite (MHZ colour no. 703).

Optional: Other RAL shades as per the Classic RAL chart (silk lustre) available at a surcharge.
Shades such as matt, finely textured, pearl effect, signal colours or NCS colours on request. Plastic parts generally black.

Fabric:

Visible side of the awning:
By default, the exterior/interior shows the front (A) outward to the sun.
Exception: In the case of one side aluminized fabrics, the aluminized side generally points towards the sun.

Acrylic fabric: Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. Mono colour selection: 100% brand-name polyacrylonitrile (PAN), dirt- and water-repellent finish. Fabric width: 120 cm. Fabric thickness: c. 0.45 - 0.55 mm. Weight: 290 - 330 g/m². Light-fastness: grade 7 - 8. Weather resistance: grade 7 - 8.

Soltis 86/88/92: Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. PVC-coated polyester screen fabric, dirt and water-repellent (wipeable), water-permeable. Fabric width: c. 177/267 cm, varying by fabric and shade. Fabric thickness: c. 0.45 mm. Weight: 380/360/420 g/m². Fire behaviour: B1 / DIN 4102-1.

Soltis B92 Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. PVC coated polyester - Blackout weave. With laminated PVC film. Light properties according to EN 14501. Opaque up to 100,000 Lux. Fabric width: 170 cm. Fabric thickness: 0.60 mm. Weight: 650 g/m². Fire behaviour: B1/DIN 4102-1.

Arik (Satiné 5500): Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. PVC-coated glass fibre screen fabric, water-permeable. Fabric with: 200-250-285-320 cm varying by fabric. Fabric thickness: c. 0.75 mm. Weight: 520 g/m², fire behaviour: B1 / DIN 4102-1.

Starscreen: Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. 100% of spinneret-dyed polyester FR Outdoor, Teflon-coated (repels oil, water and dirt and prevents rotting), PVC-free, water-permeable. Fabric width: 325 cm. Fabric thickness: approx. 0.52 mm. Weight: 220 g/m², fire behaviour: B1 / DIN 4102-1; M1.

Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request.
All transverse seams (surface seams) are bonded using a high frequency or heat impulse diffusion welding technique. Surface seams overlap 10-15 mm depending on quality. Side edges thermally cut.

Hem/piping system: At the top the awning fabric has a special piping section for inserting/clipping into the fabric tube and at the bottom rear-folded hemstitch for round piping for fixing to the drop rail. Special piping section at the top (fabric tube Ø 63: PVC flat piping 3 x 9 mm. Fabric tube Ø 90: MHZ insert piping) and hemstitch sewn together at the bottom (thread made of 100% PTFE). Colours and fabrics as per the latest collection.

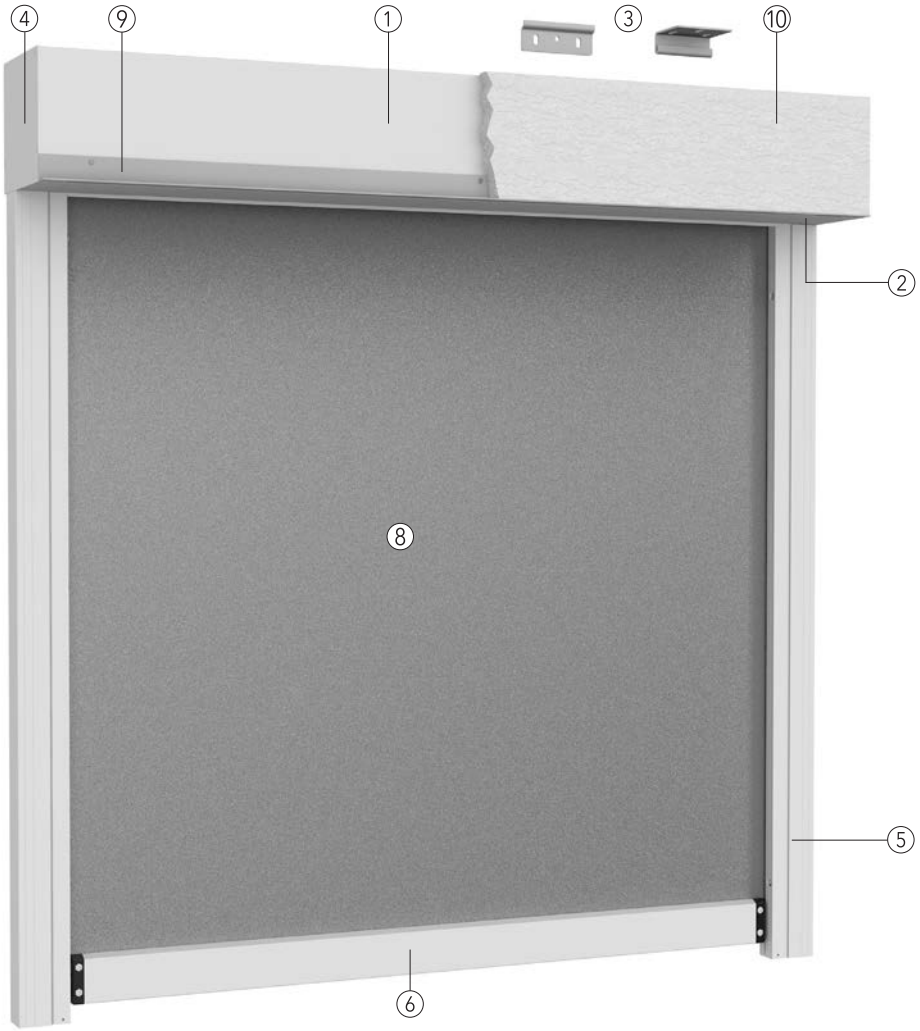
Installation:

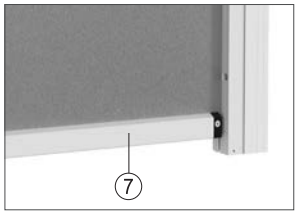
Guide rails: Front or reveal installation possible.
For the 150 cassette two wall/ceiling fixings are essential as of width 2000 mm.

Make/manufacturer:

The invitation to tender is based on the 'ZIP-Shade zip_2.0' model 48-1067/1068 from MHZ Hachtel GmbH & Co. KG, Sindelfinger Straße 21, 70771 Leinfelden-Echterdingen or equivalent.

Model 48-1070 / 1071





1. Cassette 110/150
2. Service hatch
3. Ceiling/wall bracket (for 48-1071 only)
4. Side cap
5. 2-part guide rail for embedding in plaster
6. Drop rail type M (58 x 24 mm)
7. Drop rail type S (33 x 24 mm)
8. Fabric guided at the sides
9. L-bracket
10. Plasterboard (gets adhered to the front of the cassette)

Specifications

Model:

48-1070 zip_2.0 Cassette 110 - For embedding in plaster, with two-part guide rail
48-1071 zip_2.0 Cassette 150 - For embedding in plaster, with two-part guide rail

Description:

ZIP-Shade for outdoor shade with two-part cassette and with stuck-on plasterboard in angular form and two-part side guide rails made of extruded aluminium ready for embedding in an outside wall. Awning canopy guided in side guide rails.

Fitted sizes:

	min. width	Max. width	Min. height	Max. height	Surface area
48-1070	69 cm*	300 cm	50 cm	300 cm	9 m²
48-1071	69 cm*	480 cm	80 cm	600 cm	20 m²

* depends on motor (Becker E18 and C18 as of 69cm / Somfy Maestria+ 50 WT as of 72 cm / Somfy Maestria+ 50 io as of 77 cm)

DIN EN 13561:

Awnings for outdoor use as sun protection. Manufactured according to DIN EN 13561.

Height	**Drop rail type M** (width up to max. 4.8 m)	**Drop rail type S** (width up to max. 3 m)
up to max. 3 m	Wind resistance class 6	Wind resistance class 3
up to max. 6 m		Wind resistance class 0

Please pay attention here to our maximum permissible wind speeds at which it can be used.

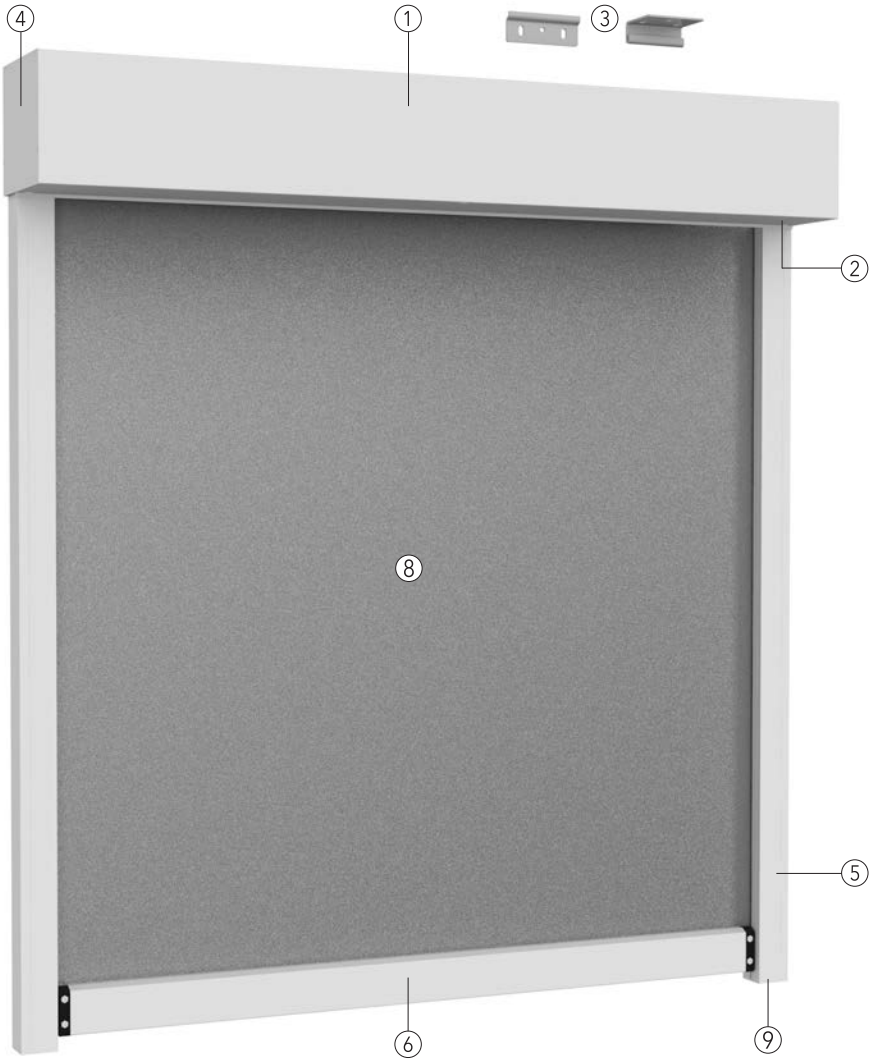
Cassette and lateral bearings:

Cassette (height x depth) 110 x 110 mm and 150 x 150 mm.
Cassette made of extruded aluminium, wall thickness c. 2 mm. Cassette in angular form with service hatch removable Service hatch and 20 mm wide side surface areas for embedding in plaster. 2-part side bearings made of aluminium, for holding the drive hardware incl. roller tube. Cassette fitted into guide rails via side bearings, self-supporting. For cassette 150 as of an awning unit width of 2000 mm with two wall/ceiling brackets for support. Additionally on the front of the cassette, plasterboard 8 mm thick and riveted-on L-bracket 30 x 20 mm in standard colours, optionally in sizes 30 x 40 mm or 30 x 60 mm.
Drive unit hardware and fabric tube can be fully inspected from below without removing the cassette. End position setting and inspection is facilitated by simple disconnection of the supply line with connection variants V2 or V4.

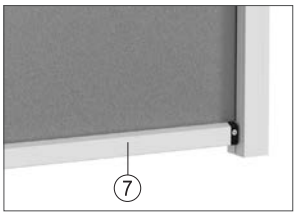
Model 48-1070 / 1071

Guide rails:	2-part guide rail for embedding in plaster, made up of 40 x 58 mm base section with 20 mm for the embedding and 35 x 30 mm guide rail in extruded aluminium. Base section for embedding in plaster fixed by means of direct mounting as front or reveal installation. Base section for embedding in plaster and guide rail joined by threaded bolt to offset any imprecisions in the building structure or caused by the installation. Stainless steel recessed sleeve nut to lock the threaded bolt and to cover the drill hole. Sections are pre-drilled.
Fabric tube:	**48-1070** 110: Fabric tube Ø 63 mm made of zinc-plated steel, with flat groove to take the fabric. **48-1071** 150: Fabric tube Ø 90 mm made of zinc-plated steel, with flat groove to take the fabric.
Drop rail:	External drop rail type M (58 x 24 mm), usable as of 650 mm width, made of extruded aluminium, powder-coated with internal groove to take the awning fabric. Drop rail guided at the side in guide rail with steel retaining plate and black plastic drop bar insert, with internal weight made of zinc-plated square steel. **Optional:** Drop rail type S (33 x 24 mm), usable as of 1000 mm width, made of extruded aluminium, powder-coated with internal groove to take the awning fabric. Drop rail guided at the side in guide rail with steel retaining plate and black plastic drop bar insert. Drop rail type S for awning unit width 1000-1400 mm with special lead section, as of 1400 mm with zinc-plated steel.
Operation:	**Becker E18 motor as hard-wired version (standard) or C18 as wireless one:** Tubular motor (230 V/ 50 Hz/ 17 min-1) integrated in fabric tube, torque limit stop as required, with electronically adjustable end position switch-off, sensitive obstacle detection in DOWN direction, blockage detection in UP direction, maintenance-free, with thermal circuit breaker. No synchronous running when using group control. **Somfy Maestria+ 50 WT as hard-wired motor or Maestria+ 50 io as wireless one:** Tubular motor (230 V/ 50 Hz/ 17 min-1) integrated in fabric tube, torque limit stop as required, with electronically adjustable end position switch-off, blockage detection in UP direction, maintenance-free, with thermal circuit breaker. No synchronous running when using group control. **Connection variants:** Standard: Variant 1: c. 1.5 m motor connection cable, black, UV-resistant and halogen-free, with open cable strands and internal loop. **Options:** - Variant 2: c. 1.5 m motor connection cable with internal inspection loop additionally fitted inside the cassette and Hirschmann plug coupling for easier end position setting, black, UV-resistant and halogen-free, with open cable strands. - Variant 3: c. 0.5 m motor connection cable, black, UV-resistant and halogen-free, with Hirschmann STAS 3N plug and retainer outside the cassette, with additional inspection loop inside the cassette. - Variant 4: c. 0.5 m motor connection cable with internal inspection loop additionally fitted inside the cassette and Hirschmann plug coupling for easier end position setting, black, UV-resistant and halogen-free, with Hirschmann STAS 3N plug and retainer outside the cassette.
Frame colours:	All visible aluminium parts powder-coated. RAL 9016 white (MHZ colour no. 171), RAL 9006 silver (MHZ colour no. 900), DB703 anthracite (MHZ colour no. 703). **Optional:** Other RAL shades as per the Classic RAL chart (silk lustre) available at a surcharge. Shades such as matt, finely textured, pearl effect, signal colours or NCS colours on request. Plastic parts generally black.
Fabric:	**Visible side of the awning:** By default, the exterior/interior shows the front (A) outward to the sun. Exception: In the case of one side aluminized fabrics, the aluminized side generally points towards the sun. **Acrylic fabric:** Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. Mono colour selection: 100% brand-name polyacrylonitrile (PAN), dirt- and water-repellent finish. Fabric width: 120 cm. Fabric thickness: c. 0.45 - 0.55 mm. Weight: 290 - 330 g/m². Light-fastness: grade 7 - 8. Weather resistance: grade 7 - 8. **Soltis 86/88/92:** Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. PVC-coated polyester screen fabric, dirt and water-repellent (wipeable), water-permeable. Fabric width: c. 177/267 cm, varying by fabric and shade. Fabric thickness: c. 0.45 mm. Weight: 380/360/420 g/m². Fire behaviour: B1 / DIN 4102-1. **Soltis B92** Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. PVC coated polyester - Blackout weave. With laminated PVC film. Light properties according to EN 14501. Opaque up to 100,000 Lux. Fabric width: 170 cm. Fabric thickness: 0.60 mm. Weight: 650 g/m². Fire behaviour: B1/DIN 4102-1. **Arik (Satiné 5500):** Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. PVC-coated glass fibre screen fabric, water-permeable. Fabric with: 200-250-285-320 cm varying by fabric. Fabric thickness: c. 0.75 mm. Weight: 520 g/m², fire behaviour: B1 / DIN 4102-1. **Starscreen:** Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. 100% of spinneret-dyed polyester FR Outdoor, Teflon-coated (repels oil, water and dirt and prevents rotting), PVC-free, water-permeable. Fabric width: 325 cm. Fabric thickness: approx. 0.52 mm. Weight: 220 g/m², fire behaviour: B1 / DIN 4102-1; M1. **Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request.** All transverse seams (surface seams) are bonded using a high frequency or heat impulse diffusion welding technique. Surface seams overlap 10-15 mm depending on quality. Side edges thermally cut. **Hem/piping system:** At the top the awning fabric has a special piping section for inserting/clipping into the fabric tube and at the bottom rear-folded hemstitch for round piping for fixing to the drop rail. Special piping section at the top (fabric tube Ø 63: PVC flat piping 3 x 9 mm. Fabric tube Ø 90: MHZ insert piping) and hemstitch sewn together at the bottom (thread made of 100% PTFE). Colours and fabrics as per the latest collection.
Installation:	Guide rails: Front or reveal installation possible. For the 150 cassette two wall/ceiling fixings are essential as of width 2000 mm.
Make/manufacturer:	The invitation to tender is based on the 'ZIP-Shade zip_2.0' model 48-1070/ 1071 from MHZ Hachtel GmbH & Co. KG., Sindelfinger Strasse 21, 70771 Leinfelden-Echterdingen or equivalent.

Model 48-1072 / 1073



1. Cassette 110/150
2. Service hatch
3. Ceiling/wall bracket (for 48-1073 only)
4. Side cap
5. 1-part guide rail
6. Drop rail type M (58 x 24 mm)
7. Drop rail type S (33 x 24 mm)
8. Fabric guided at the sides
9. Guide rail bottom end cap



Specifications

Model:

48-1072 zip_2.0 Cassette 110 - one-part guide rail
48-1073 zip_2.0 Cassette 150 - one-part guide rail

Description:

ZIP-Shade for internal and external shade and protection from glare with two-part cassette in angular form and side guide rails made of extruded aluminium. Awning canopy guided in side guide rails.

Fitted sizes:

	min. width	Max. width	Min. height	Max. height	Surface area
48-1072	65 cm*	300 cm	50 cm	300 cm	9 m²
48-1073	65 cm*	480 cm	80 cm	600 cm	20 m²

* depends on motor (Becker E18 and C18 as of 65cm / Somfy Maestria+ 50 WT as of 68 cm / Somfy Maestria+ 50 io as of 73 cm)

DIN EN 13561:

Awnings for outdoor use as sun protection. Manufactured according to DIN EN 13561.

Height	**Drop rail type M** (width up to max. 4.8 m)
up to max. 3 m	Wind resistance class 6
up to max. 6 m	

Please pay attention here to our maximum permissible wind speeds at which it can be used.

Cassette and lateral bearings:

Cassette (height x depth) 110 x 110 mm and 150 x 150 mm.
Cassette made of extruded aluminium, wall thickness c. 2 mm. Cassette in angular form with service hatch removable from below. 2-part side bearings made of aluminium, for holding the drive hardware incl. roller tube. Cassette fitted into guide rails via side bearings, self-supporting, as of an awning unit width of 2000 mm with two wall/ceiling brackets for support. In combination with connection variants V2 to V4 adjustment of the end positions is possible. Inspection of the fabric tube's drive system only possible by taking down the cassette.

Guide rails:

1-part guide rail 40 x 44 mm made of extruded aluminium. Fixing by means of direct mounting as front or reveal installation. Sections are pre-drilled. Drill holes in the rail get covered up by plastic plugs (Colour: white, silver, anthracite, black).

Fabric tube:

48-1072 110: Fabric tube Ø 63 mm made of zinc-plated steel, with flat groove to take the fabric.
48-1073 150: Fabric tube Ø 90 mm made of zinc-plated steel, with flat groove to take the fabric.

Drop rail:

External drop rail type M (58 x 24 mm), usable as of 650 mm width, made of extruded aluminium, powder-coated with internal groove to take the awning fabric. Drop rail guided at the side in guide rail with steel retaining plate and black plastic drop bar insert, with internal weight made of zinc-plated square steel.

Operation:

Becker E18 motor as hard-wired version (standard) or C18 as wireless one:
Tubular motor (230 V/ 50 Hz/ 17 min-1) integrated in fabric tube, torque limit stop as required, with electronically adjustable end position switch-off, sensitive obstacle detection in DOWN direction, blockage detection in UP direction, maintenance-free, with thermal circuit breaker. No synchronous running when using group control.

Somfy Maestria+ 50 WT as hard-wired motor or Maestria+ 50 io as wireless one:
Tubular motor (230 V/ 50 Hz/ 17 min-1) integrated in fabric tube, torque limit stop as required, with electronically adjustable end position switch-off, blockage detection in UP direction, maintenance-free, with thermal circuit breaker. No synchronous running when using group control.

Connection variants:
Standard: Variant 1: c. 1.5 m motor connection cable, black, UV-resistant and halogen-free, with open cable strands and internal loop.

Options:
- Variant 2: c. 1.5 m motor connection cable with internal inspection loop additionally fitted inside the cassette and Hirschmann plug coupling for easier end position setting, black, UV-resistant and halogen-free, with open cable strands.
- Variant 3: c. 0.5 m motor connection cable, black, UV-resistant and halogen-free, with Hirschmann STAS 3N plug and retainer outside the cassette, with additional inspection loop inside the cassette.
- Variant 4: c. 0.5 m motor connection cable with internal inspection loop additionally fitted inside the cassette and Hirschmann plug coupling for easier end position setting, black, UV-resistant and halogen-free, with Hirschmann STAS 3N plug and retainer outside the cassette.

Frame colours:

All visible aluminium parts powder-coated. RAL 9016 white (MHZ colour no. 171), RAL 9006 silver (MHZ colour no. 900), DB703 anthracite (MHZ colour no. 703).

Optional: Other RAL shades as per the Classic RAL chart (silk lustre) available at a surcharge.
Shades such as matt, finely textured, pearl effect, signal colours or NCS colours on request. Plastic parts generally black.

Fabric:

Visible side of the awning:
By default, the exterior/interior shows the front (A) outward to the sun.
Exception: In the case of one side aluminized fabrics, the aluminized side generally points towards the sun.

Acrylic fabric: Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. Mono colour selection: 100% brand-name polyacrylonitrile (PAN), dirt- and water-repellent finish. Fabric width: 120 cm. Fabric thickness: c. 0.45 - 0.55 mm. Weight: 290 - 330 g/m². Light-fastness: grade 7 - 8. Weather resistance: grade 7 - 8.

Soltis 86/88/92: Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. PVC-coated polyester screen fabric, dirt and water-repellent (wipeable), water-permeable. Fabric width: c. 177/267 cm, varying by fabric and shade. Fabric thickness: c. 0.45 mm. Weight: 380/360/420 g/m². Fire behaviour: B1 / DIN 4102-1.

Soltis B92 Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. PVC coated polyester - Blackout weave. With laminated PVC film. Light properties according to EN 14501. Opaque up to 100,000 Lux. Fabric width: 170 cm. Fabric thickness: 0.60 mm. Weight: 650 g/m². Fire behaviour: B1/DIN 4102-1.

Arik (Satiné 5500): Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. PVC-coated glass fibre screen fabric, water-permeable. Fabric with: 200-250-285-320 cm varying by fabric. Fabric thickness: c. 0.75 mm. Weight: 520 g/m², fire behaviour: B1 / DIN 4102-1.

Starscreen: Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request. 100% of spinneret-dyed polyester FR Outdoor, Teflon-coated (repels oil, water and dirt and prevents rotting), PVC-free, water-permeable. Fabric width: 325 cm. Fabric thickness: approx. 0.52 mm. Weight: 220 g/m², fire behaviour: B1 / DIN 4102-1; M1.

Fabric machined with seam running as standard transversely to the projection direction (residual fabric panel on top). Lengthways machining on request.
All transverse seams (surface seams) are bonded using a high frequency or heat impulse diffusion welding technique. Surface seams overlap 10-15 mm depending on quality. Side edges thermally cut.

Hem/piping system: At the top the awning fabric has a special piping section for inserting/clipping into the fabric tube and at the bottom rear-folded hemstitch for round piping for fixing to the drop rail. Special piping section at the top (fabric tube Ø 63: PVC flat piping 3 x 9 mm. Fabric tube Ø 90: MHZ insert piping) and hemstitch sewn together at the bottom (thread made of 100% PTFE). Colours and fabrics as per the latest collection.

Installation:

Guide rails: Front or reveal installation possible.
For the 150 cassette two wall/ceiling fixings are essential as of width 2000 mm.

Make/manufacturer:

The invitation to tender is based on the 'ZIP-Shade zip_2.0' model 48-1072/1073 from MHZ Hachtel GmbH & Co. KG, Sindelfinger Straße 21, 70771 Leinfelden-Echterdingen or equivalent.

Permitted maximum wind speed for awning use

Usage guidelines for setting/operating ZIP-Shades with fabric guided in side rails.
Extract from the ITRS recommendation. We recommend the use of wind monitors.

Wind resistance

The wind classes defined by DIN EN 13561 do not enable any conclusions to be drawn in respect of usability (extending/retracting, intermediate positions, etc.) under actual wind loads. The manufacturer must therefore define the maximum speed, above which the awning must be retracted, taking into consideration the installation situation and the awning fabric clearance. This wind speed must be stated in the technical documentation (e.g. operating instructions). The conditions to be adhered to in order that the performance specifications are fulfilled are based on static loads and do not take account of any dynamic effect of repeatedly applied loads (turbulence), to which the awning fabric and frame are exposed in actual use. The static pressure can therefore not be used to determine how to anchor the awnings to the building.

The substructure/distance in relation to the façade/height/corner situation also has an influence on the maximum possible wind speed and is not taken into account in the standard (DIN EN 1932:2013-09 Closures and awnings - Resistance to wind loads - Test methods and verifying criteria), even though these factors have a significant influence on the product's resistance to wind.

Note on applicability

The wind speeds used in the following table apply only when windows are closed and not to corner situations. The positioning and number of the wind monitors used are also of key significance in selecting the right wind speed for the building concerned. Particular attention must be paid to the shape and location of the building. For such situations consultation with a specialist planner is therefore always necessary. The recommendations do not apply to horizontal or arched systems.

Maximum wind speed for awning use.
Stated in m/s

Height	Width 1000	1500	2000	2500	3000	3500	4000	4500	4800
1000	24	24	24	24	21	21	21	21	21
1500	24	24	24	21	21	17	17	17	17
2000	24	24	21	21	17	17	13	13	13
2500	24	21	21	17	17	13	13	13	13
3000	24	21	17	17	13	13	13	13	13
3500	21	17	17	13	13	13	13	13	10
4000	21	17	13	13	13	13	13	10	10
4500	21	17	13	13	13	13	10	10	10
5000	21	17	13	13	13	10	10	-	-
5500	21	17	13	13	13	10	-	-	-
6000	21	17	13	13	10	10	-	-	-

	Increments						
m/s	24	21	17	13	10	7	4
km/h	86	76	61	46	36	25	14
Beaufort	9	9	7	6	5	4	3

Table applies only where awning fabric distance from glass surface is <100 mm.

For the following situation the table figures can be increased:

- For installation in a reveal the figure in the table can be increased by one increment to the next figure up (e.g. from 13 to 17 m/s).
  This applies up to a maximum width of 4,800 mm, maximum height of 6,000 mm and maximum surface area of 20 m², with the maximum figure being 24 m/s.

For the following situations the table figures need to be reduced:

- Where the distance* of the awning fabric from the glass surface is > 100 mm ≤ 200 mm the table figure must be reduced by 2 increments (e.g. from 24 m/s to 17 m/s),
- Where the distance* of the awning fabric from the glass surface is > 200 mm ≤ 300 mm the table figure must be reduced by 3 increments (e.g. from 24 m/s to 13 m/s),

In the case of larger distances and for free-standing units, the table is not to be used.

In addition, you must always pay attention to the manufacturer's specifications (e.g. number of guide rail brackets, how the box and guide rails are to be fixed and correct installation, taking tolerances into account). Deviations due to the installation situation are potentially possible after consultation with the manufacturer.

* zip_2.0 cannot currently be supplied with spacers. The unit is to be fitted via the guide rails directly onto the window frame or into the reveal.

Wind resistance classification MHZ ZIP-Shade zip_2.0.
Since 1st April 2006, European norm 1313561 has set the quality requirements for awnings at a uniform level.

Factors that have had to be observed since 01/04/2006 include:
- Wind load zone of the installation site
- Terrain category in which the building is located
- ZIP-Shade's installation height

These result in requirements in terms of the type of awning fabric and guide rails used.

Procedure:
1. Using the following page, find on the map the wind load zone in which the building is located (zone 1–4).
2. Then from the 4 terrain categories select the one matching the building's location.
3. Work out the installation height of the ZIP-Shades on the building.
   0 - 8 m / 8 - 20 m / 20 - 100 m
4. Using the 'Usage recommendations' table and based on the results of the above criteria, find a required wind resistance class for the shade system elements. The available classes are 1 - 6, with 6 being the highest wind resistance class.

Wind load zones map

Wind load zone 1 with 22,5 m/s (wind force 9)
Wind load zone 2 with 25,0 m/s (wind force 10)
Wind load zone 3 with 27,5 m/s (wind force 10)
Wind load zone 4 with 30,0 m/s (wind force 11)

Usage recommendations

Terrain categories	Requirements	Installation height of the terminations in the middle area 0 - 8 m				Installation height of the terminations in the middle area > 8 - 20 m				Installation height of the terminations in the middle area > 20 - 100 m			
		Wind load zones				Wind load zones				Wind load zones			
		1	2	3	4	1	2	3	4	1	2	3	4
I	Resistance class	3	4	4	4	4	4	5	5	4	5	5	6
II	Resistance class	3	3	4	4	3	4	4	5	4	5	5	5
III	Resistance class	2	3	3	4	3	3	4	4	4	5	5	5
IV	Resistance class	2	3	3	3	3	3	3	4	4	4	4	5

For installation heights of 100 m and above, for buildings without an angular footprint and for structures built on land at an altitude of over 800m, separate proof needs to be provided for the classification. The figures given here are guide figures.

Wind resistance classes

SOURCE: DIN EN 13561:2015

Wind resistance class	0	1	2	3	4	5	6
Nominal test pressure p (N/m²)	< 40	40	70	110	170	270	400
Safety test pressure pS = 1.2 p (N/m²)	< 48	48	84	132	204	324	480
Wind speed vN (m/s)	-	8	11	13	17	21	25
Wind speed vN (km/h)	-	29	39	46	61	75	90
Wind force at p (Bft)	-	5	6	6	7	9	10

Terrain categories

Land is split into four terrain categories. These are defining factors for wind profiles and thus for wind speed.
Source: DIN 1055-4: 2005-03

I
Open sea and lakes with at least 5km of open water in the wind direction; flat, scarcely undulating land with no obstacles.

II
Land with hedges, individual farm buildings, houses or trees, e.g. agricultural areas.

III
Suburbs, industrial or commercial districts and woods.

IV
Urban areas where buildings with an average height of over 15m cover at least 15% of the land.