



markilux Awnings

Handover declaration

To be passed on to the users of folding-arm awnings

The European standard DIN EN 13561 establishes the requirements for the construction and fastening of awnings. The construction of this markilux awning fulfills the requirements of the Wind Resistance Class 2 specified in the CE mark of conformity. The wind resistance class describes the wind speed, at which an awning may be used. If used above the approved wind speed, considerable dangers can occur in rain and in snow, the awning can be destroyed or collapse. Which wind resistance class the installation achieves, critically depends on the type and the number of fastening materials as well as on the existing fastening background.

The awning may only be used up to the wind resistance class declared by the installation firm. This can differ from the wind resistance class specified above in the CE-mark of conformity.

In full knowledge of the local conditions and after completed installation, the installation firm declares to the user, whether the wind resistance class specified by markilux has been achieved in the installed state and documents the actual wind resistance class achieved.

Automatic controllers are to be adjusted to the declared wind resistance class.

CE
markilux
 Schmitz-Werke GmbH & Co.
 KG
 Hansestraße 87
 D-48282 Emsdetten

DIN EN 13561
 Awnings for use on the
 outside of buildings

Wind resistance class 2

Wind resistance class 0	Wind resistance class 1	Wind resistance class 2	Wind resistance class 3
The Wind Resistance Class 0 represents either a performance not required or not measured or a product, which does not fulfill the requirements of class 1.	The awning may remain extended up to maximum Wind Force 4.	The awning may remain extended up to maximum Wind Force 5.	At Wind Force 6 the awning must be retracted!
	Definition according to Beaufort: Moderate breeze, moderate wind Wind moves branches and thinner boughs, raises dust and loose paper.	Definition according to Beaufort: Fresh breeze, fresh wind Small deciduous trees begin to sway, white foam caps form at sea.	Definition according to Beaufort: Strong wind Heavy boughs sway, umbrellas are difficult to hold, telephone lines whistle in the wind.
The awning may not be used during wind.	Speed 20-27 km/h = 5.5-7.4 m/s	Speed 28-37 km/h = 7.5-10.4 m/s	Speed 38-48 km/h = 10.5-13.4 m/s

Source: German Meteorological Service (DWD) - Offenbach, Wind Forces in Beaufort

The user has been properly instructed in the operation of the awning:		<input type="checkbox"/>	yes	<input type="checkbox"/>	no
The user has been handed the following documentation:					
	• Operating instructions	<input type="checkbox"/>	yes	<input type="checkbox"/>	no
	• Installation and setting instructions	<input type="checkbox"/>	yes	<input type="checkbox"/>	no
of the motor, switch and controller manufacturers, if available					
The awning may be used under the following conditions:					
Wind:	<input checked="" type="checkbox"/> permitted up to Wind Resistance Class	<input type="checkbox"/>	= Wind force	<input type="checkbox"/>	
Rain:	<input type="checkbox"/> permitted with awning extended completely				
	<input type="checkbox"/> not permitted at a pitch angle below 25% = 14°, measured from the horizontal				
Danger of frost and snow:	<input checked="" type="checkbox"/> not permitted				

Date: _____ Signature of installation engineer: _____

Signature of user*: _____





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Date: _____ Signature of installation engineer: _____

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markilux Awnings

Important Information



Contents:


1. Who is allowed to fit markilux Awnings?
2. Before beginning with the installation, it is to be checked,...
3. Reading and passing on the instructions
4. Working at greater heights
5. Wind Resistance Class
6. Partly assembled awnings
7. Partly assembled awnings
8. Uncontrolled Operation
9. Proper intended use
10. Crush and Shear Zones

1. Who is allowed to fit markilux Awnings?

The markilux fitting instructions are intended for qualified fitters, who have experienced knowledge in the following fields:

- Work safety, operating safety and regulations for the prevention of accidents
- Handling ladders and scaffolding
- Handling and transport of long, heavy components
- Handling tools and machines
- Attaching fastening materials
- Assessment of the construction material
- Commissioning and operation of the product

If one of these qualifications is lacking, a specialist installation firm must be commissioned.

 Electrical work: Electrical installations must be carried by a qualified electrician according to VDE 0100. The installation instructions enclosed with the electrical devices supplied are to be observed.

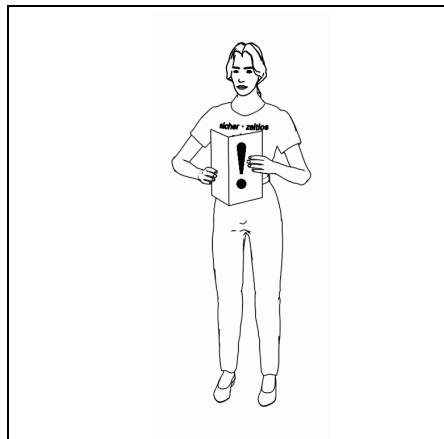
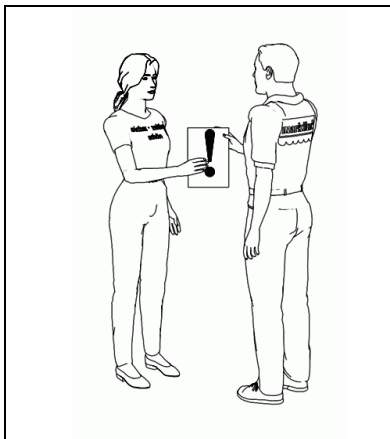
It is recommended that fitting is performed with at least two persons, for larger awnings with three.

2. Before beginning with the installation, it is to be checked,...

- ... whether the fitting fixtures supplied correspond in type and number with the order ,
- ... whether the specifications made with the order concerning the fastening background correspond with the actual fastening background at hand (only for folding-arm awnings).

If divergences are determined herewith, which impair safety, then the fitting may not be carried out.

3. Reading and passing on the instructions

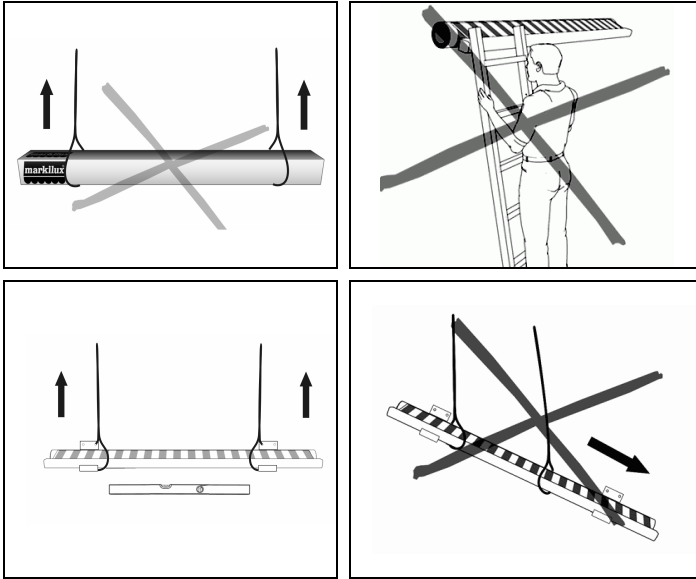


The safety and fitting instructions as well as the operating guides are to be read and observed!

The markilux operating guide, as well as the setting instructions of the motor, switch and controller manufacturers are to be handed over to the user with a **written** confirmation and fitted wind class (see handover declaration) He is to be comprehensively enlightened about the safety and usage information of the awning. With non-observance and maloperation, the awning can suffer damage and accidents can occur.



4. Working at greater heights




If the awning unit has to be hoisted to a higher area with the help of ropes, then the awning is

- to be removed from the packaging,
- to be connected with the lifting ropes in such a way, that it cannot fall out,
- to be pulled up evenly in a horizontal position.

The same also applies for the dismantling of the awning.

⚠ When working at greater heights, there is a risk of falling. Suitable climbing aids and appropriate fall safety devices are to be utilized.

5. Wind Resistance Class



markilux
Schmitz-Werke GmbH & Co. KG
Hansestraße 87
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DIN EN 13561
Awnings for use on the outside of buildings

Wind resistance class 2
markilux folding-arm awning,
markilux 710/810, 720/820, 725/825, 750/850, 730/830,
791/891, 740/840, 745/845, 893, 8500, 869 (size-dependent)

Wind resistance class 3
markilux 760/860, 780/880 und 8000, 869 (size-dependent)

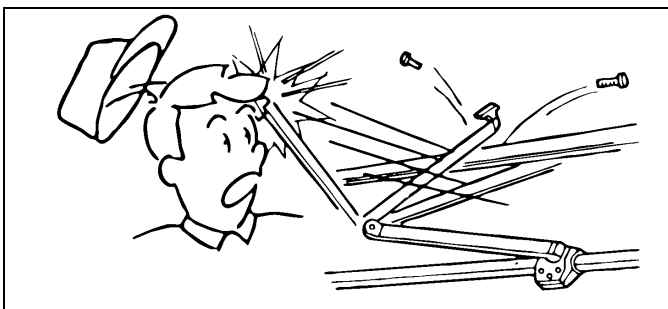
The awning complies with the requirements of the wind resistance class specified in the CE-conformity symbol (see handover declaration). When fitted, it only complies with these requirements, if

- the awning has been fitted with the type and number of brackets recommended by the manufacturer,
- during fitting, the instructions of the fastenings manufacturer of the dowels used have been observed.

For folding-arm awnings:

- the awning has been fitted taking into account the dowel pull-out forces specified by the manufacturer.

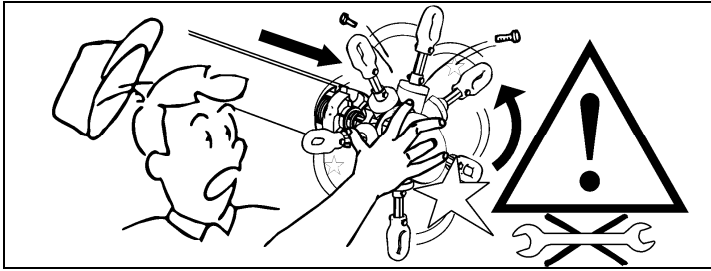
6. Partly assembled awnings



⚠ With awnings partly assembled at works - e.g. coupled folding-arm awnings without cover - those parts under spring tension (see illustration: example folding-arm awning) are to be secured against unintentional opening. These safety devices may only be removed after the installation is complete. There is a high risk of injury from the marked awning parts under tension!



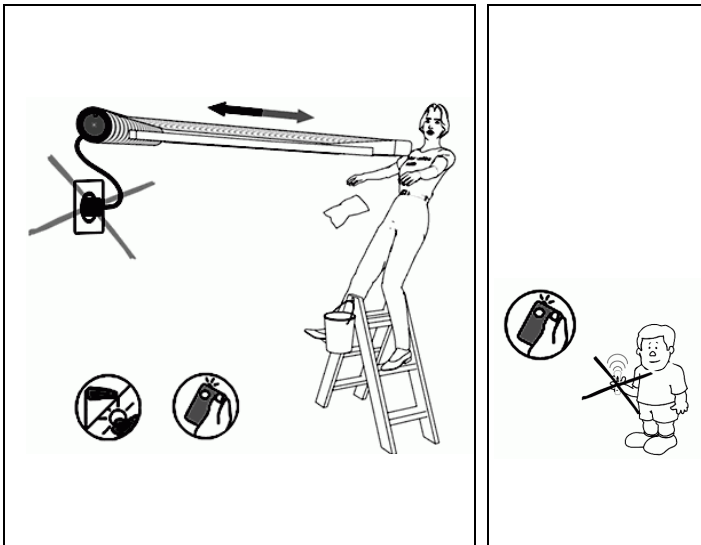
7. Partly assembled awnings



⚠ The servo transmission of folding-arm awnings (marked with a sticker) may not be dismantled, it is under high tension!

If the awning cover or the transmission is to be exchanged, beforehand please request the guide „What to do when... the servo drive needs to be dismantled?“.

8. Uncontrolled Operation

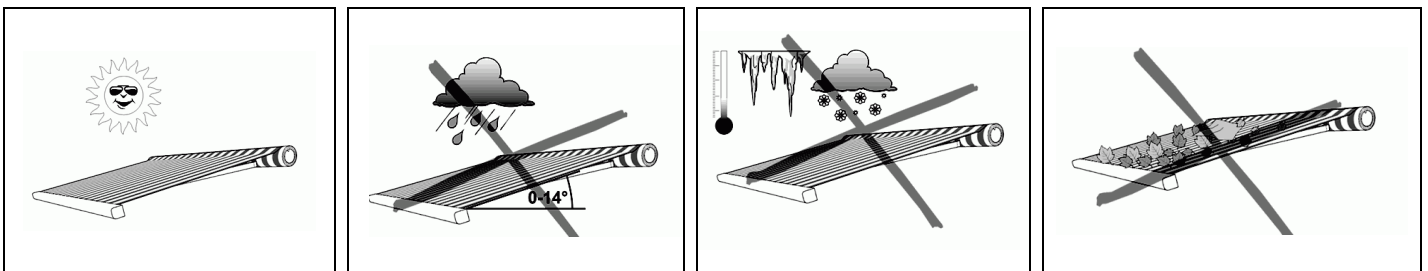


⚠ When working in the range of travel of the awning (see illustration: example folding-arm awning), automatic control must be switched off. There is a risk of being crushed and falling down.

In addition, it must be ensured, that the unit cannot be unintentionally operated manually. For this, the power supply is to be interrupted, e.g. switch off safety switches or disconnect the connector coupling on the motor. Likewise, with manual operation the operating crank must be disengaged and safely stored away.

If awnings are operated by several users, a priority switching interlocking device (controlled power interruption from outside) must be installed, which makes any extending and retracting of the awning impossible.

9. Proper intended use

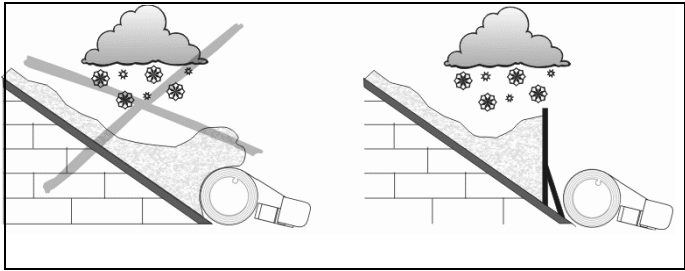


Awnings may only be used for the purpose defined in the operating guide. Modifications, such as add-ons and conversions not intended by the manufacturer, may only be performed with the written consent of the manufacturer.

Additional loading of the awning due to suspended objects or due to tensioned ropes/cables can lead to damage or to the collapse of the awning and are therefore not permitted.

The awning may not be subjected to high temperatures, strong vibrations or shaking or strong

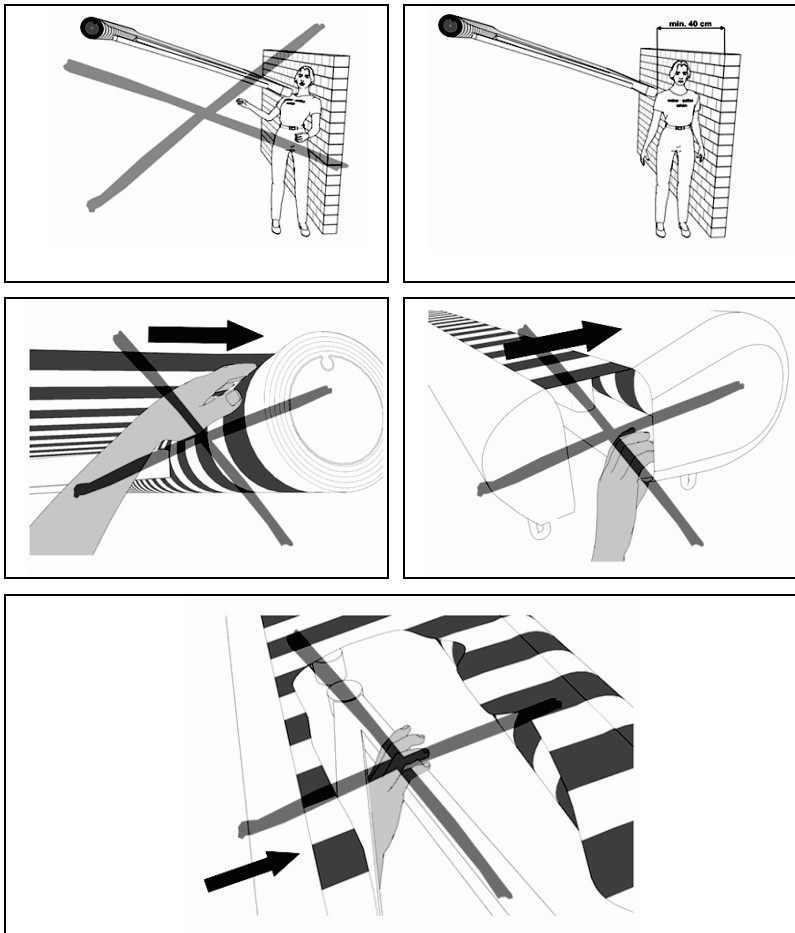




mechanical stress.

An accumulation of snow behind the awning is to be prevented by fitting a snow guard (snow fence or similar).

10. Crush and Shear Zones



⚠ Depending on the type of awning, there exist crush and shear zones, e.g. between drop rod and cassette and between moving parts. Items of clothing or limbs can be grabbed by the unit and pulled in! (See illustration: example folding-arm awning.)
 If an awning is fitted at a height under 2.5 meters above accessible traffic routes, then the awning may only be actuated with a push-button switch with a view of the moving parts. Electrical controllers, radio-controlled drives with catch switches, stop switches etc. are in this case not permitted.



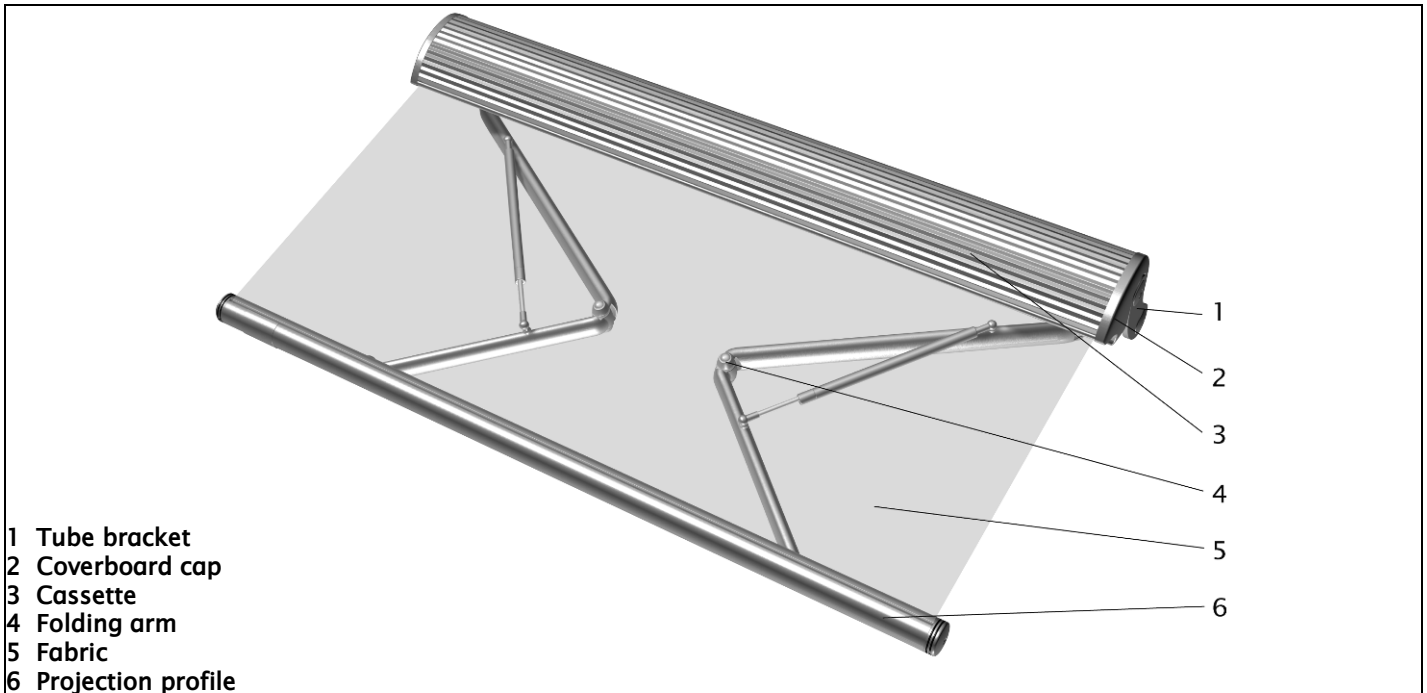
Folding-arm cassette awning

markilux ES-1

Mounting instructions



Overview:



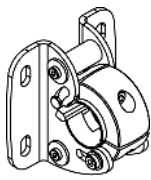
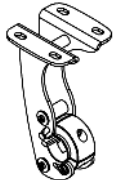

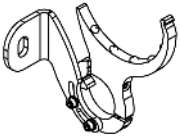

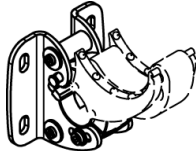
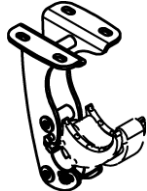

- 1 Tube bracket
- 2 Coverboard cap
- 3 Cassette
- 4 Folding arm
- 5 Fabric
- 6 Projection profile

Contents:

1. mounting brackets
 - 1.1 Overview mounting brackets
 - 1.2 Mounting area for mounting brackets
2. Mounting systems
 - 2.1 Wall mount
 - 2.2 Ceiling mount
 - 2.3 Rafter mount
3. Suspension of awning (e.g. wall mount)
4. Setting the pitch between 0° and 30°
5. Arm position for retracted awning
6. Mounting of storm securing device
7. Alignment of projection profile to coverboard
8. Rolltex bearing (only for units from a width of 501 cm)
9. Motor-driven awning
 - 9.1 Motor connection
 - 9.2 Motor connection data markilux ES-1

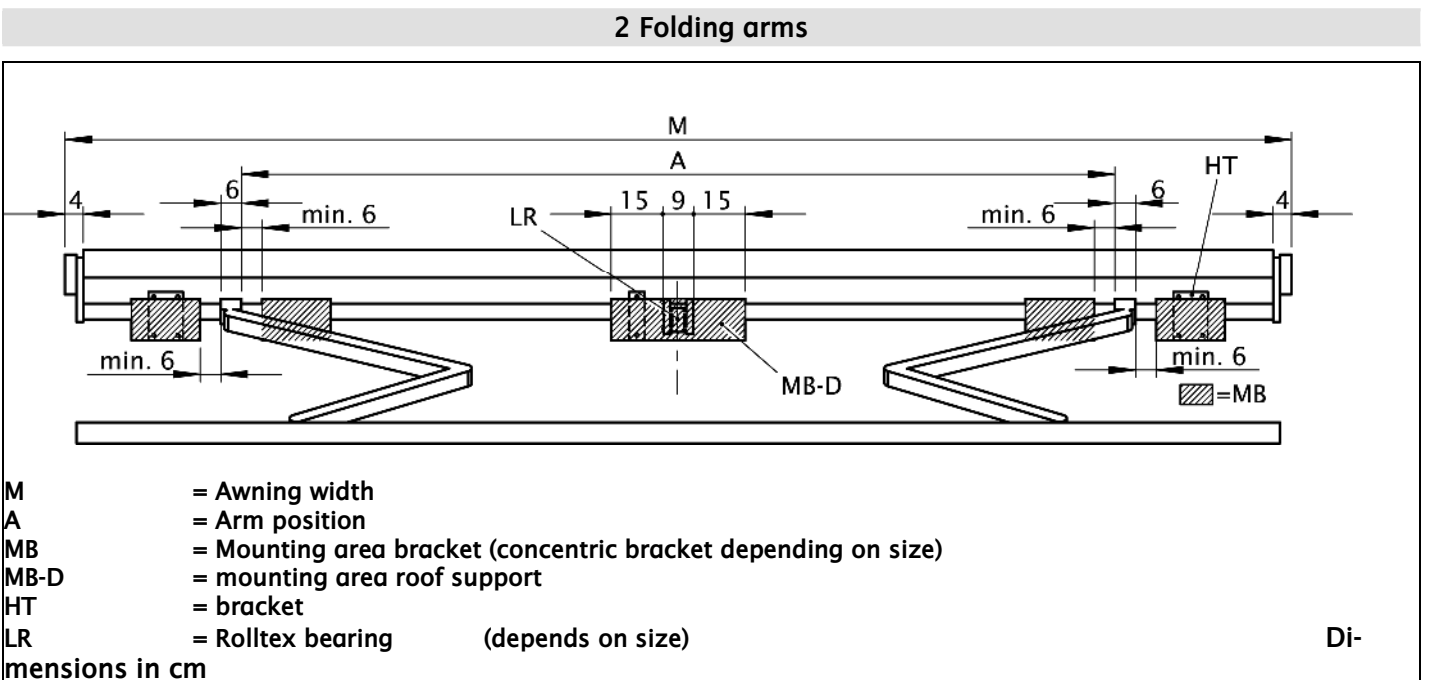
1. Mounting brackets

1.1 Overview mounting brackets

wall brackets:	Ceiling bracket:	Rafter bracket:
 744341.	 745791.	 745851.
 roof support with bracket/wall 746331	 roof support with bracket/ceiling 746341	
 746761	 746771	 746781

Further mounting brackets can be found in the sales information

1.2 Mounting area for mounting brackets



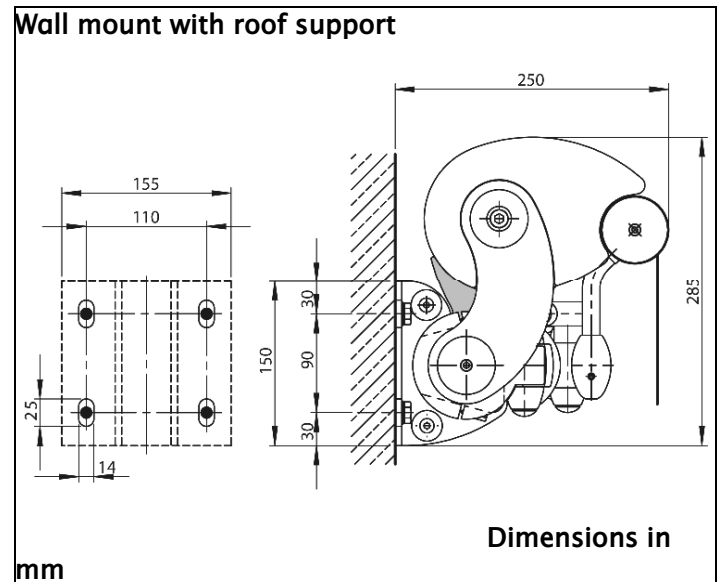
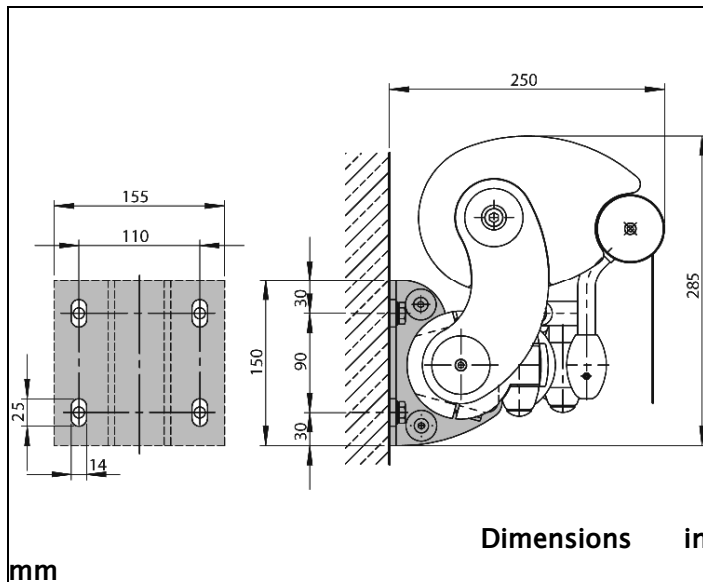
2. Mounting systems

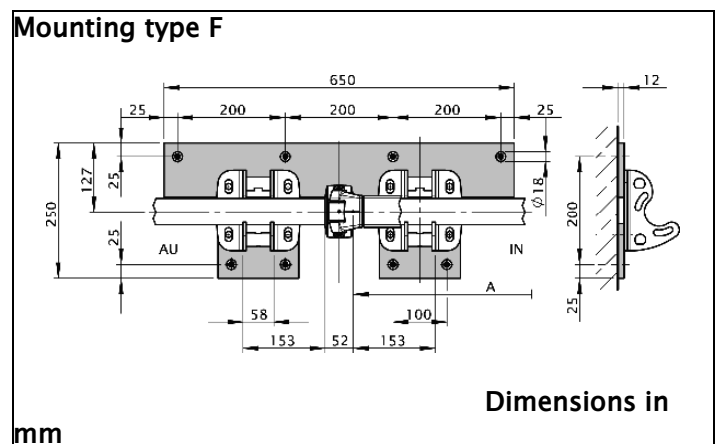
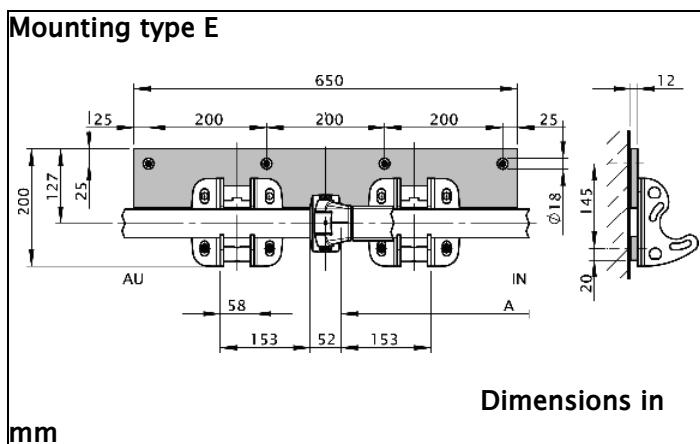
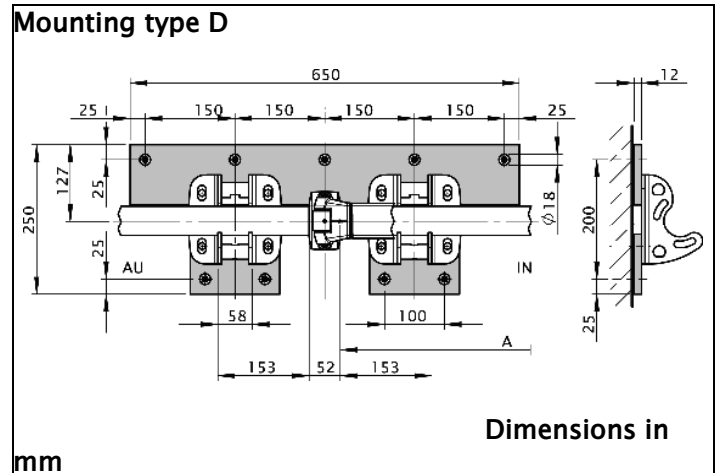
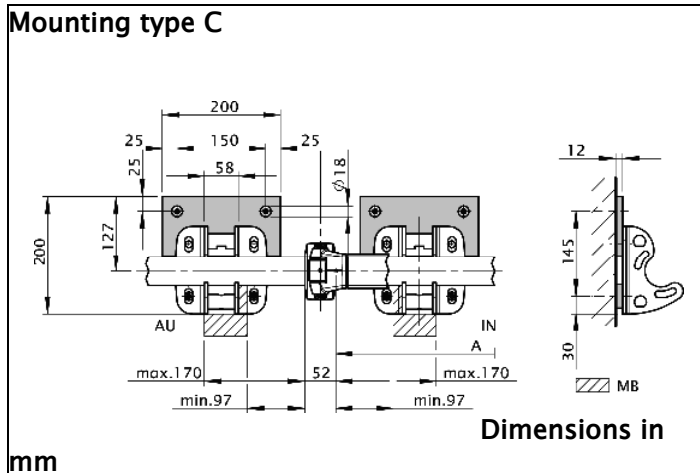
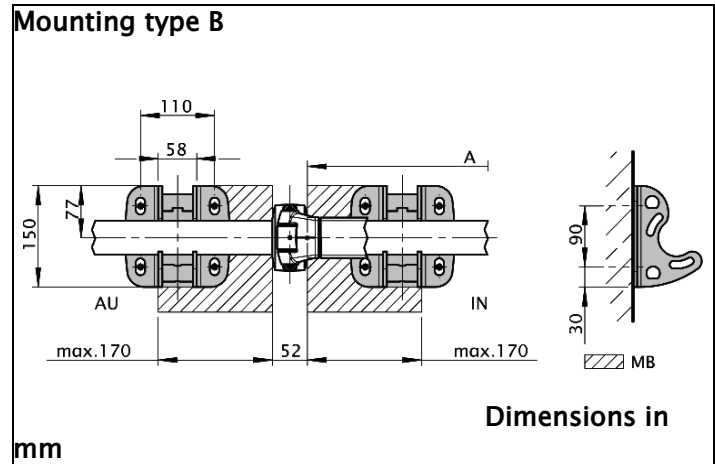
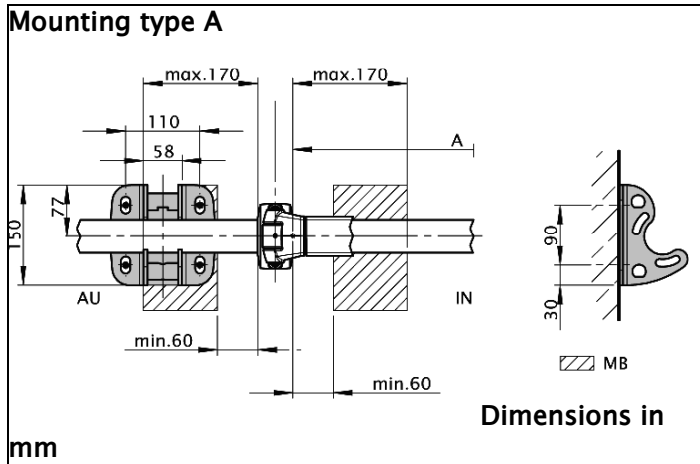
⚠ Attention!

Basically the following is applicable for all mounting systems:

1. The mounting material manufacturers (e.g. Fischer, Hilti, Upat, etc.) offer different mounting systems according to the undersurface. The corresponding withdrawal and/or shearing forces from our sales documents have to be taken into consideration. If the conditions for the mounting are met according to DIN EN 13561, the wind resistance class 2 for the mounting can be confirmed to the user.
2. Mounting material is not supplied automatically, as different undersurfaces (e.g. concrete, lime sand stone, autoclaved aerated concrete etc) require different types of mounting material.
3. **IMPORTANT:** Mounting brackets have to be aligned with each other! When undersurfaces are uneven, the clearances are to be checked using a cord pulley and if required compensated accordingly. Due to the horizontal mounting of the folding-arm awning and the perpendicular fit of the mounting brackets, the smooth functioning of the folding-arm awning is guaranteed.
4. The mounting consoles of the markilux ES -1 are made of stainless steel (316Ti). Preferably the mounting systems should be chosen in stainless steel (quality 316Ti).
5. **IMPORTANT:** When using other mounting material made of high-strength steel, it is important that they are galvanized. In order to prevent contact corrosion, common gaskets coated on one side with EPDM (ethylene propylene diene Monomer (M-class) rubber) have to be used. The screw heads should be additionally protected by plastic caps. Under no circumstances, "raw" steel screws must be used as pitting corrosion forms at the contact surfaced to the stainless steel and rust film forms at the surrounding stainless steel surfaces.

2.1 Wall mount





1. Remove protective foil only in the area of the brackets. Determine mounting height. Mark position of the wall brackets. (consoles each time next to the arm clamps preferably outside, max. distance 20 cm). Mount the bracket centered between the two consoles for the roof support (depends on size) (max. distance to center each right and left 15 cm).

⚠ Attention!: From a width of 501 cm the console with Rolltex bearing has definitely to be mounted centered!

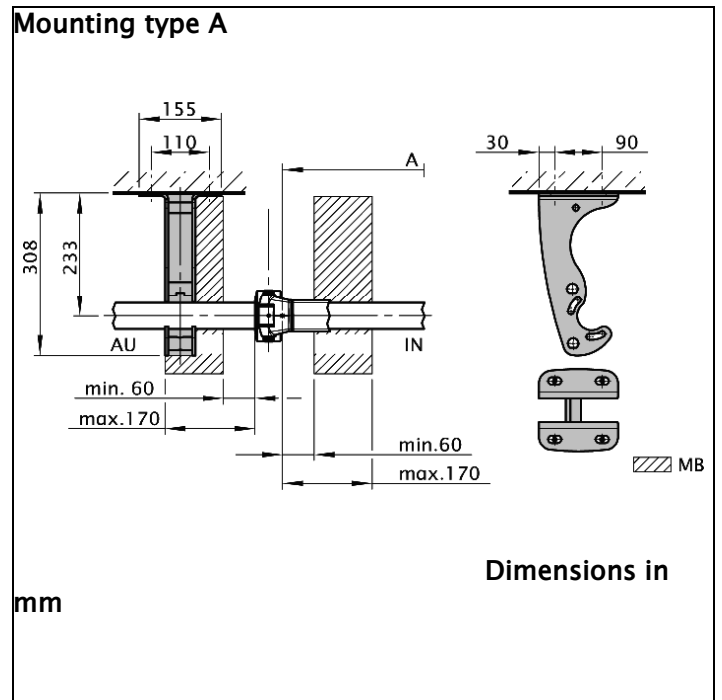
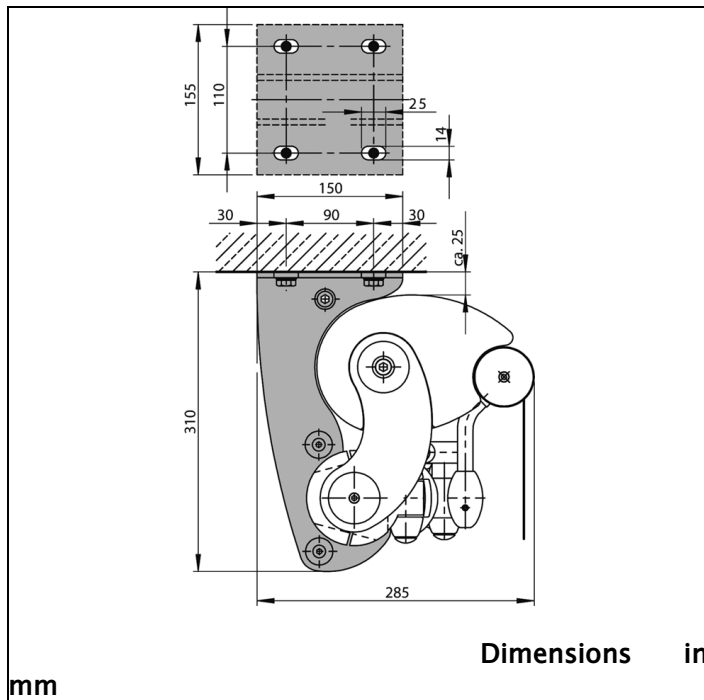
2. Mark the drilled holes and mount the mounting brackets with the corresponding mounting plate according to the undersurface. Align the mounting brackets horizontally! (Place shims under the consoles/the brackets if there is any unevenness, so that they are flush to each other!)

⚠ Attention!: It is important to observe the distance of min. 6 cm between arm clamp and mounting console, as otherwise the pitch of the awning cannot be adjusted any more!

3. Wear protective gloves. Mount console on mounting surface.

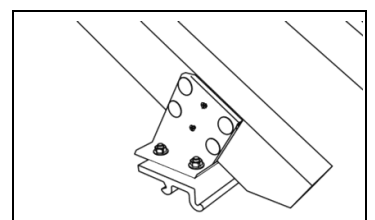
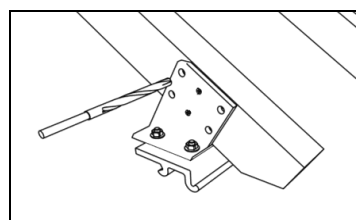
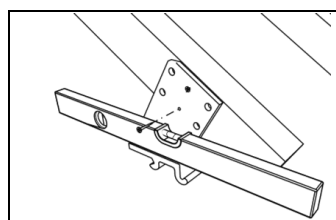
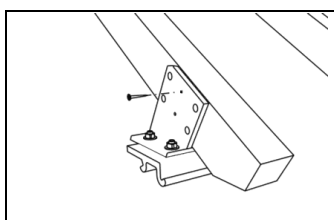
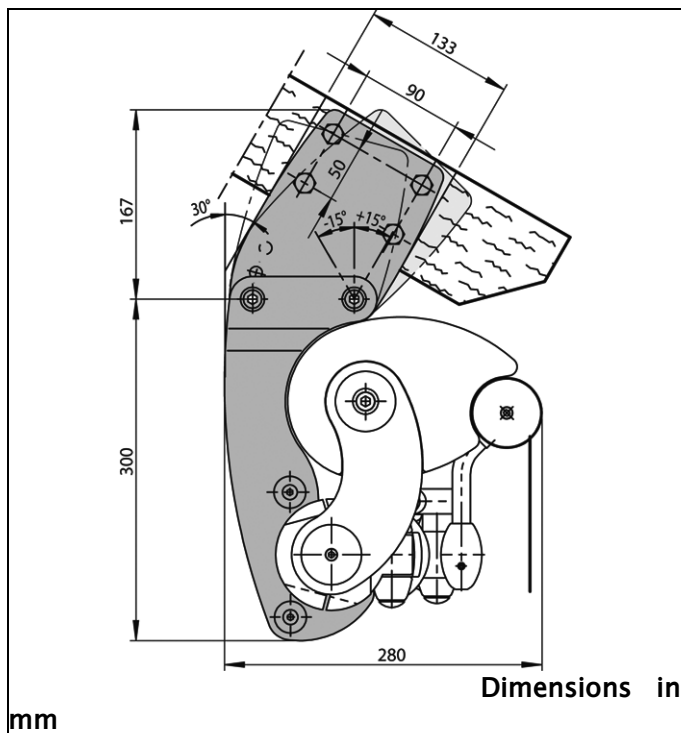


2.2 Ceiling mount



1. The mounting takes place in relation to the wall fitting.

2.3 Rafter mount



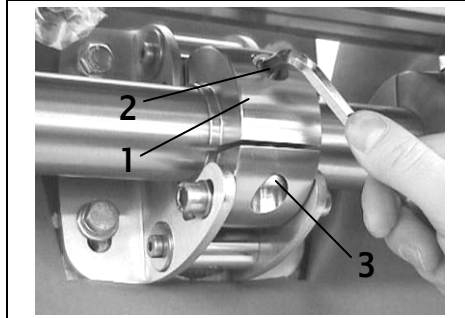
1. The mounting takes place in relation to the wall fitting. Mount 2 consoles each time next to the arm clamps (preferably outside), the 3. console (depends on size) centered between both the consoles.

⚠ Attention!: From a width of 501 cm, it is important to mount the console with Rolltex bearing centered!

2. Determine mounting height. Hold rafter bracket and mark. Fix the rafter bracket with a nail. Align the brackets horizontally using a spirit level and fix a second nail.

3. Drill through the roof rafter at the screw holes. Screw the bracket with suitable mounting material. Align the roof rafter brackets horizontally.

3. Hanging up the awning (e.g. wall mount)



1. Place the awning with its support tube in such a way in the hollow of the adjustment ring that the wedge of the adjustment ring grips safely in the groove of the support tube. Herewith the awning is preliminarily fixed and can be released, however it must not yet be extended or loaded.

2. Push on the clamping rings (1), tighten the upper Allen screw M 10 x 45 mm SW 8 (2) and the lower Allen screw M 10 x 30 mm SW 8 (3) in such a way that the suspension tube has a absolutely solid fit in the adjustment rings. Remove protective cover and coverboard foil.

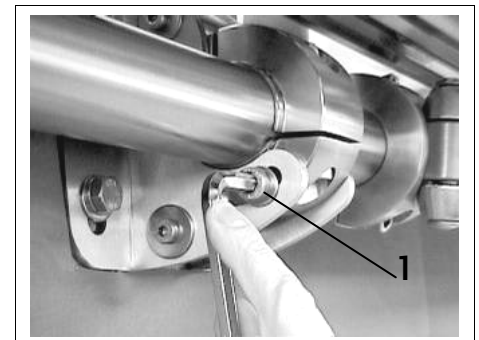
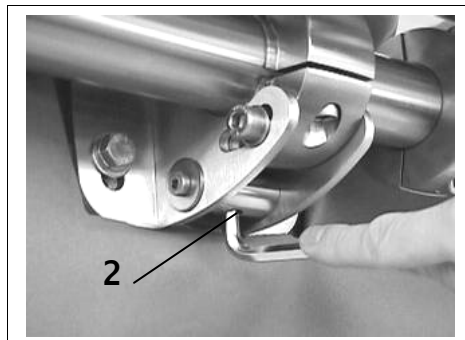
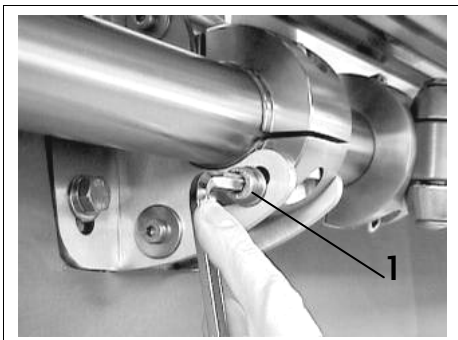
⚠ Attention!:

For roof support with bracket:

The roof support is already pre-mounted centered at the awning. Loosen the Allen screws M 6 x 20 mm and M 6 x 55 mm (SW 5) in the clamp for the roof support that much that the roof support can be moved at the support tube and coverboard. Carefully push the roof support to the bracket already mounted at the wall/ceiling. Re-tighten the hexagon socket screw (SW 5) of the clamp for fixing the support tube. Then mount the clamp of the roof support tightly at the bracket with the 2 hexagon socket screws M 6 x 20 mm (SW 5).

4. Setting the pitch between 0° and 30°

The pitch of about 0° is factory-set at the consoles.



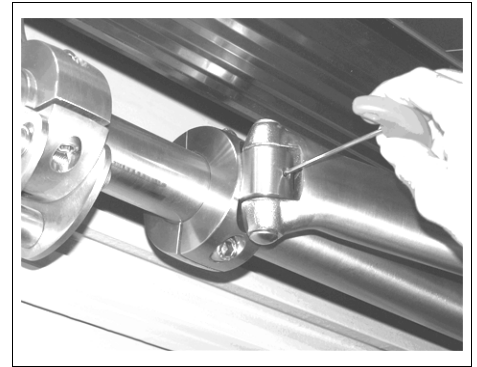
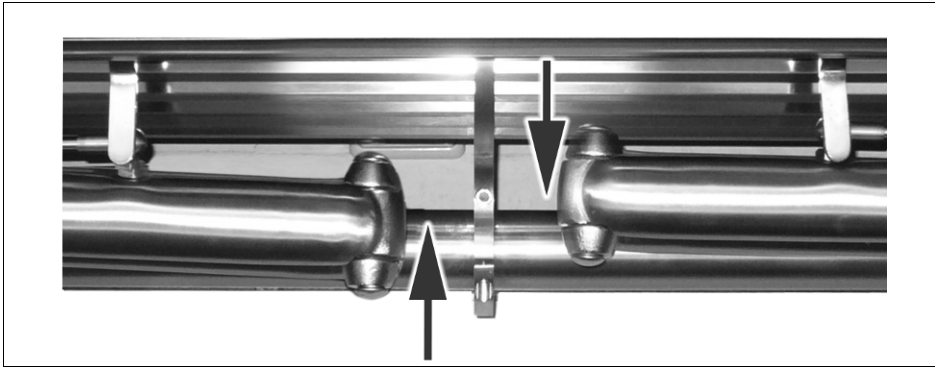
1. Extend awning and loosen the lateral Allen screws SW 8 (1) (for bracket for roof support SW 5) at all consoles (incl. the bracket for roof support) that much that the awning can be turned slightly towards the front.

Set the required pitch by turning the rear adjustment screw SW 6 (2) alternately near the consoles (from a width of 501 cm also Rolltex bearing consoles) (by turning anti-clockwise downwards, by turning clockwise upwards). While doing this take the pressure of the folding arms by lifting them.

3. Re-tighten on all consoles the lateral Allen screws SW 8 (1) (for bracket for roof support SW 5).

⚠ Attention!: If the clearance of min. 6 cm between arm clamp and mounting console was not observed, the pitch of the awning cannot be adjusted, as the Allen screws cannot be loosened. (see: suspension of awning!)

5. Arm position at retracted awning



1. If an arm is set too high or too low when the awning is retracted and therefore the projection profile does not close properly, the arm position is to be corrected.

2. Retract the projection profile that much that the security threaded pin SW 4 can still be loosened. Loosen security threaded pin.

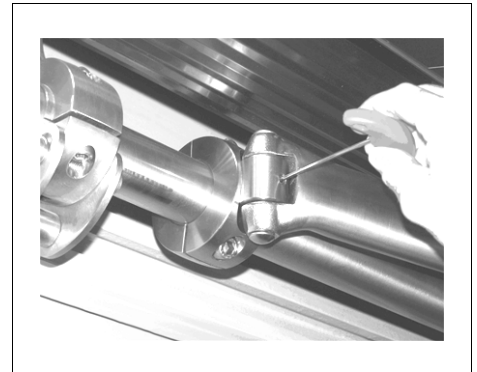


3. Remove protective cap.



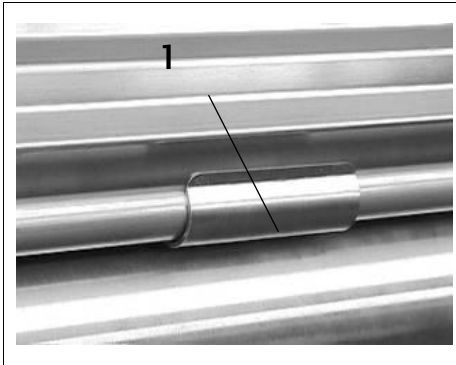
4. The folding-arm can be raised and/or lowered by turning the eccentric bolt.

⚠ Attention!: Align the articulated arms in such a way that they do not hit the upper or lower edge of the projection profile!

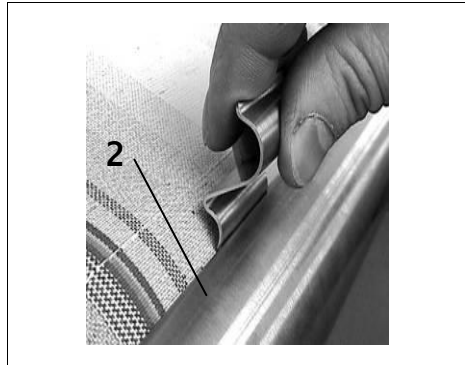


5. Secure the eccentric bolt with the threaded pin. Check the new setting of the articulated arms by retraction and extension of the awning.

6. Mounting the storm security device



1. When mounting the awning in areas exposed to wind, a storm securing device (1) is recommended. Like this the coverboard is additionally secured in retracted state.

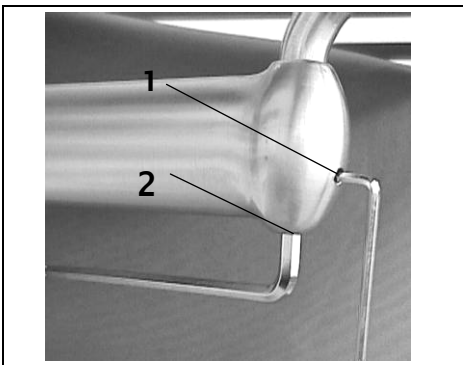


2. This is pushed into the upper piping groove and is engaged by swiveling.



7. Alignment of the projection profile to the coverboard

The markilux ES-1 is factory-set. Due to constructional tolerances, a readjustment of the projection tube position to the coverboard might be required after the mounting process. The height of the projection profile can be set by means of fine adjustment at the lower arm joint:



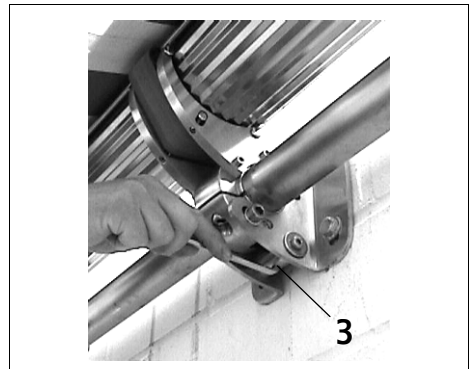
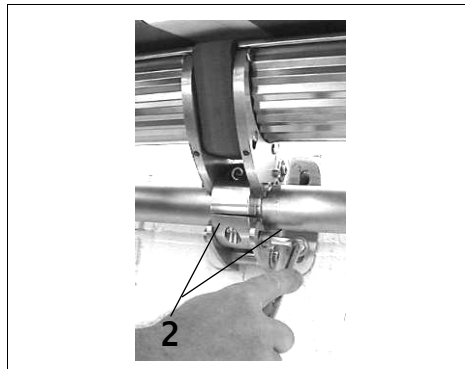
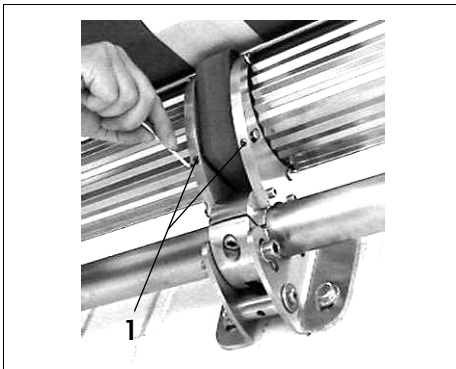
1. Loosen the threaded pin with an Allen key SW 3 (1) at the side of the lower arm joint with max. one turn!

2. By turning the lower adjustment screw clockwise with the Allen key SW 6 (2), the distance between projection profile and lower arm joint can be reduced. An anti-clockwise turn increases it.

3. Tighten the threaded pin again after having set the height.

8. Rolltex bearing (only for units from a width of 501 cm)

Despite factory settings, corrections might be required should there be local inclination adjustments. The Rolltex bearing has two adjustment options for the optimal run of the fabric. For wider awnings it is recommended to set the feeder band more loosely [see adjustment possibilities 1] and to turn the Rolltex bearing towards the back [see adjustment possibility 2]. Like this the fabric roller is centered in the Rolltex bearing and "lumpy running" is avoided.



Adjustment possibility 1:

For larger drops it is recommended to tighten the feeder band less, and to tighten it more for smaller drops.

A uniform turning to the right of both threaded pins SW 3 (1) results in a tightening of the feeder band, a uniform turning to the left relaxes it.

Adjustment possibility 2:

By swiveling the Rolltex bearing towards the front and/or back (to the fabric roller and/or away from it), the winding characteristic of the fabric can be optimized additionally:

Loosen the lateral Allen screws SW 8 (2). The Rolltex bearing swivels forward by turning the rear adjustment screw SW 6 (3) anti-clockwise, a clockwise turn swivels it backwards. Afterwards re-tighten the lateral Allen screws SW 8.

9. Motor-driven awning

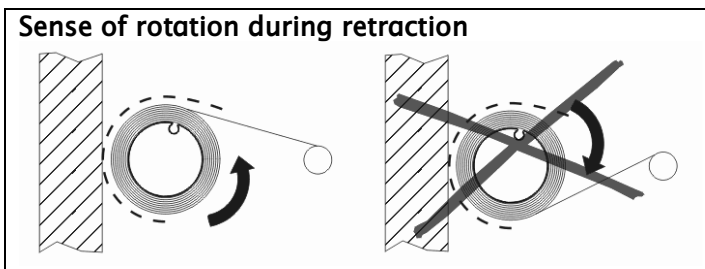
9.1 Motor connection

The electrical connection for the motor drive and/or control system connection is to be carried out according to the instructions of the manufacturer of the motor and control system. Modifications, especially in the motor's, the control system's and the connecting cable's area require a written permit.

The installation and setting instructions are indicated on the motor's power supply cable. Instructions for further electrical components are to be found in the corresponding packaging.

⚠ Attention!

The built-in motor has a set end stop both in the extension and retraction direction. These settings were effected in the factory. They always have to be checked on site, as the end stops might have shifted e.g. through strong vibrations during transport or the motor does not switch off anymore. For any changes or corrections of these settings please refer to the instructions of the motor.



⚠ Attention!

The rolling up of the fabric on the fabric roller from below during retraction could lead to damage to the awning. When changing the end stop, it is indispensable to pay attention to the sense of rotation!

9.2 Motor connection data ES-1 **⚠**

with radio control	without radio control
U = 230 V ~ / 240 W, 50 Hz, I = 1.10 A	U = 230 V ~ / 255 W, 50 Hz, I = 1.20 A