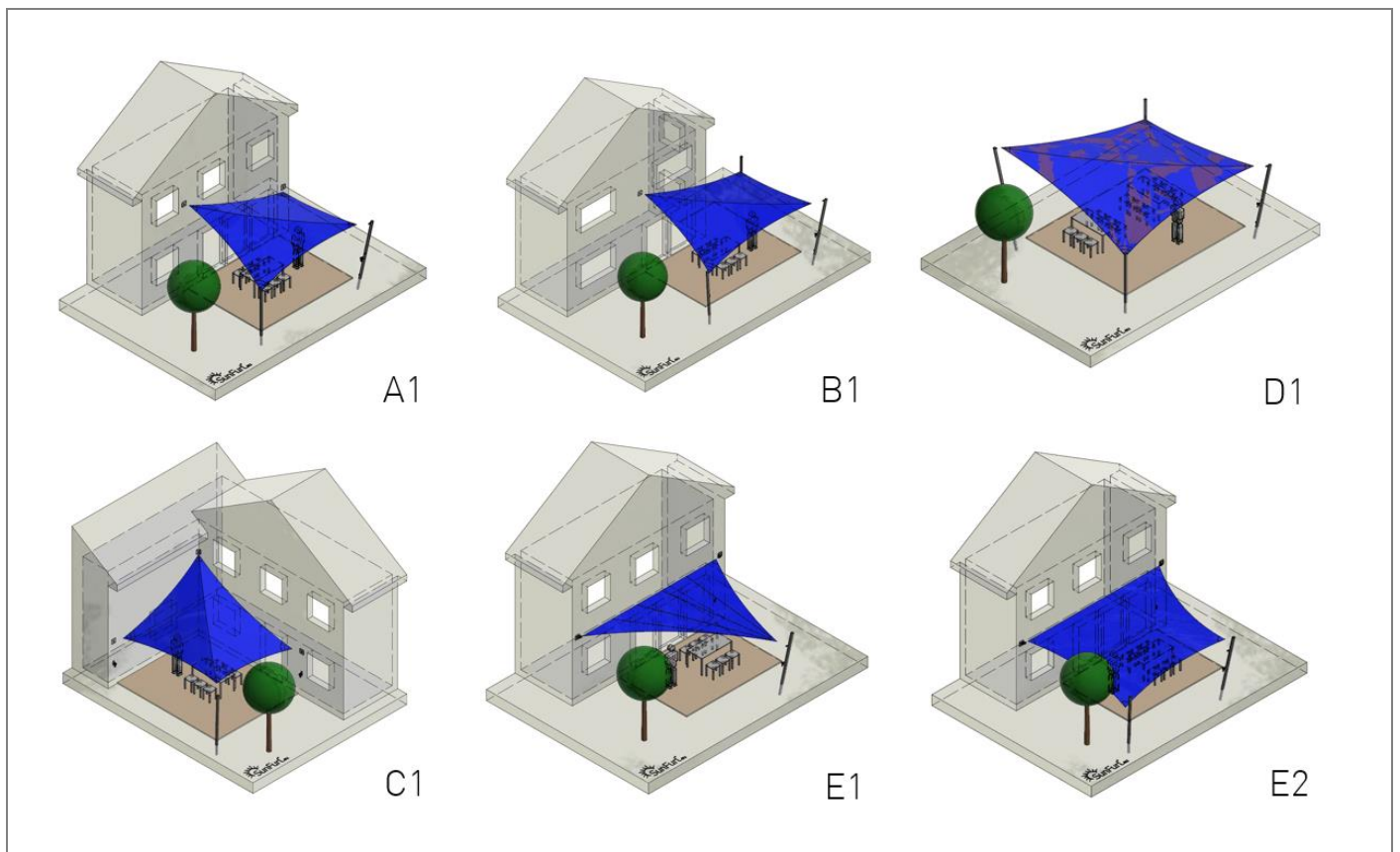


Operating and installation instruction SunFurl[®] RM-MAX -- Rev. 01/2023 --

Awning System I Type RM-MAX Manual



Imprint

Responsible for the content:

BARTELS GmbH
Keltenschanze 5
88677 Markdorf - GERMANY

Tel: +49 (0) 7544/ 95860-0
Fax: +49 (0) 7544/ 95860-60
E-mail: info@bartels.eu
Web: www.bartels.eu

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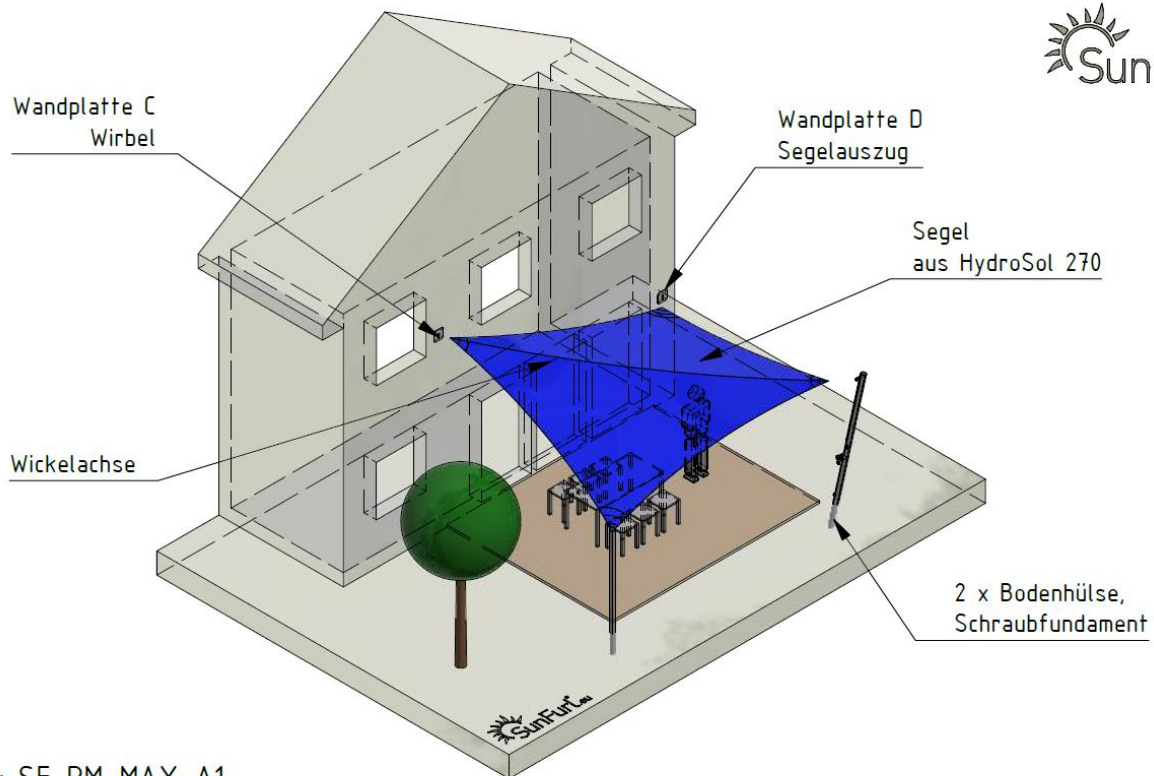
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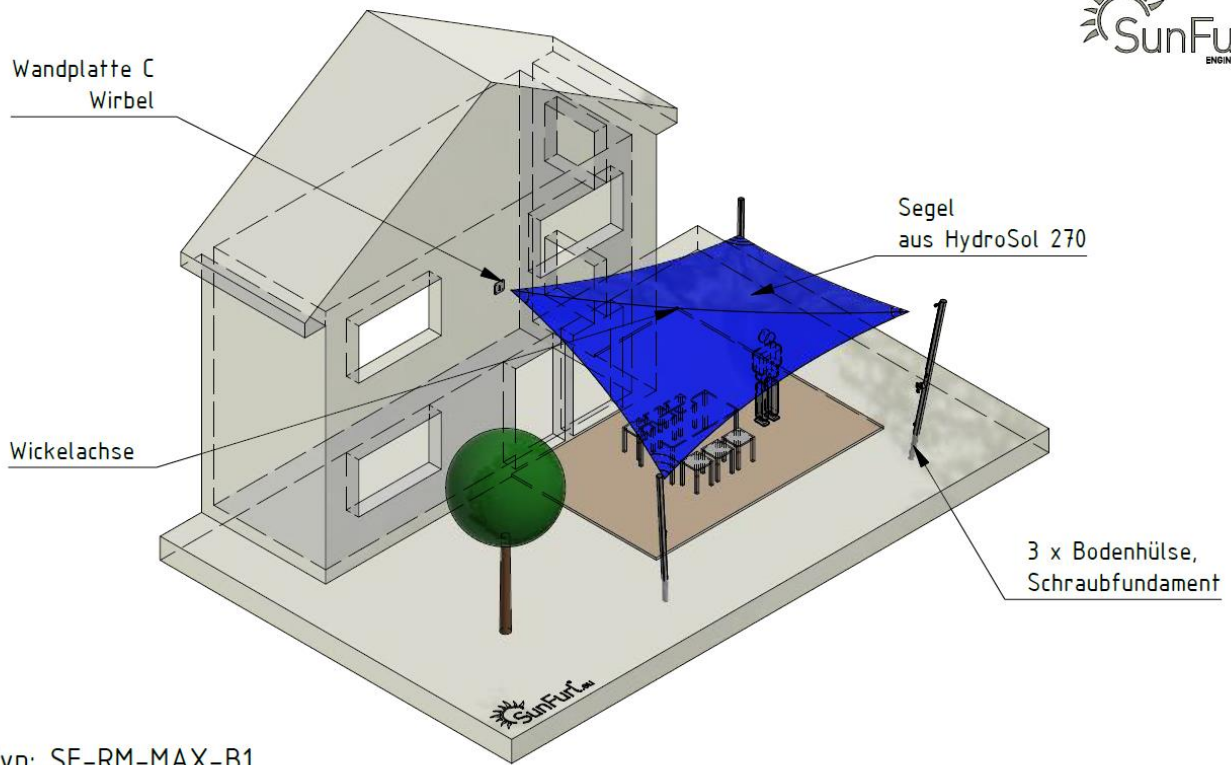
2 General

2.1 The Product (Awning system SunFurl® RM-MAX)

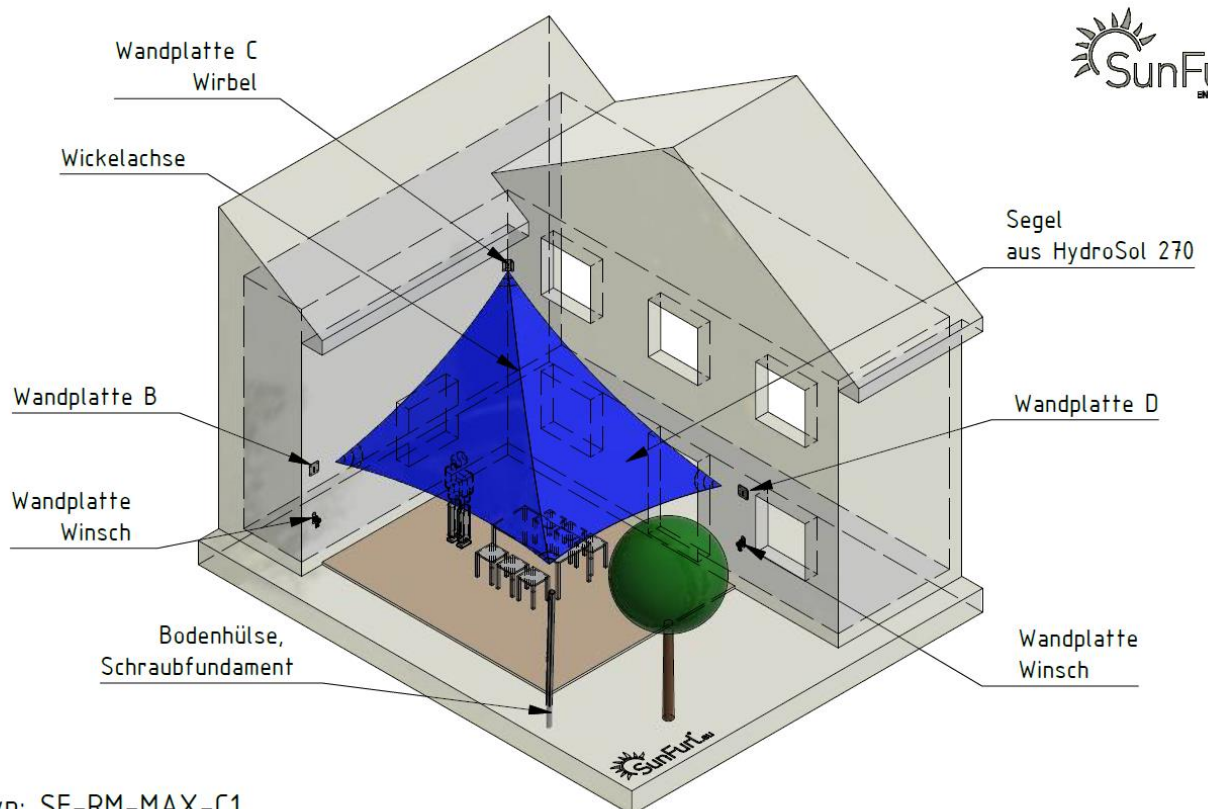
	<p>This product is a sun sail system. Consisting of sun sail, winding mechanism, fastening elements (wall plates, supports, tensioning elements). For area of application, see section 2.2</p>
	<p>This is an assembly set (assembly only by trained SunFurl® specialist companies). The specialist company is responsible for the safe fastening of wall panels and supports to the wall and floor. In case of insufficient expertise, a specialist must be consulted!</p> <p>The end customer is responsible for the safe operation of the system! The system must be protected from overloading by wind, water, snow, objects/animals/persons. Area of application see section 2.2</p>
<p>The following illustrations show typical installation variants</p>	



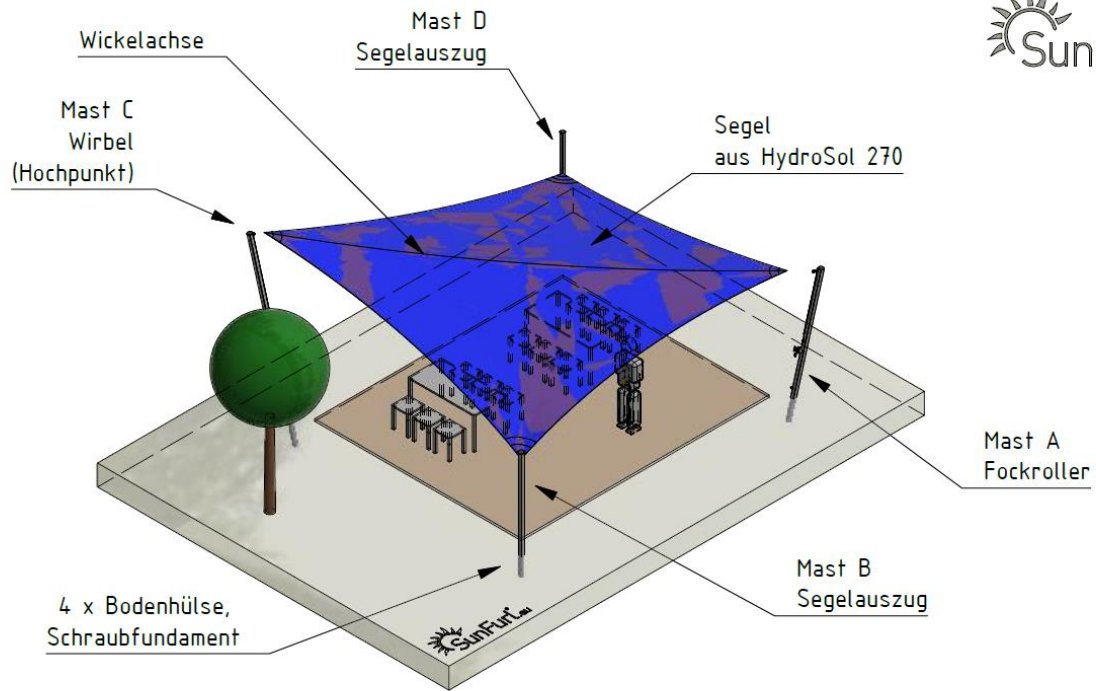
Typ: SF-RM-MAX-A1



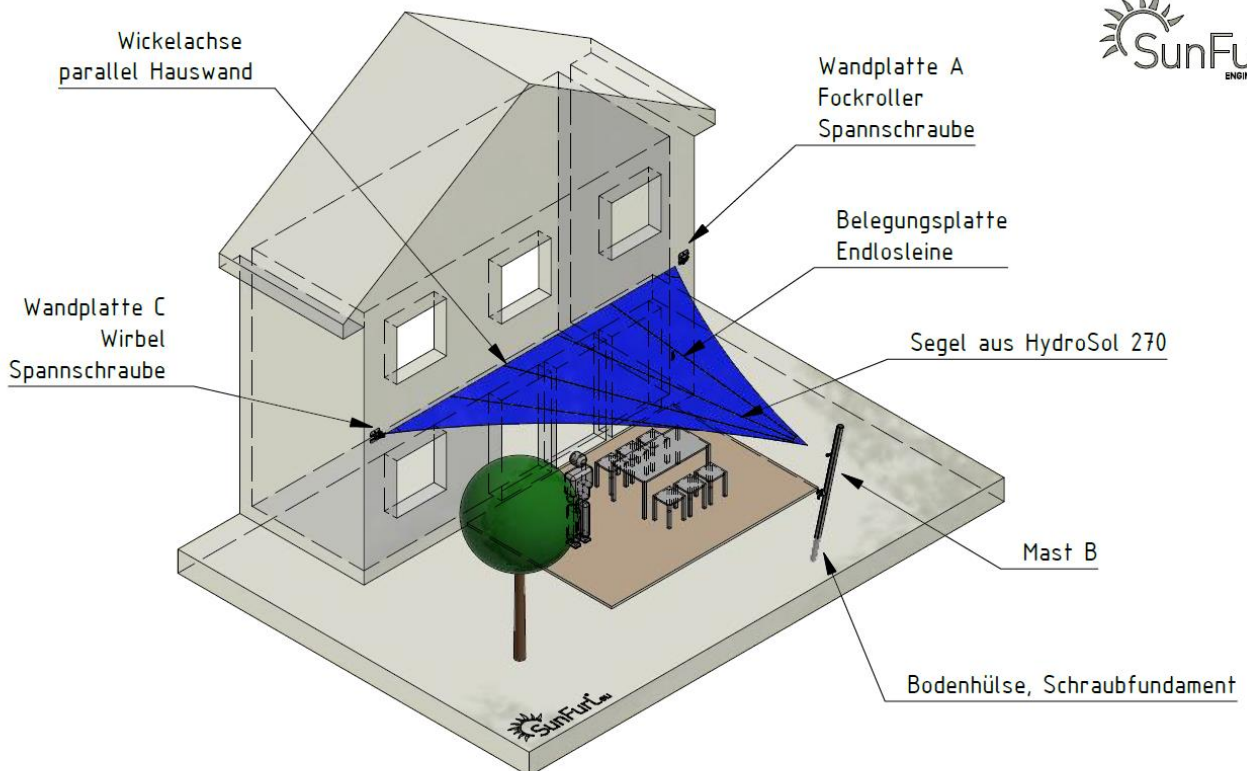
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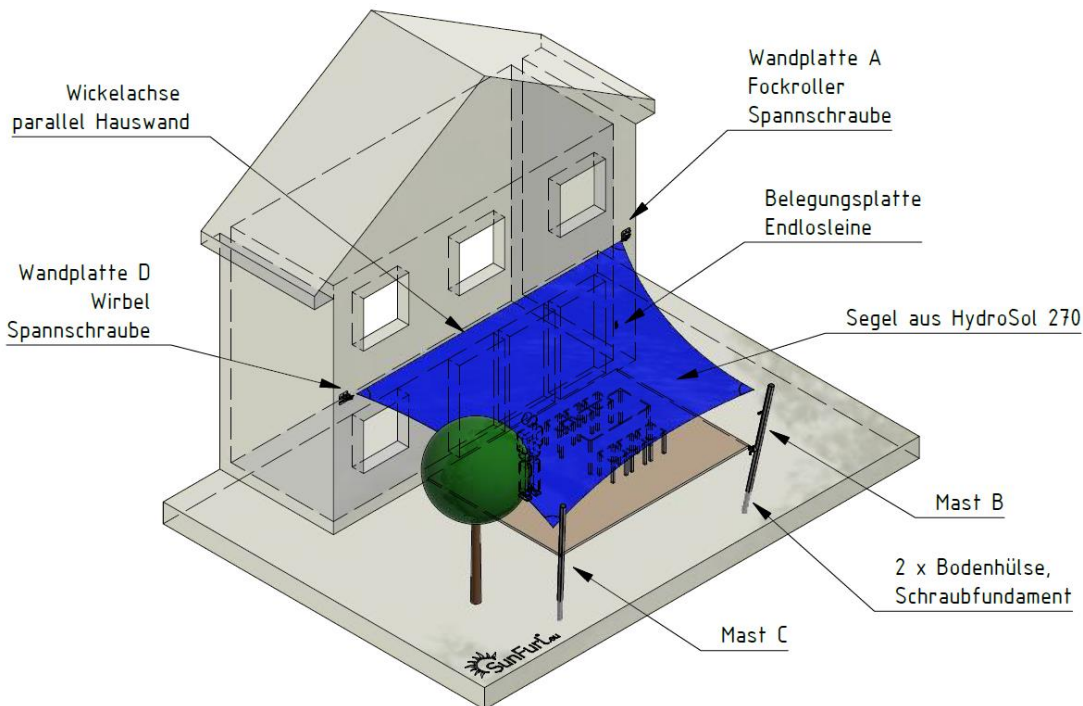
Typ: SF-RM-MAX-C1



Typ: SF-RM-MAX-D1



Typ: SF-RM-MAX-E1



Typ: SF-RM-MAX-E2

2.2 Intended use / operation

	<p>The SunFurl® RM sun sail system (winding system, supports, wall fixings, ropes + rope guide, sail) is designed for use as a sun sail which can be manually rolled in or out as required.</p>
	<ul style="list-style-type: none"> • Max. Span of the winding system (AT line) 10m • Max. Sail area 75 m² with standard AL mast plus internal bracing (thick-walled AL profile tube) • The system must be closed when the wind picks up (furl the sail). The following wind limits apply: <ul style="list-style-type: none"> ○ Up to 45 m² sail area >> 6 Bft (max. 13,8 m/s) ○ Up to 60 m² sail area >> 5 Bft (max. 10,7m/s) ○ Up to 75 m² sail area >> 4 Bft (max. 8,0m/s) • No rain (with sail unfurled) if the slope is < 15°. • No snow (with sail extended) • No operation at temperatures < 5°C (danger of frost / possible damage to the sail).
	<p>The winding core and the sail must not be subjected to external forces.</p>
	<p>These are for example:</p> <ul style="list-style-type: none"> • Load from persons/animals (hanging, sitting, running). • Load from objects (buildings, plants, laundry, supporting/ hanging/ pulling) • Loads caused by water and hail/snow • Wind loads above the permissible wind speed (corresponding to sail area)


2.3 Scope of delivery

	<p>SunFurl® RM-MAX awning systems are standardised sets or are planned individually. The scope of delivery is determined individually (see parts list on delivery note and/or installation plan).</p> <p><u>Typical components are:</u></p> <ul style="list-style-type: none"> • Winding system (jib furler, swivel, AT line, endless line) • Wall plates (for fastening the winding core and for the line guide) • Masts (optionally with height adjustment) • Ropes, curry clamps, winches, deflection blocks • Ground sleeves, screw foundations for masts • Individually manufactured sail • Assembly instructions / planning sketch (installation plan)
	<p>Winding axle (size II)</p> <ul style="list-style-type: none"> 1 x jib furler with shackle 1 x swivel with shackle 2 x thimble (aluminium) 1 x AT-line assembled (pressed) to length 4 x trim rope 1 x endless rope D8mm with deflection block and rubber stopper (length of endless line in standard 1.7m or 2.2m)
	<p>Wall plates for winding core or rope linkage</p> <p>Hole spacing: 150 mm Edge distance: 40 mm Material: stainless steel, surface ground + electropolished (satin gloss)</p>
	<p>Security option for controls (optional)</p> <p>Bracket adapter with combination lock for curry clip Sheet metal adapter with combination lock for comb clamp</p> <p>For kindergarten / school / public areas Prevents unintentional operation</p>







	<p><u>Aluminium masts</u></p> <p>Mast D102 / Aluminium / surface anodised Standard length, 2.5m, 3m, 3.5m</p> <p><u>Mast Variants</u></p> <ul style="list-style-type: none"> • Winding axle with and without height adjustment • Sail extension with height adjustment • High point with ring eye for free-standing systems <p>Masts must be partially reinforced with stiffeners (to be ordered separately). For necessary stiffeners see order forms SF-RM.</p> <p><u>Note:</u></p> <p>With AL masts, all components are movably mounted via grooves and can be individually placed / changed during assembly</p>
	<p><u>Bedienelemente</u></p> <ul style="list-style-type: none"> • Winch • Winch handle • Curry cleat • rope block with swivel (for line linkage to a wall plate) • Ropes with snap hooks for guiding / tensioning the sail extensions
	<p><u>Foundations</u></p> <p>Ground socket for setting in concrete Length approx. 850mm / insertion stop at approx. 500mm / safety screw / material stainless steel / mounting in concrete foundation (see mounting instructions in section Fehler! Verweisquelle konnte nicht gefunden werden.)</p> <p>Screw foundations</p>
	<p>Individually made sail Material HydroSol 270</p>

3 Safety

3.1 General Safety


	Observe all instructions and guidelines in this documentation. In addition, accident prevention regulations and instructions for the area of use must be observed.
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3.1.1 Signal words and warning symbols used


	Attention! This symbol indicates an imminent or potential danger to the life and health of persons. Failure to follow these instructions can have serious effects on health or life-threatening injuries. Significant damage to persons and equipment can occur as a result.
	Attention! Crushing hazard - indicates a hazard of mechanical injury to body parts and warns of imminent danger to the life and health of persons who come into contact with the hazardous area.
	Attention! Expertise required - the work may only be carried out by trained persons with appropriate specialist knowledge. In case of ambiguity a specialist of the BARTELS GmbH must be consulted!
	Important informations: Information that must be observed during installation and use of the product to avoid process interruptions or malfunctions.
	Hint: Gives the user the information needed to reach a task / target directly and without problems.
	Further detailed information: Indicates to the user that more information is available on this topic (e.g., separate instruction manuals of built-in components or other guidance aids / documentation)

3.2 Safety instructions for the operator

3.2.1 Occupational safety


	<ul style="list-style-type: none"> Wear protective equipment during installation work (safety shoes, gloves, safety goggles, safety helmet). Always carry out installation work in pairs (sometimes high weight of components or for safety when working on ladders or lifting platforms). When installing large/ bulky/ heavy components, it is mandatory to secure the component (against falling down) with a rope.
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3.2.2 Technical condition of the product





	<p>The operator of the solar sail system is responsible for the regular maintenance of the entire system! For details, see the maintenance plan in section Fehler! Verweisquelle konnte nicht gefunden werden..</p> <p>Particular attention should be paid regularly to the condition of the attachment points on walls, the condition of foundations in the ground and the condition of the lines and the sail!</p>
---	---

3.3 Safety instructions for the operating personnel

3.3.1 Personnel to be assigned and qualification


	<p>The rolling system may only be operated by instructed persons! Children under the age of 14 and mentally handicapped persons may only operate the rolling system under the supervision of an instructed person.</p>
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3.3.2 Danger points and possible accident hazards



	<p>Danger due to overloading of fastening points</p> <p>The system must not be overloaded to prevent consequential damage! The operator and operating personnel are obliged to protect the system from damaging influences!</p> <ul style="list-style-type: none"> • Wind speed The system must be closed when the wind picks up (furl the sail). The following wind limits apply: <ul style="list-style-type: none"> ○ Up to 45 m² sail area >> 6 Bft (max. 13,8 m/s) ○ Up to 60 m² sail area >> 5 Bft (max. 10,7 m/s) ○ Up to 75 m² sail area >> 4 Bft (max. 8,0 m/s) • Rain/ hail/ snow (the sail must be furled manually in case of rain, hail, snow) • Icing (the sail must not be operated at temperatures < 5°C) • Objects (branches, parts of buildings, etc.) • People (sitting, hanging, etc.)
	<p>Danger of crushing on rollers/ and rope guide (rope fixation).</p> <p>Never reach into the danger zone of moving parts with limbs during operation!</p> <ul style="list-style-type: none"> • Curry clip, winch, winch handle • Deflection block on sliders (mounted on rail on supports) • Never move slides under load • Deflection block on wall • Furler/ swivel / winding axle
	<p>Danger of hair being drawn into the area of moving parts.</p> <p>Never reach into the danger zone of moving parts with hair during operation!</p> <ul style="list-style-type: none"> • Curry clip, winch, winch handle • Deflection block on sliders (on supports) • Never move slides under load • Deflection block on wall • Furler/ swivel / winding axle
	<p>Danger of falling components or assemblies due to insufficient fastening.</p> <ul style="list-style-type: none"> • Fastening elements (screws/ dowels) must be carefully selected according to the substrate! • Foundations must be sufficiently heavy/stable! • All fastening screws must be tightened firmly and checked regularly. • Ropes, shackles, deflection blocks must be checked regularly for damage and replaced if necessary.

3.4 Specific life cycles of the product (Safety instructions)


3.4.1 Transport

	<ul style="list-style-type: none">• Suitable safety equipment must be worn for transport and unpacking! (Safety shoes, gloves, helmet, safety goggles).• Heavy, can fall on feet• Sharp-edged, rough• Screws, nails• Never carry heavy parts alone!
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3.4.2 Installation/ Assembly

 	<ul style="list-style-type: none">• Installation must be carried out by persons with sufficient expertise in the installation of heavy objects on buildings.• Installation work must be carried out by at least two persons• Heavy, can fall on feet• Risk of falling when working on ladders/ platforms/ lifting platforms• All screws connections must be secured with Loctite 243 screw protection.
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3.4.3 Service and maintenance

	<ul style="list-style-type: none">• Service and maintenance must be carried out by a trained person.• Suitable safety equipment must be worn for maintenance! (gloves, safety goggles)• A maintenance interval of max. one year must be observed• Details on maintenance are described in section Fehler! Verweisquelle konnte nicht gefunden werden.
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3.4.4 Disassembly and Disposal

	<ul style="list-style-type: none">• Dismantling must be carried out by persons with sufficient expertise for dismantling heavy objects on buildings.• Appropriate safety equipment must be worn for dismantling and removal! (Safety shoes, gloves, helmet, safety goggles).• Installation work must be carried out by at least two people• Heavy, can fall on feet• Never carry heavy parts alone
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3.5 Safety instructions for materials and supplies

3.5.1 Materials used and surface coatings

	<ul style="list-style-type: none">• Stainless steel• Aluminium• POM plastic• Optional powder coating as decorative layer
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3.5.2 Oils / Greases

	<ul style="list-style-type: none">• Lubricant WÜRTH HHS 2000 (reduction of cold welding tendency in threads)• Threadlocker Loctite 243
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4 Installation

4.1 Wall plates

	<p>Mounting the fixed point wall panel on a wall</p> <p>Make sure that the fixed point is mounted at a sufficient height to obtain a slope of at least 15° later (winding core and sail). A typical mounting height is in the range of 4 m height. For mounting height see individual installation plan.</p> <p>For suitable mounting material see section Fehler! Verweisquelle konnte nicht gefunden werden.</p>
	<p>Mounting the wall plate with clamping screw on a wall (winding axis parallel to a wall)</p> <p>For mounting height, see individual installation plan. A typical installation height is in the range of 1.8 - 2.1 m height.</p> <p>For suitable mounting material see section Fehler! Verweisquelle konnte nicht gefunden werden.</p>
	<p>Mounting the rope linkage wall plate on a wall.</p> <p>For mounting height, see individual installation plan. A typical mounting height is in the range of 2 m height.</p> <p>For suitable mounting material see section Fehler! Verweisquelle konnte nicht gefunden werden.</p>
	<p>Mounting the occupancy plate on a wall (below the rope linkage).</p> <p>Make sure that the wall plate is placed approx. 0.8-1.2 m above the floor for comfortable operation.</p> <p>For suitable mounting material see section Fehler! Verweisquelle konnte nicht gefunden werden.</p>
	<p>Mounting the winch wall plate on a wall (below the rope linkage).</p> <p>Make sure that the wall plate is placed approx. 1 m above the floor for comfortable operation of the winch.</p> <p>For suitable mounting material see section Fehler! Verweisquelle konnte nicht gefunden werden.</p>

4.2 Ground sleeve

ca. 150 mm Erde (Deckschicht)

ca. 600 mm Beton (Fundament)

ca. 150 mm Kies / Sand (Wasserablauf)

Positioning / Aligning / Fixing the ground sleeve

- Insert the ground sleeve into an excavation (min 800x800x800 mm).
- Align the ground sleeve (10° falling against later direction of force). The locking screw points against the direction of force (in the direction of fall of the support).
 - Winding core Mast falls 10° in bearing with later winding core (bearing between prop and wall plate)
 - Sail extension Mast falls by 10° in bearing of the angle bisector of the two associated outer leeches of the sail (bearing centre between winding core attachments).
- The top edge of the ground sleeve is bevelled by 10°, which allows alignment with a conventional spirit level.
- Fix the ground sleeve stably in the aligned position so that it remains in position when filling with concrete (check position again after filling and correct if necessary)
- The top edge of the concrete should end approx. 50-100 mm below the surrounding level.

The ground socket should protrude approx. 50-100 mm from the concrete so that the securing screw can still be operated later (the upper edge of the ground socket should correspond to the ambient level).

4.3 Mast securing

Sicherung Mast VA
Flanschfuß mit außenliegendem Rohr
(Köcher)

A-A (1 : 10)

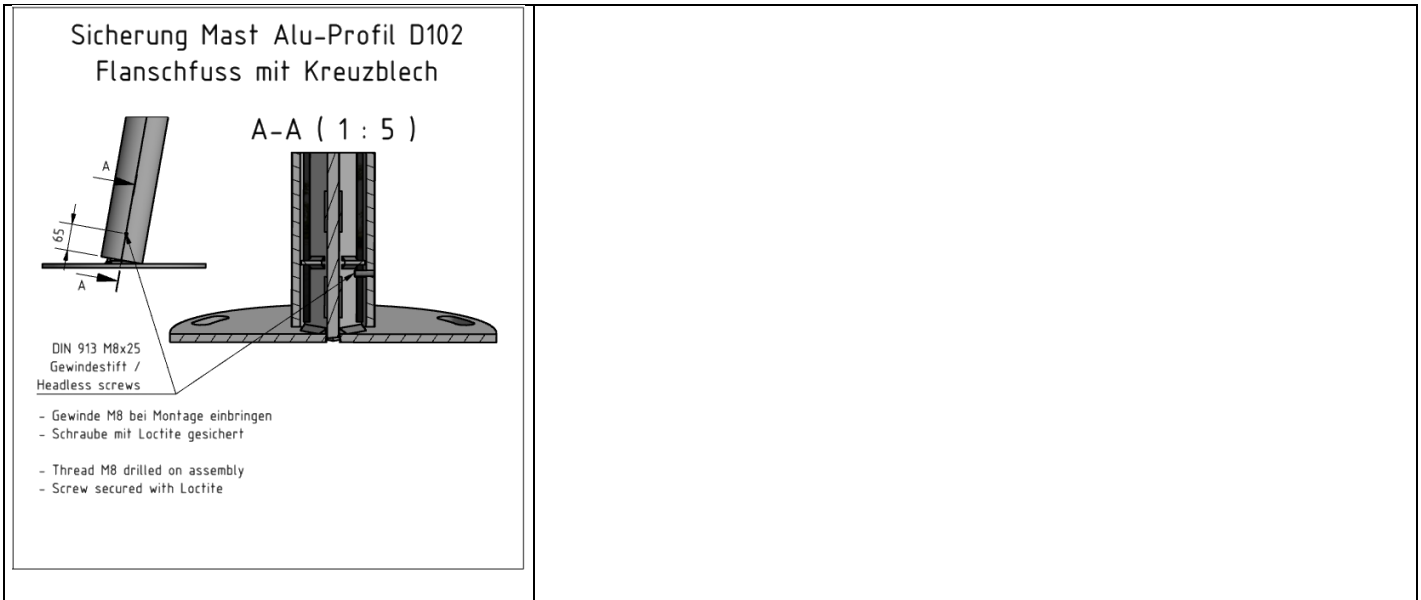
DIN 913 M8x8
Gewindestift /
Headless screws

- Schraube mit Loctite gesichert
- Screw secured with Loctite

Secure mast to flange feet

- Secure the mast to the flange foot with a screw as shown in the drawing (screw included in delivery).

In the case of very strong or oblique forces, drill a hole in the mast and create a tight fit by screwing in the screw



4.4 Fill out the measurement sheet

- Procedure:**
- All wall panels and supports must be installed
 - Select suitable dimension sheet (system type / arrangement variant)
 - Determine dimensions with a metal tape measure (2 persons required)
 - If dimensions cannot be measured directly (see additional sheet "Measuring around the corner")
 - Fill out measurement sheet completely (dimensions, fabric, colour, customer data)
 - Check measurements (2nd measurement)
 - Send measurement sheet to SunFurl (sail order)

example for measurement sheet

Aufmaßblatt SunFurl® RM-MAX

Segel bis 60 m² | Wickelachse bis 12 m | Bedienung manuell

SF-RM-MAX-A1

2 x Wand | 2 x Mast

[Pos. C rechts]

Darstellung zeigt Draufsicht
Mast 10° geneigt (Standard)
Mast 3 m (Standard) / 0,5 m eingesteckt in Bodenhülse

WICHTIG / bitte beachten:

Das Aufmaßblatt muss immer dem aktuellen Stand entsprechen!
Das Aufmaßblatt muss vollständig und eindeutig ausgefüllt sein!
Die Übermittlung des Aufmaßblattes an SunFurl® entspricht einer verbindlichen
Spezialauftrag. Irrtümer sind vorbehalten. Weitere Änderungen
sind ausdrücklich vorbehalten. Es gelten die allgemeinen AGB der BARTELS Group.
Erstellen einer Freigabezeichnung DP AF EUR / Netto:

Projektangaben:

Name Händler: _____

Name Kunde / BV: _____

Datum: _____

Typ Stoff: _____

Farbe Stoff: _____

*OK = Oberer Fußboden / Terrassen / Neu- / Einheitsniveau

	A	B	C	D
Höhe Messpunkt oben über OKP*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Höhe Messpunkt Mitte über OKP*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Höhe Messpunkt unten über OKP*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Freie Länge Mast über Einpassung	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Schraubfundament

Bodenhülse

Bodenflansch

Klammflansche

Höhenverstellung

Wandplatte

Optionen Hinweis: & xss (mm) = Differenz zwischen Auszügen!

Segel Auszugslängen angleichen: NEIN JA (a) JA (a,500) JA (a,1)

WSH WSH = Wasser Schutz Hülse (H51011) Hinweis: nur bei RE und RES Systemen

WSS WSS = Wasser Schutz Saack (H51012) Hinweis: nur bei RW / RW Light / FX / FX Light Systemen



BARTELS GmbH
Berghamer Str. 26
82677 MARSDORF
GERMANY

Tel +49 (0)75 44 / 95860-0
Fax +49 (0)75 44 / 95860-40
<http://www.bartels.eu>
info@bartels.eu

Geschäftsführer: Dr.-Ing. Florian Bartels
Registernummer AG Freiburg: HRB 581061
USt-IdNr. / VAT Reg. Nr. / TIN: DE2111081544
AGB's unter www.bartels.eu/abg

Volkbank Friedrichshafen-Tettnang eG
Konto 25097007 IBAN DE21 6219 1500 0235 9700 07
BLZ 451 915 00 BIC SWFT3333

4.5 Installing / Uninstalling the sail

	<p>After submitting the maximum measurements between the attachment points, the sail will be individually made and sent to you. The AT line with thimbles is part of the sail delivery.</p>
	<ul style="list-style-type: none">• Attach deflector block to wall plate• Attach deflection block to mast on slider• Guide the pull-out ropes through the deflection block or the slider.• Temporarily attach the ends of the line to the winch mount (the exact length will be adjusted later).
	<ul style="list-style-type: none">• Attach the swivel to the fixed point using screw shackles.• Attach jib furler to diagonally opposite support via snap hooks in screw shackle.



- Spread out the sail on a clean surface (in the area under the winding axle).
- Align the sail (note marking on sail corners)
- Winding core pocket must be on top
- Attach thimbles to swivel and furler via quick-release bolts

Note:

Do not pull sail over the ground (stains and damage to fabric and seams can result!).



- Attach the lines to the sail extensions with snap hooks.
- Tighten the ropes and fix them in the curry clip below the winch.
- To tighten, wrap the line 3-4 times around the winch and tighten the line with the winch handle. Use your second hand to guide the line through the curry clip.
- Apply tension evenly on both sides

Note:

The pre-tensioning force is held by the friction on the winch drum. The curry clip only has to absorb a small amount of force. It is therefore easy to insert the line into the curry clip and remove it again. Below the curry clip there is a bracket open on the right in which the line can be secured.



- Release both ropes from the curry cleat and remove them from the winch.
- Furl the sail over the jib furler (note the clockwise rotation of the jib furler).



- Fix the endless line of the jib furler in the furled state in the comb clamp.
- Now adjust the knots of the two extension lines on the winch platforms so that they both come under equal tension when the sail is furled.
- Repeat the furling and unfurling procedure several times until the
- length of the extension lines on the sail and on the opposite side are aligned.



Note:

When the sail is furled, both lines of the sail extension should be under tension as evenly as possible (see picture opposite). The sail is rolled up over the endless line until both lines are taut (the rolled sail can be tightened by turning it further).

Endlosleine immer in Kammklemme sichern, damit sich das Segel nicht selbstständig aufrollen kann.

Unnecessary rope protrusions can be cut off after successful testing and adjustment.

4.5.1 Install E1 & E2 -System

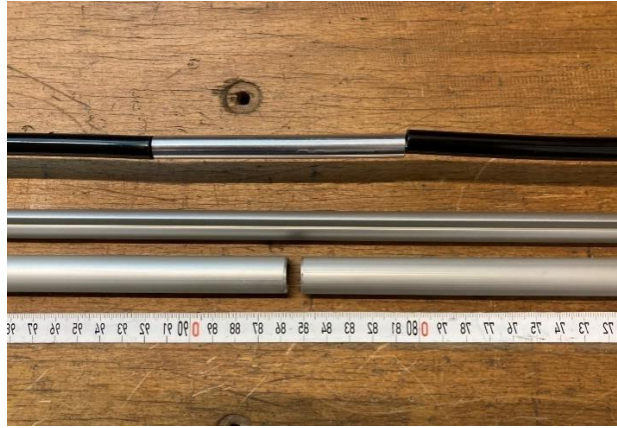
With E1 and E2 systems, the winding axis runs parallel to a wall (along a straight edge of the sail).

The winding axis is installed between the wall panels with turnbuckle. The sail is inserted around the sail entry into the keder groove of the aluminum winding axle.



Delivery condition

Wire coiled with swivel and jib furler attached. Profiles isolated and bundled.



Lay out wire and profiles next to each other.

A small inscription with "Wirbel" (marked with a red ring) is attached to the profile. Start with these profile elements on the side of the swivel.

The sail entry is always on the jib furler side.

The outer profile is always offset by 1m to the inner profile.

The aluminum sleeve must be positioned at the joints of the outer profile (the aluminum sleeve is already mounted on the wire together with a black hose).



Remove swivel bolts and jib furler

On the swivel side, start assembling the profile around the wire.

First push the outer part onto the wire, then push the inner part into the grooves of the outer part until they close with each other at the swivel.

From the jib furler side, guide the next outer profile piece over the wire to the already installed profiles and slide them into each other. Push the next inner part into the grooves of the outer part.

Repeat this process until all profiles are mounted.

At the end, the profile ends with only one inner part for later sail insertion.

Push the profile shoe onto the profile on the jib furler side and then attach the fork of the swivel to the eye terminal. Pass the bolt through the profile shoe, the fork of the jib furler and the eye terminal and secure with the bolt.

Repeat the same on the swirl side.

If necessary, use a screwdriver to position the hole in the eye terminal (see photo).

Secure split pins by turning them over. Make sure that these do not protrude (risk of injury to limbs touching, risk of damage to the sail).



Mounting between the clamping screws

Unscrew the clamping screws completely.

Fasten the axle on the jib furler side using the bolts on the tensioning screw (ensure that the endless line is inserted in the jib furler).

Fasten the axle on the swivel side to the tensioning screw using the bolt.

With long axles, make sure that the axle is not kinked! A second person should be provided in the center of the axle to provide support against buckling.

Tighten both clamping screws evenly one after the other until the axle is under tension. Very high forces can be applied to the axle via the clamping screws. It is important to ensure that the fasteners of the wall panel in the substructure are not overloaded.



draw in the sail

Pull the sail into the channel groove via the lead-in on the profile (jib furler side). Tension the sail on the trim eyelets with trim lines on both sides.

Guide the sail extensions to the masts and tighten them there

Assembly GRP rod (optional)

The GRP rod (D12mm / L2000) is glued to the required length with connectors (stainless steel tubes). Place an end cap on one side of the pole, then fully insert the pole into the pocket on the mainstay. Shorten the rod according to the length of the bag, deburr it, put on the second end cap.

The rod serves to stabilize the clew during the furling process. The bar should be in the pocket with little tension / no tension.



Rolling behavior / special features of RM-E2 systems

When furling the sail, it should be noted that it cannot be furled completely in order to prevent the hollow section and the GRP rod on the outfeed leech from folding over the shaft.

Adjust the length of the pull-out lines so that the rolling process is stopped.

In principle, E2 sails roll up a little less cleanly on the wave than the classic RM sails with a diagonal wave. This is due to the fact that during the furling process there is no pulling force that pulls the outhaul leech apart.

The GRP rod option on the sail extension enables improved roll behavior of the sail, as the two clews are pushed apart by the GRP rod.

5 Operation / Handling

5.1 Rolling in / Unrolling / Securing

- **Unfurling the sail / tightening the sail**
- Release the endless line from the comb clamp at the support and unfurl the sail slightly in an anti-clockwise direction.
- Go to one side of the sail and unroll the sail completely over the line and secure the line in the curry clip.
- On the second side, pull the sail in over the line and also place it in the curry cleat.
- Pull both sail extensions through the winch so that the sail is taut. Secure the lines in the curry cleat
- Excess lines can be hung up over the winch.

Furling procedure:

- Release both sail extractors. Reduce tension slowly by friction over the winch!
- Furl the sail using the endless line on the jib furler (note the clockwise direction of rotation for furling).

When furled, fix the endless line in the comb clamp on the prop (both extension lines should be under as much tension as possible in this state).



6 Fault states

6.1 Errors / Error causes / trouble shooting

Errors	Error causes	Trouble shooting
Sail doesn't fit	Orientation observed Pocket has to be on top	Change orientation
Sail rolls in with difficulty	Tension on the winding axis too low	Increase tension on the winding axle

7 Maintenance

7.1 Maintenance activities

	<p>The system is maintenance-free!</p> <p>However, we recommend that you carry out a visual inspection once a year in order to detect and rectify any changes/damage.</p>
	<p>Checking all ropes of the sail guide</p> <ul style="list-style-type: none">• Wear and tear• Scuffing• We recommend to exchange the ropes after 5 years (UV damage)
	<p>Fastening elements</p> <ul style="list-style-type: none">• Stability Fixing points (on walls, parapets, etc.)
	<p>Check mast foundations</p> <ul style="list-style-type: none">• Damage to concrete foundations (ground sockets)• Stability of ground anchors / ground sockets• Securing screws on ground sockets• Insertion depth of mast tubes (have the mast changed the insertion depth of at least 500 mm due to vibrations / external forces)• Buckling points on mast tubes (especially at the upper edge of ground anchors or ground sleeves)
	<p>Check sails for damage</p> <ul style="list-style-type: none">• Cracks• Scuff marks• Stains can be removed by sail cleaning as required. Sails may only be processed by a professional cleaner. Contact your sales partner or BARTELS GmbH for a recommendation.

8 Warranty


8.1 Warranty Period

	<ul style="list-style-type: none">• The warranty period begins on delivery of the product (date of delivery note)• The warranty only applies to the components supplied by BARTELS (delivery note)• The warranty period for all mechanical components is 36 months (excluding wearing parts and electrical components - see also section Fehler! Verweisquelle konnte nicht gefunden werden.)• The warranty on wearing parts (ropes, sails) is 12 months
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8.2 Wear Parts

	<ul style="list-style-type: none">• Ropes• Sail
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8.3 Disclaimer


	<p>Excluded from the warranty</p> <ul style="list-style-type: none">• Assembly errors and their consequences• Damage resulting from improper use of the product• Damage resulting from overloading the product <p>Damage caused by unauthorized modifications to the product</p>
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8.4 Processing of a warranty claim

	<p>In the case of warranty claims within the warranty period, please contact your SunFurl® sales partner (and / or BARTELS GmbH) to plan the processing.</p> <p>For contact details see delivery note or imprint of this document</p>
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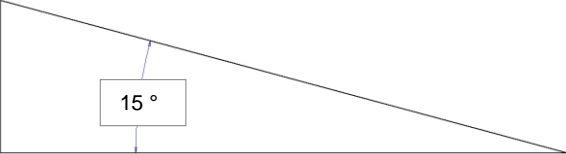

9 Attachment

9.1 Arrangement plan




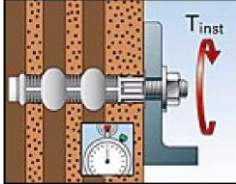

	<p>Most roller systems are individually adapted to the structural conditions. An exact installation plan must be provided by the planning company/person (sailmaker, awning builder, architect, etc.).</p> <p>In any case, a detailed plan should be drawn up before the start of construction to determine where fastening points must be placed (wall fastenings, ground anchors, bracing, concrete foundations, etc.).</p> <p>The condition of the wall, floor, etc. must be suitably load-bearing for the fastening of the foundations! The fastening elements (screws, dowels, etc.) must be selected appropriately for the substrate!</p>
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9.2 Forces / Fasteners

9.2.1 Forces / General

	<p>ATTENTION: Forces (on wall panels, ground foundations, winding core, lines) increase strongly with freshening wind, which can fall into the extended sail. If the permissible wind speed is exceeded, the sail must be furled manually!</p> <p>The system must be closed when the wind picks up (furling the sail). The following wind limits apply:</p> <ul style="list-style-type: none">○ Up to 35 m² sail area >> 6 Bft (max. 13,8 m/s)○ Up to 45 m² sail area >> 5 Bft (max. 10,7 m/s)
	<p>ATTENTION: The sun awning must not be operated in the rain. Water pockets in the sail can overload/damage the system. Exceptions are installations where sufficient slopes have been provided for safe drainage. For safe drainage, a high tension of the sail and a continuous slope of min. 15° is required.</p>  <p>The diagram shows a right-angled triangle representing a slope. The angle between the horizontal base and the hypotenuse is labeled as 15°.</p>
	<p>ATTENTION: The sun awning must not be operated at temperatures below 5°C. Ice and snow can overload/damage the system.</p>

9.2.3 Select dowels and screws for wall fixings correctly

 	<p>ATTENTION: The distributor / installer is responsible for the choice of suitable fasteners, which are adapted to the substrate. Screws and dowels are not included with BARTELS</p> <p>Action:</p> <ul style="list-style-type: none"> • Determine the base (wall, floor) to which the foundations are to be fastened (concrete, stone, solid stone, hollow stone, insulating layer, etc.) • Find out about suitable fastening solutions in a specialized market (you will find information on fasteners typically used by BARTELS below) • Follow the manufacturer's instructions for using the screws / dowels / foundation systems
	<p><u>Cracked concrete / hollow brick / solid brick (without insulation)</u></p> <p>ATTENTION: The fastener described below is an example! The sales partner or installer is solely responsible for the selection of the suitable fastener (adapted to the conditions at the installation site) and the installation according to the manufacturer's specifications!</p> <p>z.B. FISCHER FIS H K Injektions-Ankerhülsen FISCHER FIS A Ankerstange (Ausführung in A4) FISCHER FIS V Hochleistungsmörtel</p> 
	<p><u>Cracked concrete / hollow brick / solid brick (with thermal insulation)</u></p> <p>ATTENTION: The fastener described below is an example! The sales partner or installer is solely responsible for the selection of the suitable fastener (adapted to the conditions at the installation site) and the installation according to the manufacturer's specifications!</p> <p>z.B. FISCHER Thermax (Ausführung in A4) FISCHER FIS V Hochleistungsmörtel FISCHER KD Multi Kleb- und Dichtstoff</p> 