



Les Voiles de Saint Tropez
PARIGI 30 equipped with BARTELS C2-112-2 / Alessandro Comuzzi Architetto

Furling- and Reefing Systems Overview

EN

Furling- and Reefing Systems by BARTELS

Certified development and production

Over 45 years experience in yachting



Furling- and Reefing Systems by BARTELS

Making sailing as comfortable as possible is our ambition. Even if the weather conditions are difficult, we want to help you with our sophisticated and reliable technology. But also under normal conditions, we would like to offer you the utmost comfort. Our jib furling and reefing systems are designed for all sailors who demand quality products, who made the right decision for good products and a solid workmanship.

What is so special about BARTELS?

Quality, individuality and service are our highest principles!

We offer furling and reefing systems for almost every requirement: from flying sails (Code Zero and Gennaker) to hank-on sails (Jib / Genoa) to reefing systems with foil headstay (Jib / Genoa / reefing Genoa). Particularly appreciated are our watertight and angular-movable deck passages.

We use stainless and saltwater resistant materials exclusively. Our components and systems have been all tested under harshest conditions and are designed for longevity.

We offer 5 years warranty on all our systems and parts.
(Excluding wear parts)

Certified development and manufacturing

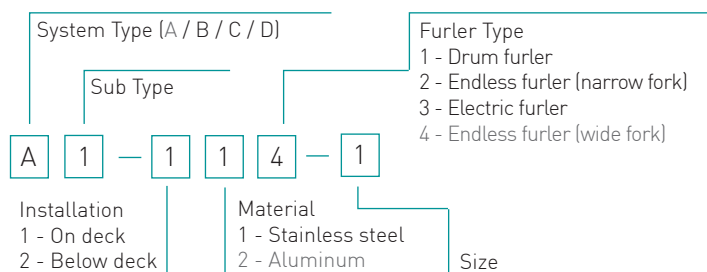
Our ultimate goal is the satisfaction of our customers. That is why we work according to the quality standards of the DIN ISO 9001: 2008. With the use of this quality management system, we demonstrate that quality orientation and constant performance improvement in every partial process determines our thinking and action.

We are a certified welding company:

The BARTELS GmbH has the railway welding certification according to DIN EN 15085-2 certification level CL1 for aluminum, steel, stainless steel and titanium.

We are a member of the stainless steel trade mark association. The BARTELS GmbH has over 45 years of experience in the processing of stainless steel. Our products are used worldwide and are appreciated for their high quality and highest corrosion resistance.





			Installation on Deck		Installation below deck		
			Drum	Endless	Drum	Endless	Electric
			111	112	211	212	213
Furling systems for Code Zero Furling systems for Gennaker A	Turning AT-cable	A1 A2	See brochure Code Zero & Gennaker FurlingSystems		on request		--
Headsail furling system for wire headstay (halyard parallel headstay) and sails with hanks B	Turning headstay	B1	Page 2		on request		--
Headsail furling system for wire headstay (halyard at mast) and sails with hanks C		C1 C2	Page 3		Page 4 + 5		--
Headsail reefing system for foil headstay (halyard at mast) and sails with luff tape D		D1	Page 6		Page 7		--
	Stationary headstay	D2	Page 8		Page 9		Page 10

Please note: We always adapt our parts to the newest technical standards. Therefore we are forced to reserve all rights regarding changes in shape and technique. The features of the indications, illustrations and descriptions in this brochure are not be regarded as a binding agreement. Thus any legal claims or rights in this respect are excluded. Attention! Improper structural alterations on the boat can lead to damage or even to loss of seaworthiness. In case you do not have the suitable tools and equipment or sufficient specific technical knowledge, please allow us or another special workshop to perform the assembly or alterations on your boat.

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Furling system for wire headstay (halyard parallel headstay) and sails with hanks

Installation on deck / turning headstay



B1-111 | B1-112

Scope of application

The jib furling system with tackle is characterized by its simple design. The cable or dyneema halyard is running through a block in the lower (turning) part of the forestay-swivel and is tightened above the jib furler with a tackle. These systems don't need a halyard swivel, which is only required when the halyard has to be decoupled from the turning headstay.

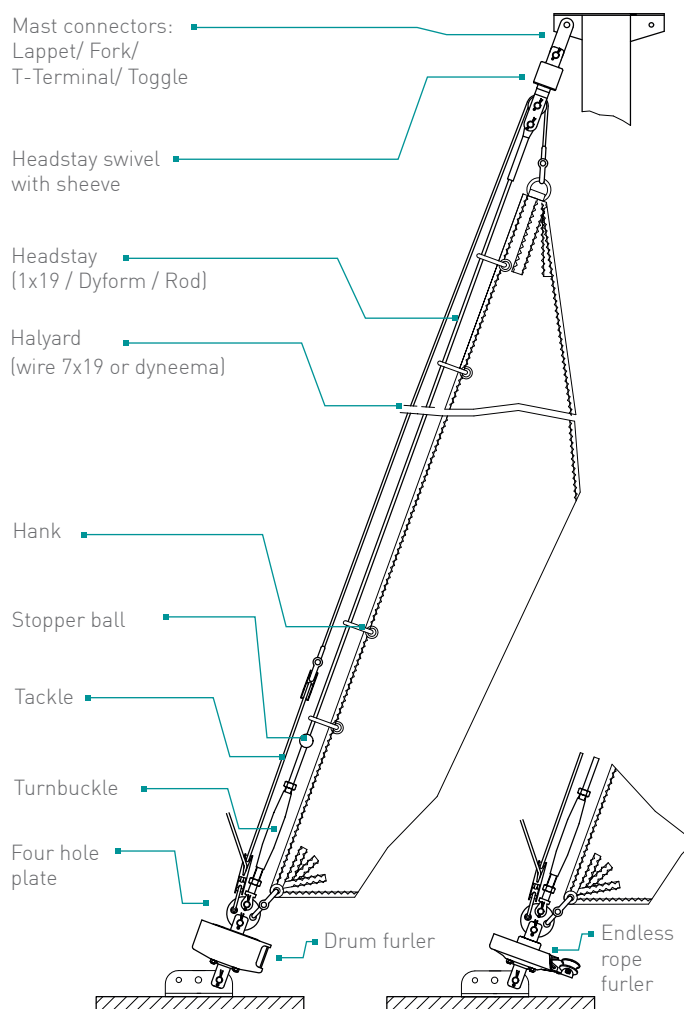
The sail head is rotated parallel to the tack and a blowing out of the furled sail in the head area is prevented during stronger wind gusts. The same effect is reached by the halyard swivel with coupling (see C2-Systems).

The separate halyard (parallel to the headstay) is operated from the foredeck. When changing the sail, the cable halyard must be extended with a safety line, so it does not run out. Sails with shorter luff must be extended with a cable lead to make sure the tackle reaches far enough (for example when using a storm jib).

This type of furling system is most commonly used with headsails which are rarely changed.

Benefits

- Continued use of hank-on sails
- Easy installation and handling
- Low attachment point for the sail tack
- Compact and unobtrusive design
- Drum and endless rope furlers available
- Simple upgrading to a jib furling system with halyard swivel for cable headstays (Cx-Systems)



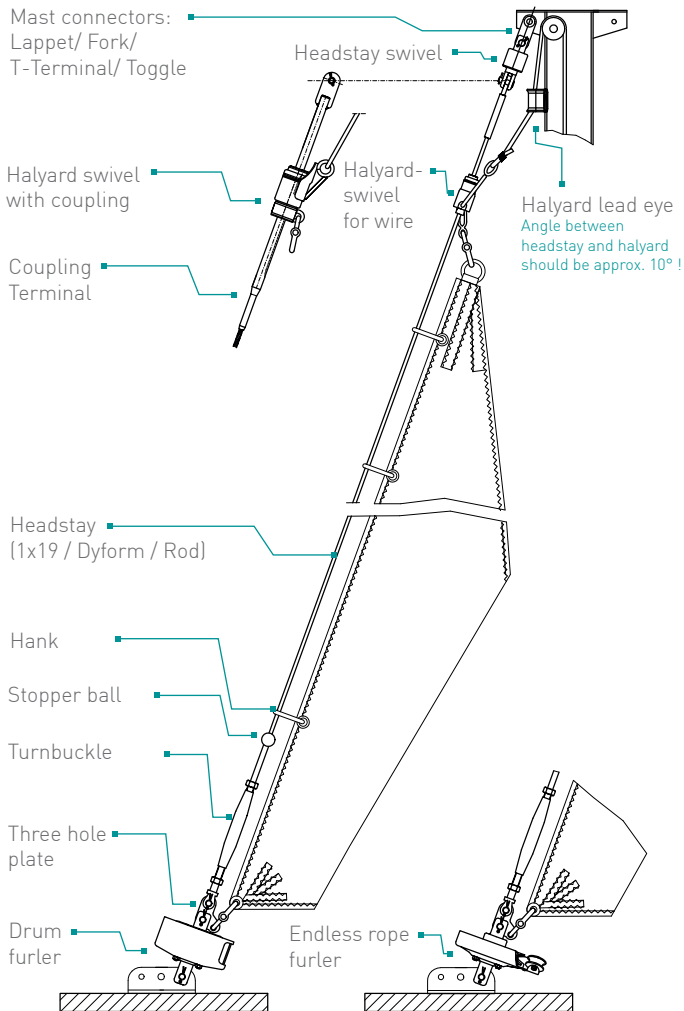
Max. Sail area [m²]	Max. Displacement [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration		Main components / part numbers			
					Bolt Ø [mm]	Furler	Headstay Swivel	Four hole plate	Tackle
15	1,5	4	8	B1-111-1	7	F I	WS I	17/2	T2F
				B1-112-1		FE I			
25	2,5	5	12	B1-111-2	8	F II	WS II	17/4	T3F
				B1-112-2		FE II			
35	3,5	6	13	B1-111-3	10	F III	WS III	17/5	T4F
				B1-112-3		FE III			
50	6	7 / 8	15	B1-111-4	12	F IV	WS IV	17/6	T5F
				B1-112-4		FE IV			
	9	8 / 10		B1-111-4+	14	F IV+	WS IV+	17/7	
				B1-112-4+		FE IV+			
75	18	10 / 12	18	B1-112-5	16	FE V	WS V	17/8	



Furling system for wire headstay (halyard at mast) and sails with hanks

Installation on deck / turning headstay

C1-11x | C2-11x



Scope of application

The jib furling systems with halyard swivel for cable headstays are suitable for complete furling of hank-on sails. Reefing is not possible because the cable headstay is not suitable as a reefing core (the sail is constricted, twisted and damaged).

This type of system is often used for classic yachts, if possible, usually below deck to preserve the classic appearance with modern technology (pages 4-5).

Beyond headstay lengths of 8 meters we recommend using a halyard swivel with coupling and a coupling terminal. In the top position, the halyard swivel engages into the longitudinal groove of the coupling terminal. Thus the sail head is rotated parallel to the tack and a blowing out of the furled sail in the head area is prevented during stronger wind gusts.

The length of the luff must be adjusted so that the halyard swivel is positioned at about the middle of the coupling terminal. Sails with a shorter luff must be extended with a cable extension.

Benefits

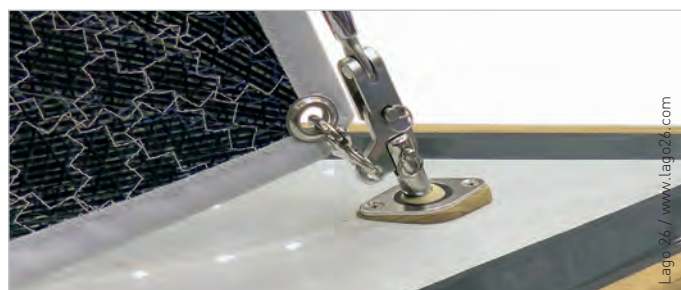
- Continued use of hank-on sails
- Easy installation and handling
- Low attachment point for the sail tack
- Compact and unobtrusive design
- Drum and endless rope furlers available
- Continued use of existing jib halyard (hoisting operation from the cockpit)
- Safe sail changes (during a sail change, the halyard always stays connected to the headstay by the halyard swivel)

Max. Sail area [m²]	Max. Displacement [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration	Bolt Ø [mm]	Main components / part numbers				
						Furler	Halyard Swivel	Coupling Terminal	Headstay Swivel	Three hole plate
15	1,5	4	8	C1-111-1	7	F I	FS I	nicht notwendig	STW I	18/6
				C1-112-1		FE I				
25	2,5	5	8	C1-111-2	8	F II	FS II-DK	37/39-5 VST	STW II-5	18/9
				C1-112-2		FE II				
		5	12	C2-111-2		F II				
				C2-112-2		FE II				
35	3,5	6	8	C1-111-3	10	F III	FS II-D-6	nicht notwendig	STW II-5 STW II-6 STW III	18/10-II
				C1-112-3		FE III				
		13	C2-111-3	F III		FS II-DK	37/39-5 VST			
			C2-112-3	FE III			37/39-6 VST			
50	6	7 / 8	15	C2-111-4	12	F IV	FS III-DK	37/43-7 VST	STW IV	18/10-III
				C2-112-4		FE IV		37/43-8 VST		
	9	8 / 10		C2-111-4+	14	F IV+	FS III-DK	37/43-10 VST	STW IV+	18/10-IV+
				C2-112-4+		FE IV+	FS IV-DK			
75	18	10 / 12	18	C2-112-5	16	FE V	FS IV-DK	37/43-36 VST	STW V	18/10-V

Furling system for wire headstay (halyard at mast) and sails with hanks

Installation below deck / turning headstay

Deck passage DK



C1-21x (DK) | C2-21x (DK)

Scope of application

This type of furling system with compact / cost-effective deck-passage is used on sporty dinghies / yachts when the furling mechanism should disappear below deck in order to reach a low attachment point for the sail tack. The deck-passage DK has to be mounted in the direction of the headstay and is not completely watertight. (Mutually independent angular mobility above and below deck as well as complete watertightness are provided by deck passage type DD - see page 5)

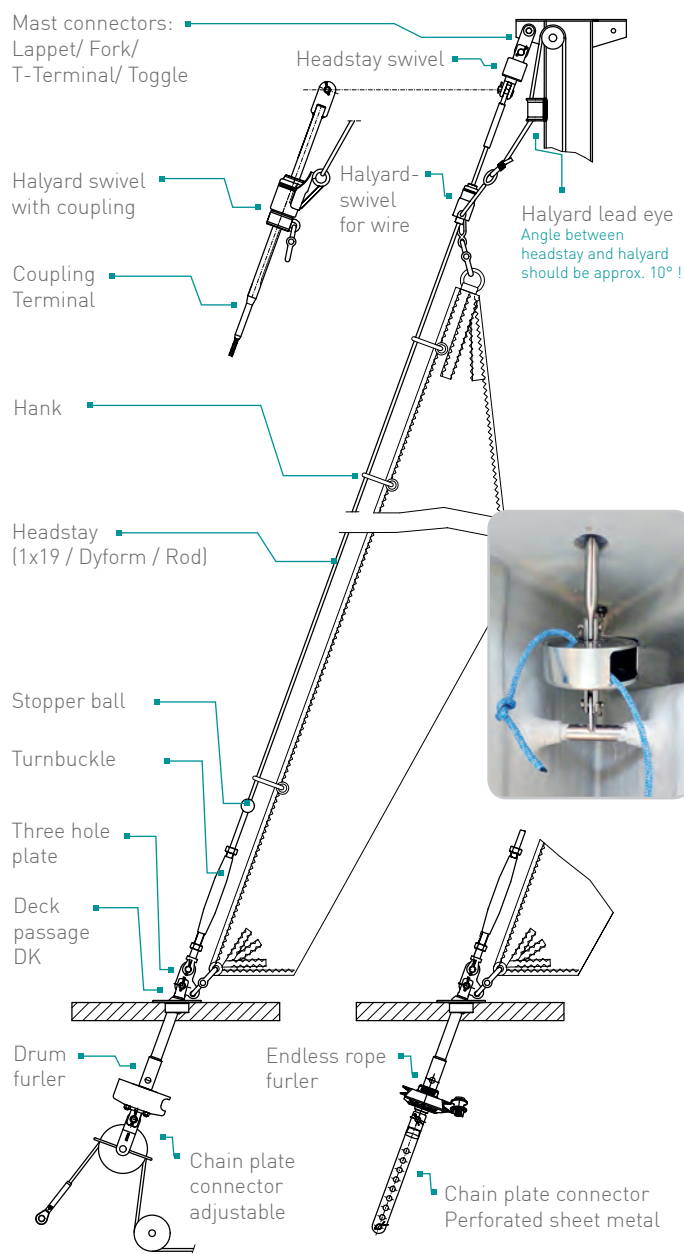
The jib furling systems with halyard swivel for cable headstays are suitable for complete furling of hank-on sails. A reefing is not possible because the cable headstay is not suitable as a reefing core (the sail is constricted, twisted and damaged).

Beyond headstay lengths of 8 meters we recommend using a halyard swivel with coupling and a coupling terminal. In the top position, the halyard swivel engages into the longitudinal groove of the coupling terminal. Thus the sail head is rotated parallel to the tack and an blowing out of the furled sail in the head area is prevented during stronger wind gusts.

The length of the luff must be adjusted so that the halyard swivel is positioned at about the middle of the coupling terminal. Sails with a shorter luff must be extended with a cable extension.

Benefits

- Compact and cost-effective
- Continued use of hank-on sails
- Lowest attachment point for the sail tack
- Adjustable headstay length from below deck while sailing
- Compact / unobtrusive and robust stainless-steel design
- Drum and endless rope furlers available
- Continued use of existing jib halyard (hoisting operation from the cockpit)
- Safe sail changes (during a sail change, the halyard always stays connected to the headstay by the halyard swivel)



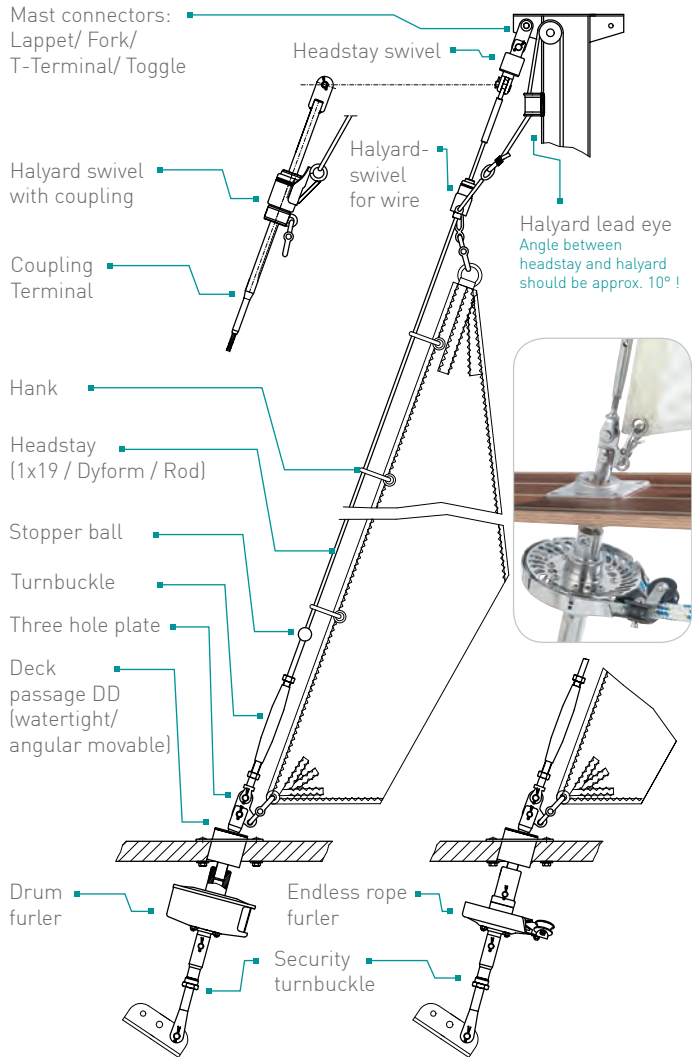
Max. Sail area [m²]	Max. Displacement [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration		Main components / part numbers							
					Bolt Ø [mm]	Furler	Deck passage	Halyard Swivel	Coupling Terminal	Headstay Swivel	Three hole plate		
15	1,5	4	8	C1-211-1 (DK) C1-212-1 (DK)	7	F I FE I	DK-16	FS I	not necessary	STW I	18/9		
25	2,5	5	8	C1-211-2 (DK) C1-212-2 (DK)	8	F II FE II	DK-20			FS II-DK		37/39-5 VST	STW II-5
			12	C2-211-2 (DK) C2-212-2 (DK)		F II FE II							



Furling system for wire headstay (halyard at mast) and sails with hanks

Installation below deck / turning headstay
Deck passage DD

C1-21x (DD) | C2-21x (DD)



Scope of application

This type of system with waterproof and angular movable deck passage is used on classic yachts to preserve the look even with modern technology. In competition sailing too, the installation of a jib furler system below deck makes it possible to shackle the sail's tack close to the deck, as long as the class rules permit jib furling systems.

The jib furling systems with halyard swivel for cable headstays are suitable for complete furling of hank-on sails. A Reefing is not possible because the cable headstay is not suitable as a reefing core (the sail is constricted, twisted and damaged).

Beyond headstay lengths of 8 meters we recommend using a halyard swivel with coupling and a coupling terminal. In the top position, the halyard swivel engages into the longitudinal groove of the coupling terminal. Thus the sail head is rotated parallel to the tack and a blowing out of the furled sail in the head area is prevented during stronger wind gusts.

The length of the luff must be adjusted so that the halyard swivel is positioned at about the middle of the coupling terminal. Sails with a shorter luff must be extended with a cable extension.

Benefits

- Watertight and angular movable deck passage (independent compensation of misalignments on and below deck)
- Continued use of hank-on sails
- Lowest attachment point for the sail tack
- Compact / unobtrusive and robust stainless-steel design
- Drum and endless rope furlers available
- Continued use of existing jib halyard (hoisting operation from the cockpit)
- Safe sail changes (during a sail change, the halyard always stays connected to the headstay by the halyard swivel)

Max. Sail area [m²]	Max. Displacement [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration		Main components / part numbers										
					Bolt Ø [mm]	Furler	Deck passage	Halyard Swivel	Coupling Terminal	Headstay Swivel	Three hole plate					
15	1,5	4	8	C1-211-1 C1-212-1	7 / 8	F II-2 FE II-2	DD I	FS I	Nicht notwendig	STW I	18/9					
25	2,5	5	8	C1-211-2 C1-212-2	8	F III-2 FE III-2				FS II-DK		37/39-5 VST	STW II-5			
			12	C2-211-2 C2-212-2		F III-2 FE III-2										
			35	3,5		6				8		C1-211-3 C1-212-3	10	F III-2 FE III-2	FS II-D-6	Nicht notwendig
								13	C2-211-3 C2-212-3	F III-2 FE III-2		FS II-DK		7/39-5 VST 37/39-6 VST		
50	6	7 / 8			15			C2-211-4 C2-212-4	12	F IV-2 FE IV-2					DD III	FS III-DK
							9	8 / 10		C2-211-4+ C2-212-4+	14	F IV+-2 FE IV+-2		DD III+		
	75	18	10 / 12	18		C2-212-5			16	FE V-2		DD IV	FS IV-DK		37/43-36 VST	STW V

Reefing system with foil headstay for sails with luff tape

Installation on deck / turning headstay



D1-111 | D1-112

Scope of application

Jib reefing systems make it possible to reduce the sail area continuously as long as the sail is suitable for that by weight of the cloth and its construction. Existing sails with jib hanks can be made reefable by sewing on a luff tape. Larger sails with a deep cut (profile) should be made reefable by doubling up near the luff.

An aluminum foil is installed around the headstay cable. The luff of the sail is inserted into its groove and is hoisted with the sliding halyard swivel. The foil elements are 2-3 m long and can be replaced in case of damage.

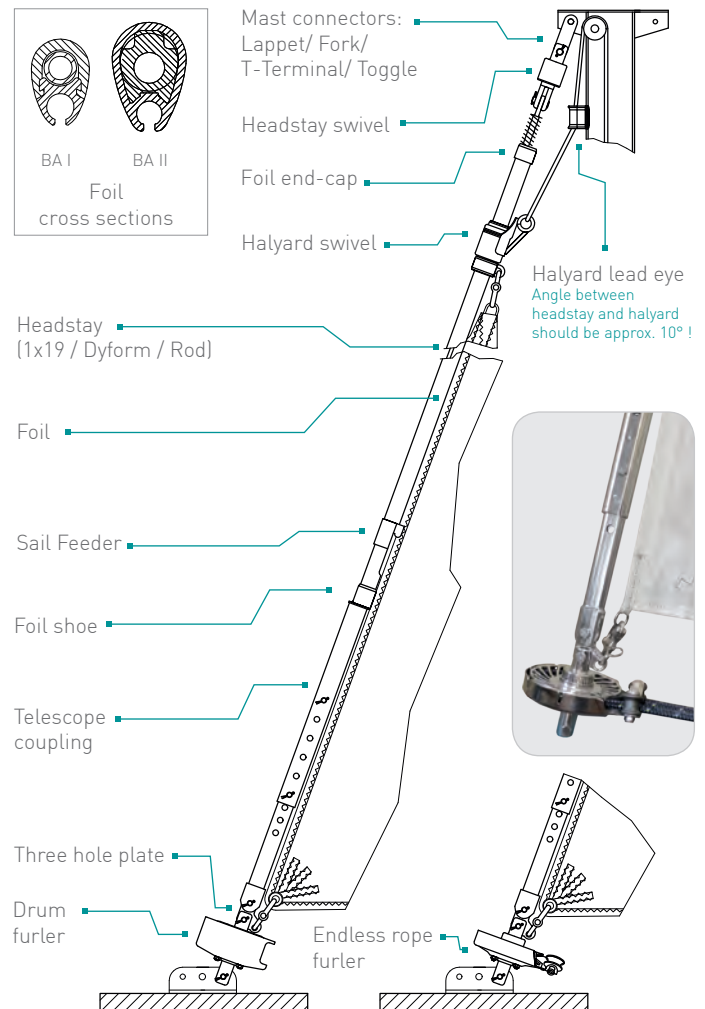
The length of the headstay and therefore the mast rake can be adjusted via the telescopic coupling set, regardless of the foil length. The final headstay tension can be adjusted via the backstay or running backstays.

Due to the elimination of the hanks, sails can be set and recovered very quickly while the halyard always remains connected to the sliding halyard swivel.

Systems which are not used for reefing can be equipped with an smaller foil type to reduce size and weight. This is commonly demanded for racing yachts when the foil is not needed for reefing but required for improved air flow to the luff and an quick sail change. On request carbon-fiber foils are available.

Benefits

- Safe and fast reefing performed from the cockpit
- Easy and fast sail changes (no hanking-on and hanking-off)
- Safe sail changes (during a sail change, the halyard always stays connected to the headstay by the halyard swivel)
- Better air flow (no slack in the luff between hanks)
- Low attachment point for the sail tack
- Compact / unobtrusive and robust stainless-steel design
- Drum and endless rope furlers available



Max. Sail area [m²]	Max. Displacement [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration	Bolt Ø [mm]	Main components / part numbers					
						Furler	Telescope Coupling	Foil	Halyard Swivel	Headstay Swivel	Three hole plate
25	1,5	4	9	D1-111-1	7 / 8	F II	RKS I - BA	BA I	FS II	STW I	18/9
				D1-112-1		FE II				STW II - 5	
	2,5	5	11	D1-111-2	8 / 10	F II				STW III	18/10-II
				D1-112-2		FE II				STW IV	
35	3,5	6*	12	D1-111-3	10	F III	RKS II - BA II	BA II	FS III	STW III	18/10-II
50	6	7*	13	D1-112-3	12	FE III				STW III	18/10-III
				D1-111-4		F IV				STW IV	
--	--	16*	35	D1-112-4		FE IV				STW IV	18/10-III

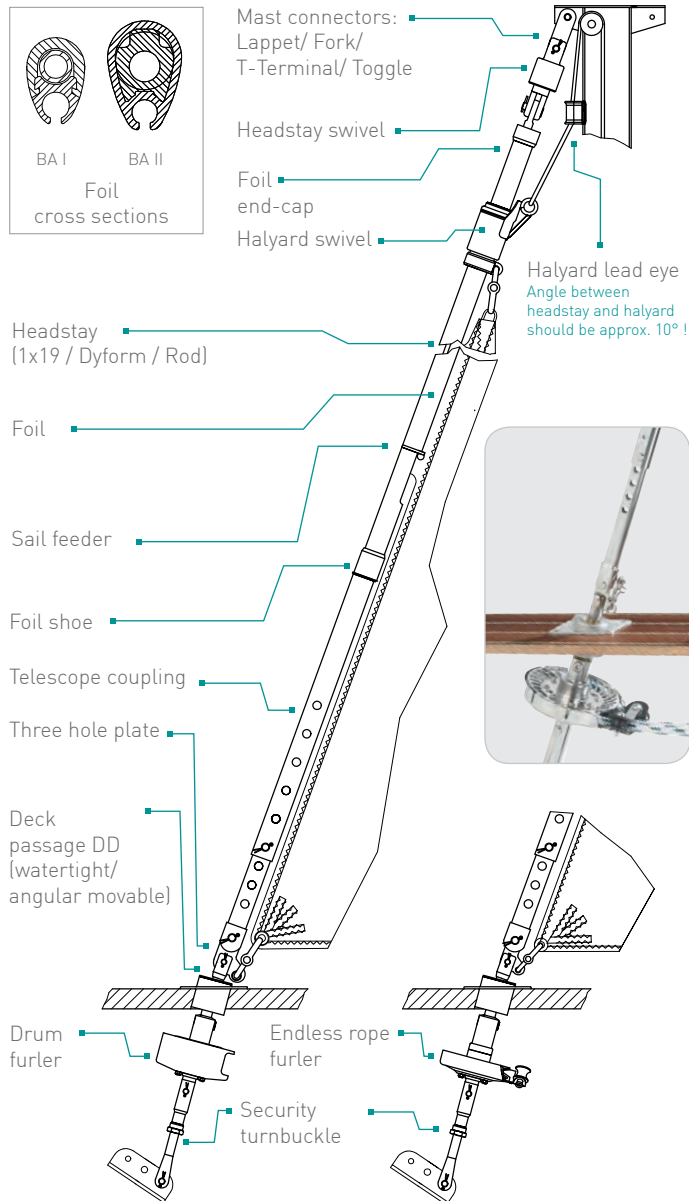
* See D2 - Systems (page 8 - 9)



Reefing system with foil headstay for sails with luff tape

Installation below deck / turning headstay
Deck passage DD

D1-211 | D1-212



Scope of application

This type of system with waterproof and angular movable deck passage is used on classic yachts to preserve the look even with modern technology. In competition sailing too, the installation of a jib furler system below deck makes it possible to shackle the sail's tack close to the deck, as long as the class rules permit jib furling systems.

Jib reefing systems make it possible to reduce the sail area continuously as long as the sail is suitable for that by weight of the cloth and its construction. Existing sails with jib hanks can be made reefable by sewing on a luff tape. Larger sails with a deep cut (profile) should be made reefable by doubling up near the luff.

An aluminum foil is installed around the headstay cable. The luff of the sail is inserted into its groove and is hoisted with the sliding halyard swivel. The foil elements are 2-3 m long and can be replaced in case of damage.

The length of the headstay and therefore the mast rake can be adjusted via the telescopic coupling set, regardless of the foil length. The final headstay tension can be adjusted via the backstay or running backstays. Due to the elimination of the hanks, sails can be set and recovered very quickly while the halyard always remains connected to the sliding halyard swivel.

Benefits

- Watertight and angular movable deck passage (independent compensation of missalignments on and below deck)
- Safe and fast reefing performed from the cockpit
- Easy and fast sail changes (no hanking-on and hanking-off)
- Safe sail changes (during a sail change, the halyard always stays connected to the headstay by the halyard swivel)
- Better air flow (no slack in the luff between hanks)
- Low attachment point for the sail tack
- Compact / unobtrusive and robust stainless-steel design
- Drum and endless rope furlers available

Max. Sail area [m²]	Max. Displacement [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration		Main components / part numbers						
					Bolt Ø [mm]	Furler	Deck passage	Telescope Coupling	Foil	Halyard Swivel	Headstay Swivel	Three hole plate
25	1,5	4	9	D1-211-1	7 / 8	F II-2	DD I	RKS I – BA	BA I	FS II	STW I	18/9
				D1-212-1		FE II-2					STW II - 5	
	2,5	5	11	D1-211-2	8 / 10	F III-2					STW III	
				D1-212-2		FE III-2					STW IV	
35	3,5	6	12	D1-211-3	10	F III-2	DD II	RKS II - BA II	BA II	FS III	STW III	18/10-II
				D1-212-3		FE III-2					STW IV	
50	6	7	13	D1-211-4	12	F IV-2	DD III				STW IV	18/10-IV
				D1-212-4		FE IV-2						
--	--	16*	35	* See D2 - Systems (page 8 - 9)								

* See D2 - Systems (page 8 - 9)

Reefing system with foil headstay for sails with luff tape

Installation on deck / stationary headstay



D2-111 | D2-112

Scope of application

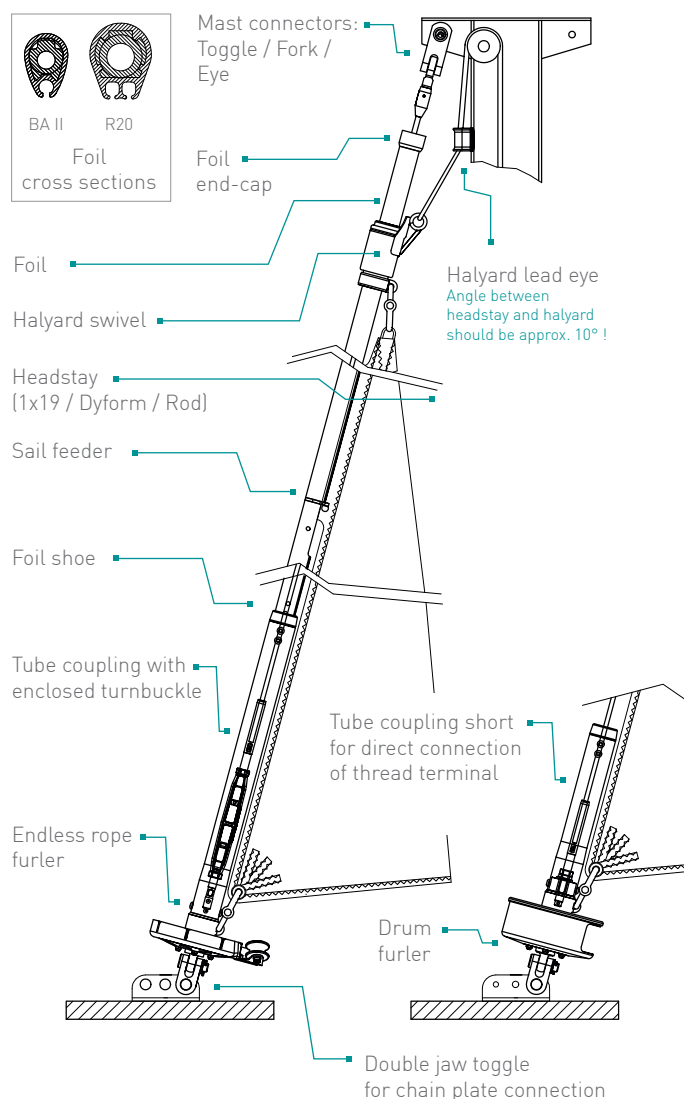
On this type of jib reefing systems the headstay cable does not turn. There are no bearings loaded by the tensile forces of the headstay. Therefore, the highest loads can be easily handled. These systems are used as furling systems and / or full reefing systems to reduce the sail area continuously.

An aluminum foil is installed around the headstay cable. The luff of the sail is inserted into its groove and is hoisted with the sliding halyard swivel. The foil elements are 2-3 m long and can be replaced in case of damage.

The fine adjustment of the headstay length is possible via a threaded connection of the headstay on the furler. The threaded connection is enclosed by a short tube coupling which transmits torque from the furler to the foil (headstay wire is fixed). Optionally a turnbuckle can be installed above the furler to enlarge the length adjustment range and enable a more comfortable length adjustment. An extended tube coupling encloses the complete turnbuckle and transmits the torque from the furler to the foil.

Benefits

- Safe and fast reefing performed from the cockpit
- Safe sail changes (during a sail change, the halyard always stays connected to the headstay by the halyard swivel)
- Low attachment point for the sail tack (on tack swivel)
- Compact / unobtrusive and robust stainless-steel design
- Drum and endless rope furlers available
- Reefing system can be equipped with standard or third party foils (e.g. for retrofitting an old reefing system with a new furler)
- Universal connectivity for headstays of 1x19 wire cable, dy-form, rod types
- Tensile forces of the headstay do not affect bearings



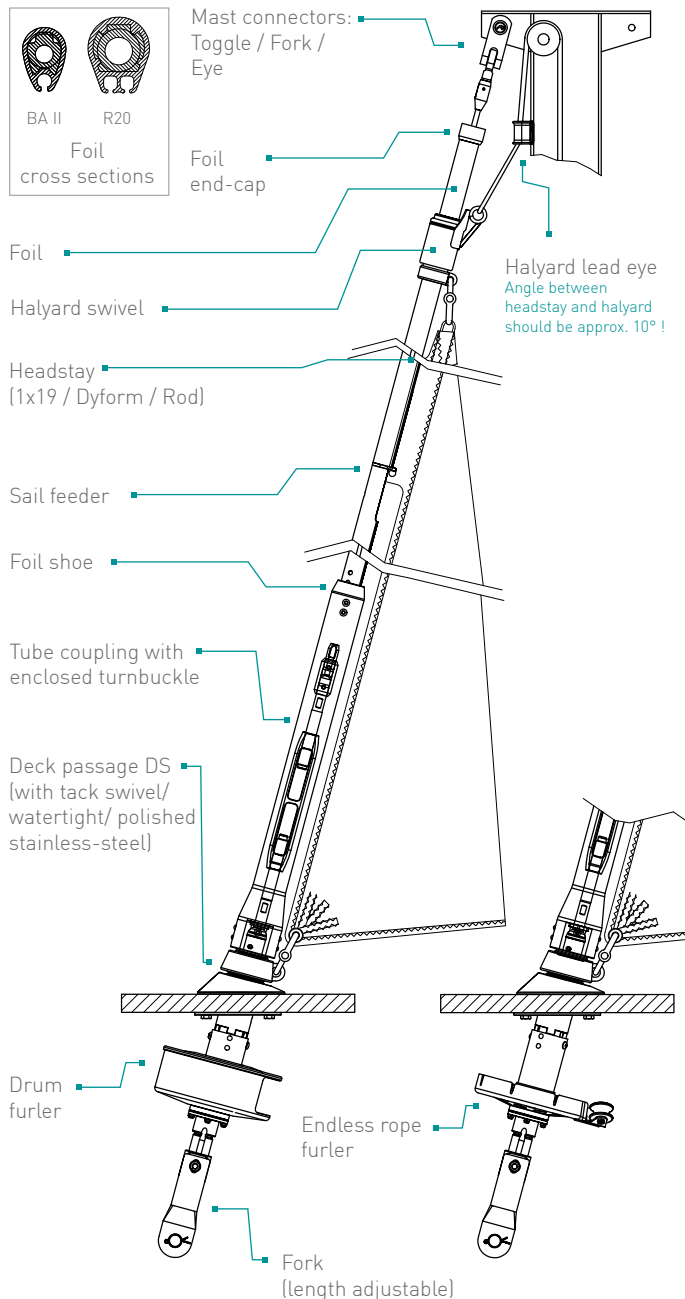
Max. Headstay Ø		Bolt Ø [mm]	Max. Headstay length [m]	Configuration	Threat connection	Main components / part numbers				
Rod (dash)	Wire (mm)					Foil	Furler	Tube Coupling		Halyard Swivel
								long	short	
-9 (6,0)	6	12,7	13	D2-111-3 D2-112-3	7/16"	BAII	F III-S FE III-S	47-102	47-106	FS III
--	7	12,7	13	D2-111-4 D2-112-4	1/2"	BAII	F IV-S FE IV-S	47-103	47-107	
-12 (7,1)	--	16	13		5/8"					
--	8	16 19	18	D2-111-5 D2-112-5	3/4"	R20	F V-S FE V-S	47-104	47-108	FS IV
-17 (8,4)	--									
-22 (9,5)	--									
--	10									



Reefing system with foil headstay for sails with luff tape

Installation below deck / stationary headstay
Deck passage DS

D2-211 | D2-212



Scope of application

Manually operated reefing systems with watertight deck passage. The drive unit is completely hidden below deck. The integrated tack swivel allows the tack of the sail to be attached as low as possible to the deck. The tack of the sail aligns itself perfectly with the set of the sails.

All components visible on deck are particularly compact and elegantly shaped. All visible parts are made from polished stainless steel. The use of plastic is avoided wherever possible. As drive units are available manual furlers as well as electric- or hydraulic drive units (see page 10).

The headstay is connected via a turnbuckle which is enclosed by the tube coupling. All types of headstay wires, rod, textiles are supported. Systems which are not used for reefing can be equipped with an smaller foil type to reduce size and weight. This is commonly demanded for racing yachts when the foil is not needed for reefing but required for improved air flow to the luff and an quick sail change. On request carbon-fiber foils are available.

Benefits

- Watertight and angular movable deck passage
- Safe and fast reefing performed from the cockpit
- Safe sail changes (during a sail change, the halyard always stays connected to the headstay by the halyard swivel)
- Low attachment point for the sail tack (on tack swivel)
- Compact / unobtrusive and robust stainless-steel design
- Drum and endless rope furlers available
- Electric- and hydraulic drive units available
- Reefing system can be equipped with standard or third party foils (e.g. for retrofitting an old reefing system with an new furler)
- Universal connectivity for headstays of 1x19 wire cable, dy-form, rod, textile types
- Tensile forces of the headstay do not affect bearings

Max. Headstay Ø		Bolt Ø [mm]	Max. Headstay length [m]	Configuration		Main components / part numbers				
Rod (dash)	Wire (mm)				Threat connection	Foil	Furler	Deck-Passage	Tube-Coupling	Halyard-Swivel
--	7	16	13	D2-211-4 D2-212-4	5/8"	BAII	F IV-SL	DS-I	300/59	FS III
-12 (7,1)	--					BAII	FE IV-SL			
--	8	16 19	18	D2-211-5 D2-212-5	5/8"	R20	F V-SL FE V-SL		300/61	FS IV
-17 (8,4)	--					R20				
-22 (9,5)	--				R20					
	10				R20					

Reefing system with foil headstay for sails with luff tape

Installation below deck / stationary headstay

Electric or hydraulic drive unit

Deck passage DS



D2-213

Scope of application

Electrically or hydraulically operated reefing systems with watertight deck passage. The drive unit is completely hidden below deck. All components visible on deck are particularly compact and elegantly shaped. All visible parts are made from polished stainless steel. The use of plastic is avoided wherever possible. Electric- or hydraulic drive units are available.

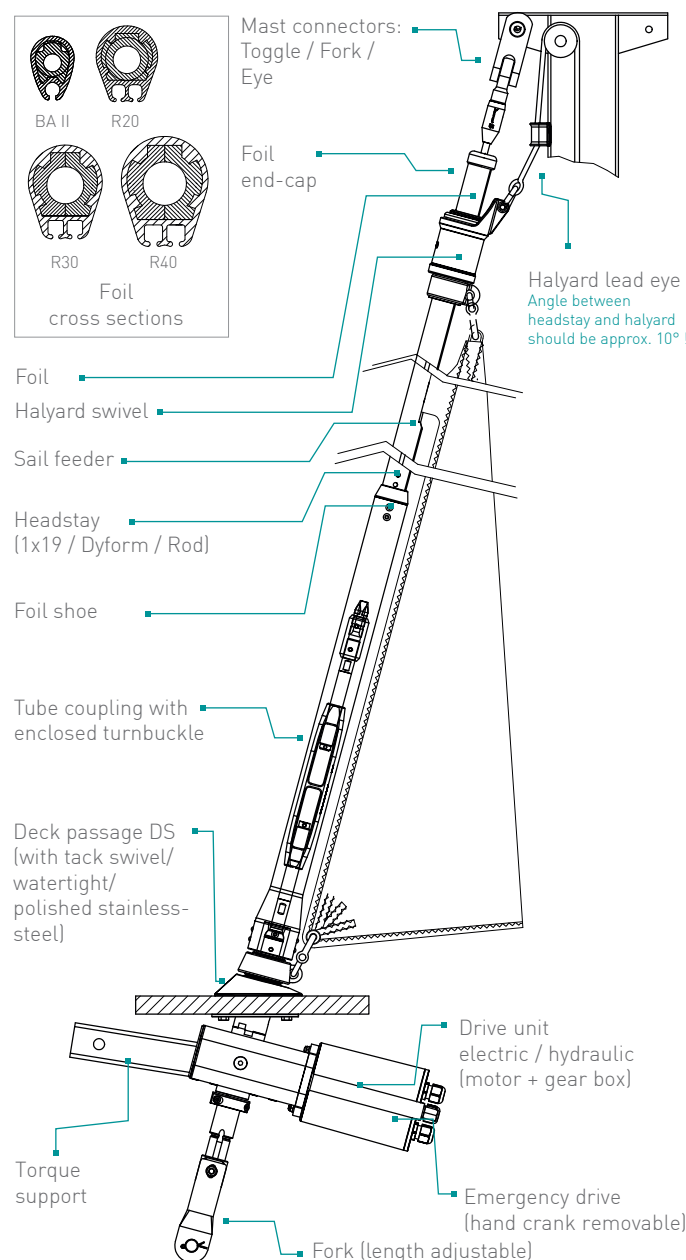
The system was specially designed to meet the needs of prestigious, classic yachts and to remain in keeping with their elegant design.

The headstay is connected via a turnbuckle which is enclosed by the tube coupling. All types of headstay wires, rod, textiles are supported. The integrated tack swivel allows the tack of the sail to be attached as low as possible to the deck. The tack of the sail aligns itself perfectly with the set of the sails.

Systems which are not used for reefing can be equipped with a smaller foil type to reduce size and weight. This is commonly demanded for racing yachts when size and weight matters.

Benefits

- Watertight and angular movable deck passage
- Safe and fast reefing at the push of a button
- Manual emergency operation in case of a power cut on board
- Safe sail changes (during a sail change, the halyard always stays connected to the headstay by the halyard swivel)
- Low attachment point for the sail tack (on tack swivel)
- Compact / unobtrusive and robust stainless-steel design
- Electric- and hydraulic drive units available
- Reefing system can be equipped with standard or third party foils (e.g. for retrofitting an old reefing system with a new furler)
- Universal connectivity for headstays of 1x19 wire cable, dy-form, rod, textile types
- Tensile forces of the headstay do not affect bearings

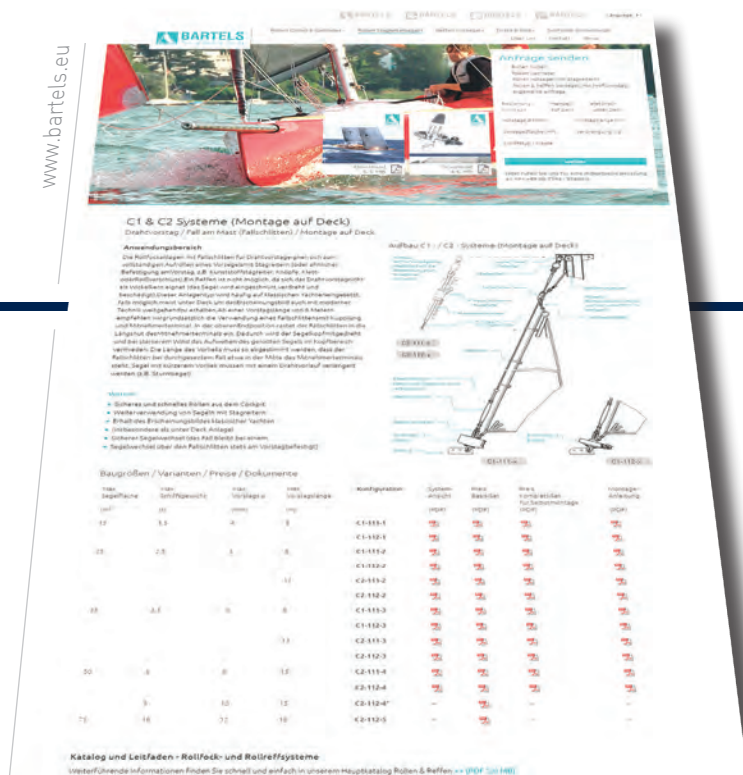


Max. Headstay Ø		Bolt Ø [mm]	Max. Headstay length [m]	Configuration		Main components / part numbers				
Rod (dash)	Wire (mm)					Foil	Drive-Unit	Deck-Passage	Tube-Coupling	Halyard Swivel
-12 (7,1)	7	16	13	D2-213-1	5/8"	BAII	SE-I 700	DS-I	300/59	FS III
--	8	16	18			D2-213-2			3/4"	R20
-17 (8,4)	--	16	18	D2-213-3	7/8"		R30	SE-I 1000		300/91
-22 (9,5)	10	16 / 19	18			SE-II 1500		300/1116		
--	12	19	23	D2-213-4	1/1"	R40	DS-II	300/1125	R40-1	
-30 (11,1)	14	22	23							
-40 (12,7)	--	25,4	23							
--	16	25,4	28							

Technical details Drawings / CAD data Prices

Fast & easy
www.bartels.eu

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Technical Details / Drawings Prices

On our website we have summarized all important information for you.

- System views for each size / system
- Basic offers for every size / system
- Offers for our self-assembly kits
- Assembly instructions

System views

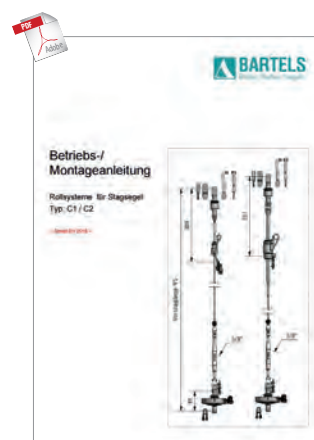
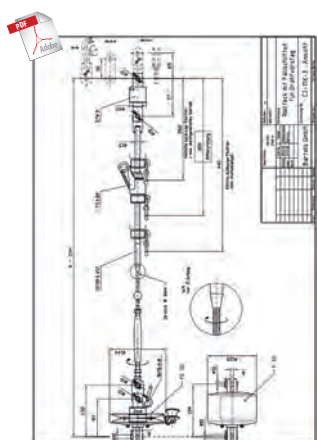
For all common systems / sizes in PDF format

Basic offers

For all common systems / sizes in PDF format

Assembly instructions

For all common systems / sizes in PDF format



Drawings / CAD models

For our business customers (yacht-designers, shipyards, sailmakers, etc.) we are happy to provide individual system compilations in standard CAD formats upon request.

Please submit the following data for dimensioning:

- Headstay diameter / Headstay length
- Headstay type (wire or rod) / bolt diameter
- Displacement/ Sail area
- Furling or Reefing (wire- oder foil headstay)
- Installation on-/ or below deck
- Drive manual (drum or endless furler) or electric drive unit
- Desired CAD format: 2D DWG / 3D STP

Overview single parts

see www.bartels.eu for details

System views / Basic offers

Assembly instructions / Catalog and guide



Mast connectors

For documents with further information see page 11

Headstay swivel

Headstay swivel with sheeve

For documents with further information see page 11

Halyard lead eye

Spinnaker suspension

For documents with further information see page 11

Halyard swivel for wire

Halyard swivel for wire with coupling

Halyard swivel for foil

For documents with further information see page 11

Tackle for furling systems without halyard swivel

For documents with further information see page 11

Foils

For documents with further information see page 11

Wires (1x19 / Dyform / Rod / 7x19)

Assembly of standing and running rigging

Wire processing

Assembly of Furling and Reefing systems (ready-to-use)
Customization of wire and rod





Overview single parts
see www.bartels.eu for details

System views / Basic offers
Assembly instructions / Catalog and guide



Telescope coupling

Tube coupling

For documents with further information see page 11

Sail feeder

For documents with further information see page 11

Three- / Four hole plates

For documents with further information see page 11

Rope guidance

Rope fixation

For documents with further information see page 11

Deck passage DK

Deck passage DD / thread connector

Deck passage DS

For documents with further information see page 11

Drum furlers

Endless rope furlers

Electric / hydraulic furlers

For documents with further information see page 11

Chain plate connectors

Security turnbuckles

Chain plates

For documents with further information see page 11
(Special fittings / chain plates on request)

Mast Connections

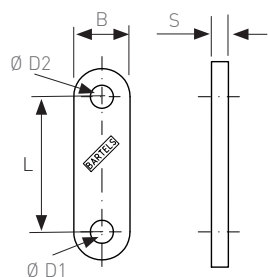
Lappet / Fork / T-Terminal /
Toggle (Lappet-Fork)



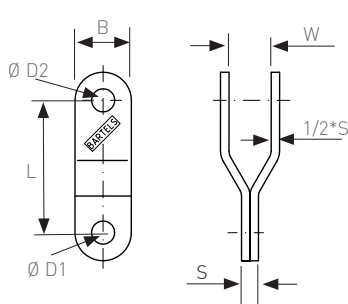
Connections between top-swivel and mast (for B1/ C1/ C2/ D1 - Systems)

For the attachment of top swivel to mast, lappets, forks and T-toggles are available to choose from. In special (CFRP masts, carbon fi ber mast nose, twin headstays, etc.) please consult us with detailed sketch and picture. The swivel must be free to move in the pulling direction of the headstay without touching the mast or jamming the halyard in the halyard exit sheave. Fallaustrittsrolle bekneift.

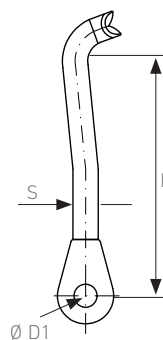
Other existing halyards must not caught by rotating parts and must be kept free running by lead eyes and spinnaker jigs.



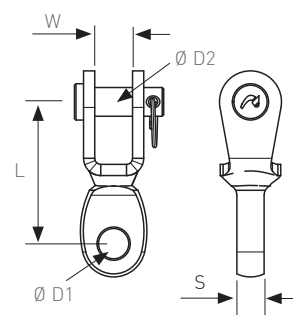
Lappet



Fork



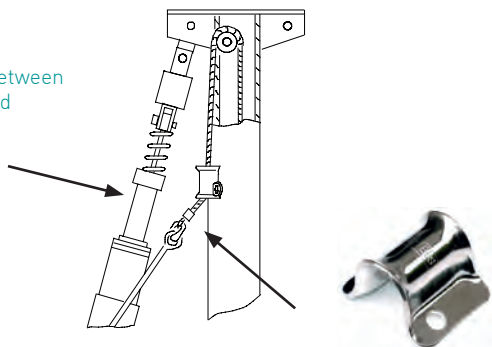
T-Terminal



Toggle (Lappet-Fork)

Lappet		L (mm)	B (mm)	Ø D1(mm)	Ø D2 (mm)	W (mm)	S (mm)	Breaking load (kN)
Part- Number	L34-20-6	34	20	8	8	--	6	30
	L48-20-6	48	20	8	8		6	
	L50-25-6	50	25	8	10		6	40
	L50-25-8	50	25	10	10		8	50
	L75-30-10	75	30	12	12 (16)		10	60
Fork		L (mm)	B (mm)	Ø D1(mm)	Ø D2 (mm)	W (mm)	S (mm)	Breaking load (kN)
Part- Number	G34-20-3	34	20	8	8	6	6	30
	G48-20-3	48	20	8	8	6	6	
	G75-25-3	75	25	10	10	15	6	40
	G65-25-4	65	25	10	10	10	8	50
	G75-30-5	75	30	12	12	10	10	60
Toggle								Breaking load (kN)
Part- Number	30/0-2	32	--	8,4	7,8	9,1	5,7	20
	30/0	37		9,7	8,9	12,5	5,9	32
	30/1	44		12,4	9,5	12,5	7,8	40
	30/2	49		12,4	10,8	12,5	8,9	60
	141616	77		14,5	14	22	14	75
	141616M	70		16,3	15,7	15,8	13,5	98
T-Terminal		L (mm)	B (mm)	Ø D1(mm)	Ø D2 (mm)	W (mm)	S (mm)	Breaking load (kN)
Part- Number	T4-70	70	--	8	--	--	7,5	30
	T4-115	115		8			7,5	
	T5-90	90		8			9	
	T6-90	90		10			12,5	40
	T7-90	90		12			14	60
	T8-90	90		12,5			16	

Angle of 10° - 15° between headstay and halyard



Fallführungsauge

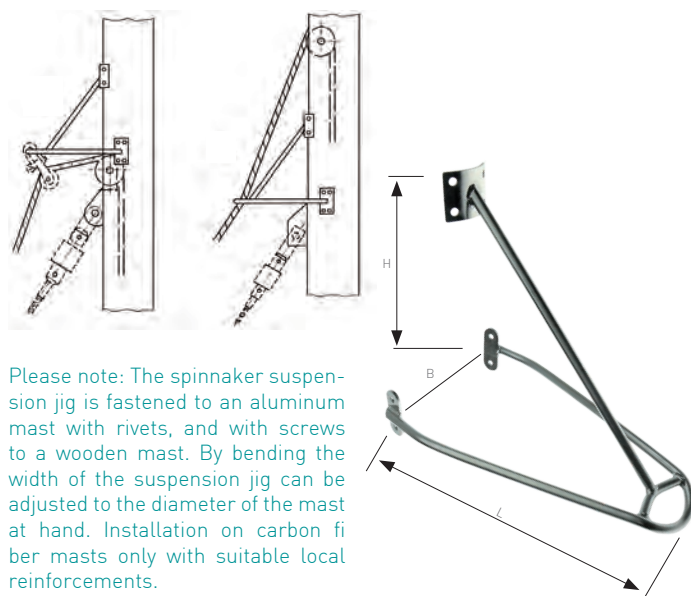
Between headstay and halyard an angle of approximately 10° - 15° is to be maintained, otherwise the halyard can wrap itself around the headstay. A halyard guiding eye is attached the mast to correct the angle. For installation on a carbon fiber mast, a local reinforcement be provided.

	Fall Führungsauge
Artikelnummer	FF
Max Leinen Ø (mm)	12
Befestigungsbohrungen Ø (mm)	6
Gewicht (kg)	0,04

In all systems with sliding halyard swivel, the halyard should run at an angle of 10° - 15° to the headstay and the distance between the sliding halyard swivel and the mast sheave should be as short as possible. Here, the stretching of the luff has to be observed so that the halyard swivel for cable does not hit the upper terminal, or the halyard swivel for extrusion headstays not the end cap. By screwing on a halyard lead eye the angle can be maintained. Jibs with shorter luffs must be extended by one permanently attached cable pennant so that the halyard swivel is always at the top. With a halyard running parallel to the headstay, there is always a risk that it wraps itself around the cable or extrusion headstay and further furling is blocked.

Spinnaker Halyard suspension

The spinnaker halyard suspension jig keeps the spinnaker halyard free of the top swivel, the halyard swivel and sail head. Depending on the kind of rigging and the exit of the spinnaker halyard from the mast, the halyard can be led directly through the suspension jig or through an additional block (see alongside graphic). Two sturdy stainless steel sizes are available.



Please note: The spinnaker suspension jig is fastened to an aluminum mast with rivets, and with screws to a wooden mast. By bending the width of the suspension jig can be adjusted to the diameter of the mast at hand. Installation on carbon fiber masts only with suitable local reinforcements.

Please note: The feeding slot for sails into the foil should be about 0,5 - 0,8 m above the deck for optimal operation of the sail pre-feeder. The pre-feeder is installed about 0,2 - 0,3 m below the bottom end of the sail groove to the telescopic coupling with a bridle.



	Spinnaker Halyard Suspension	
Part number	SP I	SP II
Height H (mm)	140	190
Length L (mm)	200	250
Width B flexibel (mm)	60 - 100	100 - 150
Wire Ø (mm)	6	8
Weight (kg)	0,23	0,41

Sail Pre-Feeder

The Sail pre-feeder makes inserting the jib into the foil easy. The pre-feeder makes a second crew person on the the forepeak unnecessary. [Ordering number: S]

Rope guidance (single rope & endless rope)









Rope guiding rollers for
Stanchion & pulpit (Ø 25 mm)

Pulleys for rope guidance along the stanchions

The one-sheave block is designed for standard jib furlers with single line control or for jib furlers with continuous peripheral line. The double turning block is specially designed for jib furlers with continuous double line control. The furling line can be guided over the deck and around super structures and thus the operation of the system is facilitated.

We recommend installing the blocks at the bottom of stanchions. The turning blocks are available for guiding the line inside or outside the stanchions. For the inclined tubes of bow pulpits also rotating turning blocks are provided.



	Rollers inside stanchions		Rollers outside stanchions	
	Single	Double	Single	Double
Artikelnummer	550	550-1	580	580-1
Fixed orientation				
Artikelnummer	567	550-2	578	580-2
Turnable orientation				

Typical guiding of an endless rope (above deck)

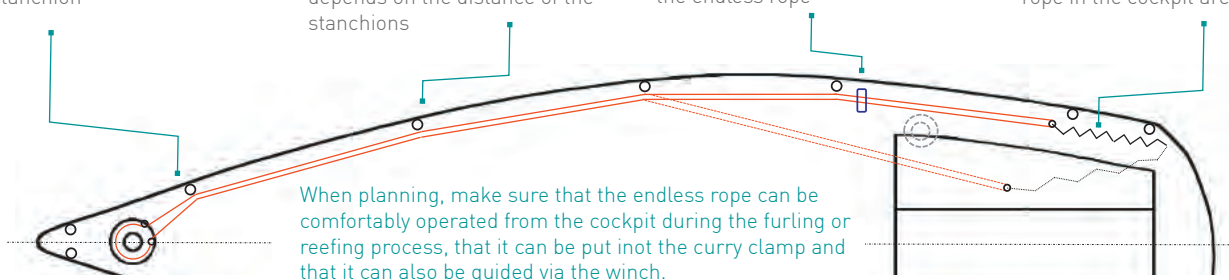
The rope guidance is strongly dependent on the deck layout. The following illustration shows a typical arrangement (we are happy to advise you individually).

Rope outlet from Furler to starboard
First roll rotatable on pulpit or at
first stanchion

Guide roller on stanchions along
the starboard side. Number
depends on the distance of the
stanchions

Double curry clamp or two single
curry clamps for fixing both sides of
the endless rope

Block with an rubber cord for
deflection and tension of the endless
rope in the cockpit area





Diameter Ø 6/8/10 mm for size I-V



Compact / loadable splice on an endless rope (Ø 8mm)



Block with rubber cord for deflecting and tensioning the endless rope
for Ø 6 / 8 rope: Part number 35250-601-06
for Ø 10 rope: Part number 35250-602-06



Double Curry Clamp: Part Number 23159
Curry Clamp: Part Number SN22
Clamcleat starboard: Part Number CL217
Clamcleat backbord: Part Number CL218

Rope type/ Standard color

Soft / non-slip / easy spliceable rope: "Liros Top Cruising"
Standard color: dark blue

Endless rope / Splice

When using endless spliced linen, it is important to distinguish whether or not the line can be fully spliced. For endless Fockrollern the leash without tools can be mounted or removed. When guided by tubes below deck, the line must be spliced on board. Under no circumstances should the line be simply welded, as this type of connection does not transmit sufficient tensile forces.

You will find a splicing guide in the download area at www.bartels.eu or we will send you this on request.

Defelction and Tensioning of the Endless Rope

Endless linens are clean and tidy on deck when stretched aft with a roll and rubber stopper.

Fixation of furling- / reefing rope

For the fixation of the endless rope in the area of the cockpit we recommend two curry clamps or a double curry clamp. Ropes up to Ø 6 mm can also be fixed with one or two Clamcleats (observe starboard / port side).

Note: When the sail is rolled or reefed, both sides of the endless rope must always be fixed. For reefing systems, from the size V halyard stopper must be used to fix the endless rope.

Typical guiding of an endless rope (below deck)

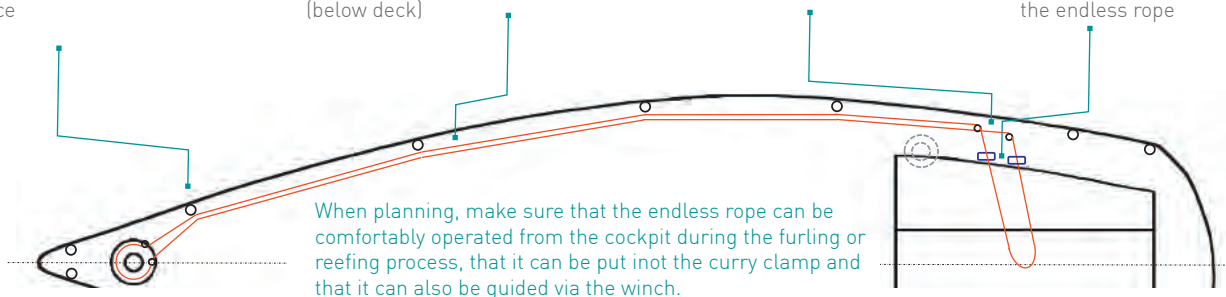
The rope guidance is strongly dependent on the deck layout. The following illustration shows a typical arrangement (we are happy to advise you individually).

Rope outlet from Furler to starboard to guide the rope to the inner hull surface

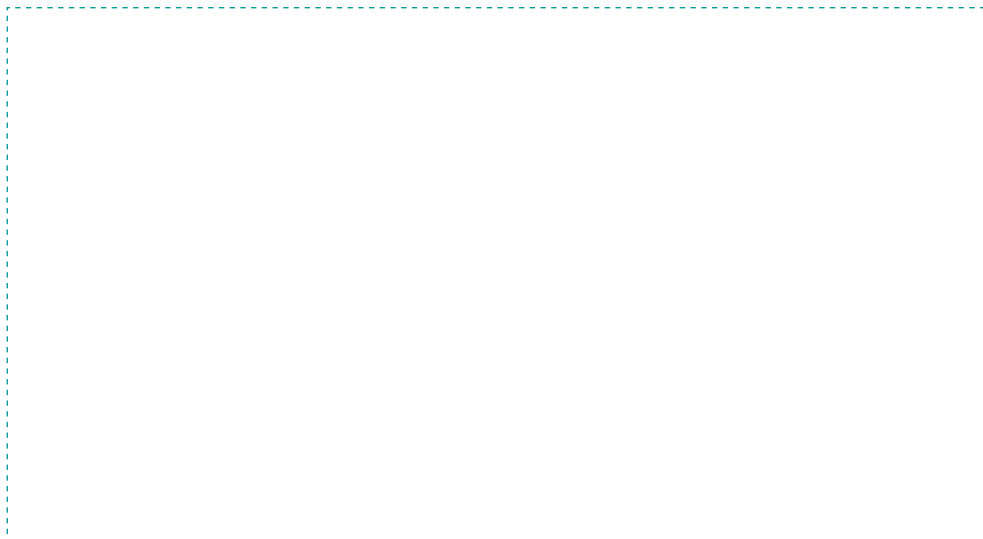
Guiding of the ropes close to the hull through conduits or by rollers (below deck)

Deflection of the rope by rollers close to the hull surface (below deck)

Double curry clamp or two individual curry clamps for fixing both sides of the endless rope



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