50 1972-2022
Jahre Qualität
BARTELS
Rollfock- & Rollreffsysteme

BARTELS
Furling. Reefing. Sailing.

SPIRIT YACHTS / Spirit46 equipped with BARTELS D2-213-2

Furling- and Reefing Systems
Overview

EN

Rev. 11/2021

Furling- and Reefing Systems by BARTELS

Certified development and production

Over 45 years experience in yachting

Made in Germany

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

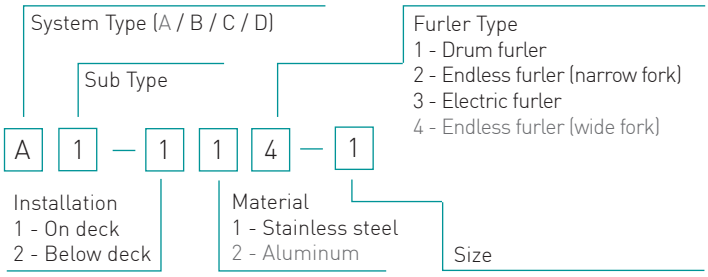
Our ultimate goal is the satisfaction of our customers. That is why we work according to the quality standards of the DIN ISO 9001: 2008. With the use of this quality management system, we demonstrate that quality orientation and constant performance improvement in every partial process determines our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

TÜV SÜD ISO 9001 · Zertifizierter GSI SLV Schweißfachbetrieb · Edelstahl Rostfrei

Saphire Boats



Overview
BARTELS
Furling- / and Reefing Systems

Jib furler endless
for Code0 and Gennaker

Jib furler drum
for furling- and reefing systems

Jib furler endless
for furling- and reefing systems

Deck passagewatertight and
angular movable
for furling- and reefing systems

			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**	Turning headstay	**C1** **C2**	Page 3		Page 4 + 5		--
Headsail reefing system for foil headstay (halyard at mast) and sails with luff tape **D**	Turning headstay	**D1**	Page 6		Page 7		--
	Stationary headstay	**D2**	Page 8		Page 9		Page 10

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

Installation on deck / turning headstay

B1-111 | B1-112

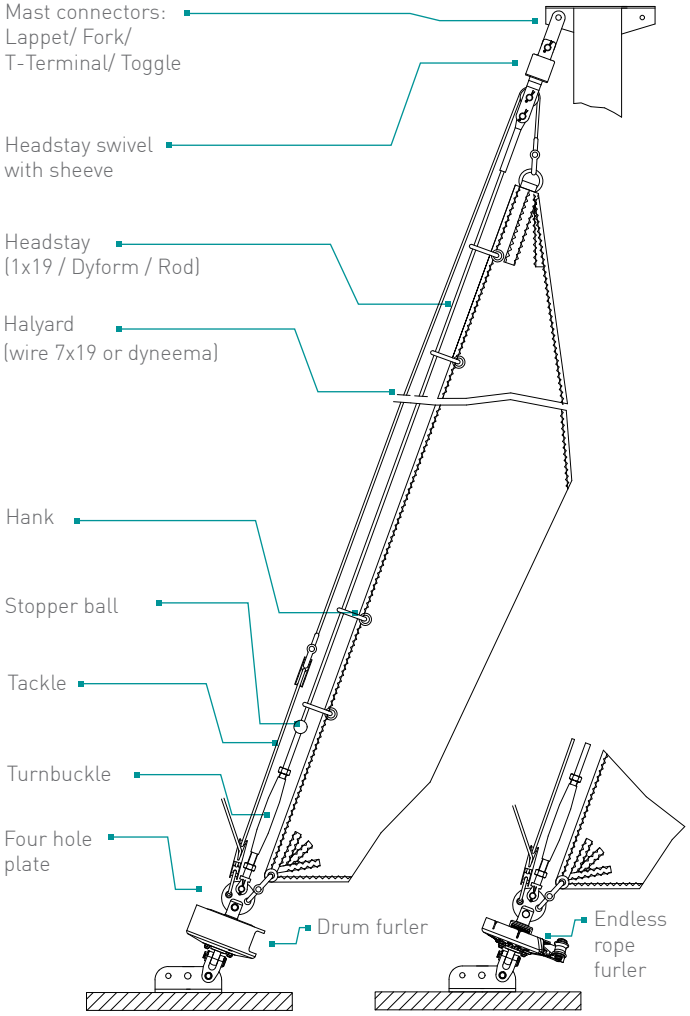
Scope of application

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

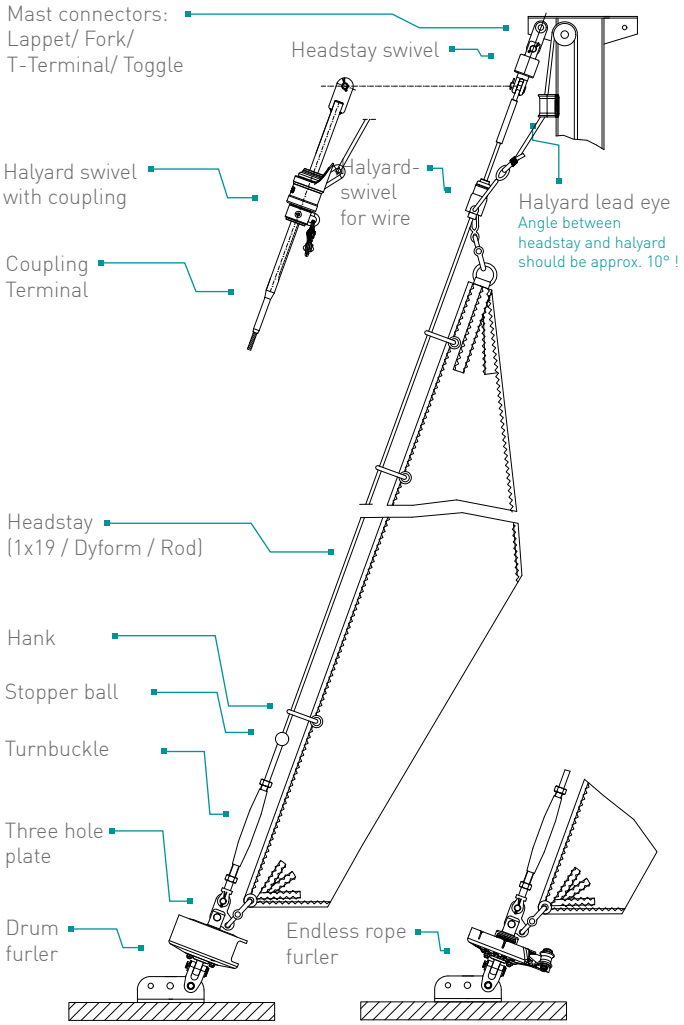
- Simple ans cost-effective systems
- Easy installation and handling
- Continued use of hank-on sails
- Safe and fast furling from the cockpit
- The sail head is furled tight parallel to the headstay. A blowing out of the sail in the head area is not possible!
- Compact and unobtrusive design
- Drum 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. Displace-ment [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

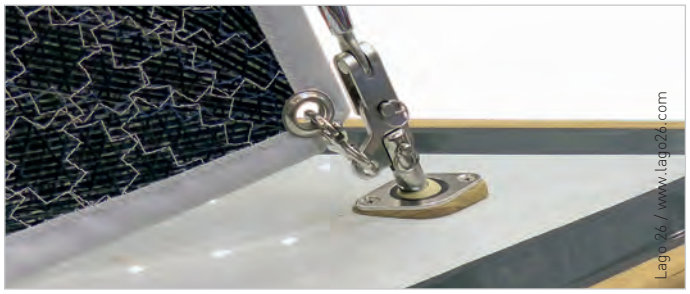
- Continued use of hank-on sails
- Easy installation and handling
- Low attachement point for the sail tack
- Compact and unobtrusive design
- Drum and endless rope furlers available
- Continued use of existing jib halyard (hoisting operation from the cockpit)
- Safe sail changes (during a sail change,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

Max. Sail area [m²]	Max. Displace-ment [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration		Main components / part numbers				
					Bolt Ø [mm]	Furler	Halyard Swivel	Coupling Terminal	Headstay Swivel	Three hole plate
15	1,5	4	8	**C1-111-1**	7	F I	FS I	not required	STW I	18/6
				C1-112-1		FE I				18/9
25	2,5	5	8	**C1-111-2**	8	F II			STW II-5	
				C1-112-2		FE II				
		5	12	**C2-111-2**		F II	FS II-DK	37/39-5 VST		
				C2-112-2		FE II				
35	3,5	6	8	**C1-111-3**	10	F III	FS II-D-6	not required	STW II-5 STW II-T STW III	18/10-II
				C1-112-3		FE III				
			13	**C2-111-3**		F III	FS II-DK	37/39-5 VST 37/39-6 VST		
				C2-112-3		FE III				
50	6	7 / 8	15	**C2-111-4**	12	F IV	FS III-DK	37/43-7 VST 37/43-8 VST	STW IV	18/10-III
				C2-112-4		FE IV				
	9	8 / 10		**C2-111-4+**	14	F IV+	FS III-DK FS IV-DK	37/43-10 VST	STW IV+	18/10-IV+
				C2-112-4+		FE IV+				
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 attachement 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)

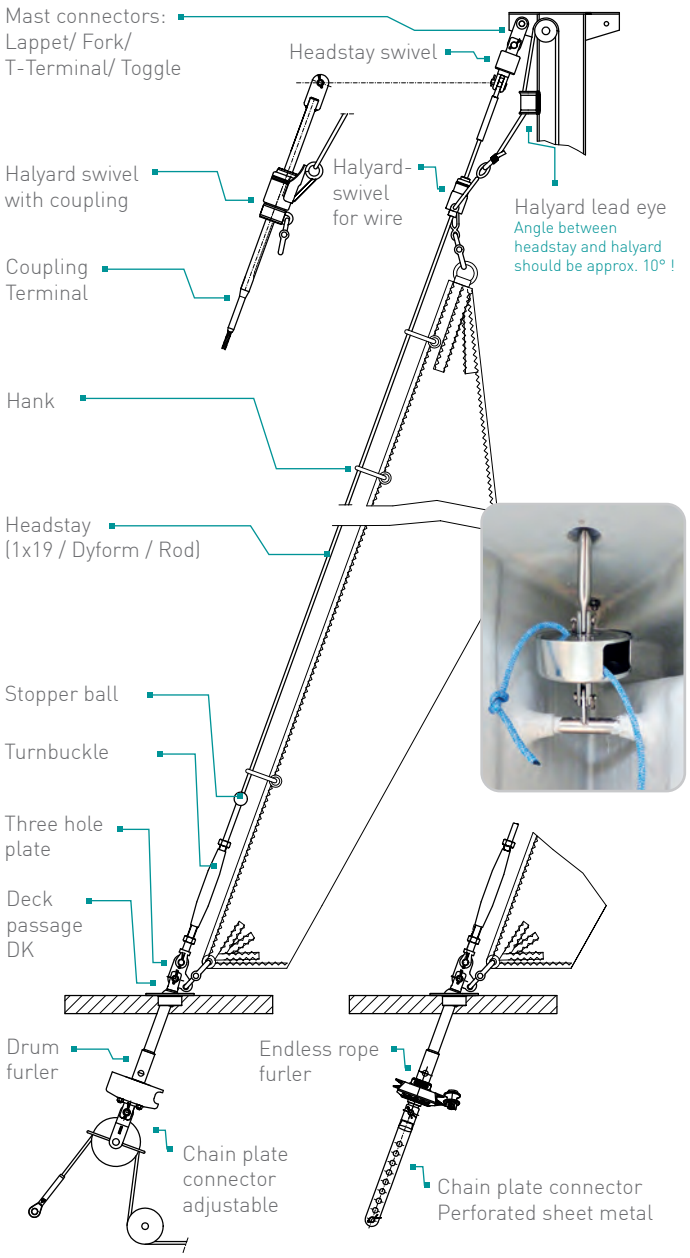
The jib furling systems with halyard swivel for cable headstays are suitable for complete furling of hank-on sails. A Reefing is not possible because the cable headstay is not suitable as a reefing core (the sail is constricted, twisted and damaged).

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 attachement 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)



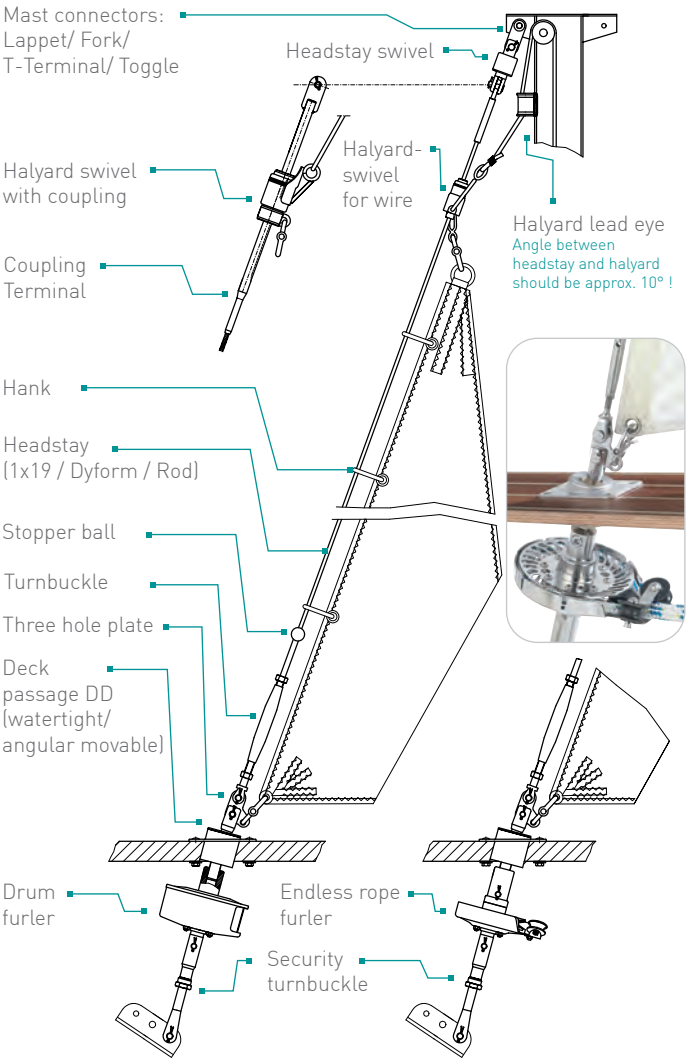
Max. Sail area [m²]	Max. Displace-ment [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration	Bolt Ø [mm]	Main components / part numbers					
						Furler	Deck passage	Halyard Swivel	Coupling Terminal	Headstay Swivel	Three hole plate
15	1,5	4	8	**C1-211-1 (DK)**	7	F I	DK-16	FS I	not necessary	STW I	18/9
				C1-212-1 (DK)		FE I					
25	2,5	5	8	**C1-211-2 (DK)**	8	F II	DK-20			STW II-5	
				C1-212-2 (DK)		FE II					
			12	**C2-211-2 (DK)**		F II		FS II-DK	37/39-5 VST		
				C2-212-2 (DK)		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 missalignments on and below deck)
- Continued use of hank-on sails
- Lowest attachement 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. Displace-ment [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration	Bolt Ø [mm]	Main components / part numbers					
						Furler	Deck passage	Halyard Swivel	Coupling Terminal	Headstay Swivel	Three hole plate
15	1,5	4	8	**C1-211-1**	7 / 8	F II-2	DD I	FS I	not required	STW I	18/9
				C1-212-1		FE II-2					
25	2,5	5	8	**C1-211-2**	8	F III-2				STW II-5	
				C1-212-2		FE III-2					
			12	**C2-211-2**		F III-2		FS II-DK	37/39-5 VST		
				C2-212-2		FE III-2					
35	3,5	6	8	**C1-211-3**	10	F III-2	DD II	FS II-D-6	not required	STW II-5 STW II-T STW III	18/10-II
				C1-212-3		FE III-2					
			13	**C2-211-3**		F III-2		FS II-DK	7/39-5 VST 37/39-6 VST		
				C2-212-3		FE III-2					
50	6	7 / 8	15	**C2-211-4**	12	F IV-2	DD III	FS III-DK	37/43-7 VST 37/43-8 VST	STW IV	18/10-IV
				C2-212-4		FE IV-2					
	9	8 / 10		**C2-211-4+**	14	F IV+-2	DD III+	FS III-DK FS IV-DK	37/43-8 VST 37/43-10 VST	STW IV+	18/10-IV+
				C2-212-4+		FE IV+-2					
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

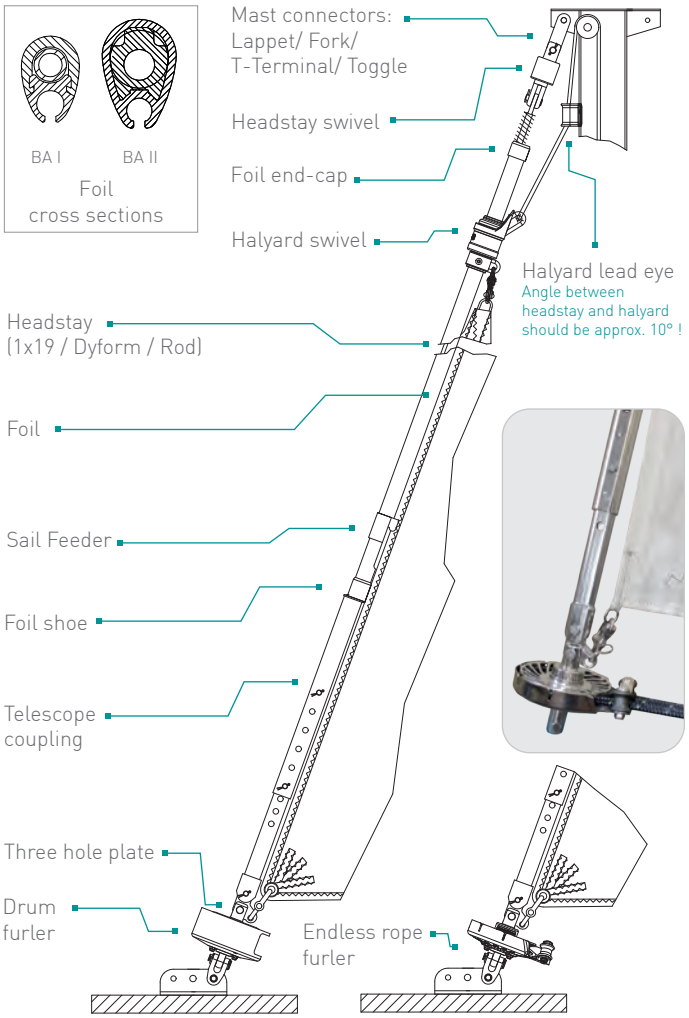
Jib reefing systems make it possible to reduce the sail area continuously as long as the sail is suitable for that by weight of the cloth and its construction. Existing sails with jib hanks can be made reefable by sewing on a luff tape. Larger sails with a deep cut (profile) should be made reefable by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



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 attachement point for the sail tack
- Compact / unobtrusive and robust stainless-steel design
- Drum and endless rope furlers available

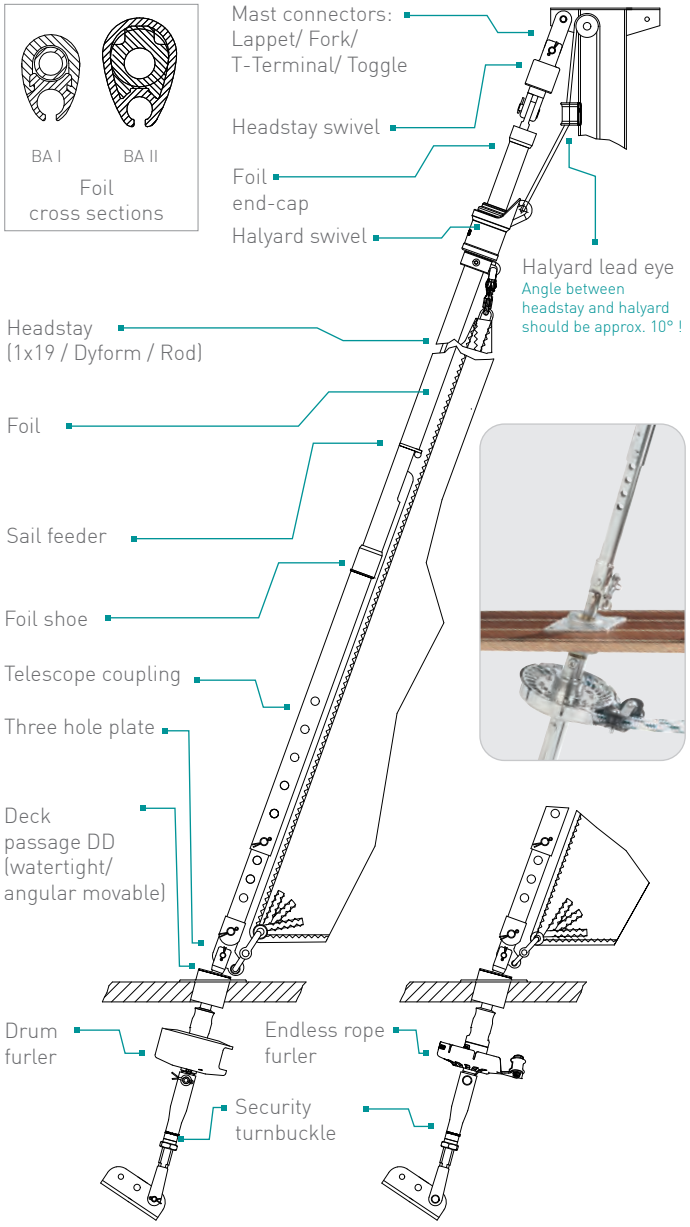
Max. Sail area [m²]	Max. Displacement [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration	Bolt Ø [mm]	Main components / part numbers					
						Furler	Telescope Coupling	Foil	Halyard Swivel	Headstay Swivel	Three hole plate
25	1,5	4	9	**D1-111-1**	7 / 8	F II	RKS I – BA I	BA I	FS II	STW I	18/9
				D1-112-1		FE II					
	2,5	5	11	**D1-111-2**	8 / 10	F II				STW II - 5	
				D1-112-2		FE II					
35	3,5	6*	12	**D1-111-3**	10	F III	RKS II - BA II	BA II	FS III	STW III	18/10-II
				D1-112-3		FE III					
50	6	7*	13	**D1-111-4**	12	F IV				STW IV	18/10-III
				D1-112-4		FE IV					
--	--	16*	35	*** 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 back-stay 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 attachement point for the sail tack
- Compact / unobtrusive and robust stainless-steel design
- Drum and endless rope furlers available

Max. Sail area [m²]	Max. Displace-ment [t]	Max. Headstay Ø [mm]	Max. Headstay length [m]	Configuration	Bolt Ø [mm]	Main components / part numbers						
						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 I	BA I	FS II	STW I	18/9
				D1-212-1		FE II-2						
	2,5	5	11	**D1-211-2**	8 / 10	F III-2					STW II - 5	
				D1-212-2		FE III-2						
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						
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)**								

Reefing system with foil headstay for sails with luff tape

Installation on deck / stationary headstay

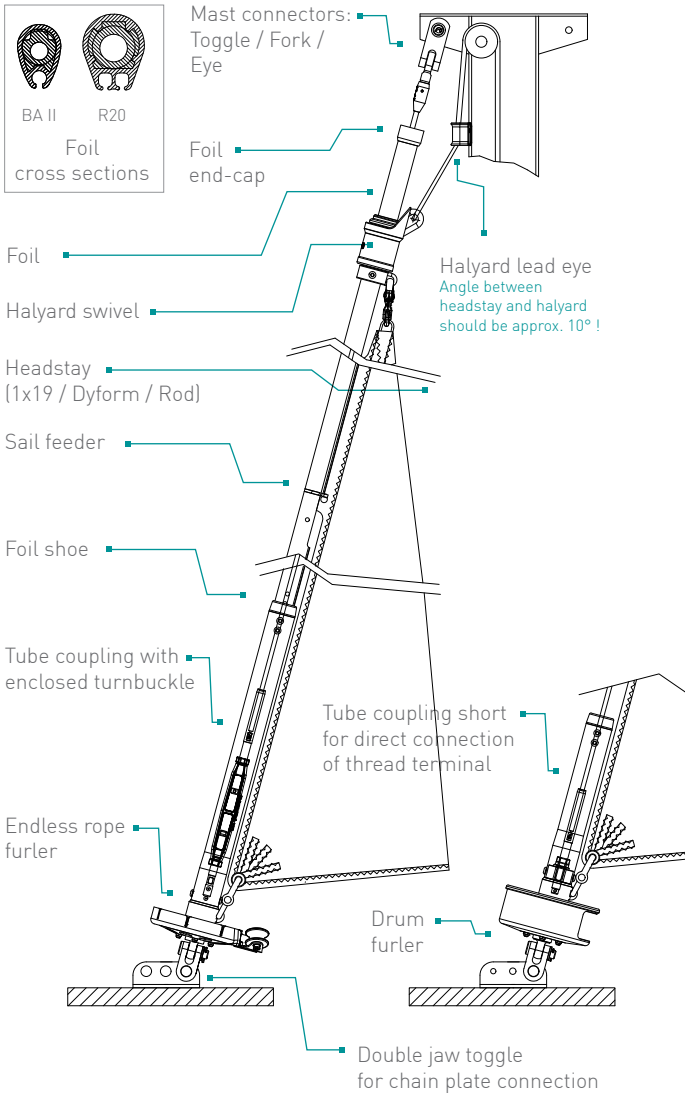
D2-111 | D2-112

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 adjustement range and enable an 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 attachement 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 equippet 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 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	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			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									

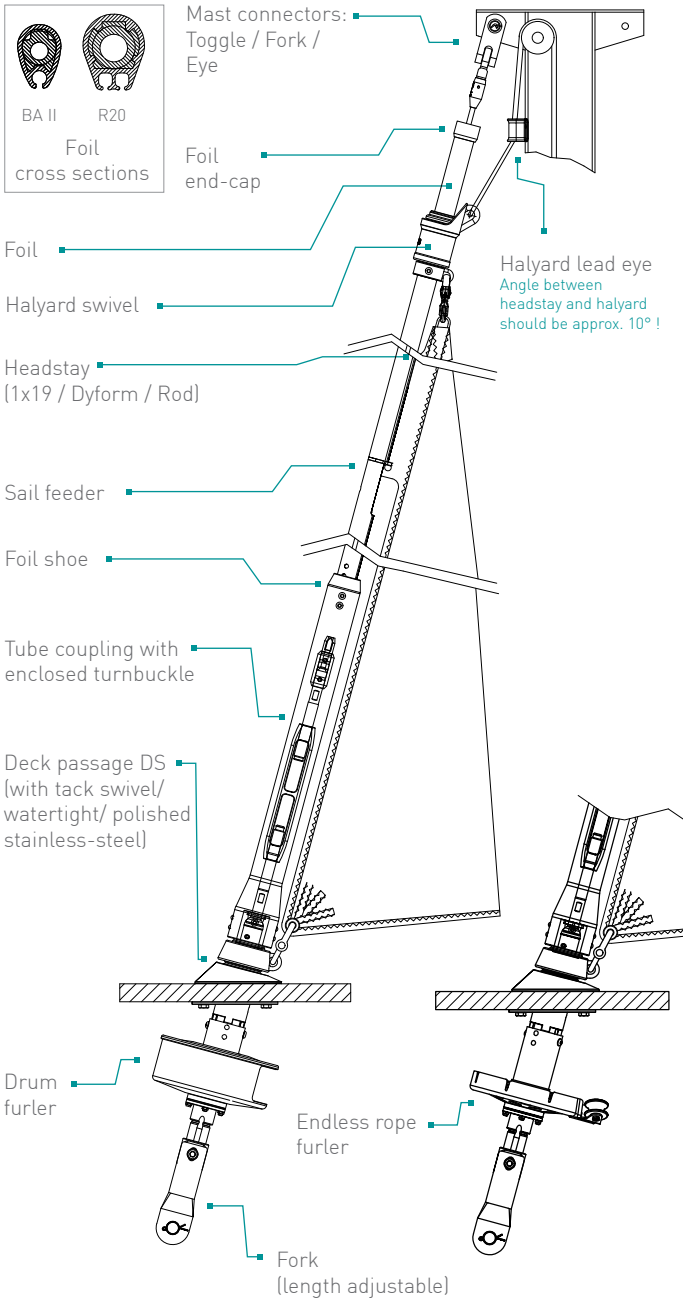

Martin Yachts / 54t Sonderbau

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 avaible.

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 attachement 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 FE IV-SL	DS-I	300/59	FS III
-12 (7,1)	--					BAII				
--	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)	--				3/4"	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

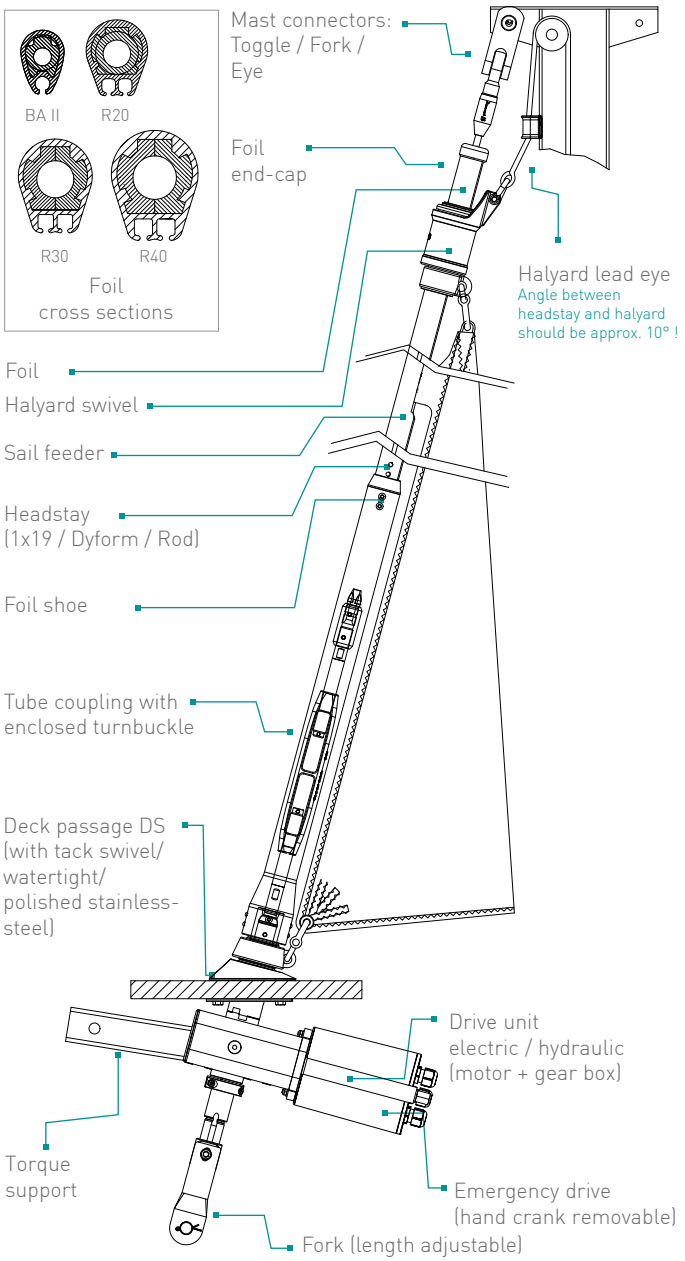
Scope of application

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 attachement 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 equippet 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, dyform, 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	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			R20			300/61	FS IV
-17 (8,4)	--	16	18	**D2-213-2**	3/4"					
-22 (9,5)	10	16 / 19	18							
--	12	19	23			R30	SE-I 1000		300/91	R30-1
-30 (11,1)	14	22	23	**D2-213-3**	7/8"		SE-II 1500	DS-II	300/1116	
-40 (12,7)	--	25,4	23	**D2-213-4**	1/1"					
--	16	25,4	28			R40			300/1125	R40-1

Technical details
Drawings / CAD data
Prices

Fast & easy

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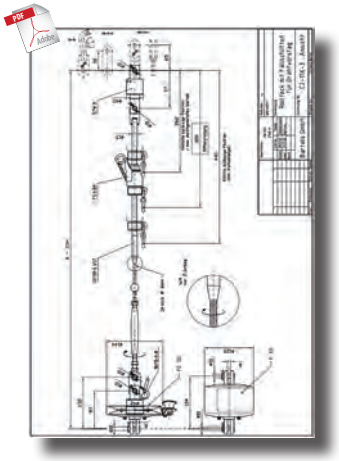
Technical Details / Drawings
Prices

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

- System views for each size / system
- Basic offers for every size / system
- Assembly instructions

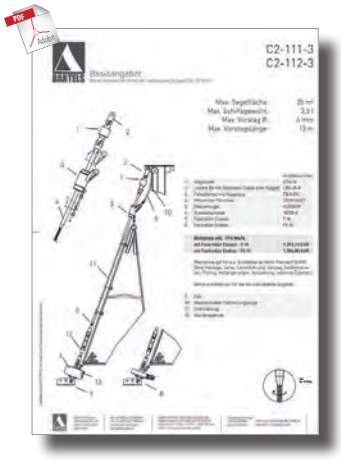
System views

For all common systems / sizes in PDF format



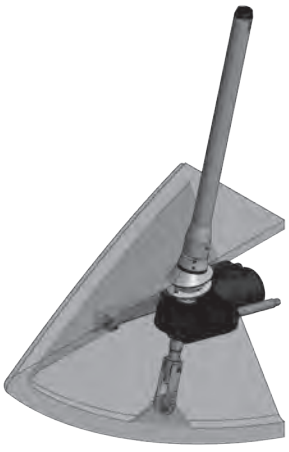
Basic offers

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- or 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


Dragon Class / Fiona Browns

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

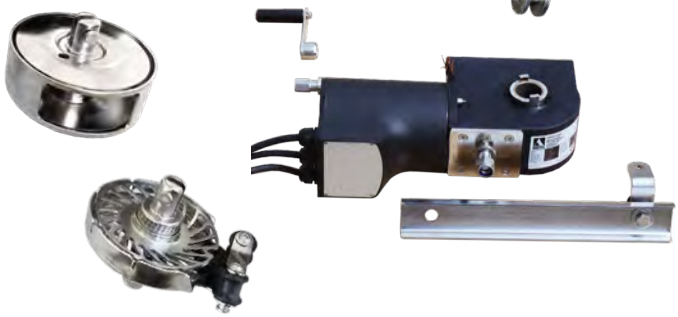
For documents with further information see page 11

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)

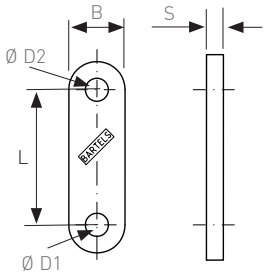
Mast Connections

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

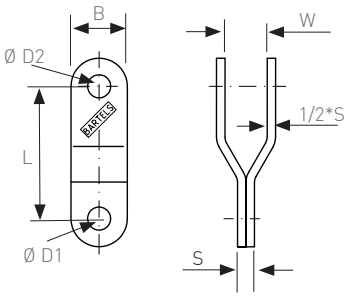
Connections between top-swivel and mast (for B1/ C1/ C2/ D1 - Systems)

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.

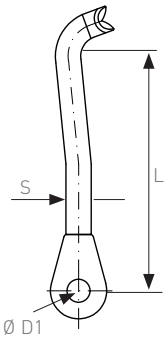
Other existing halyards must not caught by rotating parts and must be kept free running by lead eyes and spinnaker jigs.



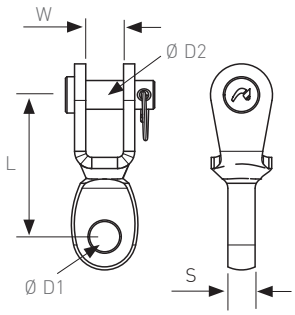
Lappet



Fork



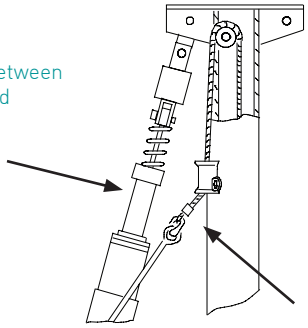
T-Terminal



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

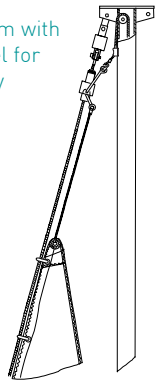


Halyard lead eye

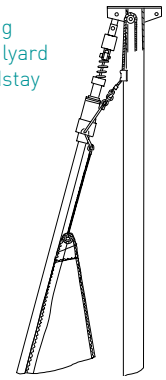
Between headstay and halyard an angle of approximately 10° - 15° is to be maintained, otherwise the halyard can wrap itself around the headstay. A halyard guiding eye is attached the mast to correct the angle. For installation on a carbon fiber mast, a local reinforcement be provided.

	Halyard lead eye
Part number	**FF**
Max Rope Ø (mm)	12
Mounting holes Ø (mm)	6
Weight (kg)	0,04

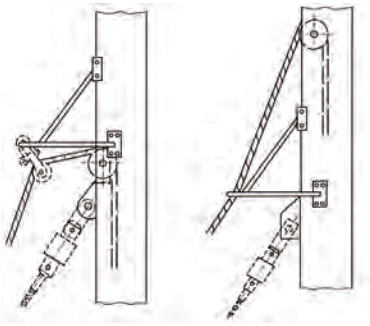
Furling system with halyard swivel for wire headstay

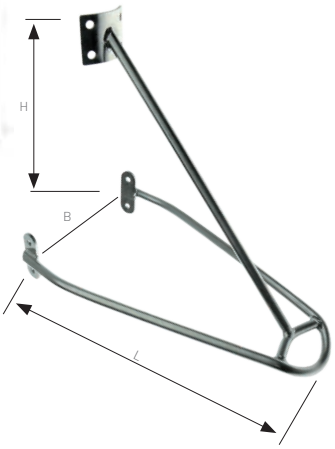


Furling/ Reefing system with halyard swivel for headstay with foil



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.

	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

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 fi ber 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.

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 stachions		Rollers outside stachions	
	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)

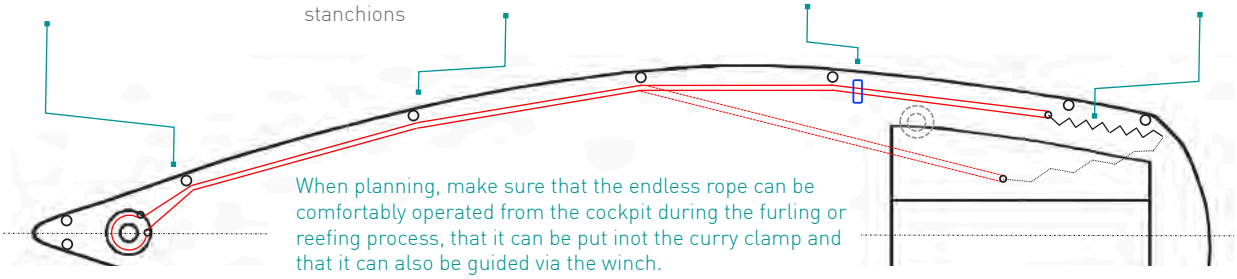
The rope guidance is strongly dependent on the deck layout. The following illustration shows a typical arrangement (we are happy to advise you individually).

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

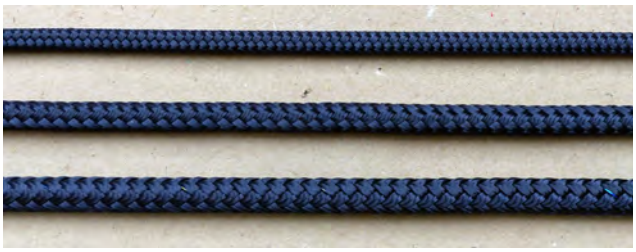
Guide roller on stanchions along the starboard side. Number depends on the distance of the stanchions

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



When planning, make sure that the endless rope can be comfortably operated from the cockpit during the furling or reefing process, that it can be put inot the curry clamp and that it can also be guided via the winch.



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 starbord: 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)

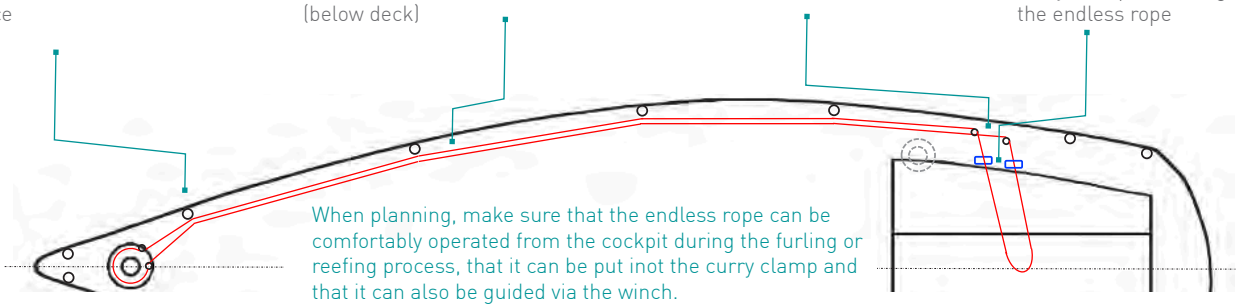
The rope guidance is strongly dependent on the deck layout. The following illustration shows a typical arrangement (we are happy to advise you individually).

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 durface (below deck)

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



When planning, make sure that the endless rope can be comfortably operated from the cockpit during the furling or reefing process, that it can be put inot the curry clamp and that it can also be guided via the winch.

BARTELS Dealer nearby

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