

Credit photo : E. Beaugé / Facnor

**facnor**<sup>®</sup>  
FURLING SYSTEMS



*new FX+ range*



2015-2016 CATALOGUE

[www.facnor.com](http://www.facnor.com)



## Group synergy and innovation



*" For more than a year, the Wichard Group has been united in the development of both Facnor and Sparcraft. Facnor's experience and history has been successfully built on listening to a wide audience of ocean racers, which has lead*

*to exciting innovations and a genuine trust in our products. The Facnor team, has again taken up the innovation challenge by creating and launching the new range of FX+ Gennaker/Code zero furlers. By levera-*

*ging on our industrial and commercial synergies within the Wichard group, it has opened up a far wider scope for product development. Our long term goal, is to create an organization, that capitalizes on the strengths of our companies to meet the sailor's needs in terms of safety and innovation. We will keep listening to you."*

Jean Claude Ibos,  
Wichard Group CEO

## Wichard reliable since 1919

■ **Wichard** has become a world leader in the marine hardware industry by both internal R&D development and through the acquisition of other manufacturing capabilities such as Maillard, specialized in plastic injection molding. This expansion, consolidated on a strong financial foundation enables us to



investment, and adapted ourselves, to meet the goals set before us. Wichard is involved in a wide spectrum of industries, from marine, mountain equipment, aeronautic and medical devices, the group has built up numerous systems, to fine tune the R&D development

manufacturing, and the distribution of its products worldwide. Building on Wichard's already well established distributor and dealer network, the addition of Facnor and Sparcraft, will bring even greater exposure, in the yacht mast and rigging business. Wichard's established position makes us a reliable partner for shipyards, naval architects, boat managers and dealers. Wichard's legacy, will be a manufacturer of the world's high quality equipment, used when one's life depends on it.



## The Wichard Group stats

■ **Wichard** : a network of 1000 points of sale in France, 40 dealers, over 200 industrial customers;

■ **Facnor** : 40 dealers specifically trained in Facnor products, 35 worldwide dealers outside France;

■ 210 employees

■ 6 production sites : two in Saint Vaast-la-Hougue, one in Thiers,

Périgny, Saint Malo (France) and Charlotte (NC, USA)

■ **Export shares**: approximatively 60% for Wichard and 50% for Facnor

■ **Thousands of items available for masts, hardware, rigging, booms, outhauls, Spinnaker poles, furling systems, locks, mainsail cars and tracks**





## FACNOR, L'INNOVATION MAÎTRISÉE

*Group synergy & innovation*

Facnor is a worldwide leader in designing and manufacturing furling systems, based on its expertise, more than 30-year experience and widely sold products. The company supplies many shipyards as well as ocean sailors who participate in well known races. Facnor insists on research and reliability throughout the development of product ranges.

### MARINE EXPERIENCE

- An experience of over 30 years in marine industry;
- An engineering team qualified in metallurgy as well as composite materials;
- A synergy of means in computerised design and production;
- Human resources based on skills and dynamism;
- Products tested in extreme conditions by the most experienced ocean skippers.



crédit photo : Nicolas Jutzi

### PRODUCTION : PERFORMANCE & QUALITY

- Wide production capacity including 5 production sites;
- Anodizing baths among the longest in the world (Sparcraft US and Europe (Sparcraft));
- Electrostatic powder painting box (Sparcraft-US);
- Découpe numérique plasma et centres d'usinage (France);
- CNC and traditional machining;
- Group synergy : Complementary production means in plastic processing (Maillard, France) and hot forging (Wichard - France);
- Our metrology department is equipped with the measuring tools needed to insure the constant conformity of the machined parts;
- Mechanical and chemical tests carried out on used materials for reliability warranty.



### CUSTOMER SERVICE : FROM SALES TEAM TO DEALER NETWORKS

- a distribution network offering an **after-sale service in 35 countries**;
- Our sales team is based around sailing people with real experience to advise you from ;
- Industrial means and experience guarantee an efficient logistic;
- Skilled dealers with the Facnor product knowledge.



Facnor has been supported, throughout its development, by various long term, sport and solidarity projects where sharing experiences and challenges have helped track its course.



©Martin COUDRIET Team Jolokia

**FACNOR, SPORT PARTNERSHIP**

**■ FACNOR : TECHNICAL AND SPORT PARTNERSHIPS**

Since 1993 Facnor has been involved

with the French skipper, Halvard Mabire (first on his 60 footer and then in the Whitbread around the world race). With his British companion, Miranda Merron, they have recently participated individually on Class 40's in the 2014 Route du Rhum. They also won the last Québec-Saint Malo transatlantic race. Installed on Halvard and Miranda's class 40's are Facnor headsail structural furlers. The Pogo 40 "Campagne de France 1" has successfully sailed over 47.000 miles. Both Miranda and Halvard, are experienced sailors and credible technical consultants, who have once again decided form a long term partnership with Facnor for their new ocean Class 40 "Campagne de France". Other well known French skippers like Marc Lapesqueux, on "Cap West", Class 40 Sabrosa, have joined the Facnor ranks.

Their web sites : [www.mabiremerron.com](http://www.mabiremerron.com)    [www.lapesqueux.com](http://www.lapesqueux.com)



M. Merron (to the front of the boat) & H. Mabire on Campagne2France, équipéed with Facnor furlers

**■ FACNOR : PARTNER OF HUMANITARIAN ASSOCIATIONS...**

In a socially responsible approach, Facnor supports humanitarian projects undertaken by modest sailors ready to sail miles away sometimes in difficult seas for noble reasons. Among other involvements, Facnor has become partner of some charity or humanitarian associations on board of : Podorange (Challenge 67, Association Voile Australe), Element 3 (First 405), Chamade (Ovni 365), Jolokia (Rhum 50, Défi Intégration), Allioth (Azzuro 53), Ketch EVC (Mentor destiné aux personnes handicapées).

Their web sites :  
[www.voile-australe.com](http://www.voile-australe.com)  
[www.element3.ch/](http://www.element3.ch/)  
[www.chamade.ch](http://www.chamade.ch)  
[www.teamjolokia.com](http://www.teamjolokia.com)  
[www.team-alioth.fr](http://www.team-alioth.fr)

Long sailing to these projects!



Photo Credit : Voile-Australe



Photo Credit : Voile-Australe



Photo Credit : Team Jolokia



©Martin COUDRIET Team Jolokia



©Martin COUDRIET Team Jolokia

# S U M M A R Y

INTRODUCTION TO THE WICHARD GROUP & FACNOR P 1 - 3

CUSTOM EQUIPMENT P 5 - 6

LS, LX, RX HEADSAIL FURLING & REEFING SYSTEMS P 7 - 11

FD WEBBING FURLING & REEFING SYSTEMS P 12 - 15

RECOMMENDATIONS & ACCESSORIES P 16 - 17

EF ELECTRIC FURLING & REEFING SYSTEMS P 18 - 21

FURLING SECTIONS & CONNECTIONS P 22

STRUCTURAL STAYSAIL/GENOA FURLERS 14-100T P 23 - 25

INTERNAL & EXTERNAL LOCKS P 26 - 27

STRUCTURAL FURLERS 3-4 T P 28

GENNAKER & CODE ZERO FURLERS  
& ALSO STAYSAIL P 29 - 33

ASYMMETRIC SPINNAKER FURLERS  
FAST THIMBLE P 34 - 35

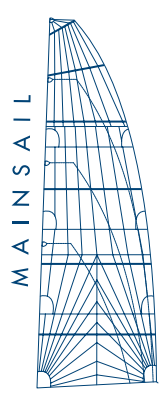
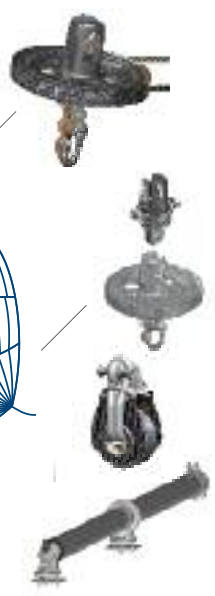
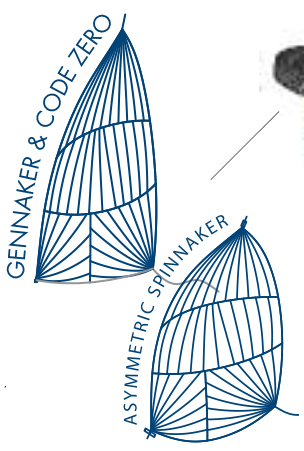
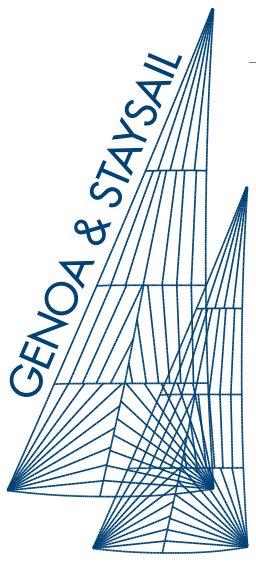
FURLERS ACCESSORIES P 36 - 37

REMOVABLE BOWSPRIT P 38

FULL BATTEN CAR SYSTEMS FACSLIDE+ P 39 - 42

REEFING LOCKS P 43

CF MAINSAIL FURLING & REEFING SYSTEMS P 44 - 46



MAXI-YACHTS  
RACING UNITS

Crédit Photo : Arzma Navy 2013

CUSTOM EQUIPMENT



**From maxi-yachts to cruising boats :**

Facnor has built a solid reputation of reliability and expertise within the elite circles of the maxi yachts as well as Ocean racers. For many years, through the famous races such as the Vendée Globe, the Volvo Ocean Race, The Race or the latest MOD70 circuit, extreme navigators have relied on Facnor equipment. In partnership with high experienced sailing teams, Facnor has innovated and improved performance and strength of its products.



FROM "ULTIMS" TO MEGAYACHTS	P6
CARBON SECTIONS	P22
STRUCTURAL STAYSAILS/GENOA FURLERS	P23-25
HALYARD LOCKS	P26-27
GENNAKERS & CODE ZERO FURLERS	P29-35



Crédit Photo : Mark Lloyd / MOD S.A.

The custom projects for ocean cruising or racing maxi-yachts require high tech means: computerised design, technical knowledge in metallurgy and composite materials, and a constant updated data-base. Our team offers a good response, an efficient shipping management as well as an innovative spirit and capacity. Facnor has been successfully placed at the top rank of custom equipment suppliers.

## MAXI-RACE EXCELLENCE

From its experience in ocean racing equipment, Facnor has shown its success in numerous races and circumnavigations. Such prestigious victories come from a willingness to take up the challenge.

### Multi One Design to Ultimes

Facnor has worked on many different maxi racing sailboats projects, such as :

- 70' VOR (Volvo Ocean Race);
- Open 60' Imoca (last four victories in the Vendée Globe)
- Maxis : Mari-Cha (140')
- Multihulls (Géant, Groupama, Banque Pop),

- Multi One Design 70' (MOD 70)
- "Ultimes" (Sodebo Ultim, 102')

Our partnerships with skippers like Michel Desjoyeaux (multihulls, 60' monohulls) or Halvard Mabire (WOR 60', Open 60', Class 40') are set up on long-term basis. We have successfully gained the trust of our customers thanks to our responsiveness as well as our capacity in innovating and supplying constant high production.

Our Facnor flying sails furlers are designed to support high loads of over 500m<sup>2</sup> Gennakers with workloads up to 40 tons.



Mari-Cha III



Photo : Silvere-Juhel



Code Zero & Gennaker furler (titanium) on Baltic 197'



Tack plates on Magic Carpet III

Photo : G. Russo / North Sails

## MAXI-YACHTS EXCELLENCE



### Maxiyacht projects :

- Baltic 147' Visione,
- Baltic 197'Hetairois,
- Briand 108' Inouï,
- Class J 121' Shamrock V,
- Class J 131' Velshedha,
- CNB 76'
- Finot Conq 100' Nomad IV,
- Gun Boat 55', 60', 62', 66', 90'
- Maxi 147' Mari-Cha III,
- Maxi 140' Mari-Cha IV,
- Maxi 142' Sarissa & Mystere,

### Maxi Open 115'

- Maiden Hong Kong,
- Maxi 85'Winquest,
- Perinavi 197', Perseus 3
- Sarissa 142' Bill Trip design
- Schooner 152' Windrose,
- Schooner 203' Athos,
- Superyacht 156' Hyperion,
- Swan 80, 82, 100, 112,
- VPLP 142' Hemisphere,
- Wally 80' and 82'
- Wally 94'Y3K ,
- Wally 96'Magic Carpet 2,
- Wally 100'Magic Carpet 3,
- Wally 100'Dark Shadow,
- Wally 100'Alexia,
- Wally 107' Kenora & Nariida

See facnor custom brochure or consult our web site.



### Facnor & the Maxi-yachts : Furlers of "Haute couture"

From its own experience gained in ocean races, Facnor has been offering Maxi yacht skippers to supply tailor made equipment. The high requiring projects must be carefully carried out: "Furlers of haute couture for high rank cruising". Facnor is nowadays well-known for its reliable and sturdy products. This led it to participate in some outstanding architectural projects. Recently Facnor supplied the furling parts for Club Med II one of the biggest cruising yacht, at 620 foot long. Windsurf (162 m).





Crédit Photo : Association voile australe - Podorange

## HEADSAIL FURLING & REEFING SYSTEMS



**Your furling system for your navigation programm :**  
 Facnor team is very much involved in innovation and customer needs. Thanks to our design team desire to search for new ideas and discuss with skippers their requirements, we have improved our ranges of furling systems and developed specific features for each. Each sailor will be able to find the Facnor furling gear suitable for his navigation: classic drum (LS/LX/RX), webbing drum (FD), or electrical motorised drum (EF).



Crédit Photo : Association voile australe - Podorange



LS/LX/RX CLASSIC DRUM

P8



FD WEBBING DRUM \*

**FlatDeck**

P12



\* Award Sail magazine 2011  
 \* Award Segeln Magazine 2012



RECOMMENDATIONS & ACCESSORIES

P16



EF ELECTRIC ASSISTANCE

P18

SECTIONS

P22

Already widely tested round the world, the LS-LX-RX ranges have resistant sections and connectors and is now fitted with the free rotation Torlon® ball technology. This ensures a smoother rotation.

**RELIABILITY OF THE MECHANISMS**

**LS-LX-RX features:**

- Rotation Torlon® ball technology (easy to use)
- Easy access inside of drum mechanism
- Rotating tack fitting (LX & RX)
- Large range of sections and strong connections
- Easy installation (thanks to the telescopic section)



**Sail Feeder (LX range)**

The included pre feeder gives the ideal fitting to hoist the sail alone



**DRUM & SWIVEK**

**Bearing box**

Components : 2 polymer fibre rings and a Torlon® ball bearing box

**Smooth rotation**

This bearing box takes the axial loads (halyard tension) and lateral loads (outhaul tension)

**Anodization**

(30 microns) protects these parts against impacts and abrasion



**Halyard deflector wheel**

(see page 16)

**Swivel with Torlon® balls**  
eases sail furling

**Strong sections and connections**

Torx® screws for an easy fitting and further dismantling (see p.22)

**Bottom telescopic section**

enables to adjust foil section length, no cutting (see p. 22)

**Internal turnbuckle fitting**

provides space inside for the turnbuckle (see page10)

**Rotating tack fitting (LX & RX)**

Fitted with Torlon® balls : this system takes up automatically the sail fullness when furling.



**Synthetic insulation**  
to prevent electrolysis

**360° adjustable furling line**

For an optimal running of the furling line



Photo Credit : Voile Australe / www.podorange.com



You will find within the three ranges of headsail furling and reefing systems (LS-LX-RX), the Facnor product adapted to your needs either cruising, ocean navigation or racing.

## "CRUISING" RANGE LS&LX

**LS / LX cruising programm :** the LX range corresponds to an "upgraded" range featuring a removable drum, a rotating tack fitting, and a stainless steel feeder.

Features	Ranges		
	LS	LX	RX
Removable drum		■	■
Classic drum	■		
Stainless steel feeder		■	
Aluminium feeder	■		■
Rotating tack fitting		■	■
Fixed tack fitting	■		
Round sections	■	■	
Elliptical sections			■

Model	LS 60	LS 70	LS 100	LS 130	LS 165	LS180	LS 200	LS290	LS330
	LX 60	LX 70	LX 100	LX 130	LX 165	LX 180	LX 200	LX290	LX330
Boat length (meters & feet)	5,5 ↓ 7 m	6,5 ↓ 8 m	7,5 ↓ 9 m	8 ↓ 11 m	9 ↓ 12 m	10 ↓ 13 m	11,5 ↓ 14 m	13 ↓ 18 m	15 ↓ 28 m
	20' ↓ 23'	21' ↓ 28	24' ↓ 29'	26' ↓ 36'	29' ↓ 40'	40' ↓ 43'	38' ↓ 45'	43' ↓ 60'	50' ↓ 90'
max.	5	5	6	6-7*	8-10*	8-10*	10-12*	12-14*	14-22*
forestay ø (mm & inch)	5/32"	5/32"	1/4"	1/4" 9/32" *	5/16" 3/8" *	5/16" 3/8" *	3/8" 1/2" *	1/2" 9/16" *	9/16" 3/4" *
Section	SX 25	SX 25	SX 33	SX 33	SX 39	SX 39	SX 47	SX 47	SX 53
Weight (g/m)	577	577	658	658	914	914	1095	1095	1413
Halyard swivel	CHD25	CHD 25	CHD 33	CHD 33	CHD 39	CHD 39	CHD 47	CHD 47	CHD 53
Options	link plates / turnbuckle								

\*necessary to have removable eye or turnbuckle

## "RACING" RANGE RX - REMOVABLE DRUM

**RX racing/cruising programm :** The aerodynamic sections (see p. 22), the rotating tack fitting and the removable drum plates make the RXs well adapted for racing.



### Removable drum : system used as a simple head foil

Just a few minutes are needed to change the furling system into a twin groove head foil ready for racing.



Model	RX 70	RX 100	RX 130	RX 165	RX 220	RX260	RX300
Boat length (meters & feet)	6,5 ↓ 8 m	7,5 ↓ 8,5 m	8 ↓ 9,5 m	9 ↓ 11,5 m	10 ↓ 12,5 m	11,5 ↓ 15 m	13 ↓ 18 m
	21' ↓ 24'	24' ↓ 29'	28' ↓ 30'	29' ↓ 37'	32' ↓ 42'	37' ↓ 49'	42' ↓ 60'
max.	5	6	6 or 7	8	8 or 10	10	12,7
forestay ø (mm & inch)	5/32"	1/4"	1/4" or 9/32"	5/16'	5/16" or 3/8"	3/8'	1/2'
	Necessary to have removable eye or turnbuckle						
Section:	R 14	R 14	R 14	R 24	R 26	R 26	R 34
Weight (g /m)	451	451	451	555	641	641	991
Halyard swivel	CHD 14	CHD 14	CHD 14	CHD 24	CHD 26	CHD 26	CHD 34
Options	link plates / turnbuckle						

1. Unscrew and remove the furling line guide



2. Remove the half plates



3. Fit the two half protection rings

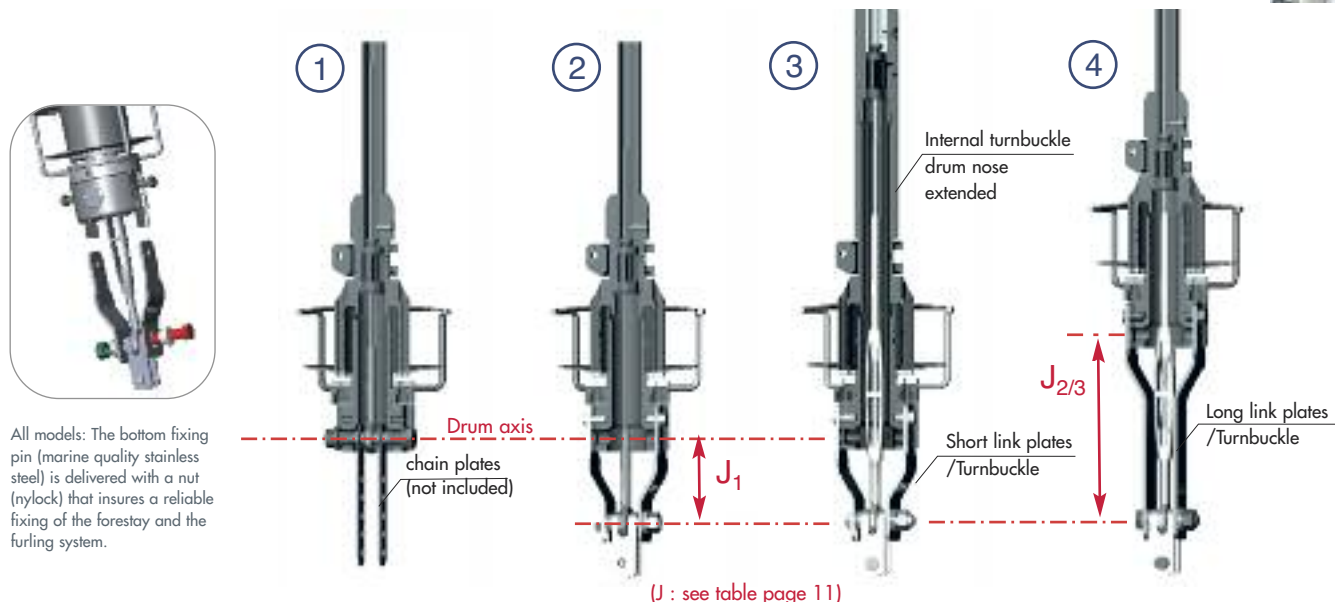


4. Once the half plates are removed, a racing Genoa can be hoisted using the twin groove head foil



**4 POSSIBLE TYPES OF INSTALLATION**

The drum fixation depends on the bottom forestay terminal fitted on your boat :



All models: The bottom fixing pin (marine quality stainless steel) is delivered with a nut (nylock) that insures a reliable fixing of the forestay and the furling system.

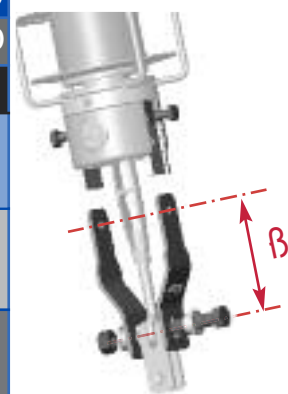
(J : see table page 11)

<b>Terminaison basse étai</b>	<b>Eye + chain plates</b>	<b>Eye + jaw toggle</b>	<b>Turnbuckle + double jaw toggle</b>	<b>Turnbuckle + double jaw toggle</b>
<b>Type de montage</b>	① Standard	② with short link plates	③ with internal turnbuckle & short link plates	④ with long link plates

**LINK PLATE KITS & INTERNAL TURNBUCKLE FITTINGS**

**Short link plates option** pict② ③: bent stainless steel plate 4 or 5 mm thick. Pin to pin = 100 ou 150 mm  
**Long link plates option** pict④: bent stainless steel plate 4 or 5 or 6 mm thick.. Pin to pin = 200 ou 250 mm  
**Extra-long link plates option** (only for biggest models, see table below) : bent stainless steel plate 6 mm thick.Pin to pin = 350 mm.

Option lattes	LS 60	LS 70	LS 100	LS 130	LS 165	LS180	LS 200	LS290	LS330
	LX 60	LX 70	LX 100	LX 130	LX 165	LX 180	LX 200	LX290	LX330
	-	RX 70	RX 100	RX 130	RX 165	RX 220	RX260	RX300	-
<b>Short link plates option</b> - Pin to pin $\beta$ Thickness (mm) + Heigth J1 / Standard (mm)	lgth 100 thk 4 + 82			lgth 150 thk 4 + 128		lgth 150 thk 5 + 126			
<b>Long link plates option</b> - Pin to pin $\beta$ Thickness (mm) + Heigth J 2-3 / Standard (mm)	lgth 200 thk 4 + 182			lgth 250 thk 5 + 228		lgth 250 thk 6 + 226			
<b>Extra-long link plates</b> - Pin to pin $\beta$ Thickness (mm) + Heigth J 2-3 / Standard (mm)	-	-	-	-	-	-	lgth 350 thk 6 + 326		



**Internal turnbuckle option** fig. ④: With the internal turnbuckle fitting, the turnbuckle can be positioned inside the drum and be easily adjusted. 5 models available

Internal turnbuckle option	LS 60	LS 70	LS 100	LS 130	LS 165	LS180	LS 200	LS290	LS330
	LX 60	LX 70	LX 100	LX 130	LX 165	LX 180	LX 200	LX290	LX330
<b>LS &amp; LX Internal turnbuckle fitting</b> ø inner dimension & lgth (mm)	ø 28 lgth 256	ø 34 lgth 279		ø 42 lgth 315		ø 50 lgth 432		ø 64 lgth 546	
<b>RX Internal turnbuckle fitting</b> ø inner dimension & lgth (mm)	-	ø 28 lgth 256		ø 34 lgth 279		ø 42 lgth 315		ø 50 lgth 432	



# LS-LX-RX

Strength and reliability

## CLASSIC DRUM FURLING & REEFING SYSTEMS



### Greasing screws :



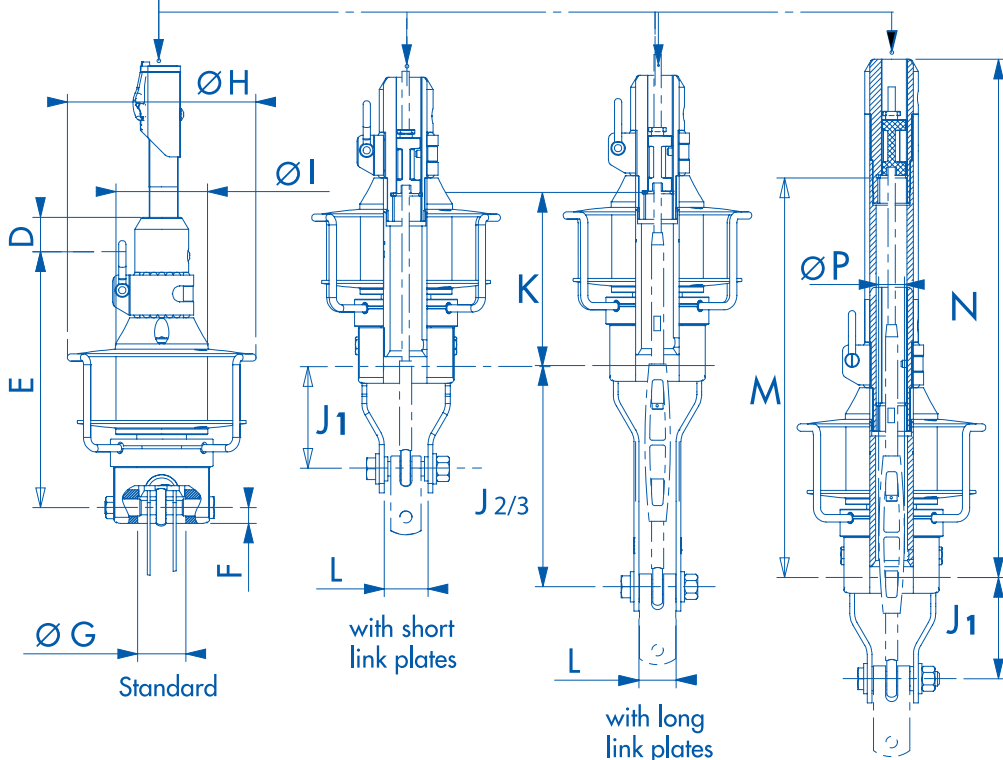
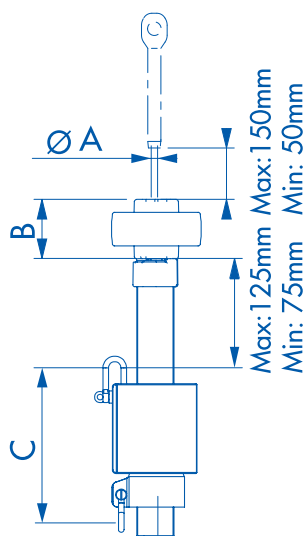
When assembling and servicing during the winter your furling gear, put grease on the screws situated at the bottom telescopic section and the top of the drum link plates. This will simplify the dismantling or turnbuckle access if necessary.

**Reminder :** no need to cut the forestay when installing Facnor furling system (see p. 22)

**Rinsing the drum/swivel :** The LS-LX-RX furling systems do not require any specific maintenance except from regular cleaning with fresh water. This will remove salt deposits, source of corrosion.

### LS-LX-RX DIMENSIONS

Cotes (mm)	LS-LX	LS-LX	LS-LX	LS-LX	LS-LX	LS-LX	LS-LX	LS-LX	LS-LX
	60	70	100	130	165	180	200	290	330
	-	RX 70	RX 100	RX 130	RX 165	RX 220	RX 260	RX 300	-
<b>B</b>	53	53	53	53	53	53	53	53	53
<b>C LS-LX</b>	154	154	170	170	182	182	238	238	286
<b>C RX</b>	-	154	154	154	170	182	182	238	-
<b>D</b>	34	34	29	29	16	16	28	28	38
<b>E</b>	207	207	225	225	241	241	278	278	306
<b>F</b>	13	13	12,5	12,5	18	18	20	20	20
<b>G</b>	40	40	48	48	56	56	78	78	78
<b>H</b>	146	157	171	191	210	225	246	276	320
<b>I</b>	76	76	84	84	95	95	124	124	124
<b>J</b>	(See page 10)								
<b>K</b>	142	142	156	156	173	173	202	202	219
<b>L</b>	26	26	32	32	41	41	61	61	61
<b>M</b>	331	331	367	367	419	419	551	551	687
<b>N</b>	429	429	465	465	513	513	656	656	812
<b>ø P</b>	28	28	34	34	42	42	50	50	63



Note: The specifications are subject to change without notice, please refer to your "pro support" on the extranet Facnor (reserved for dealers) for more information or discounted technical support [www. facnor.fr](http://www.facnor.fr).

with internal turnbuckle option & short link plates



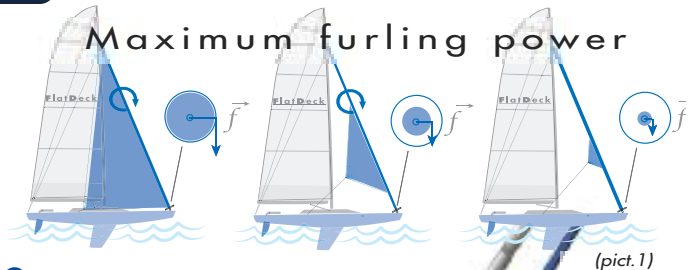
Photo : © Raudaschl

FlatDeck is a powerful furling system fitted with a webbing. This great Facnor innovation offers safe and easy headsail furling: no reefing line overriding and a massively improved torque. Overall, with the FD low profile drum, you benefit from a maximum luff!

## PERFORMANCE & EASY FURLING

### FD Features:

- Maximum power when you start furling in
- Maximum luff thanks to the low profile drum
- No risk of overriding (webbing guide exit)
- Complete webbing & swivel fitting / rope & leads
- Rotating tack fitting
- Matching with LS/LX/RX models
- Resistant webbing (> 1/2 ton) and against ultra violet rays



**Great torque**  
since the beginning (see pict 1)



### Smooth rotation

Bearing box supports both halyard and sail foot tensions.

### Swivel : smooth rotation

Torlon® balls bearing.

### "R" ou "SX" foil sections

Two types of sections according to navigation : "R" (elliptical) or "SX" (rounded section).

See p 22.

### LS/LX/RX Conversion into FlatDeck

Possibility to upgrade their classic Facnor furling system\* by adding a new FD drum. (\* see page 13)

### Internal turnbuckle fitting



### Hole for rising

### Maximum luff

thanks to the low profile drum and the Genoa tack and foot that lays close to the deck (the Flatdeck offers 20 cm of additional luff length compared to an equivalent classic drum style furler).



### Low drum

fitted with short link plates for limited height

### 360° Rotating tack fitting

fitted with Torlon® balls : takes up automatically the sail fullness when furling.

### Webbing guide exit

This eliminates overrides as the webbing lays flat inside the drum.

### High resistance webbing

Dim stretching and UV resistant webbing





**Webbing / Furling rope kit :**

- See description of the furling line kit (see against). The webbing is connected to the line with a swivel. This high resistance swivel (more than 1 ton load) prevents the webbing from twisting. The oblong design of the swivel guarantees a free run.



**Foil sections :**

As performance orientated products, one FD range is supplied with thin and lighter "R" foil sections. The other FD range, more adapted for cruising, is fitted with round "SX" sections (see page 22).

**FD Standard kit:**

- drum
- internal turnbuckle fitting
- short link plates
- R sections + connexions
- halyard swivel
- webbing / rope kit

**Installation of the furling line kit:**

(included in standard kit)

- furling line swivel
- webbing (from 10 up to 27 m.);
- standard furling line;
- 1 block + s-s leads;

**International awards:**

- 2012 Segeln Award (Germany)  
"best sailing equipment category"



- 2011 Pittman Award (USA)  
"Racing gear category"



**"R" Retro-fitting:**

Possibility to connect the "R" foil sections from an existing RX drum onto a FD one.

**"SX" Retro-fitting:** boat owners possessing a Facnor LS/LX furling equipment (SX sections) can enjoy the confort and performance brought by the drum FD models (FD90, FD170, FD210, FD280). For further information, please contact your Facnor agent.

**"RACING & RACING - CRUISING" FD RANGE**

Racing / cruising navigation program

	FD 110	FD 190	FD 230	FD 310
<b>Boat length</b> (feet-meters)	26' → 29' 8 → 9 m	29' → 39' 9 → 12 m	36' → 43' 11 → 13 m	41' → 60' 12,5 → 18 m
	<b>Elliptical sections R</b>			
<b>Section</b> weigh /meter	R 14 451 g	R 24 555 g	R 26 641 g	R 34 991 g
<b>max. forestay ø*</b> (inch & mm)	9/32** ø 7**	5/16" ø 8	3/8" ø 10	1/2" ø 12,7
<b>Halyard swivel</b>	CHD 14	CHD 24	CHD 26	CHD 34

\*necessary to have removable eye or turnbuckle

\*\* Close turnbuckle cage if open cage ø > 24 mm

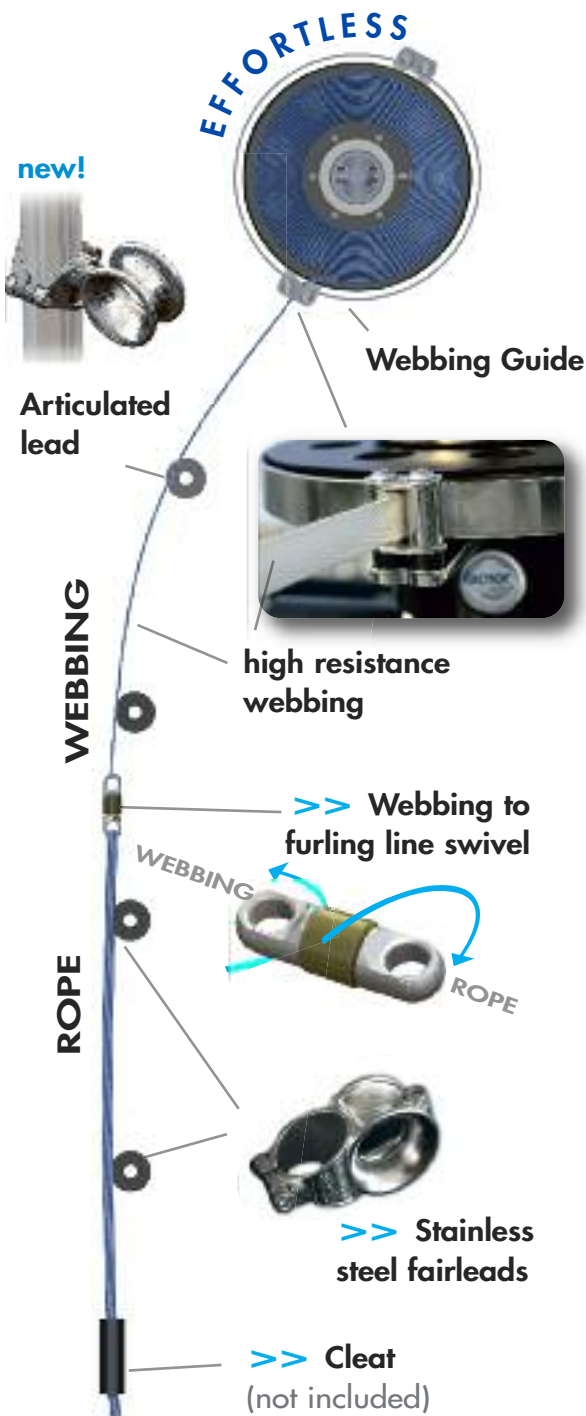
**"COMFORT - CRUISING" FD RANGE**

Comfort - Cruising navigation program

	FD 90	FD 170	FD 210	FD 280
<b>Boat length</b> (feet-meters)	20' → 26' 5,5 → 8 m	24' → 36' 7,5 → 11 m	29' → 43' 9 → 13 m	38' → 60' 11,5 → 18 m
	<b>Rounded sections SX</b>			
<b>Section</b> weigh /meter	SX 25 577 g	SX 33 658 g	SX 39 914 g	SX 47 1095 g
<b>max. forestay ø*</b> (inch & mm)	5/32" 5 mm	1/4"- 9/32" 6 / 7* mm	5/16"- 3/8" 8 / 10* mm	1/2"- 9/16" 12 / 14* mm
<b>Halyard swivel</b>	CHD 25	CHD 33	CHD 39	CHD 47



## EASY INSTALLATION WEBBING & DRUM



### Webbing fitting :

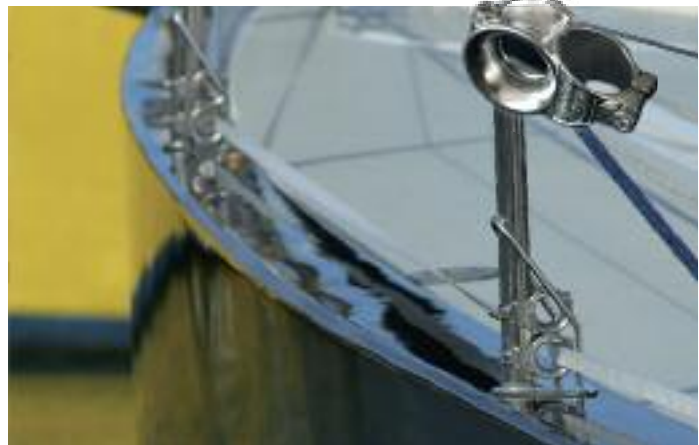
- **efficient and quick installation :** thanks to a complete kit (included. see p.13)
- The furling line guide leaves various possible ways of fittings. Your Facnor agent will suggest you the most adapted solution.

### Furling system assembly :

- Like LS/LX/RX ranges, the drum fitting depends on the forestay terminal (see page 10).
- You can even change your LX/LS/RX drum for a FlatDeck one with **keeping the existing foil sections.**

**Dimensions :** the gain in luff length with low profile FD drum is obvious (see chart below). To achieve this aim, the base of the drum has been lowered and standard link plates are short (see table against).

**Furling line leads :** The s-s leads are simply screwed round the stanchion. They have been specially designed for the free running of the swivel. The kit includes an articulated lead (new) to be fitted at the first front.



## INTERNAL TURNBUCKLE FITTING (STANDARD)

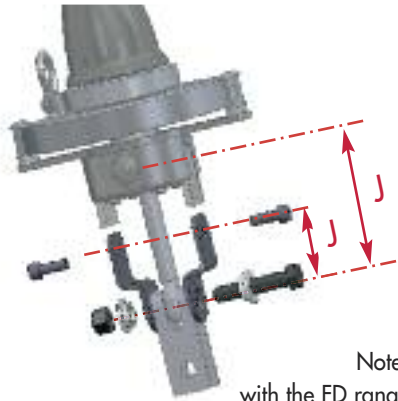
With the internal turnbuckle fitting, the turnbuckle can be positioned inside the drum and be easily adjusted. 4 models available on the FDs.

Internal turnbuckle fitting (delivered in the standard kit)	FD 90	FD 170	FD 210	FD 280
		FD 110	FD 190	FD 230
Internal turnbuckle fitting ø iner dimension & length (en mm)	ø 28 lgth 312	ø 42 lgth 420	ø 42 lgth 420	ø 50 lgth 592

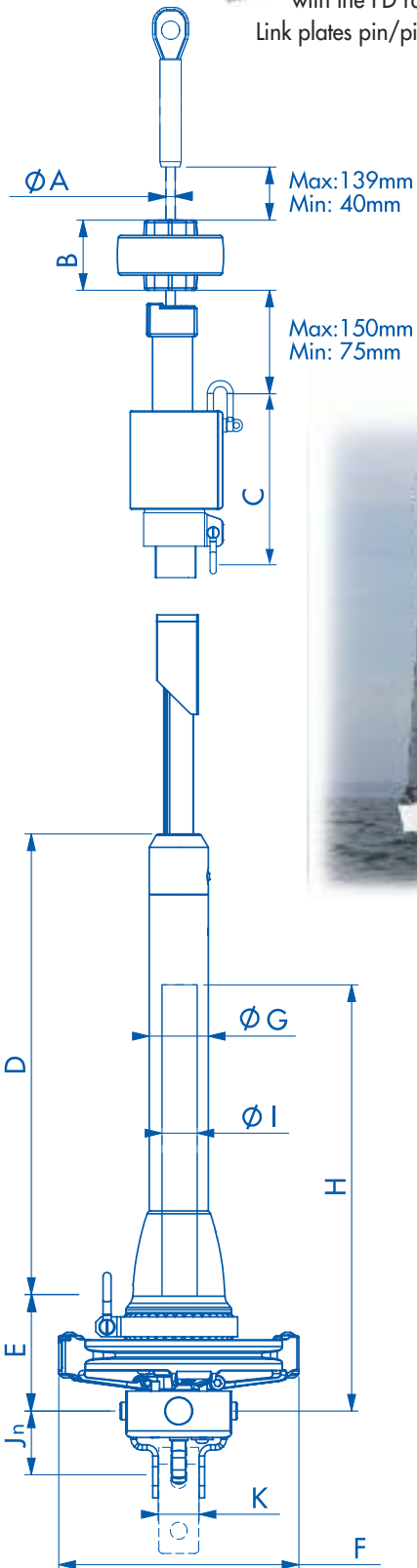




### FD LINK PLATES DIMENSIONS



Note :  
with the FD range:  
Link plates pin/pin = J



Link plates model			FD 90	FD 170	FD210	FD 280
			FD110	FD190	FD 230	FD310
STANDARD	short link plates kit	J1 (mm)	lgth 48	lgth 66	lgth 77	
		thickness	thk 4	thk 4	thk 5	
OPTIONS	medium link plates kit	J2 (mm)	lgth 100	lgth 150	lgth 150*	
		thickness	thk 4	thk 4	thk 5	
	long link plates kit	J3 (mm)	lgth 200	lgth 200	lgth 200*	
		thickness	thk 4	thk 5	thk 6	
	extra-lg. link plates kit	J4 (mm)	-	lgth 250	lgth 250*	
		thickness	-	thk 5	thk 6	

\*  $\varnothing A < 12$  max.

### FD MODELS DIMENSIONS

Dim. (mm)	FD RANGE DIMENSIONS			
	FD90 FD110	FD170 FD190	FD210 FD230	FD280 FD310
B	53	53	53	53
C	140	148	178	205
D	342	466	466	634
E	88	92	92	105
F	182	232	232	282
G	45	61	61	73
H	332	459	459	632
I	28	42	42	50
J	(See table "link plates" above)			
K	30	40	40	60
$\varnothing$ Max turn-buckle body	24	38	38	46

H,I = Availabe space for the turnbuckle inside the drum



Photo Credit : © Pierriek Contin / IDB Marine

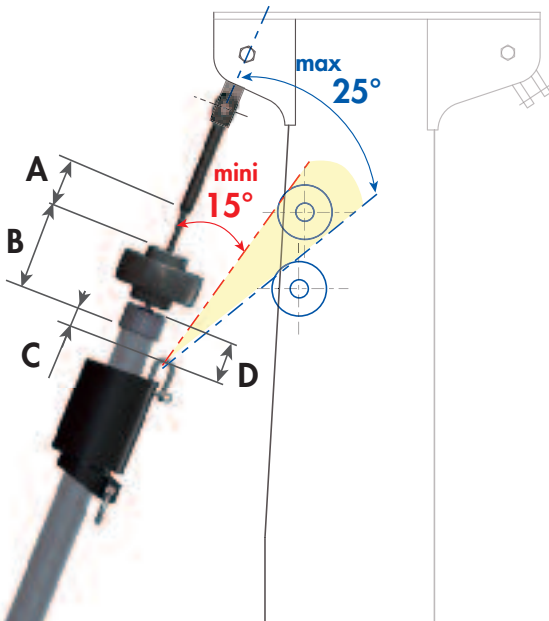


**PRÉCONISATIONS : ANGLES DE DRISSE**

**Halyard deflector wheel :**

It prevents the halyard from wrapping round the forestay and also deflects Spinnaker

halyard. It is important to maintain this part to protect the forestay.



**Halyard angle with forestay :**

- It must be situated between 15 and 25°
- Distance between halyard swivel & top car must not measure more than 150mm.

A = mini 50 mm and maxi 80 mm between halyard deflector wheel and bottom end of the forestay terminal.

B = 78 mm

C = 80 mm max. between the halyard swivel & the top car (after sail stretching)

Note: These average values fluctuate according to the mast geometry. We strongly recommend that you instruct a skilled professional to install your furling system (see our worldwide agent network on [www.facnor.com](http://www.facnor.com))

**USE OF THE HALYARDS SPECTACLES**

**Universal Spi spectacles : Halyard handling**



If the angle between the halyard and the forestay is too narrow (less than 15°), it is recommended to add universal spi spectacle to open this angle. It prevents the halyard from wrapping around the forestay. (Sparcraft spectacle range)

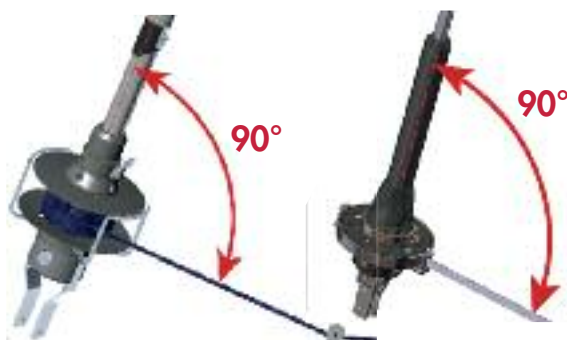
Sparcraft spi spectacle model	ø A int. (mm)	ø Rope (mm)
Small size (with 4 rivets) ref. Sparcraft 43220.000.035	ø 12	ø 5 ø 6 ø 7 ø 8 ø 10
Middle size (with 4 rivets) ref. Sparcraft 43220.000.025	ø 17,6	ø 12 ø 14 ø 16
Large size (with 4 rivets) ref. Sparcraft 43220.000.015	ø 22	ø 18 ø 20 ø 22

**RECOMMENDATIONS FOR FURLING LINE FITTING**

**90° for the furling line :**

Whatever furling model (LS, LX, RX or FD), the furling line must run with 90° angle from the forestay (see against).

LS-LX-RX models: the furling line must run through one s-s guide.

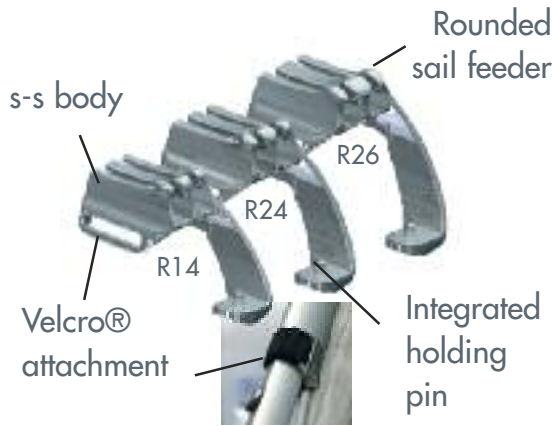


**Halyard**

**tension :** The halyard can be slackened when sailing downwind or in light winds (and inversely) in order to improve boat performance. After sailing, one should not forget to slacken the halyard, this will release tension in the sail, mast sheaves and above all the halyard swivel.



**ACCESSORIES FOR R SECTIONS**



**Sail feeder (R14, R24, R26) :**

- for quick change of sail, entirely removable.
- Velcro strap : ensures an easy fitting or disassembly from **elliptic R foil sections**.
- design and smooth shape prevent from luff tape wearing.
- strength (S/s)
- Ideal to convert your

furling system (fitted with R14, R24 and R26 section) in headfoil.

Sail feeder	
Model	Reference
R14	09130128142
R24	09130128242
R26	09130128262

**FD-LS-LX-RX-FX+ ACCESSORIES**

**Furling line / Fairleads kit**

Furling line kit includes adapted polyester good quality rope, adapted to the well functioning of the furling line



Rope & leads kits	LS-LX-RX model	Référence
ø 6 x 20 m + 4 single fairleads	LS/LX 60-100 RX 70-100	24106200400
ø 8 x 24 m + 4 single fairleads	LS/LX 130-180 RX 130-220	24108240400
ø 10 x 24 m + 4 single fairleads	LS/LX 200-290 RX 260-300	24110240400

**Fairleads :**

Those different fairlead models allow you to build the best circuit of furling lines for Genoa's. The fairleads are adapted to the FD swivels and also for Gennaker and code zero furlers (continuous line).



Description	for stanchion ø	Reference
<b>Deck fairlead ø 18</b> (+ washer + nut M10)	-	24000102400
<b>Articulated fairlead</b> (rope hole ø 20)	25 à 28	24000102300
<b>Single fairlead</b> (rope hole ø 20)	25	24000102200
<b>Twin fairlead</b> (rope hole ø 20)	25	24000102130
<b>Twin fairlead</b> (rope hole ø 20)	28	24000102110



The fairlead can be open in order to fit a spliced furling line (see against).



With its entry into the experienced Wichard Group, Facnor now offers a new range of reliable and high performance electric motorized furling systems for sailing yachts 40' and above. With the EF furling systems handling the headsails from the cockpit becomes effortless. A great comfort in navigation, especially for larger boats.

**CONFORT & PERFORMANCE**

**EF Features :**

- Wired or radio remote control (see page 20)
- Waterproof drive unit
- No specific maintenance required
- Optimized power (max 800W, speed 30t/min)
- Low energy consumption
- Reduced noise level
- Fitted over the existing forestay without cutting
- EF motorization kit for converting Facnor manual furling gears (LS/LX200 to 330)
- Available in 12 and 24V with inverting box (see details page 20)
- International 3-year-warranty

**Special aluminium cover**  
Strong drive unit

**Anti-corrosion surface treatment**  
Oven baked paint finishing for increased durability



**Installation over the existing forestay**  
Passing through the drive unit.

**Back up device**  
If manual operation is required a winch handle or the Facnor emergency continuous line system can be used (see page 20, option)



**Stainless steel link plates, with multiple holes for drum height adjustment according to anchor passage.**



**Jonction profil existante**  
(voir page spécifique profils)  
Capacité de supporter des couples de torsion élevés.





**EF RANGE "COMFORTABLE CRUISING"**

**Easy use :**

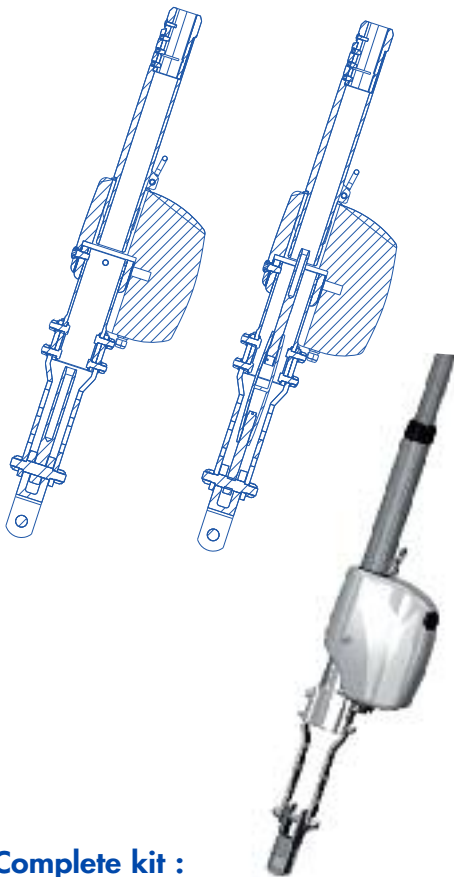
- Supplied with a wired or radio remote control



Boat length	Max forestay Ø	Section / Swivel	Model ref	Forestay length	Power / Rotation speed (max)	Voltage / Amperage
12 → 18 m 40' → 60'	12 mm	SX 47 / CX47	EF470 SX47 (12 / 24 V)	18 m 50	700 W (12V) 800 W (24 V) 30 tours / min	12 V / 60A ou 24 V / 30A
	14 mm			20 m 50		
+ 16 m + 55'	22 mm*	SX 53 / C600	EF600 SX53 (12 / 24 V)	20 m 50		
				22 m 50		
				24 m 50		

\* Installation with swage rigging screw or "manual"

\*\* This power develops high performance while consuming low energy, therefore saving batteries.



**Toggle and stainless steel link plates**

fitted according to bottom forestay terminal (turnbuckle+toggle or eye+toggle). Toggle and stainless steel link plates are delivered in the standard kit.

**EF FOIL SECTIONS & SWIVEL**

Section ref SX47 ou SX53 : see page 22.

- The large sized connectors guarantee a great torque resistance. The telescopic section prevents any requirement to cut the foil sections when adjusting.

- Waterproof swivels, high load resistant ref Cx47 for the EF470 and C600 for the EF600 Maintenance free

**Complete kit :**

- motorization kit (drive unit, stainless steel link plates, toggle, inverting box, circuit breaker)
- foil section kit (see page 22)
- swivel, halyard deflector wheel

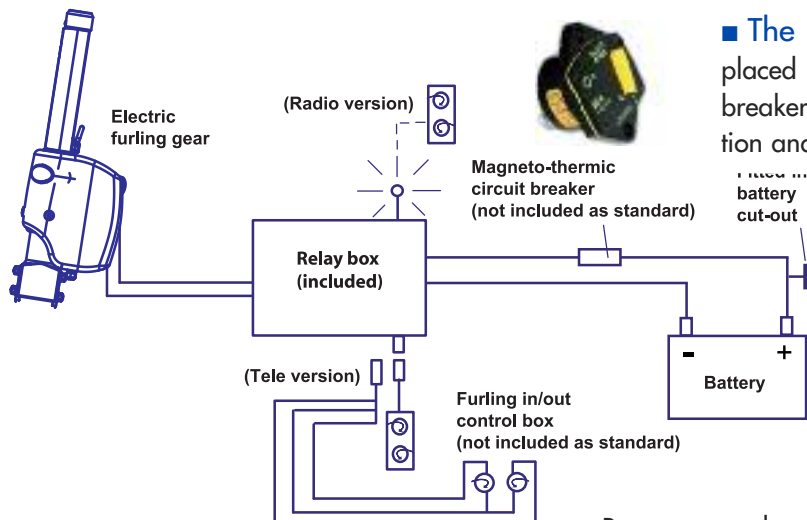
**Options (see page 20) :**

- wired or radio remote control
- emergency continuous line system



photo credit : Fontaine-Pajot

**RELAY BOX / REMOTE CONTROL**



■ The relay box is an polarity inverting gear that is placed between the power supply (battery + circuit breaker) and the drive unit. It inverts the rotation direction and therefore enables to furl in or out. the foil sections turn at constant speed. With the relay box a waterproof circuit breaker is also delivered in the standard kit and turns off the furling gear in case of overheating (due to a Genoa sheet not released for instance).

- Remote control :
  - wired (waterproof device)
  - radio version (pocket transmitter + receiver to be fixed underneath the top cover of the relay box).



Remote control	Model Ref.	Part number
Wired ①	EF470+600	56012000140
Radio version ② Pocket transmitter + receiver	EF470+600	56012000150

**EMERGENCY SYSTEMS OPTION**

**Operating in any circumstances :**

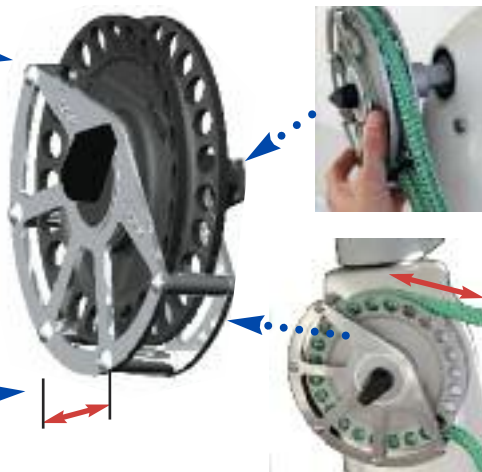
The "FACNOR emergency system" is made up of a notched drive wheel and a continuous line. If an elec-

trical failure were to occur, this device allows the operator to quickly and easily furl in the headsail(standing one meter behind).

**Sturdy fitting** .....  
corrosion resistant (anodized aluminium and stainless steel)

**Furling power** .....  
thanks to the torque of the continuous line drum

**Compactness** .....



**Self-locking device :**

The Facnor emergency system is fitted like the emergency handle, with a standard square drive winch socket.

**Continuous furling line**

Once the wheel is fixed, stand one meter behind the pulpit and pull the continuous line to manually operate the furling system.

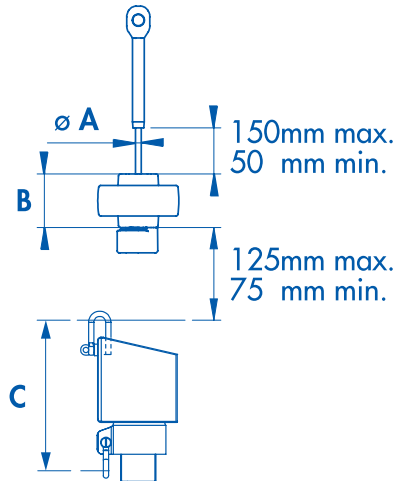
- Adaptable on any standard model of electric/hydraulic furlers
- Ref. 03039000000. Thickness = 55,10 mm. Drum diameter = 165 mm

- 12 mm diameter line and protection bag included in delivery
- Speed of furling operation

**DIMENSIONS & ENCOMBREMENTS EF**

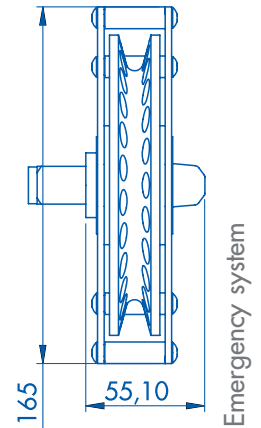
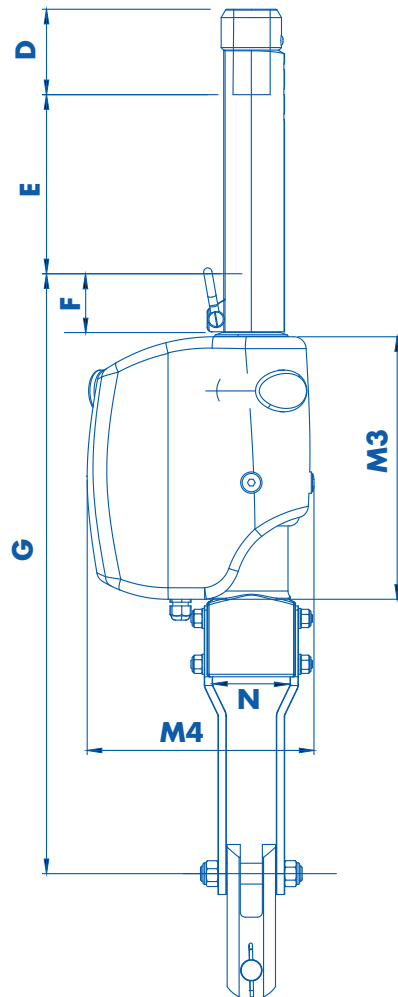
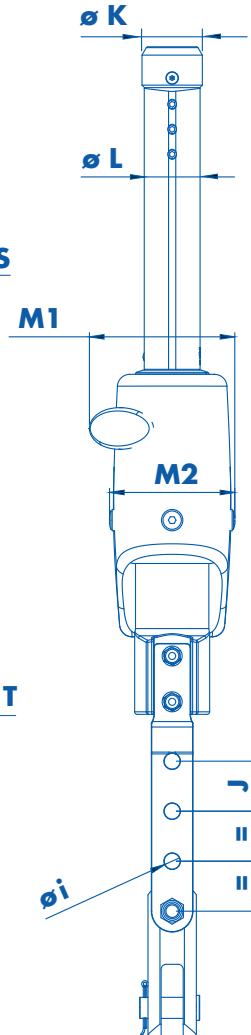
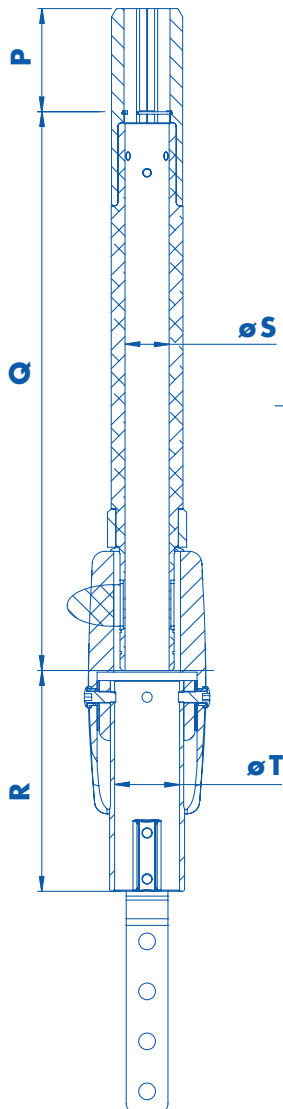


photo credit : HINCKLEY 42 DS © © Phil Bennett



Electric furling system model	EF 470 SX 47	EF 600 SX 53
section ref.	SX 47 / CX47	SX 53 / C600
max. forestay $\varnothing$ (* turnbuckle)	12 mm* 14 mm*	22 mm*
B	53	52
C	248	230
D*	103	124
E	215	440
F	75	75
G	720	720
M4	272	272
$\varnothing$ I	19	19
J	60	60
$\varnothing$ K	72	85
$\varnothing$ L	72	86
M1	174	174
M2	150	150
M3	315	315
N	93	93
Q	435	671
R	265	265
S	53	53
T	78	78

\* End of the telescopic section



**STRENGTH & ADAPTABILITY**

Foil sections are fitted on the various headsail furling and reefing systems : classic drum (LS, LX, RX)), webbing drum (FD) and motorized drum (EF).



**Long high performance polyamid bearing**  
centres forestay inside foil

**CNC machining holes**

insuring the sections will be perfectly aligned

**Torx print**

easy assembly and dismantling



**Material insulated**

Screws covered with tuff lock® (locking and insulating product)

**Telescopic section**

Allows adjusting the section length. Like the connectors, the telescopic section offers a high torque resistance



**Connectors with high torque resistance**

guarantee a great rigidity at the section connections

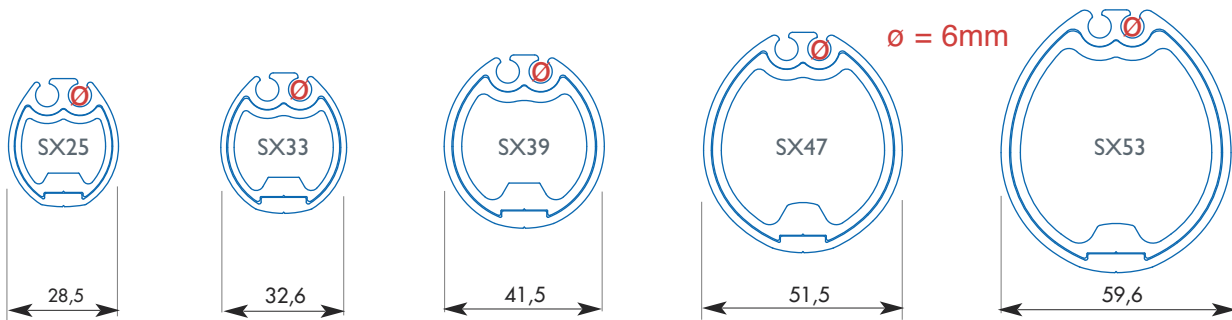
**2 meters anodised extruded aluminium sections**

Material : 6000 series  
Standard Length : 2 m (6'8")

**SX & R SECTIONS DIMENSIONS**

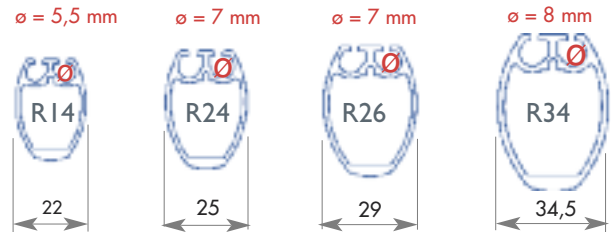
**ROUNDED SECTIONS SX 25 / SX 33 / SX 39 / SX 47 / SX 53 :**

The SX twin groove foil sections, round shaped, offer smooth furling as well as a high rigidity. We recommend a 5mm finished luff tape

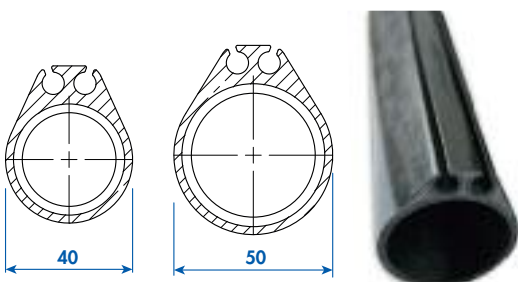


**ELLIPTICAL SECTIONS R14 / R24 / R26 / R34**

This range of sections offers good aerodynamics, and the double-groove allows easy sail changing. We recommend a 5mm finished luff tape except for the R14 (4.5 mm).



**SC CARBON FOIL SECTIONS**



- Carbon sections features rigidity as well as lightness (40% lighter than foil sections). The "water drop" shaped sections offers better aerodynamismics.

- The installation is simple as the elements are assembled with glue (no screw). This improves the torque resistance of the connected sections.

TWO MODELS : SC40 & SC50 - Length : 4 meters.





Photo credit : Carbon 3 - Tuco Marine



## Structural furlers : the in/out furling systems

The structural furler - unlike the Gennaker furler - supports both mast and sail loads. The Facnor 14-100T systems are fitted with anti-twist fiber forestay from 40 footers. Their reliability widely tested on ocean races has enabled Facnor to enlarge the range from 14 to 100 tons. The different STG 3-4T/STB 3T/SFT3T, must be fitted with a classic wire forestay from 24 to 30 footers.



14-100T STRUCTURAL STAYFURLERS  
TEXTILE FORESTAY (from 40' to +130')

P24

STB / STG 3-4T / SFT 3T  
STRUCTURAL WIRE FURLERS  
(from 24 to 30')



P28

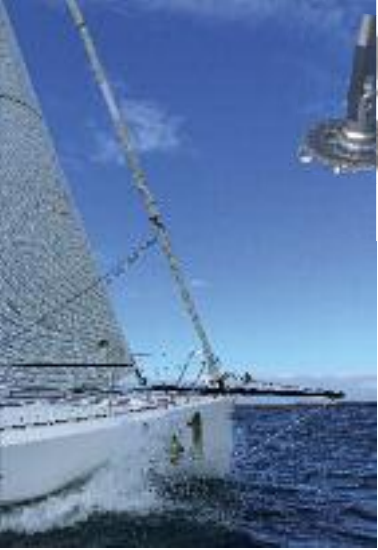


3 - 30 T INTERNAL & EXTERNAL LOCKS

P27

Photo : Jean-Pierre FÉCQUET - Diam 24





Facnor has adapted the Open 60' Staysail furlers to other ranges of fast racing boats. These structural furlers support mast loads and can entirely furl in and out headsails (such as Solent, Staysail, Genoa). This system particularly dedicated to racing boats, like Class 40' is also supplied on ocean cruising yachts for Staysails.

**The in/out furling system:**

- This in/out system enables a performance sail (Solent, Staysail, Genoa).
- Structural system : the forestay (high quality textile fibers) turns and holds the mast.

**PERFECT SAIL & LIGHTNESS**

**14-100 T structural furler features :**



- Saving weight (up to 3 times lighter than a conventional furling system)
- Stronger furling power with large diameter drum
- Maximum luff thanks to the low profile drum (continuous line drum)
- Simple installation fitting various forestay terminals (see opposite)
- Resistant and tested for heavy loads
- Tensioning halyard possible by bottom 2-to-1 (see terminal options)

**Two possible assemblies**



The structural furlers can be connected onto the textile stay with classic thimbles or threaded cone-shaped terminals (Navtec system)



**14-100T STRUCTURAL FURLER RANGE**  
(Continuous or discontinuous line drums)



Photo credit : © Motive Trimarans

Parameters / Furler model*	14 T	20 T	24 T	31 T	40 T	54 T	75 T	100 T
Boat length (feet)	40'	45'	50'	60	60 /70'	70'	+70'	
ROD equivalence	-17	-22	-30	-40	-48	-60	-76 & -91	-115 & -150
wire 1x19 equivalence (mm)	10	12	14	16	19	22	-	-
Kevlar wire working loads (safety coefficient x 2)**	5 T	7 T	8 T	11T	14 T	20 T	27 T	35 T

\* model name = Kevlar stay breaking loads

\*\* If we replace a metal wire or a rod forestay by a textile wire, this one will be largely over dimensioned, as the essential criteria to choose the model is not the solidity but the resistance against stretching. This is why the safety coefficient is so high.

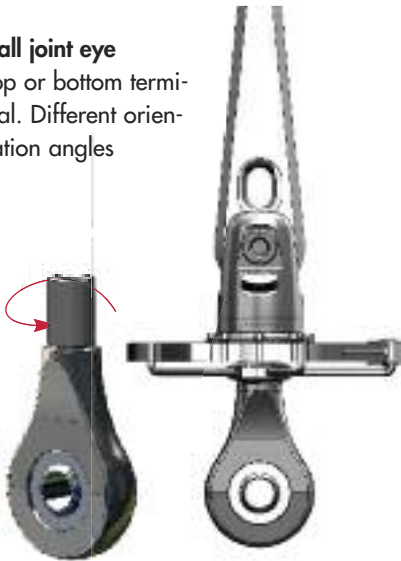
**TERMINAL OPTIONS**

**Different articulating parts such as :**

- terminals : ball joint eye, diabolos, twin anchor, lashing soft eye terminal,... many other terminals.
- interchangeable : the terminals are screwed into mechanisms. These articulating parts can be interchanged.

FOR BOTH TOP AND BOTTOM END

**Ball joint eye**  
top or bottom terminal. Different orientation angles



**Lashing soft eye terminal**  
(fitted above the swivel or underneath the drum) the lashing gives more flexibility to the articulation



**Eye terminal**  
for both top and bottom ends



BOTTOM END

**Twin anchor**  
more flexible articulation – to be screwed or notched up



**Soft solid sheaves**  
help to build a 2-to-1 or a 3-to-1 tensioning



**Twin spool terminal**  
fitted underneath the continuous line drum it keeps its attachment in position (4-to-1)



- Materials : 17-4 PH stainless steel, Titanium (40% lighter than S/s), other materials

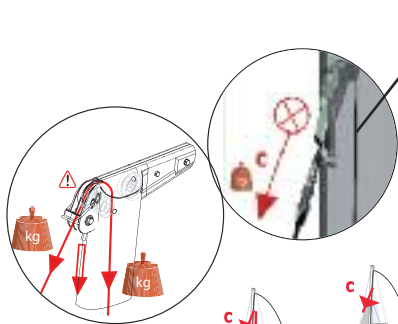


**INTERNAL HALYARD LOCKS**  
Built into mast front

3 - 30 T

High resistance body Halyard locks improve flying sail use (Staysail/Gennaker) saving weight and reducing mast compression loads. This simple and efficient device makes the halyard locking/unlocking easy and safe. The Facnor lock tremendously eases the handling of flying forestays (2-to-1 no longer required). The halyard lock can be fitted either inside or outside the mast.

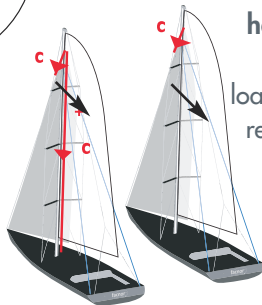
**BUILT INTO MAST FRONT**



The halyard is only used to engage or disengage the lock.

**With the halyard lock,**  
The halyard load is transferred to the lock

**Without halyard lock,**  
The halyard load increases the compression on the mast.



① Pull up the halyard until the sail reaches full hoist for locking

② Pull up again the halyard for unlocking (and thereby taking down the sail).

**>> Resistant**  
High resistance body specific surface processing on rotating star-shaped part (titanium or high resistance steel depending on model)..

**>> Less compression on the mast**

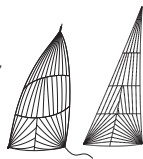
With the locking device, the halyard load is transferred to the lock, reducing nearly by half this compression and allowing lighter mast.

**>> Reduction of the boat heel/windage**

widely fitted on raceboats, the lock reduces the boat heel and windage, even in cruising.

**Different possibilities of use :**

- Gennaker or code zero
- Staysail fitted on textile forestay
- Staysail fitted on furler with flying wire forestay
- Mainsail : back face of the mast, on request



**>> Luff constantly tighten**

When the wind pressure increases, it is not absorbed by the halyard elasticity but accelerates reaching maximum boat speed.

**>> Reliable mechanism**

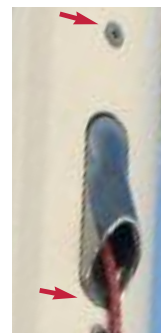
**"Star-shaped" inner part**

The rotating ring is fitted with three projecting blocks that adjust themselves in the body of the mast part.

**>> Easy installation and inspection**

Optimum integration of the lock into the mast

- device fitted from outside the mast;
- mast cut following a jig;
- the integrated part that bears;
- sail load is fixed on the mast face only by two screws thanks to a clever design;



**>> Halyards and sheaves preserved**

**>> Internal halyard locks technical features**

Parameters / Lock model* (= working load)	3 T	5 T	7 T	10 T	12 T	+
Equivalent Kevlar wire	10 T	14 T	20 T	30 T	40 T	on request
Equivalent ROD	#12	#17	#22	#40	#48	
Equivalent 1x19 wire (mm) (inch)	8 (5/16")	10 (3/8")	12 (1/2")	16 (5/8)	19 (3/4)	
Equivalent Dyform (mm)	7	8	10	14	16	

\* \* model name = Kevlar stay breaking loads (see structural furler mention)

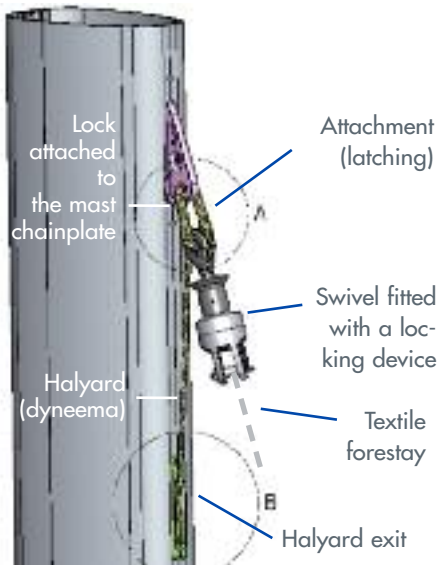


Credit Photo : Mark Lloyd / MOD S.A.

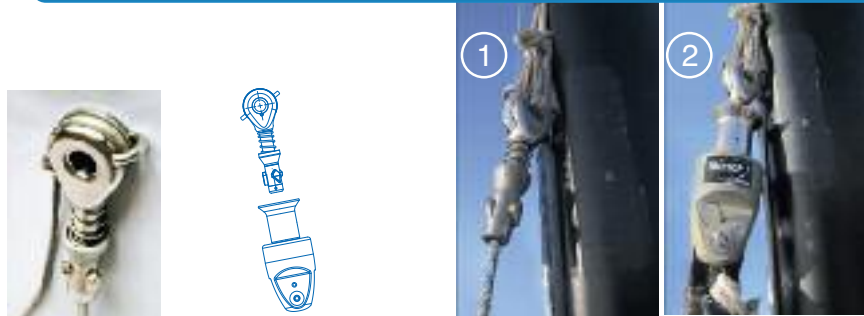


Alternatively, the halyard locking device can be fitted on a mast chain plate. Among those external locks we distinguish two types : the two-in-one locking swivels and the locks attached by a loop.

>> Swivel & lock :  
Double function, compact and light

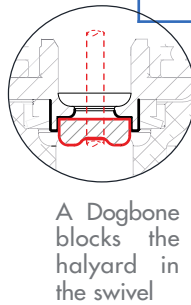


EXTERNAL LOCKS : SWIVEL & LOCK



>> Swivel & lock technical features

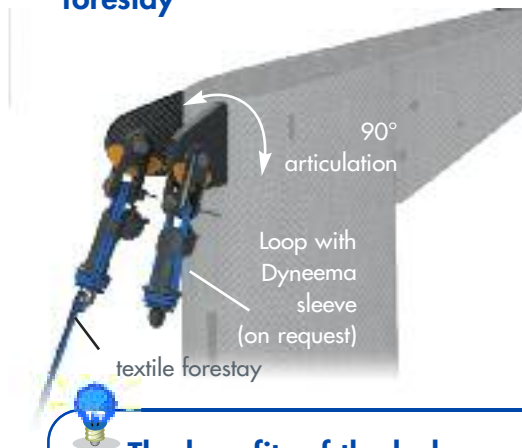
Parameters / Lock model* (= working load)	2T	7T	9T	9T+
Kevlar Equivalent wire	8T	20T	27T	Please contact us
ROD Equivalent	#10	#30	#40	



A Dogbone blocks the halyard in the swivel



>> Polyvalent interface with the forestay



The benefits of the lock :



"Thanks to the lock, we can lower the furled staysail in order to tack or jibe easily, or even to reduce windage. Moreover, the locked staysail presents various advantages in comparison with a fixed forestay : sail furling, tight luff, easy handling. With the lock, hoisting and lowering the staysail is quick and so easy".

Halvard Mabire, skipper of the Class 40' Campagne2France and Facnor technical partner

EXTERNAL LOCKS WITH LOOP BODY

>> Fixed locking device and mobile pin :

- Easy & simply fitted : it can be fixed onto the head attachment with an articulated device (toggle, latching, Unibal ball or others).

- In this case, a small diameter sheave is integrated in the locking system. The halyard can then run down inside or outside the mast.



16 tons lock for Maricha III (147') Code zero

>> External lock technical features

Parameters / Lock model (= working load)	3 T	5 T	7 T	10 T	12 T	16 T	24 T	30 T+
Kevlar Equivalent wire	10 T	14 T	20 T	30 T	40 T	54 T	75 T	100 T
ROD Equivalent	#12	#17	#22	#40	#48	#60	#76 #90	#115 #150



Photo credit : Latitude 46 - Iolnou

**STG & STB FURLERS**

**WIRE STRUCTURAL FURLER STB/G 3T**  
24 TO 30 feet units

**STB / STG benefits**

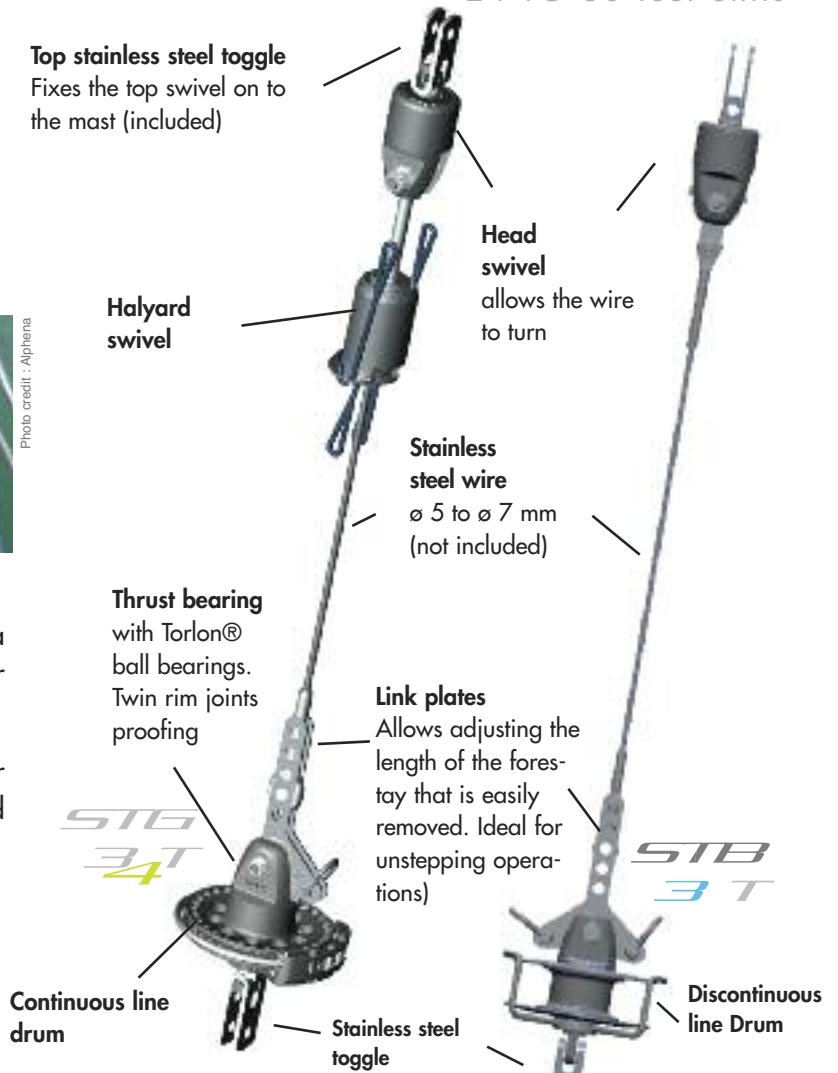
- The STG & STB are wire structural furlers, that are light and easy to install.



Photo credit : Alpha

**Features**

- The STG is equipped with an head swivel, a halyard swivel and a continuous line drum for maximum luff.
- The STB is a wire structural furler, cheaper version, with a discontinuous drum and a head swivel.
- Sails luff fitted with hanks or a zip.



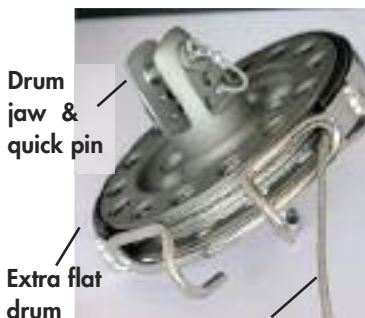
Model	Boat length	Forestay diameter*	Working load	ø Drum
STB 3T	from 7,5 to 9,5 meters	ø 5 mm ou ø 6 mm according to the type of boat	3 tons	(discontinuous line drum)
STG 3T				119 mm*
STG 4T	from 8 to 10 meters	ø 7 mm	4,5 tons	227 mm



\*Wire non delivered

**FLAT DRUM STRUCTURAL FURLERS**

**Perfect for racing boats :** The 3T flat drum structural furler is compact, the discontinuous line is of vectran (diam. 5mm). The low profile mechanism offers a longer luff and its large diameter a strong furling power (diam 98 mm). It is easy to operate with the partially reduced diameter line.



Drum jaw & quick pin

Extra flat drum

Vectran with a partially reduced diameter discontinuous line



Facnor flat drum structural furler on Diam 24

Photo credit : Jean-Pierre FECQUET - Diam 24

Model	boat length	Forestay diameter*	Breaking load	ø drum
SFT 3T	from 7,5 to 9,5 meters from 23' to 31'	ø 5 mm or ø 6 mm according to boat type	3 tonnes 6673 lbs	139 mm

# CODE ZERO, GENNAKER & ASYMMETRIC SPINNAKER



FX+  
FURLERS



A **long experience** in supplying top high quality racing Gennaker furlers has led Facnor to be a reliable partner for the fastest sailing boats. Facnor has kept the same innovative spirit in developing a full range of furlers : the **FX+** for Code zero/Gennakers and the **FAST** thimble for the asymmetric Spinnakers. As a complementary equipment to flying sails, the innovative **bowsprit** makes cruising easier.



**NEW!**

FX+ GENNAKER & CODE ZERO  
FURLERS

P30



FAST THIMBLES for ASYMMETRIC  
SPINNAKER FURLERS

P34

OPTIONS & CONTINUOUS  
LINE INSTALLATION

P36

BOWSPRIT

P38





## GENNAKER & CODE ZERO FURLERS

**FX+**  
design by Facnor  
Light, easy to fit, aesthetic

Further to fruitful technical exchanges with ocean racers, Facnor has developed a new sophisticated range of Gennaker/Code Zero furlers : the FX+. A true evolution : light, easy to fit and aesthetic.

### COMFORTABLE SAILING WITH FLYING SAIL FURLERS

The Code zero & Gennaker furler is an *in/out system*.  
The anti-twist rope is captive within the sail luff tape.

#### FX+ features:

- Widely tested
- Lightness : optimised system and ultracompact (thanks to the carbon housing)
- Secured sail connection
- Easy to fit and to adjust
- Expanded and simplified use (see conversion for asymmetrical spinnaker : page 34-35-36)

#### Thimbles

- Stainless steel for FX+1500 /2500/4500 models
- aluminium for FX+7000 /12000/20000 models (see p. 36)

#### Strong mechanism bodies

Drum and swivel, machined from one single piece

#### Carbon housing

- lighter
- insures a smooth and perfect run of the furling line (no overriding)

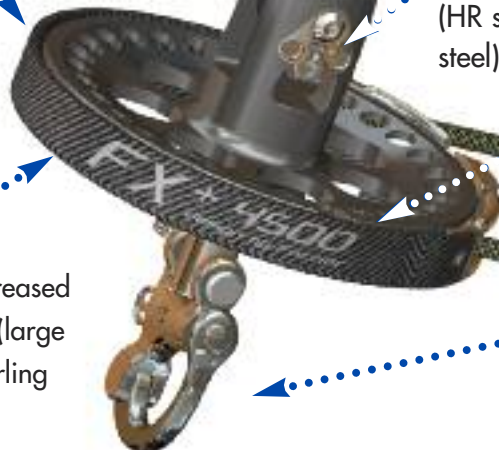


#### Captive quick release pin (HR stainless steel)



#### Drum

Furling power increased and constant pull (large diameter of the furling line drum)



#### Various attachment

according to the sails used (see page 36)

#### Anti-impact cover for swivel

In neoprene, high-visibility marking (delivered in standard kit)



#### Secured sail connection sail / mechanism

Smooth push spring release device\*; user friendly; \*except for FX+900 (secured with clevis pin)



#### Torque rope

More anti-twist is the rope, faster is the revolution (supplied on request).

#### Easily fitted furling line

Thanks to a round and smooth notch on the drum edge



#### Adjustable fastenings

(Top and bottom adapted attachments see page 36).

Furling line

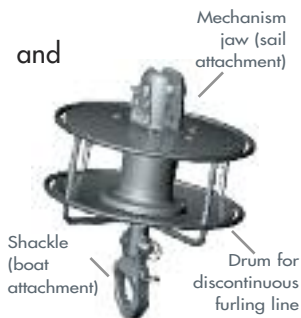




**FXT FURLERS WITH DRUM**

**FXT Gennaker and Code Zero furler**

- quickly installed and removed after use.
- The FXT is fitted with steel bearings protected by waterproof joints (maintenance free)



- good technical and economical alternative solution for users who prefer a discontinuous furling line.en drosse simple.

The main criteria (but not exhaustive) to select the model Gennaker and Code Zero furler model is the loads of the sail (see below) :

FXT Model	FXT 4500	FXT 7000	FXT CUSTOM
<b>Boat length</b> (meters-feet)	9,5 → 16 m	+ 16 m	<b>on request</b>
	31' → 55'	+ 55'	
<b>Max. sail area</b> (meters <sup>2</sup> - feet <sup>2</sup> )	100 m <sup>2</sup>	200 m <sup>2</sup>	
	1073 ft <sup>2</sup>	2147 ft <sup>2</sup>	
<b>Safe Working Load*</b> (tons- lbs)	4,5 T	7 T	
	9920 lbs	15432 lbs	

\* SWL maxi : see note at bottom of page

- The swivel and the drum are fitted with the same bearings (top shackle for halyard fitting).

**The Gennaker continuous line furler FX+**

are made of one swivel and one flat continuous line drum (maximum luff and no overlapping round the drum)). The large diameter gives more furling power. It is half the weight of a standard Gennaker furler.



**FX+ CONTINUOUS LINE FURLERS**

The wide FX range from 16' day boat to 100' mega yachts :

FX+ Model	FX+ 900	FX+ 1500	FX+ 2500	FX+ 4500	FX+ 7000	FX+ 12000	FX+ 20000
<b>Boat length</b> (meters-feet)	6 ↓ 10,5	10 ↓ 12	12 ↓ 14	13 ↓ 16	16 ↓ 20	+20 ↓	+25 ↓
	20 ↓ 30	30 ↓ 40	40 ↓ 45	42 ↓ 55	55 ↓ 70	+70	+82
<b>Max Gennaker or Code zero area</b> (m <sup>2</sup> ft <sup>2</sup> )	30 m <sup>2</sup>	55 m <sup>2</sup>	90 m <sup>2</sup>	140 m <sup>2</sup>	250 m <sup>2</sup>	350 m <sup>2</sup>	+ 500 m <sup>2</sup>
	322 ft <sup>2</sup>	590 ft <sup>2</sup>	968 ft <sup>2</sup>	1500 ft <sup>2</sup>	2690 ft <sup>2</sup>	3770 ft <sup>2</sup>	5380 ft <sup>2</sup>
<b>Safe Working Load*</b> (tons- lbs)	0,9T	1,5T	2,5T	4,5T	7T	12T	20T
	1984 lbs	3306 lbs	5511 lbs	9920 lbs	15432 lbs	26455 lbs	44100 lbs

\* SWL maxi : see note at bottom of page

- Leading in Gennaker furler manufacturing Facnor has acquired a long experience on these types of products - tested during ocean races in extremely tough conditions.

**Staysail on a FX+ furler:**



a Staysail can be fitted on a FX+ furler so that a stormsail can be used according to the weather conditions. In this configuration, we recommend to install a 2-to-1 block (halyard better tighten

and less tension in the mast).

**2-to-1 block option:**

see options P. 36

**STAYSAIL FITTED ON FX+ FURLERS**

FX+ Model	FX+ 1500	FX+ 2500	FX+ 4500	FX+ 7000	Structural furler
<b>Staysail max area indicatives datas</b> (m <sup>2</sup> ft <sup>2</sup> )	20 m <sup>2</sup>	30 m <sup>2</sup>	50 m <sup>2</sup>	70 m <sup>2</sup>	over 70' boat, it is highly recommended to fit a structural furler (see page 24)
	215 ft <sup>2</sup>	322 ft <sup>2</sup>	538 ft <sup>2</sup>	753 ft <sup>2</sup>	
<b>Safe Working Load*</b> (tons)	1,5 T	2,5 T	4,5 T	7 T	
	3306 lbs	5511 lbs	9920 lbs	15432 lbs	

We remind you that an adapted deck attachment must be installed

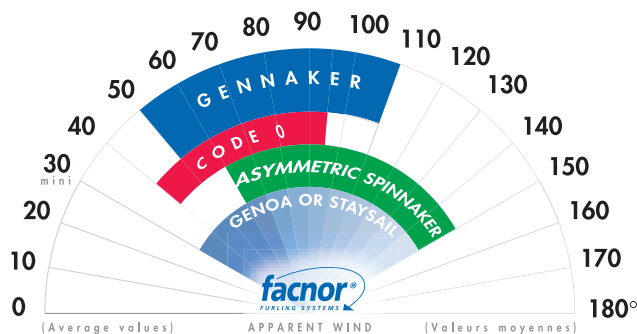
- FX+ for staysails : ideally featted with a locking swivel (see P. 26)

\* The S.W.L. is the maximum safe working load over which distortions of the furler can appear. This load is approx. 50% of the breaking load (depending on models)

**USE CONDITIONS OF THE FXT or FX FURLER**

**Use conditions**

The use range of the sails as shown on the diagram opposite varies with the force of the wind. We can mainly bear in mind that the FX furlers are better adapted for use with flying headsails between beam and broad reach (i.e. Code Zero and Gennaker). The complementary use with closer reach headsails is possible, however, under certain conditions. (see page 31)



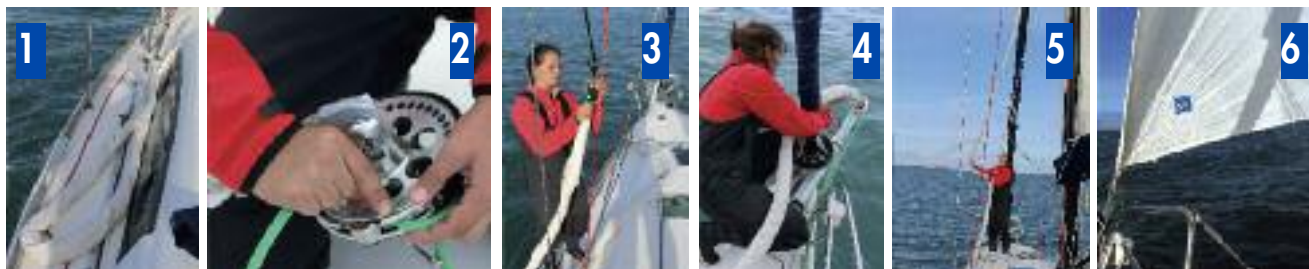
**Sail indicative range of use**

⚠ This sail indicative range of use varies with the wind force

**Installation of the Code Zero and Gennaker furler with the FX+:**

The short sequence below shows how easily the Gennaker furler is installed :

**E A S Y I N S T A L L A T I O N O N B O A R D**



- Lay the furler on the deck (fig. 1). Install the furling line round the drum (fig. 2). See below for details;
  - Fasten the upper thimble onto the swivel protected by the a neoprene cover, supplied in the kit (fig.3). Attach the drum onto the chain plate or bowsprit (fig. 4). Adjust the bowsprit and secure with a bridle
  - Check that the halyard is clear, hoist the sail (fig 5), tighten and control the sail sheet (fig 6). Ready!
- Note: always keep the reefing line under tension and fit a line stopper. Lower the furler after use.

**FURLING LINE AND QUICK FASTENING DEVICES**

**Installation of the furling line (fig. 1,2,3,4) :** through one guide exit fit the line into the round and smooth notch situated on the drum edge. Then, simply turn the drum and the line up to the opposite guide exit. Easy to deinstall.

**Easy installed and stored:**

- top and bottom adjustable fastenings : snapshackle or shackle.
- adapted systems for asymmetric Spinnakers and attachments see page 34.



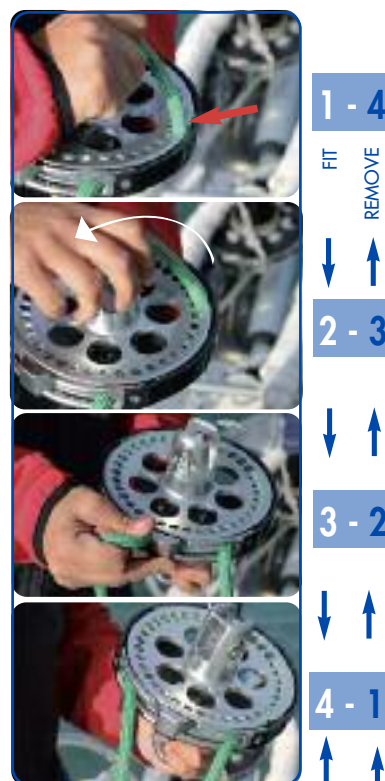
**Secure sail connection:**

- The sail can be removed from the furler in one "click".
- Smooth push spring release device\* with captive quick release pin for FX+1500/2500/4500/7000/12000/20000 models.
- \* except FX+900 secured with clevis pin

**Used for different sails :**

As it is very simple to disconnect the sail from the furler and to fit a 2-to-1 block on the swivel, the Gennaker can be quickly changed for the staysail if needed\*.  
\* provided that the loads are equivalent for both sails (see pages 31). Your Facnor agent will advise you on the best possible solution.

**REMOVABLE FURLING LINE**

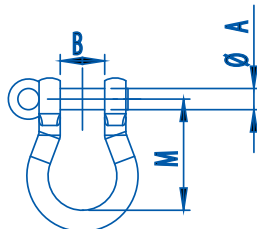
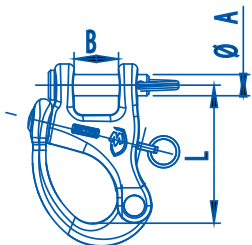
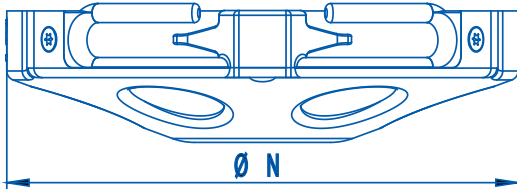
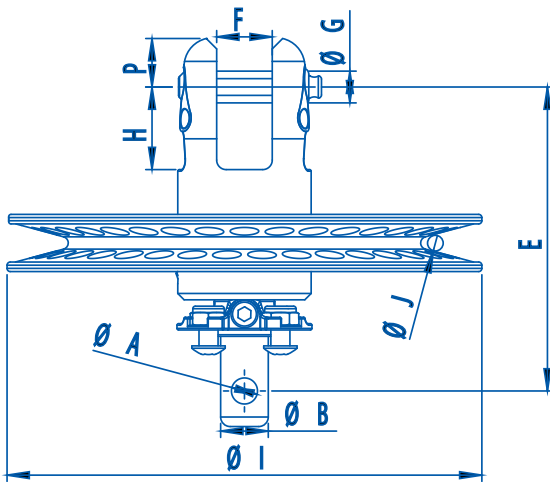
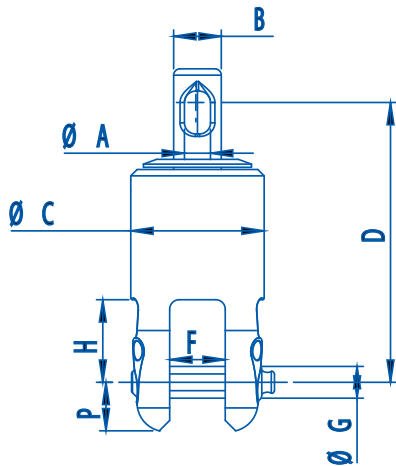




**Furling line tension :** When sailing single handed we recommend to keep the reefing line under tension so that the sail does not furl out without control.



### FX+ DIMENSIONS



Measu rem. (mm)	FX+ 900	FX+ 1500	FX+ 2500	FX+ 4500	FX+ 7000	FX+ 12000	FX+ 20000
	(Dimensions en mm)						
ø A	6	6	8	10	12	16	20
ø B	12	12	15	20	25	30	40
ø C	31	34	42	49,5	60	72	86
D	61	66	88	100	113	125	153
E	74	83	96	110	125	134	161
F	12	15	17,5	19	26	26	29
ø G	8	8	10	12	14	16	20
H	18	22	26	33,2	39	43	50
I	85	109	149	169	199	248	298
J	6	8	8	10	10	12	12
L	40,5	40,5	62	65,5	88,5	-	-
M	35	35	41	52,5	61	78	90
ø N	95	121,5	161	181,5	212	272	332
ø P	10,8	11,7	15,3	18,5	19,9	25	28

Standard drum attachment  
Standard swivel attachment

Swivel weight (g)	123	153	304	498	709	1320	2540
Drum weight (g)	290	382	709	1026	1459	3040	5140





The FX+ furler, fitted with the Fast thimble, allows to furl in the asymmetric Spinnakers from the cockpit by pulling the bottom furling line. The anti-twist rope rotates up to the top and then transmits the rotation from the head to the tack of sail. With this simple system it is possible to use your existing asymmetric Spinnaker.

**FAST ASYMMETRIC SPINNAKER THIMBLE**

**FX+ with FAST thimble Features :**

- FAST thimble : with the FX+ furler, this FAST system allows you to use your FX+ from Gennaker to asymmetric Spinnaker in a two clicks
- Easy and regular furling from top to bottom (see pictures below). Free luff on asymmetric Spinnaker
- Same FX+ features : tested mechanisms, strong and clever
- Maintenance free : high protection of the mechanisms

**FX+ swivel with anti-impact cover (in Neoprene)**  
(see page 30)

**From Gennaker or Code Zero to the asymmetric Spinnaker**

**Anti-twist rope**  
(supplied on request)

**Simple mechanisms FX+**



**Quick release in**

**Safe tack attachment**  
Stainless steel. Resistant and smooth edge for a secure latching



**Carbon housing**  
strong and light

Tack and head furl simultaneously

(A.T. rope captive inside the luff tape)

(sail furls in from head to tack)

**FAST Spinnaker**

(non-captive A.T. rope)

**FAST : Gennaker / asymmetrical Spinnaker thimble**

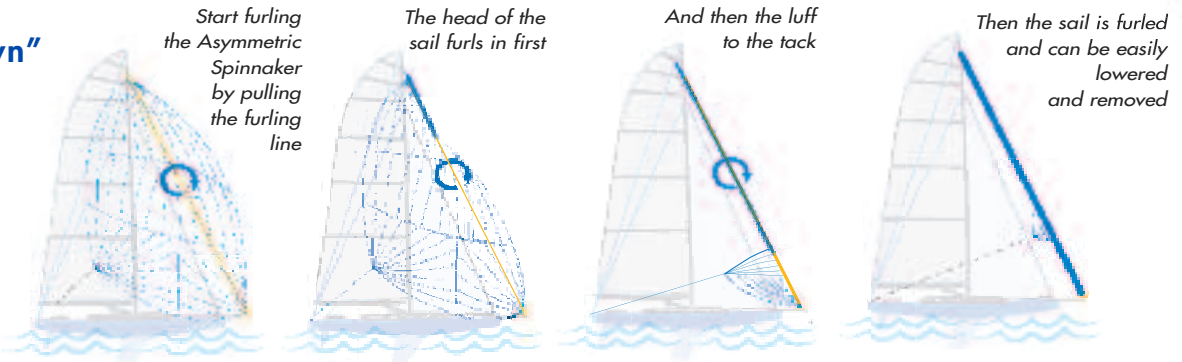
Rotating tack fitting with Torlon® balls  
(Tack attaching rope included)

**FAST thimble, perfectly designed to fit the FX+ drum jaws with quick release pin**

Removable furling line



**"top-down"  
System**



**FX+ Furler**



**FAST  
thimble**



**FX+ FAST : FURLER MODELS**

Model	FX+ FAST 2500	FX+ FAST 4500	FX+ FAST 7000	FX+ FAST 12000
Boat length (meters)	11,5 ↓ 14 m	13 ↓ 16 m	16 ↓ 20 m	Contact us
Max asymmetric Spinnaker area (m <sup>2</sup> )	90 m <sup>2</sup>	170 m <sup>2</sup>	270 m <sup>2</sup>	

**FX+ FAST: Option fitting for asymmetric Spinnaker**  
(System suitable for use with an existing FX furler)



**Fast thimbles for FX+ furlers**

Fast Model	FX+/FXT Model	max rope (mm)	Height (mm)	Weight (g)	Reference
FAST 2500	FX+ 2500	16	82	426	43230002540
FAST 4500	FX+ 4500	20	92	581	43230004540
FAST 7000	FX+ 7000	22	119	1114	43230007040
FAST 12000	Contact us				
Custom	Contact us				



**Adjusting the tack :**

To sail closer to the wind even better, it is necessary to lower the tack of the sail, this will push forward the belly. Inversely, lift up the tack and the belly of the sail will go aft, you will be able to sail further downwind.

**SSH : stainless steel solid sheaves**

- Compact.
- Fitted with quick release pin.
- This option is available from FX+1500 up to FX+7000, above models on request (2-to-1 or 3-to-1 fitting).

**Solid sheave use :**

- The solid sheave is used for tack height adjustment (see against).

**SSH : TACK ADJUSTMENT**



LUFF ANTI-TWIST ROPE & FX+ OPTIONS

Flying sails like Gennaker, Code 0 or Asymmetric Spinnaker fitted on furlers are supplied with an anti-twist luff rope. Anti-twist as it needs to transmit the rotation down to the top of sail. For an optimum revolution the jaws of furler mechanisms are connected to the luff rope thimbles. And for an optimum halyard tension, a two-to-one block can be fitted.

(Example of installation)



**Blocks & sheaves**

- in case of high load, they enable to release the halyard and the sheave box;
- connected above the swivel or underneath the drum.

SB SNATCH BLOCK- (Pivoting carbon cheeks)					
Model	FX+/FXT/FAST model	ø Sheave (mm)	Height (mm)	Weight (g)	Reference
SB2500	2500	50	77	281	43170102540
SB4500	4500	57	84	341	43170104540
SB7000	7000	64	93	429	43170107040

**The thimbles**

- their size has been designed to be adjusted to the mechanism jaw for a optimum transmission in rotation;
- two models according to the adapted furler and the anti-twist rope chosen by the sail-maker (specific model on request) :

**FCI**

(Stainless steel)  
FX+ 1500 / 2500 / 4500



**FC**

(aluminium)  
FX+7000 to 20000



FCI / FC STANDARD THIMBLES				
Model	FX+/FXT/FAST model	ø Rope (mm)	ø Pin (mm)	Reference
FCI 1500	FX+ 1500	8	8	25200010051
FCI 2500	FX+ 2500	12	10	25200010052
FCI 4500	FX+/FXT 4500	12/14/16	12	25200010055
FC 20	FX+/FXT 7000	16/18/20	14	43130207030
FC 22	FX+ 12000	22	-	43130212030
FC 24	FX+ 20000	24	-	43130220030

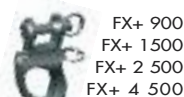
**NS LASHING THIMBLES**

Model	FX/FXT model	Reference
NS2500 Lash.	FX+ 2500	43130202535
NS4500 Lash.	FX+/FXT 4500	43130204535
NS7000 Lash.	FX+/FXT 7000	43130207035

**Quick fastenings :**

Different quick fastening devices (top or bottom) are available according to models :

- textile shackles, snap shackles, ...
- **NEW** : Wichard Soft converting part for snapshackle (mini-solidsheaves) (ref. 25200180010).



ref. 25200180010

**Solid sheaves :**

See against and page 35



SSH S/s SOLID SHEAVE				
model	FX+ model	Height (mm)	Weight (g)	Reference
SSH 1500	FX+ 1500	49	113	43130721500
SSH 2500	FX+ 2500	62	200	43130722500
SSH 4500	FX+ 4500	70	320	43130724500
SSH 7000	FX+ 7000	84	471	43130727000



**COVERS FOR DRUM & SWIVEL**

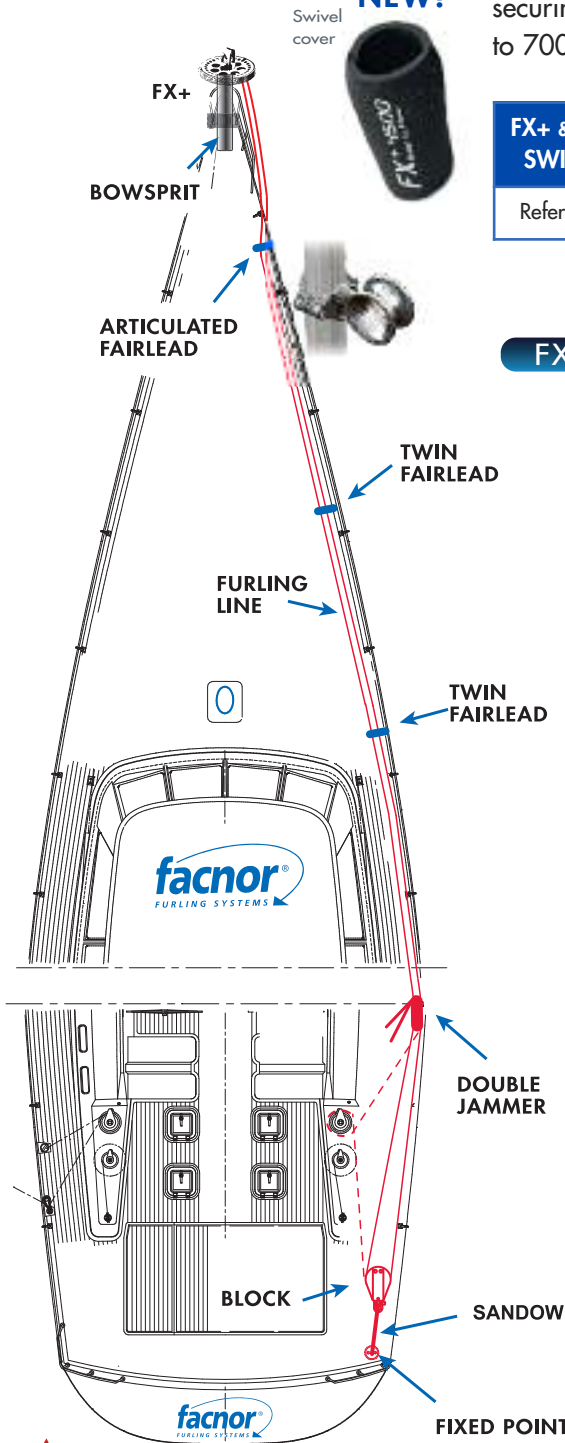


**Continuous line drum covers :** the FX+ cover is ideal for protecting your continuous line furlers from deck impacts. The cover is made of padded PVC and assembled with thick and strong strips. Standard available for the FX+ 2500, FX+ 4500, FX+ 7000 (other cover models on request).

FX+ DRUM	FX+ 900 & FX+ 1500	FX+ 2500	FX+ 4500	FX+ 7000
Reference	ON REQUEST	29050000076	29050000056	29050000060

**Swivel protection covers (neoprene):** an additional benefit of securing the mast and the sailing crew. Delivered in FX+ standard kit (900 to 7000) and can be also supplied as extra spare parts.

**NEW!**



FX+ & FXT SWIVEL	FX+ 900	FX+ 1500	FX+ 2500	FX+/FXT 4500	FX+/FXT 7000
Reference	29050010090	29050010150	29050010250	29050010450	29050010700

**FX+ CIRCUIT OF CONTINUOUS FURLING LINE**

**FX+ :** the circuit of continuous furling line is easy to install (see against) thanks to the articulated and twin fairleads (See p.12). The loop can be tightened and then secured with a double jammer.



With the different Facnor fairleads, the lines run clearly on the deck  
Above : articulated fairlead (left handside) et twin fairlead (right handside)

**SPliced FURLING LINE**

**Rope :** polyester /braid polyester rope  
Available :  $\varnothing$  6,  $\varnothing$  8,  $\varnothing$ 10,  $\varnothing$  12  
Length : 12, 16, 20, 26, 32 m and other lengths on request

**NEW GRIP !**



Spliced furling loop		
$\varnothing$ (mm) x L (m)	FX+ Model	Reference
$\varnothing$ 6 x 12 m	FX+900	24016060120
$\varnothing$ 6 x 16 m		24016060160
$\varnothing$ 8 x 16 m	FX+1500	24016080160
$\varnothing$ 8 x 20 m	FX+ 2500	24016080200
$\varnothing$ 10 x 20 m	FX+4500	24016100200
$\varnothing$ 10 x 26 m		24016100260
$\varnothing$ 10 x 32 m	FX+ 7000	24016100320

Secure the bungee rope with a safety rope



The Sparcraft removable bowsprits, can be fitted on sailing boats from 25 to 57 feet, for Asymmetric Spinnakers or Gennaker and Code Zero. The deck fixing device allows a free foredeck when arriving at the harbour or mooring.



**AUTOMATIC LOCKING DEVICE**



**Neat design**

- End fitted with an integrated machined sheave, user-friendly;

- Bridle attachment integrated in the front end fitting;

- The central fixing collar is captive from the bowsprit but it is removable from the fixing block. The foredeck is therefore totally free (no more fixed collar in the way).

- Rotating collar captive from the section: removable bowsprit for storage alongside one boat edge

**Simple and efficient functioning**



Automatic locking device

- Easy fixation thanks to an automatic locking device on deck fixing blocks;

- Simple installation (only a short backwards movement is needed to fit the bowsprit on the deck);

- Quick removal and storage on a third fixing block;

- The locking system incorporates an anti-theft device.

- Integrated line stopper for holding the tackline



integrated line stopper

**Complete kit including :**

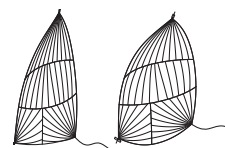
- Aluminium bowsprit with special end fittings : bridle attachment at the front and fixing block device at the back (delivered pre-installed);
- Adjustable Central fixing collar;
- Deck fitting blocks and two counter plates

**FINDING MODELS & OPTIONS**

**Technical datas and references**

ø section (mm)	Total length (mm-feet)	Mini. length inside (mm-feet)	max. length outside (mm-feet)	Use example boat length (feet)	Max sail area (m <sup>2</sup> )		Fitting FX+ & FX+SPI models
					Asym. Spi.	Gennaker & code zero	
ø 70	1600	800	800	25-36'	60	37*	1500/2500
ø 80	1800	900	900	36-40'	82	52*	2500/4500
ø 90	1900	950	950	40-47'	102	65*	4500/7000**
ø 100	2000	1000	1000	48-57'	130 / 150*	105*	4500/7000**

\*with bridles \*\* FX+7000 with snap shackle option



Articulating toggle (option) for Gennaker / Code zero furler attachment



**Options**

Working deck fitting.	"Parking" deck fitting	deck fitting cover	Stemhead fitting fixation support		Furler fitting ring Gennaker & Code Zero furler attachment			
			64-90 mm	90-110 mm	ø 70	ø 80	ø 90	ø 100
31000110015	31000110020	33031000001	31000120025	31000110025	FX+15/2500	FX +25/4500	FX+45/7000	FX+45/7000
					31000107010	31000108010	31000109010	31000110010

option for bridle installation (non delivered)	Bridle kit (non delivered)
31000600010	31000600020



bridle kit (non delivered)



# MAINSAIL



FACSLIDE+ LOCKS  
 MAINSAIL FURLERS



**Full mainsail set :** Above a certain area, a full batten mainsail needs to be fitted with ball bearing cars for more comfortable cruising. In addition to Lazy-jacks, Facslide® allows easy hoisting, lowering and reefing of the mainsail. Furthermore, the new reefing locks completes cunningly this car and track device. For mainsails without full batten, the Facnor CF furling gear remains an alternative equipment.

Photo Credit : Shipman / Shipman 50



FACSLIDE+ FULL BATTEN CAR SYSTEMS P40

REEFING LOCKS



P43

MAINSAIL FURLERS



P44

Photo Credit : Melloni





The system of recirculating ball bearing cars is designed for full batten mainsail. It helps to raise, lower and reef the sail easily. The FACSLIDE® system combined with a Lazy Bag is the installation to handle perfectly your mainsail on your own.

\* a 50 m² mainsail weights approx. 35 kg for a monohull or 70 kg for multihull.

**ADAPTIBILITY & RELIABILITY**

The Facslide® system is synonymous of effortless sailing

**Facslide+ features:**

- Monoblock design of the cars (no assembled cap). The ball race is CNC machined to high precision.
- Possibility of mixing the car models (F10-20-30) in order to lower the sail stack height when the cars are down. It also helps reduce the total cost.
- The toggle of the batten cars can turn more than 180° and fit to most batten boxes (M10-12).
- The cars are supplied with torlon® balls (higher resistance against wearing).
- F10-20-30: flat and light tracks, safety and quick pins (see below), anodization and insulation materials

**Tracks fitting to the mast without modification**

The tracks are easily fixed with slugs alongside the existing mast without unstepping (voir page 42).



**Top and bottom stoppers (EB15, ER40)**

Delivered in the FACSLIDE® kit, these stoppers prevent the cars from sliding out of the tracks.

EB15 (F10,20,30)



EB40 (F40)

**Headboard cars (FT10, FT20, FT30, FT40)**

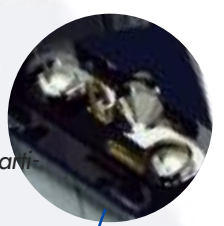
can be fitted on the head board of the existing sail or simply on a ring



**+ de 180°**



toggle with large articulation



Safety-clip device (similar to the FX Gennaker furlers)

**Monoblock cars**

The FACSLIDE® cars are CNC machined in one block of aluminium, this makes them shock-proof when lowering the sail.

**Automatic reefing**

Reefing the mainsail is easy as the effort for tightening the halyard are limited. As a complementary boom option Facnor supplies the F40 outhaul foot car. (ref. 540 204 008 20)



Photo Credit : © Morris Adant / Gardia - Grand large yachting

# FACSLIDE+

Hoisting, reefing and lowering effortlessly

BATTEN CARS FOR FULLY BATTEN MAINSAILS

## FACSLIDE MODEL SELECTION

Facslide Model	Track Reference*	MONOHULL Mainsail area	MULTIHULL Mainsail area
F 10	FR25x15	45 M <sup>2</sup>	40 M <sup>2</sup>
F 20	FR25x15	60 M <sup>2</sup>	55 M <sup>2</sup>
F 30	FR25x15	85 M <sup>2</sup>	70 M <sup>2</sup>
F 40	FR40	130 M <sup>2</sup>	90 M <sup>2</sup>

\* with screws and slugs



### ■ Cars references :

- Batten cars : FL10, FL20, FL30, FL40.
- Intermediates cars : FI10, FI20, FI30, FI40.

### ■ Compact Facslide set :

- including: 2m tracks, one head board car, batten and intermediate cars
- for a reduced cars height when mainsail lowered, it is possible to mix different car models on FR25x15 tracks (such as FT20 + FL20 + FI10).

## INSTALLATION OF THE TRACK WITH THE SLUGS

■ **No modification of the mast :** The tracks are easily fitted to your mast with slugs without unstepping and modifying it. The various types of slugs ensure the compatibility of our system to most existing mast grooves. The tracks are CNC drilled with high precision. Made of aluminium extrusion, they are also perfectly straight.

- Two types of slugs : flat and round
- Various sizes available (see table p. 46 or ask to your Facnor dealer)



■ **Tracks :** Two types of tracks according to the mainsail area :



FR+ 25 x 15 tracks  
For F10-20-30 cars  
Length = 2 meters



FR40 TRACKS  
For F40 cars  
Length = 1,7 meter.

- **Facslide+** : new anodization (black)
- F40 : colorless anodization

- See against the installation of the tracks and dimensions p. 42.



### Salted water at the head...

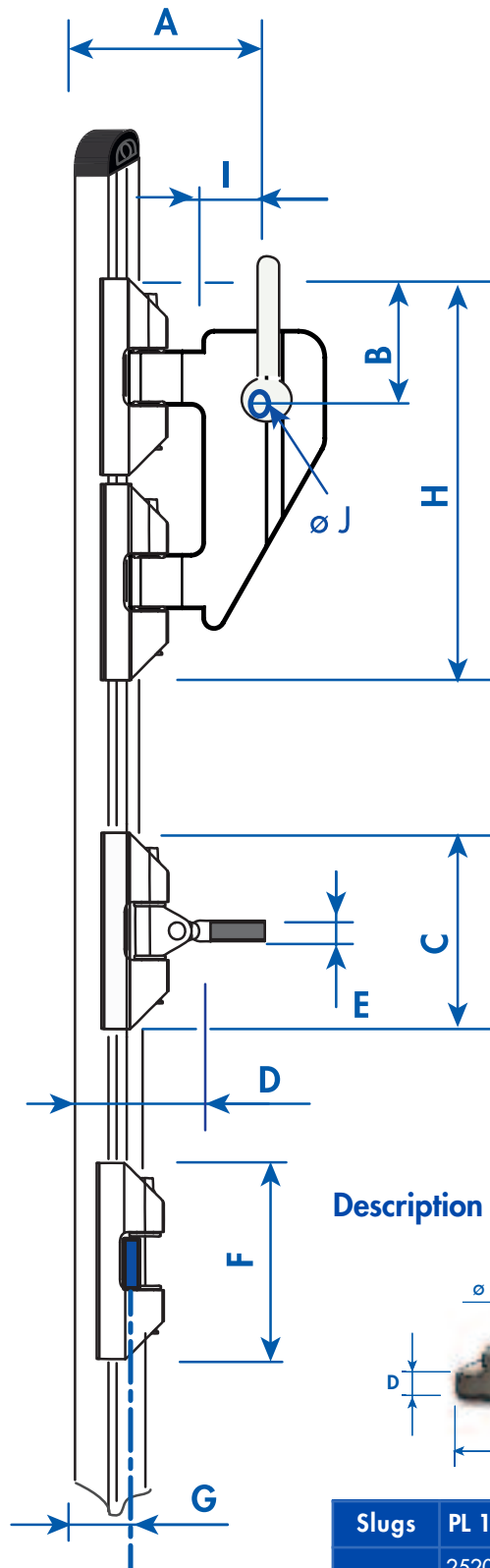
Even though the head cars are positioned 10 meter high, they receive sea water, therefore do not hesitate to rinse the cars with fresh water.

Facnor advice: once a year put a drop of washing up liquid on the car balls.



Lower mainsail with  
Facslide system combined with lazy Jack

**FACSLIDE DIMENSIONS**

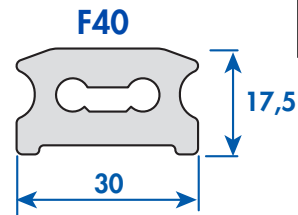
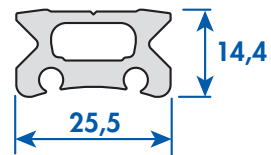


F10+	
Track ref.	FR 25x15
Marks	Dimensions (en mm)
A	72
B	45
C	74
D	58
E	M10
F	64
G	26
H	162
I	38
ø J	8

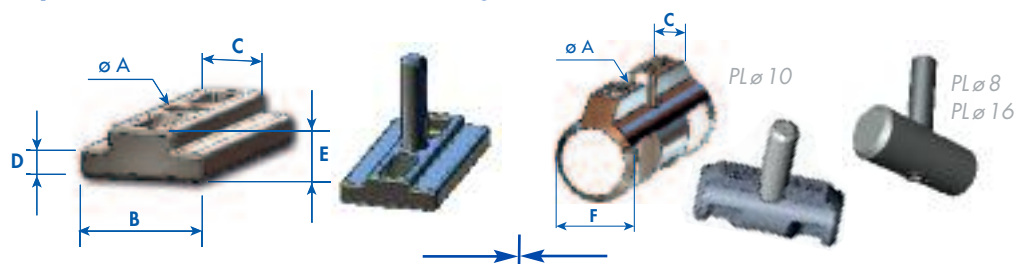
F20+		F30+	
Track ref.	FR 25x15	FR 25x15	FR 25x15
Marks	Dimensions (en mm)		
A	72	115	
B	50	98	
C	84	94	
D	58	60	
E	M10	M10	
F	74	94	
G	26	28	
H	172	197	
I	35	40	
ø J	8	18	

F40+	
Track ref.	FR 40
Marks	Dimensions (en mm)
A	120
B	150
C	140
D	120
E	M12
F	85
G	37
H	300
I	39
ø J	18

**F10-20-30**



**Description and dimensions of the slugs :**



Slugs	PL 1 (16mm)	PL 2 (19mm)	PL 3 (23mm)	PL ø 8	PL ø 10	PL ø 16
Part N°	25200010026 (M5)	25200010028 (M5)	25200010030 (M5)	51095080000 (M5)	25200010033 (M5)	51095160000 (M6)
Dim.			25200010032 (M6)			
A	5 mm	5 mm	5-6 mm	5 mm	5 mm	6 mm
B	16 mm	19 mm	23,7 mm	-	-	-
C	9 mm	9 mm	12,4 mm	-	3,8 mm	-
D	4 mm	4,5 mm	4,8 mm	-	-	-
E	6,3 mm	6 mm	7,7 mm	-	-	-
F	-	-	-	8 mm	10 mm	16 mm

## REEFING SYSTEM FOR FULL BATTEN MAINSAILS

### Stainless steel body

Good resistance of use guaranteed.

### Attaching loop

Attach with a shackle or a piece of rope at the reefing point of the mainsail (eye or strip).

### Rocket

The internal part (rocket) slides inside the external body of the lock and is activated by tightening the locking line (reefing line).



**The handling :** After a basic preparation (mainsail sheet slack, etc, ...) :

**Locking :** 1. Tighten the reefing line

2. Keep on tightening it as far as possible 3. Let it go.

**Unlocking :** 1. Tighten the reefing line as far as possible

2. Let it go 3. Give slack.

### Locking line

It activates the rocket inside the lock body (locking and unlocking operations).

### Attachment point on the boom

The end of the rocket is attached to the back of the boom (by a piece of rope).

### Functioning :

This clever device locks the attachment of the mainsail reefing point onto the back of the boom. This installation is particularly helpful on board of multi-hulls equipped with powerful mainsail and also in case of reduced sailing crew.

### The advantages :

- This lock eases the reefing line from the load that the line normally supports (compression onto the boom), the elasticity of the rope in case of long reefing line is consequently diminished;
- A stopper is no more necessary for the reefing line.

**Choice of the lock model :** Lots of parameters are to be taken into account when choosing a lock, however, the most important criteria is the load level applied to the mainsail. Therefore, it is recommended to check with the naval architect or sailmaker the value of these loads.

Parameters / Model	3T	5T
Mainsail area	90 M <sup>2</sup>	135 M <sup>2</sup>



The Facnor mainsail furling system makes your sailing safe and comfortable. No more effort to reef the sail in choppy seas: with simple handling, you will always have the right area of sail adapted to the wind conditions. No more folding or flaking the sail: with simple handling, your mainsail is quickly furled or unfurled. Your boat will always be ready to leave with sails already set up.

**SIMPLICITY IN INSTALLATION & ECONOMIC**

**CF mainsail furler features:**

- Safe handling of the mainsail
- Installation without modifying or drilling the mast
- This system allows keeping the original goose neck
- Simple to use
- Excellent quality/price ratio compared with other mainsail furler systems

**Drive unit**

The furling sections turns by operating the drive unit with a continuous line system. The drive unit is fitted with two sets of stainless steel ball bearings and fixed to the mast above the goose neck with slugs



**Original Gooseneck**

This system allows keeping the original goose neck

**Halyard swivel**

**Furling sections (2 meters long)**

They fit inside the housing sections. The sail is furled round them.



**Housing sections (=1,7 meters long)**

The housing sections are fixed with slugs to the mast without modification.



**Bottom sections design**

The section design prevents damaging the sail. The edges of the housing section incorporate a round groove so that a spare sail or protection strip can be hoisted.

**Mainsail without batten**

**Boom equipment**

Two versions available :  
 - "standard" and "special" - allows perfect positioning of the clew. (see against p. 45).



**CF MAINSAIL FURLER RANGE**

Range of mainsail furling systems suitable for 6 to 17 meter sailing boat. The chart below allows to determine the model that suits your boat (please ask for advice to our dealers, see on the web site).

Parameters	CF Mainsail furler range							
	CF80				CF105			
CF Mainsail furler reference	4CF 80	5CF 80	6CF 80	7CF 80	7CF 105	8CF 105	9CF 105	10CF 105
Maximum luff length (meters-feet)	6,80	8,50	10,20	11,90	11,90	13,60	15,30	17,00
	22'	28'	33'	39'	39'	45'	50'	56'
Maximum boom length (meters-feet)	3,90 m 12'				6 m 20'			
Housing section weight (kg)	1,850 kg				3,030 kg			
Furling section ø (mm - ft)	30 mm - 1"3/4							

**Simplicity in the design :**

A furling system that turns a headsail inside housing sections. The drive unit of the sections is situated just above the goose neck and is operated with a continuous furling line (Facnor patent).

**Simplicity of installation & strong fixing :**

The housing sections are fixed with slugs alongside the mast (drilling not necessary). The drive unit is easy to install and does **not require any modification to the gooseneck**. This kit is suitable for most of the masts and is quickly fitted without unstepping the mast. The CF mainsail furling system is produced using high tech means.

**SIMPLE INSTALLATION TO THE MAST**

**Easy fixing of the housing sections :**

The housing sections are fitted to the mast by inserting slugs inside the mast groove (see p.46). The housing sections and the slugs are fixed together by stainless steel screws and Nylock nuts. All housing sections are pre-drilled and no modification has to be done on your mast.



**Housing and furling sections**

These sections are made of extruded aluminium and anodised after machining. They combine resistance and lightness. The furling sections are twin groove. The standard length of the housing section is 1.70 meter in order to lower freight cost.

**BOOM KITS : STANDARD AND SPECIAL**

- **RC80 & RC 105 standard version (standard delivered) :** track on which a ball bearing car fitted with a shackle. Track installation : with slugs, like the housing sections (see pict 1).

- **KB80 & KB105 special version (optional) :** This KB version allows not to use the boom sheaves, often inadequate due to their small diameter and their lack of ball bearings or needles. The KB boom kit includes a ball bearing car fitted with a pivoting sheave, 2 needle bearing sheaves (1 front and 1 back) and a special end stop. (see pict 2).



(fig 1)



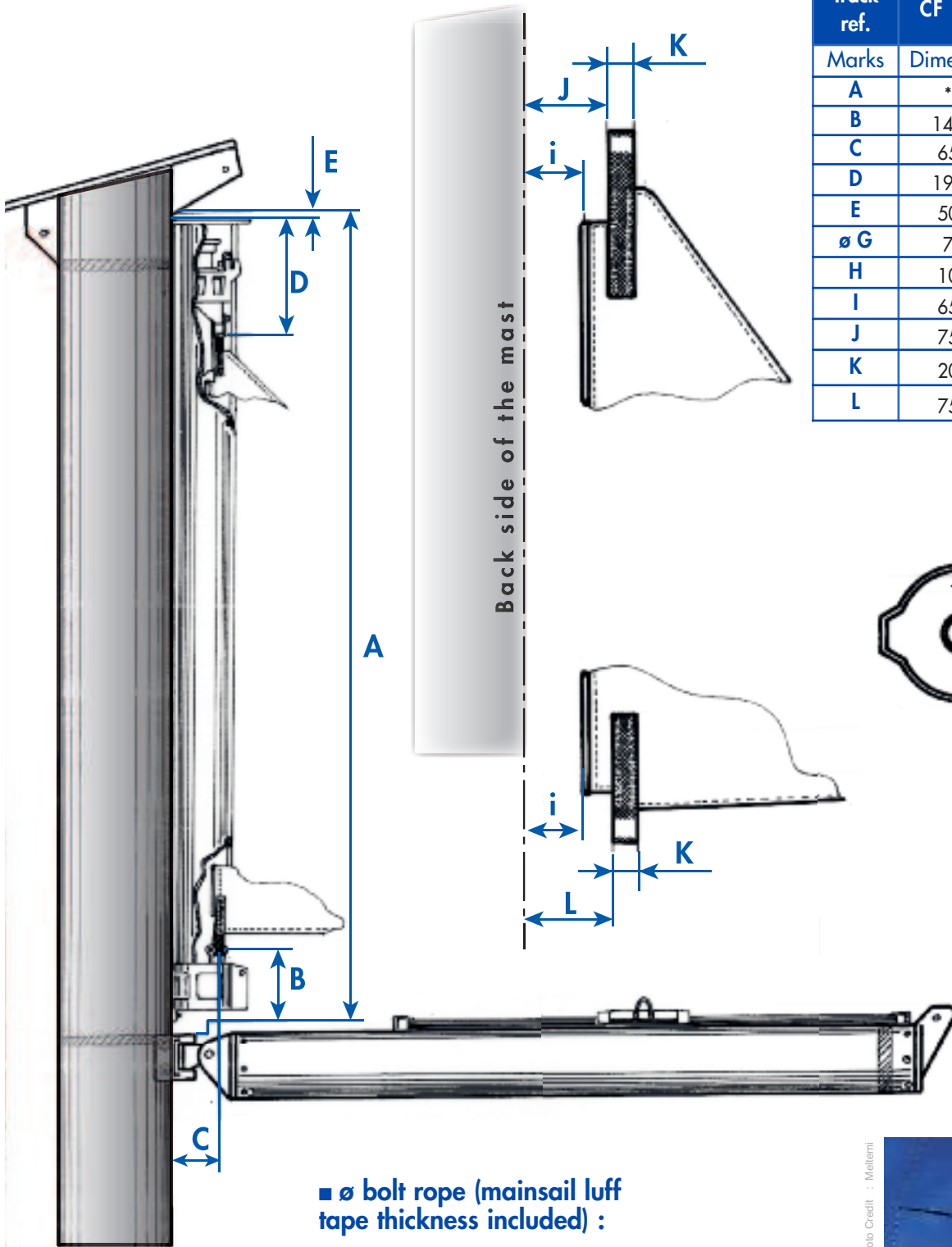
(fig 2)



Photo Credit : Meltemi

CF DIMENSIONS

Track ref.	CF Model	
	CF 80	CF 105
Marks	Dimensions (en mm)	
A	*	*
B	140	140
C	65	85
D	190	210
E	50	70
∅ G	7	7
H	10	10
I	65	75
J	75	85
K	20	20
L	75	85



■ ∅ bolt rope (mainsail luff tape thickness included) :

- 6 mm for a CF 80 & CF 105

**CAUTION :**

The specified technical datas are likely to be amended. Therefore, Facnor reserves the right to modify those datas at any moment following product development. Thus, for datas updating it is important to consult Facnor agents or extranet - authorised access to our distribution network, boat builders and naval architects only. Dimensions and use recommendations accessible directly on [www.facnor.com](http://www.facnor.com)

Photo Credit : Mellemi





## THE BETTER TECHNICAL SUPPORT IS YOUR AGENT :

Most of the installation manuals are available on our web site pro support. However, the best pro support you can get is the support of our experienced and skilled dealers who will be able to advise you according to your sailing program and your boat.

## HEASAIL FURLING & REEFING SYSTEMS INSTRUCTIONS :

- LS+LS+RX+ INSTALLATION MANUAL (Torlon Balls)
- LSLRX USE RANGE
- LSLRX INSTALLATION MANUAL (Bearing box)
- BOTTOM FORESTAY TERMINAL
- DIMENSIONS LS LX
- MEASUREMENTS OF THE CONNECTORS
- FLATDECK INSTALLATION MANUAL
- EF INSTALLATION & USER INSTRUCTIONS

## INSTRUCTIONS FOR CODE ZERO & GENNEKER FURLERS, FACSLIDES AND MAINSAIL FURLERS :

- FX+ INSTALLATION NOTES
- FX+ USER INSTRUCTIONS
- CONTINUOUS LINE FURLERS : EXAMPLE OF INSTALLATION
- FACSLIDES+ INSTALLATION NOTES
- CF MAINSAIL FURLER TECHNICAL INSTRUCTIONS : informations & dimensions of the slugs and screws, information on the parts of CF furler, informations & dimensions of the special boom kit, slug reference according to mast sections.

## FORMER RANGES :

- SD INSTRUCTIONS
- FX INSTALLATION & USER INSTRUCTIONS
- ASYM-FX INSTALLATION & USER INSTRUCTIONS
- RC DRUM INSTRUCTIONS
- ...

Consult the facnor instructions on our technical support



YOUR NOTES

Dotted lines for notes

YOUR FACNOR DEALER



**AUSTRALIA**

**WICHARD PACIFIC** - St PETERS  
Tel. + 61 2 9516 0677  
info@wichard.com.au  
www.wichard.com.au

**AUSTRIA**

**SCHWAIGER NAUTIK** GmbH  
ACHENKIRCH/ACHENSEE  
Tel. +43 5246.6263  
office@schwaigernautik.com  
www.schwaigernautik.com

**BELGIUM**

**WITTEVRONGEL** - BLANKENBERGE  
Tel. +32 50 41 18 63  
info@wittevrongel.be  
www.wittevrongel.be

**BRASIL**

**NORTH SAILS** - ILHABELA - S.P.  
Tel. +55-12-3895-8754  
walter@br.northsails.com  
www.northsailsudamerica.com

**CANADA**

**WICHARD CANADA** - STOKE  
Tel. (819) 878-3018  
info@wichard.ca  
www.wpgcanada.com

**CHILE**

**WINNOCORP LTDA** - SANTIAGO  
Tel. +56 2.2126494  
info@winncorp.cl  
www.winncorp.cl

**CROATIA**

**SAJLA-COM** - SIBENIK  
Tel. +385 (0)22 441 626  
info@sajla-com.hr  
www.sajla-com.hr

**RAMINA POMORSTVO** - SPLIT  
Tel. +385 21 398 233  
ramina-pomorstvo@st.t-com.hr

**CZECH REPUBLIC**

**AVAR YACHT** - VEVERSKÁ BÍŤŠKA  
Tel. +420 546 428 015  
yacht@avaryacht.cz  
www.avaryacht.cz

**DENMARK**

**RIGGERNE** - SVENDBORG  
Tel. +45 31 79 30 01  
info@riggerne.com  
www.riggerne.com

**FINLAND**

**RIG-MAN** - ESPOO  
Tel. +358 (0)50 3562902  
info@rig-man.fi  
www.rig-man.fi

**FWI**

**YACHT RIGGING** - SAINT MARTIN FWI  
Tel. +33 (0)5 90 29 52 82  
mustyachtrigging@domaccess.com  
www.yachtrigging.fr

**GERMANY**

**HAHNFELD GmbH & CO.** - BREMEN  
Tel. +49 421 631 058  
mail@hahnfeld-masten.de  
www.hahnfeld-masten.de

**GREECE**

**MELTEMI YACHTING LTD** - ATHENS  
Tel. +30 210 984 9983  
info@meltemi-yachting.gr  
www.meltemi-yachting.gr

**GUADELOUPE**

**CARAIBE GRÉEMENT GUADELOUPE**  
POINTE A PITRE  
Tel. +590 90.82.01  
caraibegreement@hotmail.com

**HONG KONG**

**SIMPSON MARINE**  
ABERDEEN / HONG KONG  
Tel. +852 2555 8377  
service@simpsonmarine.com  
www.simpsonmarine.com

**HUNGARY**

**YACHTING PANNONIA KFT**  
BUDAPEST  
Tel. +36 1466.8320  
yachting@johajo.hu  
www.johajo.hu

**IRELAND**

**RIGGING SOLUTIONS IRELAND** - BRAY  
Tel. 086 100 5615  
philip@riggingsolutionsireland.com  
www.riggingsolutionsireland.com

**ISRAEL**

**YAMIT Y.S.B. Ltd** - TEL-AVIV  
Tel. +972 3 527 1779  
office@yamitysb.net.il  
www.yamitysb.co.il

**NORTH SAILS ISRAEL** - HERZLIA  
Tel. +972 9 957 7989  
easy@il.northsails.com  
www.northsails.co.il

**INDIA**

**SAILING STUFF** - COLOBA, MUMBAI  
Tel. +91 98200 33780  
info@sailingstuff.in  
www.sailingstuff.in

**ITALY**

**SETTEMARI YACHT S.R.L.** - LA SPEZIA  
Tel. +39 0187 21035  
info@facnor.it  
www.facnor.it

**JAPAN**

**ACTIVE MARINE** - YOKOHAMA  
Tel. +81 45 731 1653  
info@activemarine.jp  
www.activemarine.jp

**MALTA**

**MEDITERRANEAN YACHT SALES**  
TA'XBIEK  
Tel. +356 21 346 461  
info@medyachtsales.net  
www.medyachtsales.com

**MARTINIQUE**

**CARAIBE MARINE**  
LE MARIN  
Tel. +33 (0)5 96 74 80 33  
contact@caraibe-marine.fr  
www.caraibe-marine.fr

**NETHERLANDS**

**LANKHORST TASELAAR B.V.**  
LELYSTAD  
Tel. +31 320 274 611  
sales@lankhorst-taselaar.com  
www.lankhorst-taselaar.com

**NEW ZEALAND**

**KIWI YACHTING CONSULTANTS**  
AUCKLAND  
Tel. +64 09 360 0300  
sales@kiwiyachting.co.nz  
www.kiwiyachting.co.nz

**NORWAY**

**SOUTHERN CROSS SPARS**  
HøVIK  
Tel. +47 95977482  
didrik@southerncross.no  
www.southerncross.no

**POLAND**

**SAIL SERVICE** - GDANSK  
Tel. +48 58 305 0021  
office@sailservice.com.pl  
www.sailservice.pl

**PORTUGAL**

**SAILLOFT** - BARREIRO  
Tel. +351 212 071 094  
geral@velaria.net  
www.velaria.net

**SOUTH AFRICA**

**SOUTHERN SPARS** - CAPE TOWN  
Tel. +27 21.555.3470  
rigpro@southernspars.com

**SPAIN**

**EROMAR** - ALELLA-BARCELONA  
Tel. +34 93.555.60.04  
info@eromar.es  
www.eromar.es

**SWEDEN**

**BENN'S AB** - SALTSJÖ-BOO  
Tel. +46 8.556.147.00  
info@benns.se  
www.benns.se

**SWITZERLAND**

**SWISSMAST** - CHEVROUX  
Tel. +41 26 667 15 67  
info-swissmast@ph-cachelin.ch

**NORTH SAILS SWITZERLAND**  
MEYRIN / GENEVA  
Tel. +41 2278 23222  
info@ch.northsails.com  
www.northsails.ch

**THAILAND-MALAYSIA**

**CATATHAI** - PHUKET  
Tel. + 66(0)819561408  
info@catathai.com  
www.catathai.com

**TURKEY**

**POLIMARIN** - ISTANBUL  
Tel. + 90 212 259 2751  
info@polimarin.com  
www.polimarin.com

**UNITED ARAB EMIRATES**

**MARINE TECH LLC.** - DUBAI  
Tel. + 971 504515783  
dxbrigging@eim.ae

**UNITED KINGDOM**

**EUROSPARS LTD** - PLYMOUTH  
Tel. +44 (0)1 752 550 550  
info@eurospars.com  
www.eurospars.com

**URUGUAY**

**SERVICIOS NAUTICOS** - CARMELO  
Tel. +598 (542) 7074  
fede@serviciosnauticos.com  
www.serviciosnauticos.com

**USA**

**WINCHARD INC**  
ANNAPOLIS, MD  
Tel. +1 401.683.5055  
sales@wichard-sparcraft.com  
www.facnor.com

For an updated list, visit  
[www.facnor.com](http://www.facnor.com) or use the QR code  
below :

