



crédit photo : Ollivier Henry

>> From racing to cruising

Ocean racing yachts demand the absolute highest quality of equipment and the latest technology. Facnor furlers have been selected by skippers in the Vendee Globe, Volvo Race, Around alone, The Race and the America's Cup to handle their special furling requirements.

We work closely with these and other sailing teams to develop and enhance our products considering what conditions they must endure. The result is high quality products tested in the roughest conditions and pushed to the limit by great sailors. In return these innovations are made available to all sailors who desire the very best gear.

CUSTOM



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Photo : M49 © Azura Marine

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 data-base constantly updated. 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-YACHTS EXCELLENCE

Meeting a technical capacity in design and production as well as the specific knowledge of the requirements of ocean racing equipment, Facnor is now considered as "the most

excellent" in furling systems. Facnor Team has achieved a 30-year experience in designing and manufacturing new furling equipments thanks to our investment in research (patents) and the cooperative projects with many ocean skippers. This leads Facnor to the top range especially in custom gears (ocean and maxi yachts).

Windrose (schooner 46 m), Baltic 147 (Visione), Wally 80, 94, 96, 100, 107, Swan 80, 82, 100, 112, Maxi Open 115' "Maiden Hong Kong" (méga-yacht), Mari-Cha IV (140'), Shamrock V (121'), Velsheda (131'), Winquest (85'), Nariida (107'), Magic Carpet 2 (96'), Dark Shadow (100'), Alexia (100'), Y3K (94'), HYPERION (156'),

**Facnor and the Maxi-yachts : "Haute couture" & tailor made products**

As supplier for Ocean racing boats (Open 60, maxi ocean trimarans), we have also offered our knowledge to maxi-yachts. The great loads for ocean racing boats ("Formule 1 of the seas") and maxi-yachts both require very high quality equipment. Those gears of "Haute couture" are designed and produced by Facnor Team with care and the necessary resources.

By this way, Facnor has succeeded in supplying the most prestigious classic maxi-yachts.

Dark Shadow (Wally 100) - Adolfo Oria

MAXI-COURSE EXCELLENCE

Facnor is one of the best-known manufacturers of furling systems for ocean racing mono - and multihulls. The repeated successful tests carried out at sea by winning ocean racers as well as Facnor Team's inclination for challenges and innovation pushed our company to a leading position.

Ocean races obviously require a high level of skills in boat equipment manufacturing. Like in Formula One the greatest assets of a team is the capacity of finding ahead the most adequate technological solutions. Every parameter of such complex projects needs to be calculated with precision and tested before the race. For this reason, project managers of ocean racing boats work with the equipment suppliers far ahead before the race starts. This is the race before the Race... Our Teams like meeting such challenges keeping in mind that our products have "to cross the line" (generally in both ways). We worked on various boat equipment projects and all

were highly requiring: 70' ABN AMRO (winner of the Volvo Race), many Open 60', some maxi multihulls (Géant, Groupama), Mari-Cha (among the 140' one) and the Multi One Design 70 (MOD 70). Motivated by the same desire to succeed in our projects, we are proud of our long term cooperation with the most famous boat racing Teams. For instance, we have collaborated with Michel Desjoyeaux on all his mono- and multihull units. We had already proved our capacity of innovating, the constant high quality of our products and our reactive solutions to their problems. Like the skippers and the project managers we are very demanding and give our best to succeed...



Photo : © J. Nash, TEAM ABN AMRO

**FACNOR : PARTNER OF GLOBAL OCEAN RACE**

Facnor supports this Class 40 racing project originally initiated by Josh Hall. Throughout GLOBAL OCEAN RACE 2011-12 the participating boats will sail in the most difficult seas of the planet. Starting in Mallorca (Spain), the race will stop in Cape Town (South Africa), Wellington (New Zealand), Punta del Este (Uruguay) and Charleston (USA) before coming back to Mallorca, i.e. 30.000 miles totally.





**CARBON FURLING SYSTEMS**

In comparison with existing products fitted with foil sections, the carbon furling system gives a substantial reduction in weight (approx 50%). The "water drop" shaped sections offers better aerodynamicism. The section components are glued together giving superior resistance to torque than a screwed assembly.

Two models : SC40 & SC50 - section length: 4 meters.

**CUSTOM STRUCTURAL SYSTEMS**



Unlike continuous line Code zero & Gennaker furlers, these "structural systems" are fitted permanently on the sailing boat. It is an "in and out" furling system to handle Genoa, Solent, Staysail, or even ORC. The structural system components are: a swivel fixed on the mast, a continuous line drum fixed on the chain plate, and an anti-twist cable linking both mechanisms. This cable transfers efficiently the rotation from the drum to the swivel and is captive from the sail tape. The sail is latched at the tack and halyard points. The advantage of the system is the total reduction of

weight. It is lighter to fit a textile forestay than a structural furler with carbon sections. See page 29.



*Facnor has managed to create a significant know-how to design and conceive custom parts.*

**CUSTOM CODE ZERO & GENNAKER FURLERS**

Photo Credit : Y. Zerdda (Groupama III)



Facnor is "the" precursor in manufacturing continuous line Code zero & Gennaker furlers, we have supplied these since 1998 and in that we are often copied but never equalled. Most 60' monohulls and multihulls are now equipped with Facnor continuous line Code zero & Gennaker furlers: very light, reliable and safely handled alone. These furlers are designed to support the high working and breaking loads of over 500m<sup>2</sup> Gennakers (working loads up to 40 tons). See page 33.



**KNOW-HOW, RESEARCH AND DEVELOPMENT**

Our Design team creates tailor made equipment in order to improve the performance of the product: tension, resistance, weight, handling... Every parameter is measured and simulated thanks to our research and development means (powerful softwares and computers). Each project is considered as unique and dealt with as such.



Photo Credit : Barry Pickthall / PPL / Konjuhov

HALYARD LOCKS

**Use :** This system is mainly dedicated to flying forestays that once down reduce the head weights and the heel. Used also for mainsail, this locking device is widely fitted now on maxi yachts.

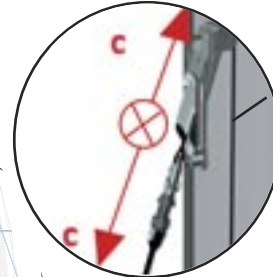
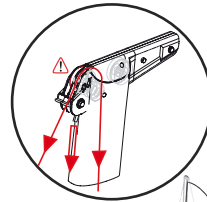
**Functioning :** When the sail is up, by pulling the halyard sharply, it locks or unlocks the hook.



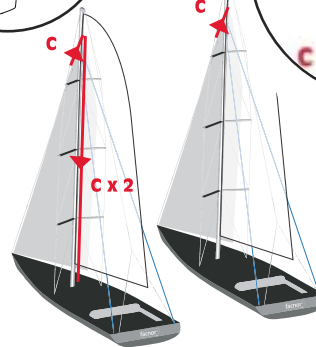
Once the lock is fastened, the halyard is free from any load and becomes the control rope for unlocking the lock.



- 1 Locking : pull sharply the halyard (sail up).
- 2 Unlocking : pull sharply again the halyard



Without the lock : the halyard under load compresses additionally the mast.



With the lock, the halyard does not add any compression onto the mast.



Photo : Gilles Martin-Regeat / Groupe Bel

**The advantages :** The high rig and halyard loads used by racing boats is transmitted into the rig, giving high mast compression loads. By locking the halyard directly onto the front head of the mast, the loads onto the mast are reduced by half. Moreover, the removable Solent gives a possible gain in weight. Furthermore, with the halyard lock the sheaves at the head and the blocks at the step of the mast support consequently less load.

**External/Internal fitting to the mast :** The halyard lock can be equally fitted inside the mast or outside on an existing head attachment (for instance attachment for a removable baby stay).

- **Internally fitted lock :** in this case, the external body of the lock is directly laminated (composite mast) or riveted/bolted onto the front head of the mast. The luff reaches an optimum length. The halyard runs down directly inside the mast. A large sheave can be fitted for smoother operation.

- **Externally fitted lock :** It can be fixed onto one head attachment with an articulated device (toggle, latching, Unibal ball or others). In this case, a small diameter sheave is integrated in the hooking system. The halyard can then run down inside or outside the mast.



Mast fitted-in lock

SPECIAL FITTINGS

**Conception and production capacity combined with quick responsiveness :** thanks to a Design team and production means of ESIM, a CNC machining company and also Losange Group member. Facnor specialises in providing many "One Off" special products to maxi yachts : titanium padeyes, chainplates high-load blocks,...etc

