

Anti-Capsize-System ACS

Automatic sheet release

www.ganovelli-concept.fr



Since 2002

Winner all multihull class – Route du rhum 2018

13 multihulls fitted –Route du rhum 2022

Roger Ganovelli

Research and developpement
www.ganovelli-concept.fr



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PALMARES - ACS Ganovelli Concept
« 20 years of performance »

2022	<p>ROUTE DU RHUM :(GClass)</p> <ul style="list-style-type: none"> • 4^{ème} IDEC Francis JOYON • 8^{ème} UIA Romain Pillard <p>ROUTE DU RHUM :(Multi 50)</p> <ul style="list-style-type: none"> • 3^{ème} Primonial Seb Rogues • 5^{ème} Petits Doudou Armel Tripon 		
2021	<p>TRANSAT JACQUE VABRE :(Multi 50)</p> <ul style="list-style-type: none"> • 1^{ère} Primonial Seb Rogues • 4^{ème} Solidaire Thibaut Vauchel • 5^{ème} Petits Doudou Armel Tripon 		
2018	<p>ROUTE DU RHUM :(GClass)</p> <ul style="list-style-type: none"> • 1^{ère} IDEC Francis JOYON • 4^{ème} REMADE Romain PILLARD <p>ROUTE DU RHUM :(Multi50)</p> <ul style="list-style-type: none"> • 1^{ère} Réauté chocolat Armel TRIPON • 3^{ème} Solidaire Thibaut VAUCHEL CAMUS • Arkema Lalou ROUCAYROL <p>ROUTE DU RHUM :(Class Rhum)</p> <ul style="list-style-type: none"> • TS52 Gerald BIBOT • Outremer 5X Yann MARILLEY • A capella Charlie CAPELLE • ORMA 40 Gilles BUCKENHOUT 		
2017	<p>TROPHÉE JULE VERNE : IDEC</p>	2009	<p>IDEC (GClass) Francis JOYON Record FRANCE/ILE MAURICE</p> <p>TRANSAT EN DOUBLE JACQUE VABRE :(Classe 50 pieds)</p> <p>3^{ème} REGION AQUITAINE Lalou ROUCAYROL</p>
2014	<p>ROUTE DU RHUM :(GClass)</p> <ul style="list-style-type: none"> • MOD 70 /PAPREC Yann Elies • IDEC Francis JOYON <p>ROUTE DU RHUM :(Multi50)</p> <ul style="list-style-type: none"> • 2^{ème} Lalou Roucayrol • 4^{ème} Yves le Blevec <p>ROUTE DU RHUM :(Class Rhum)</p> <ul style="list-style-type: none"> • 1^{ère} ANEO Anne Cazeneneuve • 7^{ème} Acapella Charlie Capelle 	2008	<p>IDEC (GClass) Francis JOYON Record de la ROUTE DE LA DECOUVERTE</p> <p>IDEC (GClass) Francis JOYON Record du TOUR DU MONDE EN SOLITAIRE</p>
2013	<p>IDEC (GClass) Francis JOYON Record de la traversée de l'Atlantique nord en solitaire.</p>	2007	<p>TRANSAT EN DOUBLE JACQUE VABRE :(Classe ORMA)</p> <ul style="list-style-type: none"> • 1^{er} GROUPAMA 2 Franck CAMMAS • 3^{ème} BANQUE POPULAIRE Pascal BIDEGORRY • 4^{ème} BROSSARD Yvan BOURGNON • 5^{ème} SOPRA GROUP Antoine KOCH <p>TRANSAT EN DOUBLE JACQUE VABRE :(Classe 50 pieds)</p> <ul style="list-style-type: none"> • 3^{ème} REGION AQUITAINE Lalou ROUCAYROL <p>IDEC (GClass) Francis JOYON Record de traversée de la Manche</p>
2010	<p>ROUTE DU RHUM :(GClass)</p> <ul style="list-style-type: none"> • 1^{ème} GROUPAMA 3 Franck CAMMAS • 2^{ème} IDEC Francis JOYON <p>ROUTE DU RHUM :(Multi 50)</p> <ul style="list-style-type: none"> • 2^{ème} REGION AQUITAINE Lalou ROUCAYROL • 7^{ème} NAVIGUEZ ANNE CAZENEUVE Anne CAZENEUVE • 9^{ème} NOOKTA Gilles BUEKENHOUT <p>ROUTE DU RHUM :(Class RHUM)</p> <ul style="list-style-type: none"> • 4^{ème} ACAPELLA Charlie CAPELLE <p>VENDEE / SAINT PETERSBOURG (Multi 50)</p> <ul style="list-style-type: none"> • 1^{ème} ACTUAL Yves LE BLEVEC • 4^{ème} REGION AQUITAINE Lalou ROUCAYROL 	2006	<p>ROUTE DU RHUM :(Classe ORMA)</p> <ul style="list-style-type: none"> • 2^{ème} BANQUE POPULAIRE Pascal BIDEGORRY • 5^{ème} GROUPAMA 2 Franck CAMMAS • 6^{ème} BROSSARD Yvan BOURGNON • 8^{ème} REGION GUADELOUPE • 9^{ème} SOPRA GROUP Antoine KOCH <p>HYDRAPLANEUR Yves PARIER</p> <ul style="list-style-type: none"> • Record distance parcourue /24h(60pieds/equip.) <p>Record tour de Gran Canaria</p>
		2005	<p>IDEC (GClass) Francis JOYON Record de traversée de l'Atlantique en solitaire</p>
		2004	<p>GROUPAMA 2 (ORMA) Franck CAMMAS Champion ORMA</p>



ANTI-CAPSIZE SYSTEM

The ACS (Anti-Capsize System) is an innovative automatic and autonomous safety system designed to overcome the problem of multihull capsizes.

Automatic : when a critical angle of heeling or pitch poling is exceeded, the ACS acts directly by progressively releasing the sails.

Autonomous :

- The ACS depends on no external equipment or instrumentation (electronic or computerised) thus ensuring a high level of stability and reliability.
- Negligible consumption on standby (0.010A) allowing the system to remain switched on without risk of electrical overconsumption.

The result of two years of development and trials, the *Anti-Capsize System* was patented in 2003 by Roger Ganovelli and now commercialized by Florence Ganovelli.

On the market since 2004, the system has satisfied all available tests for racing multihulls.

Custom-fitted aboard each vessel, the ACS offers indispensable automated safety in the search for extreme performance on multihulls: automatic release of the sails when pre-set angles (configured to measure) of heeling and pitch poling are exceeded.

To date, ACS has been installed and tested on several of the 60-foot trimarans participating in the Route du Rhum 2006/2010/2014/2018 and in other ocean races :

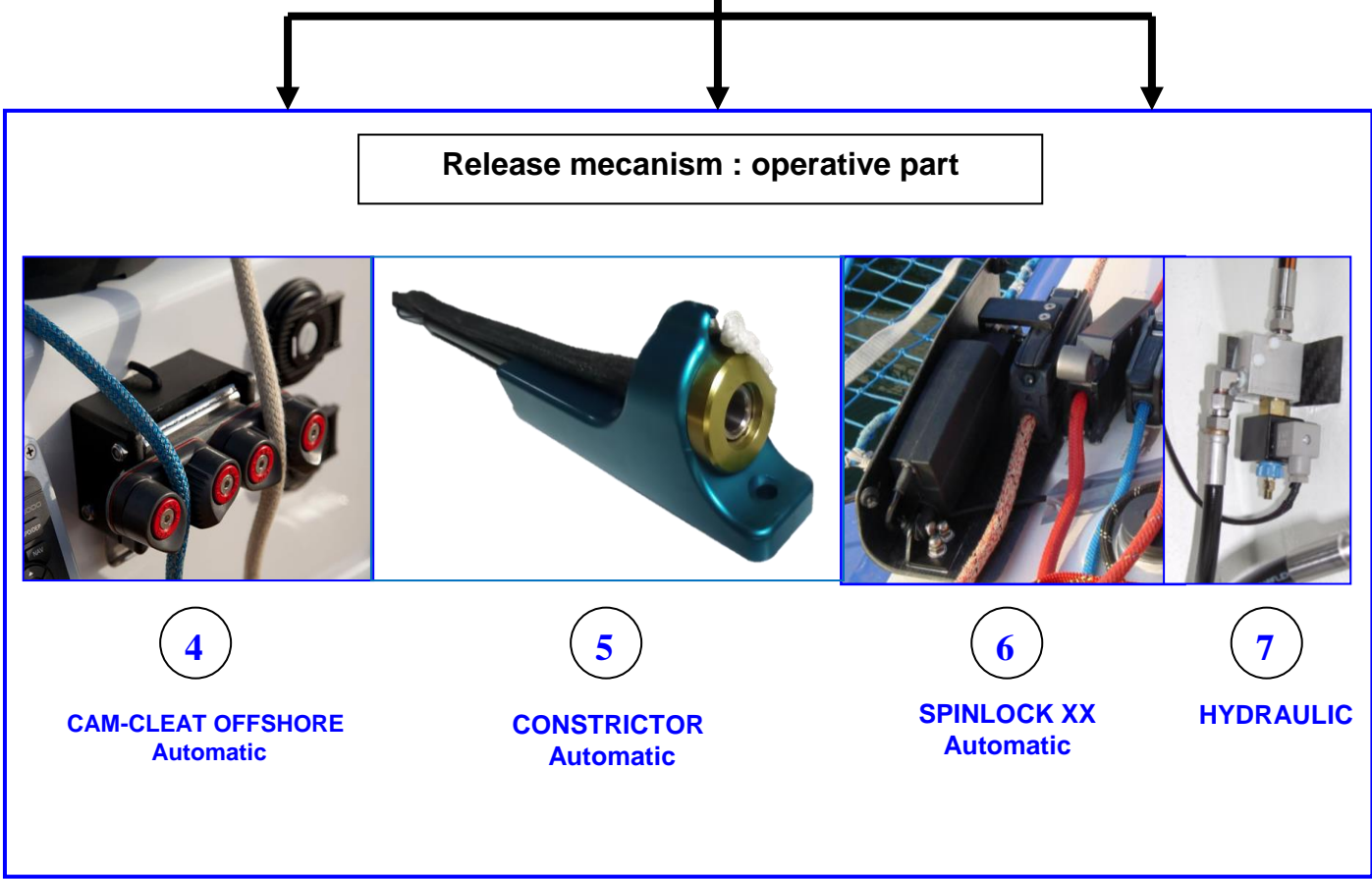
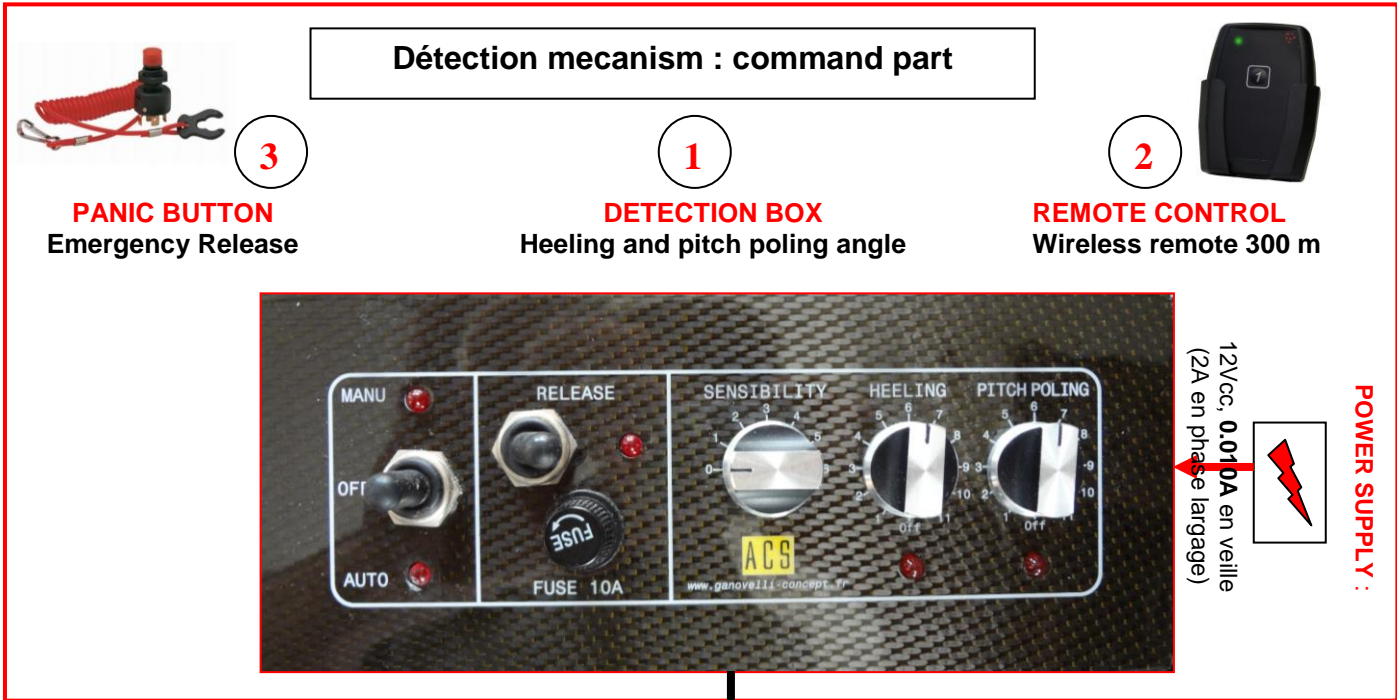
GROUPAMA 2
BANQUE POPULAIRE
BROSSARD
SOPRA GROUP
REGION GUADELOUPE
MEDIATIS REGION AQUITAINE
PORT MEDOC-Aquitaine
TS 50
A Capella
ACTUAL
GROUPAMA 3
IDEC

Franck CAMMAS
Pascal BIDEGORRY
Yvan BOURGNON
Antoine KOCH
Claude THELIER
Yves PARLIER
Lalou ROUCAYROL
Dominique MARSAUDON
Charlie CAPELLE
Yves LE BLEVEC
Franck CAMMAS
Francis JOYON

Other installations are currently in progress.

All in all nearly 80 ACS are currently sailing over the world. This is an indispensable safety system whether for solitary or team races. Minimal in size, the ACS is suitable for all types of configuration (hydraulic or electrical)

OPERATING PRINCIPLE of the ACS:





Detection

1. Detection box:

An electronic unit that controls the boat's trim. Permanently installed in the cabin, it monitors the heeling and pitch poling of the vessel. When the pre-set angles are exceeded (or the panic button is activated) the detection box activates the mechanical units which release the sheets. It can be configured to measure.



2. Panic button :

Manual release of the sheets is possible by means of emergency cutout bracelets (panic button). This manual emergency override can be installed near the helm, at the foot of the mast, or wherever, depending on the needs of the skipper.



3. Remote control - distance release:

Allows the automatic distance release of the sheets.
(Waterproof and Shockproof remote control)

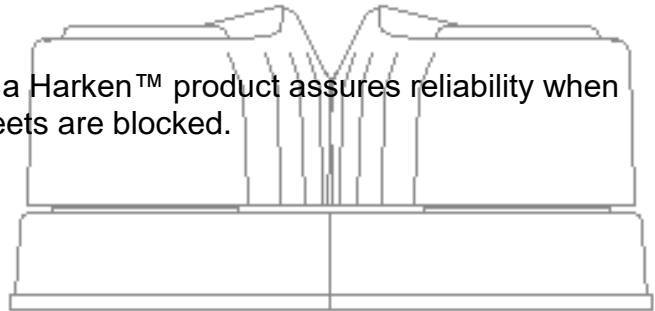


4. Automated« Offshore Cam-matic® Cleat »::

Permits automatic or distance release of the sheet as well as normal use of the cleat.



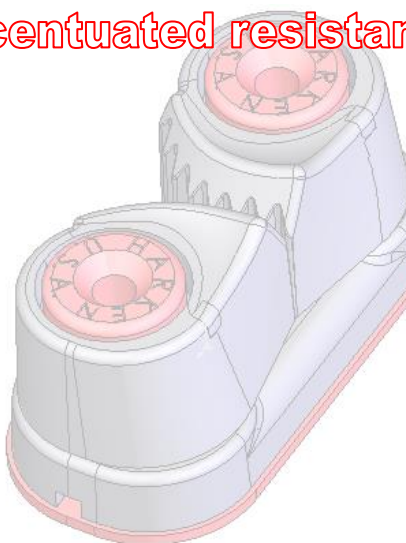
Use of a Harken™ product assures reliability when the sheets are blocked.



FLUSH DECK version

New 2023

Automatic Sheet ejection even without sheet tension.
Accentuated resistance



5. Constrictor® automatisé

Allows automatic or remote sheet release as well as direct (manual) sheet release in normal use.

Accepts heavy loads such as mainsail or traveler or fixed point release...



Available diamètre 8,10 et 12

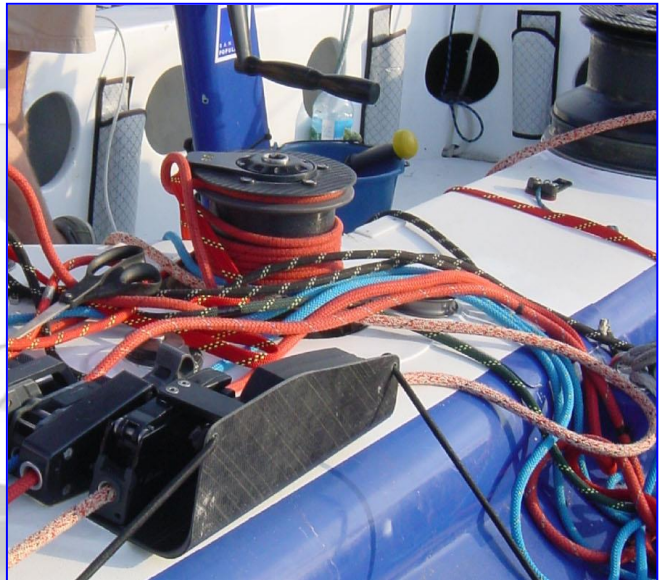
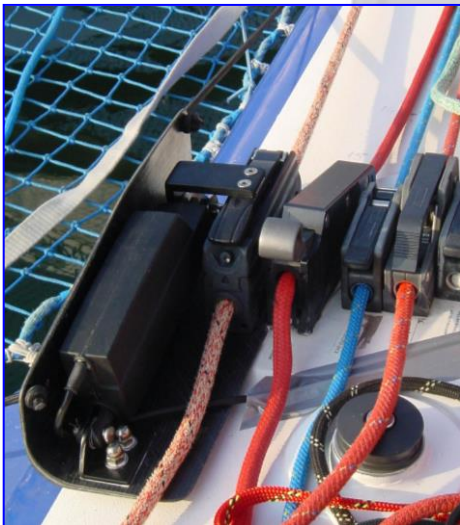
Same fitting as « Constrictor cousin »

6. Automated clutch:

Permits progressive release of the sheets: the clutch releases only what is needed in order to regain the usual trim.

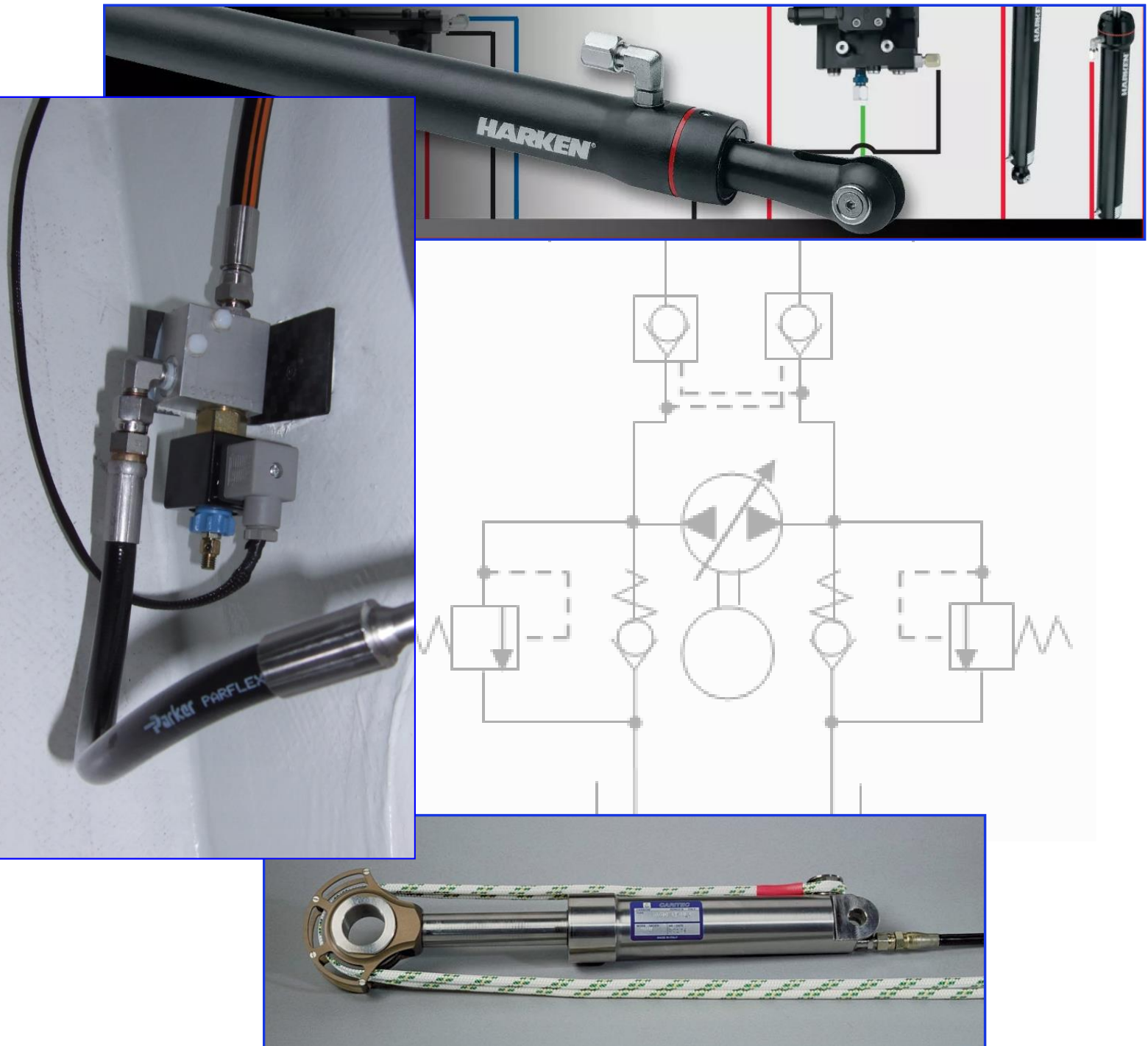


Use of an industrial product ensures reliability when the sheets are blocked.

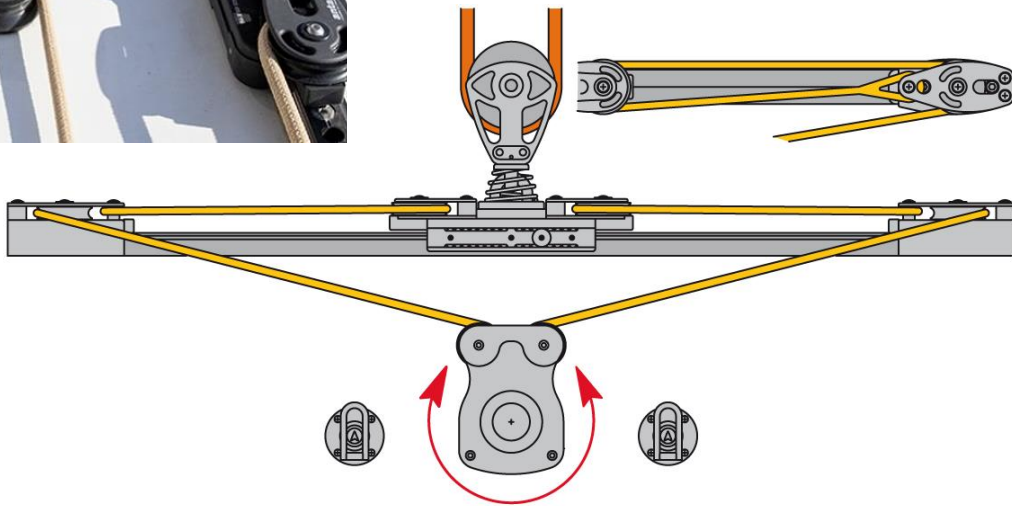


7. Electrovanne de vérin hydraulique :

Valve electronically directed by the ACS, which controls the movement of the hydraulic cylinder (generally used for the mainsail) or of the captive reel winch. Very flexible and progressive control without jerking



8. Captive winch & line driver:



Caractéristiques techniques

❖ **Boîtiers de commande** : (boîtier de détection + boîte de jonction)

R1, R9 : 330 (orange/orange/marron)
 R2 : 470 (marron/noir/marron)
 R3 à R5 : 10KΩ (marron/noir/orange) *poids 400g*

Consommation en veille 10 mA ;
 R6 : 1MΩ (marron/noir/vert)

Consommation au déclenchement jusqu'à 5A (fonction du nbre et du type d'organe de largage) ;
 R7, R8 : 51MΩ (marron/vert)

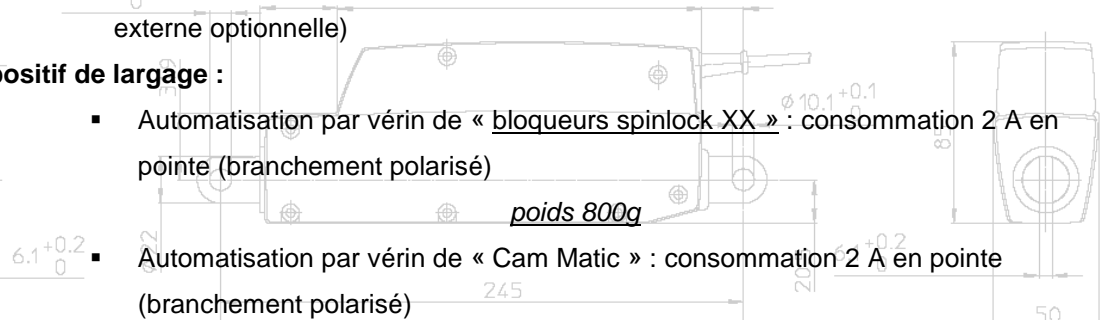
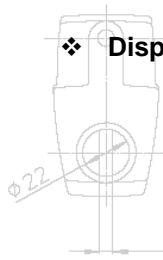
Fonctions : C1, C2 : 22pF (noté 22)
 C3 à C6 : 100nF (noté 104 ou 1 ou 100n)

- ✓ Régulation du déclenchement (sensibilité) 6 positions.
- ✓ 11 angles de gîte pré-réglables :
 « 4; 7; 10; 13; 16; 19; 22; 25; 30; 35; 40; OFF » en degrés (tolérance±2°)
- ✓ 11 angles d'enfournement pré réglables.
 « 2 ; 4 ; 6 ; 8 ; 10 ; 12 ; 14 ; 16 ; 18 ; 20 ; 25 ; OFF » en degrés (tolérance±2°)
- ✓ 3 sorties interrupteurs bracelet type « panic button ».
 « 1 sur le boîtier ; 3 autres en position libre »
- ✓ 2 sorties pour dispositif de largage
 (« largage 1 et largage 2 »).
- ✓ 1 switch 3 positions permettant de passer d'un mode « manuel » à un mode
 « automatique » et « OFF »
- ✓ 2 switches permettant de sélectionner le dispositif de largage actif.
 « Bloqueurs spinlock XX » : automatisé / « Cam Matic® » automatisé /
 electrovanne

✓ 1 alarme sonore de déclenchement incorporée à la boîte de jonction (alarme externe optionnelle)

❖ **Dispositif de largage** :

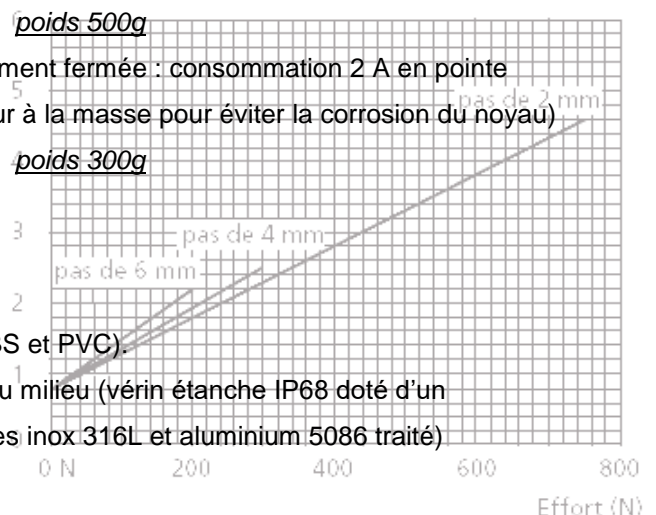
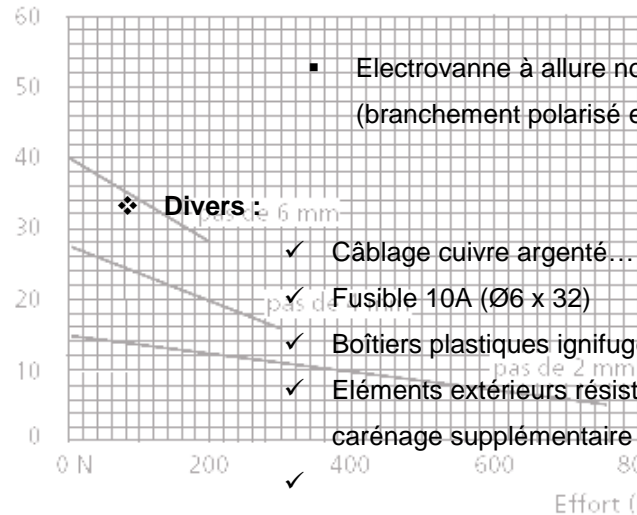
- Automatisation par vérin de « bloqueurs spinlock XX » : consommation 2 A en pointe (branchement polarisé)
- Automatisation par vérin de « Cam Matic » : consommation 2 A en pointe (branchement polarisé)



- Electrovanne à allure normalement fermée : consommation 2 A en pointe (branchement polarisé et retour à la masse pour éviter la corrosion du noyau)

❖ **Divers** :

- ✓ Câblage cuivre argenté...
- ✓ Fusible 10A (Ø6 x 32)
- ✓ Boîtiers plastiques ignifugés (ABS et PVC).
- ✓ Eléments extérieurs résistants au milieu (vérin étanche IP68 doté d'un carénage supplémentaire ; pièces inox 316L et aluminium 5086 traité)



ACS

ANTI-CAPSIZE SYSTEM

