CYCLOPS MARINE
Rig Monitoring Systems

PROTECT YOUR RIG

www.cyclopsmarine.com
ABOUT US

Cyclops Marine is a world leader in developing “smart fittings” for the accurate measurement of the loads in yacht rigs, in both standing and running rigging.

Our heritage is in the world of Grand Prix yacht racing, helping teams deliver the best performance, constantly “pushing the envelope” on structural safety to the very limits.

Our smart fittings are selected by top teams including Emirates Team New Zealand. We have now brought that innovation and technology to the world of superyachts.
THE CHALLENGE

Superyachts are owned for enjoyment and prestige, and must always be ready to provide safe, reliable sailing for the owner and his guests.

They are expensive assets to purchase and operate, so must be operated efficiently and maintained diligently to minimise obstructions to any future sale.

A critical part of the superyacht is the mast and rigging, a sophisticated structure which operates under very high loads throughout its lifetime. Rigging the mast is a complex process to ensure that the mast is properly supported, without over or under loads across the rigging.

To maximise the enjoyment and minimise the risk that comes with owning and operating a superyacht, confidence in the rig is essential for:

- Captains concerned about the potential for rig damage or failure, causing expensive damage, taking the yacht out of commission, and risking injury to people.
- Yacht managers concerned about planning efficient maintenance.
- Potential buyers concerned about the value of the asset they are purchasing.

Cyclops can help to address each of these concerns, through our innovative superyacht rig monitoring systems.
Cyclops rig monitoring systems deliver a wealth of easily accessible trusted information to address the key concerns of a superyacht owner, operator and captain.

Safety
Once installed, our system provides real time verification of safe rig tune and instant warning of overload and underload conditions. This allows a captain to make minute by minute adjustments and decisions to provide enjoyable sailing while ensuring safety.

Maintenance
Detailed data analysis reports are stored and analysed, helping crews manage their rigs safely, and plan maintenance programmes focused on areas of concern identified from rig data while in use. With interactive usage dashboards and exception reports, crews have the full picture on how their rig is performing and being operated.

Protecting Value
When the time does come to sell, a prospective buyer will want to know about the condition of the rig, and the loads and stresses it has been subjected to. Our system provides a through-life history, effectively creating for the first time a ‘log book for rigs’. This documentation also provides insurers with more confidence when assessing the risk.

Cyclops systems deliver information in two ways:
1. Live data, on the yacht, when the captain is sailing.
   - Immediate accurate data, plus user-defined alarms, on instruments and smartphones.
   - Confidence in the rig, and better informed decisions.
2. Analysis of recorded data, accessible anywhere
   - Easily understood dashboards, peak loads, load cycles, exception conditions for investigation.
   - Prioritised maintenance, complete record of rig load and sailing history.

OUR SOLUTION

SINGLE ACTING TURNBUCKLE
DOUBLE ACTING TURNBUCKLE
GRAND PRIX TURNBUCKLE
FIXED LINK
From simple pen and ruler measurements, through to load pins and fibre optics, different technologies have been applied. None, however, provides accurate, repeatable data in a system that is both cost-efficient and easily retro-fitted.

Until now

The Cyclops system gathers data from a network of sensors installed across the rig.

- A typical base set would comprise of a forestay tension and mast step compression, together with V1 and D1 loads;
- This would be extended with full measurement of all diagonals to verify proper tuning and support for the mast;
- Selected additional sensors would be added to provide information and protection for other parts of the standing rigging, the running rigging, the spars themselves.
Q&A

Can you put the product/solution in the mast or at the base of the mast whilst we are in refit?
We can do most of it without removing the rig – just need to unload and sequentially partly ‘undress’, as part of refit process.

Can you install it while we are in refit, as part of the refit process, or is it only for a new boat install?
Yes. The sensor suite is designed for both refit and new builds.

We have rod rigging over ten years old, which we will keep, but service. Can we use the Cyclops solution on this type of rigging?
The sensor suite is designed for both rod and composite rigging and we work with the industry at manufacture and install levels, to make sure the solution is available to both types of rigging.

How do you install it on composite rigging, as you cannot cut the rigging cables?
The rigging is taken off the yacht and the existing fittings (e.g. turnbuckles, hard eyes) are replaced with smart fittings with embedded sensors and electronics, built to the same quality or higher units which have been tested and approved by the industry. Once this process is completed the rigging is then installed back on the yacht as normal.

How does the load get set in the first place?
The loads for any yacht are set originally by the yacht designer who then works with the mast, rigging and sail makers to create a data set for the rig. A key benefit of all Cyclops fittings is that they are pre-calibrated in the factory against certified standards, and so do not require calibration in situ (which is only approximate anyway).

Can you get a load reading whilst sailing and, if so, what can you do with that information?
The Cyclops system integrates with your existing instrument system to present the key numeric data you require. In addition, data is presented in simplified forms to provide confirmation or to trigger alarms – these can be provided on bridge displays, smartphones, or even smartwatches.

Can the yacht crew install it themselves?
The sensor suite is designed for a professional install. We have a network of rigging partners who are familiar with our solution based in the major yachting centres around the world.

Is the dashboard available for a smart phone or tablet and ships instruments/IT systems?
The Cyclops system is designed for the data to be presented on your instrument set in real time and uploaded to the ‘cloud’ for analysis and review. The real time data can be viewed and monitored on a smart phone, a tablet or even a smart watch. The system also generates real time ‘amber’ and ‘red’ alarms for conditions that require attention by the captain.

How long does it take to install?
As each and every yacht is different, and the requirements and solution are customised to match the need, the sensor suite install time takes between 2 -7 days without any factory work. If there is factory work, then we will inform the yacht owner of this time schedule.

Which locations can it be installed in?
We have centres of excellence in Palma and Genoa and our rigging partners have world-wide coverage.

Will insurance companies allow it to be put on the yacht?
Your insurance company would want you to install our sensor equipment as it reduces their exposure of risk.

When is it available on the market?
The product is available now and we are currently installing solutions now and throughout the coming refit season. We are also installing the solution onto some wonderful new builds, including Emirates Team New Zealand’s new America’s Cup yacht.

What is the lead time for ordering?
The current lead time is nine weeks. However, as the solution is custom, we can only work on the maximum lead time and then as we understand the requirements of each install, the timeline can be adjusted to match the need.

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