

The premium choice

Humphree equipment is designed and manufactured to deliver world-class quality and reliability. Customer support and spare parts are available wherever and whenever needed, through our Head Office in Sweden or via our expanding network of local representatives around the world.



stabilisation

IMPROVE YOUR WORKING DAYS



www.humphree.com

Humphree AB • Grimboåsen 16 • 417 49 Gothenburg SWEDEN
+46 31 744 35 77 • humphree@humphree.com

HUMPHREE®

Trim and stabilisation systems

Improve your working days

During the past 15 years, our naval engineers have developed premium products for the Marine Commercial market which make a significant difference at sea: The difference between comfort and seasickness, the difference between low and high fuel consumption, the difference between excellent visibility from the helm or poor visibility from the helm, the difference between a successful working day and a mediocre one.

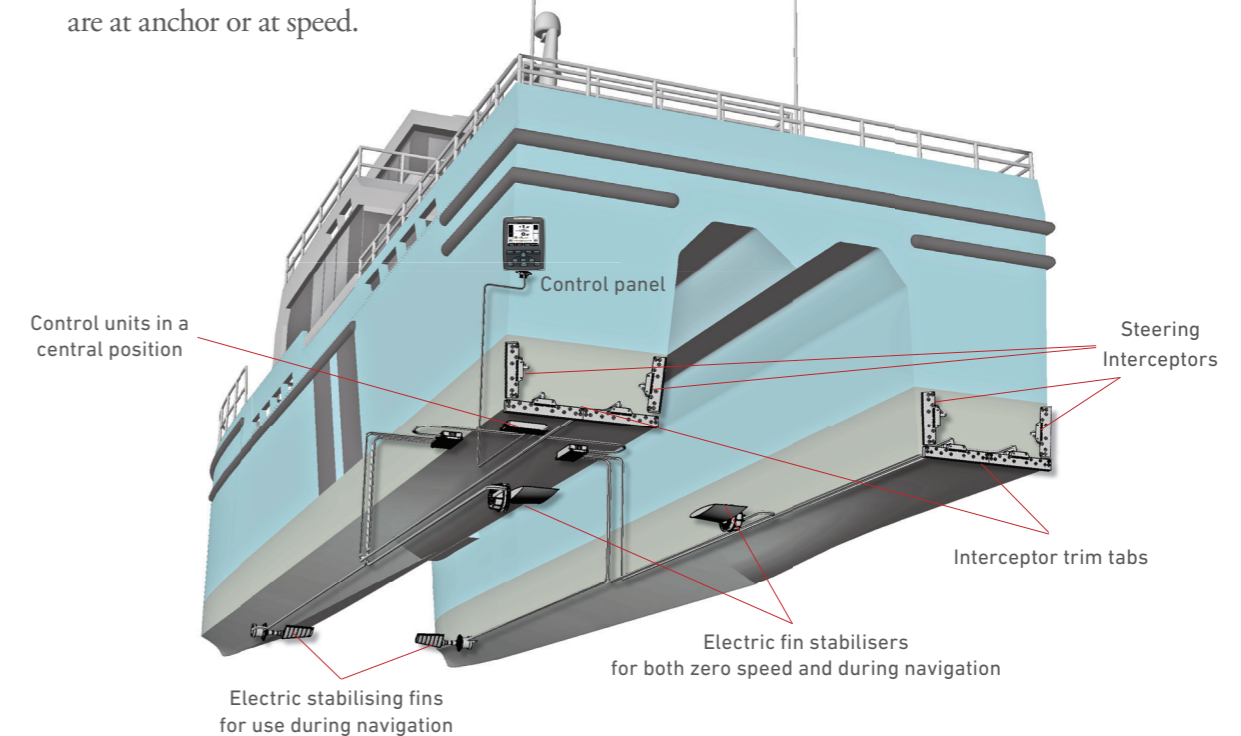
CONTENTS

• What it's all about	3
• Interceptors	4-5
• Control systems	6-9
• Fin stabilisers	10-11
• Course stability	12-13
• References	14
• About Humphree	15
• Contact information	16

HUMPHREE®

It's all about comfort and safety

For planing and semiplaning monohull and catamaran vessels, our interceptor based stabilisation systems will make you experience less roll and pitch motions, better performance, lower fuel consumption and safe comfortable turns. The interceptor trim tabs provides the most efficient trim and stabilisation system on the market. Our electric fin stabilisation system will stabilise your boat at anchor and throughout the whole speed range with unique performance also during turns integrated with the steering of the boat. The integration of interceptors and fin stabilisers will provide an exclusive ability to control your vessel with comfort and safety no matter if you are at anchor or at speed.



interceptors

Automatic Interceptor Trim Tab Systems

Humphree ACTIVE stabilisation reduce roll motion with up to 50% and it feels like even more. Your working day will be an entirely new experience.

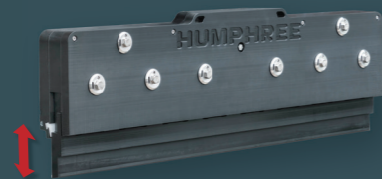
Humphree interceptor trim tabs are the premium choice for vessels 25ft(8m) or larger. During navigation, ultrafast electric servo motors actuate the large stroke interceptor blades to counteract roll and pitch motions. They also control both trim and list. With coordinated turn, the system will adjust the heel angle for safety and comfort as well as a possibility for reduced turning radius.

For a perfect fit, Humphree offers interceptors of different models and sizes. All are engineered for Commercial application with extensive use. A Humphree representative will assist you in selecting the appropriate Interceptors.

Interceptors for any size of vessel

- **X-SERIES** X series interceptors are suitable for vessels measuring 25 to 60 feet. Available in five standard sizes: 300 – 900 mm. All with 50 mm blade stroke
- **H AND HA-SERIES** The H and HA series with 50 mm blade stroke can be produced in many sizes between 350 and 1500 mm, and can also be custom-shaped to fit a specific hull design, such as a propeller tunnel or speed rails. Typical vessel size, 29ft(9m) to 165ft (50m)
- **HE AND HAE-SERIES** When more lift force is needed, the HE and HAE series with 75 mm blade stroke are used. Sizes range from 400 to 1500 mm and can also be custom-shaped.
- **HL-SERIES** Our new HLS (Humphree Large Series) may be the right choice for 50 to 150m vessel size. This interceptor is designed for continuous operation with the ability to service without docking. The HLS blade has a powerful 110mm stroke length. Like most Humphree interceptors, the HLS can be custom shaped to suit almost any vessel.

POWERFUL 110MM HLS BLADE STROKE



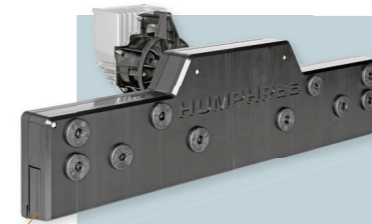
CONTROL PANEL

- Large colour screen readable in sunlight
- Waterproof and with Night Mode Display
- Easy and intuitive to operate



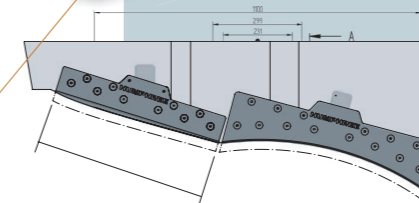
HUMPHREE CONTROL UNIT

- Real-time data processing
- Includes motion sensors
- Integrated power distribution, 12-24V



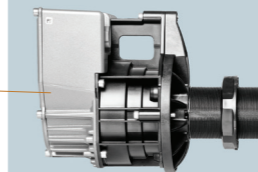
INTERCEPTOR

- Robust design in corrosion-free composite materials
- Light and compact unit with low maintenance
- Available in a variety of sizes and types
- Easy to install



Custom shape

It is common to customize the interceptors according to the vessel shape



SERVO UNIT

- The heart of the Humphree systems
- Ultra fast 0.7 sec. full stroke for superior control
- Mounted inside the boat for accessibility and easy maintenance. Waterproof

control systems

Control systems for all needs

The fine-tuned control options provide optimum comfort and performance, letting the captain concentrate on navigation.

Auto Trim functionality is included standard on all our interceptor systems to ensure the lowest fuel consumption and lowest impact on our environment.

SEPARATE FUNCTIONS OR FULL DYNAMICS PACKAGE

- Automatic Trim Control Included
- Automatic List Control Option
- Coordinated Turn Control Option

PACKAGES

- **ACTIVE** Stabilisation:
Auto Trim, Auto List & Stabilisation
- **ACTIVE+** Stabilisation:
Auto Trim, Auto List, Coordinated Turn & Stabilisation



Automatic Trim Control



TRIM 4.0°
LIST 0.0°



included
FUNCTION

Accelerating and operating at different speeds means that the vessel will run at various trim angles. In many situations this results in a poor trim angle, high fuel consumption, bad visibility and reduced comfort. The Auto Trim Control makes sure that the vessel trims perfectly at all speeds, thereby reducing fuel consumption and environmental impact. Easy setup for different load conditions. The operator can also manually override the auto functions at any time.

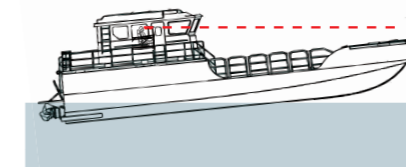
Features

- Automatic control of running trim
- Easy set-up via the control panel

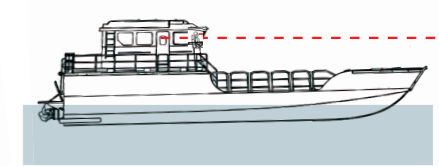
Benefits

- Improved fuel economy, up to 25%
- Improved visibility and speed
- Less environmental impact
- Faster acceleration

WITHOUT AUTOMATIC TRIM



WITH AUTOMATIC TRIM



Automatic List Control



TRIM 4.0°
LIST 0.0°



OPTION

Uneven loading, crosswinds and varying conditions will normally cause the vessel to list. When running on a straight course, Automatic List Control will bring the vessel not to heel. The captain can adjust target list for specific sea conditions. Fifteen years of continuous improvement has resulted in a numerous of safety, comfort, and performance features, including smart entry and exit of turns. During the turn, the system will allow the vessel to heel naturally, and then re-engage as the vessel resumes a straight course. Everything is automatic, which allows the captain to concentrate on navigation.

Features

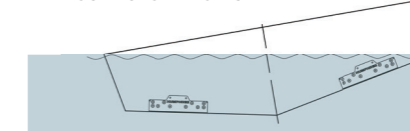
- Automatic control of list
- Smart enter and exit of turns
- Adjustable list target angle
- Safety features

Benefits

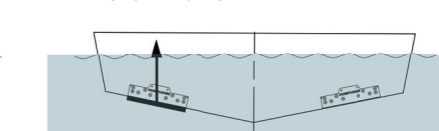
- Improved comfort and safety

WIND →

WITHOUT AUTOMATIC LIST



WITH AUTOMATIC LIST



Coordinated Turn Control



TRIM 4.0°
LIST 0.0°



OPTION

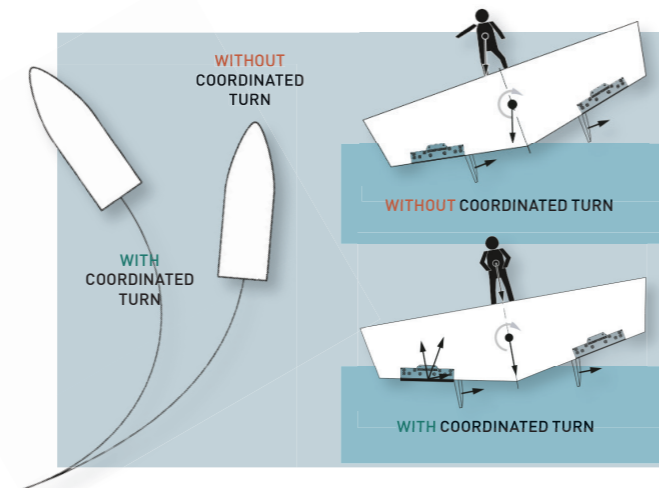
For most applications, on-board comfort, safety and turning radius can be significantly improved by adjusting the vessel heel angle during the turn. The Coordinated Turn Control monitors the rudder position and the interceptor blade is coordinated with rudder movement during turns. In addition to greatly improved comfort, the vessel will better maintain speed during the turn and a much tighter turn can also be kept.

Features

- Automatic control of heel angle during turns
- Rudder position interface for most steering systems
- Easy setup in control panel for excellent performance

Benefits

- Controlled heel angle during turns for improved comfort and safety
- Ability to make tighter turns
- Maintain higher speed during turns



ACTIVE Stabilisation



TRIM 4.0°
LIST 0.0°



ALL SYSTEMS IN ONE - OPTION

When out in the open sea, vessels are constantly exposed to waves which cause roll and pitch motions resulting in poor comfort on board. With Humphree Active Stabilisation, and thanks to our ultra fast servo motors, the interceptors are instantly actuated to counteract undesired motions. The ACTIVE Stabilisation includes an advanced RCU (Ride Control Unit), which uses a digital controller with adaptive control algorithms and an advanced sensor package consisting of GPS, gyro and accelerometers.

The combination of responsive, electrically actuated, large stroke interceptors and a sophisticated control algorithms provides effective stabilisation for any size vessel operating at semi planing and planing speeds. Easy operated by the user-friendly control panel. Using interceptor trim tabs for stabilisation is extremely efficient since there is no added resistance or added weight to consider. This is unique among marine stabilisation systems.

The ACTIVE Stabilisation software also includes the Auto List function. This means that Trim, List and Stabilisation are all included in the package. For the full package, choose **ACTIVE+** Stabilisation where coordinated turn is included.

Features

- Advanced Ride Control Unit (RCU)
- Easy to install on new or used vessels
- Choose between:
 - ACTIVE** (Trim, List, Stabilisation)
 - ACTIVE+** (Trim, List, Coordinated Turn and Stabilisation)

Benefits

- Effective roll and pitch stabilisation at semi-planing and planing speeds
- Improved comfort and safety
- All-in-one system – Trim and Stabilisation
- Premium quality in all components
- No added drag and limited added weight



fin stabilisers

For monohulls and catamarans

24V DC customizable fin stabilisers

The NEW state-of-the-art 24V DC fin stabilisers deliver a game changing package and offer a number of benefits compared to what has been available on the market previously. With 24V DC, the system can be operated without keeping a genset engine running. These fins are mainly used on monohulls but can in some cases also be used on catamarans.

The main engine alternators will charge the batteries powering the system while underway, and, while at anchor, the system can operate for an extended time on battery power alone, using our power regenerating technology. Less noise, less fuel, less wear. Our QUAD function makes it just as easy to install four fin stabilisers on one vessel. Low draft, low weight.



Full stabilisation from zero up to top speed.
Fins available in four sizes: 0.45m², 0.6m², 0.8m² and 1.0m²
Twin and Quad configurations.

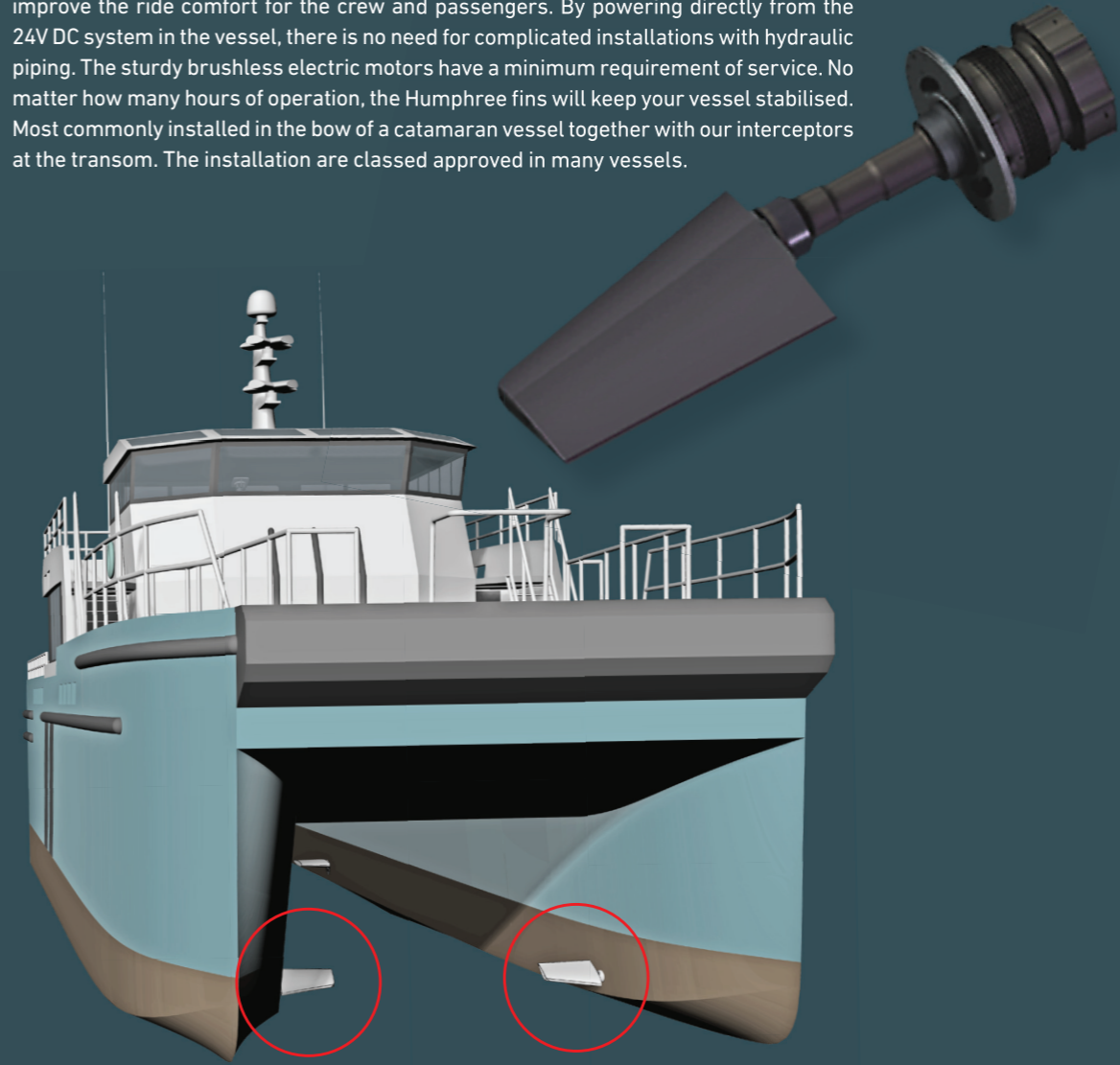
ALL SPEED STABILISATION The system provides full stabilisation from zero speed all the way up to top speed. The sturdy servo actuators are also extremely compact and with the 24V power, no space-consuming hydraulic pumps or AC power modules are required. This also means an easier installation both for retrofits and new builds. Best of all, the system can be fully integrated with our interceptor trim tabs, meaning that roll, pitch and yaw motions are all controlled by one system. The Coordinated Turn feature provides greater comfort during turns by coordinating both fin and rudder movement.

CUSTOMIZABLE Depending on hull design, a rotating fin can interfere with something on the hull like the chine or a spray rail. It is therefore common that some modification is required. We listened to our customers and developed a unique design making it very easy to adapt the fin to the hull design. The top of the fin is made solid, which means that it just needs to be cut to the desired shape with no need for costly and time-consuming fiber glass work.

STABILISE STATIONARY WORK The unique ability to rotate the fins 360° at zero speed provides a much more stable platform resulting in greater comfort and safety for everyone onboard.

Stabilising fin

The electric fin stabilising system from Humphree brings a cost and power effective stabilising system to the marine market. Dampening Roll and Pitch motions significantly improve the ride comfort for the crew and passengers. By powering directly from the 24V DC system in the vessel, there is no need for complicated installations with hydraulic piping. The sturdy brushless electric motors have a minimum requirement of service. No matter how many hours of operation, the Humphree fins will keep your vessel stabilised. Most commonly installed in the bow of a catamaran vessel together with our interceptors at the transom. The installation are classed approved in many vessels.



course stability

For waterjet propulsion

Electric Rudders

The Humphree 24V DC electric rudders are used for superb course stability minimising yaw movements. The rudders are operated in manual or during auto pilot mode. Effective integration with waterjets minimizes thrust losses when steering, saves fuel and increases vessel speed. The use of electric rudders also provide less wear and tear on the waterjet steering systems.



Course stabilising fixed fins

Many waterjet boats experience course keeping problems. This is due to the absence of a lateral underwater area which helps the vessel to keep its course. An added lateral area is most effective when installed in the very aft of the hull. Having a wing profile fin provides a corrective force on yaw with minimum resistance. Humphree has developed a series of fixed fins which can be bolted to the hull. The bolts have been tested and verified to break off and keep the hull intact in order to limit the damage to the boat in case of hitting ground.



Interceptor steering

For waterjet propelled vessels, monohulls and catamarans, HUMPHREE integrates Interceptor steering for improved course keeping and significant fuel savings. The traditional means of steering by redirecting the thrust force from the waterjet to keep a steady course can now be significantly improved with an assisting Interceptor steering. Not only the thrust losses from the redirection of the waterjet is cancelled but the controls of the vessel is improved due to a more direct response from the steering performance.

The interceptor will provide a steering force immediately once deployed and will give the vessel a much straighter course. The obvious and proven benefits are speed increase, fuel savings, better radius of turn, higher speed during turns and savings on waterjet steering gear. All appreciated by the Commercial operators. The fuel savings have been documented to be around 5%. In Navy applications the tactical diameter and advance is of strategic importance and will also be improved.

Features

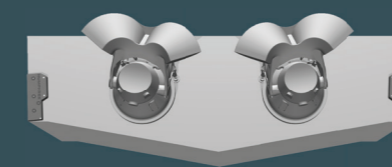
- Secondary boat steering system
- Integration with any water jet brand
- Integration with any autopilot

Benefits

- Improved fuel economy around 5%
- Better course keeping saves time
- Less wear of waterjet gear
- Higher maintained speed while turning
- Improved turning radius



Mounted on Mono hull

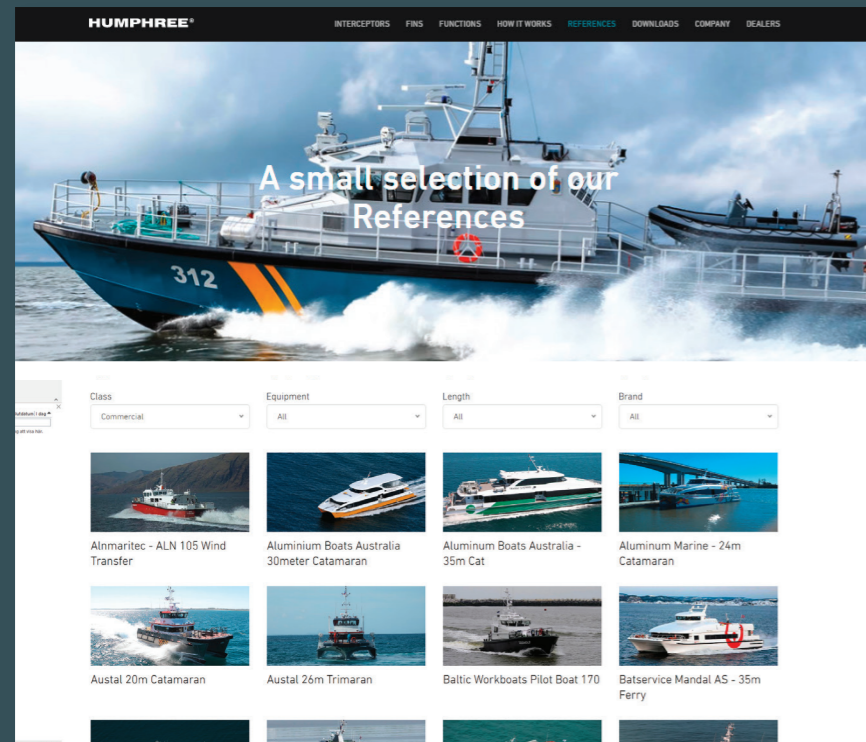


Mounted on Catamaran



references

Read all about our world leading stabilisation solutions for commercial and navy vessels at humphree.com You will also find a selection of references where Humphree equipment was chosen by professionals for outstanding and reliable performance.



www.humphree.com



House of Humphree

Humphree was founded by a team of hydrodynamic engineers and marine engineers, active in the field of high-speed marine propulsion and ship hydrodynamics since the early 1990s. The company was established in Sweden 2002 with the mission to provide and develop innovative products and services to the market. Packaging our knowhow in hydrodynamics, electronics and digital control onto products easy to use and install. We are 100% committed to delivering products and services that out perform all others. Our commitment enables boat builders to stay ahead of their competition, and provides the boating community the safest, most comfortable, boating experience possible.



RESEARCH & DEVELOPMENT • SALES • PRODUCTION • EDUCATION