

MOTION CONTROL



AUSTAL

Experience in Motion

Austal's Motion Control System is the smart, proven way to monitor, control and optimise vessel movement at sea – to deliver a better experience for your passengers and crew.

For any monohull, catamaran or trimaran vessel, Austal's Motion Control System enhances stability and seakeeping capability to deliver a more comfortable ride for passengers and crew while ensuring the safety of your cargo.

Specifically developed for your vessel and operating environment, Austal's Motion Control solution may include control surfaces such as T-foils, interceptors, stabilisers, fins, flaps and rudders – managed by advanced software including Austal's MARINELINK or MARINELINK-Smart – to monitor and control vessel movement and minimise seasickness or discomfort.



Since 1997, Austal has fitted Motion Control Systems to more than 170 vessels – an unrivalled depth of experience and expertise in both hardware surface design and software integration, providing a wealth of knowledge from which we are able to tailor an effective solution for your vessel and fleet.

Coupled with Austal's MARINELINK or MARINELINK-Smart programs, Motion Control offers a complete vessel seakeeping management solution that delivers the best possible journey experience for your customers and optimum outcomes for your business.

Austal's Motion Control System

Communicating over a high performance, integrated digital network installed in your vessel, Austal's Motion Control System comprises hydraulically or electrically actuated control surfaces directed by commands from a central control unit.

An array of sensors located throughout the vessel measures motion and sends data to a central control unit. The central control unit monitors the output from motion sensors and through an advanced algorithm, computes the required

damping forces required for each of the control surfaces to achieve an optimum ride and adjusts them in real time.

Operator override, adjustment and management is available at all times from the Engineer's Control Station, with remote monitoring available via mobile devices elsewhere on board, or on shore through MARINELINK-Smart.

All control surfaces are designed by Austal and powered through a network of SmartPac integrated hydraulic power packs also designed by Austal and manufactured on site.

T-Foils

The T-foil is an efficient and cost effective trim and motional control device. The operation of a T-foil is very similar to that of an aeroplane wing and Austal's T-Foils are capable of generating significant lift in both the upward and downward direction – and are ideal for high-speed vessels.

When integrated with Austal's Motion Control System, T-foils can actively control the vessel's roll and pitch motions. When active motion control is not required, the T-foil assists in correcting vessel trim and list.

Suitable for most hull forms, T-foils are fabricated in steel or cast bronze and designed to withstand bottom-slammng pressures in excess of class society requirements. T-foils may be fitted to new vessels as well as retro-fitted to existing vessels.

Stabilisers, Fins and Rudders

Austal's Motion Control System can also include stabilisers, fins and rudders that further enhance the vessel's stability through controlled movement adjustments. Working in conjunction with T-foils and/or Interceptors, these secondary force generators provide even greater motion control through the central control unit.

Interceptors

Customised to suit your vessel's transom profile, Interceptors are ideal for both monohull and multi-hull vessels. Used independently, interceptors may provide both trim and list control, but when fully integrated into Austal's Motion Control System (utilising a number of Force generators and a central control unit) interceptors can also provide active pitch and roll motion control.

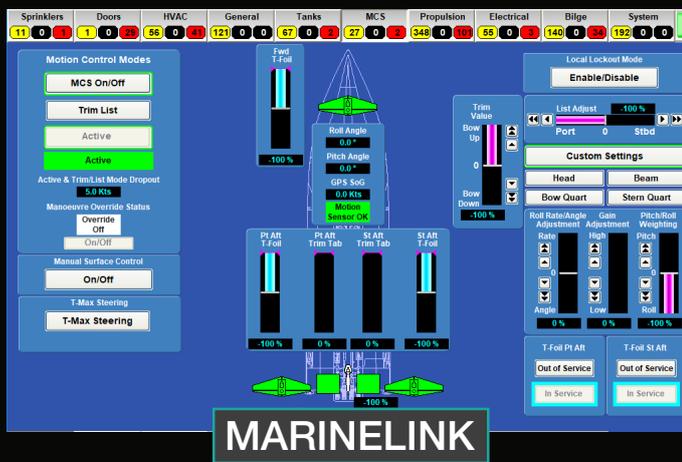
Interceptors provide a more efficient lifting force at high speed (above 25 knots) using 60% less power and weighing considerably less than traditional transom flaps, reducing your operating costs and vessel weight.

Interceptors may be fitted to any full form over 30 metres length overall (LOA) and integrated to work with both waterjet and propeller propulsion systems.



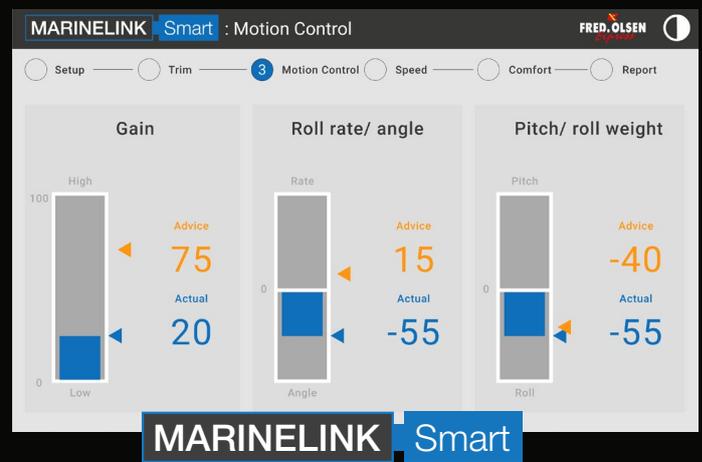
MARINELINK and MARINELINK-Smart Technology

MARINELINK is Austal's class-approved Integrated Monitoring and Control System providing control and monitoring of major vessel systems, including the installed Motion Control System. MARINELINK automates vessel motion control and is accessible via an intuitive user interface from redundant control stations throughout the vessel. The technology provides manual control, power management, extensive system analysis and remote access to the integrated motion control hardware.



MARINELINK-Smart is Austal's smart ship system built on over 30 years of optimisation of ship performance. The technology understands the near-ship wave environment around the vessel in detail and provides real time trim and Motion Control System settings advice to crew. MARINELINK-Smart delivers up to 5% fuel savings and optimal passenger comfort.

MARINELINK-Smart learns on every journey, monitoring crew actions and improving the quality of the advice even further over time.



The Process

Austal can recommend the ideal Motion Control System solution for your vessel and fleet depending on operating environment, schedule, payload(s), operating and maintenance crews, customer satisfaction and additional factors that may impact your vessel's performance and seakeeping.



Design

Build

Install

Integrate

Operate

Support

Further Information

For more information on Austal's Motion Control Systems, please contact your Austal Sales representative or email sales@austal.com

www.austal.com/motion-control

