

# The widest range of marine products from a single supplier

## Gas Turbines

As the pioneer of aero-derivative gas turbines for surface ship propulsion, Rolls-Royce offers turbines in the 3 - 50MW power range. The Allison AG9140 gas turbine generator set powers all US Navy DDG-51 destroyers. The world's most advanced marine gas turbine, the WR-21 will power the Royal Navy's Type 45 destroyer. The MT30 has been selected to power the engineering development model for the US navy's DD(X) future surface combatant and has been nominated to power the UK's Future carrier.



AG9140 (3MW)  
Spey (19.5MW)  
WR-21 (25MW)  
MT30 (36MW)

## Diesels

Four Bergen diesel engine families provide powers from 0.9MW-6MW and deliver reliable power as prime movers or as packaged generator sets. Rolls-Royce also manufactures under license the well known Crossley Pielstick engine range for powers of 3.8MW - 15MW.



Bergen B32-40 (2.9MW - 6.0MW)  
Bergen K series (0.9MW - 4MW)  
Bergen C25-33L (1.1MW - 2.7MW)  
Bergen B (2.6MW - 5.3MW)  
Crossley Pielstick PA6 STC (4.2MW - 5.7MW)  
Crossley Pielstick PA6B STC (5.3MW - 8.9MW)  
Crossley Pielstick PC2.6 (6.6MW - 9.9MW)  
Crossley Pielstick PC2.6B (9MW - 15MW)

## Cable Handling

A comprehensive range of high/low pressure hydraulic and electric mooring and anchoring systems are offered for virtually all commercial and naval requirements. Products and systems are from the Rolls-Royce and Rauma Brattvaag™ product ranges.



Mooring winches and towing winches  
Anchor windlasses and capstans  
Towed array sonar winches  
Deep-sea scientific winches  
Electric, frequency controlled anchoring and mooring systems

## Control/Automation & Electrical Systems

With the recent acquisition of VT Controls, Rolls-Royce has added an extensive capability in electrical power, propulsion, control and automation. The acquisition complements the Rolls-Royce established data management, bridge automation, monitoring, control and dynamic positioning capability. Over 550 systems are in naval service.



Design and systems integration  
HV/LV electrical distribution and power management  
Platform and vessel management  
VTAS Automation and Control

## Stabilisers

Our expertise in fin stabilization and passive controlled tank stabilization from the well known Brown Brothers and Inering product ranges, enables Rolls-Royce to offer combined systems for improved motion control. The broad product range suits all ship sizes with naval and commercial versions.



Modular non-retractable fin area 0.85m<sup>2</sup> - 16.5m<sup>2</sup>  
Gemini non-retractable fin area 1.4m<sup>2</sup> - 3.2m<sup>2</sup>  
Aquarius folding fin area 1.82m<sup>2</sup> - 7.48m<sup>2</sup>  
Neptune folding fin area 3.8m<sup>2</sup> - 22.5m<sup>2</sup>  
Passive tank stabilizer and rudder roll systems

## Steering Gear

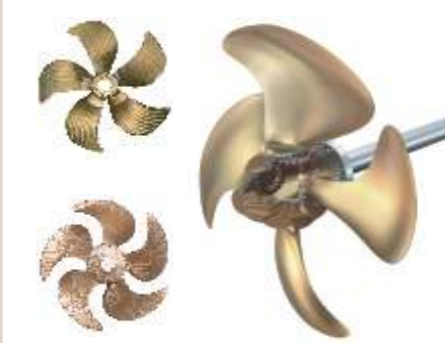
Rolls-Royce have long been leaders in the supply of steering gear and rudders for both naval and commercial vessels. All products are from the proven Brown Brothers, Tenfjord and Frydenbø ranges.



Actuator Type: Torque 3.7 - 45.7TM  
Rotary Vane: Torque 2 - 256TM  
Ram Type: Torque 50.2 - 1708TM

## Propulsors/Propellers CPP and FPP

Rolls-Royce is the world leader in the design and manufacture of combat capable propulsion systems. Bird-Johnson CPPs have been installed on every class of US Navy surface combatant fitted with this type of propeller since 1971. From our Kamewa Ulstein range over 1,200 units have been delivered to more than 40 navies and coastguards. Kamewa fixed pitch adjustable bolted propellers have been selected for the Royal Navy's Type 45 destroyer and our propulsor design was chosen for the new Astute class submarine.



Controllable pitch propellers 500kW-75MW  
Fixed pitch propellers 4-8m diameter  
Adjustable bolted propellers  
Propulsors (submarine)

## Azimuth Thrusters

Modularized Azimuth thrusters in the Ulstein Aquamaster range are available in a variety of standard and retractable designs, with the options of open or ducted CP and FP propellers. For special applications the CRP (contra-rotating propeller) unit offers high efficiency (10-15% improvement) with low noise and vibration and the new Azipull pulling propeller is ideal for higher speed vessels.



Seven designs: 330kW - 5,500kW

## Waterjets

Rolls-Royce is the world's leading expert in waterjet technology. Our Kamewa range of waterjets is the broadest in the business and have been installed in 20 different classes of naval vessel. Three waterjet 'families' are available for a variety of applications manufactured in aluminum and stainless steel. Rolls-Royce is also developing and testing the underwater discharge AWJ-21™ for future naval vessels requiring reduced signatures and improved manoeuvrability.



FF series: 40kW - 1,500kW  
A series: 500kW - 2,900kW  
SII series: 500kW - 50MW

## Vessel Design

Rolls-Royce has unrivalled expertise in the design and packaging of specialist vessels and platforms. Our UT-Design portfolio has been regarded as trend-setting in the development of new offshore vessel designs, readily adaptable to suit coastguard and naval applications. We also offer NVC-Design solutions for passenger ships and fast naval sea-lift vessels.



## Nuclear Propulsion Plant

Involved in the UK naval nuclear program since the 1950s, Rolls-Royce is the design authority for the Royal Navy's nuclear plant. Rolls-Royce designs and supports through-life all the pressurized water reactor (PWR) systems and equipment that powers the UK submarine fleet.



## Turbo Generators

Rolls-Royce steam turbine design has evolved over five decades and is proven in submarine service. This shock resistant, compact design features self-contained hydraulic or electric control systems with low levels of noise and vibration.



## Zebra Batteries

The Sodium/nickel chloride Zebra battery is a versatile power source for a wide range of future applications. Offering high energy density and lightweight with zero maintenance characteristics, modules are half the volume and about 40% of the weight of the lead-acid equivalent and can make up batteries of virtually any size and specification.



Battery modules 12-600 volts and 2-50kWh

## Underway Replenishment

With many modern navies moving to the low-manned all-electric ship concept, we have developed automatic transfer replenishment gear to complement our range of conventional abeam and astern systems for liquids and solids transfer.



Dual capacity high performance jackstay rig  
Crane rig  
Large derrick rig  
Astern refueling rig  
Latched back derrick rig  
Movable high point

## Podded Propulsors

With the recent move to electric propulsion the Mermaid™ pod propulsion system, developed by Rolls-Royce AB and Alstom is now in service in a variety of applications. The unit acts as a propulsor and rudder, with an integrated electric motor located within the hydrodynamically optimised housing driving the shaft.



Available from 5-25MW

## Bearings

Acknowledged as the world's foremost supplier of self-contained white-metal faced bearings, our compact and robust Michell Bearings product range is suitable for all vessel types.



Propeller shaft bearings and Thrust blocks  
Thrust metering and resonance changing equipment  
Bulkhead sealing glands  
Gearbox thrust and journal bearings

## Tunnel Thrusters

The new TT series Kamewa Ulstein tunnel thrusters come in 11 sizes, for powers up to 3,700kW. All are available with different hydrostatic heads catering for either deep or shallow draft vessels and using CP or FP propellers. For ice class, stainless steel propellers and Kaplan-type blades are used.



11 Sizes:- power to 3,700kW

## Shiplifts

Based on experience that spans over 40 years, our Syncrolift® shiplift and vessel transfer systems are designed to match customer requirements and can accommodate vessels from 100 tonnes to over 100,000 tonnes DWT. Over 200 customers in 66 countries have chosen Syncrolift® shiplifts to lower costs and improve efficiency for their ship yards.

