

Custom Winch and Handling Solutions

Special engineering and design

Oceans of solutions

MacArtney delivers a broad range of special winch and handling solutions and offers design and engineering support for custom handling system projects all across the globe. These special systems are used in offshore, subsea, defence, scientific, civil engineering and nuclear projects throughout the world and projects often involve close cooperation with the customer to identify technical needs and expectations. MacArtney offers engineering expertise in electrics, hydraulics, mechanics, hydrodynamics, fibre optics, electronics and software. From draft to delivery, MacArtney systems are fully supported by extensive in-house test facilities and quality system procedures.



Underwater winches

MacArtney primarily supplies underwater winch systems for port security and oceanographic applications. In terms of the latter, MacArtney underwater winches are typically used for scientific equipment such as profiling buoy mounted CTD and sensor systems operating off a stationary seabed platform. MacArtney underwater winches are fully programmable. Settings and data are accessed through a web interface for real time information and control. The winches have several integrated features to help ensure that the supported systems work optimally from the sea floor. Moreover, the winch drum material has been specifically selected to offer an extended lifespan when deployed under water. Depending on the application, the winches can be powered from shore through a cable or via batteries. For this reason, winch power is enabled to vary between DC and AC power with operational power requirements as low as 200 W.



Traction winches

MacArtney supplies traction based winch systems, which are often used for handling long synthetic ropes and for cables with synthetic armouring. Traction winches work to enhance the spooling performance, protect and prolong the life of these cables. Other purposes for traction winches include applications where precise tension is an absolute requirement. MacArtney traction winch systems are typically needed for tunnel or pipe inspection equipment on offshore platforms. Therefore, the winches are often designed to meet ATEX/EEX, NORSOK requirements and DNV certifications. MacArtney traction winch systems are available for +10,000 metre cable applications. Also, they are optimised to require minimal space and come with an advanced cooling system to ensure performance - even with a full drum.



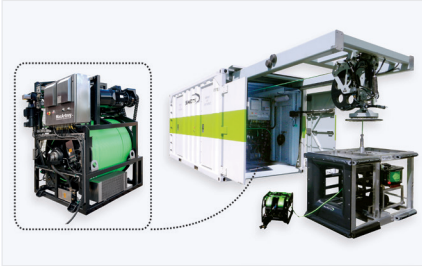
Moon pool handling systems with cursor winches

MacArtney advanced moon pool handling systems provide easy control and handling of entire ROV systems through a vessel moon pool. Within the scope of these systems, cursor winches are used to control the mechanical trolley that carries the TMS and ROV systems via a vessel moon pool and safely through the splash zone. MacArtney offers a wide range of sheave arrangements to aid cable routing along with various tension damper systems tailored to a variety of vessels and applications. For optimal ROV system control, a fully integrated MacArtney MERMAC active heave compensated umbilical winch solution, complete with damper and sheaves, offers maximum synergy and automation during launch and recovery processes.



Arctic winches

MacArtney supplies a broad range of winches for arctic applications all being designed, manufactured and tested to offer safe and efficient performance under extreme climatic conditions. Our scope of supply within the realm of arctic winch systems spans from small custom winch systems for CTD deployment directly off the edge of the ice, through airplane transportable and rugged sledge integrated systems for ice core sampler drill handling to advanced full-scale integrated winch package solutions for arctic region based oil and gas offloading tower applications.



Container integrated winch and handling systems

MacArtney designs, manufactures and supplies an extensive variety of container integrated winch and handling systems for empowering various standard and special applications. MacArtney container integrated solutions range from basic winch systems encased in a shipping container, either for logistical or harsh climatic protection reasons, through dedicated AHC right angle winches for empowering portable, container integrated ROV launch and recovery systems to advanced offshore drill support and subsea mud recovery systems with full DNV 2.22, 2.7-1, ATEX and NORSOK certifications.



Military specification winches

MacArtney holds experience in designing and constructing winches for military applications. We are able to design systems and supply winches that meet the requirements of most military specifications, regulations, design criteria and standards across the world (including United States MIL standards). Applications for these systems can be numerous and include navy ROV handling, CTD deployment, general ocean science sensor applications, towed monitoring platforms, side scan sonars, mine hunting systems and several other equipment types. Military specification winches often place high demands on approval criteria with regard to performance, system endurance and dependability under maritime harsh operational conditions.



Cable tensioners

MacArtney is able to supply subsea cable or pipe tensioner systems for use in combination with cable carousels on board cable and pipe laying vessels. These systems assist in laying the cable from the vessel onto the seabed in a safe and efficient manner using precise tension control driven via an electric or hydraulic power system. MacArtney cable tensioners are designed to provide optimal performance and control over the dynamic forces involved in the cable laying process. Cable tensioners can be delivered as 2- or 4-track systems depending on the required pull and holding force. All MacArtney tensioner solutions can be fully certified according to relevant DNV standards and regulations.



Complete research vessel winch and handling solutions

MacArtney supplies completely integrated winch, handling and LARS solutions to research vessels across the world. MacArtney packages often comprise both standard and custom winches in whichever combination is likely to best address the specific requirements applicable for smaller scientific boats as well as large ocean going research vessels. MacArtney research vessel packages often comprise up to 10 winch systems with up to 15,000 metres of cable, wire or synthetic rope for various equipment deployment applications. Examples of equipment handling applications include CTDs, corers, sledges, towed sensor and instrumentation plat-forms, ROV and ROTV systems.