

SPECIALIZED MACHINERY



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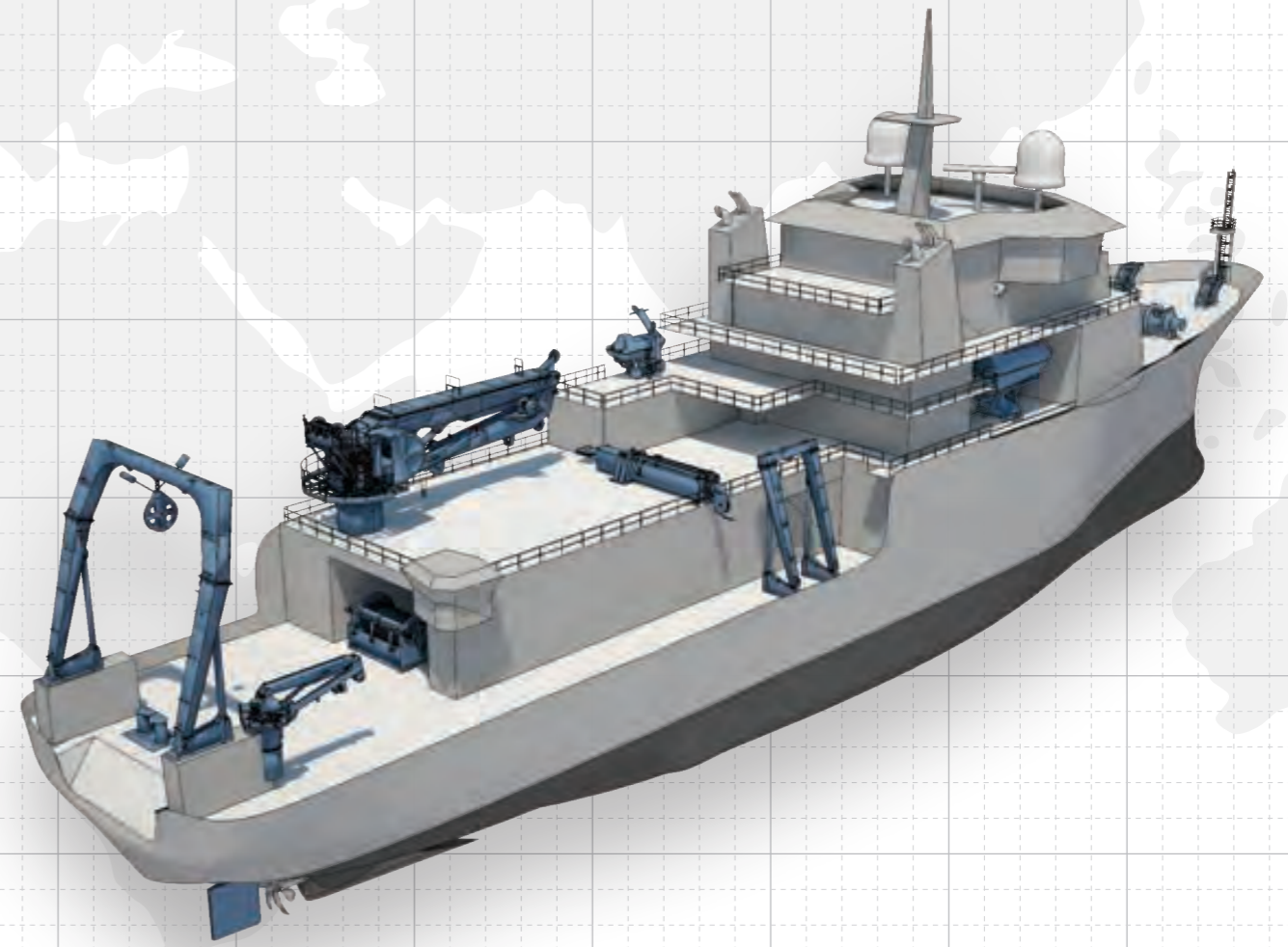
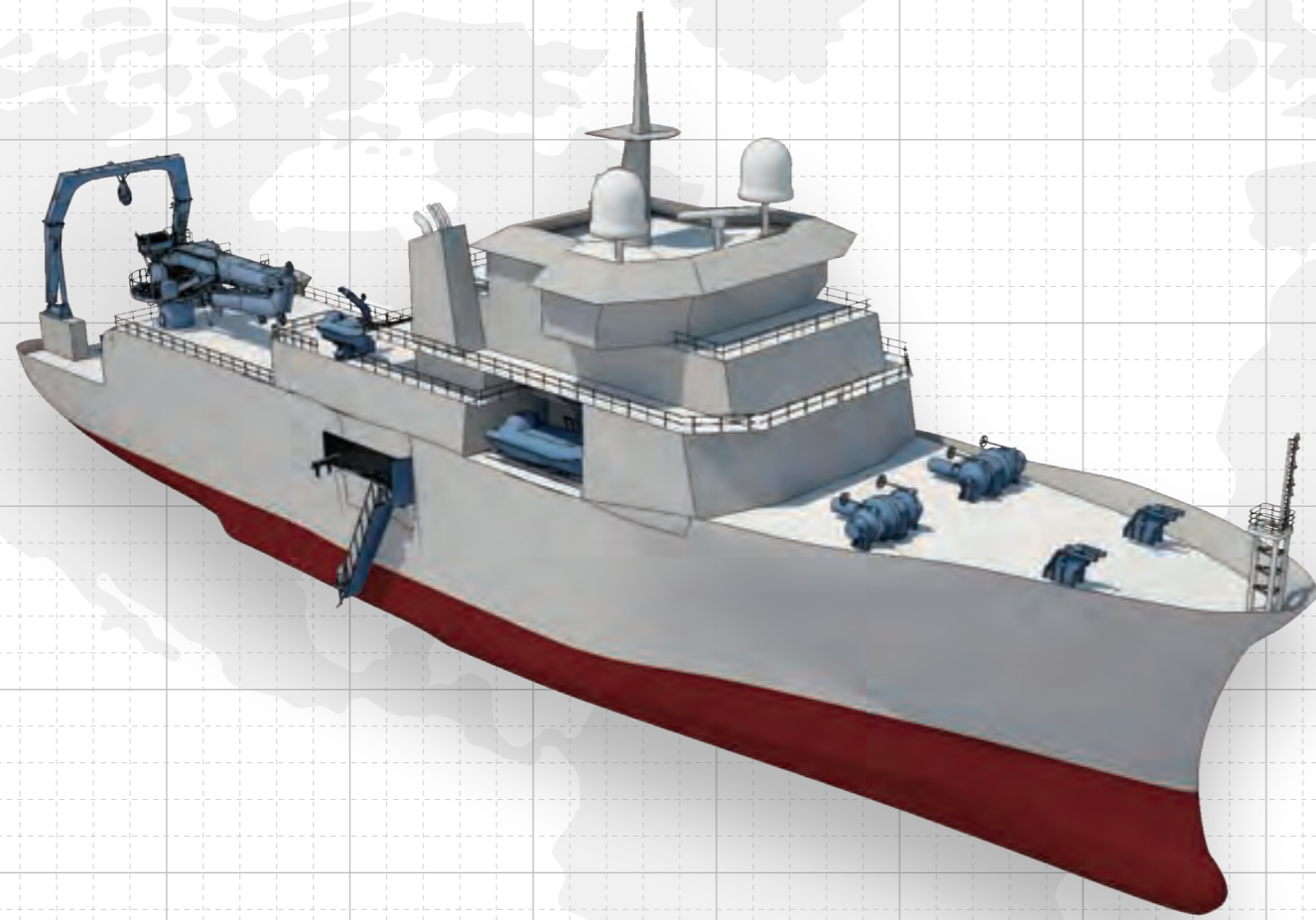
THE SEA

THE CONTEXT IN WHICH EVERYTHING HAPPENS,
WHICH DEMANDS OUR UTMOST READINESS AND
WHICH IS CONTINUALLY TESTING US.

**EQUIPMENT BY
FERRI, YOUR
PARTNER FOR
WORKING AT SEA**



EQUIPMENT FOR ACTION AT SEA



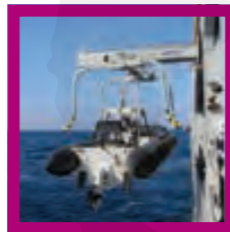
[1] LARS. Launch and recovery systems. Page 12



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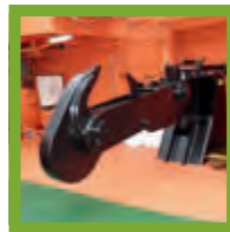
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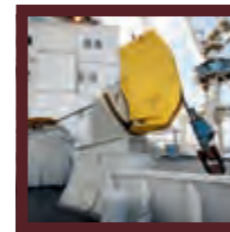
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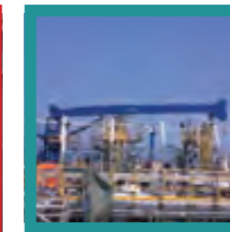
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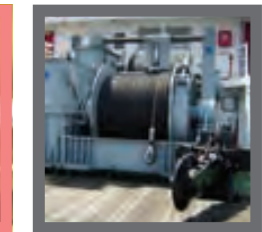
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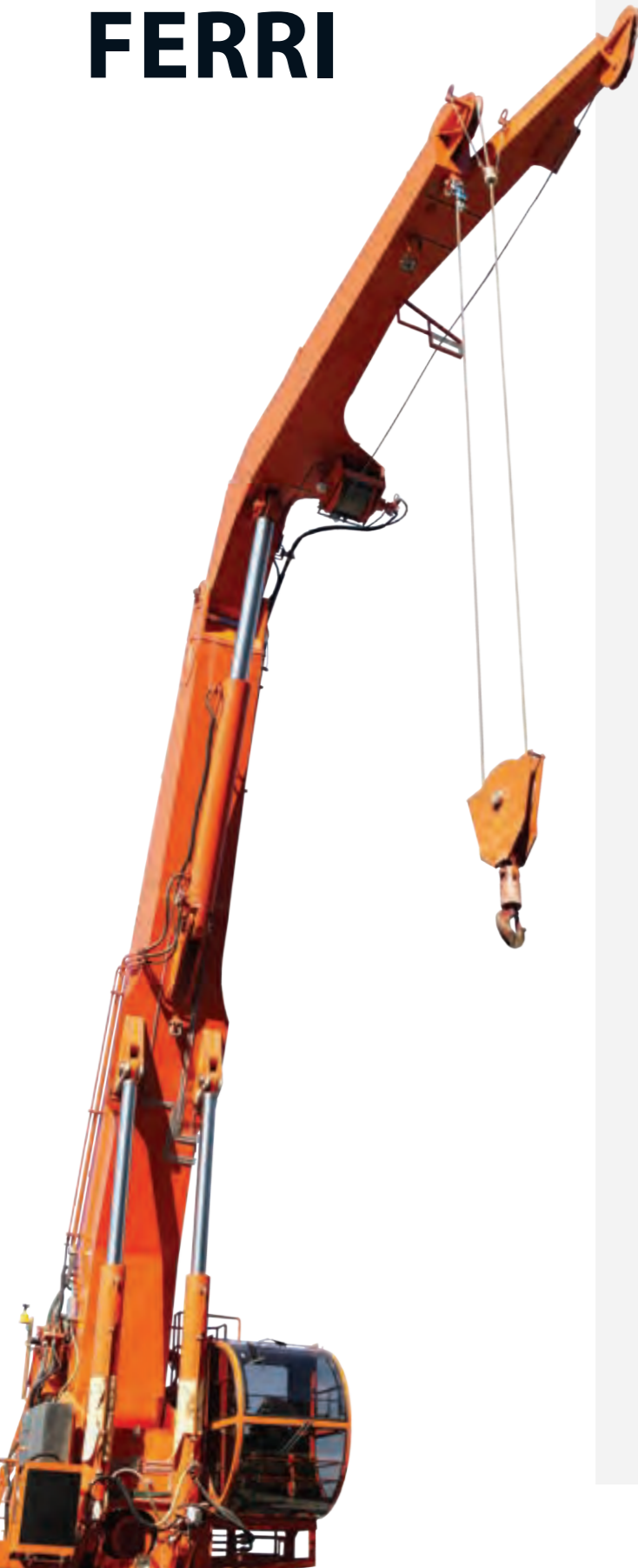


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EIGHT REASONS TO BET ON FERRI



+ EXPERIENCE AND TRUSTWORTHINESS

- » Our proven track record. Since 1964 we have manufactured more than 1,600 pieces of machinery for ships under 110 different flags and for other industrial sectors, all of which endorse our work throughout the world.
- » Our experience in contributing solutions for all types of craft, both civil and military: fishing boats, cargo carriers, offshore and oceanographic units, megayachts, patrol boats, frigates, aircraft carriers, etc. and oil&gas offshore platforms.
- » Long service life. Units that will keep working for all their designed life.

+ OPTIMUM SOLUTIONS. TAYLOR-MADE EQUIPMENT

- » Our projects are always developed in close collaboration with the client, based on tried and tested procedures:
 - We propose - We design - We agree - We act -
- » We study the placing, type of load and function so as to achieve the adequate power, dimensions, movement, outreach and type of handling.
- » Continual improvement. In each project we incorporate technology and suitable materials.
- » 50% of our workforce are highly qualified engineers.
- » Comprehensive servicing throughout the equipment's working life: draft, design, manufacture, testing, installation, certification, commissioning, start-up, after sell maintenance, modifications, updates, periodic testing, etc.

+ MAKING THE DIFFICULT EASY

- » We innovate by combining technologies: electronics, hydraulics, pneumatics, mechanical, electrical and information technologies, always in collaboration with our clients and suppliers.
- » Our systems are easily installed and maintained, thereby reducing costs and speeding up integration.
- » We employ commercial components which are easily acquired world-wide.

+ COMMITMENT

- » There is continual follow-up by our quality control, design and commercial departments.
- » We offer all necessary education and training to get the maximum results from our equipment with maximum safety.
- » We plan preventative maintenance so as to prolong the unit's working life and reduce unforeseen stoppages in order to maximize productivity.

+ CERTIFIED QUALITY

- » Design, manufacture and testing according to the demands required by classification norms and societies.
- » Quality control systems according to ISO 9001 and PECAL, and Environmental Control according to ISO 14001.
- » Specific regulations:
 - Offshore: NORSOK, API, UKOOA, EN 13582, CLASSIFICATION COMPANIES
 - Rescue: SOLAS, MED, LSA, USCG
 - Industrial: DIN, ISO, FEM, EN, IEC, ATEX, ASME
 - Military: STANAG, DEF (AUS)
- » Certification: DNV, ABS, BV, GL, RINA, RMRS, LRS, etc.

+ TECHNICAL ASSISTANCE

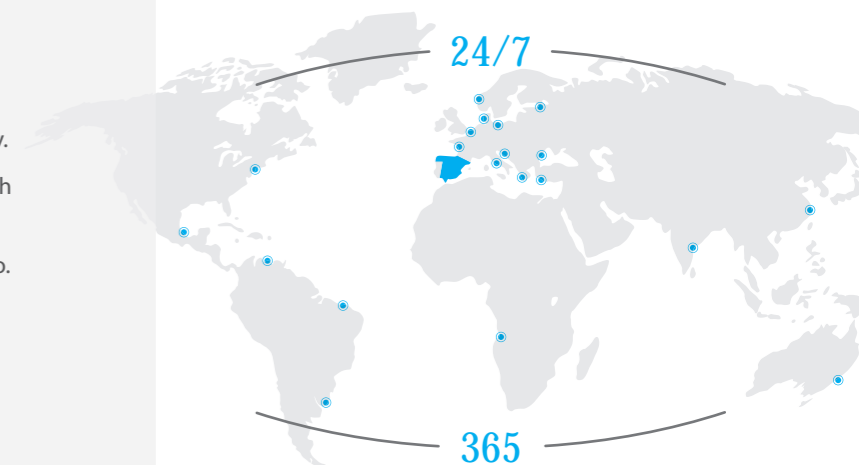
- » 24/7, 365 days of the year. Before, during and after delivery.
- » We have a world-wide network of service stations. We reach every corner of the world.
- » We have qualified and experienced technicians ready to go.
- » Spare parts, troubleshooting and technical support.
- » Maintenance and life-cycle management programmes.

+ OUR HIGHLY QUALIFIED TEAM

- » Motivated and committed to resolve any technical challenge.
- » They have an international experience and vocation.
- » They have good knowledge of a variety of standards, norms and regulations.
- » There is always an open line of communication between the client and project manager.

+ IN-HOUSE TESTING

- » We have specially conditioned installations to check the correct functioning and resistance of the unit prior to delivery.
 - Test benches for all applications.
 - More than 450t traction test station.
 - 500t concrete and 22m x 2 structural beams.
 - More than 700 HP of hydraulic power.
 - More than 2000 m2 testing surface area.
 - Dinamic test station.
- » All tests are carried out on site.



SOLUTIONS FOR ALL NEEDS

A good job starts in the first minute, with the initial conversations. And this exigency is maintained in each and every decision taken and in every task developed.

Side by side with the client, we carry out the most ambitious projects imaginable.

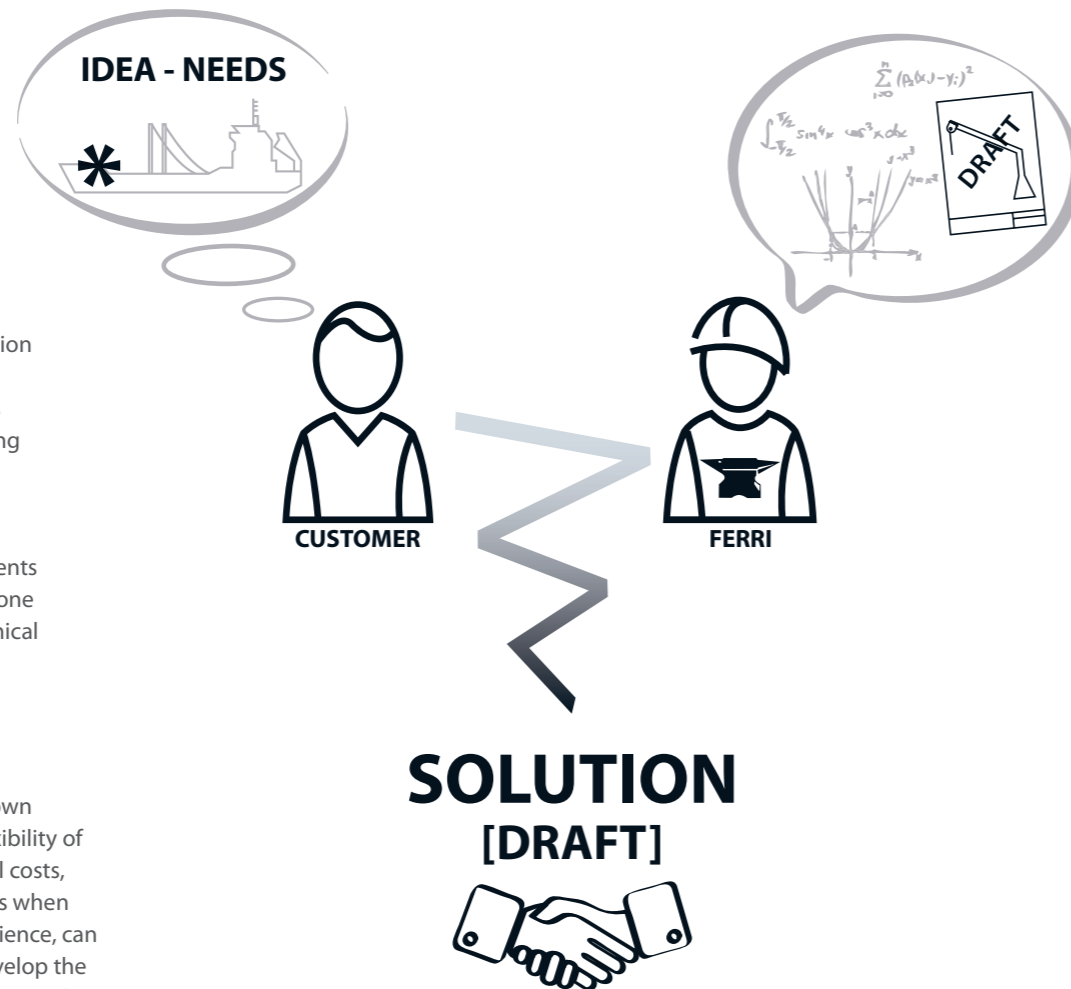
We face the project as an integral whole based on a method which, beyond the demands of the certification societies, is based on our experience in resolving problems, on continuous improvement, and, in short, on seeking our client's satisfaction.

a. STANDARD

If you have your needs and requirements perfectly defined, we will contribute one or a number of technical and economical solutions.

b. PROJECT

If you have ideas or needs which you consider may contribute solutions to improve either the equipment or known technology, be it in performance, flexibility of use, weights, dimensions, operational costs, maintenance requirements etc., this is when we, with all our know-how and experience, can explore the technical solutions to develop the equipment which will best satisfy your needs and expectations.



OUR HISTORY REVITALIZES OUR PRESENT

Industrias FERRI S.A., was founded in 1964 by Ricardo Fernández Villar, naval engineer and deep-sea skipper.

After serving for years on fishing boats, he transferred his experience to manufacturing deck equipment.

Throughout these 50 years, we at FERRI have specialized in making equipment for all types of vessels, complying with the most rigorous requirements of performance and reliability, confirming our fame as an innovative manufacturer of high quality products.

Two aspects define our outlook: flexibility and rigour. So as to contribute made-to-measure solutions for the varied challenging needs of our clients. Our specialized products are complemented by a range of standard products for everyday use.

Our founder's firm policy has become our daily watchword: "We must be proud of our work."

Our accumulated experience along with our clients has allowed us to grow, and to improve our equipment. This is only a part of the sum of our activity which is backed up by the technical support we offer with each project: post-sales service, maintenance, inspection, and testing. A full set of integrated services offered 24/7 and worldwide.



INDUSTRIAL VITALITY

Industrias FERRI S.A. is based in an industrial environment with access to one of Spain's most important sea ports, Vigo. Vigo has a large number of industries, the leader being the Peugeot-Citroën car factory. The maritime sector has along tradition of shipbuilding and the building of other naval structures. The fishing industry, with numerous canning and processing plants. The quarry industry. All with their auxiliary industries behind them. This top-level business dynamism, together with other institutions with whom we have collaborated since their inception, such the School of Engineering, and the AIMEN Technological Centre among others, extends our resources and puts at the service of our clients a tremendous variety of possibilities. We export experience.





01

LARS

LAUNCH AND RECOVERY SYSTEMS

We design and build launch and recovery systems for the most demanding situations, basing our work on the functions to be complied with in order to attain maximum operativeness, productivity and safety of the equipment.

Our enormous accumulated experience in the development of this class of equipment allows us to orientate innovations towards the needs of each individual boat. FERRI equipment incorporates improvements that increase their reliability in very demanding climate and sea conditions (6 and higher), at the same time introducing operative improvement and efficiency in each action.

We develop any and every LARS: A-frames, telescopic and articulated booms, cranes, davits, A-frames etc. for every class of submarine equipment: ROVs, CTD rosettes, torpedoes, sonars, ploughs, piston corers, submarines, etc. We also design surface equipment to be adapted to the location and working conditions of the boat: seismographic vessels, megayachts, military craft, cable ships, oceanographic ships, submarine rescue craft, offshore support vessels, hydrographic vessels etc.

MULTISERVICE LARS IN BELOW- DECK HANGAR

PEGASO (MALTA).
OCEANOGRAPHIC-EXPLORER
VESSEL.

FUNCTION: A transversal crane for the launching and recovery of workboats and a crewed minisubmarine.

CONTRIBUTION: Equipment designed for launching and recovery on either side of the vessel for items up to 14t. The key factor was to design a made-to-measure unit for the vessel and the minisubmarine, with minimal interior height in the hangar, while complying with demands of finishing as required by a megayacht.

OTHER FERRI EQUIPMENT INSTALLED:
Cradles for the workboats and submarine.



“During our operations, it is not allowed to fail. Solutions require inventiveness and technology as well as actions that bring results, which is why we need to have collaborators such as Industrias FERRI, S.A. close at hand.”

ULPIANO GONZÁLEZ VILAR - ACSM Project Manager

STERN A-FRAME FOR ROV

(SPAIN). OCEANOGRAPHIC
VESSEL.

FUNCTION: Equipment for launch and recovery of ROV.

CONTRIBUTION: Equipment specially designed for handling an ROV at sea. The A-FRAME operates in coordination with the different winches on board and one incorporated in the structure specially designed to support the ROV's manoeuvres. ALS classified by BV.

OTHER FERRI EQUIPMENT INSTALLED: A telescopic boom for CTD rosette. Hydrographic lateral A-FRAME for core drills. Articulated arms and other auxiliary equipment for seismic operations.



TELESCOPIC BOOM FOR CTD ROSETTE

SARMIENTO DE GAMBOA
(SPAIN). OCEANOGRAPHIC VESSEL.

FUNCTION: Telescopic boom for launch and recovery of CTD rosette.

CONTRIBUTION: Transfer system, to place equipment near the waterline. Certified by Bureau Veritas.

OTHER FERRI EQUIPMENT INSTALLED:
Stern A-FRAME for ROV. Hydrographic lateral A-FRAME for core drills. Articulated arms and other auxiliary equipment for seismic operations.



A-FRAME FOR LAUNCHING AND RECOVERY OF A FISHING BOAT

INTERMARES (SPAIN).
NAVIGATION-AND-FISHERY
SCHOOL VESSEL.

Function: A-FRAME for launching and recovery of a fishing boat.

CONTRIBUTION: Equipment designed for launching and recovery of a fishing boat of up to 45t.

Raising with hydraulic cylinder.

Certified by Bureau Veritas.

OTHER FERRI EQUIPMENT INSTALLED:
Articulated crane, boat davits and gangway.



A-FRAME FOR RECOVERY OF SHIPWRECKAGE AND OTHER DRIFTING OBJECTS

CLARA CAMPOAMOR & DON INDA
(SPAIN). TUG BOATS.

FUNCTION: A-FRAME for recovery of shipwreckage and other drifting objects.

CONTRIBUTION: Equipment designed for the recovery of wreckage and other large objects up to 100t weight, 11.7m long, and 8m high.

This equipment has been designed so that it is interchangeable between twin vessels. Incorporating a raising winch. Design approved by DNV and construction approved by BV.

OTHER FERRI EQUIPMENT INSTALLED: Tow hook. Guide rollers with tow fork.



ROV LARS

ÁNGELES ALVARIÑO & RAMÓN
MARGALEF (SPAIN).
OCEANOGRAPHIC VESSEL.

FUNCTION: Equipment for launch and recovery of an ROV, Liropus class.

CONTRIBUTION: An auxiliary winch, oceanographic bar and shock-absorbing docking-head for ROV operation. Wide swing angle via a system of connecting rods. Auxiliary snatch-blocks for fishing ops. Certified by Bureau Veritas.

OTHER FERRI EQUIPMENT INSTALLED:
Articulated electro-hydraulic crane of 5t at 9m in sea conditions up to Beaufort 2. Telescopic boom. Side A-FRAME. Stern A-FRAME. Boat davit.



STERN A-FRAME WITH STABILIZER

IBERUS (SPAIN). CABLESHIP.

FUNCTION: A-FRAME for launch and recovery of a plough for burial of fibre optic cable to a depth of 1500m.

CONTRIBUTION: Equipment for handling a 25t plough at sea, stabilizer docking-head and wide angle of swing to free the tension of the winch while towing.

Travelling docking-head on crossbar to catch the plough and stow it out of the line of the cable laying. Certified by LRS.

OTHER FERRI EQUIPMENT INSTALLED: Stern guide rollers for the plough towing cable and offshore crane for ROV handling.



ELECTRO-HYDRAULIC ARTICULATED OFFSHORE CRANE FOR ROV

ODISSEY EXPLORER (USA). EXPLORER / COASTAL CONNECTOR (USA). CABLERSHIP / RAYMOND CROZE (FRANCE). CABLESHIP / TENEO (SPAIN). CABLESHIP / IBERUS (SPAIN). CABLESHIP / HAVILA REEL, (SAINT VINCENT AND GRENADINES) MULTIPURPOSE VESSEL (SPAIN).

FUNCTION: Equipment for launch and recovery of a Nereus class ROV in OCEAN-GOING conditions.

CONTRIBUTION: It has a stabilizing docking-head for ROVs. Design complies with Lloyd's and Bureau Veritas CODE FOR LIFTING APPLIANCES. The crane is interchangeable between vessels.

OTHER FERRI EQUIPMENT INSTALLED: Boat davit. Crane for cargo and rafts. Bridge-crane situated forward. Bow crane.



STERN A-FRAME

OCEAN RESEARCHER V (TAIWAN). OCEANOGRAPHIC-EXPLORER VESSEL

FUNCTION: Launch and recovery of oceanographic research equipment.

CONTRIBUTION: Large diameter sheave for the use of umbilical signal cable. Large-scale structures to operate large scale ROVs.

OTHER FERRI EQUIPMENT INSTALLED: Telescopic boom. Side A-FRAME. Slewing fairlead for outgoing of wire to each A-Frame.



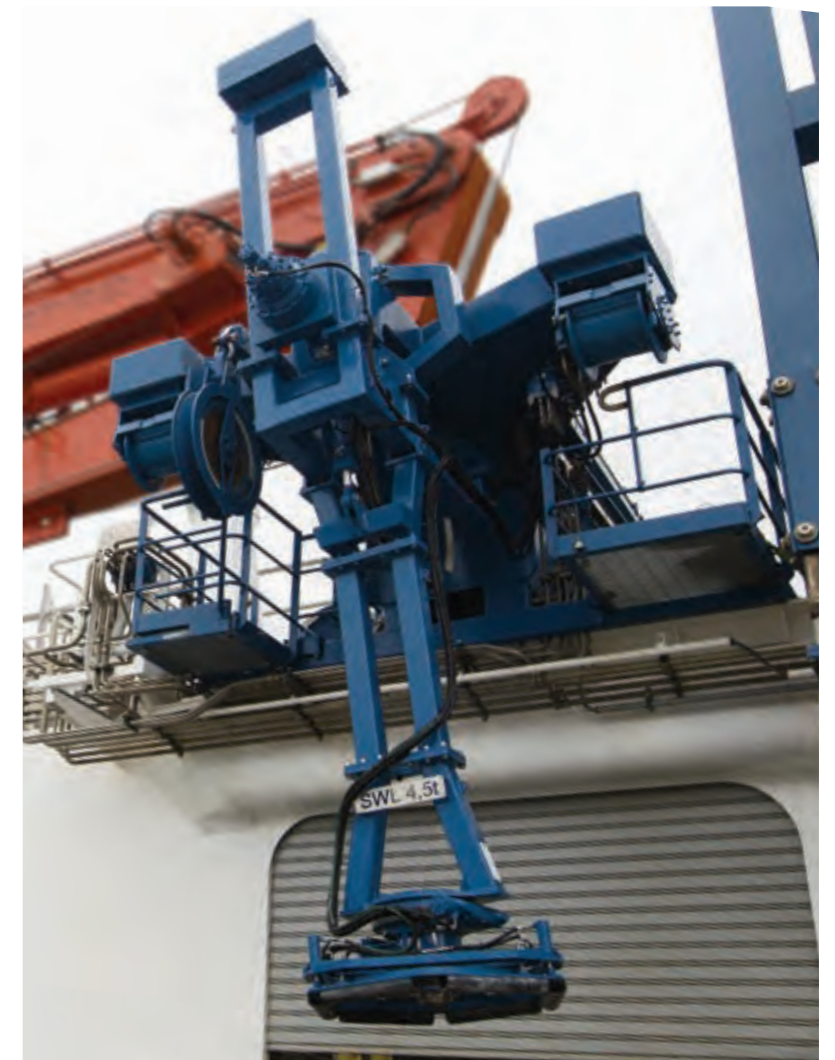
STABILIZING DOCKING-HEAD

DISCOVERY (UK). OCEANOGRAPHIC VESSEL.

FUNCTION: Auxiliary equipment for launch and recovery of an ISIS robot submarine.

CONTRIBUTION: Integration with existing equipment. Modular design for ease of stowage. Damping and rotation capabilities.

OTHER FERRI EQUIPMENT INSTALLED: Main articulated crane. Container movement system. Monorail cranes.

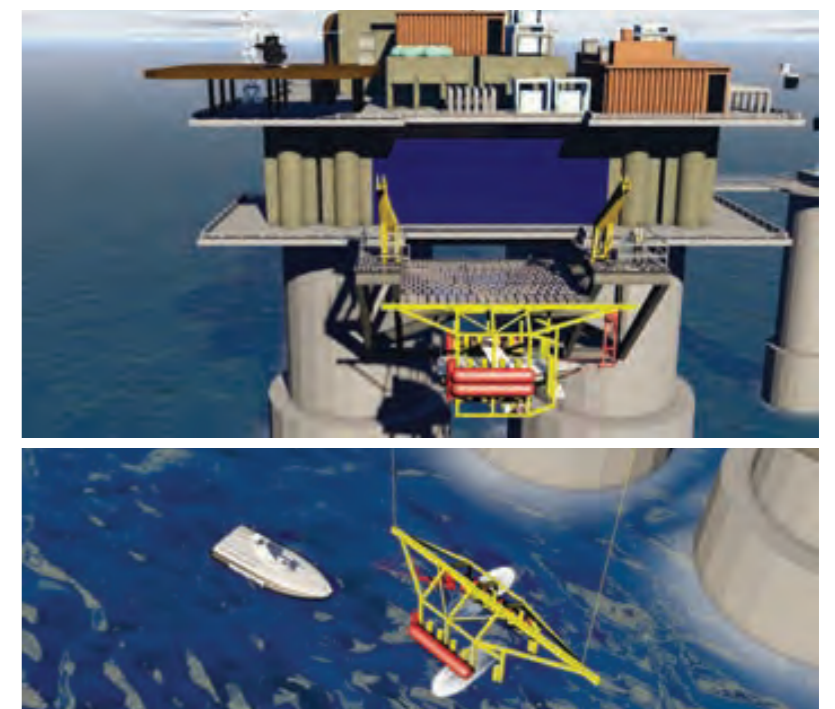


LARS FOR UNMANNED SURFACE VEHICLES

ON OFFSHORE OIL&GAS PLATFORM

FUNCTION: Launch and recovery of an unmanned patrol boat.

CONTRIBUTION: Floating cage with buoyancy to avoid hitting the boat. No necessary accurate maneuver on the boat for the operation. Capture of the boat without boat control. ATEX.





CRANES

Maritime cranes for a wide range of applications and operational conditions. Ranging from units that require great versatility to units with highly specific functions, crucial for efficient work onboard. We develop cranes according to any specification, adapting to any vessel, use, working conditions, and certification. We present a wide range within three main categories: articulated, telescopic, and fixed cranes.

We have great know-how in the development of cranes for extreme working conditions and state of the sea: combined use, ROV manoeuvres, submersibles, shipsboats, personnel, safety at sea, explosive atmospheres (ATEX), military requirements, etc.

Almost 200 vessels are currently equipped with FERRI cranes.

Designed, manufactured and tested according to the norms of many classification societies such as DNV, BV, LRS, GL, ABS etc.

OFFSHORE CRANE DISCOVERY (UK). OCEANOGRAPHIC-EXPLORER VESSEL.

FUNCTION: Articulated electro-hydraulic crane for offshore up to 10m operations. Handling containers up to 20t in port, and manoeuvring equipment up to 10m in offshore conditions.
CONTRIBUTION: Equipment designed and adapted for offshore operational conditions with highly sensitive oceanographic research equipment, with precision operability. Down to 500 depth.
OTHER FERRI EQUIPMENT INSTALLED: Bow crane, monorail cranes, and docking-head for handling ROVs.



OFFSHORE AND SHIPBOARD CRANES BYLGIA & KOLGA (HOLLAND). VESSELS FOR MOVING ANCHORS

FUNCTION: Shipboard articulated electro-hydraulic crane. Unit designed for handling of loads in in-port conditions.
CONTRIBUTION: Optimization of the work load/weight ratio, and the simplification of the equipment ease of maintenance and greater reliability. Certified type 3.2 by LRS Lifting appliance Code.
OTHER FERRI EQUIPMENT INSTALLED: Bow crane and hydraulics control centre.



OFFSHORE CRANE AIRCRAFT CARRIER.

FUNCTION: Design, manufacture and testing according to NATO standards.
CONTRIBUTION: Highly elastic boom material to minimize weight and geometry. Specially adapted to handle helicopters.



OFFSHORE CRANE

AIRCRAFT CARRIER. (AUSTRALIA).

FUNCTION: Fixed electro-hydraulic crane for offshore operations. Crane for handling containers in port and for helicopter recovery.

CONTRIBUTION: Specially designed equipment for the recovery of helicopters up to 12t from the water. Structure and careening invisible to radar. Certified AL(N) by LRS Lifting appliance Code.

OTHER FERRI EQUIPMENT INSTALLED: Supplies crane, davits, and gangway with side closing.



OFFSHORE SOLAS CRANE

SUPPORT VESSEL. (DENMARK).

FUNCTION: Articulated electro-hydraulic crane for small-craft operations. Handling of supplies. Handling loads in offshore conditions. Launch and recovery of craft with crew.

CONTRIBUTION: Designed and built to safely execute launch and recovery of a 7.5t workboat according to SOLAS regulations. Including a shock-absorbing docking-head specially designed for the workboat. Certified DNV "Rules for the classification and certification of lifting appliances".



OFFSHORE SOLAS CRANE

SIMA. NAVY. (PERU). TRAINING SHIP.

FUNCTION: Articulated electro-hydraulic crane for handling of supplies and rescue craft in offshore conditions.

CONTRIBUTION: Dimensional, important aesthetic factors, and material integration into a sailing boat.



FOLDING CRANES

DCNS. FRIGATE. (FRANCE).

FUNCTION: Foldable-transportable electro-hydraulic crane. Handling of supplies and landing stages.

CONTRIBUTION: Forklift transportable crane for helicopter deck service.

The crane can be assembled/dismantled in less than 15 mins., and stored in ship's hold. Certified by Bureau Veritas A.L.P. "Rules for the classification and certification of lifting appliances of ships and offshore units".



CRANES FOR GAS, LNG, OR REGASIFICATION TERMINALS

SPAIN, ITALY, CHINA.

FUNCTION: Fixed electro-hydraulic crane for extraction of natural gas pumps and supplies.

CONTRIBUTION: Specialized equipment for maintenance pumps in natural gas tanks.

The crane is designed to withstand high winds and seismic activity. EC mark. Explosive atmosphere resistant.





RESCUE SYSTEMS

FERRI offers a full range of rescue system davits for lifeboats, rafts, rescue craft, and fast rescue craft.

All systems comply with SOLAS international norms and regulations. Furthermore, our technical team can adapt specifications to any type of vessel, space, climate, ice, or any other work requirement.

Units manufactured to the highest quality while minimizing operational and maintenance costs.

We offer inspection and maintenance services in line with MSC.1. Circ.1206 for davits, rescue boats and hooks, in any part of the world.

More than 150 vessels world-wide successfully use FERRI rescue systems.

RESCUE BOAT DAVITS

LUZ DE MAR AND MIGUEL DE CERVANTES (SPAIN). RESCUE OPERATIONS VESSEL.

FUNCTION: Swinging davit for rescue craft.

CONTRIBUTION: Designed for use in rough sea states, minimizing operation times. Certified MED by GL.

OTHER FERRI EQUIPMENT INSTALLED: 8.5m. gangway.



DAVIT FOR FAST RESCUE BOAT

SEBASTIÁN DE OCAMPO (SPAIN).
IRMÁNS GARCÍA NODAL (SPAIN).
RESCUE CRAFT.



DAVIT FOR LIFE BOAT AND RESCUE BOAT

GALICIA (SPAIN). RO-RO CARRIER.



DAVIT FOR FAST RESCUE BOAT

SUPERFAST GALICIA (SPAIN).
FERRY.

FUNCTION: Combined davit for FAST
rescue craft.

CONTRIBUTION: Certified MED for
passenger vessels with vehicles.

OTHER FERRI EQUIPMENT INSTALLED:
Radial davit for rescue boat. Radial davit
for liferafts and provisions.



DAVIT FOR RESCUE BOAT

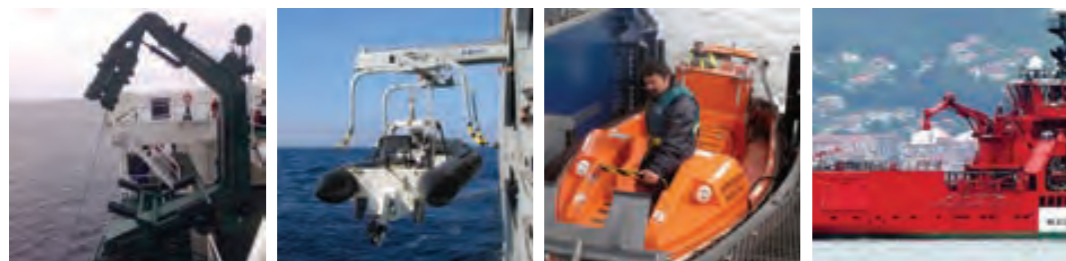
INFANTA ELENA (SPAIN).
CORVETTE.



DAVIT FOR RESCUE BOAT

ARNOMENDI & TARIFA (SPAIN). MILITARY PATROL
BOAT.





DAVIT SYSTEMS FOR BOATS

Equipment for launch and recovery of workboats, designed with demanding work conditions in mind. Adaptable to the requirements of the vessel: space, access and placing. Function and operational context giving top priority to crew safety in any sea state.

We offer a full range of solutions according to the operational conditions and design of the vessel. We integrate technical design solutions such as high speed, shock-absorbers, constant tension, anti-roll and -pitch systems, cable tensors, stowage cradles, towing booms, cable recovery, specialized hooks, low radar footprint, highspeed and rough sea launching, extreme temperatures, ice etc.

We offer inspection, training and maintenance services throughout the equipment's working life, ensuring a long life cycle.

More than 60 vessels world-wide successfully employ our davit systems for boats.

DAVIT FOR FAST INTERVENTION BOAT

GUARDIA CIVIL (SPAIN).

FUNCTION: Handling system for professional security patrol craft, for rapid intervention and/or search and rescue.

CONTRIBUTION: High-speed raising, shock-absorbing docking-head to prevent roll of the boat during swing-out and boom operations, to ensure safety while underway.



DAVIT FOR SEARCH AND RESCUE BOAT

OCEANOGRAPHIC VESSEL. (SPAIN).

FUNCTION: Handling system for professional rapid search and rescue craft in Antarctic waters.

CONTRIBUTION: Minimum deck space, stabilizing arms for the boat, designed for operational temperatures down to to -40°C.

OTHER FERRI EQUIPMENT INSTALLED: Snatch-blocks for oceanographic equipment. Side and stern A-FRAMES.



MULTIPURPOSE SUPPLIES AND BOAT CRANE

FRIGATES. (NORWAY).

FUNCTION: Foldable crane for launch and recovery of a military boat, and handling of supplies.

CONTRIBUTION: Shock resistant design, SOLAS certified, double use of one on-deck unit, compact crane design with hydraulic power unit.

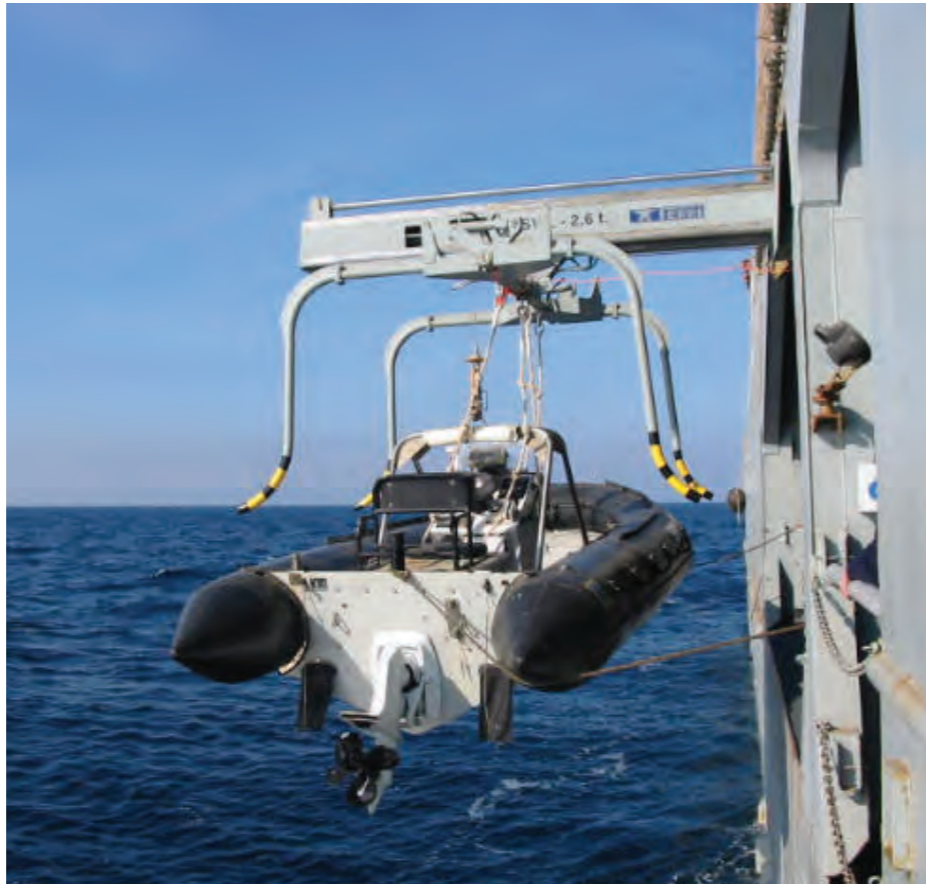


TELESCOPIC BOOM FOR ASSAULT CRAFT

DEEP-SEA PATROL VESSEL. (SPAIN).
ALBORAN.

FUNCTION: Boat handling for high-sea
assault operations.

CONTRIBUTION: Optimized design, totally
adapted to the vessel, for installation
in reduced space. System with anti-roll
stabilizer arms for the craft.



STERN RAMP FOR INSPECTION BOAT

FISHERY PATROL. (DENMARK).

FUNCTION: Launch and recovery of an
inspection boat.

CONTRIBUTION: Total on-board
integration. Very fast launch and
recovery without participation of crew
on mother-ship.



DAVIT FOR RAPID INTERVENTION CRAFT

AIRCRAFT CARRIERS. (AUSTRALIA.
SPAIN).

FUNCTION: Below-deck radial davit.
Handling craft for high-sea surveillance
ops.

CONTRIBUTION: Total on-board
integration with high raising speed.



MULTIPURPOSE SUPPLIES AND BOAT CRANE

SUPPLIES-WORKBOAT-RESCUE.
SOLAS. (DENMARK).

FUNCTION: Crane for handling supplies,
loads in offshore conditions, and
for launch and recovery of a crewed
workboat.

CONTRIBUTION: Specially designed
equipment for the safe launch and
recovery of a 10t workboat in accordance
with SOLAS regulations. Including a
shock-absorbing docking-head designed
for the boat. Certified type 3.2 by
DNV "Rules for the classification and
certification of lifting appliances".





05

EQUIPMENT FOR HANDLING LOADS AND FENDERS

We supply a full range of davits for all possible uses: supplies, fenders, gangways, torpedoes, landing stages, etc. We develop made-to-measure equipment for any application or requirement.

At FERRI we are specialists in applying solutions for use in the most extreme climate and work conditions at sea: wave compensation, constant tension, shock absorbers, tensors, cargo protection, emergency manoeuvres, high speed, explosive atmospheres (ATEX), etc.

We comply with all international norms and standards. More than 100 vessels globally successfully employ FERRI davits.

SWING-OUT DAVITS FOR FENDERS

OFFSHORE PETROL LIGHTER.
CHEVRON (BAHAMAS).

FUNCTION: 4 units of swing-out davit pairs. Launch and recovery of fenders for vessels coming alongside in offshore conditions.

CONTRIBUTION: 14t SWL unit, apt for use in explosive atmospheres, classified according to ABS and API spec. 2C Lifting Appliances. They have a wave compensation system to avoid damage to the cable. A cable-tensioning pay-out system and pneumatic emergency control.

OTHER FERRI EQUIPMENT INSTALLED: Below-deck HPU and control cabins (1 unit for every 2 pairs of davits).



SLEWING DAVITS FOR FENDERS

PETROBRAS. CAIRU PLATFORM
(MARSHALL ISLANDS)

FUNCTION: Launch and recovery system for fenders from offshore regasification platform floating in deep waters.

CONTRIBUTION: Working in explosive atmospheres with a portable pneumatic motor for use on each davit.



SLEWING DAVITS FOR FENDERS

SAMSUNG HEAVY INDUSTRIES.
OFFSHORE PETROL LIGHTER. (BAHAMAS)

FUNCTION: Placing over the side and recovery of fenders for coming alongside and departing manoeuvres in offshore conditions.

CONTRIBUTION: 3t SWL units. For use in explosive atmospheres. Classified according to ABS and API spec. 2C Lifting Appliances. Hydraulic action davits, with pneumatic use in emergency.



MONORAIL CRANES FOR HANDLING LOADS BETWEEN DECK AND HANGAR

DISCOVERY (UK).
OCEANOGRAPHIC VESSEL.

FUNCTION: Handling loads between deck and hangar.

CONTRIBUTION: Group of 4 units of monorail cranes for moving loads between 2 decks and 3 hangars. One of the monorail cranes has a spreader with special height-minimalizing characteristics.

OTHER FERRI EQUIPMENT INSTALLED: Container movement system. 2 articulated cranes for shipboard and offshore use.



MONORAIL CRANE FOR LOAD HANDLING

GEOWAVE CHAMPION. SEISMIC VESSEL.

FUNCTION: Stern manoeuvres on seismic vessel.

CONTRIBUTION: Specially designed 3t SWL unit.



TILTING DAVITS FOR FENDERS

AKER SOLUTIONS. REGASIFICATION PLATFORM (ITALY).

FUNCTION: 4 units of pairs of swinging davits for launch and recovery of fenders from an offshore regasification platform fixed on sea bed.

CONTRIBUTION: 15t SWL units for use in explosive atmospheres, with pneumatic use in emergency.

OTHER FERRI EQUIPMENT INSTALLED: HPU ATEX and control cabins (1 unit for every 2 pairs of davits).



TOWING HOOK WITH RADIO-CONTROLLED RELEASE

GEO PACIFIC (MARSHALL ISLANDS).
RESEARCH VESSEL.

FUNCTION: Towing hook with loaded release.

CONTRIBUTION: Equipment radio-controlled loaded release system, from one vessel to another. Hidraulic reset. DNV classified.

400T TOW PINS WITH 500T FORK

CLARA CAMPOAMOR & DON INDA (SPAIN).
OCEAN-GOING TUGS.

FUNCTION: Tugs and anchor handlers.

CONTRIBUTION: Equipment with high tension capacity, with accumulator battery for emergency release.



HOOK WITH ARM AND GUIDE

DIECIOCHO (SPAIN)
OCEAN-GOING TUG

FUNCTION: Hook for ocean-going towing.

CONTRIBUTION: Increased stability for vessel during side-ways towing.

BOW TOW PINS FOR ESCORT TUG

C-686 SVITZER PEMBROKES (UK).
OCEAN-GOING TUG

FUNCTION: Rollers for escort tug.

CONTRIBUTION: Increased stability for vessel during escort towing.

250T TOWING HOOK

CLARA CAMPOAMOR & DON INDA (SPAIN).
OCEAN-GOING TUGS

FUNCTION : Towing hook with remote release and assemble.

CONTRIBUTION: TN 250t unit with pneumatic release, limited list, roll absorber, fixed to deck.



HOOKS AND ROLLERS

Towing equipment has played an important part in FERRI's 50 years history. We have a complete range of towing hooks and rings, rollers and forks, adapted to the operative needs and structural requirements of any vessel.

Our standard towing hooks are disc-type and range from 4 to 500 tons. We also offer another range of hooks with hydraulic resetting. These hooks are more compact, saving precious desk space and reducing the need for crew to set them.

Both types of hook offer a series of options such as fixing to the vessel, assisted release systems, automatic release at list limit etc.

The range of rollers with forks range up to 500t cable tension. They can be adapted to greater requirements, forms and special sizes.

More than 400 vessels successfully employ FERRI towing equipment.

FAIRLEADS AND GUIDES FOR ANCHORS

SIMON STEVIN (BELGIUM).
VESSEL BEING BUILT.

FUNCTION: Anchor fairleads and guides both ahead with 440t SWL and astern with up to 220t.

CONTRIBUTION: The bow fairleads have been integrated within their bases so as to minimize occupying deck space and to guide the chains optimally and safely.



500T SWL BLOCKS

FPSO. (NORWAY).

500t block, guides and rollers for FPSO.

BLOCKS FOR ALL FISHING NEEDS

More than 500 vessels successfully employ this equipment: fleets of the largest tuna fishing vessels around the world; the most powerful trawlers in Northern Europe, and fishing boats of all types on all continents.

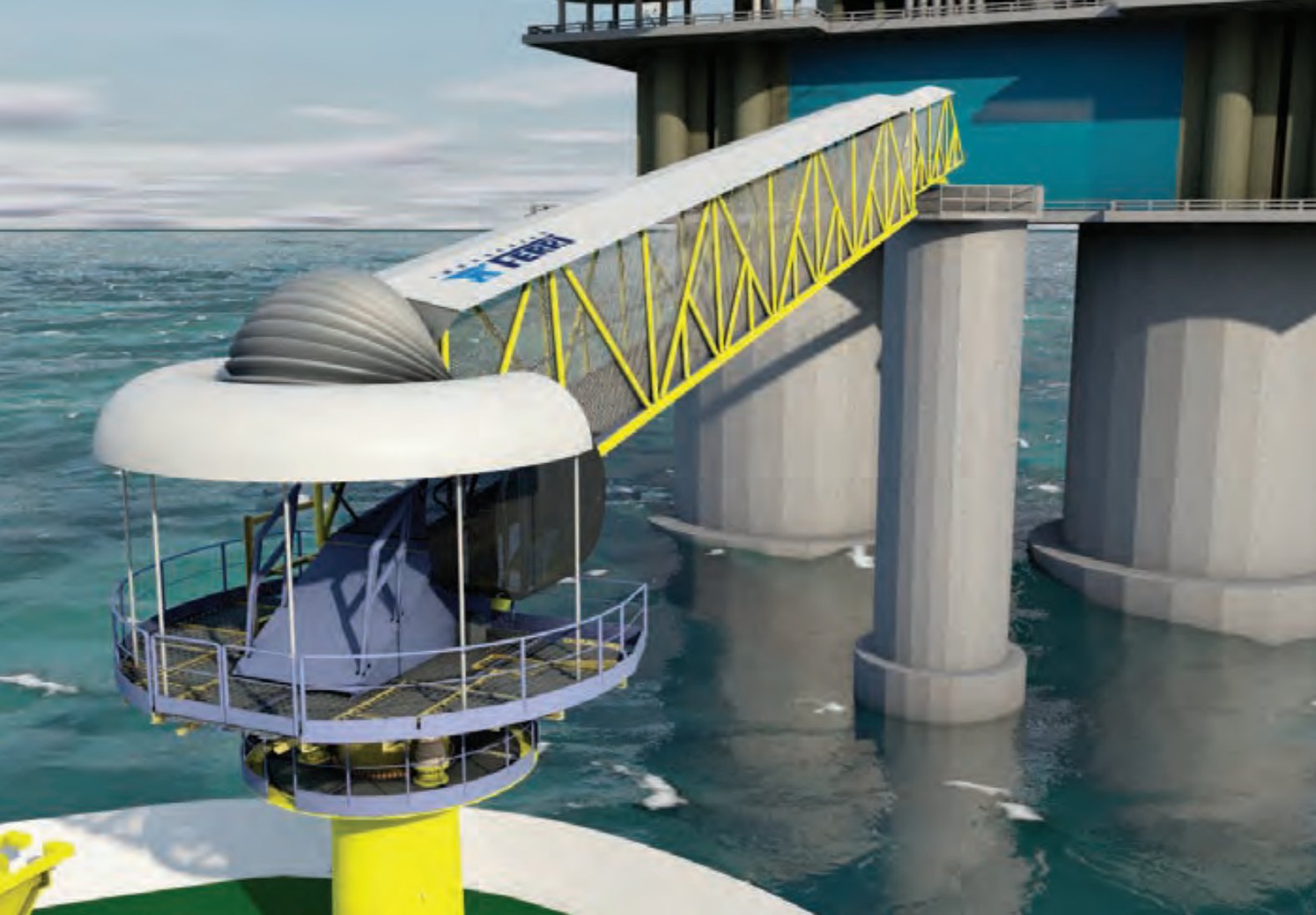


FAIRLEADS AND GUIDES

We have a long experience with this type of equipment. They have been offered by FERRI since more than 50 years ago. From standard equipment to made-to-measure, any type of blocks or snatch-blocks for any use, even under water.

We manufacture fairleads for chains and hawsers with swinging headstocks mounted on bearings or bushes.

All FERRI blocks have conical roller bearings specific to the great loads to which they will be submitted. The bearing protection system impedes the entry of water while allowing the escape of gases, thereby guaranteeing a perfect seal. Furthermore, the necks of the pulleys are subjected to a fully automatized process of hardening by electric induction to the values set by the cable manufacturers. These necks are inspected and submitted to tests of hardness.



DYNAMIC OFFSHORE GANGWAY FOR PLATFORM ACCESS

ACCOMODATION LADDERS & DAVIT

AIRCRAFT CARRIERS. (AUSTRALIA AND SPAIN).



DYNAMIC OFFSHORE
GANGWAY FOR
ACCESS TO WIND
TURBINES



ACCOMODATION LADDERS & DAVIT

CHANTIERS DE L'ATLANTIQUE. LUXURY CRUISER.



ACCOMODATION LADDERS & DAVIT

ANTI-POLLUTION AND RESCUE BOAT. (SPAIN).



08 ACCOMODATION LADDERS & DAVIT

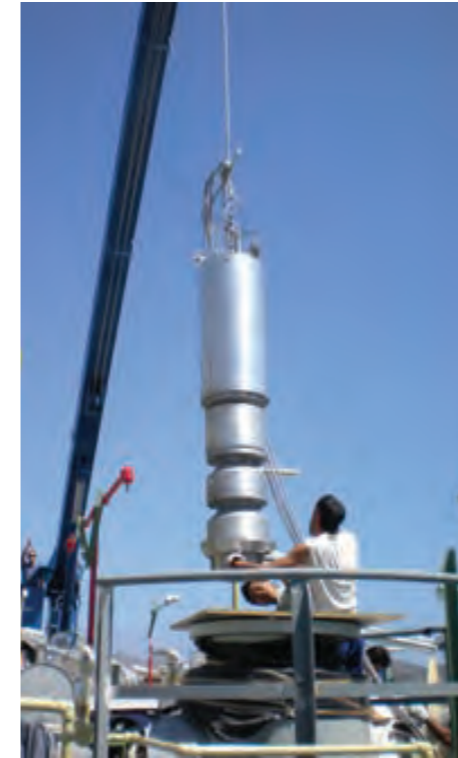
Equipment for access or transfer. Custom-made for each vessel taking into account space, placement, manoeuvrability, size, and performance in accordance with working conditions.

CRANES FOR GAS, LNG, OR REGASIFICATION TERMINALS

SPAIN, ITALY, CHINA.



DEMOLITION ROBOT



HYDRAULIC DRILL
FOR ORNAMENTAL
ROCK



AUTOMATIC
WASHING SYSTEM
FOR CONTAINERS

UNDERWATER
DRILL FOR ROCKY
SEABEDS



09

INDUSTRY AND ENERGY

HIGH TECHNOLOGICAL COMPETENCE. FERRI takes our vocation for service to industry beyond the bounds of the maritime sector. We are used to working with these factors: to high vessel specifications and the sophisticated technology of their machinery; with the minimum opportunities for service and maintenance; with extreme working conditions. Through our technical team (50% of our employees are highly qualified technical staff), we transfer our experience acquired in the development of maritime equipment to a series of different areas in which the key factors are extreme working conditions, in hostile environments.

Since 1984 we have been developing drilling machinery for ornamental quarrying. Since then, FERRI has offered an extensive range of high-performance drilling equipment.

Meeting the needs of the construction sector, we have developed a range of high-performance multifunction robots. Units able to operate in explosive or radioactive atmospheres, with the flexibility to handle loads and carry out work in areas of difficult access.

Cargo handling specialist, for energy and civil engineering applications.

We know how to develop reliable equipment and look for the best solution, however demanding the requirements.

OFFSHORE WIND FARM CRANES

CE & OFFSHORE GL CERTIFIED

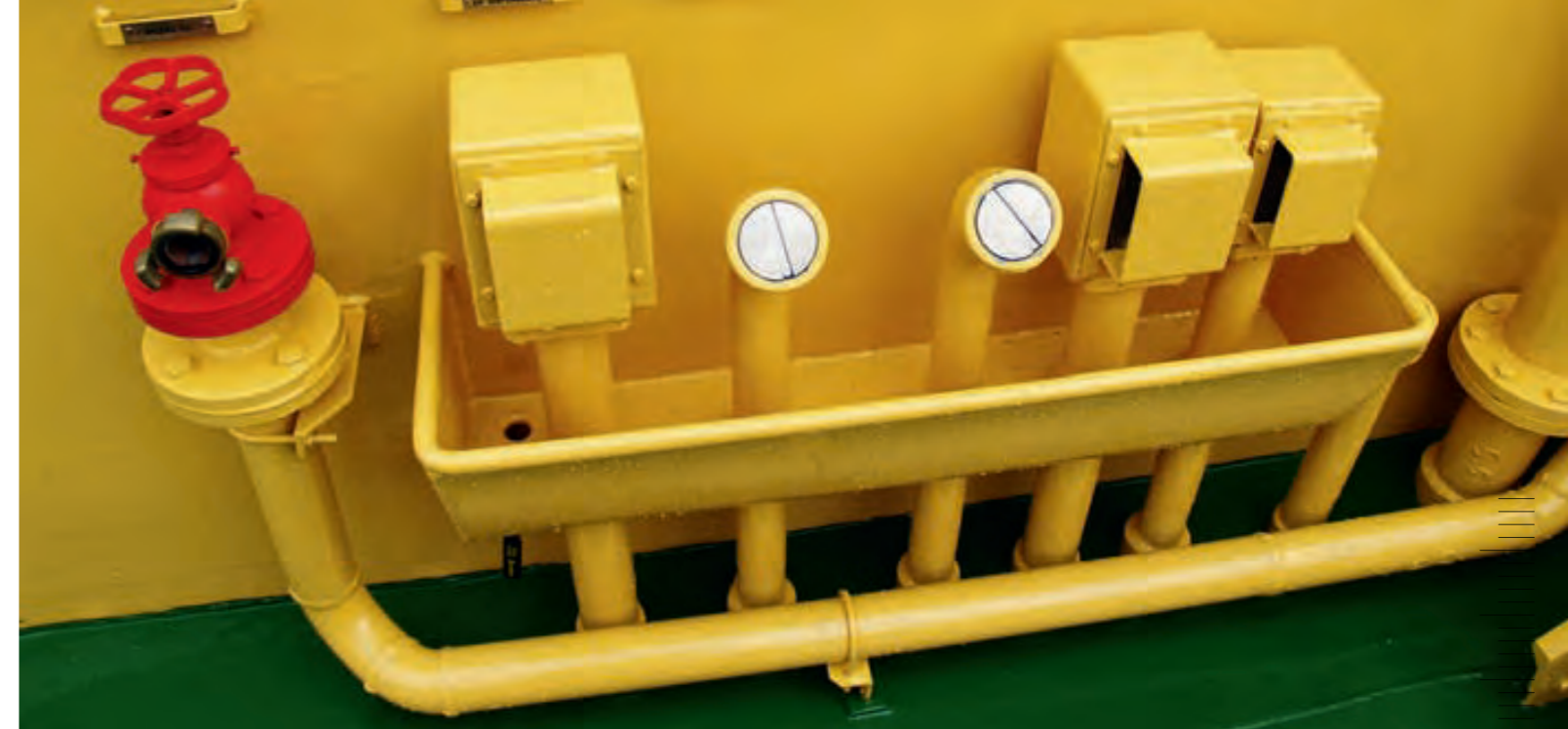
SUBSTATION CRANE

43 m of outreach, man riding capability and constant tension.



JACKETS CRANES AND DAVITS

High weight, ease on deck maintenance and installation, man riding and manual override of all functionalities.



A complete range of tank ventilation valves of all sizes, in galvanized steel, stainless steel, or special materials, along with types of flanges and tubes. For on- or off-deck discharge, with USCG caps etc.

More than 1000 vessels throughout the world successfully employ FERRI valves.

TANK VENT VALVES 11

ON-DECK DISCHARGE



OFF-BOARD DISCHARGE



SPECIAL FINISHES





On acquiring Talleres Carral in 2013, FERRI added to our own experience more than a century's worth of winch technology and development.



WINCHES

Based on continuous research and the inherited technical knowledge and expertise, our team is prepared to offer ready-to-go solutions for extreme working conditions throughout the world and certified by all societies. A full range of made-to-measure winches for all types of vessels. From towing winches up to 400t dynamic towing pull, to fishing equipment. A range that includes both electric and hydraulic units, mooring and anchoring winches, constant tension units, windlasses, traction winches, towing and escort units, and stainless-steel solutions for megayachts. We also supply accessories such as HPUs, frequency converters, remote control units etc. And of course, electro-hydraulic steering gears. Long-life and minimum maintenance designs, sturdiness is the key to the success of our equipment.

MOORING WINCHES

The Talleres CARRAL FERRI design offers tailor made mooring winches made up of years of experience and know how focused on our clients.

The production process enables flexibility and efficiency for our customer applications, totally designed and controlled by TCF and fully tested before delivery.

The TCF mooring winches can be delivered for electric or hydraulic drive with almost unlimited speed and line pull capacities.

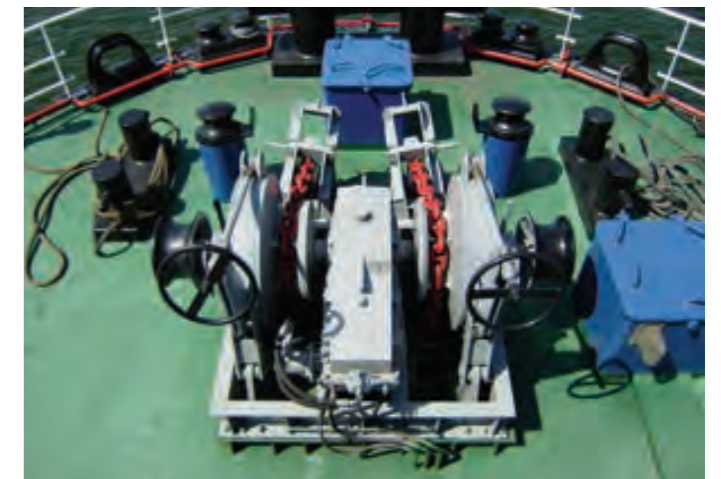
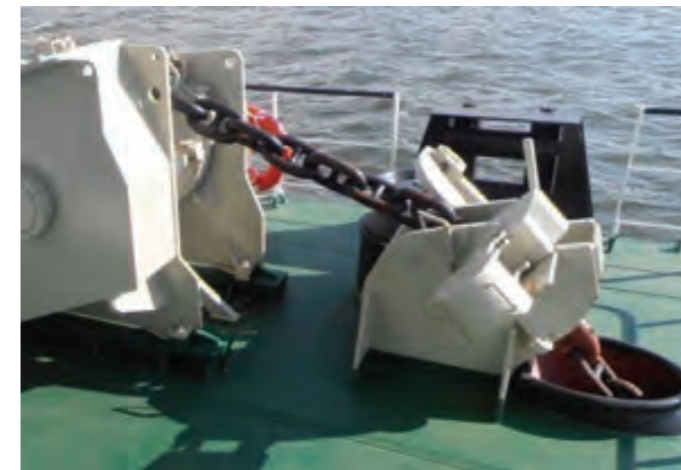
The brakes and clutches are designed for easy and safe as well as manual operations, a TCF guarantee.



WINDLASS WINCHES

The Talleres CARRAL FERRI portfolio offers a high variety of configurations and sizes, suitable to manage any anchor application. The TCF quality estándar includes steel construction, hardened gears for high working requirements, clutched and braked drums and superlow corrosion index.

All of our windlass can be delivered for electric or hydraulic drive and can be modified to engage specific applications and high requirements.



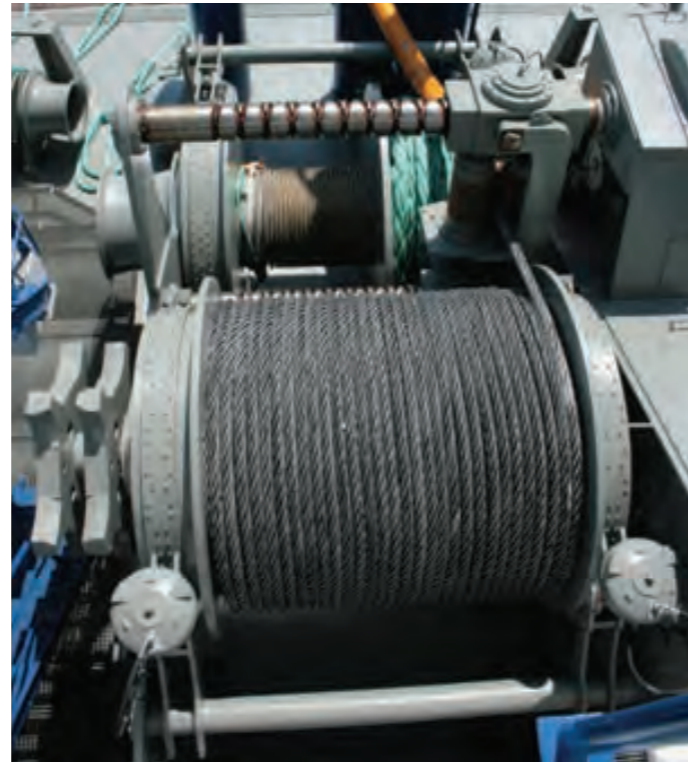
TOWING WINCHES

Specially designed after years of knowhow for all types of tugs, offshore vessels and PSV's, TCF towing winches are powered either by electric or hydraulic drive with drum capacity as client requires.

Wire spooling systems ensures high spooling of extremely long

wires. Designed by the most qualified engineers, TCF ensures high perform operation under the most hard conditions.

All towing winches are delivered either in single or double drum configurations with waterfall or linear configuration options.



TRAWLER WINCHES

TCF trawl winches are available in different executions and can be either hydraulically or electrically driven. Completely designed for specific applications like bottom trawling, pelagic trawling, beam trawling or for purse-seiner.

TCF's trawl winches can be constructed in a mono-block and split execution, conventional and multi-drum execution, with the drums in line or in a waterfall arrangement.



CARRAL trawl winches assemblies can be complemented by all types of auxiliary winches, such as sweep line-, fleeting-, Gilson-, bag winches and cod-end equipment. Solutions with drum jaw clutch or friction type, clutch drum brakes in a self-releasing execution, with pneumatic, hydraulic or electric remote control, and synchro balance control or safety control system.



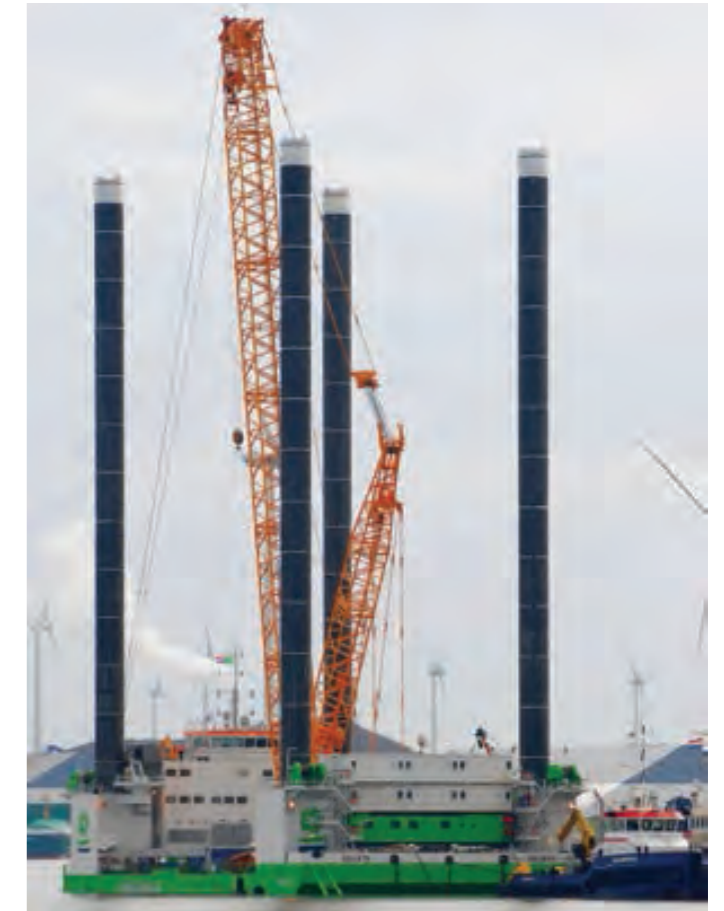
DREDGING WINCHES

The TCF high experienced team achieves a extense portfolio of winch types for new dredgers, particularly trailer suction hopper dredger ships ranging from standard size to mega vessels.

Draghead winches, intermediate winches, trunnion winches, bow-connection winches, positioning winches and even underwater-

pump winches are all part of the equipment TCF supplies for these increasingly sophisticated vessels.

TCF can also deliver all necessary elements for the winch operations.

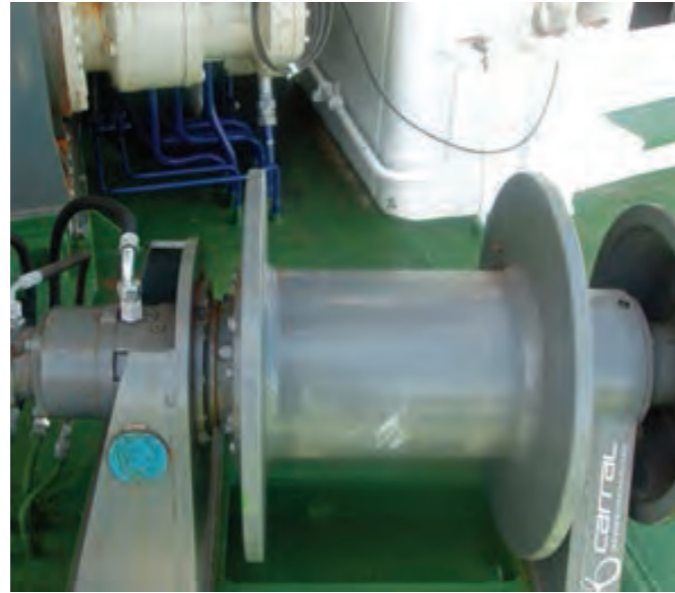


TUGGER WINCHES

For onboard use and different kind of offshore vessels, TCF offers a wide range of tugger winches. The strong and reliable tugger winch makes save and strong long term operation in the worst conditions.



The TCF tugger winches are offered electric or hydraulic driven with several options according the client needs; wire speed, warping end...etc with local, remote with cable or radio control.



PURSE SEINER WINCH

Electric or hydraulic driven. Reliable and sturdy components. Complete package for control operations. For any size of vessel or net. Very efficient design. Independent drums, brakes and clutch. Perfects cable winding. Maximum reliability.



SLIPWAY WINCH

Reliable operation. Very sturdy elements. Low maintenance. Electric or hydraulic driven.



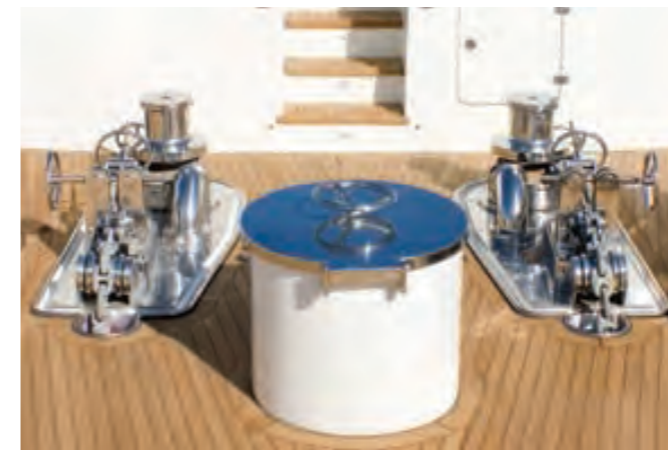
CAPSTANS

Electric or hydraulic driven. The TCF capstans can be directly incorporated into the deck structure with easily connection for motors from below deck.



MEGAYACHTS

Stainless steel polished executions. Any design integration can be adapted. Below deck applications. Low noise level and vibration.



Capstan and anchor windlass executions. Integrated and compact design.



OFFSHORE VESSELS

Completely customer driven, the TCF experience as a world leading provider of engineering solutions and high quality machines, complete a extense and integrated portfolio for all type of operations.

TCF provides reliable and lifelong anchor handling winches, towing and mooring combined systems, subsea load handling, cargo winches and any other type of special purpose winches for operations in offshore vessels.



RESEARCH-SCIENTIFIC VESSELS

Deeper waters, further seas, extreme climates. With a wide range of winches for deepwater operations as high technology machines for load handling in severe sea conditions.

The TCF portofolio offers umbilical winches, ROV's winches, transponder winches, hydrographic winches, side scan sonar winches, piston cover or any design system needed.



WINCH SPECIAL APPLICATIONS

- Winch status display and system parameters setup.
- Pull indicator systems, analogic and digital.
- Fishing net control integration to optimize net aperture parameters.
- Winding systems mechanical or motor driven.
- Cable force or winch torque measurements, length and speed.
- Active Heave Compensation (AHC).
- Active Wave Compensation (AWC).
- Multi-winch sincronisation.
- Man riding.
- Thruster replacement winches.
- Artic and extreme low temperature winches.
- ATEX.
- Constant tension.

We also design and produce cargo, mining, underwater and construction, umbilical, R.O.V., winding winches, boom & stowing & reels.

HYDRAULIC POWER UNITS (HPU)

TCF provides high technology HPU's for any type of equipment.

Our portfolio allows the customer to choose fixed or variable displacement, LS regulated or constant pressure pumps.



SEISMIC VESSELS

Handle load in the deep water exploration and production needs special and experienced designing. TCF is a quality worldwide

system provider for seismic vessels winches and offers robust, reliable and easy to use streamer, OBC, and umbilical winches.



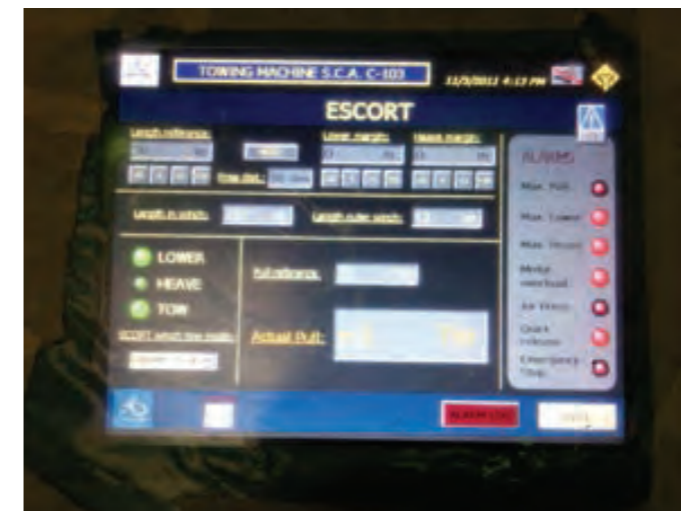
WINCH CONTROL SYSTEMS

TCF offers a wide and extense of control options:

- Preumatic, hydraulic or electric with frequency control driven winches.
- Remote controls at bridge, deck or beride machine integrated in

the system or independent.

- PLC, joysticks, pedals, bottoms or switch controls
- Digital, computerized or analogic controls.

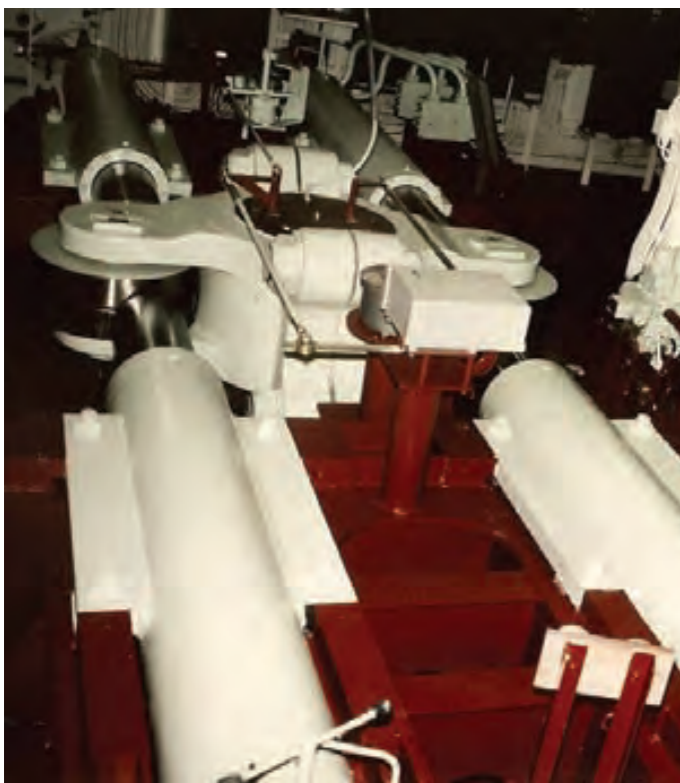
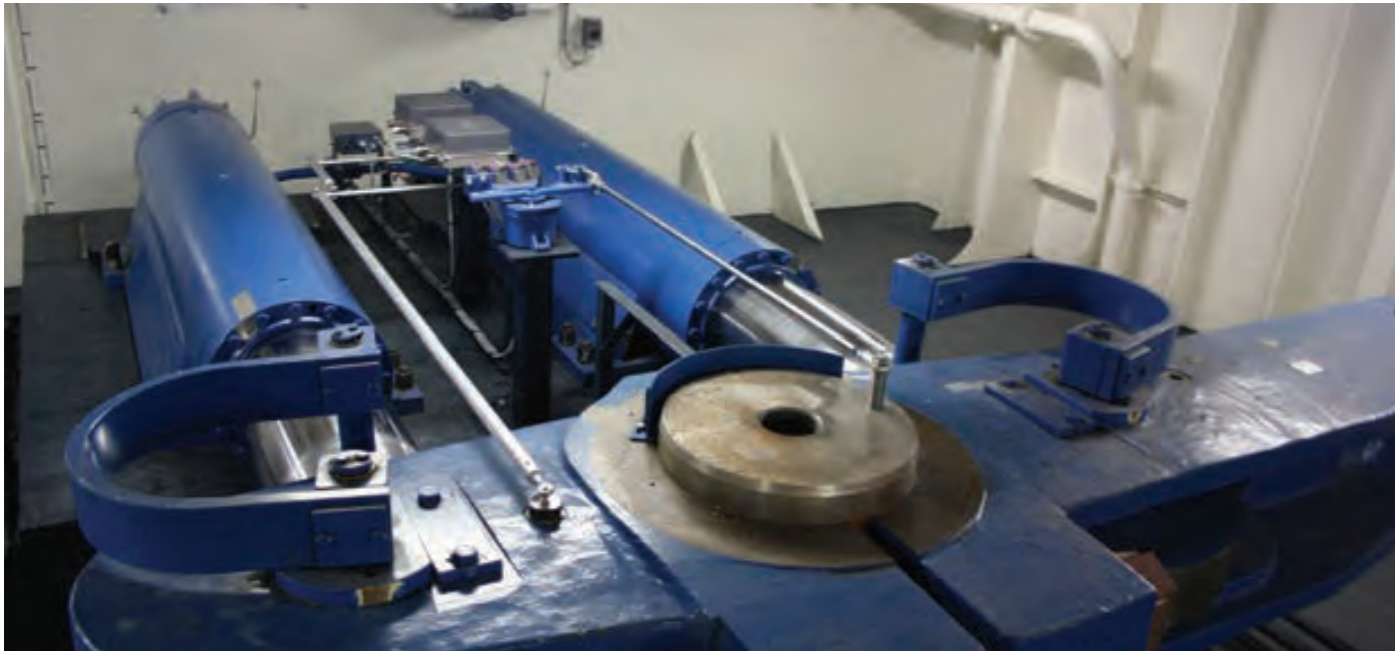


STEERING GEARS

F58S steering gear has been provided to ship owners and builders around the world for more than 50 years.

With a reputation for reliability, strength, durability and quality, F58 ram-type steering gear can be delivered in a hand-hydraulic version for smaller vessels and in an electro-hydraulic version for larger ships. Single and multiple rudder types are available in both single and double acting executions.

All steering gear can be delivered with a number of options - electric starters, control, alarm and monitoring systems, upper-rudder carrier bearing and an electric rudder-angle indicator system.





FERRI



Talleres **CARRAL**
1921

SPECIALIZED MACHINERY



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