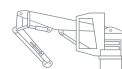
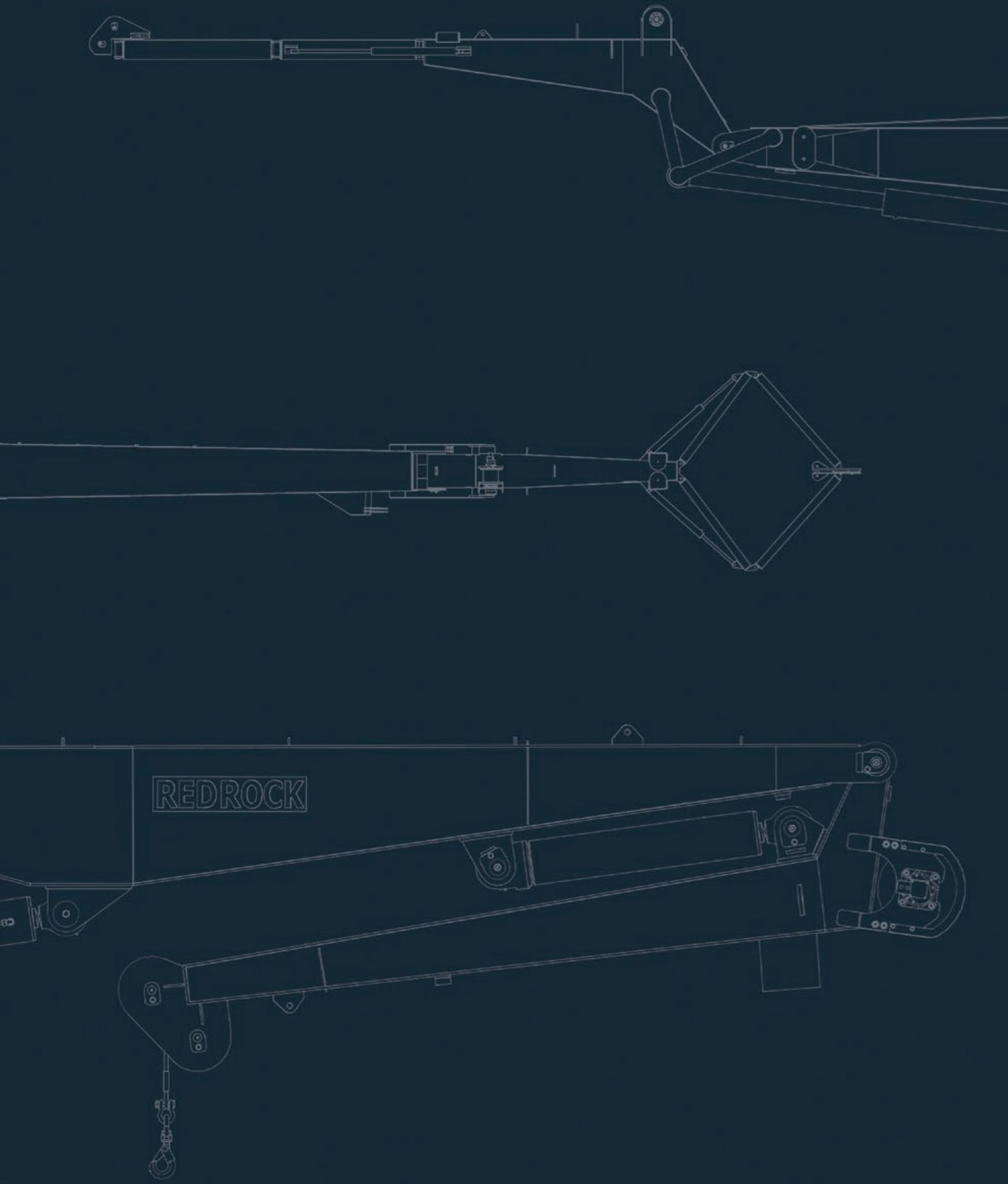


RED ROCK MARINE


—
Product Portfolio








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
- ABOUT RED ROCK** **02**


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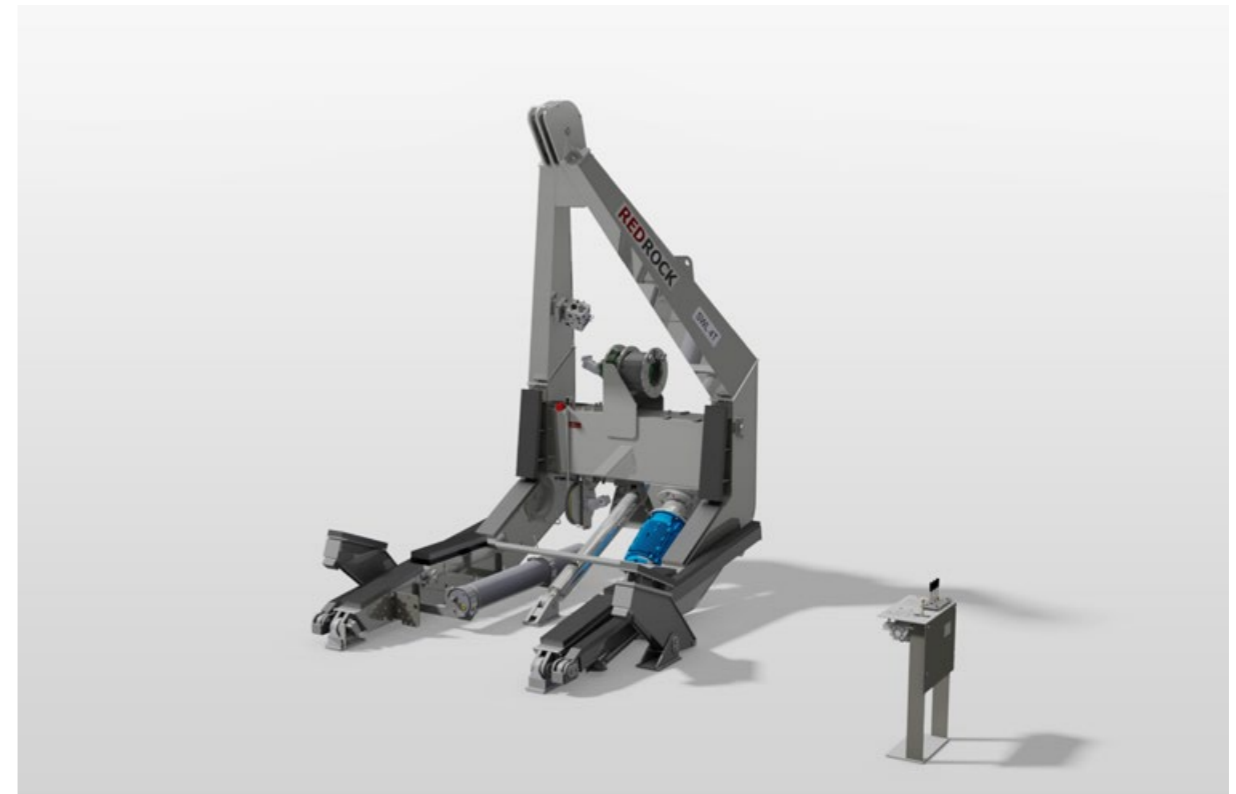
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Red Rock is the leading supplier of the next generation of digital lifting and handling systems for the offshore and marine market.

From our headquarters in Kristiansand, Norway, we want to change the way you think about marine and offshore operations through a software first approach, and the use of disruptive technologies.

With a global sales and service network our customers will always get the dedicated support they need wherever they operate around the world.



Designed to work in the toughest conditions, you can always trust the performance of the high quality Red Rock davit system.

Whether it involves Crafts for Rescue Operations, Stand-by Operations or other related activities, the davit can be equipped to perform the task.

RDA Rescue Boat Davit can be supplied with a range of options depending on operational requirements.

The unit features a rigid A-frame construction for stable and safe operation and is designed considering optimizing service and maintenance procedures.

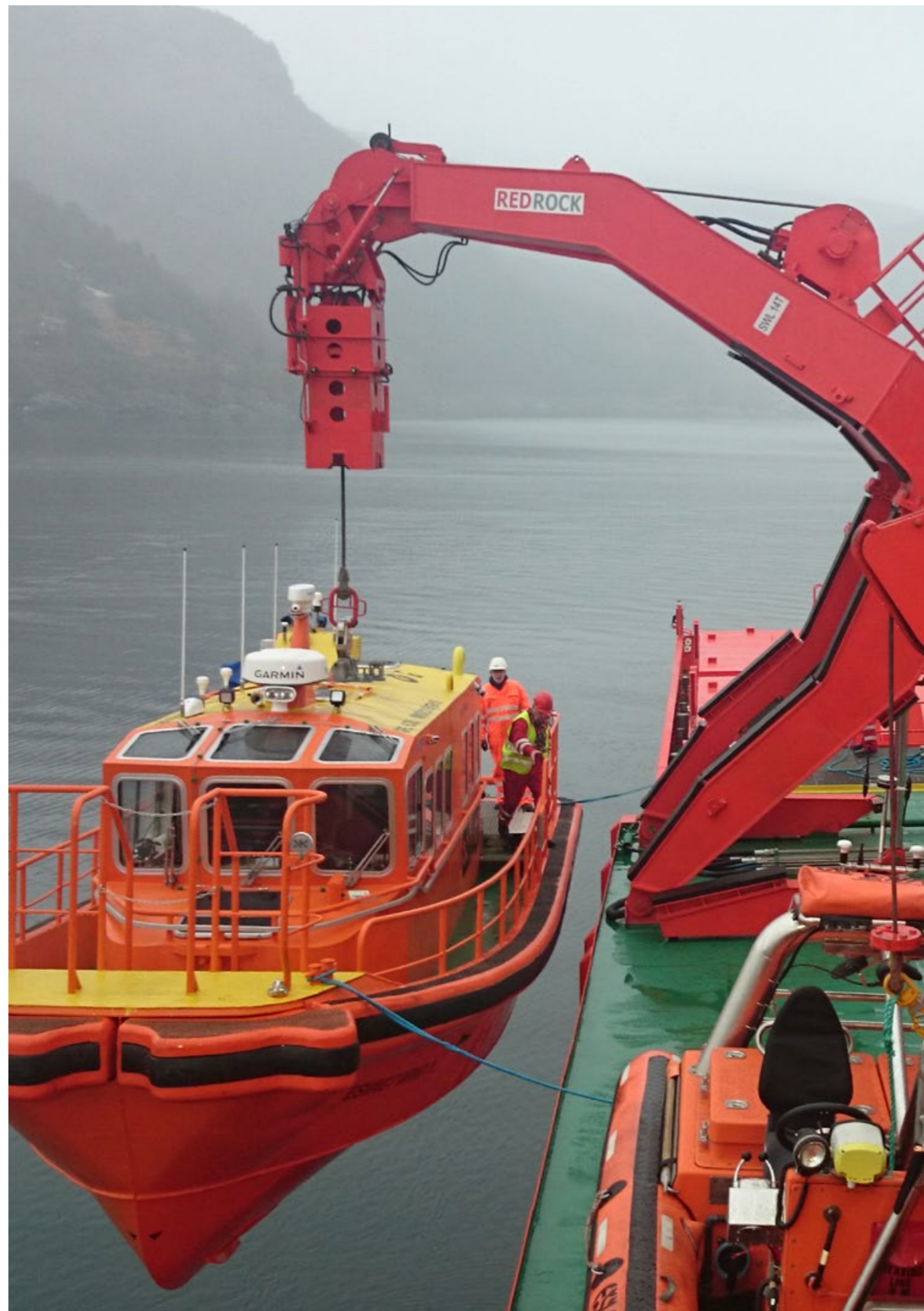
The davit winch and jib movements are operated from a control stand or a remote control nearby. Start/stop and emergency stop are also at the control stand or the remote control.



Standard execution

- Hydraulic Power Unit integrated in davit structure
- Control stand
- Electrical starter
- High speed winch





Type	SWL	Hoisting/lowering speed	Dry weight	Typical boat size
RDA16	1 600 kg	0-48 m/min	1 600 kg	15 ft / 4.5 m
RDA22	2 200 kg	0-48 m/min	2 000 kg	18 ft / 5.5 m
RDA36	3 600 kg	0-48 m/min	3 500 kg	23 ft / 7.0 m
RDA50	5 000 kg	0-48 m/min	4 800 kg	26 ft / 8.0 m
RDA60	6 000 kg	0-48 m/min	6 500 kg	26 ft / 8.0 m
RDA80	8 000 kg	0-48 m/min	9 000 kg	29 ft / 9.0 m
RDA100	10 000 kg	0-40 m/min	10 500 kg	33 ft / 10 m
RDA120	12 000 kg	0-40 m/min	11 500 kg	39 ft / 12 m
RDA140	14 000 kg	0-40 m/min	13 500 kg	46 ft / 14 m
RDA160	16 000 kg	0-40 m/min	15 000 kg	52 ft / 16 m



Documentation

- EC Type –Examination Certificate, issued by DNVGL
- EC Declaration of Conformity, issued by DNVGL
- Red Rock Workshop Test Report, witnessed by DNVGL
- Red Rock Declaration of Conformity
- LSA-Code, SOLAS 74 and HSC Code
- Wheel Mark Certification
- Certification from other class societies on request
- Design Verification Report (DVR) (workboat/daughter craft etc)
- Red Rock Instruction Manual and Service Manual

TELESCOPIC DAVIT (RDT)



Designed to be installed inside a ship recess area, giving the telescopic davit and boat the optimal life cycles conditions.

The Red Rock telescopic davit will integrate perfectly in the ship recess and the small footprint of the product will ensure maximum space utilization of the vessel.

With its parking frame, it is the most ridged davit giving the best support to the boat during operating the davit from parked position to launching position.

The davit can be delivered with an opening hatch in front of the recess to completely give you an indoor environment with the best protection for davit and boat in harsh weather conditions.

Whether it involves Crafts for Rescue Operations, Stand by Operations or other related activities, the davit can be equipped to perform the task.

TELESCOPIC DAVIT (RDT)

Type	SWL	Hoisting/lowering speed	Dry weight	Typical boat size
RDT22	2 200 kg	0-48 m/min	3 000 kg	18 ft / 5.5 m
RDT36	3 600 kg	0-48 m/min	3 500 kg	23 ft / 7.0 m
RDT60	6 000 kg	0-48 m/min	6 500 kg	26 ft / 8.0 m
RDT80	8 000 kg	0-48 m/min	8 500 kg	29 ft / 9.0 m
RDT100	10 000 kg	0-40 m/min	9 000 kg	33 ft / 10 m
RDT120	12 000 kg	0-40 m/min	11 000 kg	39 ft / 12 m
RDT140	14 000 kg	0-40 m/min	14 000 kg	46 ft / 14 m



Standard execution

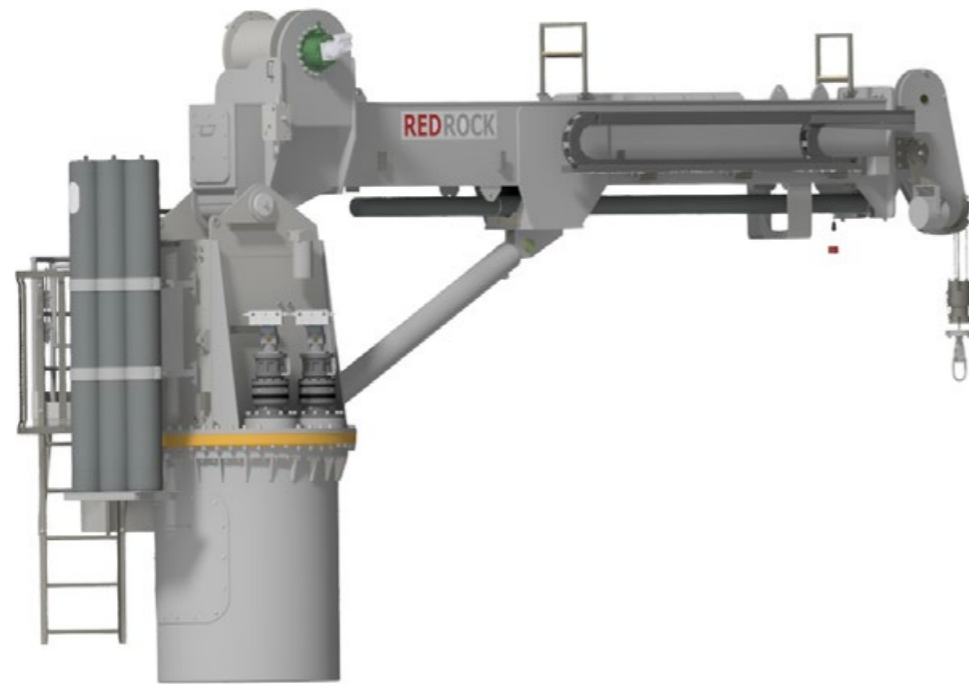
- Hydraulic Power Unit integrated in davit structure (size dependant)
- Integrated or separate control stand (size dependant)
- Electrical starter
- High speed winch



Documentation

- EC Type –Examination Certificate, issued by DNVGL
- EC Declaration of Conformity, issued by DNVGL
- Red Rock Workshop Test Report, witnessed by DNVGL
- Red Rock Declaration of Conformity
- LSA-Code, SOLAS 74 and HSC Code
- Wheel Mark Certification
- Certification from other class societies on request
- Design Verification Report (DVR) (workboat/daughter craft etc)
- Red Rock Instruction Manual and Service Manual





Designed to work in the toughest conditions you can always trust the performance of the high quality Red Rock davit systems.

Whether it involves Crafts for Rescue Operations, Stand-by Operations or other related activities, the davit can be equipped to perform the task. The Red Rock slew davit is a cost efficient and safe solution for boat handling operations.

Type	SWL	Hoisting/ lowering speed	Dry weight	Typical boat size	Outreach	Drive*
RDCT10	900 kg	0-48 m/min	3 600 kg	16 ft / 4.9 m	5.1-7.1m	Hyd/Accumulator
RDCT30	3 000 kg	0-48 m/min	4 600 kg	16 ft / 4.9 m	5.1-7.1m	Hyd/Accumulator
RDC16-4	1 600 kg	0-48 m/min	2 800 kg	18 ft / 5.5 m	4 m	Hyd/Accumulator
RDC16-5	1 600 kg	0-48 m/min	3 200 kg	18 ft / 5.5 m	5 m	Hyd/Accumulator
RDC28-4	2 800 kg	0-48 m/min	3 500 kg	26 ft / 8.0 m	4 m	Hyd/Accumulator
RDC28-5	2 800 kg	0-48 m/min	3 800 kg	26 ft / 8.0 m	5 m	Hyd/Accumulator

* Electrical drive available upon request



Standard execution

- Integrated hydraulic power pack
- Hydraulic control stand that is integrated in the davit structure
- Electrical starter cabinet
- High speed winch



Documentation

- EC Type -Examination Certificate, issued by DNVGL
- EC Declaration of Conformity, issued by DNVGL
- Red Rock Workshop Test Report, witnessed by DNVGL
- Red Rock Declaration of Conformity
- LSA-Code, SOLAS 74 and HSC Code
- Wheel Mark Certification
- Certification from other class societies on request
- Design Verification Report (DVR) (workboat/daughter craft etc)
- Red Rock Instruction Manual and Service Manual

TELESCOPIC DECK SKID DAVIT (RDTD)

RDTD Telescopic Deck Skid Davits are developed for vessels and rigs where skidding of the boat and davit from parking position to launching position at vessel or rig side is required.

Type	SWL	Hoisting/lowering speed	Dry weight	Typical boat size
RDTD36	3 600 kg	0-48 m/min	4 000 kg	23 ft / 7.0 m
RDTD60	6 000 kg	0-48 m/min	7 000 kg	26 ft / 8.0 m
RDTD100	10 000 kg	0-40 m/min	11 000 kg	33 ft / 10 m
RDTD120	12 000 kg	0-40 m/min	12 500 kg	39 ft / 12 m
RDTD160	16 000 kg	0-40 m/min	16 000 kg	52 ft / 16 m



Standard execution

- Integrated hydraulic power pack
- Hydraulic control stand that is integrated in the davit structure
- Electrical starter cabinet
- High speed winch



Documentation

- EC Type –Examination Certificate, issued by DNVGL
- EC Declaration of Conformity, issued by DNVGL
- Red Rock Workshop Test Report, witnessed by DNVGL
- Red Rock Declaration of Conformity
- LSA-Code, SOLAS 74 and HSC Code
- Wheel Mark Certification
- Certification from other class societies on request
- Design Verification Report (DVR) (workboat/daughter craft etc)
- Red Rock Instruction Manual and Service Manual



CANTILEVER DAVIT (RDCA)

RDCA Cantilever davits are developed for handling Rescue Boats, Daughter Crafts and Work Boats for marine vessels and offshore rigs.

RDCA are specially designed to be mounted on the ship/rig side, freely lowering the craft. The Red Rock RDCA davit is a cost efficient and safe solution for boat handling operations with a minimum of moving parts.

Type	SWL	Hoisting/lowering speed	Dry weight	Typical boat size
RDCA40	4 000 kg	0-48 m/min	3 500 kg	23 ft / 7.0 m
RDCA60	6 000 kg	0-48 m/min	6 500 kg	26 ft / 8.0 m
RDCA80	8 000 kg	0-48 m/min	6 500 kg	29 ft / 9.0 m
RDCA100	10 000 kg	0-48 m/min	6 500 kg	33 ft / 10 m



Standard execution

- Integrated hydraulic power pack
- Hydraulic control stand that is integrated in the davit structure
- Electrical starter cabinet
- High speed winch



Documentation

- EC Type –Examination Certificate, issued by DNVGL
- EC Declaration of Conformity, issued by DNVGL
- Red Rock Workshop Test Report, witnessed by DNVGL
- Red Rock Declaration of Conformity
- LSA-Code, SOLAS 74 and HSC Code
- Wheel Mark Certification
- Certification from other class societies on request
- Design Verification Report (DVR) (workboat/daughter craft etc)
- Red Rock Instruction Manual and Service Manual



Standard configurations and options for Red Rock Davits:

SOLAS Davits

	Power Sheave	Constant Tension	Shock Cylinder	Parking Cradle	Docking Head	Grip Arms	Anti-Pendulum Arms	Metallized	El-Controlled	High speed winch	Hatch opening system
RDA	O	O	O	O	O	-	O	O	O	S	-
RDT	O	O	O	O	-	O	-	O	O	S	O
RDC(T)	O	O	O	O	O	-	-	O	O	S	-
RDCA	O	O	O	O	-	O	-	O	O	S	-

Standard Daughter Craft Davits

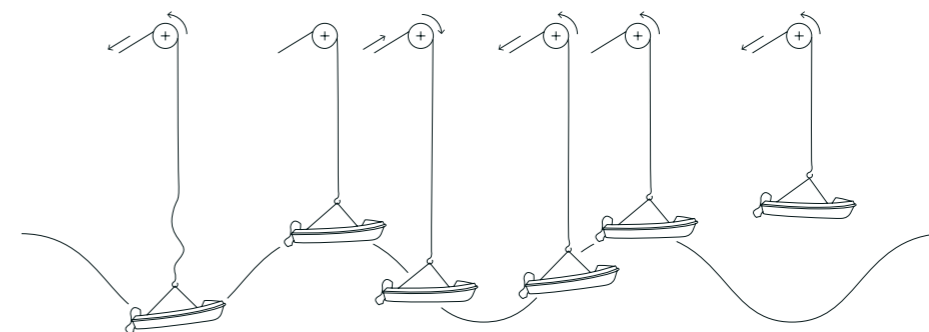
RDT	S	S	S	O	O	-	O	O	S	O	-
RDC(T)	S	S	S	O	-	S	-	O	S	O	O
RDCA	S	S	S	S	-	S	-	O	S	O	O

S Standard Configuration
 O Available Option

Constant tension system

The winch is fitted with a constant tension system acting as wave compensator, allowing the rescue boat to follow the wave movements and holding the boat steady along

ships side once connected to the davit wire ready for hoisting onboard. This system avoids critical dynamic forces to the rescue boat and crew in splash zone.



Recover with constant tension

Pictures illustrates a recovery operation using the constant tension winch system. The wire is lowered to the boat with slack wire; the boatman attaches it to the boat. The davit operator activates the constant tension on the winch to pick up the slack. As the boat rises and falls on the waves, the davit winch drum

will automatically pay in and out in unison with the wave and ship motion, maintaining tension on the wire until the davit operator is ready to hoist the boat. As the boat approaches the crest of a wave, the operator de-activates the constant tension and lifts the boat clear of the waves.

Shock absorbing cylinder

Hydraulic cylinder mounted in davit jib acting as shock absorber for smooth handling of the boat. The shock absorber reduces dynamic forces acting on the boat and crew to a minimum during launching and retrieving of the boat.





Parking cradle

Mechanical cradle supporting the rescue boat in parked position by 2 supporting arms pushing the boat from outside into the davit to secure safe parking. This system allows davit wire to be disconnected from release hook for maintenance and inspection while boat is in parked position.



Anti-pendulum arms

Anti-pendulum arms secure safe handling of the boat when swinging in/out over the ships side. The arms prevent larger movements/pendulum in the critical phase during boat handling from parked position to launching position and vice versa.

De-ice equipment

Equipment mounted on davit allowing the davit to be operated in extreme low temperatures and in areas where icing occurs on equipment mounted on open deck. Depending of de-ice requirement, davit can be equipped with:

- Covers
- Protection for operator handles
- Steel grade for low temperature
- Heater in oil tank



Docking head

Docking head mounted in davit jib end acting as compensator for movements supporting the boat when swinging in/out over the ships

side. The docking head secure safe handling of the boat by preventing larger movements in critical face during launching and retrieval.



Painter line boom (towing boom)

Boom for operating painter line to secure boat in a safe position before launching and retrieval. Painter line boom can be fitted with winch and be of horizontal, vertical or telescopic type.

Electrical control system

An Electric Pilot control system for normal operation of davit. A fixed control stand with electric operating handles only requiring electrical wiring (no hydraulic pipes and hoses) between control stand and davit. Alternatively, Red Rock Marine can deliver only an electric control box with cable hanging on the davit when not in use. With this option, the hydraulic main control valve will be an el-activated type mounted on the davit itself. This option gives a quick and cost-effective installation of davit and control stand onboard.

Metallized steel

Shot blasted to SA 2.5 and zinc metallized for increased protection.

Hatch opening system

Yard can deliver an opening hatch in front of the davit recess to completely give you an indoor environment with the best protection for davit and boat in harsh weather conditions. Red Rock can deliver the the opening arrangement for this, which needs to be SOLAS approved for Rescue Boats.



Red Rocks control software works seamlessly between all lifting and handling systems from Red Rock.

It let the operator effortlessly control the equipment to ensure an efficient and safe operation.

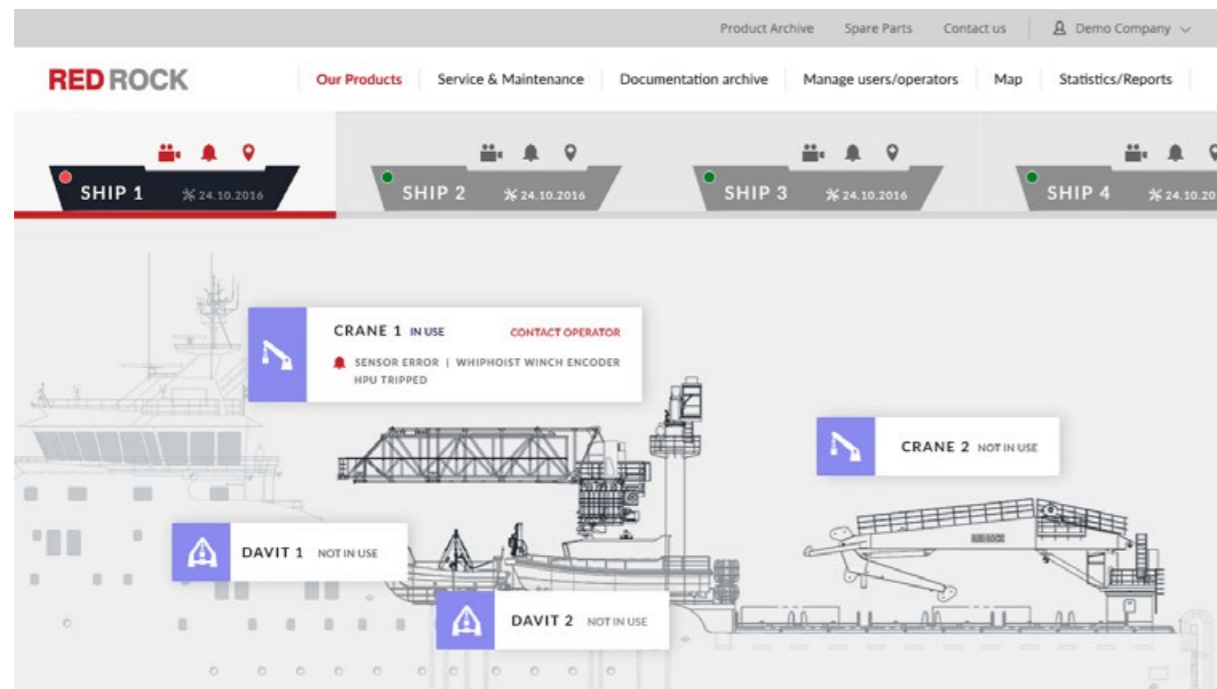
The control system takes advantage of the best technology from all industries and merge it together in a state of the art system for marine and offshore lifting and handling operations. The systems schematics creates greater operational flexibility where the

operation can be controlled from a operation cabin, wireless remote control, from the bridge and even from an onshore operational center in certain conditions.

The system will also prepare you for the operations of the future with both condition based maintenance, cloud connection and it is even prepared for the future of autonomous operations.

This gives our customers less downtime, faster and safer operations.





The cloud-based web-portal from Red Rock integrates with all the lifting and handling systems with real time access to equipment status, operational data and condition based maintenance programs.

With 24/7 support by highly qualified Red Rock engineers we eliminate most cases of down time. The cloud solution also enables remote troubleshooting and will in many

cases remove the need to send a technician to the ship.

This is a cost saver and it also avoids unnecessary down time of the equipment. The cloud solution also creates the basis for the future of marine lifting and handling operations and is prepared for remote and autonomous operations.

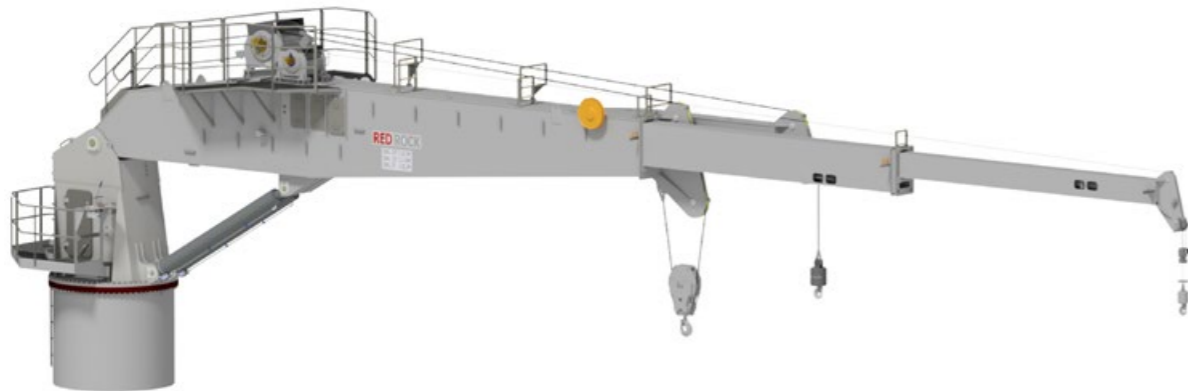
Straight Boom Crane (RCS / ORCS)



Knuckle Boom Crane (RCK / ORCK)



Telescopic Boom Crane (RCT / ORCT)



All marine and offshore Cranes

Red Rock cranes are reliable and rigid cranes for general cargo handling and service onboard vessels and platforms.

Tailor made to your requested specifications, in different boom lengths and lifting capacities for different sea state working conditions. All Red Rock cranes can be equipped with different accessories and class certificates by all leading classification societies.

The Red Rock cranes are made as self-contained units with integrated hydraulic power pack. Starter cabinet and remote start/stop box is included for mounting in most suitable place close to the crane.

Operators' platform or cabin mounted on left or right side of crane king.

- Highly reliable and efficient design – optimized service and maintenance procedures.
- Low wear exposure and compact unit – components and power pack inside crane king and pedestal.
- Operator friendly – full operational overview.
- Fast installation – Rigid construction for welding or bolting.



Standard execution

- Electrical starter cabinet
- 360° rotation
- Precise step less speed control for all motions
- Simultaneous operation of 2 or more functions
- Pedestal ready for welding or bolting on the vessel steel structure
- Start/stop box with Emergency Stop Device
- Levers of spring centered type
- Fail Safe Slew Brakes & Load Holding Valves
- Full surface treatment



Documentation and operation manuals

- Red Rock Workshop Test Report
- Red Rock Declaration of Conformity
- Certification from class societies on request
- Red Rock Instruction Manual and Service Manual



Standard Options for Red Rock Cranes

Aux winches

One or more secondary winch systems can be added to the crane.

Personnel Handling

Winch and Crane to be certified for Personnel Handling.

Constant tension

A system that keep a constant tension on the wire. This ensures no slack wire during lifting operations.

Operators cabin

A cabin for the crane operator to use while operating the crane.

Automatic Overload Protection System (AOPS)

A system that automatically safeguards and protects the crane against overload and "over-moment" during operation by allowing the hook to be pulled away from the crane in order to avoid significant damage.

Manual Overload Protection System (MOPS)

Manual Overload Protection System (MOPS) Protection system for the crane for loads higher than the design load. Manually actuated by the operator.

Land Control

Remote Control from base on land.

Winterization

Ice class according to the classification rules.

Bridge Control

Remote Control from bridge on vessel.

Radio Remote Control

Portable system for remote operation of all crane functions.

Active Heave Compensation (AHC)

A system that maintains the position of the crane hook when operating in waves.

Remote Service Assistanse

24/7 Remote Service Assistance.

Tablet

Complete HMI on tablet integrated in Radio Remote Control.

Condition Monitoring

Condition Monitoring of the equipment.

Centralized Lubrication System

Central lubrication system that lubricates several points on the product.

3D Compensation

3D-motion compensation system.

Extended pedestal height

Increased pedestal height above standard height.

Condition Based Maintenance

Conditon based predictive maintenance, can be combined with continous Classification Approval.

(other options available upon request)

Active Heave Compensated (AHC) Offshore Crane (ORCx)



Red Rock Active Heave Compensated Offshore Cranes are reliable and rigid cranes for handling of cargo from vessel to vessel, vessel to fixed point and vessel to subsea.

Keeps cargo leveled due to advanced sensor signals together with compensating hydraulic system.

Tailor made to your requested specifications, in different outreaches, lifting capacities and operating conditions. All AHC cranes can be equipped with different accessories and class certificates by all classification societies.

All our AHC cranes are easily upgradable to: 3D, Bridge & land control.

The crane is made as a self-contained unit with integrated hydraulic power pack and motor inside crane king and pedestal. Starter cabinet (IP56) and remote start/stop box (IP 66) is included for mounting in most suitable place close to the crane. Operators' cabin (or alternatively) platform mounted on left or right side of pedestal.



Standard execution

- Electrical starter cabinet
- 360° continuous slewing (rotation)
- Precise step less speed control for all motions
- Simultaneous operation of 2 or more functions
- Centralized lubrication system
- Offshore paint specification



Documentation and operation manuals

- Red Rock Workshop Test Report
- Red Rock Declaration of Conformity
- Certification from class societies on request
- Red Rock Instruction Manual and Service Manual



3D Cranes (RMCK)



Red Rock 3D Motion Compensated Cranes are reliable and rigid cranes for handling of cargo and personnel from vessel to vessel, or vessel to fixed point.

The Red Rock 3D Motion Compensated Cranes keeps the load still due to advanced sensor signals together with compensating hydraulic system. The systems simplicity ensures reliable operation.

Tailor made to your requested specifications, different outreaches, lifting capacities and

operating conditions. All RMCK cranes can be equipped with different accessories and class certified by all leading classification societies. Red Rock 3D Motion Compensation can easily be retrofitted on existing crane.

Revolutionary crane design – counteracts 360° ship movements, for safe and precise operations in rough seas.



Standard execution

- 3D as well as traditional knuckle boom function in shipboard mode
- Centralized lubrication system
- 360° continuous slewing (rotation)
- Precise step less speed control for all motions
- Simultaneous operation of 2 or more functions
- MOPS - Manual Overload Protection System
- AOPS - Automatic Overload Protection System
- AHC
- Offshore paint specification
- Upgradable for Bridge central/land control

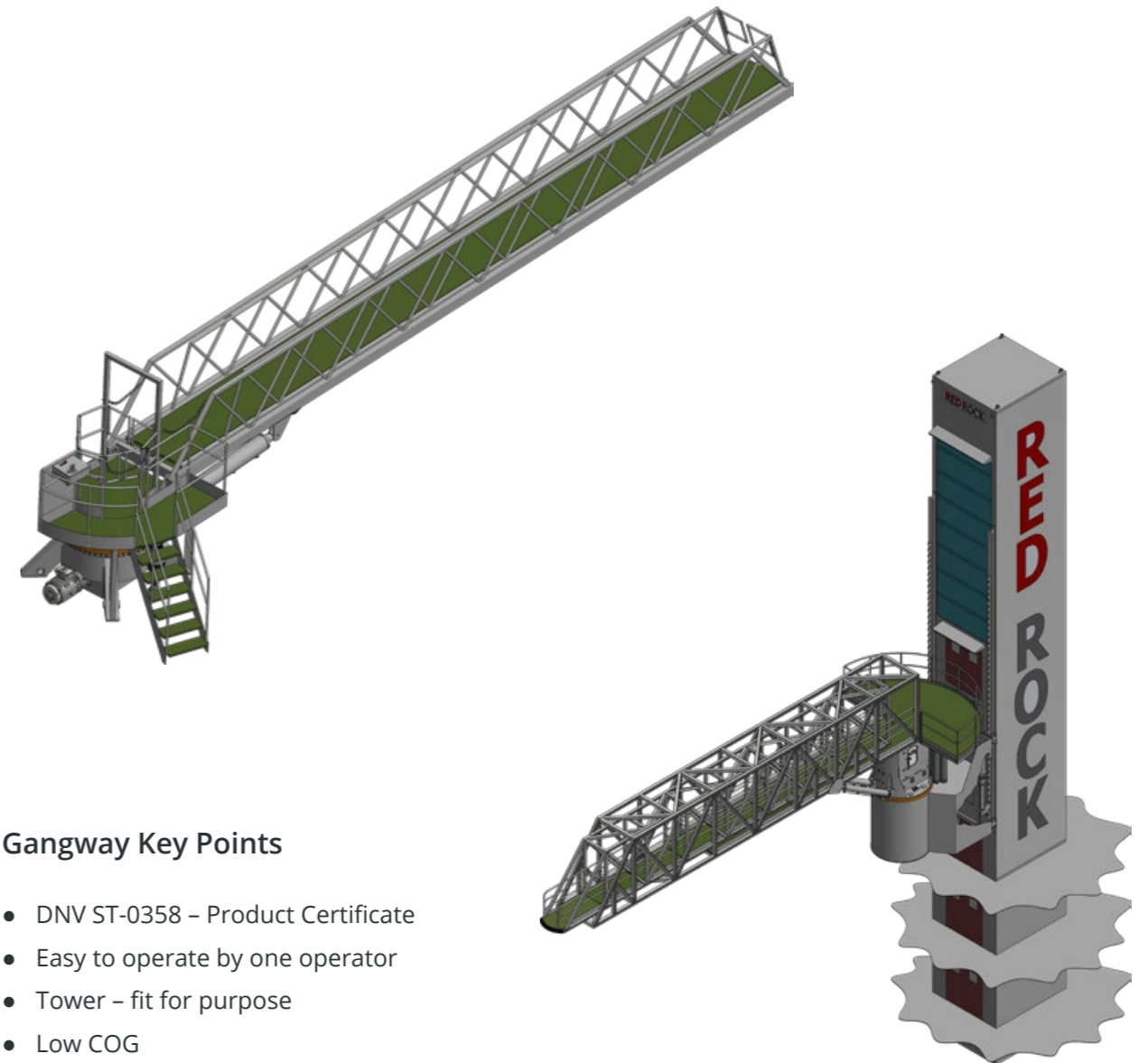


Documentation and operation manuals

- Red Rock Workshop Test Report
- Red Rock Declaration of Conformity
- Certification from class societies on request
- Red Rock Instruction Manual and Service Manual

Red Rock delivers equipment to handle the entire flow of both personnel and material:

1. Red Rock Daughter Craft Davit (typical 10-12t SWL)
2. Red Rock 3D-Compensated Crane or AHC Crane (Stand-alone)
3. Offshore Gangway System (Modular)
 - With or without elevator
 - With or without 3D or AHC crane
4. Internal Load handling systems



Gangway Key Points

- DNV ST-0358 – Product Certificate
- Easy to operate by one operator
- Tower – fit for purpose
- Low COG
- DP system compatibility
- Control systems – by Red Rock
 - Control system can also keep the gangway tip in a fixed position without physical connection to another object, ideal for inspection and service operations
- Red Rock Cloud Solution
- **RAO analysis of actual values to determine speed & acceleration requirements**



Service and spare parts

Red Rock is proud to offer service and original spare parts to your product. Red Rock has the experience and expertise to help you with your high demand to maintain a safe and reliable product lifetime.

Our spare parts combine the quality of an Original Equipment Manufacturer (OEM) with competitive prices.

Success depends on superior service and support throughout the lifetime of the product.

Our offerings are diverse, flexible and tailored to meet your needs. We deliver globally integrated services and spare parts.

Our highly competent service engineers supported by technical personnel are ready to assist you with any service requirement. For Life Saving Equipment we follow the SOLAS guidelines for maintenance. Red Rock follows MSC.1/Circ.1206 for annual and 5-year inspection and certifications for your LSA equipment. Our service team is certified after MSC.1/Circ. 1277.

Conversion

Red Rock have the knowledge to offer conversion/rebuilding/upgrade on your cranes or davits based on requested new requirements and needs.

An upgrade of existing equipment will suit today`s standards and qualifications.

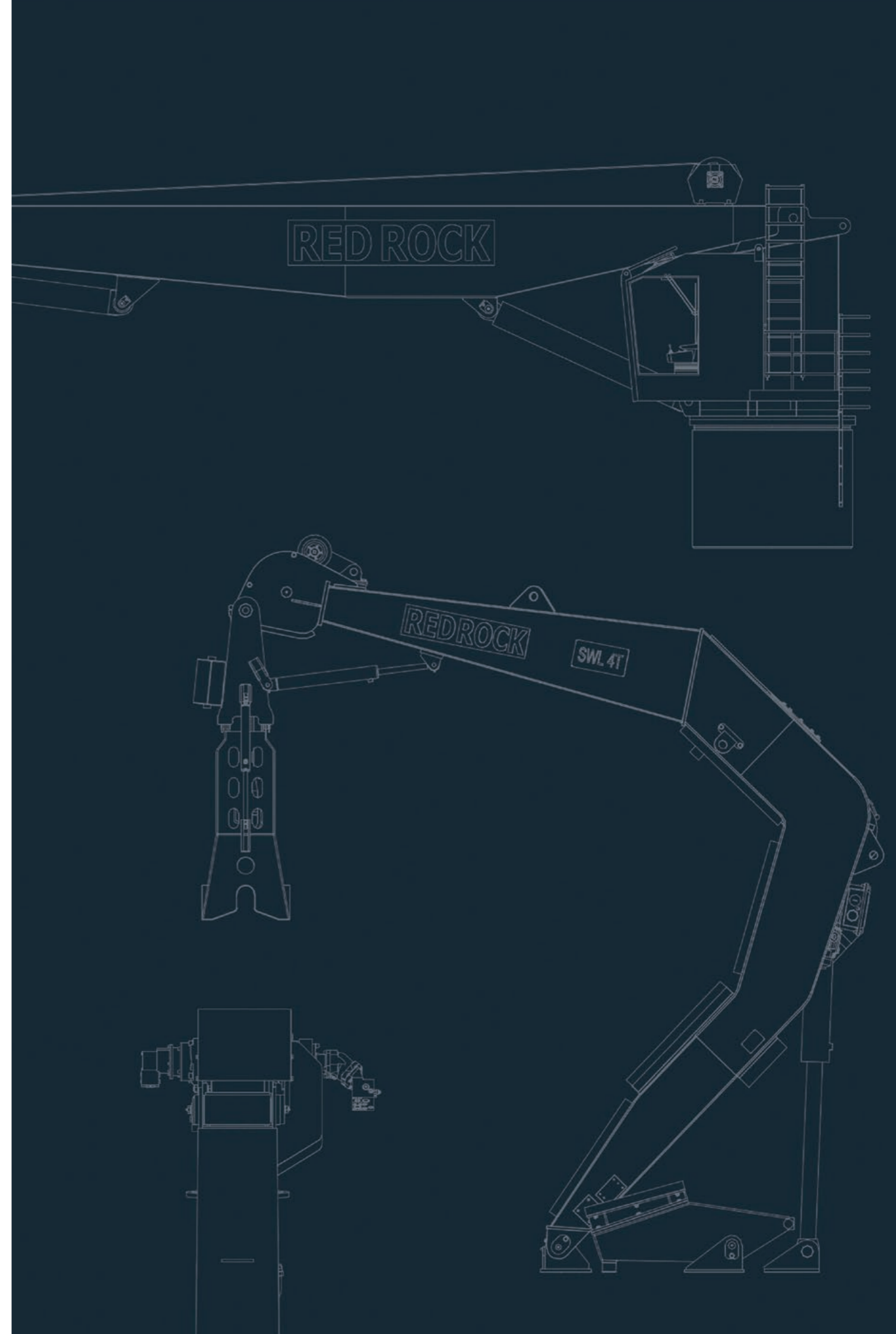
Replacement of existing handling equipment like cranes and davits suiting existing interface onboard your vessel.

Our options are under constant development and an upgrade or improvement could be of importance for your product`s lifetime.

Training and Courses

Red Rock can offer training courses on Red Rock equipment to secure safe handling and operation.

Courses can also implement upgrade and information according to new regulations and software development concerning actual product. Such training can be performed at Customer`s premises onboard vessels on actual product or carried out at Red Rock training centre with combination of software simulations and other technical information.



RED ROCK is an international company that provides products and services in business areas: industry, offshore, marine, IT and public transportation.

We strive to continuously improve design and quality in close cooperation with customer demands and in compliance with current regulations.

Our organization consists of both highly educated and experienced employees with technically competent background.

Red Rock Marine AS

Stemmane 7
N-4636 Kristiansand S
Norway

☎ +47 48 50 40 30

✉ post@redrock.no

🌐 www.redrock.no