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Diver Launch and Recovery Systems (LARS)

Our launch and recovery systems (LARS) allow diving and ROV operations to be conducted from dynamically positioned (DP) vessels. The systems are fully transportable in suitably converted 20ft transport containers.

The hydraulic A-Frames and stainless steel diving cages have been specifically designed to provide robust operation to limit the amount of deck space needed. A standard system comprises a diver's deployment A-Frame, two hydraulic man-riding winches, two-man dive basket and guide weight. Two independent hydraulic power units.

The units are also available with an air winch option and all are supplied complete with a full certification package.



NORTHERN DIVER

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LARS A Frame Fully Extended

The A frame is shown fully extended and ready for deployment, the dive basket extends past the front of the frame by 900mm - 1000mm. The A frame base dimensions (footprint) are 3.1m long x 2m wide and extended height is 4m.

The dive basket can be brought into the frame edge during operational use and gives a level working platform to allow ease of access and egress for the diver(s). Once basket is deployed the base working area is sufficient to allow one or two diver tenders to comfortably manage umbilical operations as required.

There is sufficient space to allow ease of access for a standard stretcher to be deployed in case of any emergency procedures.



LARS A Frame Fully Closed

This is the A frame fully closed, the A frame itself folds down to within the base footprint dimensions and rests at a height of 1.8m, this allows the frame to be transported inside a std 20' container.

The LARS has fork truck pockets built into the base in case of quayside, land based movement, the dive basket can be laid down and supported on the base working area in order to provide a compact transportable unit,



LARS Other Features

On the A frame base there are 2 x guard rails that act as support and safety for the working area, and protection for the hydraulic systems during operational procedures.

The two man riding winches are designed with 4 x braking / safety features, the drive gearboxes on the winches are DNV approved.

The centre winch has a capacity of 90m of non rotating wire for the main dive basket, the second winch has a capacity of 150m of non rotating wire for the guide weight and secondary recovery.

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LARS (front view shown)

The dive basket is of marine grade 316 stainless steel in construction, the guide weight is designed to be guided into the basket by the framework on the basket, and can be locked into the basket with transit bolts for movement and transport before and after operational use.

The basket contains the standard 50 ltr breathing air backup and emergency breathing equipment that follows the IMCA D018 and D023 design document requirements and guidelines.

There are high intensity flood lights at the top of the frame that illuminates the deployment and working area of the LARS system.

All the LARS systems will come with full operational certification, both electrical, mechanical, hydraulic and certified load tested prior to hire or sales and can be easily managed using a standard PMS (planned maintenance system).



LARS Control Systems/Parts

There are 2 x hydraulic systems on the LARS frame, each acts as a backup for the other, and can be cycled in operational use in order to maintain a balanced maintenance program.

Each unit is independent of each other and can be exchanged as a complete unit if required, the oil capacity of each unit is 100 ltr, with standard flow and return filters built into each tank.

The electrical box is stainless steel and the systems on board for the hydraulics are interlocked in such a way in order to achieve maximum safety in operation, there are 2 x power entry points, one for primary use and one for secondary / backup requirements.

The operator has a 3 x lever hydraulic control system that deploys the A Frame, main diver winch and guide wire winch.

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Build Material

All materials used are supplier certified grade 355 mild steel, and grade 316 marine grade stainless steel, all load testing and MPI, Eddy Current and Dye Pen tested, these tests are all done by industry certified third party lifting companies, a full certification package comes with each LARS frame and a Planned Maintenance System (PMS) schedule for individual components. All lars can be galvanised and / or painted to client's specification

Hydraulic Power Unit

There are two Hydraulic power packs so there is 100 % redundancy, WP 250 bar, flow rate 25 LPM , tank capacity 150 Ltrs, system working pressure 172 bar, motor power 15kw,

Power

There is 1 x power box that houses all the electrical control components, the HPU's are interlocked so only one unit can be started at any one time all the hydraulic control valves operate in conjunction with the HPU that is online, there are upper limit switches on the guide wire to prevent the dive basket from going block to block with the frame pulley, and a single emergency stop, each HPU has its own hour meter to keep track of running hours for PMS schedules. 2 x LED overhead lights are mounted on the A frame cross bar to illuminate the working area.

Typical Specifications

Safe working load: 2t

Maximum outreach: Approx. 1000mm
from front of base

Width between arms: 1730mm (approx.)

Height to top of main arm:
Approx. 4600mm with arm extended

Hanging points on arm:
three off – 2 tonne SWL 1 x main basket 2 x
for guide weight

Overall dimensions frame fully open:
3000mm L x 2000mm W x 4500mm H

Transport position closed:
3000mm L x 2000mm W x 1850mm H

Overall weight:

Approx. 1200kg tare, 3000kg gross

Hydraulic winches:

2 x DSI man riding winches 1 x winch with 150mtr
wire (guide weight) 1 x winch (main with 90m wire)
13mm dia anti-rotational wire rope

Hydraulic oil: ISO hydraulic 46

Two-man dive basket:

1200mm L x 1000mm W x 2500mm H

Guide weight:

1520mm L x 250mm W x 325mm H