

Third Generation Submarine Rescue System



CASE STUDY

JFD's Third Generation Submarine Rescue System design is the result of an internal research and development programme which set out to bring together the incredible capabilities of the preceding generations with a focus on lightweight, efficient design.

EVOLUTION

The key to maximising the chances of successfully rescuing the crew of a distressed submarine (DISSUB) is in recognising that for any equipment to be useful, it must first be able to get to the site of the DISSUB. As such the speed and reliability with which any flyaway system can be deployed must be carefully balanced against its effectiveness and capacity once on site.

The classic measure by which all submarine rescue systems have been judged is their theoretical Time to First Rescue (TTFR); the target time from call-out to arrival at the DISSUB.



When designing its Third Generation submarine rescue system, JFD concentrated not on the shortest theoretical TTFR, but the ability to deliver a robust, acceptable TTFR across a wide range of scenarios.

DESIGN DRIVERS

The route to an effective system therefore lies in providing no lesser capability, whilst minimising the support required by unpredictable and variable external assets; minimising the numbers of aircraft and trucks, maximising the number of potential VOOs, and minimising embarkation time and the amount of dockside support required, driving down the risks associated with deploying within an acceptable TTFR.

KEY FEATURES

DSAR CLASS SRV

A free swimming, adaptable and reliable system, based on 'simple' technology, allowing for repairs and maintenance while offshore with a minimal spares package. Lightweight, quick to deploy and with incredible endurance, DSAR is a proven class of SRV with three similar submersibles in operation worldwide.

VERTICAL TRANSFER UNDER PRESSURE

Vertical TUP reduces the footprint, weight and complexity of the entire system, reducing the time required for deployment and installation. Revised geometry in the SRV eases casualty handling through the new arrangement.

DECOMPRESSION CHAMBERS

Unlike other systems, the Launch & Recovery System strongbacks have been integrated into the Hyperbaric Medical Complex. This dramatically reduces weight and mobilisation time while spreading loads evenly across a large area of the chosen ship's structure.

FEWER INTERFACES

The number of interfaces between assets has been greatly reduced. This simplified arrangement reduces the mobilisation time for the entire system as it negates the alignment requirements typical of Second Generation systems.

FLEXIBLE SYSTEM LAYOUT

The system can be installed on vessels with unusual deck arrangements. The system is modular and various aspects can be deployed independently. For example individual decompression chambers can be deployed independent of the rest of the system for escape support or secondary roles.