
# Mine Countermeasures

## MCM-EOD

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# About JFD

JFD is the world leading underwater capability provider facilitating the commercial and defence diving industries by offering innovative diving, submarine rescue and subsurface technical solutions.

JFD delivers an extensive range of MCM-EOD (Mine Countermeasures Explosive Ordnance Disposal) underwater life support and equipment. The equipment includes non-magnetic and low acoustic closed and semi-closed circuit mixed gas underwater breathing apparatus (UBA) plus an integrated suite of low magnetic ancillary items.

As capability providers, JFD can facilitate your requirements from enquiry through to production and delivery and cater for a through-life package which ensures your equipment is always mission ready.

JFD's products and services have been delivered to a large number of countries across all continents and continue to set the industry standard for quality and reliability. With in-service support established in many of these locations and tailored ILS packages, JFD is able to achieve a high level of equipment availability to their customers.

Operating worldwide, JFD has in its portfolio a comprehensive range of products, services and aftercare solutions to the defence industry, including Special Forces, law enforcement, counter-terrorism, maritime protection and mine countermeasures.




Stealth CDLSE rebreather

# Why choose JFD?

As a result of the sustained engagement with militaries worldwide, JFD has identified the most effective and sustainable in-service support model which has evolved over many years. This service is managed and delivered by a dedicated defence Integrated Logistics Support (ILS) department and can be fully adapted to individual requirements.

The ILS department has project managers, technical authors, training officers, commodities management and engineering support.

To meet the additional challenges of supporting more complex equipment types, JFD has embedded first line maintenance facilities within defence establishments, with the primary objective of providing immediate technical support to the equipment.

JFD offers through life support for all equipment up to, and including, full safety case management and associated activities.

JFD is currently under contract with a selection of navies with a full MCM ILS capability by offering exceptionally high rates of equipment availability of purchased kit; 24 hours a day, 365 days of the year.

## Documentation

JFD has the capability to manage a number of documents to make up an ILS package. All documents can be maintained and updated throughout the life of the equipment. JFD is able to control every document related to our equipment.

## Tailored training

JFD delivers training to clients for all defence equipment.

## Equipment safety

Full safety cases can be prepared for the equipment and can be maintained and reviewed on a regular basis.

## Spares and repairs

JFD offers a full spares and repairs service for all equipment. JFD maintains an efficient level of spares and replacement units in order to ensure all ILS contract terms are met.


# Tailored training

JFD provides training support to defence, Special Forces and law enforcement agencies and to those with a specific responsibility in the maritime security domain. Training can be in the form of practical courses in the set-up, operation and ongoing maintenance of closed and semi-closed circuit rebreather systems.

Specialist training is a key area of our expertise, our instructional staff draw upon extensive operational defence diving experience to deliver customer established training packages to the equipment's operators and maintainers.

This tailored training is accredited and can be delivered at the customers own facilities or at JFD training facilities throughout the world.

As part of the procurement process a training needs analysis (TNA) will ensure that the training delivered is of the correct level to enable the safe operation and maintenance of all delivered equipment to the customer.

JFD can arrange product demonstrations, please contact us for more information.



Stealth CDLSE rebreather

# MCM-EOD equipment

JFD has a comprehensive range of defence diving apparatus, apparel and ancillaries to meet the varied requirements and operational demands of today's mine clearance diver. A range of non-magnetic and low acoustic, closed and semi-closed Oxygen and mixed gas rebreathers can be tailor-made to user specification.

JFD's capability offerings allows the customer to pick a package which best suits their requirements. Full training can be delivered to customers to allow them the confidence and knowledge to maintain their equipment fully in-house if required. Alternatively, JFD can offer a full support package in which JFD maintains and services all equipment to ensure they are always dive ready for the customer.

## Stealth CDLSE Rebreather

Stealth Clearance Divers' Life Support Equipment (CDLSE) is a multi-mission underwater life support system based upon a common platform to meet a range of operational roles throughout the water column and is:

- Non-magnetic (STANAG 2897, Class A)
- Low acoustic (STANAG 1158/AMP15)
- Electronic system, constant $PO_2$

## Stealth SC Rebreather

The Stealth Semi Closed (SC) rebreather is a mixed gas, underwater breathing apparatus (UBA) ideally suited for mine countermeasures and explosive ordnance disposal operations and is:

- Non-magnetic (STANAG 2897, Class A)
- Low acoustic (STANAG 1158/AMP15)
- Mechanical system

## Ordnance Automatic Recovery System (OARS)

Incorporating lightweight, 300 bar composite cylinders, the JFD OARS has been designed to execute a safe and reliable means of remotely lifting and lowering ordnance of up to 1000kg mass from, and to, a depth of 80msw by embedding a time delay and controlled buoyancy facility.



Stealth CDLSE rebreather

# MCM-EOD rebreather range

## Stealth CDLSE

Considered to be the benchmark in state-of-the-art mine countermeasures explosive ordnance disposal (MCM-EOD) underwater life support technology, Stealth CDLSE offers increased levels of diver safety, equipment reliability, maintainability, operational capability and mission versatility, along with fully electronic, constant $PO_2$ supply.

CDLSE functions by analysing the breathing gas and through the automatic addition of 100% Oxygen, the Partial Pressure of Oxygen ($PO_2$) is accurately maintained at a preset level, dependent on depth. The requirement to meet NATO AEODP-7 Class A (STANAG 2897) without compromise is an operational necessity. Stealth CDLSE fully meets these requirements under both static and dynamic test conditions and for all components that may come into contact with magnetically sensitive ordnance. Stealth CDLSE surpasses the low acoustic test requirements of NATO STANAG AMP15.

Stealth CDLSE can be used for MCM-EOD operations to a depth of 60msw using Nitrox or for deeper operations to a depth of 100msw using Heliox / Trimix.

The rebreather boasts a proven track record in a range of operational and environmental conditions. Following competitive evaluations by independent government defence evaluation agencies and end user organisations, Stealth CDLSE is now in service with numerous prominent navies.


100msw depth | 3-5 hours duration | Non-magnetic | Low acoustic | Closed circuit




Stealth CDLSE rebreather

# MCM-EOD rebreather range

## Stealth SC

Stealth SC is a back-worn, mechanical unit, with gas provided by a twin two litre cylinder assembly via an adjustable constant mass flow metering valve. The valve also allows manual gas bypass function. Additionally, a demand valve automatically controls the volume of gas in the counterlungs during decent.

The rebreather can be utilised at depths of up to 54msw using standard NATO Nitrox gases or 60msw using Trimix or Heliox gases.

Stealth SC is the ideal, cost-effective apparatus for a range of specialist diving operations where simplicity, ease of use and durability are a necessity.

Through the use of compatible accessories, Stealth SC affords operators the flexibility of mission-specific configurations and can be tailor-made to customer specifications.


60msw depth | 2-4 hours duration | Non-magnetic | Low acoustic | Semi-closed circuit



Stealth SC rebreather

# OARS

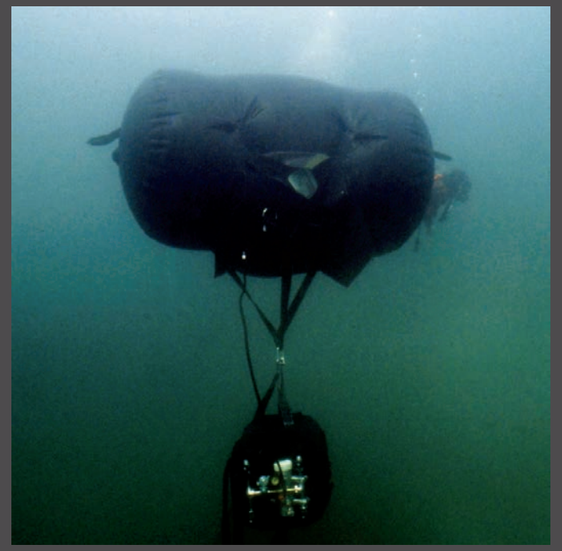
The JFD Ordnance Automatic Recovery System (OARS) offers options to the EOD operator for remote or semi-remote movement of unexploded ordnance in support of MCM-EOD or mine investigation exploration (MIE) operations.

OARS is a further development of the operationally proven Enclosed Mine Liftbag system that is in-service with various NATO Navies and can be used in conjunction with standard MCM-EOD operating procedures as the system is rated low magnetic.

OARS can operate to a depth of 80msw by providing a time delay and controlled buoyancy facility.

The system can be operated remotely to lift and lower ordnance under control during ascent and descent; this is achieved by the automated electronic control system that limits ascent to 1.5 to 2mps and descent to 1 to 1.5mps. The ability to control the ascent speed is a feature which is unique to JFD lifting bags.

There are two versions of OARS, one with a lifting bag of 500kg capacity and one with a lifting bag of 1000kg capacity.




Up to 1000kg

Speed controlled 2+/-0.5

Time delay

Controlled buoyancy facility

Fully NATO certified

# Ancillary dive gear

JFD also has a comprehensive range of ancillary defence dive gear, featuring a proven low magnetic signature to complement its comprehensive range of defence diving equipment:

- Defence dive masks
- Low magnetic underwater swimsuits
- Low magnetic fins
- Buoyancy jacket
- Waterproof bags
- Divers knives
- Compasses and gauges
- DTWC (DIGICOM)
- Boarding equipment



# Quality with integrity - our commitment

We operate on a global basis and have a simple goal which applies wherever we operate - to avoid any harm to either people or the environment.

## Health and safety

Health and safety is an important factor in all activities we undertake. We carry out all of our work in a manner that shows consideration for our own employees, our clients, contractors and other parties. Our goal for health and safety is for no accidents, incidents or harm to come to people.

The management and control of risk, prevention of harm and compliance with legal and governmental requirements are essential to the success of our business.

Our Health and Safety System complies with the requirements of OHSAS 18001.

## Environment

We strive to minimise any impact we may have on the environment. We have an environmental policy in place to help reduce and eliminate potential harm to the environment from our work or employees. Our Environmental Management System complies with the requirements of ISO 14001.

## Continual innovation

Through continual innovation, we are fully committed to optimising the quality and safety of our products - and indeed the safety of our employees and clients. A HSEQ (Health, Safety, Environment and Quality) Management System operates throughout our business - and this has benefited the safety and efficiency of all who dedicate their lives to the underwater world. Our investment in an extensive test and development programme underpins and strengthens our reputation for innovation, the commitment of our people, and the quality of our support services.

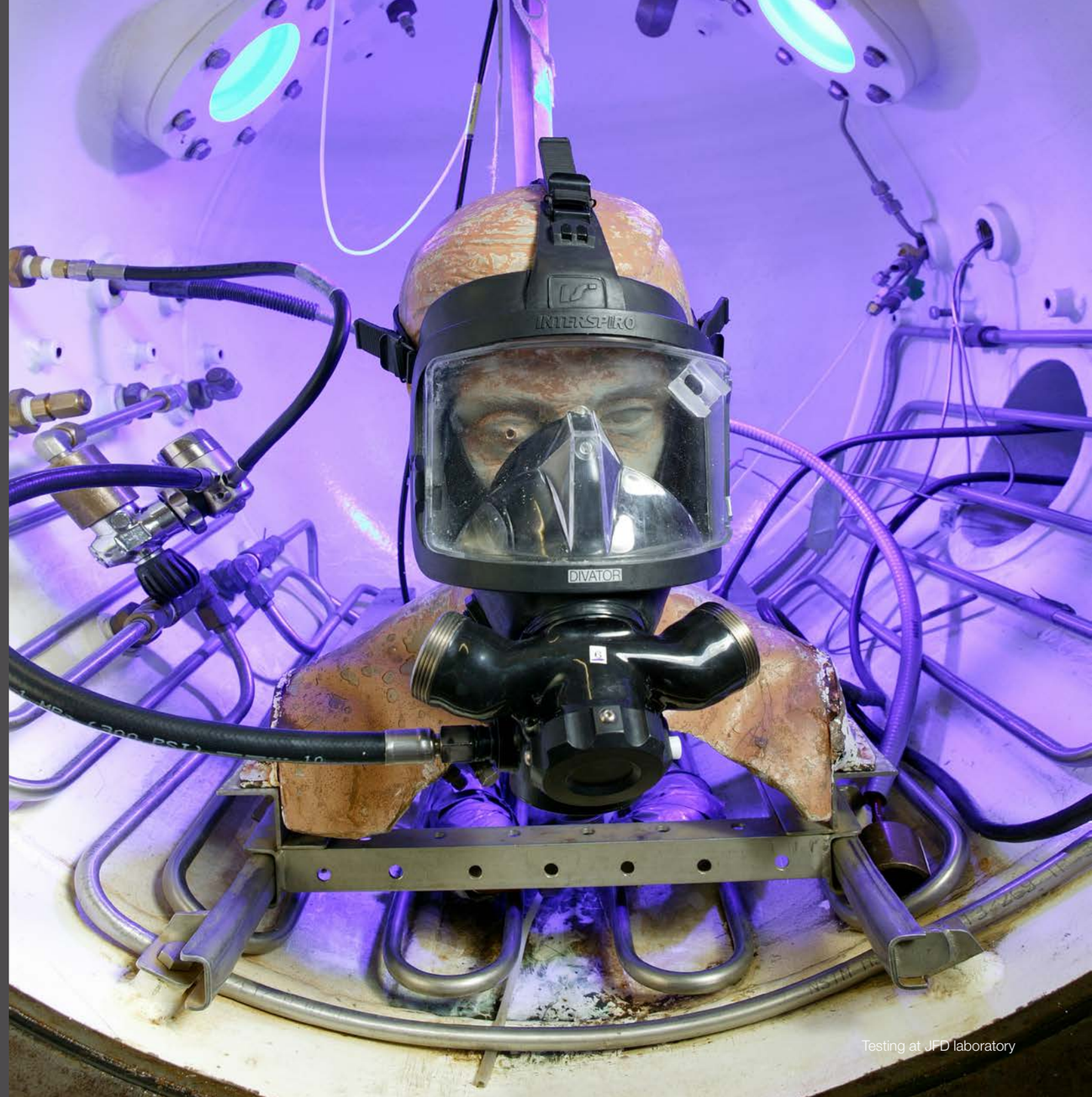
## Quality assurance

Our Quality Management System is certified to ISO 9001.

Many of our products also meet the requirements of various independent directives, including Personal Protective Equipment (PPE), Medical Directive (MD), and Pressure Equipment Directive (PED). Certain JFD designs are also approved against particular codes or standards such as BS 5500 and ASME.

JFD is dedicated to mitigating the risks faced daily by those who spend their lives subsea through our commitments to quality and safety.






Testing at JFD laboratory

Aberdeen | Bremen | Cape Town | Glasgow | Perth
Portsmouth | Rome | Singapore | Sydney | Vaxholm | Virginia

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