installed outside the lower trunk of the SR11 is a cylindrical tunnel representing the bell and communications with the support vessel. The lower trunk of the SR11 is designed to accommodate personnel and operators. It is fitted with all the necessary equipment for the bell and communications with the support vessel. The upper lock is designed to accommodate up to 9 DISSUB personnel and is crewed by 2 operators. The SR11 capsule is composed of three independent sub-systems: the upper lock, the lower trunk and the ballast water tanks. The maximum allowable internal pressure is 5 bar / 6ATA. The maximum depth rating of the SRS is 300msw. The vessel is designed to accommodate crew and operators. It is fitted with all the necessary equipment for the bell and communications with the support vessel. The upper lock is designed to accommodate up to 9 DISSUB personnel and is crewed by 2 operators. The SR11 capsule is composed of three independent sub-systems: the upper lock, the lower trunk and the ballast water tanks. The maximum allowable internal pressure is 5 bar / 6ATA. The maximum depth rating of the SRS is 300msw. The vessel is designed to accommodate crew and operators. It is fitted with all the necessary equipment for the bell and communications with the support vessel. The upper lock is designed to accommodate up to 9 DISSUB personnel and is crewed by 2 operators. The SR11 capsule is composed of three independent sub-systems: the upper lock, the lower trunk and the ballast water tanks. The maximum allowable internal pressure is 5 bar / 6ATA. The maximum depth rating of the SRS is 300msw. The vessel is designed to accommodate crew and operators. It is fitted with all the necessary equipment for the bell and communications with the support vessel.

### MIDGET TRANSPORTATION AND RECOVERY BARGE (MTRB)

The MTRB is a multipurpose semi-submersible barge capable of hosting up to two Drass Midget Submarines. The MTRB can provide maintenance and logistic support to the Drass Midget Submarines, and can be used as a deployable base in port and protected waters. Four (4) anchors allow for mooring and positioning in open sea. This vessel design is suitable to operate in rough, but not extreme, conditions at sea.

### 238 ST Diving Rescue Support Vessel & Multipurpose Rescue and Salvage Vessel

This vessel design is suitable to operate in extreme sea conditions. Thanks to the increased dimensions and the large main deck, the vessel can be used as a flexible Multipurpose Rescue and Salvage Vessel, and can perform diving, inspection, repair and recovery operations up to a depth of 300msw.

### 236 ST Diving Rescue Support Vessel & Multipurpose Rescue and Salvage Vessel

This vessel design is suitable to operate in extreme sea conditions. Thanks to the increased dimensions and the large main deck, the vessel can be used as a flexible Multipurpose Rescue and Salvage Vessel, and can perform diving, inspection, repair and recovery operations up to a depth of 300msw.

### 230 ST Diving Rescue Support Vessel & Multipurpose Rescue and Salvage Vessel

This vessel design is suitable to operate in extreme sea conditions. Thanks to the increased dimensions and the large main deck, the vessel can be used as a flexible Multipurpose Rescue and Salvage Vessel, and can perform diving, inspection, repair and recovery operations up to a depth of 300msw.

### 100S Drass Diving System

Drass provides a wide range of systems and components for dual defense and industrial use, such as Saturation Diving Systems, Surface Diving Systems, Hyperbaric Medical Chambers for Oxygen Therapy, Deep Diving and Hyperbaric Research Laboratories, Submarine Rescue Systems, and Submarine Rescue Vessels. Drass also provides a wider range of systems and components for dual defense and industrial use, such as Saturation Diving Systems, Surface Diving Systems, Hyperbaric Medical Chambers for Oxygen Therapy, Deep Diving and Hyperbaric Research Laboratories, Submarine Rescue Systems, and Submarine Rescue Vessels. Drass is the world leader in the design, manufacture and delivery of high-quality, reliable and cost-effective solutions for a wide range of applications, from design and manufacturing through to installation and life cycle management. With nearly a century of tradition and continuous activity, Drass is the recognized world leader in industrial and defense manned subsea technology. Drass Midget Submarines and Swimmer Delivery Vehicles are based on proven design, but also incorporate today's cutting edge technology. Holding key proprietary solutions, the Drass range of Submarine Rescue Solutions excel in reliability, simplicity and effectiveness.

### Technical Specifications

- **MTRB**
  - **Displacement:** 10,000 T
  - **Breadth moulded:** 25.00 m
  - **Length over all:** 80.00 m

- **238 ST**
  - **Displacement:** 6,200 T
  - **Breadth moulded:** 20.00 m
  - **Length over all:** 86.00 m

- **236 ST**
  - **Displacement:** 4,600 T
  - **Breadth moulded:** 17.00 m
  - **Length over all:** 64.40 m

- **230 ST**
  - **Displacement:** 2,800 T
  - **Breadth moulded:** 14.50 m
  - **Length over all:** 64.40 m

- **87RS-01-01-00-00-00**
  - **SR11**
  - **Rescue Capsule**

- **89MS-01-01-00-00-00**
  - **MRSV**
  - **Multipurpose Rescue and Salvage Vessel**

- **83DS-02-01-00-00-00**
  - **DRV**
  - **Deep Rescue Vehicle**

- **90-GD-00-00-00-00-00**
  - **100S**
  - **Drass Diving System**

- **83DS-03-00-00-00-00**
  - **RHC**
  - **Rescue Hyperbaric Chamber**

- **83DS-01-01-00-00-00**
  - **238 ST**
  - **Diving Rescue Support Vessel ST238**

- **83DS-01-02-00-00-00**
  - **236 ST**
  - **Diving Rescue Support Vessel ST236**

- **83DS-01-03-00-00-00**
  - **230 ST**
  - **Diving Rescue Support Vessel ST230**

**Drass**

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- **Fax:** +39 0586 421223
- **Address:** Via P. N. Magri 112 - 57121 Livorno – Italy
Overall description:

Conceived to tackle the tomorrow challenges of deep subsea technology development in Work Class ROV systems. The Innovator 2.0 is the highest industry standard for unmanned operations and represents the propulsion and supply system of the DRV. Based on 20 years of experience in ROV design, Sonsub’s in-house designed and manufactured Sonsub Innovator 2.0 results in an extremely powerful subsea intervention tool, ready to operate in the most challenging offshore and O&G conditions.

NEW GENERATION HEAVY WORK CLASS ROV

Saipem’s Saipem is Certified by DNV-GL, industry first, designed and engineered according to Norsok U102 and Conceived to meet API 53 most demanding requirements.

The Challenging Subsea Environment

The subsea environment is characterized by an environment where the temperatures are higher due to the depth, the pressure is increasing exponentially, the pressure to each meter of depth is greater than the previous and the environment is subject to the presence of certain accidents and it is possible that are not even recorded. The temperature here 3000msw is in a range of 6°C to 10°C, pressure to each meter of depth is greater than the previous. Moreover, this environment is subject to the presence of certain accidents and it is possible that are not even recorded. In this environment, depending on the depth, oxygen and nitrox are used.

DRV and to provide a safe decompression. The system is designed to ensure a streamlining the rescue operation by avoiding transfer under pressure and to provide a safe decompression.

The DRV is equipped with 2 interchangeable WROVs, one in stand-alone and the other in transport mode. The stand-alone WROV is used to survey the DISSUB in the working and the DRV is also enabled by the guide umbilical.

DRV is a modern, effective and reliable rescue vehicle, remotely operated (DRV) DEEP RESCUE VEHICLE.

The DRV moon pool launch offers the highest reliability and safety standards for rescue operations and a consolidated and proven standard in the industry.

Further information on Drass SVS is available in FW051-10.

Diving Support Vessel

Diving Support Vessel is an unprecedented flexibility to perform unlimited subsea multifunctional subsea activities. Through a standard mechanical and signal design, once removed, the Submarine Rescue Capsule can be used for additional tasks. The DRV is also a flexible underwater transportation tool and, thanks to its modular design, once removed, the Submarine Rescue Capsule can be used for additional tasks. The DRV is a flexible underwater transportation tool and, thanks to its modular design, once removed, the Submarine Rescue Capsule can be used for additional tasks.

The DRV is equipped with 2 interchangeable WROVs, one in stand-alone and the other in transport mode. The stand-alone WROV is used to survey the DISSUB in the working and the DRV is also enabled by the guide umbilical.

Environmental Support System (EVS)

The Environmental Support System (EVS) DEEP ENVIRONMENTAL SUPPORT SYSTEM represents the worldwide excellence for deep subsea environmental protection systems for the protection of the environment and for underwater cleaning operations. The Environmental Support System (EVS) DEEP ENVIRONMENTAL SUPPORT SYSTEM provides the worldwide excellence for deep subsea environmental protection systems for the protection of the environment and for underwater cleaning operations.

Working Submersible (WSV)

The Working Submersible (WSV) DEEP WORKING SUBMERSIBLE is an underwater transportation tool and, thanks to its modular design, once removed, the Submarine Rescue Capsule can be used for additional tasks. The DRV is a flexible underwater transportation tool and, thanks to its modular design, once removed, the Submarine Rescue Capsule can be used for additional tasks.

The DRV is also equipped with a passive cursor. The cursor extends outside the ship keel, protecting the DRV from severe sea conditions even in extreme sea conditions thanks to the rail guides and protection of a passive cursor. The DRV is designed with an unprecedented flexibility to perform unlimited subsea multifunctional subsea activities.

The manufacturing of the DRV is coordinated and controlled on a very high level of comfort, keeping within the limits of the available space on the main deck and optimizing capability not only in terms of performance and reliability, but also in terms of quality, costs and environmental impact.

The DRV moon pool launch offers the highest reliability and safety standards for rescue operations and a consolidated and proven standard in the industry.

The DRV is a modern, effective and reliable rescue vehicle, remotely operated (DRV) DEEP RESCUE VEHICLE.