

GENERAL SPECIFICATION

SUBSEA SYSTEMS

GS EP SPS 027

WOROV spread minimum requirements

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1. Scope

The purpose of this General Specification is to define the minimum requirements for each WORO spread, equipment and personnel, to be installed on mobile offshore units such as field support vessels (FSV), drilling Rigs and barges for the following applications:

- Drilling support
- Construction support
- IMR operations
- Survey applications.

The use of equipment and components that are field proven is strongly recommended. However use of equipment not field proven shall be submitted to qualification program early in the project and approved by Company.

It is the Contractor's responsibility to provide a safe and technically fit for purpose WORO spread.

2. Reference documents

The reference documents listed below form an integral part of this General Specification.

External Documents

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the effective date of this document.

Reference	Title
API RP 17H	Remotely Operated Vehicle (ROV) interfaces on Subsea Production Systems - 2003
EN 12079 (Parts 1; 2; 3)	Offshore containers and associated lifting sets - Parts 1; 2; 3
SAE AS4059	Aerospace Fluid Power - Cleanliness Classification for Hydraulic Fluids

Total General Specifications

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published in the applicable yearly collection.

Reference	Title
GS EP SPS 033	Subsea Intervention Tooling

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3. Definitions

WOROV spread	A complete WOROV system including all equipment, spare parts, consumables and dedicated personnel.
Service	Means all activities to be performed by Contractor under the Contract, which include the provision by Contractor of Equipment and Contractor's Personnel.
Site	Means any location where Contractor shall perform the Service.

4. Abbreviations

API	American Petroleum Institute
BOSET	Basic Offshore safety and Emergency Training
DVL	Doppler Velocity Logger
DP	Dynamic Positioning
GS	General Specification
HPU	Hydraulic Power Unit
HP	Horse Power
HSE	Health Safety and Environment
IMR	Inspection Maintenance and Repair
LARS	Launch And Recovery System
MSDS	Material Safety Data Sheet
MODU	Mobile offshore drilling unit
OAS	Obstacle Avoidance Sonar
SPS	Subsea Production System
SWL	Safe Working Load
TMS	Tether Management System
VHF	Very High Frequency
WOROV	Work Class Remotely operated Vehicle

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5. WOROV spread: Material Requirements

5.1 General requirement

A WOROV spread shall include the following equipment:

- One (1) control cabin
- One (1) launch and recovery system
- One (1) winch including the main lift umbilical
- One (1) hydraulic power unit (HPU) to energize the LARS and the winch
- One (1) remotely operated vehicle (ROV)
- One (1) tether management system (TMS)
- One (1) workshop
- One (1) ROV tooling package
- One (1) set of spare parts.

Whenever the ROV availability is required to be 100%, Contractor shall provide two (2) WOROV spread with the same model, and specifications.

5.2 Operator control cabin

The operator control cabin contains the operator control unit, Power Transformers and all the surface electronic equipments required for the performance of the scope of work. Control cabin shall be delivered within a 20 feet container or smaller and build as per [EN 12079-1](#), [EN 12079-2](#), [EN 12079-3](#) standards or equivalent.

The Operator Control cabin shall be equipped with the following devices.

- The standard operator control unit
- One (1) multi-channel video overlay capable of displaying as minimum but not limited to, vehicle heading, depth position, altimeter readings, X & Y coordinate, project and operations references, time and day string, ROV ID
- One (1) video switcher (minimum 8 inputs & 8 outputs channels)
- Two (2) Video amplifiers
- Two (2) DVD video recorders with hard drives
- One (1) colour monitor for each ROV camera
- One (1) colour monitor for the TMS video display
- One (1) colour video monitor to display the navigation system
- Two (2) ROV operator seats
- One (1) Computer desktop for reporting
- One (1) Picture quality colour printer
- One (1) video grabber software

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- A permanent VHF marine radio with outside aerial
- Hard wired Communication system with the workshop cabin and the WORO spread launching area
- Fire extinguisher for electrical installations
- Smoke Detector
- Industrial Type AC Unit
- Full set of ROV system documentation
- On DP vessels, a DP alert system.

In addition to the control cabin equipment Contractor shall provide the following equipments:

- Two (2) colour monitors for the Company office
- One (1) DVD player for Company office
- Two (2) colour monitors for the bridge
- Hard wired communication system between ROV control Cabin, company office and Vessel Bridge
- Change-over switch to change between main power and backup power source.

On drilling vessel only:

- Two (2) additional monitors for the rig floor (Zone II certified)
- If required by Company the control cabin shall be Zone II certified
- Hard wired communication system between the rig floor and ROV control cabin.

On Survey vessels:

Contractor shall complete the equipment mentioned here-above by typical survey equipment in accordance to the scope of work defined by Company.

All video equipment shall be European PAL compatible.

5.3 Workshop cabin

The WORO spread shall be delivered with one workshop integrated to the vessel or integrated within a 20 feet container or smaller and build as per [EN 12079-1](#), [EN 12079-2](#), [EN 12079-3](#) standards or equivalent.

The workshop shall be supplied with:

- All hand tooling for the maintenance of all WORO spread equipment
- All spare parts required for the maintenance in accordance with Contractor preventive maintenance system
- All necessary test equipment to perform fault finding
- All necessary consumables for the performance of the work. All consumables (liquids - Materials) shall be delivered with the respective MSDS whenever applicable
- Hard wired communication system with the control cabin and the WORO spread launching area