OFFSHORE CONTAINERS AND CARGO BASKETS

ENGINEERING AND TECHNICAL ASSISTANCE

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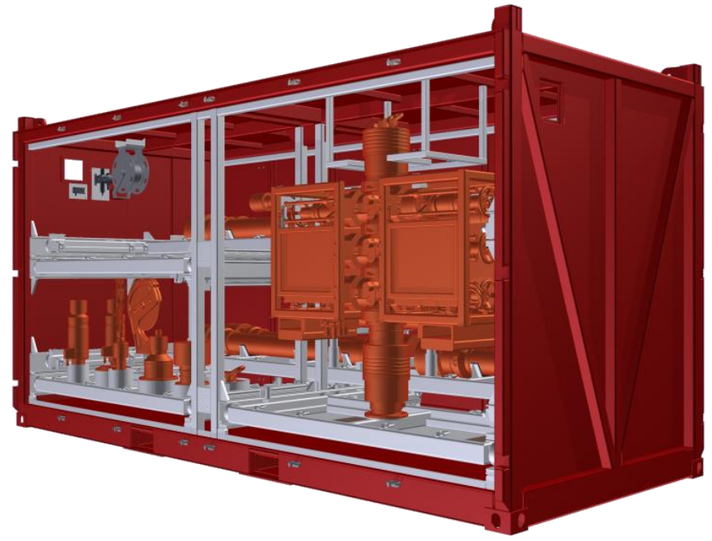
OFFSHORE CONTAINERS
BESPOKE UNITS

Engineering and technical assistance

In the field of safe transportation of cargo and equipment to and from offshore installations we can provide engineering services focused on the design of cargo units compliant with service in harsh environments where the lifting operations are undertaken in low temperatures down to -40ºC, strong winds up to 24 m/s, and wave heights of up to 8 meters. Such units, based upon standard or customized designs, are designed in compliance with strict rules and regulations so as to ensure safety and efficiency of operations in such harsh situations.

Besides design and engineering packages which can be used for approval and fabrication, we can provide you with additional support by outlining inspection and test plans during fabrication as well as provide you with the required technical assistance necessary to ensure that compliance with the relevant codes and standards is fully met. Please look into the different scopes of work and deliverables below for additional information.

Service description	*Statutory*	*Non statutory*
Approval and production drawings	x	
Structural análisis report	x	
Material and equipment selection		x
Engineering weight control		x
Lighting analysis		x
Heating and ventilation engineering	x	
Electrical block drawings	x	
Process and instrumentation diagrams	x	
Assistance to procurement		x
Assistance and verification of production traceability	x	
Assistance to dimensional control	x	
Development of welding procedures and welding maps	x	
Development of inspection and testing plans	x	
Selection of coating procedures and specifications		x
Development of lifting and handling procedures, lifting tests	x	
Development of lifting arrangement plans		x
Assessment of applicable essential health & safety requirements		x
Risk analysis and risk assessment of machinery		x
Mechanical completion, pre-commissioning check lists and procedures.		x



DESIGN OF OFFSHORE CONTAINER FOR WELL SERVICE

Design compliant with DNV 2.7-1 and Norsok Z-015, suitable for operation within Zone 1 classified area.

DESIGN OF WORKSHOP MODULE

Design compliant with DNV 2.7-1 and NORSOK Z-015

DESIGN OF OFFSHORE CONTAINER FOR STORAGE OF FLAMMABLE FLUIDS

Design compliant with DNV 2.7-1 and NORSOK Z-015

Photo above

Proposal for a 20ft offshore container suitable for storage of hydraulic oil onboard. Exterior view.

Design and engineering of bespoke units suitable for specific needs and applications.

- Design Compliant with DNV Standard for Certification No. 2.7-1 Offshore Containers and NORSOK Z-015 Temporary Equipment.
- High tensile carbon steel design suitable for design temperature of -20ºC, lower temperature (-40ºC) as option.
- Coating system compliant with Norsok M-501 Surface Preparation and Protective Coating and ISO 12944.
- Stackable up to two heights without requiring to detach the lifting slings.
- Internal tie down points for secure cargo fastening.
- Custom designs for special cargo or load configurations, and stable lifting arrangements.
- Custom designs include shelves, intermediate decks, workbenches, crane, etc.
- Custom designs include lighting, HVAC, fire detection/suppression, insulation (A60) suitable for operation in Zone 2 classified areas.
- Other dimensions and ratings upon request.

Photo right

Proposal for a 20ft offshore container suitable for storage of hydraulic oil onboard. Interior view.

OFFSHORE CONTAINERS
BESPOKE UNITS

Engineering and technical assistance

Basic designs can be customized to provide a number of added features not usually found in cargo carrying units, or designed from scratch to accommodate special dimensions or payloads. Bespoke units can be customized internally or externally to custom requirements, enabling the installation of shelves or intermediate decks and the storage or transportation of special cargo. The units can also be configured with appurtenances such as light fixtures, or complete installations (HVAC, gas detection, fire detection and extinction, etc).

DESIGN OF OFFSHORE CONTAINER FOR STORAGE OF FLAMMABLE FLUIDS

Design compliant with DNV 2.7-1 and NORSOK Z-015

DESIGN OF OFFSHORE TANK CONTAINER FOR TRANSPORTATION OF FLAMMABLE FLUIDS

Design compliant with DNV 2.7-1, ISO 1496, IMDG and ADR.

Photo above

Proposal for a 20ft offshore container designed for transportation of diesel fuel

Design and engineering of cargo carrying units fitted with pressure vessels and fittings / appurtenances.

- Design Compliant with DNV Standard for Certification No. 2.7-1 Offshore Containers, ISO 1496 Part 3, IMO Convention for Safe Containers (CSC), International Maritime Dangerous Goods Code (IMDG), ADR/RID, TIR.
- High tensile carbon steel design suitable for design temperature of -20ºC, lower temperature (-40ºC) as option.
- Coating system compliant with Norsok M-501 Surface Preparation and Protective Coating and ISO 12944.
- Pressure vessel design compliant with ASME Section VIII Division 1.
- Other dimensions and capacities upon request.

Photo right

Proposal for a 10ft offshore container designed for transportation of diesel fuel

OFFSHORE CONTAINERS
TRANSPORTATION OF DANGEROUS FLUIDS

Engineering and technical assistance

The offshore industry frequently requires transportation of fluids during operations, resulting in stringent needs for personnel safety and environmental caution during transportation. Equipment used during transportation shall comply with the latest standards and regulations. The crash frame or impact structure of the tank container typically complies with the requirements laid out in DNV's Standard for Certification No. 2.7-1 whereas the pressure vessel inside, and its fittings, typically comply with the requirements in ASME Section VIII Division 1. Other requirements can be identically accounted for as far as the unit is concerned (ie, ISO 1496 Part 3, ADR, etc).

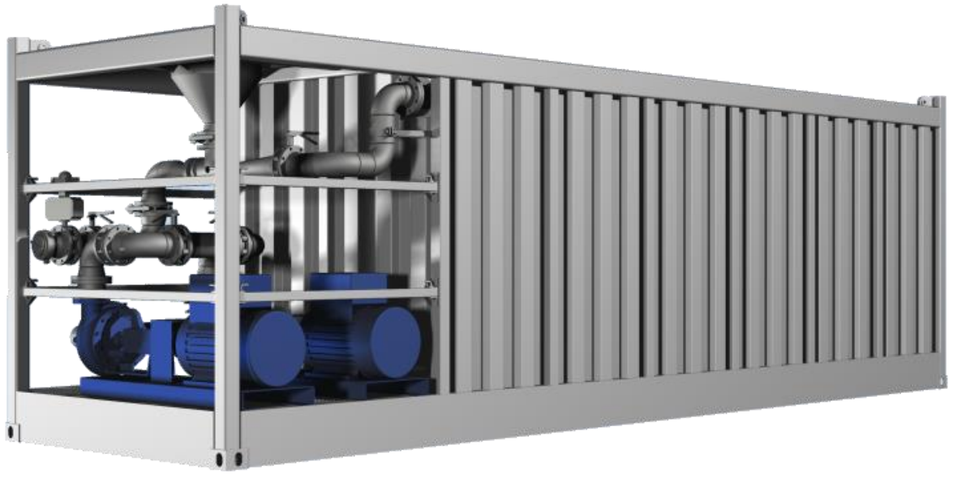
DESIGN OF OFFSHORE TANK CONTAINER FOR TRANSPORTATION OF FLAMMABLE FLUIDS

Design compliant with DNV 2.7-1, ISO 1496, IMDG and ADR.

OFFSHORE CONTAINERS
HANDLING OF DRILLING FLUIDS

Engineering and technical assistance

Drilling mud tanks play an important role in the storage and treatment of drilling fluids. They are typically part of a solids control equipment, including equipment such as shale shakers, vacuum degassers, mud agitators, and others. Modular mud tanks can be designed and specified as part of more complex drilling packages, easily transportable (by land and/or sea), easily installable and operable, with greatly reduced rig up and rig down times. Temporary storage of drill cuttings can be identically achieved by means of special skips for safe and efficient transportation to treatment sites onshore.



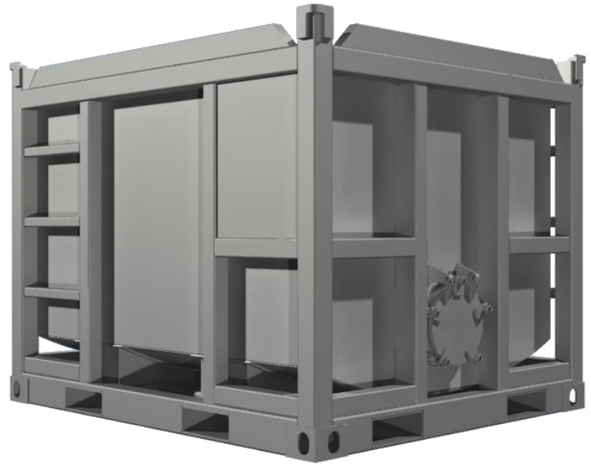
DESIGN OF OFFSHORE TANK
SUITABLE FOR MUD MIXING OPERATIONS
Design compliant with DNV 2.7-1 and DNV OS-E101

Photo above
Proposal for a 40ft offshore module suitable for mixing of drilling mud

Design and engineering of cargo carrying units fitted with atmospheric/vacuum rated tanks and fittings / appurtenances.

- Design Compliant with DNV Standard for Certification No. 2.7-1 Offshore Containers and DNV OS-E101 Drilling Plant.
- High tensile carbon steel design suitable for design temperature of -20ºC, lower temperature (-40ºC) as option.
- Coating system compliant with Norsok M-501 Surface Preparation and Protective Coating and ISO 12944.
- Interior coating system can be specified to withstand exposure to sour service and other chemicals.
- Stackable up to two heights without requiring to detach the lifting slings.
- Suitable for operation in Zone 2 classified areas.
- Units can be low vacuum rated for vacuum assisted product handling.
- Other dimensions and capacities upon request.

Photo right
Proposal for a drill cuttings skip suitable for low vacuum operation



DESIGN OF OFFSHORE SKIP SUITABLE FOR
HANDLING OF DRILL CUTTINGS
Design compliant with DNV 2.7-1 and DNV OS-E101

OFFSHORE CONTAINERS
ACCOMMODATION AND SERVICE MODULES

Engineering and technical assistance

Offshore service modules are built to withstand harsh environmental conditions while at the same time ensuring safety and comfort to those operating or working inside work space design. As with other packages in this brochure, the crash frame or impact structure of the tank container typically complies with the requirements laid out in DNV's Standard for Certification No. 2.7-1 whereas the interior of the module, and its installations, are designed so as to comply with the requirements in DNV's Standard for Certification No. 2.7-2. These modules can be used on fixed production and drilling platforms, in the most stringent offshore environments.

DESIGN OF OFFSHORE SERVICE MODULE
SUITABLE FOR OFFICE AND WORK SPACE
Design compliant with DNV 2.7-1 and DNV 2.7-2.

Photo above
Proposal for a 40ft offshore module suitable for laboratory and office space

Design and engineering of cargo carrying units suitable for accommodation or office space.

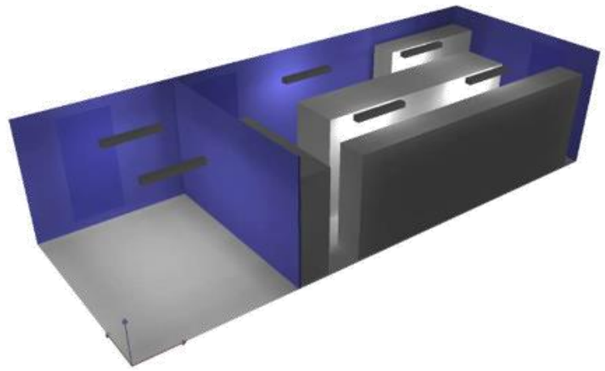
- Design Compliant with DNV Standard for Certification No. 2.7-1 Offshore Containers and No.2.7-2 Offshore Service Modules.
- High tensile carbon steel design suitable for design temperature of -20ºC, lower temperature (-40ºC) as option.
- Coating system compliant with Norsok M-501 Surface Preparation and Protective Coating and ISO 12944.
- Stackable up to two heights without requiring to detach the lifting slings.
- Custom designs include shelves, workbenches, office and/or living spaces.
- Custom designs include lighting, HVAC, fire detection/suppression, insulation (A60) suitable for operation in Zone 2 classified areas.
- Other dimensions and ratings upon request.

Photo right
Proposal for a 20ft offshore module suitable for office space

DESIGN OF OFFSHORE SERVICE MODULE
SUITABLE FOR OFFICE SPACE
Design compliant with DNV 2.7-1 and DNV 2.7-2.

DESIGN OF OFFSHORE LOCAL EQUIPMENT ROOM

Design compliant with ABS Rules (MODU).



DESIGN OF OFFSHORE LOCAL EQUIPMENT ROOM

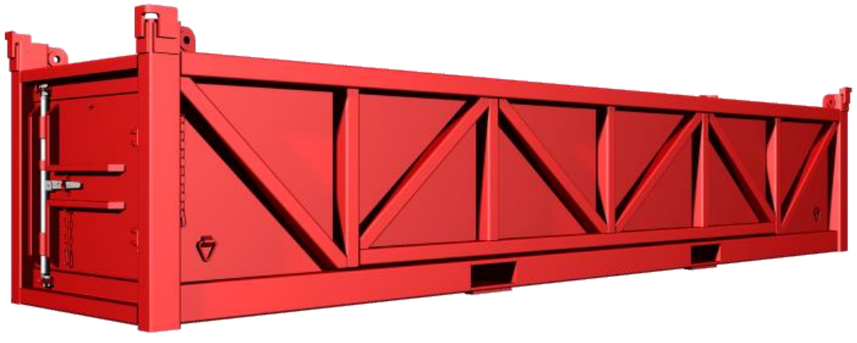
Lighting Analysis.

OFFSHORE CONTAINERS
MISCELLANEOUS

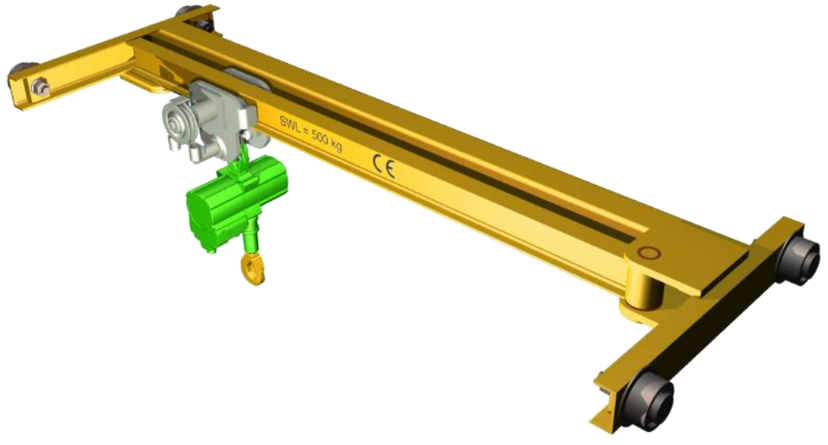
Engineering and technical assistance

Besides conventional and bespoke cargo carrying units, we can provide assistance with the design and fabrication of a wider variety of units suitable for safe and reliable transportation of different types of cargo. Please enquire for specifics.

DESIGN OF OFFSHORE CARRIER
FOR EXISTING ISO 1496/CSC CONTAINERS
Design compliant with DNV 2.7-1.



DESIGN OF OFFSHORE CARGO BASKETS
Design compliant with DNV 2.7-1 and DNV 2.7-3.

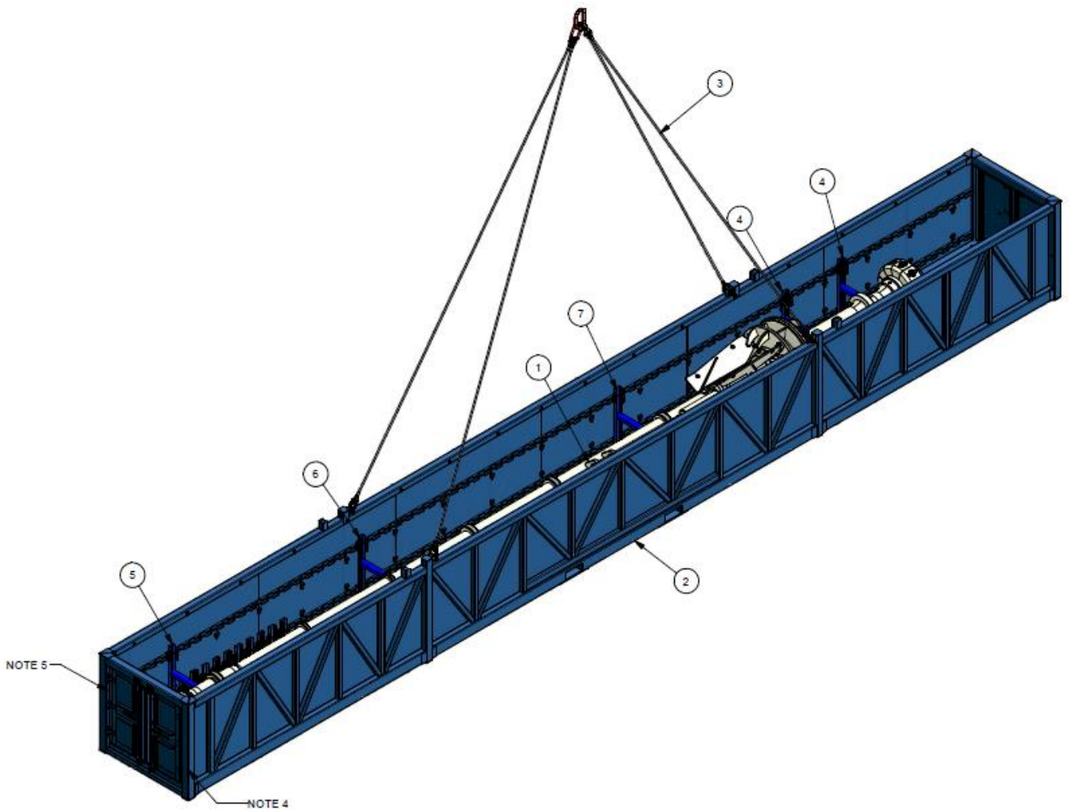


DESIGN OF PORTABLE OVERHEAD CRANES OR JIB CRANES
For installation and load handling inside offshore containers

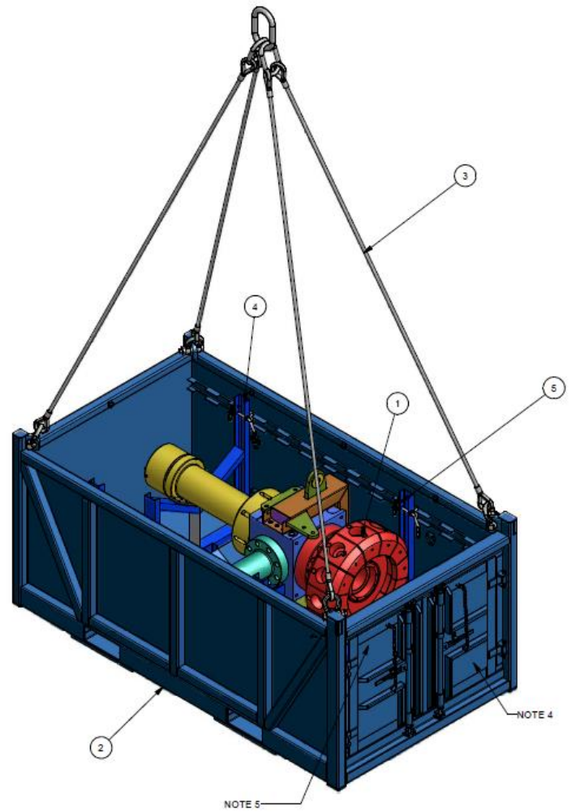
SUBSEA AND OFFSHORE CARGO BASKETS
WEIGHT CONTROL AND LIFTING PLANS

Engineering and technical assistance

As part of the engineering scope, we have developed engineering weight control and lifting arrangement plans detailing the use of lifting gear, load securing tie-down points, load securing covers, custom tool supports, and counterweights, resulting in known gross weights and weight distributions and, ultimately, in controlled, secure lifting operations.



LIFTING ARRANGEMENT PLANS
Detail of custom supports for tools and counterweights.



LIFTING ARRANGEMENT PLANS
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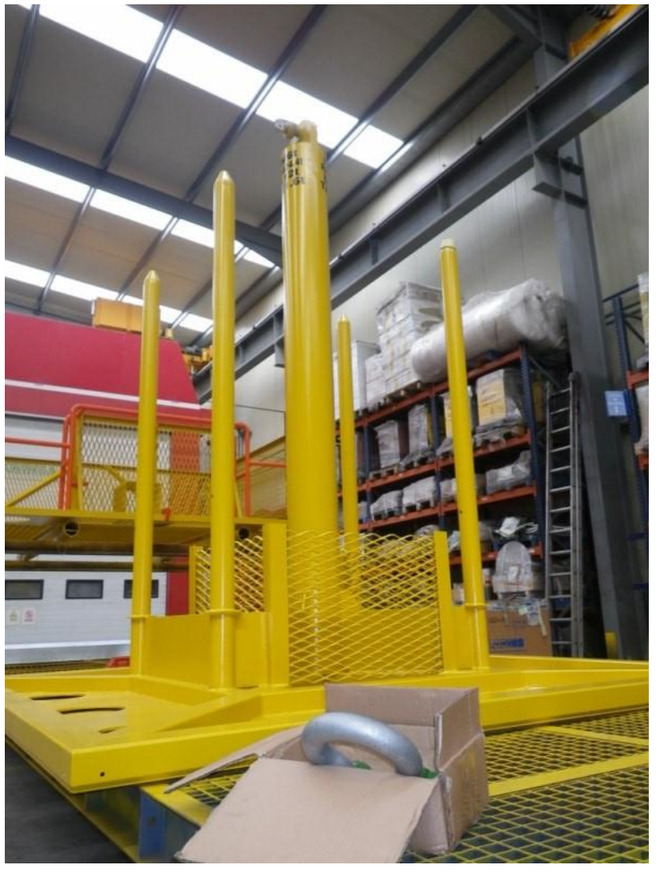

SUBSEA AND OFFSHORE CARGO BASKETS
WEIGHT CONTROL AND LIFTING PLANS

Fabrication

Besides design and engineering services, we can produce any and all packages shown in this brochure, fully compliant with North Sea regulations to ensure safety during handling and operation. All units are designed and design reviewed so as to comply with DNV 2.7-1/EN 12079 and DNV 2.7-3, where applicable.

Photo left
Lifting test of subsea basket (flying leads).

Photo top right
Verification after coating of subsea basket (Norsok M-501).

Photo bottom right
Verification after coating of subsea basket (Norsok M-501).

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