Safety for new frontiers
FPSOs with LESER safety valves

LESER
The-Safety-Valve.com
Due to the trend towards oil production from remote or deepwater locations, FPSO (Floating Production Storage Offloading) units are increasingly used in the upstream Oil & Gas Industry. Safety is a primary concern on an FPSO. Safety valves are used on FPSOs to protect the different topside modules for:

- Oil and gas separation and treatment
- Compression
- Water injection
- Power generation, and other processes

FPSO applications have special requirements to safety valves. They result from the diverse media and processes on an FPSO and the environment in which the FPSO operates:

- Sea water or seawater / hydrocarbon emulsion as a protected medium: Valve materials must be resistant to corrosion to enable longer service intervals and to ensure the operational reliability of the safety valve.
- Sour gas (H₂S) service: Valve materials must comply to NACE specifications
- Offshore environment: Valve shell must be made from corrosion-resistant materials or adequately coated
- Approval of the relevant classification societies (DNV, ABS etc.)

Also in logistics, FPSOs have special requirements because they operate globally. Spare parts and replacement valves must be available around the globe with very short lead times.

**Application requirements on FPSOs**

**FPSO - Topside modules**

Together with leading FPSO builders and operators, LESER developed a comprehensive Industry Solution for the specific operating conditions on FPSOs. The list below shows some of our FPSO experience:

**References**

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Industry Solutions

Precise solutions for FPSOs

The LESER Industry Solution for the specific operating conditions on FPSOs consists of three elements:

1. Corrosion protection concept

Mainly Duplex and Super-Duplex materials are used for corrosion resistance. With the API Alloy Concept, LESER offers these materials in efficient configurations and short lead times. Only the parts required by the specific application are made from Duplex materials. For different applications, there are different levels. Besides Duplex materials, also nickel-based materials like Monel, Hastelloy and Inconel are available in the API Alloy Concept.

NACE-compliant valve configurations can be ordered easily with Option Codes for all valves.

Coatings for marine environment are available, such as multi-layer and epoxy coatings.

2. Classification society approvals

LESER safety valves are type-approved by leading classification societies. The table below shows some of them.

- DNV - Det Norske Veritas
- GL - Germanischer Lloyd
- BV - Bureau Veritas
- LROS - Lloyd’s Register of Shipping
- ABS - American Bureau of Shipping
- U.S. Coast Guard Classification
- RINA - Registro Italiano Navale
- ClassNK - Nippon Kaiji Kyokai

In addition, third party inspections by classification societies e.g. for set pressure are possible. Thanks to the experience of LESER, these inspections can be conveniently ordered through an Option Code.

3. LESER Order Services (LOS) and spare parts

LESER understands the need of FPSO operators and shipyards for quick supply of valves and spare parts when an FPSO undergoes repair or retrofitting. Therefore, LESER Order Services (LOS) offer customer-oriented supply chains with easy ordering and quick delivery. Ordering channels and delivery times can be designed around your needs.

Efficient and quick supply is ensured by more than 25 local stocks and assembly around the world and Spare Part Kits for many valve types.

Contact the LESER partner in your country for more information on the LESER Industry Solution for FPSOs. On the back page, you find an overview of the LESER Regional Centers.