



sofec

Core Business Products *At A Glance*

Permanent Internal Turrets



Suitable for both existing and new-built vessels, the permanent internal turret offers far greater mooring and fluid transfer capabilities than external turrets. Engineered to allow an FLNG, FPSO or FSO to withstand extreme conditions such as cyclonic weather in remote, deep water and/or harsh sea environments, it can accommodate 100 or more risers and be adapted to a wide range of water depths, from 40 to 3,000 meters, or more.

Features

- Vessel remains on location in the most demanding design conditions
- Vessel can weathervane 360°
- Accommodates 100 or more risers
- Adapts to a wide range of water depths

Applications

Moderate to harsh environments such as the Gulf of Mexico, the North Sea, the North Atlantic, the South China Sea, and offshore Brazil, Australia and New Zealand.

Disconnectable Internal Turrets



The internal disconnectable turret enables vessels to disconnect to avoid typhoons, hurricanes and icebergs in remote, deep water and other challenging environments, returning to normal production operations with a quick, reliable reconnect sequence. The design is adaptable to a wide range of water depths.

Features

- Disconnects to avoid extreme climatic conditions
- Quick and easy reconnect sequence
- Vessel can weathervane 360°

Applications

Moderate to harsh environments such as the Gulf of Mexico, the North Sea, the North Atlantic, the South China Sea, and offshore Brazil, Australia and New Zealand.

External Turrets



More economical to produce and deliverable in less time than internal turret designs, SOPEC's innovative, high-tech external turret systems have grown in size and complexity to meet the needs of subsea resource developments. Mountable at either the bow or stern of a converted tanker or new-built vessel, SOPEC external turrets satisfy a wide range of floating storage and production applications in moderate to extreme sea conditions.

Features

- Industry-leading, proven technology
- Accommodates many risers in the full range of water depths
- Vessel can weathervane 360°
- Faster to produce than internal turret systems
- Frees up vessel processing and storage space

Applications

Moderate to extreme offshore environments such as offshore Southeast Asia, West Africa, the Middle East, Latin America, Brazil, Australia and New Zealand.

SOFEC consults with customers to determine and develop the best single-point mooring system for their needs.

Tower Yokes



A cost-effective, reliable solution for permanently mooring FLNGs, FPSOs and FSOs in shallow water, the tower yoke system links a vessel to a fixed tower. It can be mounted on the bow or the stern of a converted tanker or new-built vessel. A mechanical turntable enables the vessel to weathervane 360°. A yoke allows pitch and roll, while minimizing vessel excursions. Product travels between the tower and the vessel via flexible hoses.

Features

- Cost-effective, reliable
- Vessel can weathervane 360°
- Ample deck space for auxiliary equipment
- Easily accessible with walkways across yoke

Applications

Shallow water to 45 meters.

Spread Moorings



Suitable for sites where prevailing severe weather is highly directional, a SOFEC Spread Mooring System utilizes four groupings of anchor legs, normally arranged in a symmetrical pattern. Attached to the bow and stern, the anchor legs secure the vessel on location with a fixed heading.

Features

- Uses traditional shipboard mooring equipment
- Doesn't require turret structure, bearing or swivels
- Accepts all types of anchor leg configurations
- Easily accommodates large numbers of risers and umbilicals

Applications

Projects requiring long service life, in any water depth, on any size vessel. Shuttle tanker offloading facilities are typically located at the stern or the bow; other deep water applications may require a dedicated buoy terminal for cargo transfer.

Marine Terminals



SOFEC offers single-source, turnkey design and construction of Catenary Anchor Leg Mooring (CALM) and Single Anchor Leg Mooring (SALM) terminals that enable the safe, reliable transfer of crude oil, LPG, jet fuel, heavy fuel oil and other products. Serving a complete range of import/export needs, SOFEC marine terminals minimize maintenance and maximize operations in extreme environmental conditions.

Features

- Safe, reliable transfer of many products
- Reduces mooring forces
- Vessel can weathervane while loading or discharging cargo

Applications

Storage facilities, floating production, refineries, petrochemical and power plants, transshipment facilities. Suitable for import and export of crude oil, fuel oil, condensate and other products in mild to severe environments.



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