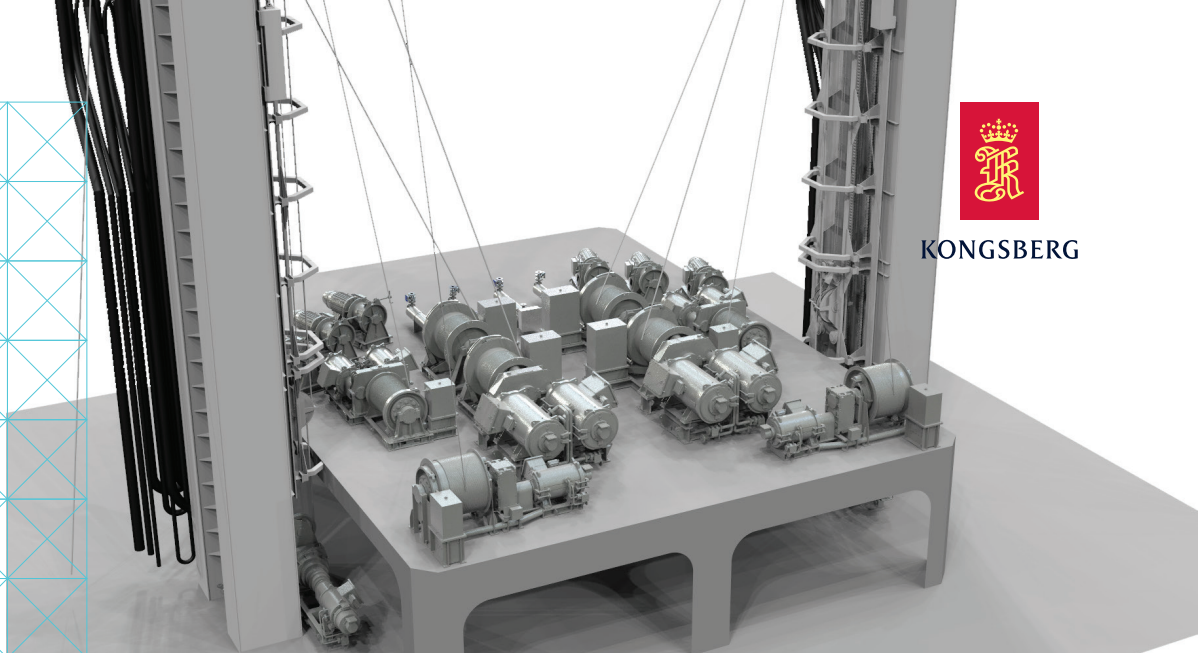


FUELLING AT SEA



KONGSBERG



KONGSBERG FUELLING AT SEA EQUIPMENT

NATO standard fueling at sea

KONGSBERG fueling at sea (FAS) equipment offers un-paralleled performance and system maturity to meet the demanding requirements for naval replenishment schedules around the world.

KONGSBERG RAS equipment utilises tried and trusted technology for naval applications in a marine environment. Our RAS systems have been developed over many years of close collaboration with navies around the world and have been thoroughly validated through in service operations.

Our RAS systems present a low risk solution for shipbuilders, proven by working with shipbuilders worldwide and working closely with major classification societies i.e. Bureau Veritas, Lloyds Register and RINA.

We pride ourselves in providing the world's leading replenishment at sea equipment optimised to your requirements with the highest availability. We also have the same philosophy about supporting our equipment throughout the world.

KONGSBERG's global reach extends to 34 countries around the world and supports its products through its global Services Network. This means we can rapidly provide field service support and spare parts close to the region of operation.

KONGSBERG has the right people with the right experience, product knowledge, customer knowledge, and expertise to be a trusted supplier to your business.

OEM FAS PRODUCTS - UK AND WORLDWIDE EXPORT

- FAS delivery systems
- NATO ATP-16 compatible interfaces
- Liquids replenishment, available with NATO 1, NATO 3 and NATO 5 connections
- Up to Sea-State 7 operational capability
- All electric high performance drives
- 24 to 55m separation
- Automatic ship motion compensation



NATO compatible transfers



Fueling at sea



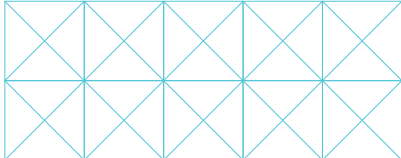
Night FAS



RAS and FAS transfer

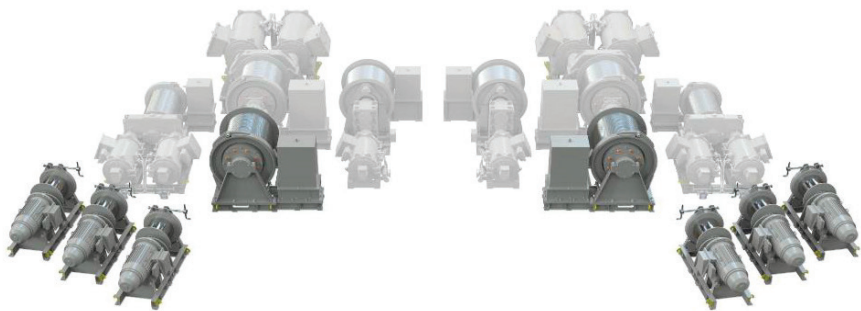


Double replenishment



KEY FEATURES

Transfer and compatibility	Can transfer ships diesel, aviation fuel, and water, using NATO 1, 3 and 5 connections
Operational capability	Can transfer liquids in seas up to sea-state 7
Vessel separation	Payload delivery capable between 24m and 55m
All electric drives	Controlled by all electric AC drive system, available with 440V or 690V, 3 phase ships supply connections. HV supply connections can also be incorporated
Ship motion compensation	Using automatic tensioning winches the system provides automatic ship motion compensation and ensures a safe control of wire rope tension
Low through life cost	Due to the limited number of consumable components in the all-electric RAS system, maintenance routines are kept to a minimum, which ensures a low through life cost for the equipment



Typical FAS winch layout as part of a dual rig installation