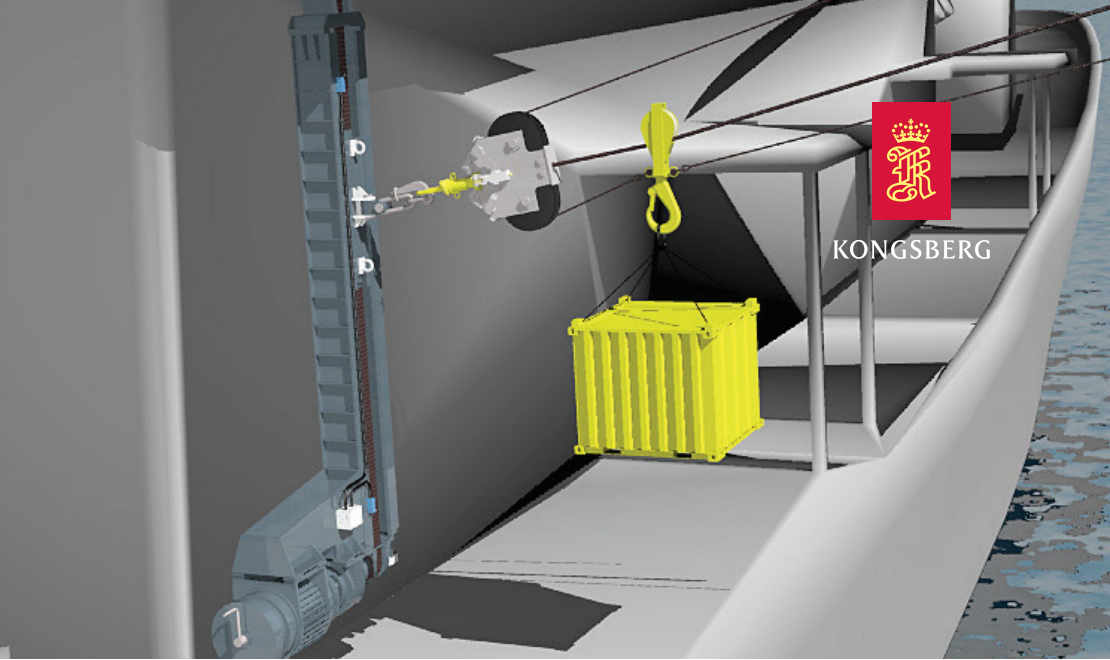


# REPLENISHMENT AT SEA



## KONGSBERG REPLENISHMENT AT SEA EQUIPMENT

### Movable highpoint (MHP) - RAS reception

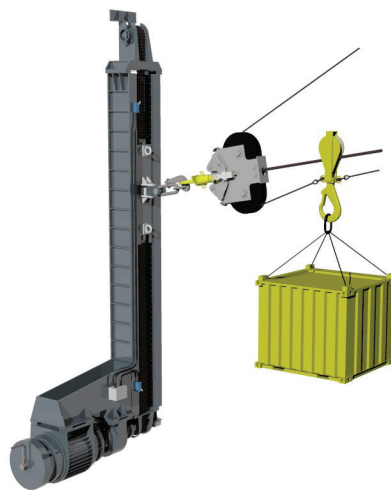
The movable highpoint provides an attachment point for the tensioned steel wire ropes used during abeam replenishment at sea (RAS) operations. Once attached via the individual couplings, the attachment point may be raised and lowered using the movable highpoint unit to allow safe and convenient loading and unloading of solid stores on the deck. MHPS suitable for the transfer of 2te or 6te RAS loads are available.

Each movable highpoint is controlled by a bulkhead mounted control panel and is operated from a portable pendant controller which is supplied complete with a six metre long wander lead. The wander lead is plugged into an IP66 bulkhead mounted socket located adjacent to the movable highpoint.

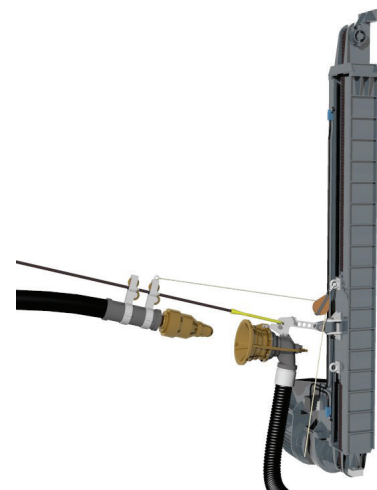
An associated electrical starter panel is also supplied which is mounted in an enclosed compartment position behind each movable highpoint unit or elsewhere within the vessel.

#### OEM FAS PRODUCTS - UK AND WORLDWIDE EXPORT

- RAS reception systems
- Supplied in accordance with NATO ATP-16 interoperability standard
- Suitable for transfer of RAS stores up to 2te capacity
- Can also be used to provide a secure liquids transfer connection
- Suitable for use in heavy sea-states
- All electric high performance drives
- Transfer with vessel speeds of up to 15knots
- Low through life cost
- 3ph 440V & 690V AC supply options available
- HRAS MHP design available for the transfer of solids stores up to 6te



Typical MHP 2te solids connection



Typical MHP NATO probe liquids connection

## TYPICAL MHP TECHNICAL DATA

- Trolley speed 20m/min.
- Lateral working range 30° forward/aft
- Electrical load: 39kVA (2te MHP)
- Electrical load: 90kVA (6te MHP)
- Can be engineered to naval shock ratings
- Fail safe design including spring applied and magnetically released trolley brake
- Motor and brake protected by embedded phase temperature sensors and overcurrent devices
- Wide reference list across NATO fleet
- Structural design fully validated via third party assessment conducted by nominated marine classification society

## Movable highpoint (MHP) - RAS reception

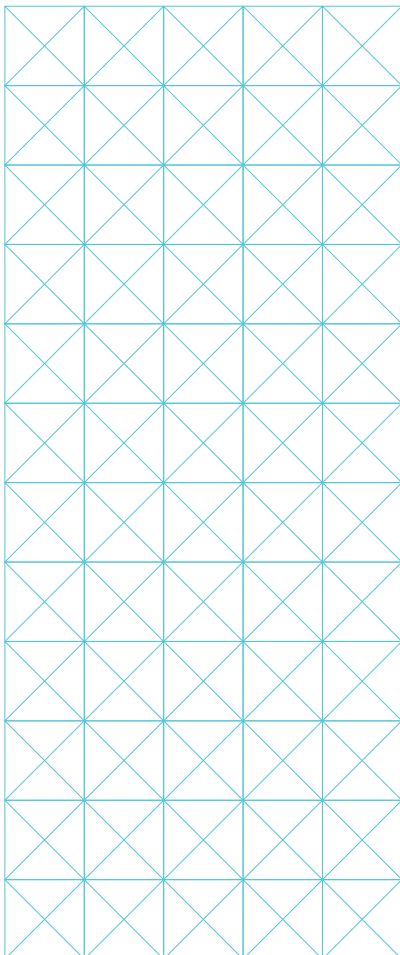
If required, the movable highpoint structure can be supplied as part of an integrated form for installation into the ships hull profile. This provides minimum radar cross section properties and avoids projections onto the ships weatherdeck. External weather tight doors can also be supplied for a fully flush profile when stowed. KONGSBERG are happy to work with ship designers and end users to engineer the best solution for the naval platform. Examples of integrated MHP's are shown in the illustrations below.



Bulkhead integrated MHP



Fully integrated MHP  
(with outer door)



Depending upon the naval vessel configuration, folding retractable highpoints can be provided where aircraft or vehicles are required to transit through the RAS reception pocket area.



6te retractable highpoint  
(deployed)



6te retractable highpoint  
(stowed in deckhead)